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NRL 5-M3 CHAMBER PRESSURIZATION EXPERIMENT: PRESSURANT CONCENTR--ETC(U)

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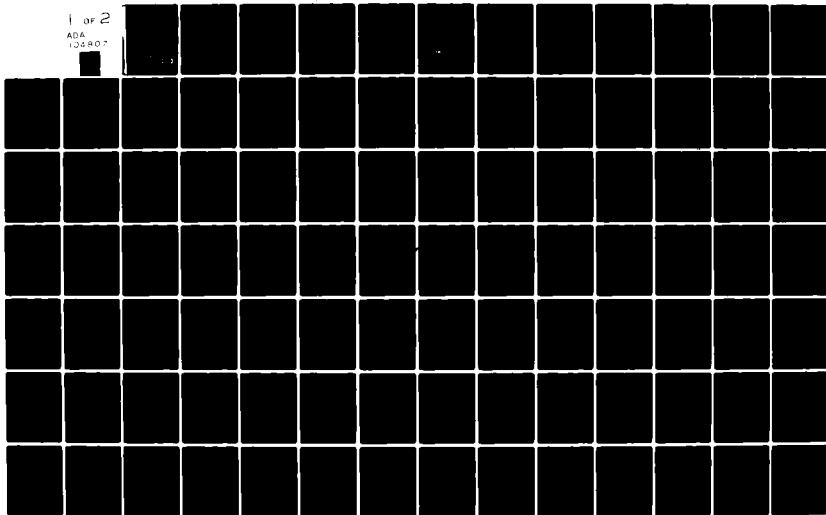
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**NRL 5-m³ Chamber Pressurization Experiment:
Pressurant Concentration Histories.**

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J. P. STONE, J. I. ALEXANDER, F. W. WILLIAMS

Combustion and Fuels Branch
Chemistry Division

R. C. CORLETT

University of Washington

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NRL 5-m³ CHAMBER PRESSURIZATION EXPERIMENT: PRESSURANT CONCENTRATION HISTORIES

INTRODUCTION

Carhart and Fielding [1] proposed suppression of unwanted, free-burning fires in pressurizable spaces by the injection of nitrogen gas. Preliminary tests have demonstrated their concept [2-5]. Liquid-fuel (class B) fires in 0.27- and 5-m³ chambers at one atmosphere are quickly controlled by addition of nitrogen; flames extinguish at oxygen concentrations of 12 to 14% by volume, yet partial pressure of oxygen is essentially unchanged. Thus, spaces remain habitable provided extinguishment is timely and excessive accumulation of toxic combustion products is avoided. Additional advantages of this suppression technique as compared to others include the inertness of nitrogen gas to machines, electronics, electrical wiring, and air-purification devices. Further, a space can easily be returned to normal condition following a suppression action.

This promising method, however, poses questions and problems that require exploration, some perhaps not yet defined. Since fire suppression by nitrogen pressurization may be a last-resort method used only after other methods have failed, well-developed-fire encounters are likely. Rapid extinguishment becomes imperative—seconds may count. Thus, knowledge of the mixing rates of pressurant and resident gases is essential, particularly at fire seats. Such conditions as extreme geometries, cluttered spaces, nozzle design and location, injection times, or combinations of these affect gas-mixing rates. As a result, it is conceivable that pockets of poorly mixed gas may in one case increase fire intensity or in the other reduce the quality of the atmosphere to support life.

To explore pressurant gas concentration profiles during injection and to implement scale modeling techniques, different sizes of enclosures with similar geometry are used. In this way, identity of controlling parameters allows inference of concentration profiles in other similar spaces and provides additional insight as to controlling mechanisms.

The Naval Research Laboratory (NRL) 5-m³ chamber was one enclosure used in these studies. This set of experiments was with minimal clutter and no fire. Pressurant gas injection times varied from 8 to 30 s, depending upon nozzle size and configuration. Because of these short injection times, large experimental distances (approximately 8 m), the relatively slow response times of chemical detectors, and the need for information at several points in space simultaneously, we used fine-wire thermocouples to measure local temperature histories. By this indirect method, we exploited temperature differences between the pressurant gas stream and resident gas to infer local pressurant concentration histories [6].

In this report, we describe the analysis and the evaluation of previously reported temperature and pressure measurements.

DESCRIPTION OF EXPERIMENT

We have described the experiment previously [7-11]. Briefly, we blew pressurant gas from a pressure tank at 6.5 atmospheres (659 kPa) via an actuated control valve, a 3-in. (7.62-cm) pipe, and one, two, or three nozzles into a 5-m³ chamber, initially containing one atmosphere of ambient air. This is schematically shown in Fig. 1. We increased chamber pressures from one to two atmospheres (101.3

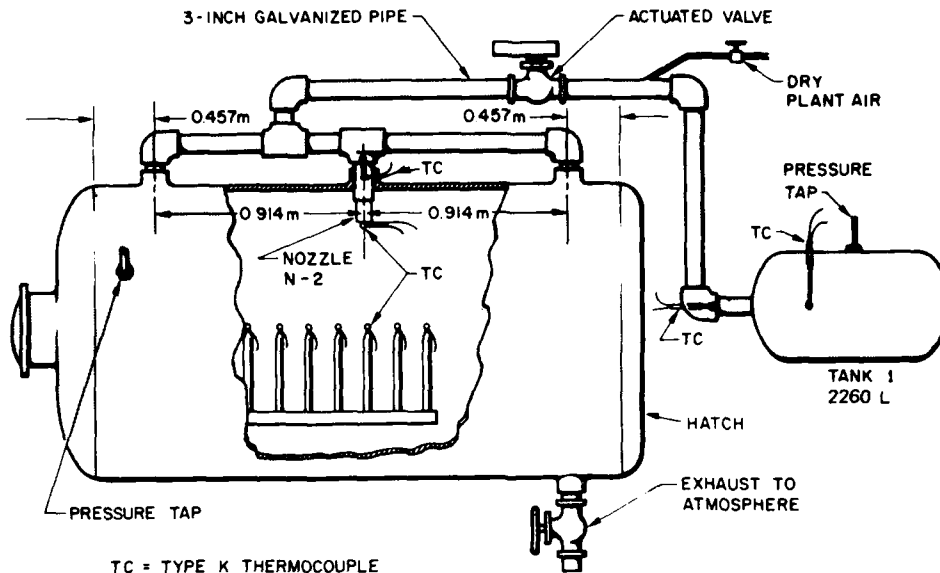


Fig. 1 — Schematic of apparatus

kPa to 202.6 kPa) while monitoring interior temperatures and pressures. To collect these data, we used two Doric Data Loggers, each coupled to a magnetic-tape device. Each system scanned ten channels with a scan time of about 0.5 s so that each thermocouple and pressure transducer output was recorded at 0.5-s intervals. The two systems produced data on two magnetic tapes with channels 60 to 69 on one and 70 to 79 on the other. We assured simultaneous operation of the two systems by use of a common control circuit.

We conducted gas-mixing experiments with minimal clutter. The parameters are summarized in Table 1. There are 12 sets of experiments: all sets but the first have three experiments each; the first has nine. To generate the 12 sets, we adjusted three variables: nozzle array, nozzle diameter, and thermocouple array. The three nozzle arrays included No. I, the center nozzle only; No. II, the center plus one end nozzle; and No. III, all three nozzles (see Fig. 1). We used two nozzle diameters (2.54 cm and 1.52 cm) and two thermocouple arrays. In thermocouple array I, we placed 13 thermocouples along the chamber axis in the airlock end of the chamber (see Fig. 1 and subtable in Table 2A). In array II, we shifted each thermocouple in array I by 0.457 m along radial lines, normal to the chamber axis and making 45° angles with the horizontal, when viewed from the hatch end of the chamber (see Fig. 2). Table 1 gives set numbers, designated run numbers, and NRL Memorandum Report numbers.

Our format for collecting data for each experiment was the same. With the pressure tank at 6.5 atmospheres and ambient temperature and the chamber at 1 atmosphere and ambient temperature, we collected data for 30 s, then opened the control valve and blew pressurant gas through the nozzles into the chamber until its pressure increased to 2 atmospheres. We then closed the control valve and continued collecting data for a total time of 4 min. We edited the two data tapes and copied the edited data onto a single tape with channels 60-69 preceeding 70-79 for each experimental run.

Table 1 — Summary of 41 Gas-Mixing Experiments with Minimal Clutter

Set Number	Nozzle Array	Nozzle Diameter (cm)	Thermo-Couple Array	Number of Runs	Run Numbers	NRL Memo. Rpt. No.	Ref. No.
1	I	2.54	I	9	23-31	3740	7
2	II	2.54	I	3	32-34	3776	8
3	III	2.54	I	3	35-37*	3776	8
4	III	1.52	I	3	39-41	3791	9
5	II	1.52	I	3	42-44	3791	9
6	I	1.52	I	3	45-47	3791	9
7	I	1.52	II	3	48-50	3792	10
8	II	1.52	II	3	51-53	3792	10
9	III	1.52	II	3	54-56*	3792	10
10	III	2.54	II	3	58-60	3793	11
11	II	2.54	II	3	61-63	3793	11
12	I	2.54	II	3	64-66	3793	11

*Runs 38 and 57 were deleted.

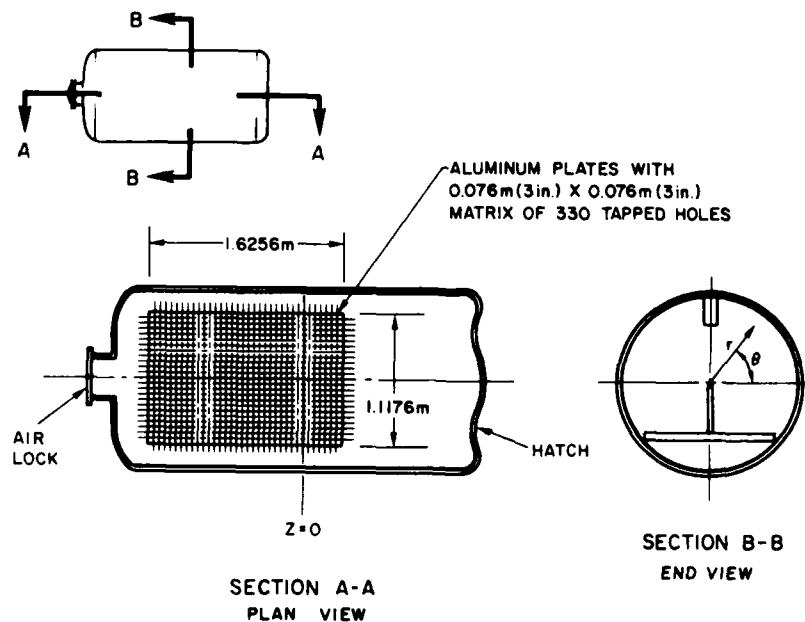


Fig. 2 — Plan and end views of Tank 2 showing cylindrical coordinates and matrix of 330 tapped holes

DESCRIPTION OF ANALYSIS

The pressurant gas may be air or nitrogen, but it is assumed to have the same specific heat ratio γ , one that remains constant over the temperature range of interest. The chamber volume is V and initial absolute temperature and pressure are T_0 and P_0 , respectively. The subscript zero denotes initial condition. The total chamber molar contents N and pressure P are considered to be known functions of time t , as is the total temperature T , of the influent pressurant. The pressurant flow rate dN/dt is suddenly increased from zero at time $t = 0$ and suddenly dropped to zero at time $t = t_c$, where t_c is time of valve closure. During the filling interval $0 \leq t \leq t_c$, dN/dt may be constant or may vary gradually. The chamber walls and any interior structure are considered isothermal at temperature T_0 . At a set of n interior locations (index i), temperature histories $T_i(t)$ are measured. The objective is to infer the pressurant mole fraction history $X_i(t)$ corresponding to each $T_i(t)$.

This problem is not strictly determinant for two reasons. First, good experimental evidence indicates that the chamber contents are far from adiabatic. Gas-to-wall heat transfer from gas arriving at each interior point of interest undoubtedly varies from point to point. However, quantification of such spatial variation of heat-transfer effects on measured temperatures is a complex problem comparable to that of determining transient pressurant distribution, the solution of which was our original purpose. Thus, we make the modeling assumption that the molar gas-to-wall heat-transfer coefficient is independent of interior position; the validity of this assumption depends on the extent to which spatial variability averages out along fluid particle trajectories.

The second reason for indeterminacy is that after the pressurant enters the chamber its temperature T_p depends on age. "Old" pressurant is compressed in the chamber through a higher pressure ratio than "new" pressurant which is added later, hence old pressurant tends toward a higher temperature relative to its value at entrance. Here we make a second modeling assumption, that the pressurant age distribution is the same at every interior point.

Except for small volumes, at most a few diameters down-jet from each inlet nozzle, kinetic energy of the fluid is thermodynamically negligible and no distinction need be made between total and static temperatures within the chamber. Therefore, from the ideal gas law,

$$V = \int_{\kappa} RTP^{-1} dN = RP^{-1} \int_{\kappa} T dN = NR\bar{T}P^{-1}, \quad (1)$$

where κ denotes that the integration is over the total chamber contents, R is the universal gas constant, and $\bar{T}$ is the molar mean temperature. The chamber content total internal energy U may be written

$$U = N\bar{u} = \int_{\kappa} u dN = N[u_0 + c_v(\bar{T} - T_0)] = N[u_0 + \frac{R}{\gamma - 1}(\bar{T} - T_0)], \quad (2)$$

where again κ denotes that the integration is over the total chamber contents; u and $\bar{u}$, respectively, are local and mean specific internal energy; c_v is molar constant volume specific heat; and u_0 corresponds to T_0 . This thermodynamic description, which is not in question, and the two modeling assumptions render our problem fully determinate.

To describe gas-to-wall heat transfer, we characterize the molar heat-transfer coefficient by a dimensionless parameter β , such that the local heat flow per mole, from gas at local temperature T to the chamber wall at temperature T_0 , is $(\beta R/\theta)(T - T_0)$. Here θ is a characteristic time. Since turbulent convective heat transfer is nearly proportional to flow velocity, which in turn is roughly proportional to dN/dt during filling, we take $\theta = (dN/dt)^{-1}$ for the filling interval $0 \leq t \leq t_c$. During this interval β should be nearly constant. After filling we take θ as constant at its value just prior to the time $t = t_c$. For post-filling times, $t > t_c$, β should decline to a much lower free-convection driven value as filling turbulence decays. The heat-removal rate $\dot{Q}$ from total chamber contents may be written

$$\dot{Q} = \beta R \theta^{-1} \int_{\kappa} (T - T_0) dN = \beta N R \theta^{-1} (\bar{T} - T_0). \quad (3)$$

The temperature linearity exhibited by Eqs. (1) to (3) signifies that the temperature T_i at a point can be calculated as if resident air and pressurant were perfectly stratified and suddenly mixed adiabatically at constant pressure to pressurant fraction X_i . Further, our assumption of uniform pressurant age distribution means that the pressurant temperature for this calculation is the average temperature $\bar{T}_p$ for all the pressurant in the chamber. Thus, if the mean resident air temperature $\bar{T}_a$ is known in addition to the molar mean temperature $\bar{T}$ of chamber contents from Eq. (1), an internal energy summation determines $\bar{T}_p$, i. e.,

$$N\bar{T} = (N - N_0)\bar{T}_p + N_0\bar{T}_a, \quad (4)$$

then

$$T_i = X_i\bar{T}_p + (1 - X_i)\bar{T}_a. \quad (5)$$

We have, finally, the pressurant mole fraction at any point,

$$X_i = \frac{\bar{T}_a - T_i}{\bar{T}_a - \bar{T}_p} = \left(1 - \frac{N_0}{N}\right) \left(\frac{\bar{T}_a - \bar{T}_i}{\bar{T}_a - \bar{T}}\right) = \bar{X} \left(\frac{\bar{T}_a - \bar{T}_i}{\bar{T}_a - \bar{T}}\right), \quad (6)$$

where $\bar{X}$ is the molar average pressurant fraction for the entire chamber contents.

To derive $\bar{T}_a$, the first step is to determine β from experimental data. A control volume energy balance gives

$$h_s dN/dt = (u_s + RT_s) dN/dt = dU/dt + \dot{Q}, \quad (7)$$

where h_s is the pressurant specific enthalpy corresponding to its supply temperature T_s . Combined with Eqs. (1) to (3) and the previously assigned value for θ , Eq. (7) yields for the filling interval

$$\beta = \frac{\gamma T_s - \bar{T} - d\bar{T}/d\ln N}{(\gamma - 1)(\bar{T} - T_0)} \quad (0 \leq t \leq t_i) \quad (8)$$

and for the post-filling interval

$$\beta = - \frac{d\ln(\bar{T} - T_0)/dt}{(\gamma - 1)/\theta_c} \quad (t > t_i), \quad (9)$$

where subscript c denotes that θ is evaluated just prior to time $t = t_i$.

And finally, with the resident gas and pressurant modeled as perfectly stratified, an energy balance on the resident gas is written as a system,

$$\frac{d(N_0\bar{u}_a)}{dt} + \frac{d(N_0R\bar{T}_a/P)}{dt} P + \frac{\beta RN_0}{\theta} (\bar{T}_a - T_0) = 0. \quad (10)$$

By combining Eqs. (8) and (10), noting that $\theta d\ln N/dt = 1$ and that $d\ln P = d\ln N + d\ln T$, one obtains

$$d\bar{T}_a = \frac{\gamma - 1}{\gamma} \bar{T}_a (d\ln P) - \mu [(T_s - \bar{T}/\gamma) d\ln P - \bar{T}_s d\ln \bar{T}], \quad (11)$$

where $\mu = (\bar{T}_a - T_0)/(\bar{T} - T_0)$.

An examination of the initial behavior of Eq. (11), i.e., with $\bar{T}_a = T_0$, $\bar{T} = T_0$, $T_s = T_{s_0}$, and $P = P_0$ at the time the control valve is opened ($t = 0$), shows that

$$\mu_0 = \frac{(\gamma - 1)T_0}{\gamma(T_0 - T_{s_0})(d\ln \bar{T}/d\ln P)_0 + \gamma T_{s_0} - T_0} \approx 1. \quad (12)$$

Then, with Eq. (12) as a starting value of μ , Eq. (11) is readily integrated numerically on the basis of measured $\bar{T}$ and P data. This procedure, valid for both the filling and post-filling processes, gives values of $\bar{T}_a$. Pressurant mole-fraction concentrations X_i at any local point of interest are obtained from Eq. (6). Comparison of X_i and $\bar{X}$ values at any time t indicates pressurant excess or deficiency.

From scale modeling considerations previously reported [12], an appropriate dimensionless time τ was described for both pressurization ($t < t_c$) and post-pressurization times ($t > t_c$). The definition was

$$\tau = \bar{X}/\bar{X}_c \quad (t < t_c) \quad (13a)$$

and

$$\tau = 1 - \frac{t - t_c}{\theta_c} \quad (t > t_c), \quad (13b)$$

where

$$\theta_c = - \left[\frac{d \ln(1 - \bar{X})}{dt} \right]_{t=t_c} \quad (13c)$$

In addition, a working hypothesis for scale modeling was stated. Irrespective of pressure level or pressurization rate, for a given enclosure geometry and nozzle configuration, at homologous model and prototype points, dimensionless pressurant deviation

$$\xi = (X - \bar{X})/\bar{X}_c \quad (14)$$

is a unique function of τ .

REDUCED DATA

Data of each experimental run were collected into tables in which temperatures and pressures were averaged at 1-s intervals, Tables 2A-43A (the A tables). The time $t = 0$ was arbitrarily taken at the instant the control valve began to open. Total time intervals over which each run was considered started at $t = -5$ s and continued long enough to include desired information. The captions give run number and nozzle configuration. In the upper-right-hand corner, a subtable gives the I locations of the 13 thermocouples and their cylindrical coordinates (r, θ, z). As shown in Fig. 2, $r = 0$ is along the chamber axis, and the plane $z = 0$ is normal to the axis and passes through the center nozzle with the positive direction toward the air-lock end. The first four columns of these tables give, respectively, time t , absolute pressure of the pressure tank (Tank 1 in Fig. 1) in atmospheres, total temperature T_s of inflowing pressurant in K, and absolute pressure P of the chamber in atmospheres. The next 13 columns, i.e., columns 5 through 17, give absolute temperatures in K for the 13 thermocouple locations. Notice that (J), when it follows an I location, indicates an inlet-jet centerline.

In the facing B tables (Tables 2B through 43B), we present the inferred values of pressurant mole fraction concentration X_i ; columns 8 through 20 give values for I locations 1 through 13, respectively. These I locations correspond to the thermocouple locations in the A tables. The first seven columns give the time t , the molar mean temperature $\bar{T}$ in °C, the mean resident air temperature $\bar{T}_p$ in °C, the dimensionless molar heat-transfer coefficient β , the ratio β/θ , where θ is the defined characteristic time, and the mean pressurant mole fraction $\bar{X}$. Notice that Tables 2A and 2B give data for a single experimental run and are on facing pages, as are all the A and B Tables.

Next, consider the sets of replicate runs as given in Table 1. Set 1 has nine such runs, while the remaining eleven sets have three each. Our purpose is to organize our data by set into a convenient form for comparison with other data according to our working hypothesis and to examine standard deviations within our data sets.

For example, Set 1, Table C gives mean values for the nine replicate runs 23 through 31 presented in Tables 2A and 2B through 10A and 10B. The headings for this table are the same as those for the B tables. In addition, these mean values are at dimensionless times τ taken arbitrarily at 0.05 intervals over the range 0.00 to 2.45, as interpolated from τ values calculated by Eq. (13) and appropriate B tables. Set 1, Table D gives standard deviations of the mean local pressurant fractions, and Set 1, Table E gives the dimensionless pressurant deviations ξ for values of dimensionless time τ .

Similar Tables C, D, and E follow for each of the remaining 11 sets. The zeros in these tables at higher τ values are due to limiting the number of data scans processed by the computer. Thus, for the slower pressurant dumps, the calculation is turned off before $\tau = 2.45$.

DISCUSSION

We present results from 12 sets of replicated sequences that include 41 experimental runs with minimal clutter in the NRL 5-m³ chamber. Pressurant concentration deviations (from perfectly mixed mean values) for a range of dimensionless times are inferred from measured local temperature histories. We call this the *thermal method* and describe its thermodynamic analysis.

Standard deviations of local pressurant fractions show that the means of these values are statistically meaningful at dimensionless times τ above 0.5 or 0.6, but below these values they are meaningless. We explain this condition as follows. First, the control valve is not instantaneous, but opens in about 2 s. Second, stagnant chamber gases require sufficient momentum transport to drive the turbulent, quasi-steady flow that the analysis assumes, and this process needs an interval of time to develop after the valve opens.

We see evidence of this flow regime through its effect on values of the dimensionless volumetric heat-transfer coefficient β in the C tables. As dimensionless time passes, β values tend to constancy. After the control valve is closed and momentum forces are overcome by viscous ones, turbulence decays. As a result, β values decrease to much lower values and data scatter increases.

Improved flow measurement, pressure-tank pressure regulation, increased number of local measurement points, and increased rates of data collection would improve data precision. Nevertheless, the E tables show that dimensionless pressurant deviations ξ sensitively indicate gas-mixing rates. Positive values of ξ signal a pressurant excess, negative values signal a deficiency, and values near zero signal thorough mixing. The data show thorough mixing by dimensionless time $\tau = 1.5$.

Except for strong positive peaks under the inlet nozzles, data taken at stations along the chamber center line show a pressurant defect which declines as the end of the chamber is reached. There is no significant difference in this pattern for one-, two-, or three-nozzle cases. However, when observation stations are located along the vessel radii, 0.6 of the distance to the wall and in a plane rotated 45° to the horizontal, this is not true. At these locations, the single center nozzle configuration shows a pressurant deficiency in the center section that changes to an excess toward the chamber end. The two- and three-nozzle configurations show an opposite effect. Although not large, these concentration differences are statistically significant. By dimensionless time $\tau = 1.5$, the data show thorough mixing. No significant effect of nozzle diameter, and hence filling rate (varied by a factor of 3.5), is seen. To exercise our model more severely, injection times can be extended and spaces made more cluttered.

Table 2A — Scaling Run 23, Test Configuration 1: One 2.54-cm Nozzle
[(J) indicates thermocouple on an inlet jet centerline]

[illegible]

Table 2B — Inferred Pressurant Distribution, Scaling Run 23, Test Configuration 1: One 2.54-cm Nozzle [(J) indicates thermocouple on an inlet jet centerline]

[illegible]

Table 3A — Scaling Run 24, Test Configuration 1: One 2.54-cm Nozzle
[(J) indicates thermocouple on an inlet jet centerline]

Press Tank	T _i P	T _i (K)	Chamber P	Chamber Absolute Temperatures (K) at Locations 1													COORDINATES				
				1	2	3(I)	4	5	6	7	8	9	10	11	12	13	1 (M)	2 (DEC) (M)			
-5	000	000	000	1.043	300	239	239	239	239	239	239	239	239	239	239	239	239	1	0	000	-0.152
-4	000	000	000	1.043	300	239	239	239	239	239	239	239	239	239	239	239	239	2	0	000	-0.076
-3	000	000	000	1.040	300	239	239	239	239	239	239	239	239	239	239	239	239	3	0	000	0
-2	000	000	000	1.043	300	239	239	239	239	239	239	239	239	239	239	239	239	4	0	000	0.076
-1	000	000	000	1.044	300	239	239	239	239	239	239	239	239	239	239	239	239	5	0	000	0.152
0	6.356	239.2	1.042	300	239	239	239	239	239	239	239	239	239	239	239	239	239	6	0	000	0.229
1	6.473	239.2	1.035	300	230	239	239	239	239	239	239	239	239	239	239	239	239	7	0	000	0.300
2	6.192	239.7	1.172	305	230	239	239	239	239	239	239	239	239	239	239	239	239	8	0	000	0.610
3	5.593	236.2	1.278	310	230	239	239	239	239	239	239	239	239	239	239	239	239	9	0	000	0.686
4	5.592	235.2	1.374	311	230	239	239	239	239	239	239	239	239	239	239	239	239	10	0	000	0.762
5	5.294	233.7	1.461	312	230	239	239	239	239	239	239	239	239	239	239	239	239	11	0	000	0.838
6	5.068	233.2	1.545	314	230	239	239	239	239	239	239	239	239	239	239	239	239	12	0	000	0.914
7	4.836	231.7	1.623	314	230	239	239	239	239	239	239	239	239	239	239	239	239	13	0	000	0.991
8	4.622	231.2	1.699	314	230	239	239	239	239	239	239	239	239	239	239	239	239	14	0	000	0.914
9	4.406	230.2	1.770	314	230	239	239	239	239	239	239	239	239	239	239	239	239	15	0	000	0.838
10	4.212	279.7	1.838	313	230	239	239	239	239	239	239	239	239	239	239	239	239	16	0	000	0.762
11	4.012	279.2	1.903	313	230	239	239	239	239	239	239	239	239	239	239	239	239	17	0	000	0.686
12	3.976	279.2	1.946	313	230	239	239	239	239	239	239	239	239	239	239	239	239	18	0	000	0.610
13	3.740	278.2	2.028	313	230	239	239	239	239	239	239	239	239	239	239	239	239	19	0	000	0.530
14	3.653	274.2	2.049	313	230	239	239	239	239	239	239	239	239	239	239	239	239	20	0	000	0.450
15	3.667	275.2	2.042	312	230	239	239	239	239	239	239	239	239	239	239	239	239	21	0	000	0.370
16	000	000	000	2.039	311	230	239	239	239	239	239	239	239	239	239	239	239	22	0	000	0.290
17	000	000	000	2.036	311	230	239	239	239	239	239	239	239	239	239	239	239	23	0	000	0.210
18	000	000	000	2.034	311	230	239	239	239	239	239	239	239	239	239	239	239	24	0	000	0.130
19	000	000	000	2.031	310	230	239	239	239	239	239	239	239	239	239	239	239	25	0	000	0.050
20	000	000	000	2.030	310	230	239	239	239	239	239	239	239	239	239	239	239	26	0	000	0
21	000	000	000	2.029	310	230	239	239	239	239	239	239	239	239	239	239	239	27	0	000	0.070
22	000	000	000	2.027	310	230	239	239	239	239	239	239	239	239	239	239	239	28	0	000	0.150
23	000	000	000	2.027	309	230	239	239	239	239	239	239	239	239	239	239	239	29	0	000	0.230
24	000	000	000	2.021	308	230	239	239	239	239	239	239	239	239	239	239	239	30	0	000	0.310
25	000	000	000	2.018	308	230	239	239	239	239	239	239	239	239	239	239	239	31	0	000	0.390
26	000	000	000	2.014	307	230	239	239	239	239	239	239	239	239	239	239	239	32	0	000	0.470
27	000	000	000	2.010	306	230	239	239	239	239	239	239	239	239	239	239	239	33	0	000	0.550
28	000	000	000	2.009	306	230	239	239	239	239	239	239	239	239	239	239	239	34	0	000	0.630
29	000	000	000	2.005	305	230	239	239	239	239	239	239	239	239	239	239	239	35	0	000	0.710
30	000	000	000	2.003	305	230	239	239	239	239	239	239	239	239	239	239	239	36	0	000	0.790
31	000	000	000	2.001	305	230	239	239	239	239	239	239	239	239	239	239	239	37	0	000	0.870
32	000	000	000	1.997	304	230	239	239	239	239	239	239	239	239	239	239	239	38	0	000	0.950
33	000	000	000	1.995	304	230	239	239	239	239	239	239	239	239	239	239	239	39	0	000	1.030
34	000	000	000	1.993	304	230	239	239	239	239	239	239	239	239	239	239	239	40	0	000	1.110
35	000	000	000	1.988	303	230	239	239	239	239	239	239	239	239	239	239	239	41	0	000	1.190
36	000	000	000	1.985	303	230	239	239	239	239	239	239	239	239	239	239	239	42	0	000	1.270
37	000	000	000	1.983	302	230	239	239	239	239	239	239	239	239	239	239	239	43	0	000	1.350
38	000	000	000	1.981	302	230	239	239	239	239	239	239	239	239	239	239	239	44	0	000	1.430
39	000	000	000	1.980	302	230	239	239	239	239	239	239	239	239	239	239	239	45	0	000	1.510
40	000	000	000	1.978	302	230	239	239	239	239	239	239	239	239	239	239	239	46	0	000	1.590
41	000	000	000	1.976	302	230	239	239	239	239	239	239	239	239	239	239	239	47	0	000	1.670
42	000	000	000	1.974	302	230	239	239	239	239	239	239	239	239	239	239	239	48	0	000	1.750
43	000	000	000	1.972	302	230	239	239	239	239	239	239	239	239	239	239	239	49	0	000	1.830
44	000	000	000	1.970	302	230	239	239	239	239	239	239	239	239	239	239	239	50	0	000	1.910
45	000	000	000	1.968	302	230	239	239	239	239	239	239	239	239	239	239	239	51	0	000	1.990
46	000	000	000	1.966	302	230	239	239	239	239	239	239	239	239	239	239	239	52	0	000	2.070
47	000	000	000	1.964	302	230	239	239	239	239	239	239	239	239	239	239	239	53	0	000	2.150
48	000	000	000	1.962	302	230	239	239	239	239	239	239	239	239	239	239	239	54	0	000	2.230
49	000	000	000	1.960	302	230	239	239	239	239	239	239	239	239	239	239	239	55	0	000	2.310
50	000	000	000	1.958	302	230	239	239	239	239	239	239	239	239	239	239	239	56	0	000	2.390
51	000	000	000	1.956	302	230	239	239	239	239	239	239	239	239	239	239	239	57	0	000	2.470
52	000	000	000	1.954	302	230	239	239	239	239	239	239	239	239	239	239	239	58	0	000	2.550
53	000	000	000	1.952	302	230	239	239	239	239	239	239	239	239	239	239	239	59	0	000	2.630
54	000	000	000	1.950	302	230	239	239	239	239	239	239	239	239	239	239	239	60	0	000	2.710
55	000	000	000	1.948	302	230	239	239	239	239	239	239	239	239	239	239	239	61	0	000	2.790
56	000	000	000	1.946	302	230	239	239	239	239	239	239	239	239	239	239	239	62	0	000	2.870
57	000	000	000	1.944	302	230	239	239	239	239	239	239	239	239	239	239	239	63	0	000	2.950
58	000	000	000	1.942	302	230	239	239	239	239	239	239	239	239	239	239	239	64	0	000	3.030
59	000	000	000	1.940	302	230	239	239	239	239	239	239	239	239	239	239	239	65	0	000	3.110
60	000	000	000	1.938	302	230	239	239	239	239	239	239	239	239	239	239	239	66	0	000	3.190
61	000	000	000	1.936	302	230	239	239	239	239	239	239	239	239	239	239	239	67	0	000	3.270
62	000	000	000	1.934	302	230	239	239	239												

Table 3B — Inferred Pressurant Distribution, Scaling Run 24, Test Configuration 1: One 2.54-cm Nozzle [(J) indicates thermocouple on an inlet jet centerline]

Pressurant Fractions (X) at Locations 1														
	$\bar{X}$	1	2	3(U)	4	5	6	7	8	9	10	11	12	13
SEQUENCE VALVE OPENING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0 23.3 23.3 36.4	0.011	-3.428	2.570	-3.478	-3.478	-3.478	2.570	-2.269	5.594	3.174	1.985	-450	-2	269
VALVE FULLY OPEN														
0.0 23.6 29.8 27.3	0.08	-231	411	1.909	-0.017	-231	-0.017	026	-316	-0.017	-188	-188	111	026
3.0 33.0 34.1 27.3	1.64	-133	265	1.101	-0.041	-0.041	-0.041	143	081	173	081	143	219	150
3.0 33.0 34.1 27.3	1.64	-133	265	1.101	-0.041	-0.041	-0.041	143	081	173	081	143	219	150
4.0 35.1 37.1 27.6	2.17	004	299	837	084	084	084	148	170	245	159	170	245	213
5.0 36.4 39.2 28.0	2.60	127	358	819	127	127	127	228	201	219	247	228	245	275
6.0 37.3 40.9 29.4	2.99	127	463	800	127	127	127	211	253	321	270	253	327	295
7.0 37.7 41.8 29.4	3.31	230	441	842	200	200	200	280	320	320	288	350	336	320
8.0 37.9 42.5 29.7	3.61	274	557	870	244	244	244	291	322	322	322	330	346	334
9.0 37.9 42.9 30.6	3.87	277	585	894	277	277	277	315	338	362	346	338	377	362
10.0 38.0 43.3 30.2	4.09	303	610	916	305	229	303	343	339	381	366	374	389	397
11.0 38.0 43.6 30.3	4.29	304	620	933	324	248	324	347	385	362	392	415	408	415
SEQUENCE VALVE CLOSED														
12.0 37.8 42.6 30.3	4.42	402	593	930	325	325	325	371	401	409	417	409	432	401
13.0 37.5 43.5 30.7	4.65	403	715	949	325	325	325	395	418	442	456	439	457	450
VALVE FULLY CLOSED														
14.0 37.3 43.3	471	308	629	1.019	388	309	309	396	435	427	439	439	443	467
15.0 36.2 41.0	471	481	546	737	377	377	377	419	443	470	470	481	487	478
16.0 35.8 41.2	471	588	327	711	363	363	363	433	468	476	483	442	459	485
17.0 35.3 40.6	471	588	508	598	419	419	419	446	464	455	464	481	472	472
18.0 35.0 40.1	471	534	492	583	400	400	400	446	464	492	528	464	501	464
19.0 34.6 39.5	471	534	459	601	459	411	411	440	459	468	468	470	468	449
20.0 34.4 39.3	471	523	523	619	427	427	427	427	436	456	494	436	456	456
21.0 34.2 39.1	471	804	804	602	407	407	407	426	489	459	523	459	455	455
22.0 34.0 38.7	471	542	492	592	392	392	392	452	492	512	512	452	492	462
23.0 33.6 39.7	471	536	456	556	456	456	456	427	466	496	516	466	467	447
24.0 33.4 38.2	471	521	440	542	440	440	440	429	450	491	532	440	470	430
25.0 33.2 37.8	471	531	521	521	415	415	415	457	437	511	531	436	489	436
26.0 32.2 37.6	471	502	502	502	396	396	396	438	470	492	534	460	481	449
27.0 32.5 38.0	471	564	466	460	460	460	460	439	450	491	543	450	461	491
28.0 32.0 37.4	471	540	432	540	432	432	432	403	434	486	540	421	486	486
29.0 32.5 37.2	471	539	420	529	420	420	420	431	431	496	562	424	529	475
30.0 32.7 37.0	471	531	409	521	409	409	409	443	487	521	554	487	499	454
31.0 32.6 36.8	471	589	395	509	395	395	395	429	509	572	589	572	589	497
32.0 32.6 36.8	471	498	385	490	385	498	385	464	475	509	577	487	498	464
33.0 32.6 36.8	471	464	464	464	464	464	464	464	509	487	566	433	487	464
34.0 32.4 36.5	471	500	445	445	445	445	445	445	502	502	525	468	491	468

Table 4A -- Scaling Run 25, Test Configuration 1: One 2.54-cm Nozzle
[(J) indicates thermocouple on an inlet jet centerline]

r	P	T _r (K)	Chamber P (atm)	Chamber Absolute Temperatures (K) at Locations 1													COORDINATES									
				1	2	3(J)	4	5	6	7	8	9	10	11	12	13	r	THETA 2 (DEC) (°)								
-5	...	...	...	300	2	300	2	300	2	300	2	298	4	297	2	296	7	298	2	298	1	1	0	...	-0	152
-3	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
-4	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
-3	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
-1	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
0	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
1	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
2	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
3	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
4	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
5	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
6	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
7	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
8	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
9	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
10	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
11	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
12	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
13	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
14	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
15	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
1	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
2	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
3	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
4	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
5	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
6	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
7	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
8	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
9	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
10	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
11	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
12	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
13	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
14	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
15	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
1	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
2	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
3	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
4	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
5	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
6	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
7	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
8	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
9	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
10	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
11	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
12	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
13	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
14	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
15	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
1	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
2	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
3	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
4	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
5	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
6	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
7	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
8	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
9	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
10	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
11	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
12	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
13	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
14	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
15	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2	2	0	...	-0	076
1	...	...	...	300	2	300	2	300	2	300	2	298	5	297	1	296	8	298	3	298	2</					

Table 4B — Inferred Pressurant Distribution, Scaling Run 25, Test Configuration 1: One 2.54-cm Nozzle [(J) indicates thermocouple on an inlet jet centerline]

Presurant Fractions (X) at Locations I														
	$\bar{X}$	1	2	3(I)	4	5	6	7	8	9	10	11	12	13
SEQUENCE VALUE OPENING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.0 23.9 23.9 60.4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SEQUENCE VALUE CLOSURE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
29.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
32.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
33.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
34.0 37.7 37.6 23.1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 5A — Scaling Run 26, Test Configuration 1: One 2.54-cm Nozzle
 [(J) indicates thermocouple on an inlet jet centerline]

t (s)	Press Tank P (atm)	T ₁ (K)	Chamber Absolute Temperatures (K) at Locations 1													COORDINATES		
			1	2	3(J)	4	5	6	7	8	9	10	11	12	13	I	R (CM)	THETA (DEG) (M)
-5	1.043	...	301.2	301.2	301.2	301.2	301.2	301.2	298.6	298.1	297.8	299.3	299.3	299.3	299.3	1	0.0	...
-4	1.043	...	301.2	301.2	301.2	301.2	301.2	301.2	298.6	298.1	297.8	299.3	299.3	299.3	299.3	2	0.0	...
-3	1.043	...	301.2	301.2	301.2	301.2	301.2	301.2	298.6	298.1	297.8	299.3	299.3	299.3	299.3	3	0.0	...
-2	1.044	...	301.2	301.2	301.2	301.2	301.2	301.2	299.3	298.8	297.7	299.4	299.4	299.4	299.4	4	0.0	...
-1	1.043	...	301.2	301.2	301.2	301.2	301.2	301.2	299.7	299.0	297.8	299.5	299.5	299.5	299.5	5	0.0	...
0	1.043	...	301.2	301.2	301.2	301.2	301.2	301.2	299.8	299.1	297.8	299.5	299.5	299.5	299.5	6	0.0	...
1	1.044	...	301.2	301.2	301.2	301.2	301.2	301.2	299.3	298.4	297.7	299.3	299.3	299.3	299.3	7	0.0	...
2	1.120	...	303.7	303.7	303.7	303.7	303.7	303.7	302.2	301.7	300.7	303.0	302.9	302.9	302.9	8	0.0	...
3	1.232	...	310.2	306.2	300.2	307.2	308.2	307.2	306.6	305.2	304.2	306.6	306.2	305.9	306.1	9	0.0	...
4	1.333	...	312.7	308.2	303.2	310.2	310.2	309.2	309.1	307.8	306.5	308.9	308.9	308.0	308.2	10	0.0	...
5	1.422	...	313.7	309.7	305.2	312.2	312.2	311.7	311.0	309.2	308.4	310.5	310.5	310.2	310.2	11	0.0	...
6	1.510	...	315.2	310.2	307.2	314.2	314.2	313.2	312.0	310.3	309.4	311.5	311.4	310.8	311.1	12	0.0	...
7	1.593	...	315.2	312.2	307.2	314.2	314.2	313.2	312.4	310.9	310.0	312.2	312.1	311.5	311.7	13	0.0	...
8	1.667	...	315.2	311.2	307.2	315.2	315.2	315.2	313.1	311.1	310.5	312.3	312.2	312.0	312.1	1	0.0	...
9	1.740	...	315.2	312.2	307.2	315.2	315.2	315.2	313.5	311.5	310.9	312.6	312.5	312.2	312.3	2	0.0	...
10	1.810	...	315.2	311.2	307.2	315.2	315.2	315.2	313.2	311.2	310.8	312.5	312.4	312.2	312.3	3	0.0	...
11	1.876	...	315.2	311.2	307.2	315.2	315.2	315.2	313.4	311.4	310.9	312.5	312.4	312.2	312.3	4	0.0	...
12	1.941	...	315.2	311.2	307.2	315.2	315.2	315.2	313.4	311.4	310.9	312.5	312.4	312.2	312.3	5	0.0	...
13	1.999	...	315.2	310.2	307.2	314.2	314.2	313.2	312.5	311.2	310.6	312.5	312.3	312.0	312.1	6	0.0	...
14	2.052	...	314.2	311.7	307.2	313.2	313.2	312.2	311.5	310.5	310.2	311.9	311.6	311.3	311.7	7	0.0	...
15	2.096	...	313.2	312.2	310.2	313.2	313.2	312.2	311.5	310.5	310.9	311.5	311.3	311.0	311.2	8	0.0	...
16	2.137	...	313.2	312.2	310.2	313.2	313.2	312.2	311.5	310.5	310.9	311.5	311.3	311.0	311.2	9	0.0	...
17	2.032	...	313.2	312.2	310.2	313.2	313.2	312.2	311.5	310.5	310.9	311.5	311.3	311.0	311.2	10	0.0	...
18	2.049	...	312.2	311.2	310.2	312.2	312.2	311.2	310.5	310.9	310.9	310.9	310.9	310.9	310.9	11	0.0	...
19	2.049	...	312.2	311.2	310.2	312.2	312.2	311.2	310.5	310.9	310.9	310.9	310.9	310.9	310.9	12	0.0	...
20	2.046	...	312.2	311.2	310.2	312.2	312.2	311.2	310.5	310.9	310.9	310.9	310.9	310.9	310.9	13	0.0	...
21	2.045	...	312.2	311.2	310.2	312.2	312.2	311.2	310.5	310.9	310.9	310.9	310.9	310.9	310.9	1	0.0	...
22	2.042	...	311.2	310.7	310.2	311.2	311.2	310.2	309.7	308.7	308.1	309.7	310.2	309.7	310.0	2	0.0	...
23	2.042	...	311.2	310.7	310.2	311.2	311.2	310.2	309.7	308.7	308.1	309.7	310.2	309.7	310.0	3	0.0	...
24	2.039	...	310.7	310.2	310.2	311.2	311.2	310.2	309.7	308.7	308.1	309.7	310.2	309.7	310.0	4	0.0	...
25	2.035	...	310.7	310.2	310.2	311.2	311.2	310.2	309.7	308.7	308.1	309.7	310.2	309.7	310.0	5	0.0	...
26	2.030	...	309.2	309.2	308.2	308.2	308.2	307.2	306.4	305.0	306.7	307.8	308.6	307.5	308.6	6	0.0	...
27	2.028	...	308.2	308.2	308.2	308.2	308.2	307.2	306.4	305.0	306.7	307.8	308.6	307.5	308.6	7	0.0	...
28	2.025	...	308.2	308.2	308.2	308.2	308.2	307.2	306.4	305.0	306.7	307.8	308.6	307.5	308.6	8	0.0	...
29	2.020	...	307.2	307.2	307.2	307.2	307.2	306.2	305.4	304.0	305.7	306.8	307.6	306.6	307.6	9	0.0	...
30	2.019	...	307.2	307.2	307.2	307.2	307.2	306.2	305.4	304.0	305.7	306.8	307.6	306.6	307.6	10	0.0	...
31	2.017	...	306.2	307.2	306.2	306.2	306.2	305.2	304.4	303.0	304.7	305.8	306.6	305.6	306.6	11	0.0	...
32	2.014	...	306.2	306.2	306.2	306.2	306.2	305.2	304.4	303.0	304.7	305.8	306.6	305.6	306.6	12	0.0	...
33	2.010	...	306.2	306.2	306.2	306.2	306.2	305.2	304.4	303.0	304.7	305.8	306.6	305.6	306.6	13	0.0	...
34	2.007	...	305.2	306.2	305.2	305.2	305.2	304.2	303.4	302.0	303.7	304.8	305.6	304.6	305.6	1	0.0	...
35	2.003	...	305.2	305.2	305.2	305.2	305.2	304.2	303.4	302.0	303.7	304.8	305.6	304.6	305.6	2	0.0	...
36	2.004	...	304.2	305.2	304.2	304.2	304.2	303.2	302.4	301.0	302.7	303.8	304.6	303.6	304.6	3	0.0	...
37	2.000	...	304.2	305.2	304.2	304.2	304.2	303.2	302.4	301.0	302.7	303.8	304.6	303.6	304.6	4	0.0	...
38	1.998	...	304.2	305.2	304.2	304.2	304.2	303.2	302.4	301.0	302.7	303.8	304.6	303.6	304.6	5	0.0	...
39	1.997	...	304.2	305.2	304.2	304.2	304.2	303.2	302.4	301.0	302.7	303.8	304.6	303.6	304.6	6	0.0	...
40	1.978	...	304.2	305.2	304.2	304.2	304.2	303.2	302.4	301.0	302.7	303.8	304.6	303.6	304.6	7	0.0	...
41	1.976	...	304.2	304.2	304.2	304.2	304.2	303.2	302.4	301.0	302.7	303.8	304.6	303.6	304.6	8	0.0	...
42	1.974	...	304.2	305.2	304.2	304.2	304.2	303.2	302.4	301.0	302.7	303.8	304.6	303.6	304.6	9	0.0	...
43	1.974	...	304.2	305.2	304.2	304.2	304.2	303.2	302.4	301.0	302.7	303.8	304.6	303.6	304.6	10	0.0	...
44	1.974	...	304.2	305.2	304.2	304.2	304.2	303.2	302.4	301.0	302.7	303.8	304.6	303.6	304.6	11	0.0	...
45	1.974	...	304.2	305.2	304.2	304.2	304.2	303.2	302.4	301.0	302.7	303.8	304.6	303.6	304.6	12	0.0	...
46	1.974	...	304.2	305.2	304.2	304.2	304.2	303.2	302.4	301.0	302.7	303.8	304.6	303.6	304.6	13	0.0	...

Table 5B — Inferred Pressurant Distribution, Scaling Run 26, Test Configuration 1:
One 2.54-cm Nozzle [(J) indicates thermocouple on an inlet jet centerline]

Pressurant Fractions (X) at Locations I																			
i	T _i (°C)	T _o (°C)	T _o (°C)	β	β/θ	X̄	1	2	3(I)	4	5	6	7	8	9	10	11	12	13
SEQUENCE VALVE OPENING																			
0.0	26.3	26.9	194.0	4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.0	26.9	26.9	20.0	60.6	.1370	-.021	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
VALVE FULLY OPEN																			
2.0	29.1	29.2	20.4	129.6	.112327	.063	-.245	.400	3.625	1.045	1.045	1.045	1.045	1.045	1.045	1.045	1.045	1.045	1.045
3.0	32.0	32.7	20.3	135.5	.13323	.137	-.406	.335	1.448	.350	.325	.350	.325	.350	.325	.350	.325	.350	.325
4.0	35.3	35.9	20.7	21.0	1.3466	.156	-.118	.370	.981	.126	.126	.126	.126	.126	.126	.126	.126	.126	.126
5.0	37.2	38.6	29.7	15.9	.9303	.282	.026	.429	.983	.126	.126	.126	.126	.126	.126	.126	.126	.126	.126
6.0	38.4	41.3	30.4	13.7	.8866	.283	.039	.509	.779	.149	.149	.149	.149	.149	.149	.149	.149	.149	.149
7.0	39.0	42.8	31.0	15.8	.8114	.319	.163	.416	.838	.205	.205	.205	.205	.205	.205	.205	.205	.205	.205
8.0	39.3	43.6	31.3	16.1	.7173	.349	.220	.346	.873	.220	.220	.220	.220	.220	.220	.220	.220	.220	.220
9.0	39.5	44.2	31.7	15.9	.6717	.376	.264	.304	.903	.264	.264	.264	.264	.264	.264	.264	.264	.264	.264
10.0	39.5	44.5	31.9	16.6	.6567	.400	.287	.605	.924	.287	.287	.287	.287	.287	.287	.287	.287	.287	.287
11.0	39.5	44.8	32.2	16.0	.5718	.421	.313	.629	.946	.313	.313	.313	.313	.313	.313	.313	.313	.313	.313
12.0	39.5	45.0	32.4	16.5	.5632	.441	.328	.666	.963	.368	.328	.328	.328	.328	.328	.328	.328	.328	.328
SEQUENCE VALVE CLOSURE																			
13.0	39.3	44.9	32.3	17.7	.5350	.437	.326	.647	.969	.406	.326	.326	.326	.326	.326	.326	.326	.326	.326
14.0	39.1	44.9	32.6	234.5	.4682	.472	.327	.734	.978	.408	.327	.327	.327	.327	.327	.327	.327	.327	.327
VALVE FULLY CLOSED																			
15.0	38.7	44.4	32.4	77.0	.1538	.474	.378	.586	.960	.420	.378	.378	.378	.378	.378	.378	.378	.378	.378
16.0	38.3	43.8	32.1	49.0	.0978	.474	.449	.535	.706	.449	.449	.449	.449	.449	.449	.449	.449	.449	.449
17.0	37.7	43.0	31.8	68.4	.1366	.474	.434	.523	.701	.434	.434	.434	.434	.434	.434	.434	.434	.434	.434
18.0	37.2	42.4	31.5	53.9	.1076	.474	.484	.576	.668	.484	.484	.484	.484	.484	.484	.484	.484	.484	.484
19.0	37.2	42.4	31.5	0.0	0.0000	.474	.462	.554	.646	.462	.462	.462	.462	.462	.462	.462	.462	.462	.462
20.0	36.8	41.8	31.2	36.3	.1123	.474	.449	.544	.639	.449	.449	.449	.449	.449	.449	.449	.449	.449	.449
21.0	36.6	41.5	31.1	19.3	.0386	.474	.418	.514	.610	.514	.514	.514	.514	.514	.514	.514	.514	.514	.514
22.0	36.2	40.9	30.9	59.9	.1197	.474	.487	.537	.586	.487	.487	.487	.487	.487	.487	.487	.487	.487	.487
23.0	36.2	40.9	30.9	0.0	0.0000	.474	.469	.568	.568	.469	.469	.469	.469	.469	.469	.469	.469	.469	.469
24.0	35.7	40.3	30.6	62.9	.1256	.474	.489	.541	.541	.489	.489	.489	.489	.489	.489	.489	.489	.489	.489
25.0	35.7	40.3	30.6	0.0	0.0000	.474	.506	.506	.506	.506	.506	.506	.506	.506	.506	.506	.506	.506	.506
26.0	35.5	40.1	30.5	21.7	.0433	.474	.494	.494	.598	.494	.494	.494	.494	.494	.494	.494	.494	.494	.494
27.0	35.2	39.7	30.3	44.6	.0850	.474	.481	.481	.588	.481	.481	.481	.481	.481	.481	.481	.481	.481	.481
28.0	35.2	39.7	30.3	0.0	0.0000	.474	.466	.573	.573	.466	.466	.466	.466	.466	.466	.466	.466	.466	.466
29.0	35.1	39.5	30.2	23.9	.0437	.474	.440	.548	.548	.440	.440	.440	.440	.440	.440	.440	.440	.440	.440
30.0	35.1	39.5	30.2	0.0	0.0000	.474	.421	.539	.539	.421	.421	.421	.421	.421	.421	.421	.421	.421	.421
31.0	34.9	39.3	30.2	23.2	.0465	.474	.432	.512	.512	.432	.432	.432	.432	.432	.432	.432	.432	.432	.432
32.0	34.6	38.8	30.0	48.0	.0958	.474	.484	.484	.556	.484	.484	.484	.484	.484	.484	.484	.484	.484	.484
33.0	34.5	38.6	29.9	34.7	.0493	.474	.435	.495	.569	.435	.435	.435	.435	.435	.435	.435	.435	.435	.435
34.0	34.3	38.4	29.9	25.2	.0503	.474	.434	.434	.550	.434	.434	.434	.434	.434	.434	.434	.434	.434	.434

Table 6A — Scaling Run 27, Test Configuration 1: One 2.54-cm Nozzle
[(J) indicates thermocouple on an inlet jet centerline]

i	Press Tank P (atm)	T _i (K)	Chamber P (atm)	Chamber Absolute Temperatures (K) at Locations 1													COORDINATES	
				1	2	3(J)	4	5	6	7	8	9	10	11	12	13	I	R
-5	1.043	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	1	0.0
-4	1.042	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	2	0.0
-3	1.044	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	3	0.0
-2	1.041	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	4	0.0
-1	1.043	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	5	0.0
0	1.047	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	6	0.0
1	1.120	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	7	0.0
2	1.241	310.2	307.2	301.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	8	0.0
3	1.341	313.2	310.2	304.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	9	0.0
4	1.430	314.7	310.7	306.2	313.7	313.7	313.7	313.7	313.7	313.7	313.7	313.7	313.7	313.7	313.7	313.7	10	0.0
5	1.516	315.2	311.2	307.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	11	0.0
6	1.596	315.2	311.2	307.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	12	0.0
7	1.671	315.7	311.7	307.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	13	0.0
8	1.745	315.2	312.2	307.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	14	0.0
9	1.837	315.2	311.2	307.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	15	0.0
10	1.901	315.2	311.2	307.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	16	0.0
11	1.963	315.2	311.2	307.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	17	0.0
12	2.023	315.2	310.7	307.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	18	0.0
13	2.056	315.2	310.2	307.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	19	0.0
14	2.052	314.2	311.2	309.7	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	20	0.0
15	2.048	313.2	311.2	310.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	21	0.0
16	2.045	313.2	311.2	310.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	22	0.0
17	2.043	313.2	311.2	310.2	312.7	312.7	312.7	312.7	312.7	312.7	312.7	312.7	312.7	312.7	312.7	312.7	23	0.0
18	2.040	312.2	311.2	310.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	24	0.0
19	2.039	312.2	311.2	310.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	25	0.0
20	2.037	312.2	311.2	310.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	26	0.0
21	2.035	311.2	310.2	310.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	27	0.0
22	2.033	311.2	310.2	310.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	28	0.0
23	2.031	310.2	309.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	29	0.0
24	2.029	309.2	308.2	308.2	309.2	309.2	309.2	309.2	309.2	309.2	309.2	309.2	309.2	309.2	309.2	309.2	30	0.0
25	2.027	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	31	0.0
26	2.018	306.2	307.2	307.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	32	0.0
27	2.016	306.2	307.2	307.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	33	0.0
28	2.012	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	34	0.0
29	2.010	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	35	0.0
30	2.009	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	36	0.0
31	2.008	305.2	306.2	306.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	37	0.0
32	2.004	305.2	306.2	306.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	38	0.0
33	2.002	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	39	0.0
34	2.000	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	40	0.0
35	1.998	304.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	41	0.0
36	1.996	304.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	42	0.0
37	1.994	304.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	43	0.0
38	1.991	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	44	0.0
39	1.989	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	45	0.0
40	1.988	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	46	0.0
41	1.987	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	47	0.0

Table 6B — Inferred Pressurant Distribution, Scaling Run 27, Test Configuration 1:
One 2.54-cm Nozzle [J] indicates thermocouple on an inlet jet centerline]

Pressurant Fractions (X) at Locations 1												

Table 7A — Scaling Run 28, Test Configuration 1: One 2.54-cm Nozzle
[(J) indicates thermocouple on an inlet jet centerline]

[illegible]

Table 7B — Inferred Pressurant Distribution, Scaling Run 28, Test Configuration 1:
One 2.54-cm Nozzle [(J) indicates thermocouple on an inlet jet centerline]

Pressurant Fractions (X) at Locations 1																		
T (°C)	P (°C)	P_0 (°C)	β/θ	β	$\bar{X}$	1	2	3(U)	4	5	6	7	8	9	10	11	12	13
SEQUENCE VALVE OPENING																		
0.0	26.9	26.9	85.1	2.9	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.0	26.3	26.3	32.3	205.0	9.6497	0.023	0.042	0.081	0.167	0.205	0.081	0.081	0.000	0.000	0.000	0.000	0.000	0.000
VALVE FULLY OPEN																		
2.0	31.8	32.0	20.2	39.4	5.1275	0.112	0.062	0.111	0.359	0.033	0.033	0.033	0.000	0.000	0.000	0.000	0.000	0.000
3.0	35.0	36.4	20.5	20.0	1.4894	0.177	0.202	0.322	1.000	0.65	0.65	0.122	0.132	0.038	0.198	0.78	0.78	0.78
4.0	37.0	39.2	29.4	16.5	1.0159	0.226	0.068	0.440	0.846	0.34	0.34	0.135	0.135	0.186	0.136	0.196	0.227	0.227
5.0	38.1	41.2	30.0	16.3	0.9618	0.270	0.026	0.472	0.829	0.115	0.204	0.204	0.240	0.186	0.267	0.222	0.213	0.276
6.0	38.6	42.5	30.5	15.9	0.8211	0.307	0.136	0.468	0.804	0.178	0.178	0.261	0.261	0.244	0.319	0.211	0.277	0.302
7.0	39.3	42.5	30.9	15.5	0.7346	0.339	0.210	0.327	0.845	0.210	0.210	0.289	0.297	0.274	0.313	0.289	0.305	0.329
8.0	39.5	44.3	31.3	15.5	0.6219	0.367	0.261	0.331	0.878	0.261	0.261	0.307	0.307	0.315	0.330	0.330	0.346	0.353
9.0	39.5	44.7	31.6	16.1	0.5801	0.393	0.289	0.394	0.899	0.289	0.289	0.342	0.342	0.327	0.350	0.342	0.357	0.373
10.0	39.5	45.0	31.8	15.9	0.5833	0.415	0.318	0.616	0.915	0.313	0.313	0.373	0.373	0.359	0.374	0.359	0.366	0.404
11.0	39.6	45.4	32.1	15.6	0.5276	0.434	0.337	0.638	0.939	0.337	0.337	0.373	0.373	0.359	0.374	0.359	0.397	0.419
SEQUENCE VALVE CLOSURE																		
12.0	39.7	45.9	32.3	14.9	0.6097	0.457	0.371	0.670	0.960	0.446	0.446	0.371	0.416	0.394	0.446	0.423	0.461	0.461
13.0	39.3	45.4	32.4	16.0	0.5503	0.472	0.349	0.656	1.002	0.426	0.426	0.349	0.395	0.426	0.426	0.441	0.441	0.441
VALVE FULLY CLOSED																		
14.0	39.0	45.1	32.3	2.7	0.927	0.473	0.404	0.561	0.873	0.404	0.404	0.404	0.428	0.420	0.443	0.443	0.462	0.462
15.0	38.4	44.2	31.9	3.7	1.285	0.473	0.393	0.554	0.716	0.393	0.393	0.393	0.449	0.417	0.473	0.463	0.473	0.506
16.0	37.8	43.4	31.5	3.9	1.335	0.473	0.406	0.532	0.701	0.406	0.406	0.406	0.448	0.431	0.457	0.463	0.480	0.480
17.0	37.2	42.6	31.2	4.2	1.432	0.473	0.419	0.507	0.683	0.419	0.419	0.419	0.463	0.437	0.472	0.463	0.472	0.490
18.0	37.2	42.6	31.2	0.0	0.0000	0.473	0.428	0.516	0.648	0.428	0.428	0.428	0.463	0.437	0.472	0.463	0.472	0.490
19.0	36.6	41.7	30.8	4.4	1.519	0.473	0.445	0.537	0.629	0.445	0.445	0.445	0.463	0.437	0.472	0.463	0.472	0.490
20.0	36.6	41.7	30.8	0.0	0.0000	0.473	0.433	0.524	0.616	0.433	0.433	0.433	0.463	0.437	0.472	0.463	0.472	0.490
21.0	36.3	41.3	30.7	2.3	0.786	0.473	0.487	0.487	0.581	0.487	0.487	0.487	0.463	0.437	0.472	0.463	0.472	0.490
22.0	36.0	40.9	30.5	2.4	0.822	0.473	0.478	0.478	0.574	0.478	0.478	0.478	0.463	0.437	0.472	0.463	0.472	0.490
23.0	36.0	40.9	30.5	0.0	0.0000	0.473	0.455	0.503	0.531	0.455	0.455	0.455	0.463	0.437	0.472	0.463	0.472	0.490
24.0	35.4	40.3	30.3	3.7	1.286	0.473	0.441	0.537	0.527	0.441	0.441	0.441	0.463	0.437	0.472	0.463	0.472	0.490
25.0	35.4	40.3	30.3	0.0	0.0000	0.473	0.463	0.513	0.513	0.463	0.463	0.463	0.463	0.437	0.472	0.463	0.472	0.490
26.0	35.4	40.0	30.1	1.3	0.944	0.473	0.494	0.494	0.494	0.494	0.494	0.494	0.463	0.437	0.472	0.463	0.472	0.490
27.0	35.4	40.0	30.1	0.0	0.0000	0.473	0.473	0.473	0.473	0.473	0.473	0.473	0.463	0.437	0.472	0.463	0.472	0.490
28.0	35.2	39.8	30.1	1.3	0.932	0.473	0.457	0.457	0.559	0.457	0.457	0.457	0.463	0.437	0.472	0.463	0.472	0.490
29.0	35.1	39.6	30.0	1.3	0.960	0.473	0.442	0.442	0.546	0.442	0.442	0.442	0.463	0.437	0.472	0.463	0.472	0.490
30.0	34.9	39.4	29.9	1.4	0.969	0.473	0.434	0.434	0.539	0.434	0.434	0.434	0.463	0.437	0.472	0.463	0.472	0.490
31.0	34.8	39.2	29.8	1.4	0.978	0.473	0.414	0.414	0.521	0.414	0.414	0.414	0.463	0.437	0.472	0.463	0.472	0.490
32.0	34.8	39.2	29.8	0.0	0.0000	0.473	0.428	0.428	0.482	0.428	0.428	0.428	0.463	0.437	0.472	0.463	0.472	0.490
33.0	34.8	39.2	29.8	0.0	0.0000	0.473	0.462	0.462	0.462	0.462	0.462	0.462	0.462	0.462	0.462	0.462	0.462	0.462
34.0	34.4	38.8	29.6	2.9	0.984	0.473	0.448	0.448	0.448	0.448	0.448	0.448	0.448	0.448	0.448	0.448	0.448	0.448

Table 8A — Scaling Run 29, Test Configuration 1: One 2.54-cm Nozzle [(J) indicates thermocouple on an inlet jet centerline]

Pres Tank P	T _i (°C)	T _p (°C)	Chamber P (atm)	Chamber Absolute Temperatures (K) at Locations 1													COORDINATES				
				1	2	3(U)	4	5	6	7	8	9	10	11	12	13	R (M)	THETA 2 (DEC) (M)			
-5	...	...	1.034	301.2	301.2	301.2	301.2	301.2	301.2	299.7	299.8	299.7	299.9	299.5	299.5	299.5	1	0	...	0	152
-5	...	...	1.034	301.2	301.2	301.2	301.2	301.2	301.2	299.8	299.8	299.8	299.8	299.5	299.5	299.5	2	0	...	0	152
-4	...	...	1.034	301.2	301.2	301.2	301.2	301.2	301.2	299.8	299.8	299.8	299.7	299.5	299.5	299.5	3	0	...	0	152
-3	...	...	1.034	301.2	301.2	301.2	301.2	301.2	301.2	299.8	299.8	299.8	299.7	299.5	299.5	299.5	4	0	...	0	152
-2	...	...	1.033	301.2	301.2	301.2	301.2	301.2	301.2	299.8	299.8	299.8	299.7	299.5	299.5	299.5	5	0	...	0	152
-1	...	...	1.033	301.2	301.2	301.2	301.2	301.2	301.2	299.7	299.7	299.7	299.7	299.5	299.5	299.5	6	0	...	0	152
0	...	...	1.034	301.2	301.2	301.2	301.2	301.2	301.2	299.7	299.7	299.7	299.7	299.5	299.5	299.5	7	0	...	0	152
1	...	...	1.033	301.2	301.2	301.2	301.2	301.2	301.2	299.7	299.7	299.7	299.7	299.5	299.5	299.5	8	0	...	0	152
2	...	...	1.135	304.2	301.7	300.7	300.7	300.7	300.7	302.5	302.5	302.5	302.5	301.0	301.0	301.0	9	0	...	0	152
3	...	...	1.246	310.2	307.2	308.2	308.2	308.2	308.2	306.5	306.5	306.5	306.5	304.0	304.0	304.0	10	0	...	0	152
4	...	...	1.436	312.7	309.2	303.2	311.2	311.2	310.2	309.0	308.1	307.0	305.9	305.2	305.2	305.2	11	0	...	0	152
5	...	...	1.436	314.2	310.2	306.2	313.2	313.2	312.2	310.9	309.4	308.0	306.9	306.2	306.2	306.2	12	0	...	0	152
6	...	...	1.524	315.2	311.2	306.2	314.2	314.2	313.2	311.9	310.6	309.7	311.6	311.5	311.5	311.5	13	0	...	0	152
7	...	...	1.604	315.2	311.2	306.2	314.2	314.2	313.2	311.9	310.6	309.7	311.6	311.5	311.5	311.5	14	0	...	0	152
8	...	...	1.681	315.2	311.2	306.2	314.2	314.2	313.2	311.9	310.6	309.7	311.6	311.5	311.5	311.5	15	0	...	0	152
9	...	...	1.752	315.2	311.7	307.2	313.2	313.2	312.2	311.3	311.1	310.2	312.6	312.3	312.3	312.3	16	0	...	0	152
10	...	...	1.823	315.2	312.2	307.2	313.2	313.2	312.2	311.3	311.1	310.2	312.6	312.3	312.3	312.3	17	0	...	0	152
11	...	...	1.893	315.2	311.2	307.2	313.2	313.2	312.2	311.3	311.1	310.2	312.6	312.3	312.3	312.3	18	0	...	0	152
12	...	...	1.953	315.2	311.2	307.2	313.2	313.2	312.2	311.3	311.1	310.2	312.6	312.3	312.3	312.3	19	0	...	0	152
13	...	...	2.014	315.2	311.2	307.2	313.2	313.2	312.2	311.3	311.1	310.2	312.6	312.3	312.3	312.3	20	0	...	0	152
14	...	...	2.059	314.7	310.7	306.2	313.7	313.7	312.7	311.4	310.6	309.3	310.6	312.2	312.2	312.2	21	0	...	0	152
15	...	...	2.063	314.2	312.2	309.2	313.2	313.2	312.2	311.3	311.1	310.2	312.6	312.3	312.3	312.3	22	0	...	0	152
16	...	...	2.058	313.2	312.2	310.2	313.2	313.2	312.2	311.3	311.1	310.2	312.6	312.3	312.3	312.3	23	0	...	0	152
17	...	...	2.034	313.2	311.7	310.2	313.2	313.2	312.2	311.3	311.1	310.2	312.6	312.3	312.3	312.3	24	0	...	0	152
18	...	...	2.053	313.2	311.2	310.2	312.2	312.2	311.2	311.1	310.9	310.6	310.2	311.5	311.4	311.4	25	0	...	0	152
19	...	...	2.030	312.2	311.2	310.2	312.2	312.2	311.2	311.1	310.9	310.6	310.2	311.5	311.4	311.4	26	0	...	0	152
20	...	...	2.049	312.2	311.2	310.2	312.2	312.2	311.2	311.1	310.9	310.6	310.2	311.5	311.4	311.4	27	0	...	0	152
21	...	...	2.046	312.2	311.2	310.2	312.2	312.2	311.2	311.1	310.9	310.6	310.2	311.5	311.4	311.4	28	0	...	0	152
22	...	...	2.046	312.2	311.2	310.2	311.7	311.7	311.7	311.0	310.6	310.1	309.9	309.5	309.5	309.5	29	0	...	0	152
23	...	...	2.044	311.2	311.2	310.2	311.2	311.2	311.2	310.9	310.5	310.7	309.8	309.8	309.8	309.8	30	0	...	0	152
24	...	...	2.038	311.0	310.2	309.2	310.2	310.2	310.2	310.9	310.7	310.6	310.8	310.8	310.8	310.8	31	0	...	0	152
25	...	...	2.034	309.2	309.2	309.2	309.2	309.2	309.2	308.0	307.3	306.9	305.8	306.7	308.1	306.9	32	0	...	0	152
26	...	...	2.030	309.2	309.2	309.2	309.2	309.2	309.2	308.0	307.3	306.9	305.8	306.7	308.1	306.9	33	0	...	0	152
27	...	...	2.034	308.2	308.2	308.2	308.2	308.2	308.2	307.0	306.5	306.5	306.4	305.5	306.6	305.5	34	0	...	0	152
28	...	...	2.024	308.2	308.2	308.2	308.2	308.2	308.2	307.0	306.5	306.5	306.4	305.5	306.6	305.5	35	0	...	0	152
29	...	...	2.027	308.2	308.2	308.2	308.2	308.2	308.2	307.0	306.5	306.5	306.4	305.5	306.6	305.5	36	0	...	0	152
30	...	...	2.023	307.2	307.2	307.2	307.2	307.2	307.2	306.2	305.9	305.5	305.5	305.2	306.4	305.2	37	0	...	0	152
31	...	...	2.020	307.2	307.2	307.2	307.2	307.2	307.2	306.2	305.9	305.5	305.5	305.2	306.4	305.2	38	0	...	0	152
32	...	...	2.018	307.2	307.2	307.2	307.2	307.2	307.2	306.2	305.9	305.5	305.5	305.2	306.4	305.2	39	0	...	0	152
33	...	...	2.016	306.2	307.2	306.2	306.2	306.2	306.2	305.2	304.7	303.6	302.4	304.0	304.5	304.0	40	0	...	0	152
34	...	...	2.014	306.2	306.2	306.2	306.2	306.2	306.2	305.2	304.7	303.6	302.4	304.0	304.5	304.0	41	0	...	0	152
35	...	...	2.013	306.2	306.2	306.2	306.2	306.2	306.2	305.2	304.7	303.6	302.4	304.0	304.5	304.0	42	0	...	0	152
36	...	...	2.010	305.2	305.2	305.2	305.2	305.2	305.2	304.2	303.7	302.2	301.8	303.3	303.7	303.5	43	0	...	0	152
37	...	...	2.007	305.2	305.2	305.2	305.2	305.2	305.2	304.2	303.7	302.2	301.8	303.3	303.7	303.5	44	0	...	0	152
38	...	...	2.005	305.2	305.2	305.2	305.2	305.2	305.2	304.2	303.7	302.2	301.8	303.3	303.7	303.5	45	0	...	0	152
39	...	...	2.002	305.2	305.2	305.2	305.2	305.2	305.2	304.2	303.7	302.2	301.8	303.3	303.7	303.5	46	0	...	0	152
40	...	...	2.002	304.2	305.2	305.2	305.2	305.2	305.2	304.2	303.7	302.2	301.8	303.3	303.7	303.5	47	0	...	0	152
41	...	...	2.000	304.2	305.2	305.2	305.2	305.2	305.2	304.2	303.7	302.2	301.8	303.3	303.7	303.5	48	0	...	0	152
42	...	...	2.000	304.2	305.2	305.2	305.2	305.2	305.2	304.2	303.7	302.2	301.8	303.3	303.7	303.5	49	0	...	0	152
43	...	...	2.000	304.2	305.2	305.2	305.2	305.2	305.2	304.2	303.7	302.2	301.8	303.3	303.7	303.5	50	0	...	0	152
44	...	...	1.998	304.2	304.2	304.2	304.2	304.2	304.2	303.2	302.4	301.0	300.5	302.2	302.3	302.0	51	0	...	0	152
45	...	...	1.997	304.2	304.2	304.2	304.2	304.2	304.2	303.2	302.4	301.0	300.5	302.2	302.3	302.0	52	0	...	0	152
46	...	...	1.994	304.2	304.2	304.2	304.2	304.2	304.2	303.2	302.4	301.0	300.5	302.2	302.3	302.0	53	0	...	0	152
47	...	...	1.993	304.2	304.2	304.2	304.2	304.2	304.2	303.2	302.4	301.0	300.5	302.2	302.3	302.0	54	0	...	0	152
48	...	...	1.993	304.2	304.2	304.2	304.2	304.2	304.2	303.2	302.4	301.0	300.5	302.2	302.3	302.0	55	0	...	0	152

Table 8B — Inferred Pressurant Distribution, Sealing Run 29, Test Configuration 1:
One 2.54-cm Nozzle [(J) indicates thermocouple on an inlet jet centerline]

Pressurant Fractions (X) at Locations 1																			
$\dot{Q}$ (g)	T (°C)	T (°C)	T (°C)	β	M/θ	P	1	2	3(U)	4	5	6	7	8	9	10	11	12	13
SEQUENCE VALVE OPENING																			
0.0	26.9	26.9	162.0	-2.2	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.0	26.9	26.9	30.4	21070.9-31.0821	-0.001	-0.001	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008
VALVE FULLY OPEN																			
2.0	29.5	29.6	26.6	152.0	10.1625	0.63	-0.078	0.086	1.072	415	251	086	-0.12	-374	-164	-210	-177	-012	-078
3.0	32.2	28.0	27.9	32.7	2.6471	0.136	-0.298	189	1.324	026	026	189	059	-053	108	-022	059	108	059
4.0	35.0	37.6	28.2	18.7	1.3013	0.194	-0.083	290	930	077	077	184	132	098	173	141	120	194	173
5.0	37.6	40.3	29.1	15.1	0.8757	0.240	-0.035	392	749	125	125	214	196	203	223	156	214	232	214
6.0	38.5	41.9	29.7	16.1	0.9130	0.282	0.044	411	821	166	166	248	231	223	264	248	236	289	256
7.0	38.5	43.1	30.3	15.0	0.7706	0.316	0.159	482	874	169	209	248	224	273	287	271	303	310	287
8.0	39.2	43.0	30.7	16.1	0.7451	0.347	0.231	527	909	221	221	297	274	282	282	312	305	335	328
9.0	39.5	44.5	31.1	15.3	0.6192	0.373	0.268	530	866	268	268	268	268	268	343	343	365	358	343
10.0	39.5	44.9	31.4	15.8	0.6244	0.397	0.298	520	851	298	298	298	298	335	350	364	379	379	379
11.0	39.5	45.1	31.7	16.4	0.5962	0.419	0.313	612	910	313	313	313	321	381	381	388	410	403	388
SEQUENCE VALVE CLOSURE																			
12.0	39.4	45.2	31.9	16.4	0.5421	0.438	0.327	626	926	364	327	327	364	372	394	424	409	416	416
13.0	39.4	45.4	32.1	16.7	0.487.5	0.455	0.340	641	942	416	340	340	340	416	408	423	446	431	423
VALVE FULLY CLOSED																			
14.0	38.9	45.0	32.0	-0.35.9	0.4511	0.468	0.337	664	1.008	434	357	357	373	396	419	426	434	426	426
15.0	39.6	45.9	32.3	119.6	-0.1226	0.468	0.394	542	764	468	394	394	402	431	446	475	453	453	461
16.0	38.8	44.8	31.9	-150.4	0.1542	0.468	0.423	520	675	443	443	443	404	435	443	466	431	459	431
17.0	38.2	44.0	31.6	-127.4	0.1306	0.468	0.436	546	666	426	426	426	426	426	450	482	438	466	458
18.0	38.0	43.0	31.5	-32.9	0.0328	0.468	0.401	564	645	482	401	401	410	418	450	499	442	482	482
19.0	37.6	42.2	31.2	-101.5	0.1041	0.468	0.450	533	617	450	450	450	408	416	441	450	482	466	458
20.0	37.4	41.0	31.1	-34.8	0.0297	0.468	0.435	519	604	435	435	435	435	435	427	469	435	469	469
21.0	37.0	42.3	30.9	-107.5	0.1102	0.468	0.441	508	593	421	421	421	421	427	455	473	482	455	455
22.0	37.0	42.3	30.9	0.0	0.0000	0.468	0.394	481	568	437	481	437	437	437	455	463	453	472	463
23.0	36.7	41.9	30.7	-74.4	0.0763	0.468	0.434	454	543	454	454	454	443	443	455	463	485	485	485
24.0	36.5	41.7	30.6	-38.1	0.0390	0.468	0.435	525	525	435	480	435	417	453	480	507	462	480	444
25.0	36.5	41.7	30.6	0.0	0.0000	0.468	0.416	506	506	506	506	416	425	443	461	524	432	461	432
26.0	36.2	41.3	30.4	-77.9	0.0799	0.468	0.477	477	477	477	477	477	441	431	468	524	413	468	468
27.0	35.9	40.9	30.3	-60.5	0.0825	0.468	0.464	464	558	464	464	464	436	407	483	511	436	483	459
28.0	35.8	40.7	30.3	-41.3	0.0423	0.468	0.435	435	531	435	435	435	417	445	484	531	435	484	435
29.0	35.9	40.9	30.3	-0.423	0.0423	0.468	0.416	436	531	436	436	436	417	446	465	531	435	484	474
30.0	35.9	40.7	30.2	-41.3	0.0423	0.468	0.415	415	511	511	511	511	425	434	463	530	434	501	501
31.0	35.6	40.4	30.1	-42.0	0.0431	0.468	0.394	442	491	491	491	491	433	413	462	539	423	510	510
32.0	35.5	40.2	30.0	-42.7	0.0438	0.468	0.378	476	476	476	476	476	433	397	476	554	427	515	515
33.0	35.2	39.8	29.9	-87.7	0.0900	0.468	0.422	462	462	462	462	462	432	402	472	553	412	512	522
34.0	35.0	39.6	29.8	-45.1	0.0462	0.468	0.448	448	448	448	448	448	438	397	499	576	428	530	530

Table 9A — Scaling Run 30, Test Configuration 1: One 2.54-cm Nozzle
 [(J) indicates thermocouple on an inlet jet centerline]

Press Tank P				Chamber Absolute Temperatures (K) at Locations 1													COORDINATES		
i	P (atm)	T _i (K)	P (atm)	1	2	3(J)	4	5	6	7	8	9	10	11	12	13	I	R (M)	THETA 2 (DEG) (M)
-5	0.034	...	1.034	301.2	301.2	301.2	301.2	301.2	301.2	299.9	298.8	298.8	299.9	299.9	299.9	299.9	5	1	0.0
-4	0.036	...	1.036	301.2	301.2	301.2	301.2	301.2	301.2	299.9	298.8	298.8	299.9	299.9	299.9	299.9	4	2	0.0
-3	0.034	...	1.034	301.2	301.2	301.2	301.2	301.2	301.2	299.9	298.8	298.8	299.9	299.9	299.9	299.9	3	3	0.0
-2	0.035	...	1.035	301.2	301.2	301.2	301.2	301.2	301.2	299.9	298.8	298.8	299.9	299.9	299.9	299.9	4	4	0.0
-1	0.034	...	1.034	301.2	301.2	301.2	301.2	301.2	301.2	299.9	298.8	298.8	299.9	299.9	299.9	299.9	5	5	0.0
0	0.332	301.2	1.064	301.2	301.7	301.2	301.2	301.2	301.2	299.8	298.9	298.9	300.2	300.2	299.9	299.7	6	6	0.0
1	0.333	299.2	1.153	305.2	303.2	301.2	303.2	304.2	304.2	304.2	302.6	301.8	303.5	303.1	302.9	302.8	7	7	0.0
2	0.350	287.7	1.262	310.2	306.7	301.2	308.7	308.2	307.7	307.0	306.0	304.8	307.0	306.7	306.0	306.3	8	8	0.0
3	0.341	286.2	1.361	313.2	309.2	304.2	311.2	311.2	311.2	309.2	308.3	306.9	309.0	309.0	308.4	308.4	9	9	0.0
4	0.378	284.7	1.452	314.7	316.7	305.7	313.7	313.7	312.7	310.5	309.6	308.5	310.5	310.4	309.9	310.0	10	10	0.0
5	0.420	284.2	1.524	315.2	311.2	306.2	314.2	314.2	314.2	312.1	310.4	309.8	311.6	311.1	311.0	311.3	11	11	0.0
6	0.498	283.2	1.618	315.2	311.2	306.2	315.2	315.2	314.2	312.5	310.9	310.3	312.0	311.8	311.5	311.7	12	12	0.0
7	0.666	282.2	1.766	315.2	311.2	306.7	315.2	315.2	314.2	312.8	311.5	311.0	312.6	312.4	311.7	311.9	13	13	0.0
8	0.433	281.2	1.837	315.2	311.2	307.2	315.2	315.2	314.2	312.8	311.5	311.0	312.6	312.4	311.7	311.9	14	14	0.0
9	0.312	280.7	1.902	315.2	311.2	307.2	315.2	315.2	314.2	312.8	311.5	311.0	312.6	312.4	311.7	311.9	15	15	0.0
10	0.492	280.2	1.964	315.2	311.2	307.2	315.2	315.2	314.2	312.8	311.5	311.0	312.6	312.4	311.7	311.9	16	16	0.0
11	0.314	280.2	2.026	315.2	311.2	307.2	315.2	315.2	314.2	312.8	311.5	311.0	312.6	312.4	311.7	311.9	17	17	0.0
12	0.330	279.7	2.056	314.2	311.2	305.2	314.2	314.2	314.2	312.6	311.0	310.6	312.2	312.0	311.3	311.5	18	18	0.0
13	0.661	278.2	2.092	313.7	311.7	309.7	313.7	313.7	313.7	312.2	310.9	310.3	311.6	311.1	311.0	311.2	19	19	0.0
14	0.872	276.2	2.047	313.2	311.2	310.2	313.2	313.2	313.2	312.2	310.9	310.3	311.6	311.1	311.0	311.2	20	20	0.0
15	...	...	2.047	313.2	311.2	310.2	313.2	313.2	313.2	312.2	310.9	310.3	311.6	311.1	311.0	311.2	21	21	0.0
16	...	...	2.044	312.2	311.2	310.2	312.2	312.2	312.2	311.2	310.9	310.3	311.6	311.1	311.0	311.2	22	22	0.0
17	...	...	2.042	312.7	311.2	310.2	312.2	312.2	312.2	311.2	310.9	310.3	311.6	311.1	311.0	311.2	23	23	0.0
18	...	...	2.040	312.2	311.2	309.2	312.2	312.2	312.2	311.2	310.9	310.3	311.6	311.1	311.0	311.2	24	24	0.0
19	...	...	2.039	312.2	310.7	309.2	312.2	312.2	312.2	311.2	310.9	310.3	311.6	311.1	311.0	311.2	25	25	0.0
20	...	...	2.036	312.2	310.2	310.2	311.2	311.2	311.2	310.2	309.8	308.1	309.5	309.7	310.0	310.0	26	26	0.0
21	...	...	2.036	311.2	310.2	309.2	311.2	311.2	311.2	310.2	309.8	308.1	309.5	309.7	310.0	310.0	27	27	0.0
22	...	...	2.034	311.2	310.2	309.2	311.2	311.2	311.2	310.2	309.8	308.1	309.5	309.7	310.0	310.0	28	28	0.0
23	...	...	2.034	310.2	310.2	309.2	311.2	311.2	311.2	310.2	309.8	308.1	309.5	309.7	310.0	310.0	29	29	0.0
24	...	...	2.029	310.2	310.2	309.2	310.2	310.2	310.2	309.8	308.7	307.3	308.9	308.9	308.9	308.9	30	30	0.0
25	...	...	2.029	309.2	309.2	309.2	309.2	309.2	309.2	308.1	307.2	306.6	308.0	308.0	308.0	308.0	31	31	0.0
26	...	...	2.024	309.2	309.2	309.2	309.2	309.2	309.2	308.1	307.2	306.6	308.0	308.0	308.0	308.0	32	32	0.0
27	...	...	2.024	309.2	309.2	308.2	309.2	309.2	309.2	308.1	307.2	306.6	308.0	308.0	308.0	308.0	33	33	0.0
28	...	...	2.022	308.2	308.2	308.2	308.2	308.2	308.2	307.0	306.6	306.0	307.0	307.0	307.0	307.0	34	34	0.0
29	...	...	2.020	307.2	307.2	307.2	307.2	307.2	307.2	306.6	306.0	305.3	306.0	306.0	306.0	306.0	35	35	0.0
30	...	...	2.016	307.2	307.2	307.2	307.2	307.2	307.2	306.6	306.0	305.3	306.0	306.0	306.0	306.0	36	36	0.0
31	...	...	2.013	307.2	307.2	307.2	307.2	307.2	307.2	306.6	306.0	305.3	306.0	306.0	306.0	306.0	37	37	0.0
32	...	...	2.009	306.2	307.2	306.2	306.2	306.2	306.2	305.2	304.7	304.0	305.0	305.0	305.0	305.0	38	38	0.0
33	...	...	2.008	306.2	306.2	306.2	306.2	306.2	306.2	305.2	304.7	304.0	305.0	305.0	305.0	305.0	39	39	0.0
34	...	...	2.007	306.2	306.2	306.2	306.2	306.2	306.2	305.2	304.7	304.0	305.0	305.0	305.0	305.0	40	40	0.0
35	...	...	2.007	306.2	306.2	306.2	306.2	306.2	306.2	305.2	304.7	304.0	305.0	305.0	305.0	305.0	41	41	0.0
36	...	...	2.006	306.2	306.2	306.2	306.2	306.2	306.2	305.2	304.7	304.0	305.0	305.0	305.0	305.0	42	42	0.0
37	...	...	2.001	305.2	306.2	306.2	305.2	305.2	305.2	304.0	303.1	302.7	303.8	304.0	304.0	304.0	43	43	0.0
38	...	...	2.001	305.2	306.2	306.2	305.2	305.2	305.2	304.0	303.1	302.7	303.8	304.0	304.0	304.0	44	44	0.0
39	...	...	2.001	305.2	306.2	306.2	305.2	305.2	305.2	304.0	303.1	302.7	303.8	304.0	304.0	304.0	45	45	0.0
40	...	...	2.001	305.2	306.2	306.2	305.2	305.2	305.2	304.0	303.1	302.7	303.8	304.0	304.0	304.0	46	46	0.0
41	...	...	2.001	305.2	306.2	306.2	305.2	305.2	305.2	304.0	303.1	302.7	303.8	304.0	304.0	304.0	47	47	0.0
42	...	...	2.001	305.2	306.2	306.2	305.2	305.2	305.2	304.0	303.1	302.7	303.8	304.0	304.0	304.0	48	48	0.0
43	...	...	2.001	305.2	306.2	306.2	305.2	305.2	305.2	304.0	303.1	302.7	303.8	304.0	304.0	304.0	49	49	0.0
44	...	...	2.001	305.2	306.2	306.2	305.2	305.2	305.2	304.0	303.1	302.7	303.8	304.0	304.0	304.0	50	50	0.0
45	...	...	2.001	305.2	306.2	306.2	305.2	305.2	305.2	304.0	303.1	302.7	303.8	304.0	304.0	304.0	51	51	0.0
46	...	...	2.001	305.2	306.2	306.2	305.2	305.2	305.2	304.0	303.1	302.7	303.8	304.0	304.0	304.0	52	52	0.0
47	...	...	2.001	305.2	306.2	306.2	305.2	305.2	305.2	304.0	303.1	302.7	303.8	304.0	304.0	304.0	53	53	0.0
48	...	...	2.001	305.2	306.2	306.2	305.2	305.2	305.2	304.0	303.1	302.7	303.8	304.0	304.0	304.0	54	54	0.0
49	...	...	2.001	305.2	306.2	306.2	305.2	305.2	305.2	304.0	303.1	302.7	303.8	304.0	304.0	304.0	55	55	0.0
50	...	...	2.001	305.2	306.2	306.2	305.2	305.2	305.2	304.0	303.1	302.7	303.8	304.0	304.0	304.0	56	56	0.0
51	...	...	2.001	305.2	306.2	306.2	305.2	305.2	305.2	304.0	303.1	302.7	303.8	304.0	304.0	304.0	57	57	0.0
52	...	...	2.001	305.2	306.2	306.2	305.2	305.2	305.2	304.0	303.1	302.7	303.8	304.0	304.0	304.0	58	58	0.0
53	...	...	2.001	305.2	306.2	306.2	305.2	305.2	305.2	304.0	303.1	302.7	303.8	304.0	304.0	304.0	59		

Table 9B — Inferred Pressurant Distribution, Scaling Run 30, Test Configuration I:
One 2.54-cm Nozzle [(U) indicates thermocouple on an inlet jet centerline]

Pressurant Fractions (X) at Locations I																			
t (s)	T (°C)	T_a (°C)	T_p (°C)	β	β/θ	$\bar{x}$	1	2	3(J)	4	5	6	7	8	9	10	11	12	13
CORNER VALVE OPENING																			
0.0	27.2	27.2	63.3	4.8	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.0	30.0	30.0	29.2	141.2	10.0313	0.069	-1.428	1.690	3.560	1.066	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81	-1.81
VALVE FULLY OPEN																			
2.0	32.5	32.2	29.1	33.9	2.6215	1.39	-3.98	3.96	1.389	-1.01	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.0	36.0	37.7	28.9	18.4	1.2385	1.35	-1.64	3.48	0.860	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
4.0	37.6	40.3	29.4	16.0	0.9333	2.02	-0.36	3.78	7.93	0.56	0.56	1.48	1.85	2.22	2.86	2.86	2.86	2.86	2.86
5.0	38.5	41.9	29.5	16.0	0.8336	2.00	-0.60	4.36	8.12	1.44	1.44	1.44	2.02	2.69	2.86	2.78	3.15	2.86	2.61
6.0	38.9	42.9	30.4	16.7	0.8669	3.17	-1.40	4.99	9.98	1.40	1.40	2.20	2.44	2.99	3.15	3.15	3.15	2.99	3.15
7.0	39.3	43.0	30.8	16.0	0.7389	3.47	-2.00	5.10	8.98	2.00	2.00	2.39	2.78	3.09	3.47	3.40	3.40	3.40	3.40
8.0	39.4	44.4	31.2	18.0	0.6307	3.73	-2.43	5.04	8.49	2.43	2.43	2.43	2.81	3.49	3.57	3.64	3.64	3.64	3.64
9.0	39.5	44.8	31.5	16.1	0.6295	3.77	-2.73	5.10	8.72	2.73	2.73	2.73	3.11	3.48	3.78	4.08	3.78	3.85	3.85
10.0	39.5	45.1	31.7	16.2	0.6468	4.18	-2.94	5.29	8.91	2.94	2.94	2.94	3.23	3.91	3.91	4.20	4.20	3.91	3.99
CORNER VALVE CLOSED																			
11.0	39.5	45.3	31.9	16.3	0.5238	4.36	-3.10	5.46	9.07	3.10	3.10	3.10	3.62	3.99	4.22	4.29	4.29	4.29	4.29
12.0	39.5	45.3	32.1	7.4	0.5434	4.36	-3.14	5.54	9.19	3.14	3.14	3.14	3.67	4.27	4.27	4.38	4.38	4.27	4.27
VALVE FULLY CLOSED																			
13.0	38.7	44.7	31.0	9.1	0.7775	4.63	-3.33	5.66	9.23	3.33	3.33	3.33	3.68	4.38	4.22	4.30	4.33	4.14	4.07
14.0	38.1	43.9	31.4	1.8	0.1346	4.63	-3.39	5.96	7.17	3.39	3.39	3.39	4.03	4.35	4.31	4.84	4.39	4.43	4.43
15.0	37.4	42.8	31.0	2.4	0.1791	4.63	-3.39	6.11	6.33	3.39	3.39	3.39	3.99	4.42	4.59	4.92	4.59	4.42	4.39
16.0	36.9	42.2	30.8	1.5	0.1140	4.63	-3.84	6.03	6.46	3.84	3.84	3.84	4.01	4.71	4.54	5.13	4.89	4.43	4.34
17.0	36.6	41.8	30.6	1.1	0.0790	4.63	-3.97	5.76	6.21	3.97	3.97	3.97	4.24	4.51	4.87	5.13	4.69	4.69	4.60
18.0	36.3	41.4	30.4	1.1	0.0813	4.63	-4.02	5.39	5.77	4.02	4.02	4.02	4.32	4.51	4.66	4.66	4.64	4.64	4.60
19.0	36.2	41.1	30.4	1.6	0.0418	4.63	-3.81	5.67	6.59	3.81	3.81	3.81	4.09	4.46	4.46	4.93	4.55	4.46	4.46
20.0	35.7	40.3	30.1	1.8	0.1228	4.63	-3.49	5.90	5.42	4.46	4.46	4.46	4.07	4.35	4.84	5.13	4.74	4.66	4.17
21.0	35.7	40.3	30.1	0.0	0.0000	4.63	-4.18	5.63	6.11	4.18	4.18	4.18	3.99	4.37	4.76	5.34	4.47	4.37	4.37
22.0	35.4	40.1	30.0	1.2	0.0864	4.63	-4.00	5.48	5.98	4.00	4.00	4.00	4.20	4.20	4.20	5.19	5.29	4.40	4.30
23.0	35.2	39.9	29.9	1.6	0.0462	4.63	-3.86	5.37	5.87	3.86	3.86	3.86	3.96	4.66	4.66	5.06	4.66	4.36	4.16
24.0	35.2	39.9	29.9	0.0	0.0000	4.63	-3.63	5.13	5.64	4.63	4.63	4.63	4.13	4.03	4.03	5.03	5.03	4.43	4.43
25.0	34.9	39.4	29.7	1.3	0.0956	4.63	-4.40	4.91	5.43	4.40	4.40	4.40	4.09	4.19	4.19	5.22	5.22	4.59	4.59
26.0	34.6	39.0	29.6	1.3	0.0934	4.63	-4.24	4.77	5.30	4.24	4.24	4.24	4.24	4.36	5.30	5.41	4.67	4.77	4.14
27.0	34.6	39.0	29.6	0.0	0.0000	4.63	-4.18	4.71	5.24	4.18	4.18	4.18	4.18	4.07	4.92	5.13	5.43	4.81	4.71
28.0	34.6	39.0	29.6	0.0	0.0000	4.63	-4.04	4.57	5.10	4.04	4.04	4.04	4.14	4.89	5.20	5.95	4.78	4.67	4.67
29.0	34.3	38.8	29.3	7.7	0.512	4.63	-3.78	5.39	4.86	3.78	3.78	3.78	4.10	4.53	5.07	5.93	4.53	4.75	4.75
30.0	34.3	38.6	29.4	7.7	0.523	4.63	-3.33	5.17	4.63	4.63	4.63	3.53	4.19	4.41	5.28	5.83	4.52	5.06	4.73
31.0	34.0	38.1	29.3	1.5	0.1080	4.63	-4.41	4.97	4.41	4.41	4.41	4.41	4.41	4.19	4.30	5.20	5.65	4.51	5.08
32.0	33.9	37.9	29.2	8.8	0.5388	4.63	-4.31	4.88	4.31	4.31	4.31	4.31	3.96	4.84	5.85	5.68	4.54	5.11	4.42
33.0	33.9	37.9	29.2	0.0	0.0000	4.63	-4.25	4.82	4.25	4.25	4.25	4.25	4.25	3.90	4.39	5.51	5.74	4.70	4.48
34.0	33.7	37.7	29.1	8.8	0.5371	4.63	-4.13	4.71	4.13	4.13	4.13	4.13	3.90	4.83	5.53	5.65	4.95	5.41	4.48

Table 10A – Scaling Run 31, Test Configuration 1: One 2.54-cm Nozzle
[(J) indicates thermocouple on an inlet jet centerline]

Press Tank P	T _i (K)	Chamber P (atm)	Chamber Absolute Temperatures (K) at Locations (													COORDINATES		
			1	2	3(I)	4	5	6	7	8	9	10	11	12	13	I	R (M)	THEIA 2 (DEC)
-5	0.00	1.042	301.2	301.2	301.2	301.2	301.2	301.2	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8
-4	0.00	1.043	301.2	301.2	301.2	301.2	301.2	301.2	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8
-3	0.00	1.042	301.2	301.2	301.2	301.2	301.2	301.2	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8
-2	0.00	1.041	301.2	301.2	301.2	301.2	301.2	301.2	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8
-1	0.00	1.042	301.2	301.2	301.2	301.2	301.2	301.2	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8
0	0.349	301.2	301.2	301.2	301.2	301.2	301.2	301.2	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8
1	6.504	301.2	301.2	301.2	301.2	301.2	301.2	301.2	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8	299.8
2	6.279	304.2	1.139	305.2	303.7	301.7	303.7	303.7	303.7	303.7	303.7	303.7	303.7	303.7	303.7	303.7	303.7	303.7
3	5.939	287.2	1.249	310.2	307.2	301.2	308.2	308.2	307.6	306.6	305.0	307.3	306.8	306.6	306.6	306.6	306.6	306.6
4	5.647	286.2	1.348	312.2	308.2	303.2	310.2	310.2	309.4	308.4	307.0	309.8	309.8	309.8	309.8	309.8	309.8	309.8
5	5.333	285.2	1.437	314.2	309.7	305.2	312.7	312.7	311.2	309.7	308.6	310.7	310.6	310.6	310.6	310.6	310.6	310.6
6	5.117	284.2	1.523	315.2	311.2	306.2	314.2	314.2	313.2	312.2	310.5	309.6	311.7	311.7	311.7	311.7	311.7	311.7
7	4.910	282.7	1.603	315.2	311.2	306.2	314.2	314.2	313.2	312.8	311.0	310.5	312.9	312.9	312.9	312.9	312.9	312.9
8	4.641	282.2	1.679	315.2	311.2	306.2	315.2	315.2	314.2	313.1	311.5	310.7	312.6	312.6	312.6	312.6	312.6	312.6
9	4.341	281.2	1.753	315.2	312.2	306.2	315.2	315.2	314.2	313.4	311.6	311.4	312.8	312.8	312.8	312.8	312.8	312.8
10	4.274	280.7	1.821	315.2	311.7	307.2	314.7	315.2	314.2	313.3	311.7	311.3	313.0	312.9	312.9	312.9	312.9	312.9
11	4.032	280.2	1.887	315.2	311.2	307.2	315.2	315.2	314.2	313.3	311.7	311.5	313.1	312.6	312.6	312.6	312.6	312.6
12	3.823	280.2	1.956	315.2	310.2	306.7	315.2	315.2	314.2	313.3	311.7	311.0	313.2	312.3	312.3	312.3	312.3	312.3
13	3.636	279.2	2.009	315.2	311.2	306.2	314.2	315.2	314.2	313.3	311.6	311.1	313.2	312.3	312.3	312.3	312.3	312.3
14	3.639	279.2	2.035	315.2	311.2	306.2	314.2	315.2	314.2	313.3	311.6	311.1	313.2	312.3	312.3	312.3	312.3	312.3
15	3.576	273.7	2.059	314.2	312.7	307.2	313.2	314.2	313.2	312.3	310.7	310.6	311.9	312.4	312.4	312.4	312.4	312.4
16	0.00	2.054	313.2	312.2	309.2	313.2	313.2	313.2	312.3	311.7	310.4	311.9	311.9	311.9	311.9	311.9	311.9	311.9
17	0.00	2.050	313.2	312.2	310.2	313.2	313.2	313.2	312.3	311.7	310.2	309.8	311.5	311.6	311.6	311.6	311.6	311.6
18	0.00	2.049	313.2	311.2	310.2	312.2	312.2	312.2	311.2	310.2	309.5	310.9	311.9	311.9	311.9	311.9	311.9	311.9
19	0.00	2.047	312.2	311.2	310.2	312.2	312.2	312.2	311.4	309.6	309.4	310.7	310.7	310.7	310.7	310.7	310.7	310.7
20	0.00	2.045	312.2	311.2	310.2	312.2	312.2	312.2	310.5	309.6	308.8	310.2	310.6	309.9	310.0	309.9	310.0	310.0
21	0.00	2.044	312.2	311.2	310.2	312.2	312.2	312.2	310.5	309.1	308.8	309.8	310.1	309.8	309.8	309.8	309.8	309.8
22	0.00	2.042	311.2	310.7	310.2	311.2	311.2	311.2	310.4	309.2	308.3	309.5	310.1	309.4	309.4	309.4	309.4	309.4
23	0.00	2.040	311.2	310.2	309.2	311.2	311.2	311.2	310.3	308.7	308.0	309.4	309.5	309.5	309.5	309.5	309.5	309.5
24	0.00	2.035	310.2	309.2	308.2	310.2	310.2	310.2	309.0	307.9	306.8	307.9	309.0	308.1	308.3	308.3	308.3	308.3
25	0.00	2.031	309.2	308.2	308.2	309.2	309.2	309.2	308.2	307.1	306.0	307.5	308.6	307.7	308.1	307.1	307.3	307.3
26	0.00	2.030	308.2	308.2	308.2	308.2	308.2	308.2	307.2	306.1	305.0	306.7	307.8	306.9	307.3	306.4	306.7	306.7
27	0.00	2.034	307.2	308.2	307.2	307.2	307.2	307.2	306.2	305.1	304.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
28	0.00	2.032	307.2	307.2	307.2	307.2	307.2	307.2	306.2	305.2	304.1	306.4	307.3	306.4	307.0	306.3	305.4	305.7
29	0.00	2.031	307.2	307.2	307.2	307.2	307.2	307.2	306.2	305.2	304.1	306.4	307.3	306.4	307.0	306.3	305.4	305.7
30	0.00	2.029	306.2	307.2	306.2	306.2	306.2	306.2	305.2	304.1	303.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
31	0.00	2.028	306.2	306.2	306.2	306.2	306.2	306.2	305.2	304.1	303.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
32	0.00	2.027	306.2	306.2	306.2	306.2	306.2	306.2	305.2	304.1	303.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
33	0.00	2.026	305.2	306.2	305.2	305.2	305.2	305.2	304.2	303.1	302.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
34	0.00	2.025	305.2	305.2	305.2	305.2	305.2	305.2	304.2	303.1	302.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
35	0.00	2.024	305.2	305.2	305.2	305.2	305.2	305.2	304.2	303.1	302.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
36	0.00	2.023	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
37	0.00	2.022	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
38	0.00	2.021	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
39	0.00	2.020	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
40	0.00	2.019	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
41	0.00	2.018	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
42	0.00	2.017	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
43	0.00	2.016	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
44	0.00	2.015	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
45	0.00	2.014	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
46	0.00	2.013	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
47	0.00	2.012	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
48	0.00	2.011	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
49	0.00	2.010	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
50	0.00	2.009	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
51	0.00	2.008	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
52	0.00	2.007	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
53	0.00	2.006	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
54	0.00	2.005	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
55	0.00	2.004	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
56	0.00	2.003	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
57	0.00	2.002	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
58	0.00	2.001	304.2	305.2	304.2	304.2	304.2	304.2	303.2	302.1	301.0	305.8	307.3	306.4	307.0	306.3	305.4	305.7
59	0.00																	

Table 10B — Inferred Pressurant Distribution, Scaling Run 31, Test Configuration 1:
One 2.54-cm Nozzle (J) indicates thermocouple on an inlet jet centerline]

Pressurant Fractions (X) at Locations 1																			
t (s)	P (°C)	T_c (°C)	T_c (°C)	β	β/θ	$\bar{X}$	1	2	3(J)	4	5	6	7	8	9	10	11	12	13
COMBUSTION VALVE OPENING																			
0.0	26.5	26.5	132.6	-1.1	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.0	27.0	27.0	20.7	10260.2	-7.0242	-0.000	-0.070	-0.070	-0.070	-0.070	-0.070	-0.070	-0.070	-0.070	-0.070	-0.070	-0.070	-0.070	-0.070
VALVE FULLY OPEN																			
2.0	30.0	30.0	29.8	129.7	10.2432	0.076	-4.509	3.3313	789	5	947	3	333	3	333	3	333	3	333
3.0	33.6	34.2	30.3	32.3	2.5081	0.197	-4.29	340	1.878	084	084	084	084	084	084	084	084	084	084
4.0	33.7	37.3	29.4	20.5	1.4267	0.104	-0.72	434	1.065	055	181	181	181	181	181	181	181	181	181
5.0	37.4	39.9	29.6	13.8	0.9210	0.299	0.04	450	896	153	153	202	153	163	232	192	222	232	232
6.0	38.6	41.9	30.4	14.9	0.8130	0.289	0.07	434	869	173	173	260	217	243	269	252	243	269	269
7.0	39.1	43.0	30.7	15.6	0.7249	0.344	0.125	501	907	175	216	257	249	281	289	263	289	305	297
8.0	39.3	43.8	31.0	15.9	0.7229	0.384	0.229	542	934	229	229	229	229	276	292	323	307	315	347
9.0	39.6	44.6	31.4	15.1	0.6272	0.380	0.280	507	962	280	280	280	280	302	330	317	340	348	363
10.0	39.6	45.0	31.6	15.6	0.5923	0.404	0.307	569	966	345	307	307	330	330	367	352	352	382	390
11.0	39.6	45.3	31.9	15.6	0.5525	0.424	0.331	627	924	331	331	331	331	331	375	360	368	398	412
COMBUSTION VALVE CLOSED																			
12.0	39.4	45.3	32.0	17.3	0.5833	0.443	0.329	705	968	329	329	329	329	329	374	397	412	427	427
13.0	39.3	45.4	32.2	1248.8	0.4803	0.460	0.343	644	1.020	418	343	343	343	343	358	396	403	418	426
VALVE FULLY CLOSED																			
14.0	39.3	45.5	32.3	974.6	0.3749	0.472	0.349	652	1.029	425	349	349	349	349	402	417	440	433	448
15.0	39.9	46.3	32.6	311.8	0.1199	0.472	0.401	584	912	474	401	401	401	401	409	423	432	409	430
16.0	39.1	45.3	32.2	332.0	0.1508	0.472	0.437	534	762	457	457	457	457	457	412	427	419	442	442
17.0	38.5	44.5	31.8	331.6	0.1275	0.472	0.443	523	681	443	443	443	443	443	431	451	451	436	475
18.0	38.3	44.3	31.7	0.927	0.320	0.472	0.404	564	644	484	484	484	484	484	412	436	460	420	452
19.0	38.0	43.8	31.6	174.7	0.622	0.472	0.463	545	626	463	463	463	463	463	439	453	453	447	463
20.0	37.7	43.4	31.4	179.5	0.691	0.472	0.447	530	613	447	447	447	447	447	430	442	455	480	489
21.0	37.6	43.2	31.3	91.7	0.933	0.472	0.436	520	604	436	436	436	436	436	419	433	444	480	495
22.0	37.3	42.8	31.1	187.4	0.721	0.472	0.481	524	567	481	481	481	481	481	421	447	490	490	490
23.0	37.0	42.4	31.0	192.8	0.742	0.472	0.488	532	620	444	444	444	444	444	422	448	474	457	474
24.0	37.0	42.4	31.0	0.0	0.0000	0.472	0.494	494	584	494	494	494	494	494	409	444	514	427	479
25.0	36.5	41.7	30.7	300.5	1.136	0.472	0.501	501	592	501	501	501	501	501	441	441	441	441	483
26.0	36.5	41.7	30.7	0.0	0.0000	0.472	0.494	494	584	494	494	494	494	494	412	412	412	412	483
27.0	36.5	41.7	30.7	0.0	0.0000	0.472	0.478	478	569	478	478	478	478	478	406	433	442	453	469
28.0	36.2	41.3	30.5	288.4	0.801	0.472	0.480	480	575	480	480	480	480	480	414	414	414	414	471
29.0	36.1	41.1	30.4	198.6	0.917	0.472	0.535	535	535	535	535	535	535	535	431	431	431	431	486
30.0	36.1	41.1	30.4	0.0	0.0000	0.472	0.513	513	513	513	513	513	513	513	419	419	419	419	486
31.0	36.1	41.1	30.4	0.0	0.0000	0.472	0.503	503	503	503	503	503	503	503	419	419	419	419	486
32.0	35.9	40.9	30.4	198.6	0.917	0.472	0.480	480	575	480	480	480	480	480	414	414	414	414	471
33.0	35.6	40.8	30.3	232.6	0.856	0.472	0.469	469	563	469	469	469	469	469	414	414	414	414	471
34.0	35.5	40.3	30.1	114.2	0.439	0.472	0.547	449	547	449	449	449	449	449	409	409	409	409	469
35.0	35.5	40.3	30.1	114.2	0.439	0.472	0.547	449	547	449	449	449	449	449	409	409	409	409	469

Table 11A — Scaling Run 32, Test Configuration 2: Two 2.54-cm Nozzles
[(J) indicates thermocouples on an inlet jet centerline]

I	R	THETA Z (DEC) (M)	Chamber Absolute Temperatures (K) at Locations 1													Chamber P (atm)	T ₁ (K)	T ₂ (K)	3(U)	Chamber Absolute Temperatures (K) at Locations 1										Chamber P (atm)	T ₁ (K)	T ₂ (K)	T ₃ (K)	T ₄ (K)	T ₅ (K)	T ₆ (K)	T ₇ (K)	T ₈ (K)	T ₉ (K)	T ₁₀ (K)	T ₁₁ (K)	T ₁₂ (K)	T ₁₃ (K)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
			1	2	3(U)	4	5	6	7	8	9	10	11	12	13																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
-5	0	0	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292

Table 12A — Scaling Run 33, Test Configuration 2: Two 2.54-cm Nozzles
[*(J)* indicates thermocouples on an inlet jet centerline]

Press Tank <i>P</i> (atm)	<i>r</i> (a)	Chamber <i>P</i> (atm)	<i>T_i</i> (K)	Chamber Absolute Temperatures (K) at Locations 1													COORDINATES		
				1	2	3(J)	4	5	6	7	8	9	10	11	12	13	<i>I</i> (M)	THETA 2 (DEG)	
-8	0.996	0.996	292.2	292.2	291.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	1	0.0
-4	0.997	0.997	292.2	292.2	291.7	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	2	0.0
-3	0.996	0.996	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	3	0.0
-2	0.996	0.996	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	4	0.0
-1	0.997	0.997	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	5	0.0
0	0.997	0.997	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	6	0.0
1	1.064	1.064	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	7	0.0
2	1.265	1.265	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	8	0.0
3	1.460	1.460	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	9	0.0
4	1.624	1.624	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	10	0.0
5	1.778	1.778	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	11	0.0
6	1.913	1.913	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	12	0.0
7	2.036	2.036	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	13	0.0
8	2.146	2.146	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	14	0.0
9	2.250	2.250	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	15	0.0
10	2.353	2.353	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	16	0.0
11	2.457	2.457	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	17	0.0
12	2.561	2.561	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	18	0.0
13	2.665	2.665	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	19	0.0
14	2.769	2.769	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	20	0.0
15	2.873	2.873	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	21	0.0
16	2.977	2.977	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	22	0.0
17	3.081	3.081	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	23	0.0
18	3.185	3.185	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	24	0.0
19	3.289	3.289	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	25	0.0
20	3.393	3.393	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	26	0.0
21	3.497	3.497	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	27	0.0
22	3.601	3.601	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	28	0.0
23	3.705	3.705	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	29	0.0
24	3.809	3.809	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	30	0.0
25	3.913	3.913	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	31	0.0
26	4.017	4.017	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	32	0.0
27	4.121	4.121	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	33	0.0
28	4.225	4.225	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	34	0.0
29	4.329	4.329	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	35	0.0
30	4.433	4.433	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	36	0.0
31	4.537	4.537	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	37	0.0
32	4.641	4.641	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	38	0.0
33	4.745	4.745	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	39	0.0
34	4.849	4.849	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	40	0.0
35	4.953	4.953	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	41	0.0
36	5.057	5.057	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	42	0.0
37	5.161	5.161	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	43	0.0
38	5.265	5.265	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	44	0.0
39	5.369	5.369	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	45	0.0
40	5.473	5.473	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	46	0.0
41	5.577	5.577	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	47	0.0
42	5.681	5.681	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	48	0.0
43	5.785	5.785	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	49	0.0
44	5.889	5.889	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	50	0.0
45	5.993	5.993	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	51	0.0
46	6.097	6.097	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	52	0.0
47	6.201	6.201	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	53	0.0
48	6.305	6.305	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	54	0.0
49	6.409	6.409	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	55	0.0
50	6.513	6.513	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2					

Table 11B — Inferred Pressurant Distribution, Scaling Run 32, Test Configuration 2:
Two 2.54-cm Nozzles (J) indicates thermocouples on an inlet jet centerline]

Presurant Fractions (X) at Locations 1														
	$\bar{X}$	1	2	3(U)	4	5	6	7	8	9	10	11	12	13
SEQUENCE VALVE OPENING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.0 10.2 18.2 22.0	0.0000													
1.0 10.2 18.2 22.0	-0.009	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
WALVE FULLY OPEN														
2.0 31.3 31.3 20.3	0.066	1.132	1.347	3.776	1.347	7.740	7.740	-110.2	7.742	-1.203	-1.689	-1.203	-1.110	1.133
3.0 37.5 29.5 20.3	0.215	-0.087	0.357	1.246	2.446	1.339	1.339	0.803	-0.043	0.151	0.911	0.911	1.113	1.146
4.0 31.4 26.1 20.6	0.303	1.119	0.409	0.861	2.116	1.834	2.488	0.203	0.203	0.336	0.274	0.336	0.306	0.287
5.0 37.5 29.5 20.6	0.369	0.223	0.484	0.949	2.767	2.767	3.02	3.02	3.02	3.338	3.338	3.338	3.303	3.357
6.0 30.4 20.1 21.3	0.419	0.319	0.556	0.809	2.67	3.19	3.67	3.67	3.67	3.35	3.35	3.35	3.381	3.381
SEQUENCE VALVE CLOSURE														
7.0 36.7 45.0 22.6	0.639	0.332	0.592	0.861	2.992	3.992	3.992	3.992	3.992	4.27	4.27	4.27	4.336	4.418
8.0 36.7 46.0 22.9	0.690	0.423	0.640	0.942	4.222	4.222	4.222	4.222	4.222	4.49	4.49	4.49	4.462	4.441
WALVE FULLY CLOSED														
9.0 36.4 46.0 22.0	0.505	0.447	0.622	0.833	4.47	4.47	4.47	4.47	4.47	4.65	4.65	4.65	4.62	4.69
10.0 32.1 44.0 22.4	0.505	0.435	0.594	0.733	4.55	4.55	4.55	4.55	4.55	4.78	4.78	4.78	4.78	4.92
11.0 32.4 42.9 22.1	0.505	0.474	0.570	0.690	4.74	4.74	4.74	4.74	4.74	4.98	4.98	4.98	4.98	4.93
12.0 31.9 42.0 21.8	0.505	0.459	0.558	0.637	4.59	5.08	4.59	4.74	4.74	4.94	5.13	5.04	5.08	4.99
13.0 31.2 41.1 21.5	0.505	0.481	0.532	0.685	4.81	4.81	4.81	4.81	4.81	4.91	5.17	4.91	4.91	4.91
14.0 30.9 40.7 21.4	0.505	0.509	0.561	0.664	4.83	4.83	4.83	4.83	4.83	4.93	5.09	4.83	4.83	4.83
15.0 30.6 40.2 21.3	0.505	0.488	0.540	0.646	4.88	4.88	4.88	4.88	4.88	4.92	4.98	4.83	4.83	4.83
16.0 30.2 39.5 21.1	0.505	0.468	0.523	0.621	4.95	5.23	4.68	4.74	4.74	5.12	5.33	4.65	4.95	4.79
17.0 29.9 39.1 20.9	0.505	0.459	0.499	0.609	4.99	4.99	4.99	4.99	4.99	5.15	5.48	4.77	4.93	4.77
18.0 29.6 38.6 20.8	0.505	0.487	0.543	0.600	4.87	4.87	4.87	4.87	4.87	5.27	5.49	4.82	4.93	4.76
19.0 29.5 38.4 20.6	0.505	0.474	0.531	0.587	4.74	5.02	4.74	4.74	4.74	4.85	5.35	4.85	5.02	4.85
20.0 29.3 38.2 20.7	0.505	0.436	0.513	0.571	5.13	5.13	4.56	4.68	4.91	5.32	5.71	4.85	5.08	4.79
21.0 29.1 37.7 20.6	0.505	0.480	0.538	0.597	5.09	5.09	4.80	4.97	4.74	5.32	5.50	4.74	4.97	4.68
22.0 28.9 37.5 20.5	0.505	0.468	0.527	0.586	5.27	5.27	4.68	4.62	4.74	5.33	5.63	4.68	4.98	4.62
23.0 28.6 37.0 20.4	0.505	0.506	0.567	0.506	5.06	5.06	4.76	4.70	4.82	5.32	5.67	4.70	4.94	4.70
24.0 28.5 36.8 20.3	0.505	0.494	0.544	0.494	4.94	4.94	4.94	4.76	4.82	5.11	5.79	4.70	5.00	4.76
25.0 28.2 36.3 20.2	0.505	0.478	0.540	0.478	5.44	4.78	4.72	4.78	5.33	5.64	4.60	4.97	4.66	4.66
26.0 28.0 36.1 20.1	0.505	0.520	0.520	0.520	5.20	5.20	4.89	4.64	4.77	5.46	5.64	4.64	4.99	4.64
27.0 27.9 35.9 20.1	0.505	0.585	0.503	0.568	5.03	5.03	5.03	4.73	4.73	5.43	5.74	4.60	4.92	4.60
28.0 27.8 35.6 20.0	0.505	0.495	0.495	0.495	4.95	5.27	4.95	4.82	4.69	5.46	5.51	4.63	4.95	4.56
29.0 27.6 35.4 20.0	0.505	0.478	0.478	0.542	5.42	4.78	4.78	4.78	5.49	5.88	4.71	4.84	4.58	4.49
30.0 27.5 35.2 19.9	0.505	0.466	0.496	0.529	5.29	5.29	4.64	4.77	4.77	5.49	6.01	4.77	4.90	4.51
31.0 27.2 34.9 19.8	0.505	0.516	0.516	0.516	5.16	5.16	4.49	4.76	4.82	5.56	6.03	4.76	4.89	4.56
32.0 27.0 34.5 19.7	0.505	0.507	0.507	0.507	5.07	5.07	4.39	4.80	4.87	5.68	6.02	4.87	5.00	4.66
33.0 26.9 34.2 19.7	0.505	0.499	0.499	0.499	4.99	4.99	4.65	4.86	4.79	5.68	6.09	4.92	5.13	4.58
34.0 26.7 34.0 19.6	0.505	0.491	0.491	0.491	4.91	4.91	4.91	4.84	4.84	5.61	5.98	4.98	5.26	4.77

Table 12B — Inferred Pressurant Distribution, Scaling Run 33, Test Configuration 2:
Two 2.54-cm Nozzles [(J) indicates thermocouples on an inlet jet centerline]

Pressurant Fractions (X) at Locations 1																		
T_c (°C)	T_c (°C)	T_c (°C)	β	β/θ	$\bar{P}$	1	2	3(U)	Pressurant Fractions (X) at Locations 1									
									4	5	6	7	8	9	10	11	12	13
COMMENCE VALVE OPENING																		
0.0	17.9	17.9	32.8	3.1	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.0	20.1	20.0	20.3	150.7	11.2493	.036	-1.268	-2.344	-1.268	-3.420	-2.344	-1.268	.238	6.049	1.960	1.745	.454	.238
VALVE FULLY OPEN																		
2.0	25.9	27.0	21.1	31.5	4.8194	.190	-.132	.520	1.865	.352	.184	.184	-.169	-.354	-.018	.033	.133	.016
3.0	30.7	34.9	20.5	9.9	1.2580	.287	.133	.411	.932	.237	.237	.272	.181	.154	.258	.231	.237	.209
4.0	32.0	39.6	21.4	6.6	.8947	.334	.250	.465	.842	.303	.250	.303	.266	.277	.352	.341	.310	.298
5.0	33.8	42.3	21.4	9.3	.8173	.409	.306	.545	.880	.353	.353	.353	.330	.330	.382	.363	.362	.358
6.0	34.4	44.4	22.0	8.8	.8245	.449	.378	.602	.915	.378	.378	.378	.374	.374	.418	.401	.410	.392
COMMENCE VALVE CLOSURE																		
7.0	34.6	43.8	22.6	8.9	.5478	.482	.424	.639	.898	.424	.424	.424	.411	.416	.450	.442	.446	.429
8.0	34.5	46.4	22.9	9.7	.5167	.509	.446	.679	.955	.467	.466	.466	.441	.441	.467	.463	.458	.446
VALVE FULLY CLOSED																		
9.0	33.9	46.0	22.9	5.6	.3337	.522	.478	.651	.934	.478	.478	.478	.444	.465	.474	.470	.474	.465
10.0	33.1	44.7	22.5	2.3	.1345	.522	.517	.607	.765	.495	.495	.495	.468	.477	.490	.475	.499	.486
11.0	32.4	43.6	22.1	2.0	.1178	.522	.456	.590	.729	.496	.543	.456	.469	.478	.496	.510	.496	.483
12.0	31.7	42.5	21.8	2.1	.1237	.522	.512	.605	.705	.512	.512	.512	.488	.488	.493	.507	.483	.474
13.0	31.1	41.6	21.5	1.7	.1036	.522	.538	.587	.687	.538	.538	.538	.483	.493	.503	.508	.478	.483
14.0	30.9	41.2	21.4	.9	.0534	.522	.517	.568	.719	.517	.517	.517	.482	.487	.502	.522	.487	.462
15.0	30.6	40.8	21.3	.9	.0546	.522	.459	.601	.704	.524	.524	.524	.483	.488	.504	.524	.493	.488
16.0	30.2	40.1	21.1	1.4	.0842	.522	.539	.582	.687	.529	.529	.529	.477	.482	.503	.524	.477	.487
17.0	30.0	39.9	21.0	.5	.0287	.522	.520	.573	.626	.520	.520	.520	.477	.499	.520	.546	.499	.467
18.0	29.8	39.4	20.9	1.0	.0584	.522	.502	.556	.610	.556	.556	.556	.486	.492	.519	.551	.486	.497
19.0	29.5	39.0	20.8	1.0	.0558	.522	.542	.542	.597	.542	.542	.542	.482	.493	.531	.553	.493	.476
20.0	29.2	38.5	20.6	1.0	.0613	.522	.520	.548	.632	.520	.520	.520	.481	.481	.526	.555	.487	.509
21.0	29.1	38.3	20.6	.5	.0312	.522	.509	.566	.622	.509	.509	.509	.473	.481	.526	.555	.488	.481
22.0	28.9	38.1	20.5	.5	.0316	.522	.516	.544	.601	.544	.544	.544	.487	.476	.482	.521	.567	.487
23.0	28.6	37.6	20.4	1.1	.0645	.522	.527	.527	.585	.527	.527	.527	.475	.469	.533	.568	.492	.533
24.0	28.5	37.4	20.3	.6	.0329	.522	.556	.556	.585	.556	.556	.556	.497	.456	.456	.519	.573	.485
25.0	28.4	37.2	20.3	.6	.0322	.522	.542	.542	.602	.542	.542	.542	.460	.471	.519	.578	.489	.531
26.0	28.1	36.7	20.1	1.1	.0680	.522	.526	.524	.594	.524	.524	.524	.474	.468	.534	.588	.498	.528
27.0	27.9	36.5	20.1	.6	.0347	.522	.519	.519	.580	.519	.519	.519	.482	.470	.537	.588	.494	.531
28.0	27.8	36.3	20.0	.6	.0332	.522	.509	.569	.569	.508	.508	.508	.483	.477	.538	.594	.499	.526
29.0	27.7	36.1	20.0	.6	.0387	.522	.532	.532	.532	.521	.521	.521	.477	.471	.533	.593	.521	.496
30.0	27.5	35.8	19.9	.6	.0362	.522	.545	.545	.545	.545	.545	.545	.482	.476	.538	.597	.492	.526
31.0	27.4	35.6	19.8	.6	.0357	.522	.531	.531	.534	.531	.531	.531	.486	.480	.538	.597	.496	.518
32.0	27.2	35.1	19.7	.6	.0375	.522	.520	.520	.524	.524	.524	.524	.479	.479	.538	.597	.497	.515
33.0	27.1	34.9	19.7	.6	.0373	.522	.535	.535	.535	.535	.535	.535	.473	.466	.538	.597	.497	.513
34.0	26.8	33.7	19.6	1.3	.0774	.522	.555	.555	.555	.555	.555	.555	.473	.466	.538	.597	.496	.513

Table 13A – Scaling Run 34, Test Configuration 2: Two 2.54-cm Nozzles
[*(J)* indicates thermocouples on an inlet jet centerline]

I	R	Chamber Absolute Temperatures (K) at Locations I													COORDINATES	
		1	2	3(1)	4	5	6	7	8	9	10	11	12	13	(M)	THETA Z (DEC) (M)
-5	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
-4	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
-3	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
-2	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
-1	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
0	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
1	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
2	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
3	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
4	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
5	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
6	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
7	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
8	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
9	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
10	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
11	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
12	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
13	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
14	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
15	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
16	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
17	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
18	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
19	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
20	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
21	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
22	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
23	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
24	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
25	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
26	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
27	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
28	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
29	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
30	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
31	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
32	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
33	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
34	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
35	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
36	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
37	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
38	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
39	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
40	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
41	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
42	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
43	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
44	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
45	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
46	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
47	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
48	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
49	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
50	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
51	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
52	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
53	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
54	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
55	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
56	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
57	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
58	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
59	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
60	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
61	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
62	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
63	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
64	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
65	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
66	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
67	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
68	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
69	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
70	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
71	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
72	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
73	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
74	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
75	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
76	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
77	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
78	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
79	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
80	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
81	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
82	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
83	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
84	998	292	292	291	291	292	292	290	289	289	290	290	290	290	3	0
85	998	292	292	291	291	292	292	290	289	28						

Table 13B — Inferred Pressurant Distribution, Scaling Run 34, Test Configuration 2:
Two 2.54-cm Nozzles [(J) indicates thermocouples on an inlet jet centerline]

Pressurant Fractions (X) at Locations I																			
	$\bar{X}$	1	2	3(U)	4	5	6	7	8	9	10	11	12	13					
COMENCE VALVE OPENING																			
0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
1.0	-0.000	-0.026	-0.026	-0.026	-0.026	-0.026	-0.026	-0.026	-0.026	-0.026	-0.026	-0.026	-0.026	-0.026					
VALVE FULLY OPEN																			
2.0	.117	.654	.891	2.315	.654	.891	.891	.891	.891	.891	.891	.891	.891	.891					
3.0	.216	.098	.485	1.066	.195	.195	.291	.291	.291	.291	.291	.291	.291	.291					
4.0	.318	.172	.453	.827	.203	.234	.297	.297	.297	.297	.297	.297	.297	.297					
5.0	.379	.249	.508	.818	.301	.301	.331	.331	.331	.331	.331	.331	.331	.331					
6.0	.427	.335	.573	.859	.335	.383	.383	.383	.383	.383	.383	.383	.383	.383					
COMENCE VALVE CLOSURE																			
7.0	.464	.356	.595	.869	.356	.419	.441	.441	.441	.441	.441	.441	.441	.441					
8.0	.493	.452	.666	.923	.452	.452	.452	.452	.452	.452	.452	.452	.452	.452					
VALVE FULLY CLOSED																			
9.0	.513	.472	.648	.913	.450	.450	.472	.472	.472	.472	.472	.472	.472	.472					
10.0	.513	.500	.593	.734	.453	.500	.500	.461	.461	.461	.461	.461	.461	.461					
11.0	.513	.486	.583	.681	.437	.486	.486	.455	.455	.455	.455	.455	.455	.455					
12.0	.513	.500	.576	.677	.430	.523	.500	.480	.480	.480	.480	.480	.480	.480					
13.0	.513	.473	.578	.682	.423	.523	.523	.458	.458	.458	.458	.458	.458	.458					
14.0	.513	.485	.565	.645	.458	.511	.511	.474	.474	.474	.474	.474	.474	.474					
15.0	.513	.480	.552	.607	.444	.498	.498	.452	.452	.452	.452	.452	.452	.452					
16.0	.513	.477	.532	.567	.477	.532	.532	.472	.472	.472	.472	.472	.472	.472					
17.0	.513	.505	.561	.561	.449	.505	.505	.472	.472	.472	.472	.472	.472	.472					
18.0	.513	.486	.543	.601	.429	.523	.496	.479	.479	.479	.479	.479	.479	.479					
19.0	.513	.467	.525	.583	.467	.525	.505	.493	.493	.493	.493	.493	.493	.493					
20.0	.513	.505	.505	.564	.466	.505	.505	.490	.490	.490	.490	.490	.490	.490					
21.0	.513	.484	.514	.544	.454	.514	.484	.496	.496	.496	.496	.496	.496	.496					
22.0	.513	.466	.526	.526	.466	.526	.466	.502	.502	.502	.502	.502	.502	.502					
23.0	.513	.433	.514	.514	.433	.514	.433	.520	.520	.520	.520	.520	.520	.520					
24.0	.513	.496	.496	.528	.434	.496	.496	.521	.521	.521	.521	.521	.521	.521					
25.0	.513	.467	.530	.530	.467	.530	.467	.518	.518	.518	.518	.518	.518	.518					
26.0	.513	.486	.518	.518	.454	.518	.486	.530	.530	.530	.530	.530	.530	.530					
27.0	.513	.510	.510	.510	.450	.510	.510	.536	.536	.536	.536	.536	.536	.536					
28.0	.513	.497	.497	.530	.464	.530	.497	.536	.536	.536	.536	.536	.536	.536					
29.0	.513	.480	.547	.547	.480	.547	.480	.530	.530	.530	.530	.530	.530	.530					
30.0	.513	.473	.540	.540	.473	.540	.473	.533	.533	.533	.533	.533	.533	.533					
31.0	.513	.522	.522	.522	.454	.556	.522	.522	.522	.522	.522	.522	.522	.522					
32.0	.513	.510	.510	.510	.510	.579	.510	.517	.517	.517	.517	.517	.517	.517					
33.0	.513	.505	.505	.505	.505	.573	.505	.533	.533	.533	.533	.533	.533	.533					
34.0	.513	.493	.564	.493	.493	.564	.493	.529	.529	.529	.529	.529	.529	.529					

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Table 14B — Inferred Pressurant Distribution, Sealing Run 35, Test Configuration 3:
Three 2.54-cm Nozzles (U) indicates thermocouples on an inlet jet centerline)

Pressurant Fractions (X) at Locations 1																		
	X	1	2	3(U)	4	5	6	7	8	9	10	11	12(U)	13				
COMMENCE VALVE OPENING	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0				
	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0				
	3	-0.0000	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119				
VALVE FULLY OPEN	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0				
	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0				
	3	-0.0000	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119				
RECOMMENCE VALVE CLOSURE	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0				
	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0				
	3	-0.0000	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119	-1.119				

Table 15A – Scaling Run 36, Test Configuration 3: Three 2.54-cm Nozzles
[(J) indicates thermocouples on an inlet jet centerline]

i	r	Progs Track	Chamber P (atm)	T _r (K)	Chamber Absolute Temperatures (K) at Locations i													COORDINATES	
					1	2	3(I)	4	5	6	7	8	9	10	11	12(I)	13	I	R THETA Z (DEC) (H)
-5	0.936		292.2	292.2	292.2	292.2	292.2	291.3	290.4	290.1	291.7	291.3	291.3	291.2	291.1	1	0.0	0.0	-0.152
-4	0.937		292.2	292.2	292.2	292.2	292.2	291.4	290.4	290.1	291.7	291.3	291.3	291.2	291.1	3	0.0	0.0	-0.076
-3	0.937		292.2	292.2	292.2	292.2	292.2	291.4	290.4	290.1	291.7	291.3	291.3	291.2	291.1	3	0.0	0.0	0.0
-2	0.937		292.2	292.2	292.2	292.2	292.2	291.4	290.4	290.1	291.7	291.3	291.3	291.2	291.1	4	0.0	0.0	0.076
-1	0.937		292.2	292.2	292.2	292.2	292.2	291.4	290.5	290.1	291.7	291.3	291.3	291.2	291.1	4	0.0	0.0	0.152
0	6.275	232.2	292.2	292.2	292.2	292.2	292.2	291.4	290.5	290.1	291.7	291.3	291.3	291.2	291.2	6	0.0	0.0	0.229
1	6.301	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	7	0.0	0.0	0.330
2	6.323	232.7	292.7	292.7	292.7	292.7	292.7	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	8	0.0	0.0	0.410
3	6.345	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	9	0.0	0.0	0.486
4	6.367	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	10	0.0	0.0	0.562
5	6.389	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	11	0.0	0.0	0.638
6	6.411	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	12	0.0	0.0	0.714
7	6.433	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	0.791
8	6.455	232.7	292.7	292.7	292.7	292.7	292.7	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	0.867
9	6.477	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	0.943
10	6.499	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	1.019
11	6.521	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	1.095
12	6.543	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	1.171
13	6.565	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	1.247
14	6.587	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	1.323
15	6.609	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	1.399
16	6.631	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	1.475
17	6.653	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	1.551
18	6.675	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	1.627
19	6.697	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	1.703
20	6.719	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	1.779
21	6.741	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	1.855
22	6.763	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	1.931
23	6.785	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	2.007
24	6.807	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	2.083
25	6.829	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	2.159
26	6.851	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	2.235
27	6.873	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	2.311
28	6.895	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	2.387
29	6.917	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	2.463
30	6.939	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	2.539
31	6.961	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	2.615
32	6.983	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	2.691
33	7.005	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	2.767
34	7.027	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	2.843
35	7.049	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	2.919
36	7.071	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	3.000
37	7.093	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	3.076
38	7.115	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	3.152
39	7.137	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	3.228
40	7.159	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	3.304
41	7.181	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	3.380
42	7.203	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	3.456
43	7.225	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	3.532
44	7.247	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	3.608
45	7.269	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	3.684
46	7.291	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	3.760
47	7.313	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	3.836
48	7.335	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	3.912
49	7.357	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	3.988
50	7.379	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	4.064
51	7.401	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	4.140
52	7.423	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	4.216
53	7.445	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	4.292
54	7.467	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	4.368
55	7.489	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	4.444
56	7.511	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	4.520
57	7.533	232.2	292.2	292.2	292.2	292.2	292.2	291.3	290.6	290.1	291.4	291.5	291.5	291.2	291.1	13	0.0	0.0	4.596

Table 15B — Inferred Pressurant Distribution, Sealing Run 36, Test Configuration 3:
Three 2.54-cm Nozzles [(J) indicates thermocouples on an inlet jet centerline]

Pressurant Fractions (X) at Locations I														
1	2	3(U)	4	5	6	7	8	9	10	11	12(U)	13		
COMMENCE VALVE OPENING														
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-0.000	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003
VALVE FULLY OPEN														
125	461	560	1.709	560	711	711	711	711	711	711	711	711	711	711
278	419	871	269	269	269	269	269	269	269	269	269	269	269	269
377	232	429	732	328	303	328	313	318	388	308	484	459	253	042
COMMENCE VALVE CLOSURE														
441	317	534	731	361	317	361	382	378	430	363	543	612	387	428
487	379	592	826	379	379	420	432	436	468	416	611	625	402	430
VALVE FULLY CLOSED														
500	413	554	736	433	433	433	433	482	486	461	562	579	473	473
500	432	493	624	432	432	432	432	493	493	493	564	572	482	482
500	465	510	631	465	465	465	465	504	504	504	572	578	470	470
500	442	336	638	490	443	471	485	490	480	331	540	471	340	471
500	438	352	618	476	476	476	489	489	500	481	538	542	481	481
500	438	352	603	458	483	438	493	498	507	502	522	532	473	473
500	439	489	509	489	489	439	494	504	509	519	529	539	479	479
500	472	498	574	472	472	472	493	518	513	513	528	478	328	478
500	461	313	565	461	461	461	497	492	523	534	508	534	492	492
500	439	486	539	486	486	439	491	496	533	523	517	533	480	480
500	465	469	519	469	469	469	482	514	552	537	530	536	482	482
500	436	456	510	456	456	456	488	528	560	576	527	538	483	483
500	428	484	484	484	484	436	506	523	587	573	506	523	484	484
500	463	463	520	463	463	463	514	526	566	560	503	520	474	474
500	446	446	504	473	473	473	510	533	568	562	504	521	481	481
500	423	482	482	482	482	482	523	523	576	570	494	517	464	464
500	460	460	460	460	520	460	526	532	574	568	496	520	466	466
500	436	467	497	497	497	436	528	528	570	582	485	509	467	467
500	467	467	530	467	467	467	530	523	573	474	498	435	435	435
500	444	473	507	507	507	444	526	526	564	571	482	488	436	436
500	427	491	491	491	491	491	523	517	568	597	472	491	439	439
500	408	472	537	537	472	472	511	518	557	589	485	492	447	447
500	432	452	519	519	519	432	519	518	539	548	472	499	446	446
500	446	446	513	513	513	446	520	520	566	587	473	499	459	459
500	435	423	527	527	493	420	513	511	581	493	433	433	433	433
500	407	476	476	349	476	404	517	532	579	476	490	436	436	436
500	395	469	469	538	538	469	511	524	566	580	476	490	469	469
500	389	460	460	530	530	460	516	530	579	481	509	469	469	469

Table 16A — Scaling Run 37, Test Configuration 3: Three 2.54-cm Nozzles
[(J) indicates thermocouples on an inlet jet centerline]

r (a)	Press Tank p (atm)	T _c (K)	Chamber p (atm)	Chamber Absolute Temperatures (K) at Locations I													COORDINATES		
				1	2	3(J)	4	5	6	7	8	9	10	11	12(J)	13	1	R (M)	THETA Z (DEC) (M)
-3	0.000	0.000	0.997	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1	1	0.0	000-0 152
-4	0.000	0.000	0.997	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.2	2	0.0	000-0 016
-3	0.000	0.000	0.997	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1	3	0.0	000 0 000
-2	0.000	0.000	0.997	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1	4	0.0	000 0 076
-1	0.000	0.000	0.997	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.0	5	0.0	000 0 152
0	6.334	293.2	1.999	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1	6	0.0	000 0 229
1	6.354	293.2	1.926	292.7	292.7	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1	7	0.0	000 0 510
2	5.903	293.2	1.921	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1	8	0.0	000 0 610
3	5.449	293.2	1.929	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1	9	0.0	000 0 696
4	4.381	293.2	1.963	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1	10	0.0	000 0 762
5	3.793	293.2	1.960	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1	11	0.0	000 0 838
6	3.426	293.2	2.111	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1	12	0.0	000 0 914
7	3.366	293.2	2.110	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1	13	0.0	000 0 991
8	3.416	293.2	2.101	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
9	0.000	0.000	2.086	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
10	0.000	0.000	2.091	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
11	0.000	0.000	2.088	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
12	0.000	0.000	2.084	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
13	0.000	0.000	2.082	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
14	0.000	0.000	2.079	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
15	0.000	0.000	2.077	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
16	0.000	0.000	2.074	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
17	0.000	0.000	2.072	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
18	0.000	0.000	2.069	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
19	0.000	0.000	2.067	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
20	0.000	0.000	2.064	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
21	0.000	0.000	2.062	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
22	0.000	0.000	2.060	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
23	0.000	0.000	2.058	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
24	0.000	0.000	2.056	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
25	0.000	0.000	2.054	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
26	0.000	0.000	2.052	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
27	0.000	0.000	2.050	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
28	0.000	0.000	2.048	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
29	0.000	0.000	2.046	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
30	0.000	0.000	2.044	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
31	0.000	0.000	2.042	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
32	0.000	0.000	2.040	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
33	0.000	0.000	2.038	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
34	0.000	0.000	2.036	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
35	0.000	0.000	2.034	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
36	0.000	0.000	2.032	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
37	0.000	0.000	2.030	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
38	0.000	0.000	2.028	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
39	0.000	0.000	2.026	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
40	0.000	0.000	2.024	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
41	0.000	0.000	2.022	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
42	0.000	0.000	2.020	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
43	0.000	0.000	2.018	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
44	0.000	0.000	2.016	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
45	0.000	0.000	2.014	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
46	0.000	0.000	2.012	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
47	0.000	0.000	2.010	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
48	0.000	0.000	2.008	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
49	0.000	0.000	2.006	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
50	0.000	0.000	2.004	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
51	0.000	0.000	2.002	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
52	0.000	0.000	2.000	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
53	0.000	0.000	1.998	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
54	0.000	0.000	1.996	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			
55	0.000	0.000	1.994	292.2	292.2	292.2	292.2	292.2	292.2	292.2	290.5	290.1	291.1	291.5	291.3	291.1			

Table 16B — Inferred Pressurant Distribution, Sealing Run 37, Test Configuration 3:
Three 2.54-cm Nozzles (J) indicates thermocouples on an inlet jet centerline]

i (G)	T _i (°C)	T _e (°C)	T _p (°C)	P	P/P ₀	X	Pressurant Fractions (X) at Locations I												
							1	2	3(J)	4	5	6	7	8	9	10	11	12(J)	13
SEQUENCE VALVE OPENING																			
0.0	18.3	18.3	43.9	1.0	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
1.0	19.9	19.8	20.3	159.5	3.4300	.021	-1.582	-1.582	-2.378	-2.378	-2.378	-1.582	-1.264	4.782	2.077	2.237	1.918	2.555	
VALVE FULLY OPEN																			
2.0	27.7	25.0	22.4	29.7	6.0148	.201	.100	.711	1.474	.711	.406	.406	-1.144	-1.174	-1.403	-1.434	-1.000	-0.83	
3.0	33.3	38.0	22.9	8.9	1.3482	.313	.149	.375	.826	.310	.244	.310	.290	.138	.283	.165	.382	.204	
4.0	35.5	43.7	23.2	8.1	1.0968	.400	.263	.507	.751	.312	.312	.312	.331	.282	.361	.307	.556	.331	
SEQUENCE VALVE CLOSURE																			
5.0	36.3	47.0	23.8	8.0	.8269	.459	.329	.566	.781	.350	.350	.393	.376	.385	.428	.398	.613	.402	
6.0	36.4	48.4	24.2	29.3	.6362	.497	.416	.623	.788	.416	.416	.416	.408	.425	.458	.437	.602	.437	
VALVE FULLY CLOSED																			
7.0	36.2	48.2	24.1	.9	.0203	.497	.451	.576	.659	.451	.451	.451	.443	.460	.468	.464	.551	.476	
8.0	34.9	46.2	23.3	8.8	.1915	.497	.454	.564	.630	.454	.454	.454	.453	.463	.481	.481	.555	.476	
9.0	34.2	45.1	23.1	5.2	.1131	.497	.460	.551	.596	.460	.460	.460	.460	.469	.478	.492	.546	.482	
10.0	33.5	44.0	22.8	5.4	.1185	.497	.450	.544	.591	.450	.450	.450	.478	.483	.497	.492	.544	.483	
11.0	33.0	43.4	22.6	3.4	.0739	.497	.480	.528	.576	.480	.480	.480	.473	.480	.504	.519	.538	.480	
12.0	32.4	42.5	22.3	4.7	.1020	.497	.455	.504	.603	.455	.455	.455	.470	.475	.519	.534	.544	.465	
13.0	32.1	42.0	22.1	2.4	.0526	.497	.456	.506	.582	.456	.456	.456	.486	.486	.532	.557	.516	.486	
14.0	31.7	41.3	22.0	2.7	.0811	.497	.454	.506	.578	.454	.454	.454	.480	.470	.532	.568	.506	.495	
15.0	31.4	40.2	22.5	2.6	.0555	.497	.491	.491	.575	.454	.454	.454	.482	.488	.530	.587	.519	.496	
16.0	31.0	38.8	23.0	3.9	.0837	.497	.464	.528	.551	.464	.464	.464	.481	.452	.458	.521	.509	.483	
17.0	30.7	38.3	23.0	2.7	.0588	.497	.481	.514	.579	.488	.488	.488	.481	.488	.540	.586	.507	.553	
18.0	30.2	36.9	23.5	4.2	.0909	.497	.493	.493	.568	.493	.493	.493	.495	.495	.538	.598	.493	.546	
19.0	29.9	35.8	24.0	2.9	.0625	.497	.514	.534	.619	.495	.495	.495	.491	.491	.542	.593	.483	.542	
20.0	29.8	35.5	24.0	1.5	.0319	.497	.503	.503	.590	.460	.460	.460	.474	.460	.538	.625	.466	.521	
21.0	29.5	34.4	24.5	3.0	.0649	.497	.466	.466	.566	.466	.466	.466	.466	.466	.576	.672	.486	.476	
22.0	29.3	34.1	24.5	1.5	.0331	.497	.475	.531	.531	.427	.427	.427	.427	.427	.593	.716	.490	.531	
23.0	29.1	33.6	24.5	3.1	.0676	.497	.495	.495	.495	.495	.495	.495	.495	.495	.616	.716	.473	.550	
24.0	28.9	33.3	24.5	1.6	.0345	.497	.469	.469	.583	.469	.469	.469	.482	.482	.617	.719	.491	.537	
25.0	28.6	32.9	24.3	3.2	.0704	.497	.434	.434	.549	.434	.434	.434	.437	.437	.630	.710	.468	.549	
26.0	28.5	32.4	24.3	1.7	.0360	.497	.528	.401	.528	.401	.401	.401	.400	.400	.642	.718	.464	.540	
27.0	28.2	32.3	24.0	3.4	.0735	.497	.487	.487	.487	.487	.487	.487	.487	.487	.596	.668	.487	.535	
28.0	28.0	32.0	24.0	1.7	.0376	.497	.474	.474	.474	.474	.474	.474	.474	.474	.637	.687	.462	.537	
29.0	27.9	31.7	24.0	1.8	.0382	.497	.474	.474	.474	.474	.474	.474	.474	.474	.637	.687	.462	.537	
30.0	27.7	31.4	24.0	1.8	.0388	.497	.474	.474	.474	.474	.474	.474	.474	.474	.637	.687	.462	.537	
31.0	27.4	30.8	24.0	3.6	.0794	.497	.386	.386	.532	.386	.386	.386	.386	.386	.626	.680	.451	.532	
32.0	27.3	30.6	24.0	1.9	.0407	.497	.370	.370	.522	.370	.370	.370	.370	.370	.659	.690	.446	.532	
33.0	27.1	30.3	24.0	1.9	.0413	.497	.473	.473	.473	.473	.473	.473	.473	.473	.649	.649	.425	.537	
34.0	27.0	30.0	24.0	1.9	.0420	.497	.450	.450	.450	.450	.450	.450	.450	.450	.634	.668	.400	.550	

Table 17A — Sealing Run 39, Test Configuration 3: Three 1.52-cm Nozzles
[(J) indicates thermocouples on an inlet jet centerline]

I	Press Tank P (atm)	T ₁ (K)	Chamber P (atm)	Chamber Absolute Temperatures (K) at Locations I													COORDINATES		
				1	2	3(J)	4	5	6	7	8	9	10	11	12(J)	13	I	R (M)	THETA (DEG)
-5	0.000	0.000	1.023	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	1	0.0	0.0
-4	0.000	0.000	1.023	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	2	0.0	0.0
-3	0.000	0.000	1.034	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	3	0.0	0.0
-2	0.000	0.000	1.034	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	4	0.0	0.0
-1	0.000	0.000	1.034	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	5	0.0	0.0
0	6.217	232.2	1.035	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	6	0.0	0.0
1	6.105	237.2	1.106	293.2	294.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	7	0.0	0.0
2	5.772	272.2	1.234	299.7	297.7	295.2	297.7	298.7	298.7	298.7	297.7	297.7	297.7	297.7	297.7	297.7	8	0.0	0.0
3	5.482	270.2	1.347	303.2	301.2	299.2	301.2	302.2	302.2	301.2	300.3	299.0	301.4	300.0	300.1	300.5	9	0.0	0.0
4	5.196	269.7	1.452	305.2	302.2	300.2	302.7	302.7	302.7	302.7	301.7	300.7	303.0	301.1	301.3	302.3	10	0.0	0.0
5	4.928	268.2	1.530	306.2	303.2	300.2	305.2	305.2	305.2	305.2	304.2	303.2	306.3	304.4	301.4	303.3	11	0.0	0.0
6	4.650	267.2	1.642	307.2	304.2	301.2	306.2	306.2	306.2	306.2	305.2	304.2	307.9	306.4	301.5	302.0	12	0.0	0.0
7	4.460	266.2	1.720	306.7	304.2	301.2	306.2	306.2	306.2	306.2	305.2	304.2	307.3	305.0	301.8	301.7	13	0.0	0.0
8	4.242	265.2	1.823	307.2	304.2	301.2	306.2	306.2	306.2	306.2	305.2	304.2	307.3	305.0	301.8	301.7	14	0.0	0.0
9	4.027	263.2	1.952	307.2	304.2	301.2	306.2	306.2	306.2	306.2	305.2	304.2	307.3	305.0	301.8	301.7	15	0.0	0.0
10	3.851	264.2	1.966	307.2	304.2	301.2	306.2	306.2	306.2	306.2	305.2	304.2	307.3	305.0	301.8	301.7	16	0.0	0.0
11	3.611	260.2	1.982	305.7	303.7	301.2	306.2	305.7	305.7	305.7	304.7	303.7	307.2	305.0	301.8	301.7	17	0.0	0.0
12	3.782	266.2	1.977	305.2	304.2	302.2	305.2	305.2	305.2	305.2	304.2	303.2	307.2	305.0	301.8	301.7	18	0.0	0.0
13	0.000	0.000	1.973	305.2	304.2	302.2	305.2	305.2	305.2	305.2	304.2	303.2	307.2	305.0	301.8	301.7	19	0.0	0.0
14	0.000	0.000	1.971	305.2	304.2	302.2	305.2	305.2	305.2	305.2	304.2	303.2	307.2	305.0	301.8	301.7	20	0.0	0.0
15	0.000	0.000	1.969	305.2	304.2	302.2	305.2	305.2	305.2	305.2	304.2	303.2	307.2	305.0	301.8	301.7	21	0.0	0.0
16	0.000	0.000	1.967	304.2	303.2	302.2	304.2	304.2	304.2	304.2	303.2	302.2	307.2	305.0	301.8	301.7	22	0.0	0.0
17	0.000	0.000	1.965	304.2	303.2	302.2	304.2	304.2	304.2	304.2	303.2	302.2	307.2	305.0	301.8	301.7	23	0.0	0.0
18	0.000	0.000	1.964	304.2	303.2	302.2	304.2	304.2	304.2	304.2	303.2	302.2	307.2	305.0	301.8	301.7	24	0.0	0.0
19	0.000	0.000	1.962	303.2	302.7	302.2	303.2	303.2	303.2	303.2	302.2	301.2	307.2	305.0	301.8	301.7	25	0.0	0.0
20	0.000	0.000	1.961	303.2	302.2	302.2	302.2	302.2	302.2	302.2	301.2	300.2	307.2	305.0	301.8	301.7	26	0.0	0.0
25	0.000	0.000	1.956	301.2	301.2	301.2	301.2	302.2	302.2	302.2	301.2	300.2	307.2	305.0	301.8	301.7	27	0.0	0.0
30	0.000	0.000	1.951	301.2	300.2	300.2	300.2	300.2	300.2	300.2	299.2	298.2	307.2	305.0	301.8	301.7	28	0.0	0.0
35	0.000	0.000	1.947	300.2	300.2	300.2	300.2	300.2	300.2	300.2	299.2	298.2	307.2	305.0	301.8	301.7	29	0.0	0.0
40	0.000	0.000	1.944	299.2	299.2	299.2	299.2	299.2	299.2	299.2	298.2	297.2	307.2	305.0	301.8	301.7	30	0.0	0.0
45	0.000	0.000	1.941	299.2	299.2	299.2	299.2	299.2	299.2	299.2	298.2	297.2	307.2	305.0	301.8	301.7	31	0.0	0.0
50	0.000	0.000	1.939	298.2	299.2	299.2	299.2	299.2	299.2	299.2	298.2	297.2	307.2	305.0	301.8	301.7	32	0.0	0.0
55	0.000	0.000	1.936	298.2	298.2	298.2	298.2	298.2	298.2	298.2	297.2	296.2	307.2	305.0	301.8	301.7	33	0.0	0.0
60	0.000	0.000	1.934	298.2	298.2	298.2	298.2	298.2	298.2	298.2	297.2	296.2	307.2	305.0	301.8	301.7	34	0.0	0.0
65	0.000	0.000	1.932	297.2	298.2	298.2	297.2	297.2	297.2	297.2	296.2	295.2	307.2	305.0	301.8	301.7	35	0.0	0.0
70	0.000	0.000	1.930	297.2	297.2	297.2	297.2	297.2	297.2	297.2	296.2	295.2	307.2	305.0	301.8	301.7	36	0.0	0.0
75	0.000	0.000	1.927	296.7	297.2	297.2	296.7	296.7	296.7	296.7	295.7	294.7	307.2	305.0	301.8	301.7	37	0.0	0.0
80	0.000	0.000	1.924	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	38	0.0	0.0
85	0.000	0.000	1.922	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	39	0.0	0.0
90	0.000	0.000	1.922	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	40	0.0	0.0
95	0.000	0.000	1.922	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	41	0.0	0.0
100	0.000	0.000	1.922	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	42	0.0	0.0
105	0.000	0.000	1.922	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	43	0.0	0.0
110	0.000	0.000	1.922	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	44	0.0	0.0
115	0.000	0.000	1.922	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	45	0.0	0.0
120	0.000	0.000	1.922	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	46	0.0	0.0
125	0.000	0.000	1.922	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	47	0.0	0.0
130	0.000	0.000	1.922	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	48	0.0	0.0
135	0.000	0.000	1.922	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	49	0.0	0.0
140	0.000	0.000	1.922	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	50	0.0	0.0
145	0.000	0.000	1.922	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	51	0.0	0.0
150	0.000	0.000	1.922	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	52	0.0	0.0
155	0.000	0.000	1.922	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	53	0.0	0.0
160	0.000	0.000	1.922	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	54	0.0	0.0
165	0.000	0.000	1.922	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	55	0.0	0.0
170	0.000	0.000	1.922	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	56	0.0	0.0
175	0.000	0.000	1.922	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	57	0.0	0.0
180	0.000	0.000	1.922	296.2	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.2	307.2	305.0	301.8	301.7	58	0.0	0.0

Table 17B — Inferred Pressurant Distribution, Scaling Run 39, Test Configuration 3:
Three 1.52-cm Nozzles (J) indicates thermocouples on an inlet jet centerline)

Pressurant Fractions (X) at Locations I																			
T (G)	T ₁ (°C)	T ₂ (°C)	T ₃ (°C)	β	β/θ	X̄	Pressurant Fractions (X) at Locations I												
							1	2	3(U)	4	5	6	7	8	9	10	11	12(U)	13
CONDUCE VALVE OPENING																			
6.0	10.2	18.2	61.3	3.7	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
1.0	20.5	20.4	22.0	174.3	10.1760	0.037	-0.763	-1.043	-1.382	-1.382	-1.382	-0.763	104	909	600	971	1.776	1.776	
VALVE FULLY OPEN																			
2.0	24.7	25.4	20.4	33.7	3.2064	0.143	-0.033	354	841	344	146	146	086	-0.723	126	-113	106	-0.113	
3.0	27.7	30.2	18.2	13.1	1.0131	0.206	0.084	252	420	252	168	168	159	243	126	252	218	176	
4.0	29.3	33.2	18.1	12.9	0.8959	0.260	0.137	270	468	236	236	236	223	236	203	197	339	296	
5.0	30.1	35.2	18.5	13.2	0.8256	0.305	0.181	362	542	241	241	241	272	272	314	253	358	266	
6.0	30.9	37.0	19.1	11.5	0.6320	0.342	0.216	383	551	272	272	328	300	294	320	300	467	316	
7.0	31.1	38.0	19.6	12.6	0.5512	0.375	0.252	427	589	319	319	319	319	340	308	452	481	356	
8.0	31.3	38.9	20.0	12.5	0.5778	0.403	0.303	462	622	356	356	356	345	349	361	340	531	377	
CONDUCE VALVE CLOSURE																			
9.0	31.4	39.5	20.5	12.3	0.5195	0.428	0.335	466	650	387	333	331	366	372	387	372	560	545	
10.0	31.1	39.6	20.7	9.2	0.5551	0.450	0.340	499	658	393	393	393	377	383	398	383	600	436	
VALVE FULLY CLOSED																			
11.0	30.7	39.2	20.6	3.1	1.0328	0.455	0.405	512	647	378	405	378	399	416	426	545	550	442	
12.0	29.9	38.0	20.3	2.6	1.5724	0.455	0.411	468	581	411	411	411	411	423	428	440	536	445	
13.0	29.3	37.1	20.8	2.2	1.3333	0.455	0.408	467	525	408	408	408	426	437	455	467	531	455	
14.0	29.0	36.6	19.9	1.2	0.6955	0.455	0.396	456	516	396	426	396	426	438	468	486	528	456	
15.0	28.7	36.2	19.8	1.2	0.7153	0.455	0.375	436	497	436	436	436	436	436	479	473	515	454	
16.0	28.4	35.7	19.7	1.2	0.7236	0.455	0.413	444	507	413	444	413	438	438	475	482	507	444	
17.0	28.1	35.2	19.6	1.3	0.7259	0.455	0.387	450	514	450	450	450	450	450	489	489	489	439	
18.0	28.0	35.0	19.5	1.6	0.3888	0.455	0.377	442	506	442	442	442	442	442	481	487	487	442	
19.0	27.6	34.9	19.4	1.3	0.7259	0.455	0.428	461	494	428	428	428	441	441	487	494	474	441	
20.0	27.5	34.3	19.3	7.7	0.0487	0.455	0.403	470	470	470	470	470	436	436	490	503	463	443	
21.0	27.3	34.1	19.3	7.7	0.0486	0.455	0.391	458	458	458	458	458	452	452	492	499	458	438	
22.0	27.2	33.8	19.2	7.7	0.0421	0.455	0.450	450	450	450	450	450	450	450	491	504	450	436	
23.0	26.9	33.4	19.1	1.4	0.0623	0.455	0.441	441	441	441	441	441	448	448	497	511	455	442	
24.0	26.7	33.1	19.1	7.7	0.0482	0.455	0.421	432	432	432	432	432	432	432	492	506	442	435	
25.0	26.7	33.1	19.1	0.0	0.0000	0.455	0.467	467	467	467	467	467	467	467	499	524	432	432	
26.0	26.4	32.7	19.0	1.5	0.910	0.455	0.454	454	454	454	454	454	440	447	505	542	418	425	
27.0	26.4	32.7	19.0	0.0	0.0000	0.455	0.447	447	447	447	447	447	447	447	503	534	425	425	
28.0	26.3	32.4	18.9	8.0	0.0468	0.455	0.425	425	425	425	425	425	454	447	491	513	402	417	
29.0	26.1	32.2	18.8	8.0	0.0477	0.455	0.414	414	414	414	414	414	414	414	496	504	399	414	
30.0	26.0	32.0	18.8	0.0	0.0486	0.455	0.397	473	473	473	473	473	458	450	496	526	357	412	
31.0	26.0	32.0	18.8	0.0	0.0000	0.455	0.385	461	461	461	461	461	461	461	506	544	407	415	
32.0	25.7	31.5	18.7	1.7	1.002	0.455	0.449	449	449	449	449	449	473	457	520	543	402	410	
33.0	25.5	31.2	18.6	9.0	0.516	0.455	0.446	446	446	446	446	446	461	461	525	549	384	414	
34.0	25.5	31.2	18.6	0.0	0.0000	0.455	0.436	436	436	436	436	436	436	436	547	555	372	404	

Table 18A — Scaling Run 40, Test Configuration 3: Three 1.52-cm Nozzles
 [(J) indicates thermocouples on an inlet jet centerline]

I (a)	Press Tank P (atm)	T _i (K)	Chamber P (atm)	Chamber Absolute Temperatures (K) at Locations 1													COORDINATES	
				1	2	3(U)	4	5	6	7	8	9	10	11	12(U)	13	I (m)	THETA (DEG)
-3	0.00	000	1.033	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	1	0.0
-3	0.00	000	1.033	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	1	0.0
-2	0.00	000	1.033	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	2	0.0
-2	0.00	000	1.034	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	3	0.0
-1	0.00	000	1.033	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	4	0.0
0	6.280	292.2	1.033	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	5	0.0
1	6.302	292.2	1.034	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	6	0.0
2	6.353	310.2	1.124	293.2	295.2	294.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	7	0.0
3	5.589	272.2	1.249	299.7	298.7	295.7	298.7	298.7	298.7	298.7	298.7	298.7	298.7	298.7	298.7	298.7	8	0.0
4	5.389	270.2	1.362	303.2	302.2	299.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	9	0.0
5	5.113	268.7	1.466	305.7	302.7	300.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	10	0.0
6	4.932	268.2	1.562	306.2	303.2	301.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	11	0.0
7	4.823	266.7	1.653	306.2	303.2	301.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	12	0.0
8	4.821	266.2	1.739	306.2	304.2	301.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	13	0.0
9	4.171	265.2	1.821	307.2	304.2	301.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	14	0.0
10	3.983	265.2	1.898	306.2	303.2	301.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	15	0.0
11	3.766	264.2	1.971	306.2	304.2	301.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	16	0.0
12	3.774	258.7	1.984	305.7	304.2	301.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	17	0.0
13	3.759	264.2	1.978	305.2	304.2	302.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	18	0.0
14	0.00	000	1.972	304.7	303.2	302.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	19	0.0
15	0.00	000	1.972	304.7	303.2	302.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	20	0.0
16	0.00	000	1.969	304.2	303.2	302.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	21	0.0
17	0.00	000	1.968	303.7	303.2	302.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	22	0.0
18	0.00	000	1.966	303.2	302.2	302.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	23	0.0
19	0.00	000	1.965	303.2	302.2	302.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	24	0.0
20	0.00	000	1.964	303.2	302.2	302.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	25	0.0
21	0.00	000	1.962	303.2	302.2	302.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	26	0.0
22	0.00	000	1.957	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	27	0.0
23	0.00	000	1.952	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	28	0.0
24	0.00	000	1.949	299.7	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	29	0.0
25	0.00	000	1.946	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	30	0.0
26	0.00	000	1.942	298.8	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	31	0.0
27	0.00	000	1.940	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	32	0.0
28	0.00	000	1.937	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	33	0.0
29	0.00	000	1.936	297.2	298.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	34	0.0
30	0.00	000	1.934	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	35	0.0
31	0.00	000	1.932	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	36	0.0
32	0.00	000	1.929	296.2	297.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	37	0.0
33	0.00	000	1.926	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	38	0.0
34	0.00	000	1.924	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	39	0.0
35	0.00	000	1.921	295.2	296.2	296.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	40	0.0
36	0.00	000	1.919	295.2	296.2	296.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	41	0.0
37	0.00	000	1.918	295.2	296.2	296.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	42	0.0
38	0.00	000	1.916	295.2	296.2	296.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	43	0.0
39	0.00	000	1.915	295.2	296.2	296.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	44	0.0
40	0.00	000	1.913	295.2	296.2	296.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	45	0.0
41	0.00	000	1.912	295.2	296.2	296.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	295.2	46	0.0
42	0.00	000	1.911	294.2	295.2	295.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	47	0.0

Table 18B — Inferred Pressurant Distribution, Scaling Run 40, Test Configuration 3: Three 1.52-cm Nozzles [(J) indicates thermocouples on an inlet jet centerline]

Presurant Fractions (X) at Locations 1														
	$\bar{P}$	1	2	3(U)	4	5	6	7	8	9	10	11	12(U)	13
COMMENCE VALVE OPENING	β	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	β/θ	0.001	-0.039	-0.039	-0.039	-0.039	-0.039	-0.039	-0.039	-0.039	-0.039	-0.039	-0.039	-0.039
	$\bar{P}_1$ (°C)	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
	$\bar{P}_2$ (°C)	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
	$\bar{P}_3$ (°C)	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
	FULLY OPEN	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
	VALVE	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
	2.0	30.0	20.3	20.3	137.2	11.4253	137.2	11.4253	137.2	11.4253	137.2	11.4253	137.2	11.4253
	3.0	34.9	25.2	23.3	34.0	3.9678	34.0	3.9678	34.0	3.9678	34.0	3.9678	34.0	3.9678
	4.0	37.8	29.9	19.9	4.0	0.9860	4.0	0.9860	4.0	0.9860	4.0	0.9860	4.0	0.9860
COMMENCE VALVE CLOSURE	β	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	β/θ	0.001	-0.039	-0.039	-0.039	-0.039	-0.039	-0.039	-0.039	-0.039	-0.039	-0.039	-0.039	-0.039
	$\bar{P}_1$ (°C)	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
	$\bar{P}_2$ (°C)	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
	$\bar{P}_3$ (°C)	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
	FULLY CLOSED	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
	VALVE	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
	12.0	30.7	39.0	20.7	198.3	1.395	198.3	1.395	198.3	1.395	198.3	1.395	198.3	1.395
	13.0	39.7	37.7	20.3	267.6	1.003	267.6	1.003	267.6	1.003	267.6	1.003	267.6	1.003
	14.0	39.3	37.0	20.1	141.0	0.958	141.0	0.958	141.0	0.958	141.0	0.958	141.0	0.958

Table 19A -- Scaling Run 41, Test Configuration 3: Three 1.52-cm Nozzles
[(J) indicates thermocouples on an inlet jet centerline]

Press Tank P	T _r (°C)	Chamber P (mm)	Chamber Absolute Temperatures (K) at Locations 1													COORDINATES			
			1	2	3(J)	4	5	6	7	8	9	10	11	12(J)	13	I (M)	R (M)	THEIR 2 (DEG) (M)	
-5	0.00	0.00	1.032	292.2	292.2	292.2	292.2	292.2	292.2	290.5	289.7	289.4	290.4	290.5	290.4	290.2	1.0	0.0	0.0
-4	0.00	0.00	1.032	292.2	292.2	292.2	292.2	292.2	292.2	290.5	289.7	289.4	290.4	290.5	290.4	290.2	2.0	0.0	-0.076
-3	0.00	0.00	1.032	292.2	292.2	292.2	292.2	292.2	292.2	290.5	289.7	289.4	290.4	290.5	290.4	290.2	3.0	0.0	0.0
-2	0.00	0.00	1.032	292.2	292.2	292.2	292.2	292.2	292.2	290.5	289.7	289.4	290.4	290.5	290.4	290.2	4.0	0.0	0.0
-1	0.00	0.00	1.032	292.2	292.2	292.2	292.2	292.2	292.2	290.5	289.7	289.4	290.4	290.5	290.4	290.2	5.0	0.0	0.0
0	6.316	232.2	1.032	292.2	292.2	292.2	292.2	292.2	292.2	290.5	289.7	289.4	290.4	290.5	290.4	290.2	6.0	0.0	0.0
1	6.202	232.2	1.041	292.2	292.2	292.2	292.2	292.2	292.2	290.5	289.7	289.4	290.4	290.5	290.4	290.2	7.0	0.0	0.0
2	5.947	233.7	1.169	292.7	296.7	295.2	295.2	296.7	296.7	296.7	295.2	295.2	296.7	296.7	295.2	295.2	8.0	0.0	0.0
3	5.609	270.2	1.269	304.2	304.2	298.2	300.2	301.2	300.2	299.1	298.8	297.5	299.2	298.8	299.1	299.1	9.0	0.0	0.0
4	5.297	270.2	1.368	304.2	302.2	298.2	302.2	303.2	302.2	301.5	301.0	299.6	302.2	298.8	300.4	301.0	10.0	0.0	0.0
5	5.022	288.7	1.499	305.2	302.7	299.7	304.2	304.7	303.7	302.0	302.3	301.0	302.3	300.6	300.4	302.4	11.0	0.0	0.0
6	4.772	287.2	1.552	306.2	303.2	301.2	305.2	305.2	305.2	303.5	303.2	302.2	304.1	301.2	301.3	303.0	12.0	0.0	0.0
7	4.520	286.2	1.603	306.2	304.2	301.2	306.2	306.2	305.7	304.4	303.8	302.8	304.4	300.9	300.9	303.3	13.0	0.0	0.0
8	4.267	285.2	1.767	306.2	303.2	301.2	306.2	306.2	306.2	304.5	303.7	303.1	304.5	300.3	300.9	303.5			
9	4.080	285.2	1.848	306.2	303.2	301.2	306.2	306.2	306.2	304.8	303.8	303.1	304.8	300.3	300.9	303.5			
10	3.920	285.2	1.924	306.2	303.2	301.2	306.2	306.2	306.2	304.2	303.2	303.1	304.2	300.3	300.9	303.5			
11	3.723	284.2	1.986	306.2	304.2	300.2	305.2	306.2	306.2	304.6	303.6	303.1	304.6	300.3	300.9	303.5			
12	3.776	280.2	1.982	305.2	304.2	301.7	305.2	306.2	306.2	304.2	303.2	303.2	304.2	300.2	300.9	303.5			
13	3.781	286.2	1.978	305.2	304.2	302.2	305.2	304.2	305.2	303.6	302.5	302.0	302.7	301.0	301.0	302.5			
14	0.00	0.00	1.974	304.2	303.2	302.2	304.2	304.2	304.2	303.2	302.1	302.2	301.5	301.0	301.0	302.2			
15	0.00	0.00	1.971	304.2	303.2	302.2	304.2	304.2	304.2	303.2	302.0	301.9	301.1	302.0	301.0	301.9			
16	0.00	0.00	1.965	304.2	303.2	302.2	304.2	303.2	304.2	302.4	301.5	301.0	301.0	301.7	300.9	301.6			
17	0.00	0.00	1.967	303.2	302.7	302.2	303.2	303.2	303.2	302.0	302.0	301.0	300.5	301.4	300.9	301.4			
18	0.00	0.00	1.966	303.2	302.2	301.2	303.2	303.2	303.2	301.8	301.0	300.2	300.9	300.9	300.8	301.3			
19	0.00	0.00	1.965	302.7	302.2	301.2	302.7	302.2	303.2	301.5	300.7	300.2	300.9	300.8	300.8	301.0			
20	0.00	0.00	1.963	302.2	302.2	301.2	302.2	302.2	302.2	301.2	300.6	299.6	300.4	300.6	300.5	300.9			
21	0.00	0.00	1.962	302.2	301.7	301.2	302.2	302.2	302.2	301.1	300.3	299.5	300.2	300.3	300.3	300.6			
22	0.00	0.00	1.957	300.7	300.6	300.2	300.7	300.7	301.2	299.7	299.2	298.5	299.3	300.0	299.7	299.6			
23	0.00	0.00	1.952	299.7	299.2	299.2	299.2	299.2	299.2	298.0	298.5	298.0	298.7	299.0	298.5	298.6			
24	0.00	0.00	1.948	298.2	299.2	299.2	298.2	299.2	299.2	298.2	298.7	298.7	298.6	299.0	298.7	298.7			
25	0.00	0.00	1.945	298.2	299.2	298.2	298.2	299.2	299.2	298.2	298.7	298.7	298.6	299.0	298.7	298.7			
26	0.00	0.00	1.945	298.2	298.2	298.2	298.2	299.2	299.2	298.2	298.7	298.7	298.6	299.0	298.7	298.7			
27	0.00	0.00	1.942	298.2	298.2	298.2	298.2	299.2	299.2	298.2	298.7	298.7	298.6	299.0	298.7	298.7			
28	0.00	0.00	1.942	298.2	298.2	298.2	298.2	299.2	299.2	298.2	298.7	298.7	298.6	299.0	298.7	298.7			
29	0.00	0.00	1.935	298.2	298.2	298.2	298.2	299.2	299.2	298.2	298.7	298.7	298.6	299.0	298.7	298.7			
30	0.00	0.00	1.938	298.2	298.2	298.2	297.2	297.2	297.2	296.2	295.5	294.7	295.2	296.3	295.6				
31	0.00	0.00	1.936	297.2	297.2	297.2	297.2	297.2	297.2	296.2	295.5	294.7	295.2	296.3	295.6				
32	0.00	0.00	1.936	297.2	297.2	297.2	297.2	297.2	297.2	296.2	295.5	294.7	295.2	296.3	295.6				
33	0.00	0.00	1.933	297.2	297.2	297.2	297.2	297.2	297.2	296.2	295.5	294.7	295.2	296.3	295.6				
34	0.00	0.00	1.932	297.2	297.2	297.2	296.2	296.2	296.2	295.2	294.5	293.8	294.5	295.6	294.7				
35	0.00	0.00	1.928	296.2	297.2	296.2	296.2	296.2	296.2	295.2	294.5	293.8	294.5	295.6	294.7				
36	0.00	0.00	1.926	296.2	296.2	296.2	296.2	296.2	296.2	295.2	294.5	293.8	294.5	295.6	294.7				
37	0.00	0.00	1.926	296.2	296.2	296.2	295.2	295.2	295.2	294.5	293.8	293.8	294.5	295.6	294.7				
38	0.00	0.00	1.923	295.2	296.2	296.2	295.2	295.2	295.2	294.5	293.8	293.8	294.5	295.6	294.7				
39	0.00	0.00	1.921	295.2	296.2	296.2	295.2	295.2	295.2	294.5	293.8	293.8	294.5	295.6	294.7				
40	0.00	0.00	1.919	295.2	296.2	296.2	295.2	295.2	295.2	294.5	293.8	293.8	294.5	295.6	294.7				
41	0.00	0.00	1.917	295.2	296.2	296.2	295.2	295.2	295.2	294.5	293.8	293.8	294.5	295.6	294.7				
42	0.00	0.00	1.916	295.2	296.2	296.2	295.2	295.2	295.2	294.5	293.8	293.8	294.5	295.6	294.7				
43	0.00	0.00	1.916	295.2	296.2	296.2	295.2	295.2	295.2	294.5	293.8	293.8	294.5	295.6	294.7				
44	0.00	0.00	1.915	294.2	296.2	296.2	295.2	295.2	295.2	294.5	293.8	293.8	294.5	295.6	294.7				
45	0.00	0.00	1.913	294.2	295.2	295.2	295.2	295.2	295.2	294.5	293.8	293.8	294.5	295.6	294.7				
46	0.00	0.00	1.912	294.2	295.2	295.2	295.2	295.2	295.2	294.5	293.8	293.8	294.5	295.6	294.7				
47	0.00	0.00	1.912	294.2	295.2	295.2	295.2	295.2	295.2	294.5	293.8	293.8	294.5	295.6	294.7				
48	0.00	0.00	1.911	294.2	295.2	295.2	294.2	294.2	294.2	293.5	292.8	292.8	293.5	294.6	293.9				
49	0.00	0.00	1.911	294.2	295.2	295.2	294.2	294.2	294.2	293.5	292.8	292.8	293.5	294.6	293.9				
50	0.00	0.00	1.911	294.2	295.2	295.2	294.2	294.2	294.2	293.5	292.8	292.8	293.5	294.6	293.9				

Table 19B — Inferred Pressurant Distribution, Scaling Run 41, Test Configuration 3:
Three 1.52-cm Nozzles [(J) indicates thermocouples on an inlet jet centerline]

J	T ₁ (°C)	T ₂ (°C)	T ₃ (°C)	P	P/P	Pressurant Fractions (X) at Locations I												
						1	2	3(U)	4	5	6	7	8	9	10	11	12(U)	13
COMMENCE VALVE OPENING																		
0.0	17.9	17.9	75.2	4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.0	18.9	18.9	19.7	-438.2	-2.2096	.005	-1.430	-1.430	-1.430	-1.430	-1.430	-1.430	-1.430	-1.430	-1.430	-1.430	-1.430	-1.430
VALVE FULLY OPEN																		
2.0	22.8	23.2	19.9	59.1	6.0680	192	240	654	542	240	240	240	240	240	240	240	240	240
3.0	26.3	28.0	18.3	18.4	1.5768	176	223	428	223	120	223	223	223	223	223	223	223	223
4.0	28.3	31.6	17.3	13.8	1.0302	235	120	263	477	263	192	263	192	263	192	263	192	263
5.0	29.4	33.9	18.6	13.3	0.8749	284	191	348	536	254	223	285	223	216	279	210	373	323
6.0	30.3	35.9	18.3	11.9	0.7559	324	233	405	520	290	290	290	267	261	302	250	422	393
7.0	30.7	37.2	19.0	12.4	0.6759	360	294	403	568	294	321	299	288	327	294	491	469	338
8.0	30.7	38.0	19.4	13.1	0.6359	390	328	489	596	328	328	328	322	328	344	322	505	500
9.0	30.8	38.7	19.8	12.5	0.5575	417	361	494	652	361	361	361	356	351	340	552	499	382
COMMENCE VALVE CLOSURE																		
10.0	30.7	39.0	20.2	13.6	0.5322	440	378	538	644	378	378	378	341	367	378	596	559	399
11.0	30.5	39.0	20.3	95.5	0.4827	458	384	492	708	438	384	384	367	394	400	600	583	421
VALVE FULLY CLOSED																		
12.0	30.2	38.6	20.3	4.9	0.0249	437	422	477	614	422	422	422	383	405	422	433	559	531
13.0	29.6	37.6	20.1	25.1	1.1271	437	407	464	578	407	464	407	402	419	430	447	550	527
14.0	29.0	36.7	19.8	26.5	1.1339	437	439	499	558	439	439	439	404	438	434	528	505	434
15.0	28.5	36.0	19.6	20.8	1.0523	437	430	491	552	430	430	430	411	417	448	454	515	497
16.0	28.2	35.6	19.5	14.4	0.7228	437	416	478	540	416	478	416	422	428	440	459	515	490
17.0	27.9	35.1	19.4	14.8	0.7500	437	433	485	517	453	453	453	415	421	447	453	491	466
18.0	27.8	34.9	19.3	7.6	0.3884	437	438	503	567	438	438	438	419	419	451	471	477	458
19.0	27.6	34.6	19.3	7.7	0.3893	437	433	486	551	453	486	453	421	421	447	453	473	453
20.0	27.3	34.2	19.2	15.8	0.7977	437	468	468	535	468	468	468	421	408	455	468	461	415
21.0	27.2	33.9	19.1	8.1	0.4099	437	458	491	525	458	458	458	417	424	451	458	451	424
22.0	27.0	33.7	19.1	8.2	0.4015	437	450	518	518	450	450	450	423	416	444	470	464	425
23.0	26.9	33.5	19.0	8.4	0.4222	437	446	515	515	446	446	446	423	423	459	460	459	446
24.0	26.7	33.2	18.9	8.5	0.4250	437	442	492	492	442	442	442	423	423	459	471	443	436
25.0	26.5	33.0	18.9	8.6	0.4277	437	441	481	481	441	441	441	423	423	459	471	443	436
26.0	26.4	32.8	18.8	8.6	0.4320	437	440	477	477	440	440	440	423	423	459	471	443	436
27.0	26.2	32.6	18.8	9.0	0.4453	437	440	477	477	440	440	440	423	423	459	471	443	436
28.0	26.1	32.3	18.7	9.1	0.4611	437	440	477	477	440	440	440	423	423	459	471	443	436
29.0	26.0	32.1	18.7	9.2	0.4700	437	440	477	477	440	440	440	423	423	459	471	443	436
30.0	25.8	31.8	18.6	9.5	0.4779	437	440	477	477	440	440	440	423	423	459	471	443	436
31.0	25.6	31.6	18.6	9.7	0.4888	437	440	477	477	440	440	440	423	423	459	471	443	436
32.0	25.5	31.6	18.6	0.0	0.0000	437	440	477	477	440	440	440	423	423	459	471	443	436
33.0	25.3	31.1	18.5	19.9	1.0066	437	440	477	477	440	440	440	423	423	459	471	443	436
34.0	25.3	31.1	18.5	0.0	0.0000	437	440	477	477	440	440	440	423	423	459	471	443	436

Table 20A – Scaling Run 42, Test Configuration 2: Two 1.52-cm Nozzles
[(J) indicates thermocouples on an inlet jet centerline]

Press Tank	T P (atm)	T _i (K)	Chamber P (atm)	Chamber Absolute Temperatures (K) at Locations 1													COORDINATES						
				1	2	3(J)	4	5	6	7	8	9	10	11	12	13	I (M)	R THETA 2 (DEC) (M)					
-5	0.000	0.000	1.029	292	292	292	292	292	292	291	0	290	1	289	8	290	5	1	0	000	-0	152	
-3	0.000	0.000	1.028	292	292	292	292	292	292	291	0	290	1	289	8	290	5	2	0	000	-0	076	
-3	0.000	0.000	1.029	292	292	292	292	292	292	291	0	290	1	289	8	290	5	3	0	000	-0	076	
-2	0.000	0.000	1.029	292	292	292	292	292	292	291	0	290	2	289	8	290	5	4	0	000	0	076	
-1	0.000	0.000	1.029	292	292	292	292	292	292	291	0	290	1	289	8	290	5	5	0	000	0	152	
0	6.232	293.2	1.029	292	292	292	292	292	292	291	0	290	1	289	8	290	5	6	0	000	0	229	
1	6.231	293.2	1.029	292	292	292	292	292	292	291	0	290	1	289	8	290	5	7	0	000	0	530	
2	6.110	290.7	1.087	294	7	293	7	293	7	293	7	292	9	292	9	292	9	8	0	000	0	610	
3	5.862	273.2	1.175	299	2	297	2	298	2	298	2	296	1	295	9	294	6	9	0	000	0	606	
4	5.688	272.7	1.255	301	2	299	2	300	2	300	2	298	4	297	8	296	3	10	0	000	0	762	
5	5.468	272.2	1.328	302	2	300	2	302	2	302	2	299	5	299	3	298	1	11	0	000	0	838	
6	5.232	271.2	1.399	303	2	301	2	303	2	303	2	301	2	300	5	299	3	12	0	000	0	914	
7	5.064	270.2	1.487	304	2	301	2	303	2	303	2	302	0	301	1	300	3	13	0	000	0	991	
8	4.887	269.2	1.550	304	2	302	2	304	2	304	2	302	5	301	5	300	8	302	3	301	8	301	5
9	4.658	268.7	1.611	304	2	302	2	304	2	304	2	302	8	301	7	301	2	302	4	302	4	302	1
10	4.334	268.2	1.668	304	2	303	2	304	2	304	2	302	9	302	0	301	4	302	4	302	4	302	2
11	4.389	268.2	1.724	304	2	302	2	304	2	304	2	302	9	302	0	301	5	302	7	302	5	302	3
12	4.237	267.2	1.780	304	2	302	2	304	2	304	2	302	9	302	0	301	3	302	6	302	5	302	4
13	4.067	267.2	1.832	304	2	302	2	304	2	304	2	302	0	302	1	301	5	302	5	302	5	302	4
14	3.951	267.2	1.883	304	2	301	2	304	2	304	2	302	6	301	8	301	5	302	4	302	4	302	3
15	3.857	267.2	1.932	304	2	301	2	304	2	304	2	302	5	301	7	301	5	302	4	302	4	302	3
16	3.707	267.2	1.981	303	7	301	2	308	2	303	2	304	2	301	6	301	2	302	3	302	3	302	2
17	3.604	266.2	2.018	303	2	301	2	308	2	303	2	303	2	302	4	301	3	302	3	302	3	302	1
18	3.614	259.2	2.021	303	2	299	2	303	2	303	2	302	0	300	5	300	6	301	3	301	5	301	3
19	3.000	0.000	2.018	302	7	301	2	302	2	302	2	301	3	300	5	300	2	301	0	301	2	301	0
20	2.000	0.000	2.015	302	2	301	2	302	2	302	2	301	2	300	4	300	0	300	9	300	9	300	6
21	0.000	0.000	2.014	302	2	301	2	302	2	302	2	301	1	300	2	299	9	300	5	300	7	300	4
22	0.000	0.000	2.012	302	2	301	2	302	2	302	2	300	8	300	0	299	5	300	2	300	6	300	2
23	0.000	0.000	2.011	302	2	301	2	301	2	302	2	300	5	299	8	299	0	299	7	300	3	300	0
24	0.000	0.000	2.009	301	2	301	2	301	2	301	2	300	2	299	2	298	7	299	3	300	0	299	6
25	0.000	0.000	2.008	301	2	301	2	301	2	301	2	299	5	299	0	298	5	299	1	299	6	299	3
26	0.000	0.000	2.007	301	2	300	2	301	2	301	2	299	5	299	0	298	5	299	6	299	3	299	3
27	0.000	0.000	2.003	300	2	299	2	300	2	300	2	299	5	299	0	298	5	299	6	299	3	299	3
28	0.000	0.000	1.999	299	2	299	2	299	2	299	2	298	7	298	0	297	9	298	8	298	1	298	2
29	0.000	0.000	1.996	299	2	299	2	299	2	299	2	297	9	297	0	296	9	297	7	297	3	297	4
30	0.000	0.000	1.993	298	2	298	2	298	2	298	2	296	8	296	5	295	5	296	4	296	5	296	7
31	0.000	0.000	1.991	298	2	298	2	298	2	298	2	296	8	296	5	295	5	296	4	296	5	296	7
32	0.000	0.000	1.989	297	2	297	2	297	2	297	2	295	7	295	4	294	7	295	3	295	6	295	7
33	0.000	0.000	1.985	297	2	297	2	297	2	297	2	295	7	295	4	294	7	295	3	295	6	295	7
34	0.000	0.000	1.983	297	2	297	2	297	2	297	2	295	7	295	4	294	7	295	3	295	6	295	7
35	0.000	0.000	1.982	296	2	296	2	296	2	296	2	294	6	294	4	293	9	294	3	294	6	294	6
36	0.000	0.000	1.981	296	2	296	2	296	2	296	2	294	6	294	4	293	9	294	3	294	6	294	6
37	0.000	0.000	1.979	296	2	296	2	296	2	296	2	294	6	294	4	293	9	294	3	294	6	294	6
38	0.000	0.000	1.976	296	2	296	2	296	2	296	2	294	6	294	4	293	9	294	3	294	6	294	6
39	0.000	0.000	1.974	296	2	296	2	296	2	296	2	294	6	294	4	293	9	294	3	294	6	294	6
40	0.000	0.000	1.972	295	2	295	2	295	2	295	2	293	8	293	7	292	9	293	7	293	8	293	8
41	0.000	0.000	1.970	295	2	295	2	295	2	295	2	293	8	293	7	292	9	293	7	293	8	293	8
42	0.000	0.000	1.968	295	2	295	2	295	2	295	2	293	8	293	7	292	9	293	7	293	8	293	8
43	0.000	0.000	1.967	294	2	294	2	294	2	294	2	292	8	292	8	291	8	292	8	292	8	292	8
44	0.000	0.000	1.965	294	2	294	2	294	2	294	2	292	8	292	8	291	8	292	8	292	8	292	8

Table 20B — Inferred Pressurant Distribution, Scaling Run 42, Test Configuration 2:
Two 1.52-cm Nozzles (J) indicates thermocouples on an inlet jet centerline)

Pressurant Fractions (X) at Locations I																		
																		</

Table 21A – Scaling Run 43, Test Configuration 2: Two 1.52-cm Nozzles
[(J) indicates thermocouples on an inlet jet centerline]

[illegible]

Table 21B — Inferred Pressurant Distribution, Sealing Run 43, Test Configuration 2:
Two 1.52-cm Nozzles [J] indicates thermocouples on an inlet jet centerline]

T (°C)	T ₀ (°C)	T ₁ (°C)	R/θ	X	1	2	3(U)	Pressurant Fractions (X) at Locations 1												
								4	5	6	7	8	9	10	11	12	13			
0.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
1.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
2.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
3.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
4.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
5.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
6.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
7.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
8.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
9.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
10.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
11.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
12.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
13.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
14.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
15.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
16.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
17.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
18.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
19.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
20.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
21.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
22.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
23.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
24.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
25.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
26.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
27.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
28.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
29.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
30.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
31.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
32.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
33.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
34.0	17.8	17.8	151.3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			

Table 22A — Scaling Run 44, Test Configuration 2: Two 1.52-cm Nozzles
[(J) indicates thermocouples on an inlet jet centerline]

[illegible]

Table 22B — Inferred Pressurant Distribution, Sealing Run 44, Test Configuration 2:
Two 1.52-cm Nozzles (J) indicates thermocouples on an inlet jet centerline]

t (°C)	T _h (°C)	T _c (°C)	β	B/θ	P̄	Pressurant Fractions (X) at Locations I												
						1	2	3(I)	4	5	6	7	8	9	10	11	12	13
COMMENCE VALVE OPENING																		
0.0	17.4	17.4	126.6	-1.0	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.0	17.5	17.5	21.8	23806.6-25.6446	-0.001	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008	-0.008
VALVE FULLY OPEN																		
2.0	20.1	20.1	20.5	136.7	2.7710	0.94	-272	845	-272	-272	-272	-157	1583	845	398	-720	-943	
3.0	23.4	24.1	19.6	37.2	2.3167	0.825	331	725	135	135	135	-032	-081	115	017	036	115	174
4.0	23.4	27.2	17.3	16.0	0.9466	0.179	128	280	334	128	077	128	108	165	148	128	189	199
5.0	26.9	29.6	17.2	14.8	0.7547	0.220	177	338	498	097	097	177	161	185	241	193	201	249
6.0	27.8	31.4	17.4	14.7	0.6804	0.255	211	354	533	175	175	215	232	254	225	232	261	254
7.0	28.3	32.6	17.7	15.2	0.6480	0.286	210	413	548	210	210	210	244	258	278	258	305	298
8.0	28.6	32.4	18.1	15.5	0.6261	0.314	258	454	584	258	258	258	271	284	290	277	284	303
9.0	29.0	34.3	18.5	13.8	0.4847	0.338	308	466	624	245	245	245	276	283	321	308	314	340
10.0	29.0	34.8	18.8	15.2	0.5486	0.362	337	525	650	275	275	275	325	325	356	337	343	343
11.0	29.1	35.3	19.2	15.0	0.4878	0.382	362	517	673	300	300	300	337	356	362	362	374	368
12.0	29.0	35.4	19.4	16.0	0.4977	0.401	374	562	687	374	312	312	353	368	374	353	368	393
13.0	28.9	35.6	19.7	15.7	0.4544	0.418	387	576	701	387	324	324	375	400	387	387	406	400
14.0	28.7	35.5	19.9	17.0	0.4669	0.434	454	582	709	390	358	358	390	390	403	390	409	409
COMMENCE VALVE CLOSURE																		
15.0	28.7	35.6	20.1	16.5	0.4271	0.448	463	592	722	398	398	398	398	411	398	424	417	417
16.0	28.5	35.5	20.3	-351.2	0.4212	0.462	467	631	730	401	401	401	401	421	421	421	447	440
VALVE FULLY CLOSED																		
17.0	28.4	35.5	20.5	-301.4	0.3245	0.472	470	603	803	403	403	403	423	430	436	443	450	436
18.0	29.0	36.3	20.8	122.9	-1323	0.472	482	578	642	449	417	417	443	449	443	462	437	462
19.0	28.5	35.7	20.6	-91.6	0.986	0.472	500	566	566	434	434	434	441	460	447	467	460	447
20.0	28.1	35.0	20.3	-95.3	1.026	0.472	486	554	554	418	418	418	445	459	466	486	466	473
21.0	27.8	34.6	20.2	-65.8	0.768	0.472	476	545	545	441	406	406	448	469	469	497	462	490
22.0	27.5	34.2	20.1	-67.7	0.729	0.472	524	524	524	453	453	453	466	489	460	481	474	474
23.0	27.4	33.9	20.0	-34.6	0.372	0.472	510	510	510	438	438	438	452	467	495	474	495	467
24.0	27.2	32.7	19.9	-38.2	0.379	0.472	497	520	497	429	429	429	452	467	495	468	497	476
25.0	27.1	32.5	19.9	-35.7	0.384	0.472	473	547	473	473	473	473	473	495	466	488	488	473
26.0	26.9	32.3	19.8	-36.2	0.390	0.472	518	542	468	468	468	468	461	498	468	498	483	483
27.0	26.8	32.0	19.7	-36.8	0.396	0.472	518	518	518	443	443	443	446	498	468	498	483	483
28.0	26.6	32.0	19.7	-37.4	0.403	0.472	509	509	509	433	433	433	441	496	471	501	496	479
29.0	26.5	32.6	19.6	-38.0	0.409	0.472	504	504	504	427	427	427	437	497	481	504	497	496
30.0	26.3	32.4	19.5	-38.7	0.417	0.472	494	494	494	417	417	417	435	495	479	518	463	502
31.0	26.2	32.2	19.5	-39.3	0.423	0.472	478	556	478	399	399	399	436	478	525	434	501	483
32.0	26.2	32.2	19.5	0	0.0000	0.472	532	532	453	453	453	453	453	495	508	453	500	492
33.0	26.0	31.9	19.4	-40.0	0.421	0.472	519	519	440	440	440	440	446	495	508	453	500	492
34.0	25.9	31.7	19.3	-40.7	0.420	0.472	514	514	434	434	434	434	446	495	508	453	500	492

Table 23A — Scaling Run 45, Test Configuration 1: One 1.52-cm Nozzle
[(J) indicates thermocouple on an inlet jet centerline]

Press Track		Chamber P		Chamber Absolute Temperatures (K) at Locations 1													COORDINATES		
ϵ	P	T_1	P	1	2	3(I)	4	5	6	7	8	9	10	11	12	13	I	R	THETA 2
(°)	(atm)	(K)	(atm)														(M)	(DEG)	(M)
-8	0.000	000	1.028	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	1	0.0	000
-3	0.000	000	1.028	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	2	0.0	000
-3	0.000	000	1.028	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	3	0.0	000
-2	0.000	000	1.028	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	4	0.0	000
-1	0.000	000	1.028	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	5	0.0	000
0	0.303	292.2	1.028	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	6	0.0	000
1	6.348	295.7	1.037	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	7	0.0	000
2	6.107	279.2	1.037	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	8	0.0	000
3	5.998	273.2	1.121	296.2	294.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	9	0.0	000
4	5.876	272.7	1.162	297.7	293.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7	292.7	10	0.0	000
5	5.753	272.2	1.261	298.2	296.2	294.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	11	0.0	000
6	5.653	272.2	1.239	299.2	297.2	295.2	293.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	12	0.0	000
7	5.577	272.2	1.274	300.2	297.2	295.2	293.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	13	0.0	000
8	5.480	271.2	1.308	300.2	297.2	295.2	293.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2			
9	5.351	271.2	1.344	300.2	298.2	295.2	293.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2			
10	5.377	270.2	1.377	300.2	297.2	295.2	293.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2			
11	5.212	270.2	1.411	300.2	298.2	295.2	293.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2			
12	5.067	270.2	1.444	300.2	298.2	295.2	293.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2			
13	4.984	270.2	1.475	300.2	297.2	295.2	293.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2			
14	4.926	269.2	1.506	300.2	298.2	295.2	293.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2	292.2			
15	4.861	269.2	1.538	300.2	298.2	296.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2			
16	4.723	269.2	1.567	300.2	298.2	295.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2			
17	4.638	269.2	1.597	300.2	298.2	295.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2			
18	4.379	268.2	1.635	300.2	298.2	295.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2			
19	4.320	268.2	1.664	300.2	298.2	295.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2			
20	4.414	268.2	1.692	300.2	298.2	295.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2			
21	4.351	268.2	1.719	300.2	297.2	295.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2			
22	4.362	267.2	1.746	300.2	298.2	295.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2	290.2			
23	4.337	268.2	1.772	300.2	297.2	295.2	295.7	300.2	300.2	298.7	297.8	297.3	298.3	298.3	298.1	298.0			
24	4.128	267.2	1.799	300.2	297.2	295.2	300.2	300.2	300.2	298.5	297.6	297.3	298.1	298.2	298.2	298.0			
25	4.077	268.2	1.826	300.2	297.2	295.2	300.2	300.2	300.2	298.4	297.5	297.3	298.0	298.1	298.0	297.9			
26	4.016	268.2	1.851	300.2	297.2	295.2	300.2	300.2	300.2	298.4	297.4	297.3	298.0	298.1	298.0	297.8			
27	3.931	268.2	1.876	300.2	297.2	295.2	300.2	300.2	300.2	298.3	297.4	297.1	298.1	298.0	297.8	297.7			
28	3.888	268.2	1.904	300.2	298.2	295.2	295.2	300.2	300.2	298.4	297.4	297.1	298.0	297.8	297.7	297.6			
29	3.888	268.2	1.924	300.2	297.2	295.2	295.2	300.2	300.2	298.2	297.4	297.0	298.0	297.9	297.7	297.7			
30	3.767	268.2	1.948	300.2	297.2	295.2	299.7	300.2	300.2	298.3	297.4	297.1	297.9	297.9	297.7	297.6			
31	3.727	268.2	1.972	300.2	297.2	295.2	299.2	300.2	300.2	298.2	297.4	296.9	297.8	297.8	297.6	297.7			
32	3.676	262.7	1.991	299.7	297.2	294.7	299.7	299.7	299.7	298.1	297.3	296.9	297.8	297.8	297.7	297.6			
33	3.651	256.2	1.994	299.7	298.2	296.4	299.2	299.2	299.2	298.2	297.3	296.9	297.8	297.8	297.7	297.6			
34	0.000	000	1.991	299.2	298.2	297.2	298.2	298.2	298.2	297.2	296.8	296.4	297.3	297.3	297.2	297.1			
35	0.000	000	1.991	299.2	298.2	297.2	298.2	298.2	298.2	297.2	296.8	296.4	297.3	297.3	297.2	297.1			
36	0.000	000	1.989	299.2	298.2	297.2	298.2	298.2	298.2	297.2	296.8	296.4	297.3	297.3	297.2	297.1			
37	0.000	000	1.988	299.2	298.2	297.2	298.2	298.2	298.2	297.2	296.8	296.4	297.3	297.3	297.2	297.1			
38	0.000	000	1.987	299.2	298.2	297.2	298.2	298.2	298.2	297.2	296.8	296.4	297.3	297.3	297.2	297.1			
39	0.000	000	1.986	299.2	298.2	297.2	298.2	298.2	298.2	297.2	296.8	296.4	297.3	297.3	297.2	297.1			
40	0.000	000	1.985	299.2	298.2	297.2	298.2	298.2	298.2	297.2	296.8	296.4	297.3	297.3	297.2	297.1			
41	0.000	000	1.985	299.2	298.2	297.2	298.2	298.2	298.2	297.2	296.8	296.4	297.3	297.3	297.2	297.1			
42	0.000	000	1.983	299.2	297.2	297.2	297.2	297.2	297.2	296.2	295.8	295.4	296.3	296.3	296.3	296.3			
43	0.000	000	1.979	299.2	297.2	297.2	297.2	297.2	297.2	296.2	295.8	295.4	296.3	296.3	296.3	296.3			
44	0.000	000	1.979	299.2	297.2	297.2	297.2	297.2	297.2	296.2	295.8	295.4	296.3	296.3	296.3	296.3			
45	0.000	000	1.979	299.2	297.2	297.2	297.2	297.2	297.2	296.2	295.8	295.4	296.3	296.3	296.3	296.3			

Table 23B -- Inferred Pressurant Distribution, Scaling Run 45, Test Configuration 1:
One 1.52-cm Nozzle [J] indicates thermocouple on an inlet jet centerline]

Pressurant Fractions (X) at Locations I																			
t (s)	T (°C)	T _o (°C)	T _o (°C)	β	β/θ	X̄	1	2	3(J)	4	5	6	7	8	9	10	11	12	13
							0.060 -0.122	0.000 -0.465	0.000 -0.122	0.000 -0.122	0.000 -0.122	0.000 -0.122	0.000 -0.122	0.000 -0.083	0.000 0.113	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000
COMMENCE VALVE OPENING																			
0.0	17.9	17.9	233.1	1.9	0.0000	0.000	-0.213	-0.386	-0.386	-0.386	-0.386	-0.386	-0.386	-0.386	-0.386	-0.386	-0.386	-0.386	-0.386
1.0	18.2	18.2	20.6	1.137	0.87765	0.008	-0.081	-0.211	-0.503	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
VALVE FULLY OPEN																			
2.0	19.5	19.5	17.9	192.0	6.4480	0.040	-0.039	-0.227	-0.415	-0.639	-0.639	-0.639	-0.639	-0.639	-0.639	-0.639	-0.639	-0.639	-0.639
3.0	20.8	21.3	14.3	60.8	2.1587	0.074	-0.046	-0.299	-0.468	-0.609	-0.609	-0.609	-0.609	-0.609	-0.609	-0.609	-0.609	-0.609	-0.609
4.0	22.1	23.0	13.5	34.0	1.0795	0.103	-0.037	-0.231	-0.493	-0.61	-0.61	-0.61	-0.61	-0.61	-0.61	-0.61	-0.61	-0.61	-0.61
5.0	22.9	24.3	13.7	31.0	0.9325	0.129	-0.046	-0.299	-0.468	-0.609	-0.609	-0.609	-0.609	-0.609	-0.609	-0.609	-0.609	-0.609	-0.609
6.0	23.9	25.5	14.1	24.8	0.7025	0.154	-0.082	-0.338	-0.509	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62	-0.62
7.0	24.4	26.4	14.6	24.9	0.6451	0.175	-0.151	-0.317	-0.565	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
8.0	24.5	26.8	15.1	20.7	0.7361	0.196	-0.171	-0.424	-0.593	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
9.0	25.1	27.7	15.6	21.5	0.5446	0.216	-0.220	-0.393	-0.652	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
10.0	25.1	27.9	16.1	27.4	0.6330	0.235	-0.163	-0.374	-0.628	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
11.0	25.3	28.3	16.3	24.4	0.5801	0.253	-0.251	-0.431	-0.700	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
12.0	25.3	28.4	16.3	27.1	0.6269	0.270	-0.191	-0.456	-0.677	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
13.0	25.3	28.6	17.2	26.6	0.5324	0.285	-0.272	-0.453	-0.635	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
14.0	25.3	28.7	17.6	26.3	0.5935	0.300	-0.283	-0.468	-0.698	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
15.0	25.4	28.9	17.9	24.9	0.5169	0.314	-0.290	-0.479	-0.762	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
16.0	25.4	28.9	18.1	26.1	0.4888	0.327	-0.303	-0.496	-0.785	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
17.0	25.4	28.9	18.4	27.1	0.5178	0.340	-0.310	-0.506	-0.800	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
18.0	25.3	29.0	18.7	26.1	0.6145	0.355	-0.318	-0.623	-0.826	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
19.0	25.3	29.0	18.8	26.6	0.4707	0.366	-0.318	-0.623	-0.826	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
20.0	25.3	29.1	19.4	28.9	0.4326	0.377	-0.338	-0.541	-0.846	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
21.0	25.2	29.0	19.2	28.2	0.4561	0.387	-0.333	-0.593	-0.833	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
22.0	25.3	29.2	19.4	23.7	0.3687	0.396	-0.341	-0.656	-0.867	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
23.0	25.2	29.1	19.3	28.5	0.4321	0.405	-0.344	-0.665	-0.879	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
24.0	25.2	29.1	19.6	26.3	0.3987	0.414	-0.348	-0.674	-0.892	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
25.0	25.1	29.1	19.8	27.1	0.4074	0.423	-0.340	-0.675	-0.899	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
26.0	25.1	29.1	19.9	27.2	0.3718	0.431	-0.358	-0.803	-0.919	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
27.0	25.0	28.9	20.0	30.0	0.4148	0.439	-0.346	-0.692	-0.923	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
28.0	25.1	29.1	20.2	30.9	0.2580	0.446	-0.356	-0.706	-0.938	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
29.0	25.0	28.9	20.2	30.9	0.4034	0.453	-0.354	-0.710	-0.947	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
COMMENCE VALVE CLOSURE																			
30.0	25.0	28.9	20.4	26.1	0.3205	0.459	-0.356	-0.706	-0.938	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
31.0	24.9	28.9	20.4	47.5	0.3614	0.466	-0.354	-0.710	-0.947	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
VALVE FULLY CLOSED																			
32.0	24.7	28.6	20.4	45.1	0.3434	0.472	-0.393	-0.696	-0.999	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
33.0	25.2	29.3	20.6	-20.8	-1.1866	0.472	-0.455	-0.570	-0.802	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65
34.0	24.7	28.6	20.4	20.8	0.1586	0.472	-0.430	-0.571	-0.693	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65	-0.65

Table 24A — Sealing Run 46, Test Configuration 1: One 1.52-cm Nozzle
[(J) indicates thermocouple on an inlet jet centerline]

r	Press Trunk P (atm)	T ₁ (K)	Chamber P (atm)	Chamber Absolute Temperatures (K) at Locations 1													COORDINATES		
				1	2	3(J)	4	5	6	7	8	9	10	11	12	13	1	R (M)	2 THETA (DEC) (M)
-5	0.000	0.000	1.029	292.2	292.2	291.2	292.2	291.7	292.2	290.5	289.2	288.8	289.7	289.9	289.9	289.9	1	0.0	0.000
-4	0.000	0.000	1.029	292.2	292.2	291.2	292.2	291.7	292.2	290.5	289.2	288.8	289.7	289.9	289.9	289.9	2	0.0	0.000
-3	0.000	0.000	1.029	292.2	292.2	291.2	292.2	291.7	292.2	290.5	289.2	288.8	289.7	289.9	289.9	289.9	3	0.0	0.000
-2	0.000	0.000	1.029	292.2	292.2	291.2	292.2	291.7	292.2	290.5	289.2	288.8	289.7	289.9	289.9	289.9	4	0.0	0.000
-1	0.000	0.000	1.029	292.2	292.2	291.2	292.2	291.7	292.2	290.5	289.2	288.8	289.7	289.9	289.9	289.9	5	0.0	0.000
0	6.341	231.2	1.029	292.2	292.2	291.2	292.2	291.7	292.2	290.5	289.2	288.8	289.7	289.9	289.9	289.9	6	0.0	0.000
1	6.323	231.2	1.029	292.2	292.2	291.2	292.2	291.7	292.2	290.5	289.2	288.8	289.7	289.9	289.9	289.9	7	0.0	0.000
2	6.191	230.7	1.056	293.2	293.2	292.2	293.2	292.7	293.2	291.5	290.2	289.8	289.7	289.9	289.9	289.9	8	0.0	0.000
3	6.057	232.2	1.102	295.2	295.2	294.2	296.2	295.7	296.2	294.5	293.2	292.8	292.7	292.9	292.9	292.9	9	0.0	0.000
4	5.939	232.2	1.144	297.2	297.2	296.2	298.2	297.7	298.2	296.5	295.2	294.8	294.7	294.9	294.9	294.9	10	0.0	0.000
5	5.878	232.2	1.184	298.2	298.2	297.2	299.2	298.7	299.2	297.5	296.2	295.8	295.7	295.9	295.9	295.9	11	0.0	0.000
6	5.721	231.7	1.223	299.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	12	0.0	0.000
7	5.656	231.2	1.259	299.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	13	0.0	0.000
8	5.502	231.2	1.295	300.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	14	0.0	0.000
9	5.406	230.7	1.341	300.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	15	0.0	0.000
10	5.330	230.2	1.374	300.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	16	0.0	0.000
11	5.180	230.2	1.408	300.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	17	0.0	0.000
12	5.093	230.2	1.440	300.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	18	0.0	0.000
13	4.931	230.2	1.473	300.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	19	0.0	0.000
14	4.833	230.2	1.504	300.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	20	0.0	0.000
15	4.829	230.2	1.535	300.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	21	0.0	0.000
16	4.766	230.2	1.565	300.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	22	0.0	0.000
17	4.715	230.2	1.594	300.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	23	0.0	0.000
18	4.607	230.2	1.624	300.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	24	0.0	0.000
19	4.516	230.2	1.653	300.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	25	0.0	0.000
20	4.446	230.2	1.680	300.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	26	0.0	0.000
21	4.380	230.2	1.708	300.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	27	0.0	0.000
22	4.335	230.2	1.735	300.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	28	0.0	0.000
23	4.242	230.2	1.764	300.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	29	0.0	0.000
24	4.146	230.2	1.790	300.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	30	0.0	0.000
25	4.113	230.2	1.815	300.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	31	0.0	0.000
26	4.023	230.2	1.841	300.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	32	0.0	0.000
27	3.984	230.2	1.867	300.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	33	0.0	0.000
28	3.902	230.2	1.899	299.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	34	0.0	0.000
29	3.772	230.2	1.947	299.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	35	0.0	0.000
30	3.739	230.2	1.971	299.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	36	0.0	0.000
31	3.707	230.2	1.988	299.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	37	0.0	0.000
32	3.681	230.2	1.987	299.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	38	0.0	0.000
33	3.681	230.2	1.985	299.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	39	0.0	0.000
34	0.000	0.000	1.985	299.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	40	0.0	0.000
35	0.000	0.000	1.984	299.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	41	0.0	0.000
36	0.000	0.000	1.982	299.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	42	0.0	0.000
37	0.000	0.000	1.981	299.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	43	0.0	0.000
38	0.000	0.000	1.980	299.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	44	0.0	0.000
39	0.000	0.000	1.980	299.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	45	0.0	0.000
40	0.000	0.000	1.978	299.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	46	0.0	0.000
41	0.000	0.000	1.978	299.2	299.2	298.2	300.2	299.7	300.2	298.5	297.2	296.8	296.7	296.9	296.9	296.9	47	0.0	0.000
46	0.000	0.000	1.975	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	48	0.0	0.000
51	0.000	0.000	1.973	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	49	0.0	0.000
56	0.000	0.000	1.971	296.2	297.2	296.2	297.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	50	0.0	0.000

Table 24B — Inferred Pressurant Distribution, Sealing Run 46, Test Configuration 1:
One 1.52-cm Nozzle [(J) indicates thermocouple on an inlet jet centerline]

Pressurant Fractions (X) at Locations I																			
I (g)	T (°C)	T ₁ (°C)	T ₂ (°C)	β	β/θ	X̄	1	2	3(U)	4	5	6	7	8	9	10	11	12	13
COMMENCE VALVE OPENING																			
0.0	17.6	17.6	324.3	0	0.0040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.0	17.6	17.6	18.0	169.0	0.0045	-0.018	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.232	-0.000	-0.000	-0.000	-0.232	-0.000	464
VALVE FULLY OPEN																			
2.0	18.6	18.6	18.3	317.4	7.0471	0.022	0.239	0.239	0.000	1.804	1.804	1.804	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3.0	19.9	20.2	15.9	100.8	3.8593	0.039	-0.095	0.375	0.375	0.140	0.140	0.140	-0.001	-0.072	-0.001	-0.001	-0.001	-0.001	0.000
4.0	21.3	22.1	13.5	38.1	1.2461	0.089	-0.060	0.232	0.349	0.115	0.115	0.115	0.057	0.033	0.045	0.033	0.045	0.033	0.000
5.0	22.4	23.6	13.2	29.5	0.9049	0.116	0.003	0.196	0.388	0.099	0.099	0.099	0.099	0.090	0.128	0.081	0.080	0.090	0.080
6.0	23.2	24.8	13.5	27.2	0.8037	0.142	0.023	0.244	0.376	0.111	0.111	0.111	0.155	0.120	0.120	0.138	0.111	0.138	0.093
7.0	23.8	25.7	13.9	26.3	0.7116	0.165	0.099	0.268	0.438	0.099	0.099	0.099	0.183	0.133	0.124	0.167	0.124	0.133	0.141
8.0	24.3	26.6	14.5	24.3	0.6434	0.187	0.082	0.330	0.412	0.165	0.165	0.165	0.157	0.148	0.150	0.157	0.157	0.157	0.148
9.0	24.5	27.1	15.2	27.3	0.5939	0.214	0.128	0.379	0.463	0.212	0.212	0.212	0.170	0.170	0.178	0.170	0.181	0.178	0.153
10.0	24.8	27.5	15.6	24.9	0.5856	0.233	0.166	0.418	0.502	0.166	0.166	0.166	0.191	0.191	0.183	0.200	0.191	0.200	0.200
11.0	25.0	28.0	16.1	24.0	0.5691	0.250	0.203	0.453	0.539	0.203	0.203	0.203	0.212	0.212	0.203	0.220	0.212	0.220	0.220
12.0	25.1	28.3	16.3	24.7	0.5437	0.267	0.230	0.400	0.570	0.230	0.230	0.230	0.222	0.222	0.222	0.230	0.230	0.233	0.222
13.0	25.1	28.4	16.9	26.0	0.5894	0.283	0.247	0.420	0.593	0.247	0.247	0.247	0.238	0.238	0.247	0.238	0.238	0.239	0.247
14.0	25.1	28.5	17.2	26.6	0.5572	0.298	0.274	0.443	0.633	0.274	0.274	0.274	0.248	0.248	0.240	0.275	0.248	0.248	0.248
15.0	25.1	28.6	17.5	25.4	0.5141	0.312	0.284	0.558	0.649	0.284	0.284	0.284	0.257	0.256	0.256	0.247	0.256	0.265	0.247
16.0	25.1	28.7	17.7	26.3	0.5110	0.325	0.296	0.574	0.666	0.296	0.296	0.296	0.266	0.266	0.266	0.266	0.266	0.265	0.266
17.0	25.1	28.8	18.0	25.4	0.4659	0.338	0.310	0.544	0.685	0.310	0.310	0.310	0.287	0.287	0.287	0.287	0.287	0.287	0.286
18.0	25.1	28.9	18.2	25.1	0.4637	0.350	0.317	0.603	0.690	0.317	0.317	0.317	0.301	0.301	0.292	0.301	0.292	0.301	0.301
19.0	25.1	28.9	18.4	26.4	0.4712	0.361	0.317	0.603	0.690	0.317	0.317	0.317	0.307	0.307	0.298	0.307	0.307	0.307	0.298
20.0	25.1	29.0	18.6	24.9	0.4010	0.372	0.329	0.521	0.714	0.329	0.329	0.329	0.319	0.319	0.319	0.319	0.319	0.319	0.329
21.0	25.1	29.0	18.7	26.1	0.4230	0.382	0.334	0.578	0.724	0.334	0.334	0.334	0.334	0.334	0.334	0.334	0.334	0.334	0.334
22.0	25.0	29.0	18.9	26.5	0.4200	0.392	0.338	0.629	0.724	0.338	0.338	0.338	0.338	0.338	0.338	0.338	0.338	0.338	0.338
23.0	25.0	29.0	19.0	26.5	0.4426	0.402	0.342	0.644	0.745	0.342	0.342	0.342	0.342	0.342	0.342	0.342	0.342	0.342	0.342
24.0	24.9	28.9	19.2	27.1	0.4027	0.411	0.344	0.651	0.759	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344
25.0	24.9	28.9	19.3	26.9	0.3760	0.419	0.347	0.659	0.763	0.347	0.347	0.347	0.347	0.347	0.347	0.347	0.347	0.347	0.347
26.0	24.9	28.9	19.4	26.4	0.3769	0.427	0.352	0.669	0.775	0.352	0.352	0.352	0.352	0.352	0.352	0.352	0.352	0.352	0.352
27.0	24.8	28.9	19.6	26.5	0.3725	0.435	0.358	0.679	0.786	0.358	0.358	0.358	0.358	0.358	0.358	0.358	0.358	0.358	0.358
28.0	24.7	28.8	19.7	28.6	0.4800	0.435	0.408	0.683	0.793	0.408	0.408	0.408	0.397	0.397	0.397	0.397	0.397	0.397	0.397
29.0	24.7	28.7	19.8	28.6	0.3661	0.432	0.462	0.687	0.799	0.462	0.462	0.462	0.395	0.395	0.395	0.395	0.395	0.395	0.395
COMMENCE VALVE CLOSURE																			
30.0	24.5	28.5	19.8	30.5	0.3914	0.439	0.459	0.686	0.801	0.459	0.459	0.459	0.398	0.398	0.398	0.398	0.398	0.398	0.398
31.0	24.6	28.6	20.0	117.9	0.3099	0.465	0.468	0.700	0.816	0.468	0.468	0.468	0.398	0.398	0.398	0.398	0.410	0.398	0.398
VALVE FULLY CLOSED																			
32.0	24.4	28.4	20.0	115.6	0.3056	0.470	0.455	0.692	0.811	0.455	0.455	0.455	0.383	0.383	0.383	0.395	0.407	0.395	0.395
33.0	24.3	28.2	19.9	208.9	0.0351	0.470	0.445	0.626	0.808	0.445	0.445	0.445	0.397	0.397	0.397	0.421	0.421	0.421	0.421
34.0	24.0	27.8	19.7	431.2	0.1135	0.470	0.431	0.576	0.701	0.431	0.431	0.431	0.438	0.426	0.438	0.431	0.438	0.426	0.431

Table 25A — Scaling Run 47, Test Configuration 1: One 1.52-cm Nozzle
[(J) indicates thermocouple on an inlet jet centerline]

Press Tank	Chamber P (atm)	T _r (K)	Chamber Absolute Temperatures (K) at Locations 1													I	R (M)	THETA (DEC) (M)	COORDINATES Z
			1	2	3(U)	4	5	6	7	8	9	10	11	12	13				
-9	1.029	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	1	0	000	-0.152	
-8	1.029	292.2	291.7	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	2	0	000	-0.076	
-7	1.029	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	3	0	000	0.000	
-6	1.029	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	4	0	000	0.076	
-5	1.029	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	5	0	000	0.152	
-4	1.029	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	6	0	000	0.228	
-3	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	7	0	000	0.304	
-2	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	8	0	000	0.380	
-1	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	9	0	000	0.456	
0	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	10	0	000	0.532	
1	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	11	0	000	0.608	
2	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	12	0	000	0.684	
3	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	13	0	000	0.760	
4	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	14	0	000	0.836	
5	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	15	0	000	0.912	
6	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	16	0	000	0.988	
7	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	17	0	000	1.064	
8	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	18	0	000	1.140	
9	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	19	0	000	1.216	
10	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	20	0	000	1.292	
11	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	21	0	000	1.368	
12	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	22	0	000	1.444	
13	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	23	0	000	1.520	
14	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	24	0	000	1.596	
15	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	25	0	000	1.672	
16	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	26	0	000	1.748	
17	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	27	0	000	1.824	
18	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	28	0	000	1.900	
19	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	29	0	000	1.976	
20	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	30	0	000	2.052	
21	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	31	0	000	2.128	
22	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	32	0	000	2.204	
23	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	33	0	000	2.280	
24	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	34	0	000	2.356	
25	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	35	0	000	2.432	
26	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	36	0	000	2.508	
27	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	37	0	000	2.584	
28	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	38	0	000	2.660	
29	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	39	0	000	2.736	
30	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	40	0	000	2.812	
31	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	41	0	000	2.888	
32	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	42	0	000	2.964	
33	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	43	0	000	3.040	
34	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	44	0	000	3.116	
35	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	45	0	000	3.192	
36	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	46	0	000	3.268	
37	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	47	0	000	3.344	
38	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	48	0	000	3.420	
39	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	49	0	000	3.496	
40	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	50	0	000	3.572	
41	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	51	0	000	3.648	
42	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	52	0	000	3.724	
43	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	53	0	000	3.800	
44	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	54	0	000	3.876	
45	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	55	0	000	3.952	
46	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	56	0	000	4.028	
47	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	57	0	000	4.104	
48	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	58	0	000	4.180	
49	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	59	0	000	4.256	
50	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	60	0	000	4.332	
51	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	61	0	000	4.408	
52	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	62	0	000	4.484	
53	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	63	0	000	4.560	
54	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	64	0	000	4.636	
55	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	65	0	000	4.712	
56	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	66	0	000	4.788	
57	1.049	292.2	292.2	291.2	291.2	291.2	291.2	289.9	289.9	288.8	289.6	289.7	289.7	289.7	67	0	000	4.864	

Table 25B — Inferred Pressurant Distribution, Scaling Run 47, Test Configuration 1:
One 1.52-cm Nozzle [U] indicates thermocouple on an inlet jet centerline

Pressurant Fractions (X) at Locations I													
	1	2	3(U)	4	5	6	7	8	9	10	11	12(U)	13
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
.015	-.020	-.020	.592	-.097	-.020	.036	-.036	-.005	-.036	-.036	-.036	-.066	-.082
COMMENCE VALVE OPENING													
0.0	17.3	12.3	135.3		2.4	0.0000							
1.0	18.6	18.3	25.0		180.4	2.7107							
VALVE FULLY OPEN													
2.0	19.9	19.9	19.7		113.9	5.8137	.064	-1.875	6.97011	.392	.336	-1.073	.336
3.0	21.2	21.8	15.6		35.6	1.1030	.092	-.008	.234	.596	.073	-.008	.073
4.0	22.4	23.5	14.4		27.6	.8788	.121	-.017	.238	.460	.072	-.017	.072
5.0	23.1	24.6	14.3		27.3	.7883	.146	-.030	.272	.466	.078	.030	.127
6.0	23.5	25.4	14.5		28.9	.7934	.169	-.035	.372	.464	.048	.095	.141
7.0	24.1	26.3	14.5		32.3	.5447	.189	-.064	.342	.521	.128	.084	.128
8.0	24.4	26.8	15.3		26.3	.7164	.211	-.158	.349	.477	.172	.083	.172
9.0	24.8	27.4	15.7		22.7	.5425	.230	-.181	.435	.521	.138	.093	.138
10.0	24.9	27.9	16.1		24.7	.5397	.247	-.210	.423	.531	.167	.124	.167
11.0	24.9	28.1	16.4		26.8	.6424	.265	-.235	.487	.574	.182	.136	.182
12.0	25.0	28.1	16.8		24.8	.5039	.280	-.267	.511	.598	.203	.166	.203
13.0	24.9	28.3	17.0		26.1	.9329	.299	-.261	.520	.617	.216	.172	.216
14.0	25.1	28.5	17.4		24.0	.4977	.310	-.285	.464	.644	.240	.195	.240
15.0	25.0	28.5	17.6		27.2	.9267	.323	-.308	.564	.686	.242	.196	.242
16.0	25.0	28.6	17.8		24.4	.4232	.335	-.385	.673	.759	.259	.212	.259
17.0	25.0	28.7	18.1		25.0	.4831	.348	-.388	.693	.771	.271	.224	.271
18.0	25.0	28.8	18.3		25.0	.4276	.359	-.393	.709	.782	.282	.235	.282
19.0	24.9	28.7	18.5		27.2	.6338	.373	-.399	.719	.799	.292	.232	.292
20.0	24.8	28.7	18.6		26.1	.4027	.383	-.394	.729	.799	.285	.236	.285
21.0	24.8	28.7	18.7		26.3	.4464	.393	-.399	.741	.799	.289	.239	.289
22.0	24.8	28.7	18.9		26.2	.4064	.403	-.393	.752	.799	.296	.243	.296
23.0	24.8	28.9	19.1		23.5	.3362	.411	-.382	.766	.770	.413	.260	.413
24.0	24.7	28.8	19.2		27.7	.4228	.420	-.399	.776	.776	.411	.259	.411
25.0	24.8	28.8	19.3		29.3	.3433	.428	-.388	.694	.789	.421	.263	.421
26.0	24.6	28.7	19.4		29.4	.4108	.436	-.399	.683	.791	.413	.303	.413
27.0	24.5	28.6	19.5		28.6	.3726	.443	-.393	.686	.796	.410	.353	.410
28.0	24.4	28.4	19.6		29.4	.4118	.451	-.411	.687	.800	.403	.348	.403
COMMENCE VALVE CLOSURE													
29.0	24.5	28.5	19.7		25.2	.2939	.457	-.474	.701	.815	.417	.303	.417
30.0	24.6	28.4	19.8		24.1	.3649	.464	-.468	.701	.817	.410	.352	.410
VALVE FULLY CLOSED													
31.0	24.3	28.3	19.8		22.0	.3337	.470	-.466	.762	.822	.407	.348	.407
32.0	25.0	29.3	20.2		-16.8	.2348	.470	-.437	.677	.837	.402	.347	.402
33.0	24.7	28.9	20.1		6.5	.0989	.470	-.482	.688	.808	.406	.349	.406
34.0	24.4	28.5	19.5		4.8	.1629	.470	-.495	.673	.673	.498	.323	.498

END

Table 26A – Scaling Run 48, Test Configuration 4: One 1.52-cm Nozzle

Press Trunk P (atm)	Chamber P (atm)	T ₁ (K)	Chamber Absolute Temperatures (K) at Locations 1													COEFFICIENTS	
			1	2	3	4	5	6	7	8	9	10	11	12	13	M ₁ (°C)	THETA ₁ (°)
-5	1.015	...	294	294	294	294	294	294	293.4	293.2	292.1	293.4	293.2	293.1	1	0.437	45
-4	1.016	...	294	294	294	294	294	294	293.3	293.2	292.0	293.3	293.2	293.1	2	0.437	45
-3	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	3	0.437	45
-2	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	4	0.437	45
-1	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	5	0.437	45
0	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	6	0.437	45
1	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	7	0.437	45
2	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	8	0.437	45
3	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	9	0.437	45
4	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	10	0.437	45
5	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	11	0.437	45
6	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	12	0.437	45
7	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	13	0.437	45
8	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	14	0.437	45
9	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	15	0.437	45
10	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	16	0.437	45
11	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	17	0.437	45
12	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	18	0.437	45
13	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	19	0.437	45
14	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	20	0.437	45
15	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	21	0.437	45
16	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	22	0.437	45
17	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	23	0.437	45
18	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	24	0.437	45
19	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	25	0.437	45
20	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	26	0.437	45
21	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	27	0.437	45
22	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	28	0.437	45
23	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	29	0.437	45
24	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	30	0.437	45
25	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	31	0.437	45
26	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	32	0.437	45
27	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	33	0.437	45
28	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	34	0.437	45
29	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	35	0.437	45
30	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	36	0.437	45
31	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	37	0.437	45
32	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	38	0.437	45
33	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	39	0.437	45
34	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	40	0.437	45
35	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	41	0.437	45
36	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	42	0.437	45
37	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	43	0.437	45
38	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	44	0.437	45
39	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	45	0.437	45
40	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	46	0.437	45
41	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	47	0.437	45
42	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	48	0.437	45
43	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	49	0.437	45
44	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	50	0.437	45
45	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	51	0.437	45
46	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	52	0.437	45
47	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	53	0.437	45
48	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	54	0.437	45
49	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	55	0.437	45
50	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	56	0.437	45
51	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	57	0.437	45
52	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	58	0.437	45
53	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	59	0.437	45
54	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	60	0.437	45
55	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	61	0.437	45
56	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	62	0.437	45
57	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	63	0.437	45
58	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	64	0.437	45
59	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	65	0.437	45
60	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	66	0.437	45
61	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	67	0.437	45
62	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	68	0.437	45
63	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	69	0.437	45
64	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	70	0.437	45
65	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	71	0.437	45
66	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	72	0.437	45
67	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	73	0.437	45
68	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	74	0.437	45
69	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	75	0.437	45
70	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	76	0.437	45
71	1.016	...	294	294	294	294	294	294	293.2	293.2	292.0	293.3	293.2	293.1	77	0.437	45
72	1.016	...															

**Table 26B — Inferred Pressurant Distribution, Scaling Run 48, Test Configuration 4:
One 1.52-cm Nozzle**

[illegible]

Table 27A – Scaling Run 49, Test Configuration 4: One 1.52-cm Nozzle

Frms Task	P (atm)	T _r (K)	Chamber P (atm)	Chamber Absolute Temperatures (K) at Locations 1													COORDINATES			
				1	2	3	4	5	6	7	8	9	10	11	12	13	R (M)	THETA Z (DEG) (M)		
-8	...	...	1.017	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	1	0.457 43	-0.132
-6	...	...	1.016	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	2	0.457 43	-0.076
-2	...	...	1.017	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	3	0.457 43	0.076
0	...	...	1.016	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	4	0.457 43	0.076
-1	...	...	1.017	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	5	0.457 43	0.152
1	6.378 298.7	...	1.020	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	294.2	6	0.457 43	0.229
2	6.636 279.2	...	1.101	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	7	0.457 43	0.530
3	5.511 278.2	...	1.144	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	8	0.457 43	0.610
4	5.777 276.2	...	1.183	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	9	0.457 43	0.687
5	5.666 277.7	...	1.232	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	10	0.457 43	0.762
6	5.567 277.7	...	1.268	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	11	0.457 43	0.838
7	5.455 276.7	...	1.337	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	12	0.457 43	0.914
8	5.338 276.2	...	1.371	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	13	0.457 43	0.991
9	5.225 276.2	...	1.402	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	14	0.457 43	1.068
10	5.141 276.2	...	1.435	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	15	0.457 43	1.145
11	5.061 275.2	...	1.466	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	16	0.457 43	1.222
12	4.983 275.2	...	1.497	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	17	0.457 43	1.300
13	4.902 275.2	...	1.528	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	18	0.457 43	1.377
14	4.847 274.7	...	1.558	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	19	0.457 43	1.455
15	4.756 274.2	...	1.587	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	20	0.457 43	1.532
16	4.654 274.2	...	1.615	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	21	0.457 43	1.610
17	4.558 273.2	...	1.643	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	22	0.457 43	1.687
18	4.458 273.2	...	1.671	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	23	0.457 43	1.764
19	4.356 273.2	...	1.708	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	24	0.457 43	1.841
20	4.251 273.2	...	1.735	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	25	0.457 43	1.918
21	4.217 273.2	...	1.761	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	26	0.457 43	2.000
22	4.198 273.2	...	1.787	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	27	0.457 43	2.082
23	4.086 273.2	...	1.812	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	28	0.457 43	2.164
24	4.046 273.2	...	1.837	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	29	0.457 43	2.246
25	3.958 273.2	...	1.862	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	30	0.457 43	2.328
26	3.934 273.2	...	1.887	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	31	0.457 43	2.410
27	3.833 273.2	...	1.910	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	32	0.457 43	2.492
28	3.816 273.2	...	1.934	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	33	0.457 43	2.574
29	3.748 273.2	...	1.956	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	34	0.457 43	2.656
30	3.674 273.2	...	1.979	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	35	0.457 43	2.738
31	3.672 273.2	...	1.994	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	36	0.457 43	2.820
32	3.596 267.2	...	1.992	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	37	0.457 43	2.902
33	3.541 264.7	...	1.990	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	38	0.457 43	2.984
34	...	...	1.989	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	39	0.457 43	3.066
35	...	...	1.988	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	40	0.457 43	3.148
36	...	...	1.987	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	41	0.457 43	3.230
37	...	...	1.986	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	42	0.457 43	3.312
38	...	...	1.985	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	43	0.457 43	3.394
39	...	...	1.984	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	44	0.457 43	3.476
40	...	...	1.984	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	45	0.457 43	3.558
41	...	...	1.984	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	46	0.457 43	3.640
42	...	...	1.984	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	47	0.457 43	3.722
43	...	...	1.984	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	48	0.457 43	3.804
44	...	...	1.984	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	49	0.457 43	3.886
45	...	...	1.984	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	50	0.457 43	3.968
50	...	...	1.977	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	55	0.457 43	4.400

Table 27B — Inferred Pressurant Distribution, Scaling Run 49, Test Configuration 4:
One 1.52-cm Nozzle

Pressurant Fractions (X) at Locations 1																		
t (s)	T (°C)	T_c (°C)	β	β/θ	X	1	2	3	4	5	6	7	8	9	10	11	12	13
COMMENCE VALVE OPENING																		
0.0	20.6	20.6	141.9	4.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.0	22.1	22.2	20.3	202.4	6.1056	.030	.034	.210	.319	.210	.210	.034	.213	.032	.213	.052	.001	.107
VALVE FULLY OPEN																		
2.0	23.5	23.9	17.3	68.6	2.4835	.064	.127	.049	.206	.049	.049	.127	.002	.033	.064	.017	.049	.033
3.0	24.9	23.8	16.9	33.3	1.1106	.095	.081	.081	.081	.081	.081	.138	.093	.059	.138	.081	.104	.115
4.0	26.0	27.2	17.2	28.7	.8629	.122	.113	.063	.164	.164	.063	.113	.113	.103	.164	.133	.123	.133
5.0	26.9	28.3	18.0	27.7	1.0398	.134	.138	.138	.156	.138	.138	.186	.129	.157	.167	.148	.167	.148
6.0	27.3	29.2	18.6	27.5	.7521	.177	.202	.153	.153	.153	.153	.202	.137	.174	.193	.184	.202	.193
7.0	27.9	30.0	19.1	23.5	.5979	.198	.179	.134	.179	.179	.134	.179	.198	.216	.253	.216	.234	.225
8.0	28.1	30.4	19.3	26.2	.6566	.218	.218	.172	.172	.172	.172	.218	.218	.237	.264	.237	.235	.237
9.0	28.2	30.7	20.4	26.9	.6663	.237	.247	.200	.200	.200	.200	.247	.228	.247	.273	.256	.265	.256
10.0	28.3	31.0	20.4	26.2	.5769	.253	.274	.226	.226	.226	.226	.274	.236	.264	.274	.274	.255	.274
11.0	28.3	31.1	20.7	27.0	.6263	.270	.293	.245	.245	.245	.245	.293	.253	.274	.274	.293	.293	.274
12.0	28.3	31.2	21.0	27.5	.5889	.286	.307	.258	.258	.258	.258	.307	.258	.297	.287	.297	.317	.297
13.0	28.3	31.3	21.3	26.7	.5577	.301	.325	.274	.274	.274	.274	.325	.274	.315	.303	.315	.315	.305
14.0	28.3	31.4	21.6	27.0	.5324	.315	.339	.286	.286	.286	.286	.339	.286	.329	.319	.329	.329	.319
15.0	28.2	31.4	21.8	27.9	.5473	.328	.347	.294	.294	.294	.294	.347	.313	.347	.336	.337	.337	.336
16.0	28.2	31.4	22.0	27.9	.5194	.341	.334	.300	.300	.300	.300	.334	.334	.364	.364	.364	.364	.343
17.0	28.2	31.4	22.2	27.1	.4721	.352	.365	.311	.311	.311	.311	.365	.335	.376	.376	.387	.376	.355
18.0	28.1	31.4	22.4	28.1	.4888	.363	.370	.315	.315	.315	.315	.370	.370	.392	.423	.381	.392	.403
19.0	28.1	31.5	22.5	27.2	.4602	.374	.379	.323	.323	.323	.323	.379	.379	.401	.401	.401	.413	.390
20.0	28.1	31.5	22.9	27.4	.6032	.380	.389	.323	.323	.323	.323	.389	.412	.423	.446	.412	.412	.423
21.0	28.1	31.5	22.9	27.4	.4226	.397	.399	.331	.331	.331	.331	.399	.399	.422	.443	.443	.443	.422
22.0	28.0	31.5	23.0	28.3	.4261	.406	.402	.332	.332	.332	.332	.402	.423	.460	.448	.448	.448	.437
23.0	28.0	31.4	23.1	28.7	.4271	.415	.402	.332	.332	.332	.332	.402	.439	.463	.463	.463	.463	.451
24.0	27.9	31.5	23.2	28.9	.3701	.423	.412	.331	.331	.331	.331	.412	.438	.472	.472	.466	.466	.460
25.0	27.9	31.4	23.3	28.9	.6006	.431	.413	.331	.331	.331	.331	.413	.438	.467	.494	.494	.494	.474
26.0	27.9	31.4	23.4	28.9	.3774	.439	.419	.337	.337	.337	.337	.419	.469	.494	.494	.494	.507	.494
27.0	27.9	31.4	23.6	29.4	.3317	.446	.431	.368	.368	.368	.368	.431	.469	.494	.494	.494	.507	.494
28.0	27.9	31.4	23.6	29.4	.3616	.453	.430	.366	.366	.366	.366	.430	.481	.520	.494	.494	.507	.494
29.0	27.9	31.4	23.7	28.0	.3509	.459	.435	.371	.371	.371	.371	.435	.487	.513	.526	.513	.526	.513
COMMENCE VALVE CLOSURE																		
30.0	27.8	31.3	23.8	31.2	.3642	.466	.437	.361	.361	.361	.361	.437	.467	.533	.507	.546	.533	.507
31.0	27.8	31.3	23.9	10.3	.3162	.472	.437	.370	.370	.370	.370	.437	.531	.531	.557	.531	.544	.531
VALVE FULLY CLOSED																		
32.0	27.6	31.1	23.8	9.0	.2705	.476	.418	.350	.350	.350	.350	.486	.486	.526	.540	.540	.540	.513
33.0	27.6	30.7	23.6	3.5	.1090	.476	.436	.423	.423	.423	.423	.496	.496	.496	.524	.496	.496	.482
34.0	27.6	28.3	23.4	3.7	.1140	.476	.435	.423	.423	.423	.423	.495	.495	.510	.495	.495	.524	.495

Table 28A — Sealing Run 50, Test Configuration 4: One 1.52-cm Nozzle

i	Press Tank P (atm)	T _i (K)	Chamber Absolute Temperatures (K) at Locations 1															COORDINATES	
			1	2	3	4	5	6	7	8	9	10	11	12	13	1	2	R (M)	THETA (DEG)
-5	0.000	1.017	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	1	0.457	43	-0.152
-4	0.000	1.016	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	2	0.457	43	-0.076
-3	0.000	1.017	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	3	0.457	43	0.0
-2	0.000	1.016	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	4	0.457	43	0.076
-1	0.000	1.017	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	5	0.457	43	0.152
0	6.105	293.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	6	0.457	43	0.229
1	6.126	291.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	7	0.457	43	0.300
2	6.329	279.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	8	0.457	43	0.370
3	6.888	278.7	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	9	0.457	43	0.440
4	5.809	277.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	10	0.457	43	0.510
5	5.704	277.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	11	0.457	43	0.580
6	5.363	277.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	12	0.457	43	0.650
7	5.471	277.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	13	0.457	43	0.720
8	5.371	276.7	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	14	0.457	43	0.790
9	5.359	276.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	15	0.457	43	0.860
10	5.172	276.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	16	0.457	43	0.930
11	5.106	275.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	17	0.457	43	1.000
12	5.026	275.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	18	0.457	43	1.070
13	4.908	275.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	19	0.457	43	1.140
14	4.798	274.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	20	0.457	43	1.210
15	4.711	274.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	21	0.457	43	1.280
16	4.626	274.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	22	0.457	43	1.350
17	4.501	274.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	23	0.457	43	1.420
18	4.461	273.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	24	0.457	43	1.490
19	4.424	273.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	25	0.457	43	1.560
20	4.319	273.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	26	0.457	43	1.630
21	4.270	272.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	27	0.457	43	1.700
22	4.197	272.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	28	0.457	43	1.770
23	4.117	272.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	29	0.457	43	1.840
24	4.061	272.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	30	0.457	43	1.910
25	3.972	272.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	31	0.457	43	1.980
26	3.931	272.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	32	0.457	43	2.050
27	3.839	272.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	33	0.457	43	2.120
28	3.809	272.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	34	0.457	43	2.190
29	3.732	272.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	35	0.457	43	2.260
30	3.592	272.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	36	0.457	43	2.330
31	3.538	272.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	37	0.457	43	2.400
32	3.413	267.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	38	0.457	43	2.470
33	3.359	267.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	39	0.457	43	2.540
34	3.260	267.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	40	0.457	43	2.610
35	3.160	267.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	41	0.457	43	2.680
36	3.060	267.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	42	0.457	43	2.750
37	2.960	267.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	43	0.457	43	2.820
38	2.860	267.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	44	0.457	43	2.890
39	2.760	267.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	45	0.457	43	2.960
40	2.660	267.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	46	0.457	43	3.030
41	2.560	267.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	47	0.457	43	3.100
42	2.460	267.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	48	0.457	43	3.170
43	2.360	267.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	49	0.457	43	3.240
44	2.260	267.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	50	0.457	43	3.310
45	2.160	267.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	51	0.457	43	3.380
46	2.060	267.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	52	0.457	43	3.450
47	1.960	267.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	53	0.457	43	3.520
48	1.860	267.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	54	0.457	43	3.590
49	1.760	267.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	55	0.457	43	3.660
50	1.660	267.2	295.2	294.2	294.2	294.2	295.2	295.2	293.8	292.6	292.6	293.7	293.8	293.7	293.5	56	0.457	43	3.730

**Table 28B — Inferred Pressurant Distribution, Scaling Run 50, Test Configuration 4:
One 1.52-cm Nozzle**

[illegible]

Table 29A — Scaling Run 51, Test Configuration 5: Two 1.52-cm Nozzles

i	P _{Trunk} (atm)	T _i (K)	Chamber P _c (atm)	Chamber Absolute Temperatures (K) at Locations 1													COORDINATES	
				1	2	3	4	5	6	7	8	9	10	11	12	13	R	THETA 2 (M) (DEG) (M)
-5	0.00	0.00	1.016	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3	1	0.457 45 -0.152
-4	0.00	0.00	1.017	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3	2	0.457 45 -0.076
-3	0.00	0.00	1.017	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3	3	0.457 45 0.0
-2	0.00	0.00	1.016	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3	4	0.457 45 0.076
-1	0.00	0.00	1.016	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3	5	0.457 45 0.152
0	0.307 289.2	0.00	1.017	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3	6	0.457 45 0.229
1	0.615 282.2	0.00	1.024	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3	7	0.457 45 0.530
2	0.615 282.2	0.00	1.037	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3	8	0.457 45 0.610
3	0.609 278.2	0.00	1.102	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3	9	0.457 45 0.687
4	0.616 278.2	0.00	1.266	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3	10	0.457 45 0.762
5	0.615 276.2	0.00	1.334	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3	11	0.457 45 0.838
6	0.615 276.2	0.00	1.402	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3	12	0.457 45 0.914
7	0.615 274.2	0.00	1.470	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3	13	0.457 45 0.991
8	0.608 274.2	0.00	1.534	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
9	0.608 274.2	0.00	1.595	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
10	0.610 272.2	0.00	1.654	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
11	0.613 272.2	0.00	1.711	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
12	0.609 272.2	0.00	1.765	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
13	0.609 272.2	0.00	1.819	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
14	0.607 272.2	0.00	1.871	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
15	0.607 272.2	0.00	1.918	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
16	0.607 272.2	0.00	1.968	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
17	0.606 272.2	0.00	2.010	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
18	0.606 272.2	0.00	2.027	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
19	0.606 272.2	0.00	2.022	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
20	0.606 272.2	0.00	2.021	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
21	0.606 272.2	0.00	2.018	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
22	0.606 272.2	0.00	2.017	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
23	0.606 272.2	0.00	2.015	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
24	0.606 272.2	0.00	2.014	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
25	0.606 272.2	0.00	2.013	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
26	0.606 272.2	0.00	2.012	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
27	0.606 272.2	0.00	2.011	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
28	0.606 272.2	0.00	2.007	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
29	0.606 272.2	0.00	2.003	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
30	0.606 272.2	0.00	1.999	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
31	0.606 272.2	0.00	1.998	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
32	0.606 272.2	0.00	1.996	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
33	0.606 272.2	0.00	1.993	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
34	0.606 272.2	0.00	1.992	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
35	0.606 272.2	0.00	1.991	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
36	0.606 272.2	0.00	1.989	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
37	0.606 272.2	0.00	1.987	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
38	0.606 272.2	0.00	1.985	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
39	0.606 272.2	0.00	1.983	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
40	0.606 272.2	0.00	1.980	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
41	0.606 272.2	0.00	1.978	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
42	0.606 272.2	0.00	1.976	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
43	0.606 272.2	0.00	1.974	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
44	0.606 272.2	0.00	1.973	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		
45	0.606 272.2	0.00	1.972	295.2	295.2	295.2	295.2	295.2	295.2	294.5	293.4	293.2	294.5	294.5	294.4	294.3		

Table 29B — Inferred Pressurant Distribution, Scaling Run 51, Test Configuration 5:
Two 1.52-cm Nozzles

Pressurant Fractions (X) at Locations I																			
I (u)	T (°C)	T ₁ (°C)	T ₂ (°C)	β	β/θ	$\bar{X}$	1	2	3	4	5	6	7	8	9	10	11	12	13
COMMENCE VALVE OPENING																			
0.0	21.4	21.4	142.0	0	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.0	21.7	21.7	22.0	1066.1	6.2062	.006	.660	-1.041	-1.041	-1.041	.660	.660	.660	.660	.660	.660	.660	.660	.660
VALVE FULLY OPEN																			
2.0	24.1	24.3	21.4	114.4	6.9382	.064	-.027	.312	.531	.312	-.027	-.027	-.027	.041	-.138	.109	-.230	-.128	-.095
3.0	26.6	27.6	19.6	35.9	2.3829	.124	.136	.276	.276	.276	.136	.136	.136	.150	.075	.038	-.025	.000	.013
4.0	28.9	30.8	19.7	18.3	1.0303	.172	.128	.218	.308	.263	.172	.218	.218	.182	.155	.119	.074	.119	.164
5.0	30.4	33.2	20.3	16.5	.8565	.214	.140	.218	.295	.295	.218	.218	.233	.210	.210	.163	.171	.195	.218
6.0	31.5	33.0	21.0	15.1	.6904	.250	.224	.260	.295	.295	.260	.260	.260	.230	.217	.210	.231	.238	.260
7.0	32.2	36.4	21.7	15.2	.6859	.283	.272	.272	.272	.340	.272	.272	.272	.296	.285	.258	.272	.265	.292
8.0	32.5	37.1	22.2	16.7	.6880	.312	.316	.316	.316	.316	.316	.316	.316	.316	.296	.289	.310	.323	.323
9.0	32.7	37.0	22.0	15.4	.5980	.320	.294	.327	.360	.360	.360	.360	.360	.347	.340	.320	.320	.327	.340
10.0	33.0	38.3	23.2	15.2	.5383	.361	.334	.334	.334	.334	.334	.334	.334	.334	.334	.334	.334	.334	.360
11.0	33.0	38.8	23.7	16.1	.5438	.382	.337	.337	.337	.337	.337	.337	.337	.337	.337	.337	.337	.337	.387
12.0	33.0	39.1	24.0	16.0	.4939	.401	.378	.378	.378	.378	.378	.378	.378	.417	.424	.424	.417	.424	.411
13.0	33.0	39.2	24.3	16.6	.5043	.419	.391	.391	.391	.391	.391	.391	.391	.431	.437	.437	.431	.437	.437
14.0	32.9	39.3	24.6	16.8	.4761	.435	.402	.402	.402	.402	.402	.402	.402	.449	.446	.436	.449	.436	.449
15.0	32.7	39.2	24.8	18.0	.4339	.445	.403	.403	.422	.403	.422	.422	.422	.465	.458	.465	.458	.472	.458
COMMENCE VALVE CLOSURE																			
16.0	32.6	39.1	25.0	17.7	.4719	.464	.408	.403	.429	.429	.429	.429	.429	.443	.479	.450	.486	.464	.471
17.0	32.3	38.9	25.1	72.2	.4209	.475	.471	.471	.471	.471	.471	.471	.471	.471	.479	.486	.486	.493	.471
VALVE FULLY CLOSED																			
18.0	32.1	38.6	25.0	35.4	.2062	.480	.437	.437	.437	.437	.437	.437	.437	.479	.509	.479	.516	.516	.502
19.0	31.3	37.3	24.7	31.3	.1835	.480	.427	.427	.427	.427	.427	.427	.427	.505	.505	.497	.505	.513	.490
20.0	31.2	37.3	24.6	6.5	.0382	.480	.480	.401	.480	.480	.480	.480	.480	.480	.486	.472	.488	.519	.496
21.0	30.7	36.6	24.4	20.3	.1181	.480	.463	.463	.463	.463	.463	.463	.463	.489	.489	.465	.506	.498	.498
22.0	30.6	36.4	24.3	7.0	.0406	.480	.439	.439	.439	.439	.439	.439	.439	.459	.459	.484	.500	.500	.500
23.0	30.3	36.0	24.1	14.3	.0834	.480	.449	.449	.449	.449	.449	.449	.449	.459	.459	.508	.491	.516	.508
24.0	30.1	35.8	24.0	7.3	.0432	.480	.446	.446	.446	.446	.446	.446	.446	.446	.514	.523	.497	.506	.514
25.0	30.0	35.5	24.0	7.5	.0435	.480	.485	.489	.489	.489	.489	.489	.489	.489	.507	.489	.481	.472	.481
26.0	29.8	35.3	23.9	7.6	.0442	.480	.477	.477	.477	.477	.477	.477	.477	.485	.503	.468	.485	.485	.485
27.0	29.7	35.1	23.8	7.7	.0431	.480	.469	.469	.469	.469	.469	.469	.469	.487	.514	.469	.487	.487	.487
28.0	29.7	35.1	23.8	0	0.0000	.480	.463	.463	.463	.463	.463	.463	.463	.501	.501	.483	.501	.492	.483
29.0	29.4	34.6	23.7	15.9	.0936	.480	.460	.460	.460	.460	.460	.460	.460	.496	.533	.478	.496	.514	.478
30.0	29.2	34.4	23.6	8.2	.0476	.480	.448	.448	.448	.448	.448	.448	.448	.448	.522	.522	.504	.494	.485
31.0	29.2	34.4	23.6	0	0.0000	.480	.438	.484	.484	.438	.438	.438	.438	.438	.512	.503	.521	.484	.494
32.0	29.1	34.2	23.5	8.3	.0486	.480	.488	.488	.488	.488	.488	.488	.488	.488	.499	.499	.460	.479	.460
33.0	28.9	34.0	23.3	8.5	.0495	.480	.475	.475	.475	.475	.475	.475	.475	.489	.489	.489	.470	.460	.489
34.0	28.9	34.0	23.3	0	0.0000	.480	.480	.480	.480	.480	.480	.480	.480	.471	.509	.471	.490	.471	.461

Table 30A – Scaling Run 52, Test Configuration 5: Two 1.52-cm Nozzles

[illegible]

Table 30B — Inferred Pressurant Distribution, Sealing Run 52, Test Configuration 5:
Two 1.52-cm Nozzles

i (G)	T ₁ (°C)	T ₂ (°C)	T ₃ (°C)	β	β/θ	X	Pressurant Fractions (X) at Locations i												
							1	2	3	4	5	6	7	8	9	10	11	12	13
COMMENCE VALVE OPENING																			
6.0	23.5	23.5	23.1	4.6	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
1.0	23.6	23.5	25.0	191.7	9.0868	.046	-.126	.016	-.269	-.269	.016	-.156	-.013	.243	.300	.528	.073	.414	
VALVE FULLY OPEN																			
2.0	28.0	28.2	26.3	60.5	4.2429	.111	.592	.855	.855	.329	.592	-.196	-.722	.302	-.564	-.459	-.302	-.091	
3.0	30.5	31.7	23.9	21.1	1.2446	.162	.132	.279	.343	.279	.152	.279	.152	.114	.127	.023	.038	.050	
4.0	32.2	34.4	23.6	17.3	.9193	.205	.217	.263	.263	.170	.310	.235	.170	.198	.123	.123	.142	.189	
5.0	33.2	36.2	23.9	16.9	.8259	.243	.237	.257	.257	.216	.298	.237	.233	.273	.208	.192	.216	.241	
6.0	33.9	37.5	24.3	16.7	.7502	.277	.263	.300	.300	.223	.338	.293	.255	.270	.240	.247	.270	.293	
7.0	34.4	38.7	24.7	15.5	.6402	.306	.332	.296	.296	.296	.332	.303	.303	.289	.310	.289	.303	.332	
8.0	34.5	39.3	25.4	17.0	.5706	.333	.288	.333	.333	.333	.368	.340	.333	.333	.319	.326	.333	.340	
9.0	34.8	40.0	25.4	15.8	.5746	.357	.339	.373	.305	.305	.408	.380	.353	.380	.367	.353	.380	.380	
10.0	34.9	40.5	25.8	15.7	.5265	.378	.372	.338	.372	.338	.338	.372	.399	.405	.378	.399	.405	.399	
11.0	34.9	40.8	26.2	17.0	.7285	.404	.393	.359	.359	.359	.393	.434	.421	.441	.428	.428	.434	.441	
12.0	34.9	41.0	26.5	16.7	.4919	.421	.410	.376	.376	.376	.410	.451	.451	.438	.458	.458	.445	.451	
13.0	34.8	41.0	26.7	17.4	.4750	.437	.419	.384	.384	.384	.419	.467	.460	.474	.474	.467	.481	.481	
14.0	34.6	40.9	26.9	18.5	.4985	.452	.418	.383	.454	.383	.450	.468	.490	.468	.468	.490	.482	.497	
COMMENCE VALVE CLOSURE																			
15.0	34.4	40.8	27.0	18.5	.4465	.465	.420	.420	.420	.456	.492	.470	.485	.485	.492	.478	.499	.507	
16.0	34.1	40.5	27.2	9.9	.4804	.478	.486	.448	.448	.448	.486	.478	.501	.478	.508	.493	.486	.501	
VALVE FULLY CLOSED																			
17.0	33.9	40.2	27.4	3.1	.1321	.480	.467	.428	.428	.428	.467	.497	.497	.512	.520	.520	.520	.528	
18.0	33.3	39.3	26.7	2.1	.1513	.480	.434	.474	.394	.474	.514	.482	.506	.490	.538	.514	.506	.522	
19.0	32.8	38.6	26.5	2.5	.1198	.480	.485	.444	.444	.444	.485	.485	.485	.493	.502	.502	.516	.518	
20.0	32.5	38.5	26.3	1.7	.0832	.480	.475	.433	.433	.433	.475	.483	.517	.475	.502	.502	.516	.518	
21.0	32.2	38.5	26.2	1.8	.0861	.480	.464	.421	.421	.421	.464	.507	.499	.515	.502	.502	.516	.518	
22.0	31.9	37.3	26.0	1.8	.0891	.480	.454	.408	.408	.408	.454	.506	.515	.515	.502	.502	.516	.518	
23.0	31.9	37.3	26.0	0.0	0.0000	.480	.504	.460	.460	.460	.460	.504	.486	.495	.488	.514	.504	.522	
24.0	31.6	36.8	25.9	1.9	.0324	.480	.488	.442	.442	.442	.488	.506	.488	.488	.524	.488	.524	.524	
25.0	31.6	36.8	25.8	1.0	.0475	.480	.444	.437	.437	.437	.444	.511	.484	.502	.502	.493	.521	.511	
26.0	31.4	36.6	25.9	0.0	0.0000	.480	.476	.430	.430	.430	.476	.514	.514	.504	.504	.514	.504	.514	
27.0	31.3	36.4	25.7	1.0	.0485	.480	.471	.424	.424	.424	.471	.528	.518	.481	.528	.509	.528	.528	
28.0	31.0	36.0	25.6	2.1	.0598	.480	.466	.418	.418	.418	.466	.534	.495	.505	.534	.495	.534	.543	
29.0	30.8	35.7	25.5	1.1	.0514	.480	.456	.418	.418	.418	.466	.534	.504	.514	.514	.514	.543	.543	
30.0	30.8	35.7	25.5	0.0	0.0000	.480	.452	.473	.473	.375	.522	.493	.503	.483	.503	.493	.512	.512	
31.0	30.5	35.3	25.4	2.2	.0661	.480	.458	.439	.439	.439	.493	.493	.479	.493	.493	.493	.493	.493	
32.0	30.7	35.3	25.5	-1.1	.0376	.480	.458	.449	.449	.449	.498	.498	.479	.498	.498	.498	.498	.498	
33.0	30.4	35.0	25.3	2.2	.1085	.480	.453	.441	.441	.441	.493	.503	.472	.493	.513	.482	.513	.513	
34.0	30.4	35.0	25.3	0.0	0.0000	.480	.486	.435	.435	.435	.486	.486	.507	.486	.517	.507	.507	.517	

Table 31A – Scaling Run 53, Test Configuration 5: Two 1.52-cm Nozzles

[illegible]

Table 31B — Inferred Pressurant Distribution, Scaling Run 53, Test Configuration 5:
Two 1.52-cm Nozzles

i (G)	T ₁ (°C)	T ₂ (°C)	T ₃ (°C)	A	P/P ₀	P	Pressurant Fractions (X) at Locations 1												
							1	2	3	4	5	6	7	8	9	10	11	12	13
COMBUSTION VALVE OPENING																			
0.0	22.5	22.5	22.5	77.4	4.1	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.0	22.9	22.9	22.9	24.9	135.5	0.1142	.031	.131	.304	1.414	.394	.647	.131	.281	.344	.028	.647	.543	.384
VALVE FULLY OPEN																			
2.0	20.7	22.4	22.2		40.9	2.9072	.114	.032	.126	.302	.126	.136	.136	.232	.033	.119	.030	.014	.069
3.0	20.9	22.6	22.1		19.6	1.1245	.164	.150	.197	.197	.197	.197	.197	.197	.197	.197	.197	.197	.197
4.0	22.1	22.7	22.3		19.3	1.0611	.209	.216	.256	.256	.256	.256	.256	.256	.256	.256	.256	.256	.256
5.0	22.2	22.9	22.9		16.7	0.9042	.246	.254	.291	.291	.291	.291	.291	.291	.291	.291	.291	.291	.291
6.0	22.9	22.9	22.9		15.6	.6862	.279	.271	.305	.305	.305	.305	.305	.305	.305	.305	.305	.305	.305
7.0	22.4	22.0	22.1		15.9	.6367	.307	.288	.298	.298	.298	.298	.298	.298	.298	.298	.298	.298	.298
8.0	22.9	22.9	22.9		17.0	.6092	.335	.333	.333	.333	.333	.333	.333	.333	.333	.333	.333	.333	.333
9.0	22.7	22.9	22.9		16.1	.5720	.363	.344	.347	.347	.347	.347	.347	.347	.347	.347	.347	.347	.347
10.0	22.9	22.9	22.9		15.1	.5360	.395	.380	.377	.377	.377	.377	.377	.377	.377	.377	.377	.377	.377
11.0	22.9	22.9	22.9		16.6	.5234	.422	.412	.412	.412	.412	.412	.412	.412	.412	.412	.412	.412	.412
12.0	22.9	22.9	22.9		16.5	.4931	.458	.421	.373	.373	.373	.373	.373	.373	.373	.373	.373	.373	.373
13.0	22.9	22.9	22.9		17.3	.4759	.488	.421	.387	.387	.387	.387	.387	.387	.387	.387	.387	.387	.387
14.0	22.9	22.9	22.9		18.5	.4769	.482	.421	.387	.387	.387	.387	.387	.387	.387	.387	.387	.387	.387
COMBUSTION VALVE CLOSED																			
15.0	22.4	22.0	22.9		18.0	.4739	.466	.420	.420	.420	.420	.420	.420	.420	.420	.420	.420	.420	.420
16.0	22.4	22.0	22.0		8.4	.4522	.478	.453	.453	.453	.453	.453	.453	.453	.453	.453	.453	.453	.453
VALVE FULLY CLOSED																			
17.0	22.9	22.9	22.9		2.2	.1197	.479	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429
18.0	22.9	22.9	22.9		2.8	.1512	.479	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429
19.0	22.9	22.9	22.9		1.5	.0792	.479	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429
20.0	22.5	22.9	22.9		2.3	.1237	.479	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429
21.0	22.4	22.9	22.9		8.0	.0426	.479	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429
22.0	22.2	22.9	22.9		1.8	.0434	.479	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429
23.0	21.9	22.4	22.9		1.7	.0891	.479	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429
24.0	21.9	22.4	22.9		0.0	0.0000	.479	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429
25.0	21.6	22.0	22.9		1.7	.0924	.479	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429
26.0	21.5	22.6	22.9		9.0	.0479	.479	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429
27.0	21.3	22.5	22.9		9.0	.0484	.479	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429
28.0	21.1	22.3	22.9		9.0	.0494	.479	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429
29.0	21.1	22.3	22.9		0.0	0.0000	.479	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429
30.0	20.8	22.9	22.9		1.9	.1018	.479	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429
31.0	20.8	22.9	22.9		0.0	0.0000	.479	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429
32.0	20.5	22.9	22.9		2.0	.1061	.479	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429
33.0	20.7	22.9	22.9		-1.0	-.0537	.479	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429
34.0	20.6	22.9	22.9		2.0	.1084	.479	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429	.429

Table 32A -- Scaling Run 54, Test Configuration 6: Three 1.52-cm Nozzles

[illegible]

Table 32B — Inferred Pressurant Distribution, Scaling Run 54, Test Configuration 6:
Three 1.52-cm Nozzles

Pressurant Fractions (X) at Locations I														
	1	2	3	4	5	6	7	8	9	10	11	12	13	
$\bar{X}$	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
β	123.1	123.1	123.1	123.1	123.1	123.1	123.1	123.1	123.1	123.1	123.1	123.1	123.1	
β/θ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
t (s)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	
COMMENCE VALVE OPENING														
0.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	
1.0	26.9	27.1	27.1	27.1	27.1	27.1	27.1	27.1	27.1	27.1	27.1	27.1	27.1	
VALVE FULLY OPEN														
2.0	30.5	32.0	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	
3.0	33.3	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	
4.0	35.1	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	
5.0	35.9	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	41.2	
6.0	36.5	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	
7.0	36.8	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6	
8.0	37.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	44.4	
9.0	36.9	44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.7	
COMMENCE VALVE CLOSURE														
10.0	36.7	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	
11.0	36.5	44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.7	44.7	
VALVE FULLY CLOSED														
12.0	36.0	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1	
13.0	35.1	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	
14.0	34.7	42.1	42.1	42.1	42.1	42.1	42.1	42.1	42.1	42.1	42.1	42.1	42.1	
15.0	34.4	41.7	41.7	41.7	41.7	41.7	41.7	41.7	41.7	41.7	41.7	41.7	41.7	
16.0	33.9	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	
17.0	33.6	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	
18.0	33.3	40.1	40.1	40.1	40.1	40.1	40.1	40.1	40.1	40.1	40.1	40.1	40.1	
19.0	33.2	39.8	39.8	39.8	39.8	39.8	39.8	39.8	39.8	39.8	39.8	39.8	39.8	
20.0	32.9	39.4	39.4	39.4	39.4	39.4	39.4	39.4	39.4	39.4	39.4	39.4	39.4	
21.0	32.6	38.9	38.9	38.9	38.9	38.9	38.9	38.9	38.9	38.9	38.9	38.9	38.9	
22.0	32.4	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	
23.0	32.3	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	
24.0	32.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	
25.0	32.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	
26.0	31.7	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	
27.0	31.7	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	
28.0	31.5	37.2	37.2	37.2	37.2	37.2	37.2	37.2	37.2	37.2	37.2	37.2	37.2	
29.0	31.2	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	
30.0	31.2	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	
31.0	31.1	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	
32.0	30.8	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	
33.0	30.8	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	

Table 33A – Scaling Run 55, Test Configuration 6: Three 1.52-cm Nozzles

I	Trk	P	T ₁ (K)	Chamber P (atm)	Chamber Absolute Temperatures (K) at Locations 1													COORDINATES			
					1	2	3	4	5	6	7	8	9	10	11	12	13	R (M)	THETA Z (DEG)		
-8				1.016	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	1	0.457	45
-8				1.017	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	2	0.457	45
-8				1.016	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	3	0.457	45
-8				1.017	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	4	0.457	45
-1				1.017	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	5	0.457	45
0		0.249	297.2	1.017	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	6	0.457	45
1		0.533	297.2	1.037	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	7	0.457	45
2		0.537	297.2	1.110	302.2	300.2	299.2	300.2	301.2	301.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	8	0.457	45
3		0.532	297.2	1.233	305.2	304.2	303.2	302.2	304.2	304.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	9	0.457	45
4		0.352	297.2	1.364	308.2	307.2	306.2	306.2	307.2	307.2	307.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	10	0.457	45
5		0.446	297.2	1.467	310.2	309.2	308.2	309.2	309.2	308.2	307.2	307.2	306.2	306.2	306.2	306.2	306.2	306.2	11	0.457	45
6		0.744	297.2	1.564	310.7	310.2	309.7	309.7	310.7	310.7	308.5	307.8	306.7	306.7	306.7	306.7	306.7	306.7	12	0.457	45
7		0.551	297.2	1.654	311.2	311.2	310.7	311.2	311.2	311.2	309.2	308.3	307.3	308.7	308.7	308.7	308.7	308.7	13	0.457	45
8		0.273	297.2	1.758	311.2	311.2	310.7	311.2	311.2	311.2	309.5	308.5	307.5	308.8	308.8	308.8	308.8	308.8	14	0.457	45
9		0.103	297.2	1.819	311.2	311.2	311.2	311.2	311.2	311.2	309.5	308.5	307.5	308.8	308.8	308.8	308.8	308.8	15	0.457	45
10		0.862	297.2	1.895	311.2	311.2	310.2	311.2	311.2	311.2	309.7	308.7	307.3	308.2	308.2	308.2	308.2	308.2	16	0.457	45
11		0.718	297.2	1.968	312.2	310.7	310.2	311.2	311.2	311.2	309.7	308.5	307.3	308.4	308.4	308.4	308.4	308.4	17	0.457	45
12		0.356	297.2	2.035	310.2	310.2	310.2	311.2	311.2	311.2	308.8	308.1	307.3	308.4	308.2	308.2	308.2	308.2	18	0.457	45
13		0.539	297.2	2.059	310.2	310.2	310.2	311.2	311.2	311.2	308.6	307.5	307.2	308.3	308.3	308.3	308.3	308.3	19	0.457	45
14		0.515	297.2	2.053	310.2	310.2	310.2	310.2	310.2	310.2	308.1	307.4	306.7	308.0	307.9	307.9	307.9	307.9	20	0.457	45
15				2.050	309.2	309.2	310.2	310.2	310.2	310.2	307.6	306.8	306.7	307.6	307.6	307.6	307.6	307.6	21	0.457	45
16				2.047	309.2	309.2	309.2	309.2	309.2	309.2	307.6	306.7	306.6	307.6	307.6	307.6	307.6	307.6	22	0.457	45
17				2.045	309.2	309.2	309.2	309.2	309.2	309.2	307.3	306.5	306.4	307.3	307.3	307.3	307.3	307.3	23	0.457	45
18				2.043	309.2	308.7	308.7	309.2	309.2	309.2	307.1	306.0	305.9	307.1	306.8	307.0	306.6	306.6	24	0.457	45
19				2.041	308.2	308.2	308.2	309.2	309.2	309.2	306.8	306.1	305.9	306.9	306.9	306.9	306.9	306.9	25	0.457	45
20				2.040	308.2	308.2	308.2	308.2	308.2	309.2	306.7	305.9	305.8	306.5	306.5	306.5	306.5	306.5	26	0.457	45
21				2.037	308.2	308.2	308.2	308.2	308.2	308.2	306.6	305.9	305.3	306.3	306.3	306.3	306.3	306.3	27	0.457	45
22				2.037	308.2	308.2	308.2	308.2	308.2	308.2	306.5	305.8	305.6	306.0	306.0	306.0	306.0	306.0	28	0.457	45
23				2.030	307.2	307.2	307.2	307.2	307.2	307.2	305.6	304.9	304.4	305.3	305.3	305.3	305.3	305.3	29	0.457	45
24				2.026	307.2	307.2	307.2	307.2	307.2	307.2	305.0	304.4	304.2	304.6	304.6	304.6	304.6	304.6	30	0.457	45
25				2.021	306.2	306.2	306.2	306.2	306.2	306.2	304.3	303.8	303.3	304.2	304.2	304.2	304.2	304.2	31	0.457	45
26				2.018	305.2	305.2	305.2	305.2	305.2	305.2	303.7	303.0	302.5	303.4	303.4	303.4	303.4	303.4	32	0.457	45
27				2.016	305.2	304.2	304.2	305.2	305.2	305.2	303.1	302.3	302.0	302.9	302.9	302.9	302.9	302.9	33	0.457	45
28				2.013	304.2	304.2	304.2	304.2	304.2	304.2	302.5	301.7	301.4	302.4	302.4	302.4	302.4	302.4	34	0.457	45
29				2.010	303.2	303.7	304.2	304.2	304.2	304.2	302.0	301.2	300.8	301.8	302.0	302.0	302.0	302.0	35	0.457	45
30				2.008	303.2	303.2	303.2	303.2	303.2	303.7	301.5	300.9	300.4	301.6	301.9	301.9	301.9	301.9	36	0.457	45
31				2.006	303.2	303.2	303.2	303.2	303.2	303.2	301.4	300.8	300.3	301.0	301.4	301.4	301.4	301.4	37	0.457	45
32				2.004	303.2	303.2	303.2	303.2	303.2	303.2	300.9	300.4	299.9	300.9	301.0	301.0	301.0	301.0	38	0.457	45
33				2.001	302.2	302.2	302.2	302.2	302.2	302.2	300.3	299.9	299.4	300.4	300.5	300.5	300.5	300.5	39	0.457	45
34				1.998	302.2	302.2	302.2	302.2	302.2	302.2	300.0	299.5	299.2	300.0	300.2	300.2	300.2	300.2	40	0.457	45
35				1.995	302.2	301.2	302.2	302.2	302.2	302.2	299.5	299.1	298.6	299.5	299.8	299.8	299.8	299.8	41	0.457	45
36				1.993	301.2	301.2	301.2	301.2	301.2	301.2	299.2	298.7	298.2	299.4	299.5	299.5	299.5	299.5	42	0.457	45
37				1.991	301.2	301.2	301.2	301.2	301.2	301.2	299.0	298.5	298.0	299.2	299.3	299.3	299.3	299.3	43	0.457	45
38				1.990	301.2	301.2	301.2	301.2	301.2	301.2	298.0	298.3	298.0	298.9	299.0	299.0	299.0	299.0	44	0.457	45
39				1.988	300.2	300.2	300.2	300.2	300.2	301.2	298.5	298.0	297.6	298.6	298.7	298.7	298.7	298.7	45	0.457	45
40				1.987	300.2	300.2	300.2	300.2	300.2	300.2	298.2	298.2	298.0	298.9	299.0	299.0	299.0	299.0	46	0.457	45
41				1.985	300.2	300.2	300.2	300.2	300.2	300.2	298.2	298.2	298.0	298.9	299.0	299.0	299.0	299.0	47	0.457	45
42				1.983	300.2	300.2	300.2	300.2	300.2	300.2	298.2	298.2	298.0	298.9	299.0	299.0	299.0	299.0	48	0.457	45
43				1.982	300.2	300.2	300.2	300.2	300.2	300.2	298.2	298.2	298.0	298.9	299.0	299.0	299.0	299.0	49	0.457	45

Table 33B — Inferred Pressurant Distribution, Scaling Run 55, Test Configuration 6:
Three 1.52-cm Nozzles

Pressurant Fractions (X) at Locations 1																			
i	ω	T	T ₀	β	B/P	X	1	2	3	4	5	6	7	8	9	10	11	12	13
COMMENCE VALVE OPENING																			
0	0	22.0	23.0	27.0	8	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	1	0	22.0	23.0	24.0	1108.8	0.009	.244	-.562	-.562	-.562	.244	-.562	1.050	.405	.886	-.078	.082	.083
VALVE FULLY OPEN																			
2	0	27.1	27.4	23.0	72.3	6.0637	.080	-.131	.316	.540	.316	.093	.093	.048	-.132	.048	-.086	.026	-.019
3	3	30.4	22.1	21.9	24.3	2.2432	.168	.103	.298	.298	.201	.201	.113	.093	.152	.054	.161	.152	.161
4	4	32.0	26.1	22.5	14.1	1.0738	.229	.194	.228	.301	.228	.191	.213	.184	.272	.194	.235	.257	.235
5	5	34.6	39.0	23.3	12.9	.8720	.280	.199	.253	.317	.253	.317	.246	.259	.317	.259	.317	.304	.291
6	6	35.7	41.2	24.1	11.0	.7086	.322	.276	.305	.334	.276	.316	.316	.322	.357	.322	.340	.357	.369
7	7	36.3	42.7	24.0	12.3	.6649	.358	.316	.324	.371	.316	.316	.343	.360	.388	.360	.410	.399	.383
8	8	36.5	43.6	25.3	12.7	.6209	.388	.339	.387	.359	.339	.339	.370	.403	.419	.414	.441	.414	.403
9	9	36.6	44.2	25.8	13.0	.5907	.415	.330	.390	.390	.390	.390	.401	.422	.439	.428	.466	.455	.450
10	10	36.3	44.3	26.2	14.3	.5938	.439	.401	.457	.401	.401	.401	.401	.437	.473	.473	.484	.490	.460
COMMENCE VALVE CLOSURE																			
11	11	36.4	44.7	26.6	13.2	.5907	.460	.423	.450	.423	.423	.423	.436	.456	.483	.483	.500	.500	.483
12	12	36.1	44.6	26.8	10.3	.5026	.478	.483	.483	.426	.426	.426	.477	.483	.499	.486	.522	.511	.511
VALVE FULLY CLOSED																			
13	13	38.8	44.3	26.0	25.8	.2232	.085	.473	.473	.473	.444	.444	.473	.507	.496	.484	.524	.519	.513
14	14	34.9	42.0	26.4	21.1	.1829	.485	.485	.485	.458	.458	.458	.484	.500	.512	.489	.518	.524	.518
15	15	34.8	41.2	26.2	11.2	.0988	.485	.485	.485	.473	.473	.473	.484	.500	.512	.489	.518	.524	.518
16	16	34.0	41.6	26.0	11.0	.0492	.485	.475	.475	.475	.475	.475	.482	.501	.488	.463	.514	.507	.495
17	17	32.7	41.2	25.8	8.0	.0492	.485	.488	.488	.468	.468	.468	.484	.507	.481	.481	.520	.501	.507
18	18	32.4	40.7	25.7	8.2	.0712	.485	.486	.486	.466	.466	.466	.482	.526	.499	.479	.526	.499	.499
19	19	32.1	40.3	25.9	8.8	.0732	.488	.489	.489	.480	.480	.480	.483	.500	.480	.473	.500	.494	.494
20	20	32.0	40.0	25.8	4.3	.0374	.489	.486	.486	.486	.486	.486	.486	.500	.486	.486	.514	.493	.500
21	21	32.8	39.3	28.3	12.4	.1189	.485	.473	.473	.473	.473	.473	.484	.487	.495	.473	.523	.502	.502
22	22	32.5	38.3	28.3	9.0	.0000	.485	.469	.469	.469	.469	.469	.484	.491	.469	.503	.523	.498	.505
23	23	32.2	38.9	28.1	9.2	.0804	.485	.484	.484	.484	.484	.484	.484	.484	.484	.484	.484	.484	.484
24	24	32.1	38.7	28.1	4.8	.0411	.485	.482	.482	.482	.482	.482	.482	.482	.482	.482	.482	.482	.482
25	25	31.9	38.4	28.0	4.9	.0419	.485	.482	.482	.482	.482	.482	.482	.482	.482	.482	.482	.482	.482
26	26	31.8	38.2	24.9	4.9	.0426	.485	.482	.482	.482	.482	.482	.482	.482	.482	.482	.482	.482	.482
27	27	31.5	37.7	24.8	10.1	.0873	.485	.473	.473	.473	.473	.473	.484	.491	.489	.489	.489	.489	.489
28	28	31.5	37.7	24.8	0.0	.0000	.485	.470	.470	.470	.470	.470	.470	.470	.470	.470	.470	.470	.470
29	29	31.3	37.3	24.7	5.2	.0449	.485	.465	.465	.465	.465	.465	.465	.466	.473	.512	.520	.512	.504
30	30	31.2	37.3	24.7	5.2	.0437	.485	.460	.460	.460	.460	.460	.460	.460	.462	.500	.522	.516	.508
31	31	31.0	37.1	24.6	5.4	.0465	.485	.456	.456	.456	.456	.456	.456	.456	.458	.503	.537	.515	.513
32	32	30.9	36.8	24.8	8.8	.0474	.485	.482	.482	.482	.482	.482	.482	.482	.482	.523	.536	.517	.517
33	33	30.6	36.4	24.4	11.3	.0576	.485	.503	.503	.503	.503	.503	.503	.503	.496	.486	.494	.494	.503
34	34	30.6	36.4	24.4	0.0	.0000	.485	.487	.487	.487	.487	.487	.487	.487	.487	.487	.512	.487	.487

Table 34A — Sealing Run 56, Test Configuration 6: Three 1.52-cm Nozzles

i	Press Tank P (atm)	T _i (K)	Chamber P (atm)	Chamber Absolute Temperatures (K) at Locations I													COORDINATES	
				1	2	3	4	5	6	7	8	9	10	11	12	13	R (cm)	THETA (DEG) (CM)
-9	0.00	0.00	1.017	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	1	0.437
-8	0.00	0.00	1.016	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	2	0.437
-7	0.00	0.00	1.017	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	3	0.437
-6	0.00	0.00	1.017	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	4	0.437
-5	0.00	0.00	1.016	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	5	0.437
0	6.283	297.2	1.019	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	6	0.437
1	5.914	299.2	1.143	300.2	299.2	298.2	298.2	299.2	300.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	7	0.437
2	5.601	276.7	1.264	305.2	303.7	302.7	303.2	303.7	303.2	303.7	303.2	303.7	303.2	303.7	303.2	303.7	8	0.437
3	5.287	275.2	1.376	308.2	307.2	306.2	307.2	307.2	306.2	307.2	307.2	306.2	307.2	307.2	306.2	307.2	9	0.437
4	5.024	275.2	1.479	309.2	308.2	307.2	308.2	308.2	307.2	308.2	308.2	307.2	308.2	308.2	307.2	308.2	10	0.437
5	4.741	273.2	1.574	310.2	310.2	309.2	310.2	310.2	309.2	310.2	310.2	309.2	310.2	310.2	309.2	310.2	11	0.437
6	4.533	273.2	1.653	310.2	310.2	309.2	310.2	310.2	309.2	310.2	310.2	309.2	310.2	310.2	309.2	310.2	12	0.437
7	4.271	272.2	1.747	311.2	310.2	309.2	310.2	310.2	309.2	310.2	310.2	309.2	310.2	310.2	309.2	310.2	13	0.437
8	4.048	271.2	1.829	311.2	311.2	310.2	311.2	311.2	310.2	311.2	311.2	310.2	311.2	311.2	310.2	311.2		
9	3.873	271.2	1.903	311.2	310.2	309.2	310.2	310.2	309.2	310.2	310.2	309.2	310.2	310.2	309.2	310.2		
10	3.637	271.2	1.976	311.2	310.2	309.2	310.2	310.2	309.2	310.2	310.2	309.2	310.2	310.2	309.2	310.2		
11	3.534	271.2	2.041	310.2	310.2	309.2	310.2	310.2	309.2	310.2	310.2	309.2	310.2	310.2	309.2	310.2		
12	3.491	269.2	2.059	310.2	310.2	309.2	310.2	310.2	309.2	310.2	310.2	309.2	310.2	310.2	309.2	310.2		
13	3.480	270.2	2.053	309.2	309.2	308.2	309.2	309.2	308.2	309.2	309.2	308.2	309.2	309.2	308.2	309.2		
14	0.00	0.00	2.049	309.2	309.2	308.2	309.2	309.2	308.2	309.2	309.2	308.2	309.2	309.2	308.2	309.2		
15	0.00	0.00	2.047	309.2	309.2	308.2	309.2	309.2	308.2	309.2	309.2	308.2	309.2	309.2	308.2	309.2		
16	0.00	0.00	2.043	308.2	308.2	307.2	308.2	308.2	307.2	308.2	308.2	307.2	308.2	308.2	307.2	308.2		
17	0.00	0.00	2.042	308.2	308.2	307.2	308.2	308.2	307.2	308.2	308.2	307.2	308.2	308.2	307.2	308.2		
18	0.00	0.00	2.041	306.2	306.2	305.2	306.2	306.2	305.2	306.2	306.2	305.2	306.2	306.2	305.2	306.2		
19	0.00	0.00	2.040	306.2	306.2	305.2	306.2	306.2	305.2	306.2	306.2	305.2	306.2	306.2	305.2	306.2		
20	0.00	0.00	2.038	307.2	307.2	306.2	307.2	307.2	306.2	307.2	307.2	306.2	307.2	307.2	306.2	307.2		
21	0.00	0.00	2.037	307.2	307.2	306.2	307.2	307.2	306.2	307.2	307.2	306.2	307.2	307.2	306.2	307.2		
22	0.00	0.00	2.031	307.2	307.2	306.2	307.2	307.2	306.2	307.2	307.2	306.2	307.2	307.2	306.2	307.2		
23	0.00	0.00	2.027	306.2	306.2	305.2	306.2	306.2	305.2	306.2	306.2	305.2	306.2	306.2	305.2	306.2		
24	0.00	0.00	2.023	305.2	305.2	304.2	305.2	305.2	304.2	305.2	305.2	304.2	305.2	305.2	304.2	305.2		
25	0.00	0.00	2.019	304.2	304.2	303.2	304.2	304.2	303.2	304.2	304.2	303.2	304.2	304.2	303.2	304.2		
26	0.00	0.00	2.015	304.2	304.2	303.2	304.2	304.2	303.2	304.2	304.2	303.2	304.2	304.2	303.2	304.2		
27	0.00	0.00	2.013	304.2	304.2	303.2	304.2	304.2	303.2	304.2	304.2	303.2	304.2	304.2	303.2	304.2		
28	0.00	0.00	2.010	302.2	302.2	301.2	302.2	302.2	301.2	302.2	302.2	301.2	302.2	302.2	301.2	302.2		
29	0.00	0.00	2.009	302.2	302.2	301.2	302.2	302.2	301.2	302.2	302.2	301.2	302.2	302.2	301.2	302.2		
30	0.00	0.00	2.006	302.2	302.2	301.2	302.2	302.2	301.2	302.2	302.2	301.2	302.2	302.2	301.2	302.2		
31	0.00	0.00	2.003	302.2	302.2	301.2	302.2	302.2	301.2	302.2	302.2	301.2	302.2	302.2	301.2	302.2		
32	0.00	0.00	2.001	302.2	302.2	301.2	302.2	302.2	301.2	302.2	302.2	301.2	302.2	302.2	301.2	302.2		
33	0.00	0.00	1.999	302.2	302.2	301.2	302.2	302.2	301.2	302.2	302.2	301.2	302.2	302.2	301.2	302.2		
34	0.00	0.00	1.996	301.2	301.2	300.2	301.2	301.2	300.2	301.2	301.2	300.2	301.2	301.2	300.2	301.2		
35	0.00	0.00	1.994	301.2	301.2	300.2	301.2	301.2	300.2	301.2	301.2	300.2	301.2	301.2	300.2	301.2		
36	0.00	0.00	1.991	300.2	300.2	299.2	300.2	300.2	299.2	300.2	300.2	299.2	300.2	300.2	299.2	300.2		
37	0.00	0.00	1.988	300.2	300.2	299.2	300.2	300.2	299.2	300.2	300.2	299.2	300.2	300.2	299.2	300.2		
38	0.00	0.00	1.986	300.2	300.2	299.2	300.2	300.2	299.2	300.2	300.2	299.2	300.2	300.2	299.2	300.2		
39	0.00	0.00	1.983	300.2	300.2	299.2	300.2	300.2	299.2	300.2	300.2	299.2	300.2	300.2	299.2	300.2		
40	0.00	0.00	1.981	300.2	300.2	299.2	300.2	300.2	299.2	300.2	300.2	299.2	300.2	300.2	299.2	300.2		

**Table 34B — Inferred Pressurant Distribution, Scaling Run 56, Test Configuration 6:
Three 1.52-cm Nozzles**

[illegible]

Table 35A -- Scaling Run 58, Test Configuration 6: Three 2.54-cm Nozzles

[illegible]

Table 35B — Inferred Pressurant Distribution, Scaling Run 58, Test Configuration 6:
Three 2.54-cm Nozzles

Pressurant Fractions (X) at Locations 1																			
	1	2	3	4	5	6	7	8	9	10	11	12	13						
COMMENCE VALVE OPENING																			
0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000						
0.0	19.9	19.9	69.2	0	0.0000														
1.0	19.9	19.9	19.0	23.4	0.0661														
VALVE FULLY OPEN																			
2.0	39.7	26.3	22.4	59.3	9.0119	.141	.095	.616	.093	.739	.243	.356	.348	.087	.017				
3.0	32.6	26.3	22.6	14.0	2.6804	.291	.347	.423	.593	.423	.423	.165	.079	.205	.047	.110	.157	.228	
4.0	36.1	43.1	24.6	0.1	1.0000	.300	.361	.442	.442	.456	.442	.318	.291	.356	.297	.318	.361	.367	
COMMENCE VALVE CLOSURE																			
5.0	37.0	47.6	25.3	7.4	.7902	.443	.439	.484	.484	.484	.484	.412	.417	.426	.403	.412	.421	.448	
6.0	28.3	50.0	26.0	3319.5	.6463	.407	.404	.505	.404	.547	.505	.526	.471	.467	.400	.455	.455	.471	.480
VALVE FULLY CLOSED																			
7.0	37.9	49.9	26.1	2195.3	.4073	.506	.504	.504	.504	.546	.504	.546	.487	.500	.504	.495	.491	.495	.495
8.0	36.4	47.0	25.4	1117.3	.2052	.506	.521	.521	.477	.521	.521	.521	.503	.499	.503	.490	.495	.499	.503
9.0	39.6	46.3	24.9	717.5	.1318	.506	.500	.531	.404	.531	.531	.531	.531	.494	.503	.498	.494	.489	.494
10.0	34.9	43.4	24.6	620.3	.1154	.506	.521	.531	.403	.531	.531	.531	.531	.498	.493	.493	.488	.488	.483
11.0	34.2	44.4	24.2	659.7	.1210	.506	.521	.521	.471	.521	.521	.521	.521	.496	.496	.496	.511	.506	.506
12.0	33.8	42.7	24.0	411.1	.0785	.506	.520	.520	.453	.520	.520	.520	.520	.494	.495	.500	.500	.510	.520
13.0	32.3	42.3	23.9	281.3	.0517	.506	.525	.525	.485	.539	.539	.539	.539	.496	.501	.505	.495	.505	.515
14.0	32.9	42.4	23.6	580.3	.1066	.506	.529	.529	.485	.539	.539	.539	.539	.480	.496	.501	.491	.491	.501
15.0	32.6	42.0	23.5	259.8	.0531	.506	.529	.529	.475	.529	.529	.529	.529	.480	.500	.502	.486	.497	.486
16.0	32.2	41.3	23.3	462.3	.0849	.506	.522	.522	.467	.522	.522	.522	.522	.495	.511	.511	.495	.489	.506
17.0	31.9	40.9	22.2	312.1	.0303	.506	.515	.515	.459	.515	.515	.515	.515	.498	.510	.515	.510	.493	.498
18.0	31.6	40.5	22.0	324.9	.0387	.506	.502	.531	.474	.502	.531	.502	.491	.509	.509	.508	.508	.502	.514
19.0	31.2	39.1	22.3	502.1	.0922	.506	.527	.527	.473	.527	.527	.527	.527	.473	.499	.499	.499	.493	.518
20.0	30.9	38.3	22.3	345.4	.0635	.506	.523	.523	.438	.523	.523	.523	.523	.478	.498	.511	.498	.498	.518
21.0	30.6	37.4	24.0	350.4	.0631	.506	.518	.518	.444	.518	.518	.518	.518	.496	.504	.511	.511	.489	.504
22.0	30.5	37.2	24.0	180.7	.0332	.506	.506	.502	.430	.506	.506	.506	.506	.491	.521	.498	.513	.498	.521
23.0	30.2	36.3	24.2	260.7	.0677	.506	.506	.506	.473	.506	.506	.506	.506	.482	.490	.490	.482	.473	.488
24.0	29.9	36.0	24.0	379.2	.0697	.506	.503	.503	.460	.503	.503	.503	.503	.476	.493	.493	.501	.460	.501
25.0	29.6	35.4	24.0	289.9	.0716	.506	.522	.522	.453	.522	.522	.522	.522	.472	.498	.498	.507	.472	.498
26.0	29.5	35.1	24.0	159.2	.0266	.506	.508	.508	.450	.508	.508	.508	.508	.472	.481	.490	.499	.481	.499
27.0	29.2	34.6	24.0	407.5	.0745	.506	.500	.500	.450	.500	.500	.500	.500	.467	.476	.476	.476	.457	.476
28.0	29.1	34.3	24.0	209.3	.0303	.506	.504	.504	.457	.504	.504	.504	.504	.466	.477	.477	.477	.466	.477
29.0	28.9	34.0	24.0	211.0	.0289	.506	.504	.504	.454	.504	.504	.504	.504	.474	.484	.494	.474	.464	.484
30.0	28.7	32.4	24.0	429.2	.0796	.506	.503	.503	.436	.503	.503	.503	.503	.479	.490	.479	.500	.468	.500
31.0	28.4	32.9	24.0	447.7	.0832	.506	.520	.520	.441	.520	.520	.520	.520	.483	.495	.495	.483	.461	.483
32.0	28.4	32.9	24.0	0.0000		.506	.513	.513	.500	.500	.500	.500	.500	.477	.480	.477	.477	.466	.500
33.0	28.1	32.3	24.0	403.0	.0881	.506	.501	.501	.501	.501	.501	.501	.501	.471	.471	.482	.471	.466	.519
34.0	28.0	32.0	24.0	237.4	.0436	.506	.505	.505	.499	.505	.505	.505	.505	.464	.464	.489	.464	.477	.515

Table 36A — Scaling Run 59, Test Configuration 6: Three 2.54-cm Nozzles

Free Truck	r	P (atm)	T_f (K)	Chamber P (atm)	Chamber Absolute Temperatures (K) at Locations 1													COORDINATES				
					1	2	3	4	5	6	7	8	9	10	11	12	13	R (M)	THETA 2 (DEG)	Z (M)		
-5	...	...	...	1.024	294.2	294.2	294.2	294.2	294.2	294.2	293.3	292.2	291.9	293.1	293.2	293.1	293.2	0	0.457	45	-0.152	
-4	...	...	...	1.023	294.2	294.2	294.2	294.2	294.2	294.2	293.3	292.2	292.0	293.1	293.1	293.1	293.0	293.0	2	0.457	45	-0.076
-3	...	...	...	1.023	294.2	294.2	294.2	294.2	294.2	294.2	293.3	292.2	292.0	293.1	293.1	293.1	293.0	293.0	3	0.457	45	0.0
-2	...	...	...	1.023	294.2	294.2	294.2	294.2	294.2	294.2	293.3	292.2	292.0	293.1	293.1	293.1	293.0	293.0	4	0.457	45	0.076
-1	...	...	...	1.023	294.2	294.2	294.2	294.2	294.2	294.2	293.3	292.2	292.0	293.1	293.1	293.1	293.0	293.0	5	0.457	45	0.152
0	6.300	293.7	...	1.028	294.7	294.2	294.2	294.2	294.7	294.7	293.3	292.2	292.3	293.4	293.4	293.4	293.0	293.0	6	0.457	45	0.228
1	5.656	286.2	...	1.287	302.2	300.2	297.2	298.2	301.2	301.2	301.2	302.0	301.0	303.5	302.9	302.3	301.3	301.3	7	0.457	45	0.300
2	4.911	273.2	...	1.562	307.2	306.2	303.2	306.2	306.2	307.5	308.1	306.5	309.1	308.7	308.0	307.0	307.0	8	0.457	45	0.610	
3	4.359	270.2	...	1.791	311.2	310.2	308.7	310.2	309.2	310.6	310.9	310.4	312.3	312.2	312.3	312.3	312.3	9	0.457	45	0.687	
4	3.796	268.2	...	1.991	312.2	312.2	311.2	312.2	311.2	312.7	313.0	310.9	312.3	312.2	312.3	312.3	312.3	10	0.457	45	0.762	
5	3.409	267.2	...	2.138	313.2	313.2	312.2	312.2	311.2	312.7	313.1	311.0	312.3	312.2	312.3	312.3	312.3	11	0.457	45	0.838	
6	3.341	277.2	...	2.164	312.2	313.2	312.2	311.2	311.2	311.2	311.3	310.0	309.9	311.1	312.0	311.6	310.3	12	0.457	45	0.914	
7	3.383	286.7	...	2.135	311.2	311.2	311.2	311.2	311.2	311.2	311.2	310.6	309.5	309.3	310.3	310.0	309.8	13	0.457	45	0.991	
8	...	...	...	2.149	311.2	311.2	310.2	311.2	310.2	310.2	310.2	309.8	309.1	308.9	310.3	309.8	309.6	309.7	...	...	...	...
9	...	...	...	2.143	311.2	311.2	310.2	310.2	310.2	310.2	309.8	309.8	309.8	309.8	309.8	309.8	309.8	309.8	...	...	...	...
10	...	...	...	2.142	310.2	310.2	310.2	310.2	310.2	310.2	309.5	308.7	308.2	309.5	309.4	309.0	308.9	308.9	...	...	...	...
11	...	...	...	2.139	310.2	310.2	310.2	310.2	310.2	310.2	309.4	308.3	308.2	309.4	309.1	308.8	308.8	308.8	...	...	...	...
12	...	...	...	2.136	310.2	310.2	310.2	310.2	310.2	310.2	309.4	308.0	308.1	309.2	308.8	308.8	308.8	308.5	...	...	...	...
13	...	...	...	2.133	310.2	310.2	310.2	310.2	310.2	310.2	309.1	308.0	307.7	309.0	308.8	308.8	308.8	308.4	...	...	...	...
14	...	...	...	2.131	310.2	310.2	310.2	310.2	310.2	310.2	308.8	307.9	307.5	308.5	308.7	308.4	308.1	308.1	...	...	...	...
15	...	...	...	2.128	310.2	310.2	309.7	310.2	309.2	310.2	308.8	307.6	307.5	308.5	308.7	308.2	308.2	308.2	...	...	...	...
16	...	...	...	2.119	309.2	308.2	309.2	309.2	308.2	309.2	308.2	306.5	307.3	307.3	308.5	308.7	307.6	307.2	...	...	...	...
17	...	...	...	2.110	307.2	307.2	307.2	307.2	307.2	307.2	306.8	305.3	305.3	306.8	306.9	306.9	306.6	306.4	...	...	...	...
18	...	...	...	2.103	306.2	306.2	306.2	306.2	306.2	306.2	305.7	304.5	304.4	305.6	305.9	305.5	305.2	305.2	...	...	...	...
19	...	...	...	2.096	305.2	305.2	305.2	305.2	305.2	305.2	304.6	303.6	303.4	304.6	304.8	304.4	303.9	303.9	...	...	...	...
20	...	...	...	2.092	304.2	304.2	305.2	305.2	305.2	305.2	303.9	302.8	302.5	303.9	303.9	303.7	303.3	303.3	...	...	...	...
21	...	...	...	2.087	304.2	304.2	304.2	304.2	304.2	304.2	303.2	302.1	301.9	302.9	302.9	302.7	302.7	302.7	...	...	...	...
22	...	...	...	2.083	303.2	303.2	303.2	303.2	303.2	303.2	302.4	301.3	300.9	302.3	302.3	302.4	302.0	302.0	...	...	...	...
23	...	...	...	2.079	302.2	302.2	302.2	302.2	302.2	302.2	301.7	300.7	300.2	301.5	301.9	301.7	301.4	301.4	...	...	...	...
24	...	...	...	2.077	302.2	302.2	302.2	302.2	302.2	302.2	301.2	300.2	299.7	300.9	301.3	301.2	300.9	300.9	...	...	...	...
25	...	...	...	2.073	301.2	301.2	302.2	302.2	302.2	302.2	300.8	299.5	299.4	300.5	300.8	300.7	300.5	300.5	...	...	...	...
26	...	...	...	2.068	301.2	301.2	301.2	301.2	301.2	301.2	299.9	298.8	298.7	299.9	299.9	299.9	299.9	299.9	...	...	...	...
27	...	...	...	2.064	300.2	300.2	300.2	300.2	300.2	300.2	299.3	298.2	298.0	299.6	299.5	299.2	299.0	299.0	...	...	...	...
28	...	...	...	2.060	299.2	299.2	299.2	299.2	299.2	299.2	298.7	297.7	297.3	299.6	299.6	299.6	298.4	298.4	...	...	...	...
29	...	...	...	2.037	299.2	299.2	299.2	299.2	299.2	299.2	298.7	297.7	297.3	299.7	299.7	299.7	298.0	298.0	...	...	...	...
30	...	...	...	2.034	298.2	298.2	299.2	299.2	299.2	299.2	298.9	297.9	297.6	299.7	299.7	299.7	297.7	297.7	...	...	...	...
31	...	...	...	2.032	298.2	298.2	298.2	298.2	298.2	298.2	297.5	296.5	296.3	298.7	298.7	298.7	297.4	297.4	...	...	...	...
32	...	...	...	2.030	298.2	298.2	298.2	298.2	298.2	298.2	297.5	296.5	296.3	298.7	298.7	298.7	297.4	297.4	...	...	...	...
33	...	...	...	2.027	298.2	298.2	298.2	298.2	298.2	298.2	297.5	296.5	296.3	298.7	298.7	298.7	297.4	297.4	...	...	...	...
34	...	...	...	2.024	297.2	297.2	297.2	297.2	297.2	297.2	296.5	295.5	295.3	298.7	298.7	298.7	297.4	297.4	...	...	...	...
35	...	...	...	2.022	297.2	297.2	297.2	297.2	297.2	297.2	296.5	295.5	295.3	298.7	298.7	298.7	297.4	297.4	...	...	...	...
36	...	...	...	2.020	297.2	297.2	297.2	297.2	297.2	297.2	296.5	295.5	295.3	298.7	298.7	298.7	297.4	297.4	...	...	...	...
37	...	...	...	2.017	297.2	297.2	297.2	297.2	297.2	297.2	296.5	295.5	295.3	298.7	298.7	298.7	297.4	297.4	...	...	...	...
38	...	...	...	2.015	297.2	297.2	297.2	297.2	297.2	297.2	296.5	295.5	295.3	298.7	298.7	298.7	297.4	297.4	...	...	...	...
39	...	...	...	2.013	297.2	297.2	297.2	297.2	297.2	297.2	296.5	295.5	295.3	298.7	298.7	298.7	297.4	297.4	...	...	...	...
40	...	...	...	2.011	297.2	297.2	297.2	297.2	297.2	297.2	296.5	295.5	295.3	298.7	298.7	298.7	297.4	297.4	...	...	...	...

Table 36B — Inferred Pressurant Distribution, Scaling Run 59, Test Configuration 6:
Three 2.54-cm Nozzles

t (s)	T ₁ (°C)	T ₂ (°C)	T ₃ (°C)	A	A/B	X	Pressurant Fractions (X) at Locations 1												
							1	2	3	4	5	6	7	8	9	10	11	12	13
COMMENCE VALVE OPENING																			
0.0	20.4	20.4	33.7	7.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.0	20.0	23.0	23.5	43.7	0.6675	.181	.195	.468	1.015	.832	.286	.377	.122	-.316	-.024	-.352	-.170	-.133	.049
VALVE FULLY OPEN																			
2.0	33.6	37.9	24.1	12.5	2.1779	.312	.359	.395	.612	.540	.395	.431	.235	.149	.235	.127	.156	.178	.250
3.0	37.0	44.5	25.3	7.6	.9947	.394	.395	.421	.499	.499	.421	.499	.353	.348	.374	.311	.327	.322	.353
COMMENCE VALVE CLOSURE																			
4.0	38.6	48.8	26.2	2.1	.7113	.452	.482	.460	.504	.504	.460	.527	.443	.451	.456	.420	.425	.403	.336
5.0	38.7	50.4	26.5	2.7	.5973	.489	.481	.501	.501	.501	.501	.522	.464	.485	.497	.472	.476	.468	.489
VALVE FULLY CLOSED																			
6.0	37.5	49.3	26.3	1.2	.2625	.487	.494	.473	.473	.516	.516	.538	.473	.503	.490	.486	.503	.490	.503
7.0	36.6	47.4	25.6	3.9	.1525	.457	.516	.493	.493	.493	.493	.516	.478	.502	.493	.488	.497	.493	.502
8.0	35.7	46.1	25.2	6.6	.1372	.457	.487	.473	.521	.521	.521	.545	.478	.502	.492	.478	.502	.482	.482
9.0	35.2	45.3	24.9	4.0	.0742	.457	.486	.460	.509	.509	.509	.533	.484	.509	.484	.489	.499	.494	.494
10.0	34.7	44.6	24.7	3.0	.0343	.457	.518	.493	.493	.493	.493	.518	.483	.493	.488	.488	.493	.493	.498
11.0	34.3	44.0	24.5	3.0	.0367	.457	.514	.488	.488	.488	.488	.514	.483	.509	.494	.488	.504	.499	.499
12.0	33.5	43.3	24.3	4.0	.0781	.457	.510	.483	.483	.483	.483	.510	.478	.520	.494	.494	.515	.494	.510
13.0	33.4	42.7	24.1	4.0	.0816	.457	.505	.478	.478	.478	.478	.505	.485	.516	.510	.500	.510	.500	.510
14.0	32.1	42.2	23.3	3.8	.0599	.457	.488	.471	.471	.471	.471	.488	.488	.514	.514	.520	.509	.503	.520
15.0	32.7	41.6	23.7	4.0	.0664	.457	.487	.459	.487	.459	.459	.487	.487	.520	.504	.509	.526	.504	.515
16.0	32.4	41.1	23.6	3.2	.0592	.457	.471	.459	.459	.459	.459	.484	.484	.522	.511	.482	.505	.499	.511
17.0	32.1	40.7	23.5	3.0	.0607	.457	.513	.484	.484	.484	.484	.513	.478	.519	.501	.495	.501	.495	.507
18.0	31.8	40.2	23.3	3.3	.0622	.457	.506	.472	.472	.472	.472	.506	.471	.530	.506	.489	.512	.500	.530
19.0	31.6	39.8	23.2	3.0	.0638	.457	.506	.475	.475	.475	.475	.506	.487	.530	.506	.500	.500	.500	.524
20.0	31.4	39.6	23.1	1.1	.0325	.457	.492	.522	.462	.462	.462	.522	.492	.474	.535	.504	.492	.504	.486
21.0	31.0	38.9	22.9	5.0	.1002	.457	.534	.503	.503	.503	.503	.471	.477	.515	.503	.490	.477	.484	.496
22.0	30.8	38.7	22.9	2.2	.0343	.457	.521	.489	.489	.489	.489	.521	.476	.527	.489	.495	.489	.483	.502
23.0	30.6	38.3	22.8	3.0	.0761	.457	.515	.482	.482	.482	.482	.515	.489	.527	.508	.489	.489	.489	.508
24.0	30.4	38.0	22.7	2.0	.0358	.457	.534	.534	.469	.469	.469	.501	.488	.527	.495	.508	.488	.482	.495
25.0	30.1	37.6	22.6	3.0	.0731	.457	.548	.515	.515	.515	.515	.481	.481	.521	.501	.488	.481	.475	.488
26.0	29.8	37.1	22.4	3.0	.0754	.457	.540	.506	.506	.506	.506	.472	.472	.533	.506	.499	.485	.478	.499
27.0	29.7	36.9	22.4	2.2	.0385	.457	.523	.489	.489	.489	.489	.489	.489	.527	.496	.496	.503	.482	.496
28.0	29.4	36.5	22.3	4.0	.0789	.457	.514	.479	.479	.479	.479	.514	.493	.528	.507	.500	.507	.486	.493
29.0	29.3	36.2	22.2	2.0	.0404	.457	.532	.532	.461	.461	.461	.497	.482	.547	.490	.504	.504	.475	.511
30.0	29.1	36.0	22.1	2.0	.0411	.457	.548	.512	.512	.512	.512	.476	.483	.536	.504	.497	.476	.476	.492
31.0	29.0	35.8	22.1	2.0	.0418	.457	.533	.496	.496	.496	.496	.496	.474	.533	.503	.489	.503	.474	.503
32.0	28.7	35.3	22.0	4.0	.0837	.457	.514	.531	.477	.477	.477	.514	.477	.521	.492	.499	.484	.469	.507
33.0	28.5	35.1	21.9	2.0	.0440	.457	.505	.543	.468	.468	.468	.505	.483	.521	.505	.498	.488	.483	.513
34.0	28.4	34.9	21.8	2.0	.0447	.457	.565	.527	.488	.488	.488	.450	.488	.473	.527	.496	.504	.488	.519

Table 37A – Scaling Run 60, Test Configuration 6: Three 2.54-cm Nozzles

T	P	T ₁	P	T ₂	P	Chamber Absolute Temperatures (K) at Locations 1													COORDINATES			
						1	2	3	4	5	6	7	8	9	10	11	12	13	X	INCH	Y	DEG.
1	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	1	0.457	45	-0.152				
2	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	2	0.457	45	-0.076				
3	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	3	0.457	45	0.000				
4	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	4	0.457	45	0.076				
5	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	5	0.457	45	0.152				
6	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	6	0.457	45	0.228				
7	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	7	0.457	45	0.304				
8	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	8	0.457	45	0.380				
9	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	9	0.457	45	0.456				
10	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	10	0.457	45	0.532				
11	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	11	0.457	45	0.608				
12	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	12	0.457	45	0.684				
13	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	13	0.457	45	0.760				
14	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	14	0.457	45	0.836				
15	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	15	0.457	45	0.912				
16	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	16	0.457	45	0.988				
17	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	17	0.457	45	1.064				
18	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	18	0.457	45	1.140				
19	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	19	0.457	45	1.216				
20	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	20	0.457	45	1.292				
21	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	21	0.457	45	1.368				
22	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	22	0.457	45	1.444				
23	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	23	0.457	45	1.520				
24	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	24	0.457	45	1.596				
25	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	25	0.457	45	1.672				
26	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	26	0.457	45	1.748				
27	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	27	0.457	45	1.824				
28	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	28	0.457	45	1.900				
29	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	29	0.457	45	1.976				
30	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	30	0.457	45	2.052				
31	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	31	0.457	45	2.128				
32	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	32	0.457	45	2.204				
33	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	33	0.457	45	2.280				
34	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	34	0.457	45	2.356				
35	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	35	0.457	45	2.432				
36	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	36	0.457	45	2.508				
37	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	37	0.457	45	2.584				
38	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	38	0.457	45	2.660				
39	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	39	0.457	45	2.736				
40	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	40	0.457	45	2.812				
41	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	41	0.457	45	2.888				
42	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	42	0.457	45	2.964				
43	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	43	0.457	45	3.040				
44	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	44	0.457	45	3.116				
45	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	45	0.457	45	3.192				
46	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	46	0.457	45	3.268				
47	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	47	0.457	45	3.344				
48	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	48	0.457	45	3.420				
49	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	49	0.457	45	3.496				
50	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	50	0.457	45	3.572				
51	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	51	0.457	45	3.648				
52	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	52	0.457	45	3.724				
53	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	53	0.457	45	3.800				
54	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	54	0.457	45	3.876				
55	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	55	0.457	45	3.952				
56	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	56	0.457	45	4.028				
57	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	57	0.457	45	4.104				
58	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	58	0.457	45	4.180				
59	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	59	0.457	45	4.256				
60	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	60	0.457	45	4.332				
61	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	61	0.457	45	4.408				
62	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	62	0.457	45	4.484				
63	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	63	0.457	45	4.560				
64	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	64	0.457	45	4.636				
65	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	65	0.457	45	4.712				
66	0.034	295.2	294.2	294.2	295.2	295.2	295.2	293.8	292.5	292.4	293.3	293.7	293.6	293.4	66	0.45						

Table 37B — Inferred Pressurant Distribution, Sealing Run 60, Test Configuration 5:
Three 2.54-cm Nozzles

t (s)	T _c (°C)	T _h (°C)	T _h (°C)	β	B/θ	x̄	Pressurant Fractions (X) at Locations 1												
							1	2	3	4	5	6	7	8	9	10	11	12	13
COMMENCE VALVE OPENING																			
0.0	20.0	20.0	87.7	1	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
1.0	20.7	20.0	20.0	33.1	0.0426	0.000	0.000	0.000	1.228	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
VALVE FULLY OPEN																			
2.0	25.4	25.7	22.9	77.7	9.2362	0.113	0.319	1.015	1.015	0.667	0.493	146	-863	-585	-385	-411	-168	006	
3.0	32.3	36.0	24.0	14.4	2.8234	0.272	0.215	0.468	0.468	0.390	0.350	0.250	0.279	0.227	0.125	0.164	198	235	
4.0	37.1	44.2	24.8	7.9	1.1007	0.367	0.356	0.433	0.485	0.407	0.433	0.325	0.309	0.351	0.269	0.304	330	361	
COMMENCE VALVE CLOSURE																			
5.0	38.9	48.9	25.9	7.3	0.0187	0.433	0.439	0.439	0.526	0.483	0.493	0.418	0.396	0.413	0.392	0.396	0.418	435	
6.0	39.0	50.7	26.4	571.9	0.7534	0.481	0.450	0.449	0.450	0.531	0.531	0.465	0.465	0.473	0.445	0.457	0.457	461	
VALVE FULLY CLOSED																			
7.0	38.7	50.7	26.6	286.9	0.3780	0.499	0.514	0.473	0.535	0.514	0.531	0.483	0.454	0.458	0.458	0.489	0.489	485	
8.0	37.4	48.8	26.0	142.7	0.1879	0.499	0.507	0.463	0.551	0.511	0.531	0.489	0.489	0.485	0.485	0.489	0.489	485	
9.0	36.1	46.8	25.3	154.3	0.2032	0.499	0.535	0.488	0.535	0.535	0.535	0.479	0.474	0.474	0.474	0.484	0.484	493	
10.0	35.5	45.9	25.1	72.9	0.0960	0.499	0.532	0.484	0.532	0.532	0.532	0.479	0.479	0.474	0.489	0.479	0.493	498	
11.0	34.9	45.1	24.0	75.7	0.0988	0.499	0.546	0.477	0.526	0.526	0.546	0.492	0.487	0.477	0.477	0.497	0.497	502	
12.0	34.5	44.4	24.6	58.9	0.0726	0.499	0.521	0.471	0.521	0.521	0.521	0.486	0.486	0.481	0.496	0.496	0.496	516	
13.0	34.1	43.7	24.4	60.7	0.0800	0.499	0.532	0.459	0.531	0.510	0.510	0.503	0.503	0.480	0.495	0.495	0.500	500	
14.0	33.6	43.1	24.2	62.0	0.0827	0.499	0.538	0.486	0.486	0.512	0.538	0.512	0.491	0.491	0.480	0.491	0.491	480	
15.0	33.4	42.6	24.0	43.0	0.0567	0.499	0.528	0.475	0.528	0.528	0.528	0.485	0.485	0.480	0.491	0.491	0.501	485	
16.0	32.9	42.0	23.8	66.4	0.0875	0.499	0.519	0.464	0.464	0.519	0.519	0.491	0.480	0.480	0.513	0.502	0.513	502	
17.0	32.6	41.5	23.7	45.6	0.0601	0.499	0.513	0.457	0.513	0.513	0.513	0.490	0.490	0.474	0.513	0.502	0.518	518	
18.0	32.2	40.9	23.5	70.5	0.0929	0.499	0.499	0.499	0.499	0.499	0.499	0.499	0.499	0.487	0.493	0.522	0.534	522	
19.0	32.1	40.6	23.4	24.1	0.0317	0.499	0.502	0.485	0.485	0.485	0.485	0.485	0.485	0.479	0.502	0.502	0.502	502	
20.0	31.8	40.2	23.3	49.2	0.0448	0.499	0.524	0.464	0.464	0.524	0.524	0.482	0.482	0.464	0.506	0.506	0.512	512	
21.0	31.5	39.7	23.2	50.5	0.0665	0.499	0.515	0.455	0.515	0.515	0.515	0.497	0.503	0.491	0.503	0.497	0.509	515	
22.0	31.2	39.3	23.1	51.8	0.0883	0.499	0.506	0.444	0.444	0.506	0.506	0.506	0.506	0.493	0.536	0.493	0.518	524	
23.0	30.9	38.8	22.9	53.3	0.0702	0.499	0.505	0.483	0.451	0.483	0.483	0.483	0.501	0.489	0.514	0.495	0.508	508	
24.0	30.8	38.6	22.9	27.2	0.0358	0.499	0.539	0.466	0.466	0.529	0.529	0.498	0.491	0.498	0.504	0.485	0.517	510	
25.0	30.6	38.4	22.8	27.6	0.0364	0.499	0.519	0.455	0.519	0.519	0.519	0.499	0.499	0.480	0.525	0.493	0.499	512	
26.0	30.3	37.9	22.7	76.5	0.0444	0.499	0.524	0.463	0.496	0.529	0.496	0.483	0.483	0.496	0.502	0.489	0.486	486	
27.0	30.2	37.7	22.6	28.9	0.0380	0.499	0.532	0.485	0.485	0.485	0.485	0.485	0.485	0.492	0.472	0.512	0.492	498	
28.0	29.8	37.0	22.5	89.4	0.1177	0.499	0.472	0.472	0.506	0.540	0.506	0.493	0.485	0.485	0.506	0.478	0.499	499	
29.0	29.8	37.0	22.5	0	0.0000	0.499	0.508	0.519	0.450	0.519	0.519	0.478	0.485	0.471	0.498	0.478	0.484	485	
30.0	29.5	36.6	22.3	62.0	0.0816	0.499	0.510	0.439	0.510	0.510	0.510	0.496	0.489	0.489	0.503	0.475	0.489	489	
31.0	29.3	36.3	22.3	31.8	0.0419	0.499	0.558	0.497	0.497	0.497	0.532	0.497	0.490	0.490	0.483	0.490	0.483	483	
32.0	29.2	36.1	22.2	32.3	0.0426	0.499	0.536	0.486	0.486	0.486	0.558	0.486	0.486	0.509	0.471	0.514	0.478	486	
33.0	28.9	35.7	22.1	66.3	0.0874	0.499	0.576	0.465	0.465	0.539	0.539	0.487	0.472	0.480	0.502	0.455	0.480	480	
34.0	28.8	35.4	22.1	34.1	0.0449	0.499	0.624	0.452	0.452	0.527	0.527	0.490	0.505	0.482	0.490	0.482	0.475	475	

Table 38A — Scaling Run 61, Test Configuration 5: Two 2.54-cm Nozzles

I	I (a)	P (atm)	T ₀ (K)	Chamber P (atm)	Chamber Absolute Temperatures (K) at Locations 1															COORDINATES		
					1	2	3	4	5	6	7	8	9	10	11	12	13	I	R (M)	THETA (DEG)	Z (M)	
-3	0	0.00	0.00	1.023	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	1	0.437	45	-0.152
-4	0	0.00	0.00	1.022	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	2	0.437	45	-0.076
-3	0	0.00	0.00	1.022	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	3	0.437	45	0.0
-2	0	0.00	0.00	1.022	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	4	0.437	45	0.076
-1	0	0.00	0.00	1.023	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	5	0.437	45	0.152
0	6	303	236.2	1.023	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	6	0.437	45	0.228
1	6	244	236.7	1.036	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	297.2	7	0.437	45	0.304
2	5	843	234.2	1.195	302.2	301.2	299.2	304.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	8	0.437	45	0.380
3	5	286	272.2	1.397	306.2	305.2	304.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	9	0.437	45	0.456
4	4	827	274.2	1.579	310.2	309.2	308.7	310.2	309.7	309.7	309.7	309.7	309.7	309.7	309.7	309.7	309.7	309.7	10	0.437	45	0.532
5	4	384	273.2	1.736	312.2	311.2	311.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	11	0.437	45	0.608
6	4	617	271.7	1.879	313.2	312.7	312.7	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	12	0.437	45	0.684
7	3	689	271.2	2.008	313.2	313.2	313.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	13	0.437	45	0.760
8	3	397	270.2	2.112	313.2	313.2	313.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	314.2	14	0.437	45	0.836
9	3	421	272.2	2.101	312.7	312.7	312.7	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	313.2	15	0.437	45	0.912
10	3	394	274.2	2.101	311.2	311.2	311.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	16	0.437	45	0.988
11	0	0.00	0.00	2.086	311.2	311.7	311.7	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	17	0.437	45	1.064
12	0	0.00	0.00	2.093	310.7	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	18	0.437	45	1.140
13	0	0.00	0.00	2.090	310.7	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	19	0.437	45	1.216
14	0	0.00	0.00	2.087	310.2	310.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	20	0.437	45	1.292
15	0	0.00	0.00	2.085	310.2	310.2	310.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	21	0.437	45	1.368
16	0	0.00	0.00	2.083	310.2	310.2	310.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	22	0.437	45	1.444
17	0	0.00	0.00	2.081	310.2	310.2	310.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	23	0.437	45	1.520
18	0	0.00	0.00	2.079	310.2	310.2	310.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	24	0.437	45	1.596
23	0	0.00	0.00	2.071	309.2	309.2	309.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	25	0.437	45	1.672
28	0	0.00	0.00	2.065	308.2	308.2	308.2	309.2	309.2	309.2	309.2	309.2	309.2	309.2	309.2	309.2	309.2	309.2	26	0.437	45	1.748
33	0	0.00	0.00	2.060	307.2	307.2	307.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	27	0.437	45	1.824
38	0	0.00	0.00	2.055	306.2	306.2	306.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	28	0.437	45	1.900
43	0	0.00	0.00	2.051	305.2	305.2	305.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	29	0.437	45	1.976
48	0	0.00	0.00	2.047	305.2	305.2	305.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	30	0.437	45	2.052
53	0	0.00	0.00	2.045	305.2	305.2	305.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	31	0.437	45	2.128
58	0	0.00	0.00	2.041	304.2	304.2	304.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	32	0.437	45	2.204
63	0	0.00	0.00	2.038	304.2	304.2	304.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	33	0.437	45	2.280
68	0	0.00	0.00	2.036	303.2	303.2	303.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	34	0.437	45	2.356
73	0	0.00	0.00	2.032	303.2	303.2	303.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	35	0.437	45	2.432
78	0	0.00	0.00	2.028	302.2	302.2	302.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	36	0.437	45	2.508
83	0	0.00	0.00	2.025	302.2	302.2	302.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	37	0.437	45	2.584
88	0	0.00	0.00	2.021	301.2	301.2	301.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	38	0.437	45	2.660
93	0	0.00	0.00	2.018	301.2	301.2	301.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	39	0.437	45	2.736
98	0	0.00	0.00	2.017	301.2	301.2	301.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	40	0.437	45	2.812
103	0	0.00	0.00	2.015	300.2	300.2	300.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	41	0.437	45	2.888
108	0	0.00	0.00	2.013	300.2	300.2	300.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	42	0.437	45	2.964
113	0	0.00	0.00	2.012	300.2	300.2	300.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	43	0.437	45	3.040
118	0	0.00	0.00	2.009	300.2	300.2	300.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	44	0.437	45	3.116
123	0	0.00	0.00	2.008	300.2	299.2	299.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	45	0.437	45	3.192

Table 38B — Inferred Pressurant Distribution, Scaling Run 61, Test Configuration 5:
Two 2.54-cm Nozzles

i (g)	T (°C)	T _h (°C)	T _c (°C)	β	β/θ	P	Pressurant Fractions (X) at Locations 1												
							1	2	3	4	5	6	7	8	9	10	11	12	13
COMMENCE VALVE OPENING																			
0.0	23.2	23.2	76.9	9	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
1.0	23.5	23.5	23.5	1199	7 13.6870	.012	6.261	6.261	6.261	6.261	6.261	6.261	6.261	6.261	6.261	6.261	6.261	6.261	
VALVE FULLY OPEN																			
2.0	28.5	29.0	24.0	59.6	7.5046	129	.208	.442	.911	.676	.208	.209	.255	.214	.120	.448	.284	.191	
3.0	33.2	33.9	24.7	18.2	2.5624	.243	.331	.421	.510	.510	.331	.331	.225	.135	.162	.020	.046	.055	
4.0	36.6	41.9	25.7	9.9	1.1026	.323	.352	.413	.444	.444	.352	.383	.339	.271	.278	.197	.228	.234	
5.0	38.4	45.7	26.6	9.1	.8079	.380	.394	.447	.447	.447	.394	.394	.334	.358	.337	.311	.377	.377	
6.0	39.3	46.2	27.4	9.1	.6943	.426	.435	.459	.459	.459	.435	.435	.435	.415	.401	.354	.362	.391	
COMMENCE VALVE CLOSURE																			
7.0	39.8	49.8	28.0	9.3	.6037	.462	.489	.489	.489	.489	.443	.489	.462	.452	.443	.430	.439	.432	
8.0	39.7	50.5	28.4	45.0	.5162	.489	.512	.512	.512	.512	.467	.467	.467	.490	.490	.472	.481	.476	
VALVE FULLY CLOSED																			
9.0	39.1	49.6	28.1	7.4	.0849	.488	.509	.509	.486	.486	.486	.486	.486	.490	.490	.472	.476	.481	
10.0	38.2	48.3	27.6	12.5	.1439	.488	.501	.501	.501	.501	.501	.501	.501	.472	.482	.453	.477	.472	
11.0	37.5	47.2	27.3	11.0	.1262	.488	.540	.541	.540	.540	.490	.490	.490	.480	.485	.460	.470	.465	
12.0	37.0	46.5	27.1	6.9	.0789	.488	.522	.522	.522	.522	.522	.522	.471	.465	.481	.450	.460	.476	
13.0	36.6	45.9	26.9	7.1	.0815	.488	.532	.532	.532	.532	.532	.532	.505	.469	.479	.458	.474	.463	
14.0	36.1	45.2	26.6	7.3	.0843	.488	.533	.533	.533	.533	.489	.489	.489	.478	.478	.467	.473	.467	
15.0	35.8	44.8	26.5	5.0	.0578	.488	.533	.533	.533	.533	.478	.478	.478	.467	.478	.456	.473	.478	
16.0	35.5	44.3	26.4	5.2	.0591	.488	.535	.535	.535	.535	.470	.470	.470	.464	.481	.464	.486	.481	
17.0	35.2	43.9	26.2	5.3	.0606	.488	.520	.520	.520	.520	.463	.463	.463	.469	.486	.469	.486	.486	
18.0	34.9	43.4	26.1	5.4	.0621	.488	.501	.501	.501	.501	.501	.501	.472	.472	.483	.460	.483	.478	
19.0	34.7	43.0	26.0	5.5	.0636	.488	.541	.541	.541	.541	.482	.482	.482	.459	.488	.453	.476	.488	
20.0	34.5	42.7	25.9	2.8	.0325	.488	.534	.534	.534	.534	.475	.475	.475	.469	.481	.457	.487	.487	
21.0	34.2	42.3	25.8	5.8	.0662	.488	.526	.526	.526	.526	.466	.466	.466	.478	.478	.459	.490	.502	
22.0	33.9	41.8	25.6	5.9	.0680	.488	.516	.516	.516	.516	.454	.454	.454	.473	.491	.454	.485	.493	
23.0	33.8	41.6	25.6	3.0	.0347	.488	.501	.501	.501	.501	.501	.501	.470	.483	.483	.470	.476	.484	
24.0	33.6	41.4	25.5	3.1	.0352	.488	.507	.507	.507	.507	.484	.484	.484	.465	.478	.453	.478	.478	
25.0	33.5	41.1	25.4	3.1	.0357	.488	.508	.508	.508	.508	.474	.474	.474	.468	.487	.449	.474	.484	
26.0	33.3	40.8	25.4	3.2	.0362	.488	.509	.509	.509	.509	.465	.465	.465	.478	.484	.459	.478	.484	
27.0	33.0	40.5	25.2	6.5	.0740	.488	.519	.519	.519	.519	.519	.519	.453	.473	.493	.447	.480	.506	
28.0	32.9	40.2	25.2	3.3	.0379	.488	.509	.509	.509	.509	.476	.476	.476	.482	.489	.456	.476	.489	
29.0	32.7	40.0	25.1	3.4	.0385	.488	.562	.562	.562	.562	.495	.495	.495	.481	.481	.441	.481	.501	
30.0	32.6	39.8	25.0	3.4	.0390	.488	.550	.550	.550	.550	.482	.482	.482	.475	.475	.448	.482	.499	
31.0	32.4	39.5	25.0	3.5	.0397	.488	.543	.543	.543	.543	.475	.475	.475	.475	.481	.440	.488	.501	
32.0	32.3	39.3	24.9	3.5	.0403	.488	.533	.533	.533	.533	.464	.464	.464	.476	.476	.443	.471	.464	
33.0	32.1	39.1	24.9	3.6	.0410	.488	.524	.524	.524	.524	.524	.524	.524	.454	.475	.433	.489	.497	
34.0	32.0	38.8	24.8	3.6	.0416	.488	.506	.506	.506	.506	.506	.506	.506	.471	.476	.449	.464	.471	

Table 39A — Scaling Run 62, Test Configuration 5: Two 2.54-cm Nozzles

Run No.	ϕ (deg)	θ (deg)	Chamber P (mm)	Chamber Absolute Temperatures (K) at Locations 1													COORDINATES R THETA Z (M)							
				1	2	3	4	5	6	7	8	9	10	11	12	13								
-5	0.000	0.000	1.033	297	2	297	2	297	2	297	2	296	1	295	0	294	7	295	7	295	8	295	6	
-4	0.000	0.000	1.033	297	2	297	2	297	2	297	2	296	0	295	0	294	6	295	6	295	6	295	5	
-3	0.000	0.000	1.033	297	2	297	2	297	2	297	2	296	0	295	1	294	6	295	6	295	5	295	5	
-2	0.000	0.000	1.033	297	2	297	2	297	2	297	2	296	0	295	0	294	7	295	7	295	8	295	5	
-1	0.000	0.000	1.033	297	2	297	2	297	2	297	2	296	0	295	0	294	7	295	7	295	8	295	5	
0	0.292	296	2	1.023	297	2	297	2	297	2	297	2	296	0	295	0	294	6	295	6	295	6	295	6
1	1.636	296	2	1.030	297	2	297	2	297	2	297	2	296	1	295	2	294	6	295	6	295	6	295	6
2	5.917	292	2	1.380	301	2	299	7	299	7	297	2	293	2	300	8	301	9	301	0	303	1	302	3
3	4.295	276	2	1.389	308	2	306	2	308	2	293	2	309	2	306	6	306	6	309	7	308	7	308	1
4	4.858	273	7	1.568	310	7	310	2	309	2	310	7	293	2	309	2	309	0	311	5	311	0	310	9
5	4.407	272	2	1.729	312	2	311	2	312	2	313	2	293	2	311	0	310	9	310	8	312	7	312	6
6	6.032	271	2	1.922	313	2	312	2	312	2	313	2	293	2	312	0	311	9	311	8	313	7	313	0
7	7.607	270	7	2.041	313	2	313	2	313	2	314	2	293	2	312	7	311	8	311	8	313	4	313	0
8	9.380	269	2	2.169	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
9	11.000	268	2	2.294	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
10	12.617	267	2	2.421	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
11	14.234	266	2	2.548	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
12	15.851	265	2	2.675	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
13	17.468	264	2	2.802	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
14	19.085	263	2	2.929	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
15	20.702	262	2	3.056	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
16	22.319	261	2	3.183	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
17	23.936	260	2	3.310	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
18	25.553	259	2	3.437	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
19	27.170	258	2	3.564	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
20	28.787	257	2	3.691	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
21	30.404	256	2	3.818	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
22	32.021	255	2	3.945	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
23	33.638	254	2	4.072	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
24	35.255	253	2	4.199	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
25	36.872	252	2	4.326	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
26	38.489	251	2	4.453	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
27	40.106	250	2	4.580	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
28	41.723	249	2	4.707	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
29	43.340	248	2	4.834	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
30	44.957	247	2	4.961	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
31	46.574	246	2	5.088	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
32	48.191	245	2	5.215	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
33	49.808	244	2	5.342	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
34	51.425	243	2	5.469	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
35	53.042	242	2	5.596	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
36	54.659	241	2	5.723	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
37	56.276	240	2	5.850	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
38	57.893	239	2	5.977	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
39	59.510	238	2	6.104	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
40	61.127	237	2	6.231	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
41	62.744	236	2	6.358	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
42	64.361	235	2	6.485	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
43	65.978	234	2	6.612	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
44	67.595	233	2	6.739	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
45	69.212	232	2	6.866	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
46	70.829	231	2	6.993	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
47	72.446	230	2	7.120	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
48	74.063	229	2	7.247	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
49	75.680	228	2	7.374	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
50	77.297	227	2	7.501	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
51	78.914	226	2	7.628	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
52	80.531	225	2	7.755	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
53	82.148	224	2	7.882	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
54	83.765	223	2	8.009	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
55	85.382	222	2	8.136	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
56	86.999	221	2	8.263	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
57	88.616	220	2	8.390	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
58	90.233	219	2	8.517	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
59	91.850	218	2	8.644	313	2	313	2	313	2	314	2	293	2	312	4	311	5	311	0	312	3	312	3
60	93.467	217	2	8.771	313	2	313	2	313	2	314	2	293	2	312	4	311	5						

Table 39B — Inferred Pressurant Distribution, Sealing Run 62, Test Configuration 5:
Two 2.54-cm Nozzles

t (s)	T (°C)	T ₀ (°C)	T ₁ (°C)	B	B/B	P	Pressurant Fractions (X) at Locations 1												
							1	2	3	4	5	6	7	8	9	10	11	12	13
COMMENCE VALVE OPENING																			
0.0	21.2	21.2	20.6	-	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
1.0	21.2	21.3	24.0	38431.2	-7.0319	-0.000	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020	
VALVE FULLY OPEN																			
2.0	23.7	23.8	24.6	89.8	11.4782	.120	.471	1.653	2.046	1.653	.865	3.621	-159.1	1.734	-1.497	-2.206	-1.376	-1.182	
3.0	31.3	32.2	25.1	19.8	2.8562	.238	.121	.367	.491	.367	.121	1.478	.269	.059	.071	-1.126	-1.126	-0.52	
4.0	34.0	38.3	24.8	11.9	1.3221	.319	.268	.306	.380	.380	.268	1.268	.291	.209	.202	.098	.135	.150	
5.0	35.7	41.9	25.4	10.4	.9581	.379	.345	.406	.406	.345	.285	1.256	.345	.297	.272	.224	.230	.242	
COMMENCE VALVE CLOSURE																			
6.0	36.3	44.0	26.0	10.7	.8249	.426	.374	.430	.430	.430	.374	1.263	.374	.330	.319	.285	.302	.308	
7.0	36.7	45.7	26.7	-4904.3	.8568	.472	.447	.447	.447	.447	.394	1.286	.410	.410	.384	.357	.368	.378	
VALVE FULLY CLOSED																			
8.0	36.3	45.5	26.6	-2486.7	.4547	.490	.440	.440	.440	.440	.440	1.287	.419	.430	.419	.409	.393	.409	
9.0	35.1	43.8	26.0	-1108.9	.2028	.490	.442	.442	.442	.442	.442	1.312	.431	.431	.397	.402	.408	.414	
10.0	34.1	42.3	25.5	-1049.9	.1920	.490	.442	.442	.442	.442	.442	1.312	.424	.413	.395	.395	.413	.401	
11.0	32.6	41.7	25.3	-476.2	.0871	.490	.435	.435	.435	.435	.435	1.348	.423	.417	.399	.399	.393	.411	
12.0	32.1	40.8	25.0	-661.7	.1210	.490	.432	.421	.421	.421	.421	1.366	.427	.433	.396	.389	.408	.408	
13.0	32.8	40.4	24.8	-343.3	.0628	.490	.434	.434	.434	.434	.434	1.353	.409	.409	.383	.383	.390	.390	
14.0	32.3	39.7	24.6	-531.7	.0972	.490	.444	.444	.444	.444	.444	1.369	.425	.418	.392	.372	.378	.398	
15.0	32.0	39.3	24.5	-266.4	.0670	.490	.491	.424	.424	.424	.491	1.367	.404	.417	.377	.350	.377	.390	
16.0	31.7	38.9	24.3	-276.3	.0688	.490	.466	.466	.466	.466	.466	1.359	.411	.405	.384	.370	.383	.391	
17.0	31.4	38.4	24.2	-287.1	.0708	.490	.455	.455	.455	.455	.455	1.366	.405	.412	.384	.374	.377	.391	
18.0	31.1	38.0	24.0	-398.4	.0729	.490	.445	.445	.445	.445	.445	1.376	.410	.424	.388	.374	.374	.388	
19.0	31.0	37.8	24.0	-203.8	.0372	.490	.431	.431	.431	.431	.431	1.360	.419	.412	.375	.375	.368	.375	
20.0	30.7	37.3	23.8	-416.7	.0762	.490	.475	.475	.475	.475	.475	1.363	.416	.416	.372	.372	.372	.372	
21.0	30.6	37.1	23.7	-212.1	.0290	.490	.460	.460	.460	.460	.460	1.358	.408	.408	.370	.370	.370	.370	
22.0	30.3	36.7	23.6	-436.7	.0798	.490	.518	.518	.518	.518	.518	1.360	.411	.411	.365	.365	.365	.365	
23.0	30.1	36.4	23.5	-223.5	.0409	.490	.510	.510	.510	.510	.510	1.363	.417	.410	.379	.379	.379	.379	
24.0	29.8	36.0	23.4	-638.4	.0838	.490	.489	.489	.489	.489	.489	1.362	.402	.417	.378	.378	.378	.378	
25.0	29.7	35.8	23.3	-235.2	.0430	.490	.477	.477	.477	.477	.477	1.361	.396	.412	.372	.372	.372	.372	
26.0	29.7	35.8	23.3	0	.0000	.490	.500	.500	.500	.500	.500	1.344	.396	.420	.363	.363	.363	.363	
27.0	29.4	35.3	23.2	-482.8	.0883	.490	.539	.539	.539	.539	.539	1.354	.405	.413	.364	.364	.364	.364	
28.0	29.2	35.1	23.1	-247.8	.0453	.490	.532	.532	.532	.532	.532	1.357	.413	.413	.354	.354	.354	.354	
29.0	29.1	34.9	23.1	-252.6	.0462	.490	.507	.507	.507	.507	.507	1.354	.414	.414	.372	.372	.372	.372	
30.0	28.9	34.7	23.0	-257.3	.0470	.490	.489	.489	.489	.489	.489	1.347	.429	.420	.377	.377	.377	.377	
31.0	28.8	34.4	22.9	-262.2	.0479	.490	.472	.472	.472	.472	.472	1.347	.416	.425	.372	.372	.372	.372	
32.0	28.5	34.0	22.8	-539.8	.0987	.490	.463	.463	.463	.463	.463	1.359	.418	.436	.401	.374	.374	.374	
33.0	28.4	33.8	22.7	-278.4	.0509	.490	.445	.445	.445	.445	.445	1.355	.427	.427	.391	.391	.391	.391	
34.0	28.2	33.5	22.7	-284.0	.0519	.490	.525	.525	.525	.525	.525	1.355	.423	.433	.387	.377	.377	.377	

Table 40A — Scaling Run 63, Test Configuration 5: Two 2.54-cm Nozzles

i	T ₁ (°K)	P ₁ (atm)	T ₂ (°K)	P ₂ (atm)	Chamber P _c (atm)	Chamber Absolute Temperatures (K) at Locations 1												COORDINATES	
						1	2	3	4	5	6	7	8	9	10	11	12	R (in)	THETA (deg)
-3	...	...	...	...	1.022	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	0.457	45
-2	...	...	...	...	1.022	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	0.457	45
-1	...	...	...	...	1.022	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	0.457	45
0	...	...	...	...	1.022	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	0.457	45
1	...	...	...	...	1.047	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	0.457	45
2	...	...	...	...	1.225	302.2	301.2	299.2	300.2	302.2	302.2	301.2	302.2	302.2	302.2	302.2	302.2	0.457	45
3	...	...	...	...	1.423	307.2	305.2	304.2	304.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	0.457	45
4	...	...	...	...	1.594	310.2	309.2	308.2	308.2	310.2	310.2	309.2	309.2	309.2	309.2	309.2	309.2	0.457	45
5	...	...	...	...	1.754	312.2	311.2	311.2	311.2	312.2	312.2	311.2	311.2	311.2	311.2	311.2	311.2	0.457	45
6	...	...	...	...	1.844	313.2	312.2	312.2	312.2	313.2	313.2	312.2	312.2	312.2	312.2	312.2	312.2	0.457	45
7	...	...	...	...	2.022	313.2	312.2	312.2	312.2	313.2	313.2	312.2	312.2	312.2	312.2	312.2	312.2	0.457	45
8	...	...	...	...	2.118	312.2	312.2	312.2	312.2	313.2	313.2	312.2	312.2	312.2	312.2	312.2	312.2	0.457	45
9	...	...	...	...	2.110	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	0.457	45
10	...	...	...	...	2.103	311.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	312.2	0.457	45
11	...	...	...	...	2.099	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	0.457	45
12	...	...	...	...	2.096	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	0.457	45
13	...	...	...	...	2.093	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	0.457	45
14	...	...	...	...	2.090	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	0.457	45
15	...	...	...	...	2.087	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	0.457	45
16	...	...	...	...	2.084	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	310.2	0.457	45
17	...	...	...	...	2.082	309.2	309.2	309.2	309.2	309.2	309.2	309.2	309.2	309.2	309.2	309.2	309.2	0.457	45
18	...	...	...	...	2.075	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	0.457	45
19	...	...	...	...	2.069	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	0.457	45
20	...	...	...	...	2.063	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	0.457	45
21	...	...	...	...	2.059	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	0.457	45
22	...	...	...	...	2.055	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	0.457	45
23	...	...	...	...	2.051	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	0.457	45
24	...	...	...	...	2.048	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	0.457	45
25	...	...	...	...	2.046	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	0.457	45
26	...	...	...	...	2.043	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	0.457	45
27	...	...	...	...	2.040	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	0.457	45
28	...	...	...	...	2.036	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	0.457	45
29	...	...	...	...	2.032	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	0.457	45
30	...	...	...	...	2.028	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	0.457	45
31	...	...	...	...	2.026	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	0.457	45
32	...	...	...	...	2.023	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	0.457	45
33	...	...	...	...	2.021	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	0.457	45
34	...	...	...	...	2.019	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	0.457	45
35	...	...	...	...	2.017	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	0.457	45
36	...	...	...	...	2.016	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	0.457	45
37	...	...	...	...	2.014	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	0.457	45
38	...	...	...	...	2.012	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	0.457	45
39	...	...	...	...	2.012	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	0.457	45

Table 40B — Inferred Pressurant Distribution, Sealing Run 63, Test Configuration 5:
Two 2.54-cm Nozzles

i (°)	T ₁ (°C)	T ₂ (°C)	T ₃ (°C)	β	β/θ	X	Pressurant Fractions (X) at Locations i												
							1	2	3	4	5	6	7	8	9	10	11	12	13
COMMENCE VALVE OPENING																			
0.0	22.2	22.2	63.1	1.3	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
1.0	22.1	23.1	24.3	439.1	9.2072	.021	-.320	-.320	-.754	-.754	-.320	-.320	-.320	-.320	-.320	-.320	-.320	-.320	
VALVE FULLY OPEN																			
2.0	20.7	29.9	34.4	44.6	6.1933	.147	.241	.428	.932	.633	.241	.241	.241	.211	.132	.349	.211	.093	
3.0	33.5	36.8	23.8	14.0	1.8701	.254	.274	.428	.506	.506	.351	.351	.351	.228	.120	.166	.050	.089	
4.0	36.7	42.4	25.0	9.0	.9597	.330	.356	.413	.470	.413	.356	.384	.384	.270	.207	.230	.235	.264	
5.0	38.4	46.2	26.0	8.5	.7405	.386	.392	.442	.442	.442	.392	.442	.442	.397	.358	.368	.323	.333	
6.0	39.3	48.7	26.7	8.5	.6248	.429	.430	.476	.433	.476	.430	.433	.433	.408	.412	.403	.403	.398	
COMMENCE VALVE CLOSURE																			
7.0	39.5	50.1	27.2	9.2	.5928	.465	.475	.475	.475	.475	.475	.475	.471	.462	.458	.436	.449	.453	
8.0	39.2	50.4	27.5	23.0	.4921	.490	.510	.510	.488	.488	.488	.488	.484	.493	.488	.488	.480	.484	
VALVE FULLY CLOSED																			
9.0	38.4	49.3	27.1	4.9	.1040	.489	.497	.497	.497	.497	.497	.497	.497	.484	.488	.479	.479	.484	
10.0	37.4	47.7	26.6	7.7	.1650	.489	.529	.482	.482	.482	.482	.482	.482	.487	.487	.487	.487	.486	
11.0	36.8	46.8	26.3	4.7	.0594	.489	.512	.512	.487	.487	.487	.487	.487	.497	.502	.482	.482	.477	
12.0	36.3	46.2	26.1	3.6	.0772	.489	.494	.494	.494	.494	.494	.494	.494	.514	.504	.479	.439	.484	
13.0	35.9	45.5	25.9	3.7	.0757	.489	.527	.502	.502	.476	.502	.476	.512	.502	.481	.466	.466	.471	
14.0	35.5	44.8	25.7	3.9	.0823	.489	.505	.505	.505	.505	.505	.505	.500	.500	.474	.479	.433	.458	
15.0	35.0	44.2	25.3	4.0	.0882	.489	.497	.497	.497	.497	.497	.497	.497	.508	.503	.492	.471	.460	
16.0	34.7	43.7	25.3	2.7	.0584	.489	.491	.491	.491	.491	.491	.491	.502	.507	.485	.485	.474	.480	
17.0	34.6	43.5	25.3	1.4	.0297	.489	.523	.478	.478	.478	.478	.478	.503	.494	.494	.483	.489	.478	
18.0	34.3	43.0	25.1	2.8	.0606	.489	.523	.495	.495	.467	.467	.467	.506	.506	.495	.495	.478	.484	
19.0	34.1	42.8	25.1	1.4	.0308	.489	.502	.502	.502	.502	.502	.446	.502	.508	.480	.485	.480	.468	
20.0	33.8	42.4	24.9	2.9	.0628	.489	.490	.490	.490	.490	.490	.490	.496	.508	.490	.490	.479	.473	
21.0	33.7	42.1	24.9	1.5	.0320	.489	.537	.479	.479	.479	.479	.479	.502	.508	.491	.502	.468	.479	
22.0	33.4	41.7	24.7	3.1	.0653	.489	.527	.527	.468	.468	.468	.468	.510	.510	.492	.492	.474	.480	
23.0	32.4	41.5	24.7	3.1	.0653	.489	.519	.519	.459	.459	.459	.459	.525	.501	.501	.501	.477	.495	
24.0	33.1	41.2	24.6	1.6	.0337	.489	.500	.500	.500	.500	.500	.440	.500	.500	.488	.500	.470	.482	
25.0	32.8	40.8	24.5	3.2	.0689	.489	.489	.489	.489	.489	.489	.489	.507	.513	.489	.501	.482	.482	
26.0	32.7	40.5	24.4	1.6	.0352	.489	.481	.481	.481	.481	.481	.481	.506	.506	.494	.512	.476	.488	
27.0	32.5	40.3	24.4	1.7	.0357	.489	.470	.532	.470	.470	.470	.470	.507	.507	.495	.514	.476	.489	
28.0	32.4	40.1	24.3	1.7	.0362	.489	.517	.517	.517	.454	.454	.454	.498	.505	.498	.505	.479	.479	
29.0	32.1	39.6	24.2	3.5	.0740	.489	.511	.511	.511	.446	.446	.446	.511	.511	.504	.511	.472	.491	
30.0	32.1	39.6	24.2	0.0	.0000	.489	.498	.498	.498	.483	.483	.483	.483	.504	.511	.511	.485	.485	
31.0	31.8	39.2	24.0	3.6	.0762	.489	.483	.483	.483	.483	.483	.483	.483	.503	.496	.509	.470	.490	
32.0	31.6	38.9	24.0	1.8	.0390	.489	.478	.478	.478	.478	.478	.478	.498	.511	.511	.518	.484	.484	
33.0	31.5	38.7	23.9	1.9	.0396	.489	.530	.530	.463	.463	.463	.463	.496	.496	.503	.517	.469	.483	
34.0	31.3	38.5	23.9	1.9	.0403	.489	.525	.525	.457	.457	.457	.457	.491	.505	.498	.519	.484	.491	

END

Table 41A — Scaling Run 64, Test Configuration 4: One 2.54-cm Nozzle

i	Press Tank P (atm)	T ₁ (K)	Chamber P (atm)	Chamber Absolute Temperatures (K) at Locations 1-13													COORDINATES		
				1	2	3	4	5	6	7	8	9	10	11	12	13	1	2	3
-5	1.021	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	0	0	0
-4	1.022	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	0	0	0
-3	1.021	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	0	0	0
-2	1.021	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	0	0	0
-1	1.022	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	0	0	0
0	1.022	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	0	0	0
1	1.023	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	296.2	0	0	0
2	1.191	302.2	301.7	300.7	301.2	301.7	302.2	300.8	300.5	299.5	301.0	300.5	300.4	300.0	300.0	300.0	0	0	0
3	1.291	305.2	304.2	304.2	304.2	304.2	305.2	303.6	303.6	303.6	303.6	303.6	303.6	303.6	303.6	303.6	0	0	0
4	1.384	306.2	305.2	305.2	305.2	305.2	306.2	304.6	304.6	304.6	304.6	304.6	304.6	304.6	304.6	304.6	0	0	0
5	1.471	307.2	306.7	306.7	307.2	307.2	307.2	306.5	306.5	306.5	306.5	306.5	306.5	306.5	306.5	306.5	0	0	0
6	1.553	308.2	307.2	307.2	308.2	308.2	308.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	0	0	0
7	1.631	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	0	0	0
8	1.704	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	0	0	0
9	1.776	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	0	0	0
10	1.842	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	0	0	0
11	1.906	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	0	0	0
12	1.968	307.7	307.7	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	308.2	0	0	0
13	2.036	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	0	0	0
14	2.041	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	307.2	0	0	0
15	2.037	306.7	306.7	306.7	306.7	306.7	306.7	306.7	306.7	306.7	306.7	306.7	306.7	306.7	306.7	306.7	0	0	0
16	2.034	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	0	0	0
17	2.032	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	306.2	0	0	0
18	2.030	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	0	0	0
19	2.028	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	0	0	0
20	2.027	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	0	0	0
21	2.025	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	0	0	0
22	2.024	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	305.2	0	0	0
23	2.023	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	304.2	0	0	0
24	2.019	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	303.2	0	0	0
25	2.015	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	0	0	0
26	2.012	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	0	0	0
27	2.009	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	0	0	0
28	2.007	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	0	0	0
29	2.004	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	0	0	0
30	2.002	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	0	0	0
31	2.000	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	0	0	0
32	1.999	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	0	0	0
33	1.997	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	301.2	0	0	0
34	1.994	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	0	0	0
35	1.992	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	0	0	0
36	1.989	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	0	0	0
37	1.988	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	0	0	0
38	1.986	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	0	0	0
39	1.984	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	0	0	0
40	1.983	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	0	0	0
41	1.981	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	0	0	0
42	1.980	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	0	0	0
43	1.978	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	0	0	0
44	1.976	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	0	0	0
45	1.975	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	0	0	0
46	1.973	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	0	0	0
47	1.971	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	298.2	0	0	0

Table 41B — Inferred Pressurant Distribution, Sealing Run 64, Test Configuration 4:
One 2.54-cm Nozzle

t _g	P _g (°C)	P _g (°C)	P _g (°C)	A	A/θ	X	Pressurant Fractions (X) at Locations 1												
							1	2	3	4	5	6	7	8	9	10	11	12	13
COMMENCE VALVE OPENING																			
0.0	22.2	22.2	21.9	3.9	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
1.0	24.0	23.7	29.5	256.3	13.2894	.051	.084	-.088	-.260	-.088	.084	.084	.032	.221	.101	.187	.135	.118	
VALVE FULLY OPEN																			
2.0	27.0	28.1	25.5	44.5	3.6419	.126	-.033	.162	.551	.356	.162	-.033	.084	-.111	.201	-.111	.123	.084	
3.0	30.5	32.3	22.6	17.0	1.2147	.186	.116	.219	.219	.219	.116	.158	.158	.158	.230	.158	.209	.188	
4.0	31.0	34.7	22.3	17.2	1.1223	.238	.207	.208	.288	.288	.207	.287	.199	.215	.255	.207	.247	.235	
5.0	32.9	36.6	22.8	15.0	.8596	.280	.258	.294	.294	.258	.258	.265	.280	.301	.272	.287	.294	.287	
6.0	32.4	38.1	23.3	15.2	.7961	.317	.266	.333	.323	.266	.266	.306	.327	.340	.333	.340	.333	.340	
7.0	32.8	39.1	23.8	14.9	.7127	.349	.323	.323	.323	.323	.323	.343	.382	.375	.356	.388	.375	.375	
8.0	32.8	39.6	24.2	16.0	.6583	.377	.323	.353	.353	.353	.353	.372	.392	.405	.405	.405	.398	.398	
9.0	32.8	39.9	24.6	16.1	.6681	.402	.376	.376	.376	.376	.376	.389	.435	.428	.428	.441	.428	.421	
10.0	32.7	40.2	24.9	16.0	.5841	.423	.396	.396	.396	.396	.396	.422	.442	.455	.448	.461	.455	.448	
11.0	32.7	40.4	25.2	16.4	.5636	.443	.409	.409	.409	.409	.409	.435	.468	.468	.482	.488	.475	.468	
COMMENCE VALVE CLOSURE																			
12.0	33.5	40.4	25.5	16.8	.5462	.461	.451	.451	.417	.417	.417	.417	.458	.491	.498	.491	.505	.491	
13.0	32.0	39.8	25.6	13.4	.7155	.480	.465	.465	.465	.465	.465	.465	.472	.500	.493	.493	.500	.493	
VALVE FULLY CLOSED																			
14.0	32.8	39.5	25.5	1.8	.0962	.481	.482	.482	.482	.482	.482	.482	.483	.509	.509	.502	.516	.502	
15.0	32.8	38.6	28.2	2.7	.1487	.481	.482	.482	.482	.482	.482	.482	.483	.509	.509	.502	.516	.502	
16.0	31.7	38.0	25.0	2.2	.1152	.481	.472	.472	.472	.472	.472	.472	.472	.503	.497	.495	.503	.487	
17.0	31.4	37.5	24.8	1.5	.0798	.481	.461	.461	.461	.461	.461	.461	.461	.483	.509	.509	.501	.493	
18.0	31.1	37.1	24.7	1.5	.0825	.481	.518	.437	.437	.437	.518	.437	.486	.510	.510	.502	.510	.486	
19.0	30.8	36.6	24.5	1.6	.0853	.481	.486	.486	.486	.486	.486	.486	.486	.494	.478	.494	.486	.469	
20.0	30.7	36.4	24.5	1.7	.0839	.481	.479	.479	.479	.479	.479	.479	.479	.504	.495	.487	.487	.470	
21.0	30.4	36.0	24.3	1.7	.0899	.481	.472	.472	.472	.472	.472	.472	.481	.506	.498	.506	.489	.481	
22.0	30.2	35.7	24.3	9	.0462	.481	.463	.463	.463	.463	.463	.463	.463	.481	.504	.516	.507	.481	
23.0	30.1	35.5	24.2	9	.0471	.481	.534	.446	.446	.446	.446	.446	.446	.481	.507	.508	.517	.490	
24.0	29.9	35.3	24.1	9	.0480	.481	.512	.468	.423	.468	.468	.468	.468	.512	.494	.494	.494	.477	
25.0	29.8	35.1	24.0	9	.0489	.481	.489	.489	.489	.489	.489	.489	.489	.489	.489	.489	.471	.462	
26.0	29.6	34.8	24.0	9	.0499	.481	.482	.482	.482	.482	.482	.482	.473	.491	.482	.500	.473	.473	
27.0	29.5	34.6	23.9	1.0	.0509	.481	.476	.476	.476	.476	.476	.476	.467	.504	.476	.495	.476	.486	
28.0	29.3	34.4	23.8	1.0	.0520	.481	.467	.467	.467	.467	.467	.467	.467	.504	.495	.495	.486	.486	
29.0	29.3	34.4	23.8	0.0	.0500	.481	.437	.309	.437	.437	.437	.437	.437	.514	.503	.493	.486	.493	
30.0	29.2	34.2	23.8	1.0	.0520	.481	.526	.526	.526	.526	.526	.526	.526	.497	.487	.478	.458	.468	
31.0	29.0	32.5	23.7	1.0	.0543	.481	.513	.513	.513	.513	.513	.513	.513	.493	.474	.464	.454	.464	
32.0	28.9	32.7	23.6	1.0	.0554	.481	.507	.507	.507	.507	.507	.507	.507	.497	.477	.467	.457	.467	
33.0	28.9	32.7	23.6	0.0	.0500	.481	.494	.494	.494	.494	.494	.494	.494	.494	.484	.464	.454	.464	
34.0	28.7	32.5	23.6	1.1	.0567	.481	.490	.490	.490	.490	.490	.490	.490	.490	.480	.460	.450	.460	

Table 42A -- Scaling Run 65, Test Configuration 4: One 2.54-cm Nozzle

Press Temp T ₁	T ₂ (°C)	T ₃ (°C)	T ₄ (°C)	Chamber Absolute Temperatures (K) at Locations I										COORDINATES																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
				1	2	3	4	5	6	7	8	9	10	11	12	13	K (M)	THETA (DEG)	Z (M)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
-3	000	000	000	1.036	293.2	293.2	295.2	295.2	295.2	295.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.

Table 42B — Inferred Pressurant Distribution, Scaling Run 65, Test Configuration 4:
One 2.54-cm Nozzle

i (°)	P (°C)	T ₁ (°C)	T ₂ (°C)	P (°C)	M ₀	X	Pressurant Fractions (X) at Locations I												
							1	2	3	4	5	6	7	8	9	10	11	12	13
COMMENCE VALVE OPENING																			
0.0	20.9	20.9	132.2	-	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
1.0	21.0	21.0	23.0	88999.1	-7.0094	-0.000	-0.011	-0.011	-0.011	-0.011	-0.011	-0.011	-0.011	-0.011	-0.011	-0.011	-0.011	-0.011	
VALVE FULLY OPEN																			
2.0	23.6	23.6	23.2	132.0	7.1037	0.002	-1.029	377	3.188	377	377-2.435	1.220-1.873	1.220-1.873	1.220-1.873	1.220-1.873	1.220-1.873	1.220-1.873	1.220-1.873	
3.0	27.0	28.7	22.2	33.3	3.6382	131	121	121	430	275	121	105	028	152	059	136	136	136	
4.0	29.0	32.1	21.1	17.0	1.1551	206	196	287	287	287	196	141	141	205	150	196	205	196	
5.0	31.2	34.6	21.4	14.9	0.8045	232	236	274	312	236	236	221	229	239	236	274	267	239	
6.0	32.2	36.9	21.9	14.1	0.7645	292	241	309	309	309	241	241	280	282	330	302	316	316	
7.0	32.6	37.6	22.4	14.9	0.7441	326	305	305	330	305	305	311	325	344	338	358	344	344	
8.0	32.7	38.2	22.4	15.8	0.7383	357	341	341	341	341	341	341	341	341	341	341	341	341	
9.0	32.7	38.6	22.2	16.0	0.7333	383	366	366	366	366	366	366	366	366	366	366	366	366	
10.0	32.7	39.0	23.7	15.5	0.7147	407	393	393	393	393	393	393	393	393	393	393	393	393	
11.0	32.7	39.2	24.0	15.9	0.5685	428	412	412	412	412	412	412	412	412	412	412	412	412	
COMMENCE VALVE CLOSURE																			
12.0	32.6	39.3	24.3	16.4	0.5468	447	432	432	432	432	432	432	432	432	432	432	432	432	
13.0	32.5	39.4	24.5	-6273.2	0.9440	464	435	435	435	435	435	435	435	435	435	435	435	435	
VALVE FULLY CLOSED																			
14.0	32.2	39.1	24.5	-4597.9	0.3621	474	435	435	435	435	435	435	435	435	435	435	435	435	
15.0	31.1	37.6	24.6	-3059.9	0.2441	474	437	437	437	437	437	437	437	437	437	437	437	437	
16.0	30.7	36.9	23.8	-1427.8	1.124	474	445	445	445	445	445	445	445	445	445	445	445	445	
17.0	30.2	36.2	23.6	-1494.6	1.172	474	447	447	447	447	447	447	447	447	447	447	447	447	
18.0	29.9	35.8	23.4	-1037.2	0.812	474	447	447	447	447	447	447	447	447	447	447	447	447	
19.0	29.6	35.4	23.3	-1072.5	0.845	474	434	434	434	434	434	434	434	434	434	434	434	434	
20.0	29.3	34.9	23.1	-1109.7	0.874	474	442	442	442	442	442	442	442	442	442	442	442	442	
21.0	29.2	34.7	23.1	-569.7	0.949	474	429	429	429	429	429	429	429	429	429	429	429	429	
22.0	29.0	34.5	23.0	-580.1	0.937	474	478	478	478	478	478	478	478	478	478	478	478	478	
23.0	28.7	34.0	22.9	-1193.4	0.940	474	466	466	466	466	466	466	466	466	466	466	466	466	
24.0	28.6	33.8	22.8	-614.0	0.984	474	435	435	435	435	435	435	435	435	435	435	435	435	
25.0	28.4	33.6	22.7	-626.1	0.983	474	434	434	434	434	434	434	434	434	434	434	434	434	
26.0	28.3	33.4	22.7	-638.4	0.953	474	440	440	440	440	440	440	440	440	440	440	440	440	
27.0	28.1	33.1	22.6	-651.8	0.913	474	421	421	421	421	421	421	421	421	421	421	421	421	
28.0	28.0	32.9	22.5	-664.9	0.924	474	488	488	488	488	488	488	488	488	488	488	488	488	
29.0	28.0	32.9	22.5	0.0000	0.0000	474	469	469	469	469	469	469	469	469	469	469	469	469	
30.0	27.7	32.5	22.4	-1374.4	1.082	474	460	460	460	460	460	460	460	460	460	460	460	460	
31.0	27.7	32.5	22.4	0.0000	0.0000	474	434	434	434	434	434	434	434	434	434	434	434	434	
32.0	27.5	32.2	22.3	-709.9	0.939	474	447	447	447	447	447	447	447	447	447	447	447	447	
33.0	27.4	32.0	22.3	-726.4	0.932	474	444	444	444	444	444	444	444	444	444	444	444	444	
34.0	27.2	31.8	22.2	-743.1	0.985	474	484	484	484	484	484	484	484	484	484	484	484	484	

Table 43A — Scaling Run 66, Test Configuration 4: One 2.54-cm Nozzle

Press Trans	i (in)	P (atm)	T _i (°K)	Chamber P (atm)	Chamber Absolute Temperatures (K) at Locations 1													COORDINATES	
					1	2	3	4	5	6	7	8	9	10	11	12	13	R (M)	THETA 2 (DEG)
-5	0.422	0.422	236.2	1.922	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	1	0.437
-4	0.430	0.430	236.2	1.930	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	2	0.437
-3	0.438	0.438	236.2	1.938	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	3	0.437
-2	0.446	0.446	236.2	1.946	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	4	0.437
-1	0.454	0.454	236.2	1.954	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	5	0.437
0	0.462	0.462	236.2	1.962	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	6	0.437
1	0.470	0.470	236.2	1.970	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	7	0.437
2	0.478	0.478	236.2	1.978	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	8	0.437
3	0.486	0.486	236.2	1.986	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	9	0.437
4	0.494	0.494	236.2	1.994	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	10	0.437
5	0.502	0.502	236.2	2.002	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	11	0.437
6	0.510	0.510	236.2	2.010	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	12	0.437
7	0.518	0.518	236.2	2.018	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	13	0.437
8	0.526	0.526	236.2	2.026	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
9	0.534	0.534	236.2	2.034	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
10	0.542	0.542	236.2	2.042	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
11	0.550	0.550	236.2	2.050	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
12	0.558	0.558	236.2	2.058	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
13	0.566	0.566	236.2	2.066	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
14	0.574	0.574	236.2	2.074	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
15	0.582	0.582	236.2	2.082	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
16	0.590	0.590	236.2	2.090	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
17	0.598	0.598	236.2	2.098	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
18	0.606	0.606	236.2	2.106	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
19	0.614	0.614	236.2	2.114	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
20	0.622	0.622	236.2	2.122	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
21	0.630	0.630	236.2	2.130	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
22	0.638	0.638	236.2	2.138	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
23	0.646	0.646	236.2	2.146	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
24	0.654	0.654	236.2	2.154	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
25	0.662	0.662	236.2	2.162	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
26	0.670	0.670	236.2	2.170	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
27	0.678	0.678	236.2	2.178	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
28	0.686	0.686	236.2	2.186	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
29	0.694	0.694	236.2	2.194	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
30	0.702	0.702	236.2	2.202	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
31	0.710	0.710	236.2	2.210	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
32	0.718	0.718	236.2	2.218	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
33	0.726	0.726	236.2	2.226	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
34	0.734	0.734	236.2	2.234	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
35	0.742	0.742	236.2	2.242	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
36	0.750	0.750	236.2	2.250	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
37	0.758	0.758	236.2	2.258	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
38	0.766	0.766	236.2	2.266	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
39	0.774	0.774	236.2	2.274	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
40	0.782	0.782	236.2	2.282	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
41	0.790	0.790	236.2	2.290	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
42	0.798	0.798	236.2	2.298	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
43	0.806	0.806	236.2	2.306	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
44	0.814	0.814	236.2	2.314	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
45	0.822	0.822	236.2	2.322	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
46	0.830	0.830	236.2	2.330	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
47	0.838	0.838	236.2	2.338	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
48	0.846	0.846	236.2	2.346	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
49	0.854	0.854	236.2	2.354	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
50	0.862	0.862	236.2	2.362	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2		
51	0.870	0.870	236.2	2.370	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2	293.2					

Table 43B — Inferred Pressurant Distribution, Scaling Run 66, Test Configuration 4: One 2.54-cm Nozzle

[illegible]

Set 1, Table C — Mean Values of All Quantities, Scaling Runs 23-31

MEAN VALUES OF ALL QUANTITIES													
T ($^{\circ}$ C)	T_1 ($^{\circ}$ C)	T_2 ($^{\circ}$ C)	T_3 ($^{\circ}$ C)	β	R/θ	$\bar{X}$	1	2	3	4	5	6	7
0.0	26.5	26.5	103.4	2.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.0	27.6	27.5	103.6	3685.4	2.0028	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.0	28.5	28.5	103.6	1802.7	5.8814	0.07	-0.844	0.34	1.81	1.38	-1.72	3.99	-3.17
3.0	29.5	29.5	103.6	287.8	2.3937	0.71	-1.314	0.91	2.432	8.40	0.72	4.42	-3.12
4.0	30.5	30.5	103.6	102.0	7.3123	0.94	-1.720	1.398	4.40	1.331	3.00	5.15	-3.45
5.0	31.5	31.5	103.6	102.0	7.3123	0.94	-1.456	1.124	4.237	1.032	3.12	3.75	-2.51
6.0	32.5	32.5	103.6	65.4	5.2458	1.18	-1.034	0.764	3.308	5.84	1.73	2.36	-1.53
7.0	33.5	33.5	103.6	38.7	3.2022	1.42	-0.540	0.399	2.013	0.91	0.34	1.24	-0.41
8.0	34.5	34.5	103.6	21.5	2.0962	1.65	-0.307	0.310	1.371	0.72	0.33	0.72	-0.21
9.0	35.5	35.5	103.6	19.0	1.5457	1.89	-0.170	0.334	1.082	0.61	0.27	0.40	-0.15
10.0	36.5	36.5	103.6	16.6	1.1906	2.12	-0.071	0.356	0.818	0.03	0.18	0.17	-0.07
11.0	37.5	37.5	103.6	16.6	1.0143	2.36	-0.014	0.387	0.557	1.02	0.15	0.15	-0.07
12.0	38.5	38.5	103.6	16.6	0.9286	2.60	0.030	0.411	0.288	1.32	0.12	0.12	-0.07
13.0	39.5	39.5	103.6	15.9	0.8773	2.83	0.073	0.436	0.27	1.53	0.10	0.10	-0.07
14.0	40.5	40.5	103.6	15.9	0.8240	3.07	0.128	0.458	0.21	1.66	0.11	0.11	-0.07
15.0	41.5	41.5	103.6	16.0	0.7789	3.30	0.179	0.489	0.22	1.89	0.16	0.16	-0.07
16.0	42.5	42.5	103.6	15.8	0.7105	3.54	0.215	0.522	0.880	2.27	0.25	0.25	-0.07
17.0	43.5	43.5	103.6	15.9	0.6661	3.78	0.260	0.544	0.901	2.61	0.27	0.27	-0.07
18.0	44.5	44.5	103.6	16.0	0.6402	4.01	0.292	0.578	0.905	2.94	0.28	0.28	-0.07
19.0	45.5	45.5	103.6	16.2	0.5748	4.25	0.319	0.620	0.926	3.27	0.30	0.30	-0.07
20.0	46.5	46.5	103.6	16.2	0.5333	4.48	0.336	0.638	0.953	3.70	0.32	0.32	-0.07
21.0	47.5	47.5	103.6	14.5	0.4884	4.72	0.361	0.634	0.970	4.01	0.36	0.36	-0.07
22.0	48.5	48.5	103.6	14.5	0.4451	4.95	0.381	0.654	0.984	4.26	0.40	0.40	-0.07
23.0	49.5	49.5	103.6	14.5	0.4084	5.18	0.401	0.674	1.000	4.46	0.42	0.42	-0.07
24.0	50.5	50.5	103.6	14.5	0.3789	5.42	0.421	0.694	1.016	4.66	0.44	0.44	-0.07
25.0	51.5	51.5	103.6	14.5	0.3533	5.66	0.441	0.714	1.032	4.86	0.46	0.46	-0.07
26.0	52.5	52.5	103.6	14.5	0.3333	5.90	0.461	0.734	1.048	5.06	0.48	0.48	-0.07
27.0	53.5	53.5	103.6	14.5	0.3133	6.14	0.481	0.754	1.064	5.26	0.50	0.50	-0.07
28.0	54.5	54.5	103.6	14.5	0.2933	6.38	0.501	0.774	1.080	5.46	0.52	0.52	-0.07
29.0	55.5	55.5	103.6	14.5	0.2733	6.62	0.521	0.794	1.096	5.66	0.54	0.54	-0.07
30.0	56.5	56.5	103.6	14.5	0.2533	6.86	0.541	0.814	1.112	5.86	0.56	0.56	-0.07
31.0	57.5	57.5	103.6	14.5	0.2333	7.10	0.561	0.834	1.128	6.06	0.58	0.58	-0.07
32.0	58.5	58.5	103.6	14.5	0.2133	7.34	0.581	0.854	1.144	6.26	0.60	0.60	-0.07
33.0	59.5	59.5	103.6	14.5	0.1933	7.58	0.601	0.874	1.160	6.46	0.62	0.62	-0.07
34.0	60.5	60.5	103.6	14.5	0.1733	7.82	0.621	0.894	1.176	6.66	0.64	0.64	-0.07
35.0	61.5	61.5	103.6	14.5	0.1533	8.06	0.641	0.914	1.192	6.86	0.66	0.66	-0.07
36.0	62.5	62.5	103.6	14.5	0.1333	8.30	0.661	0.934	1.208	7.06	0.68	0.68	-0.07
37.0	63.5	63.5	103.6	14.5	0.1133	8.54	0.681	0.954	1.224	7.26	0.70	0.70	-0.07
38.0	64.5	64.5	103.6	14.5	0.0933	8.78	0.701	0.974	1.240	7.46	0.72	0.72	-0.07
39.0	65.5	65.5	103.6	14.5	0.0733	9.02	0.721	0.994	1.256	7.66	0.74	0.74	-0.07
40.0	66.5	66.5	103.6	14.5	0.0533	9.26	0.741	1.014	1.272	7.86	0.76	0.76	-0.07
41.0	67.5	67.5	103.6	14.5	0.0333	9.50	0.761	1.034	1.288	8.06	0.78	0.78	-0.07
42.0	68.5	68.5	103.6	14.5	0.0133	9.74	0.781	1.054	1.304	8.26	0.80	0.80	-0.07
43.0	69.5	69.5	103.6	14.5	0.0000	10.00	0.801	1.074	1.320	8.46	0.82	0.82	-0.07
44.0	70.5	70.5	103.6	14.5	0.0000	10.24	0.821	1.094	1.336	8.66	0.84	0.84	-0.07
45.0	71.5	71.5	103.6	14.5	0.0000	10.48	0.841	1.114	1.352	8.86	0.86	0.86	-0.07
46.0	72.5	72.5	103.6	14.5	0.0000	10.72	0.861	1.134	1.368	9.06	0.88	0.88	-0.07
47.0	73.5	73.5	103.6	14.5	0.0000	10.96	0.881	1.154	1.384	9.26	0.90	0.90	-0.07
48.0	74.5	74.5	103.6	14.5	0.0000	11.20	0.901	1.174	1.400	9.46	0.92	0.92	-0.07
49.0	75.5	75.5	103.6	14.5	0.0000	11.44	0.921	1.194	1.416	9.66	0.94	0.94	-0.07
50.0	76.5	76.5	103.6	14.5	0.0000	11.68	0.941	1.214	1.432	9.86	0.96	0.96	-0.07
51.0	77.5	77.5	103.6	14.5	0.0000	11.92	0.961	1.234	1.448	10.06	0.98	0.98	-0.07
52.0	78.5	78.5	103.6	14.5	0.0000	12.16	0.981	1.254	1.464	10.26	1.00	1.00	-0.07
53.0	79.5	79.5	103.6	14.5	0.0000	12.40	1.001	1.274	1.480	10.46	1.02	1.02	-0.07
54.0	80.5	80.5	103.6	14.5	0.0000	12.64	1.021	1.294	1.496	10.66	1.04	1.04	-0.07
55.0	81.5	81.5	103.6	14.5	0.0000	12.88	1.041	1.314	1.512	10.86	1.06	1.06	-0.07
56.0	82.5	82.5	103.6	14.5	0.0000	13.12	1.061	1.334	1.528	11.06	1.08	1.08	-0.07
57.0	83.5	83.5	103.6	14.5	0.0000	13.36	1.081	1.354	1.544	11.26	1.10	1.10	-0.07
58.0	84.5	84.5	103.6	14.5	0.0000	13.60	1.101	1.374	1.560	11.46	1.12	1.12	-0.07
59.0	85.5	85.5	103.6	14.5	0.0000	13.84	1.121	1.394	1.576	11.66	1.14	1.14	-0.07
60.0	86.5	86.5	103.6	14.5	0.0000	14.08	1.141	1.414	1.592	11.86	1.16	1.16	-0.07
61.0	87.5	87.5	103.6	14.5	0.0000	14.32	1.161	1.434	1.608	12.06	1.18	1.18	-0.07
62.0	88.5	88.5	103.6	14.5	0.0000	14.56	1.181	1.454	1.624	12.26	1.20	1.20	-0.07
63.0	89.5	89.5	103.6	14.5	0.0000	14.80	1.201	1.474	1.640	12.46	1.22	1.22	-0.07
64.0	90.5	90.5	103.6	14.5	0.0000	15.04	1.221	1.494	1.656	12.66	1.24	1.24	-0.07
65.0	91.5	91.5	103.6	14.5	0.0000	15.28	1.241	1.514	1.672	12.86	1.26	1.26	-0.07
66.0	92.5	92.5	103.6	14.5	0.0000	15.52	1.261	1.534	1.688	13.06	1.28	1.28	-0.07
67.0	93.5	93.5	103.6	14.5	0.0000	15.76	1.281	1.554	1.704	13.26	1.30	1.30	-0.07
68.0	94.5	94.5	103.6	14.5	0.0000	16.00	1.301	1.574	1.720	13.46	1.32	1.32	-0.07
69.0	95.5	95.5	103.6	14.5	0.0000	16.24	1.321	1.594	1.736	13.66	1.34	1.34	-0.07
70.0	96.5	96.5	103.6	14.5	0.0000	16.48	1.341	1.614	1.752	13.86	1.36	1.36	-0.07
71.0	97.5	97.5	103.6	14.5	0.0000	16.72	1.361	1.634	1.768	14.06	1.38	1.38	-0.07
72.0	98.5	98.5	103.6	14.5	0.0000	16.96	1.381	1.654	1.784	14.26	1.40	1.40	-0.07
73.0	99.5	99.5	103.6	14.5	0.0000	17.20	1.401	1.674	1.800	14.46	1.42	1.42	-0.07
74.0	100.5	100.5	103.6	14.5	0.0000	17.44	1.421	1.694	1.816	14.66	1.44	1.44	-0.07
75.0	101.5	101.5	103.6	14.5	0.0000	17.68	1.441	1.714	1.832	14.86	1.46	1.46	-0.07
76.0	102.5	102.5	103.6	14.5	0.0000	17.92	1.461	1.734	1.848	15.06	1.48	1.48	-0.07
77.0	103.5	103.5	103.6	14.5	0.0000	18.16	1.481	1.754	1.864	15.26	1.50	1.50	-0.07
78.0	104.5	104.5	103.6	14.5	0.0000	18.40	1.501	1.774	1.880	15.46	1.52	1.52	-0.07
79.0	105.5	105.5	103.6	14.5	0.0000	18.64	1.521	1.794	1.896	15.66	1.54	1.54	-0.07
80.0	106.5	106.5	103.6	14.5	0.0000	18.88	1.541	1.814	1.912	15.86	1.56	1.56	-0.07
81.0	107.5	107.5	103.6	14.5	0.0000	19.12	1.561	1.834	1.928	16.06	1.58	1.58	-0.07
82.0	108.5	108.5	103.6	14.5	0.0000	19.36	1.581	1.854	1.944	16.26	1.60	1.60	-0.07
83.0	109.5	109.5	103.6	14.5	0.0000	19.60	1.601	1.874	1.960	16.46	1.62	1.62	-0.07
84.0	110.5	110.5	103.6	14.5	0.0000	19.84	1.621	1.894	1.976	16.66	1.64	1.64	-0.07
85.0	111.5	111.5	103.6	14.5	0.0000	20.08	1.641	1.914	1.992	16.86	1.6		

MEAN VALUES OF ALL QUANTITIES

[illegible]

AD-A104 807

NAVAL RESEARCH LAB WASHINGTON DC

F/G 13/12

NRL 5-M3 CHAMBER PRESSURIZATION EXPERIMENT: PRESSURANT CONCENTR--ETC(U)

SEP 81 J P STONE, J I ALEXANDER, F W WILLIAMS

UNCLASSIFIED

NRL-8503

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Set 4, Table C — Mean Values of All Quantities, Scaling Runs 39-41

MEAN VALUES OF MILL QUANTITIES

Mean Pressurant Fractions at Locations I

t ($^{\circ}$ C)	$\bar{t}$ ($^{\circ}$ C)	$\bar{t}_1$ ($^{\circ}$ C)	$\bar{t}_2$ ($^{\circ}$ C)	$\bar{t}_3$ ($^{\circ}$ C)	β	$R/\bar{t}$	1	2	3	4	5	6	7	8	9	10	11	12	13
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.0	18.0	18.0	18.0	93.7	1.4	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			

Set 5, Table C – Mean Values of All Quantities, Scaling Runs 42-44

[illegible]

Set 6, Table C – Mean Values of All Quantities, Scaling Runs 45-47

[illegible]

Set 7, Table C — Mean Values of All Quantities, Scaling Runs 48-50

MEAN VALUES OF ALL QUANTITIES																						
i	ω_i	T_i	T_i	T_i	β	R/θ	$\bar{Y}$	1	2	3	4	5	6	7	8	9	10	11	12	13	r	
1	0.0	20.1	20.1	239.2	2.9	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0	
2	1.2	21.0	20.9	44.0	2920.5	9.5933	0.24	378	-376	433	295	308	378	615	415	050	124	247	220	001	05	
3	1.6	22.1	22.1	23.3	241.4	7.5075	0.08	323	-235	234	256	263	319	076	458	021	031	110	102	005	10	
4	2.6	23.2	23.5	19.7	77.5	2.8011	0.72	085	047	037	113	113	133	030	110	107	072	050	072	080	15	
5	3.4	24.3	23.0	18.1	36.5	1.2038	0.95	-019	068	072	114	111	109	011	431	097	038	068	059	081	20	
6	4.3	25.3	26.2	17.4	31.0	0.9514	1.15	048	048	237	141	085	100	063	384	112	089	101	094	104	25	
7	5.1	25.9	27.2	18.1	29.7	0.9338	1.43	082	097	130	146	117	133	080	402	133	127	141	143	130	30	
8	6.0	26.5	28.1	18.5	28.0	0.8735	1.67	120	135	146	170	127	143	107	431	156	151	167	164	162	35	
9	7.0	27.0	28.9	19.0	26.6	0.7308	1.91	149	131	176	178	134	144	143	463	186	189	194	196	190	40	
10	8.2	27.4	28.4	19.5	27.5	0.7018	2.15	176	140	175	206	164	179	168	486	218	217	220	220	207	45	
11	9.4	27.5	29.9	19.9	27.6	0.7315	2.39	192	176	176	207	206	222	194	527	231	243	246	246	236	50	
12	10.6	27.7	30.2	20.5	27.7	0.6246	2.62	229	198	213	230	221	237	212	562	247	274	277	266	252	55	
13	12.3	27.7	30.5	20.9	27.2	0.5939	2.86	258	209	241	257	241	258	239	594	265	281	309	289	279	60	
14	14.0	27.7	30.6	21.1	28.6	0.5932	3.10	276	226	247	280	280	276	287	626	300	307	327	316	303	65	
15	15.8	27.6	30.6	21.7	27.8	0.5264	3.34	295	232	277	287	277	293	305	658	337	332	349	350	329	70	
16	17.0	27.5	30.6	22.0	29.4	0.5251	3.58	319	217	267	323	323	330	316	685	365	360	359	361	348	75	
17	18.0	27.5	30.7	22.3	28.0	0.4807	3.82	338	332	302	339	339	346	347	723	375	397	391	390	377	80	
18	19.4	27.4	30.6	22.6	29.1	0.4454	4.06	369	310	310	350	350	369	377	756	413	425	419	423	407	85	
19	20.8	27.3	30.6	22.6	29.8	0.4253	4.29	379	317	339	358	358	379	397	801	441	467	456	453	435	90	
20	22.3	27.1	30.4	23.2	31.0	0.3942	4.53	428	353	363	406	384	374	419	838	452	465	467	475	458	95	
21	24.0	26.9	30.2	23.4	31.139	0.3388	4.77	422	359	359	399	399	467	444	872	488	503	489	498	474	100	
22	26.9	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105	
23	29.8	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110	
24	32.7	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	115	
25	35.6	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120	
26	38.5	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	125	
27	41.4	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	130	
28	44.3	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	135	
29	47.2	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	140	
30	50.1	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	145	
31	53.0	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150	
32	55.9	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	155	
33	58.8	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	160	
34	61.7	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	165	
35	64.6	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	170	
36	67.5	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	175	
37	70.4	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	180	
38	73.3	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	185	
39	76.2	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	190	
40	79.1	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	195	
41	82.0	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	200	
42	84.9	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	205	
43	87.8	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	210	
44	90.7	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	215	
45	93.6	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	220	
46	96.5	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	225	
47	99.4	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	230	
48	102.3	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	235	
49	105.2	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	240	
50	108.1	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	245	
51	111.0	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	250	
52	113.9	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	255	
53	116.8	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	260	
54	119.7	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	265	
55	122.6	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	270	
56	125.5	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	275	
57	128.4	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	280	
58	131.3	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	285	
59	134.2	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	290	
60	137.1	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	295	
61	140.0	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	300	
62	142.9	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	305	
63	145.8	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	310	
64	148.7	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	315	
65	151.6	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	320	
66	154.5	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	325	
67	157.4	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	330	
68	160.3	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	335	
69	163.2	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	340	
70	166.1	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	345	
71	169.0	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	350	
72	171.9	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	355	
73	174.8	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	360	
74	177.7	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	365	
75	180.6	26.9	30.2	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	370	
76	183.5	26.9	30.2	23.4	0	0																

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Set 9, Table C — Mean Values of All Quantities, Scaling Runs 54-56

[illegible]

MEAN VALUES OF ALL QUANTITIES

[illegible]

Set 11, Table C — Mean Values of All Quantities, Scaling Runs 61-63

[illegible]

Set 12, Table C – Mean Values of All Quantities, Scaling Runs 64-66

[illegible]

STONE, CORLETT, ALEXANDER, AND WILLIAMS

Set 1, Table D — Standard Deviation of Mean Local Pressurant
Fractions, Scaling Runs 23-31

Locations																
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.221	1.716	4.169	2.014	2.248	1.535	1.258	3.911	2.041	2.532	1.826	2.644	1.242	0.05			
2.939	2.463	6.441	3.678	2.189	1.641	1.447	4.313	2.002	3.117	2.697	3.553	9.31	1.0			
1.680	3.093	8.313	4.480	2.407	2.130	1.891	4.923	2.274	3.743	3.475	5.536	8.72	1.5			
2.631	2.112	5.931	3.591	1.752	1.603	1.410	3.212	1.451	2.629	2.486	4.43	7.28	2.0			
1.432	1.12	1.374	1.57	3.73	3.51	4.40	1.662	9.15	1.399	1.311	2.51	4.30	2.5			
1.1	1.1	1.1	1.07	2.45	2.36	2.00	4.51	2.21	3.97	3.36	0.98	1.46	3.0			
1.07	1.14	4.29	1.26	1.04	1.65	1.23	1.26	0.92	1.11	0.96	0.63	0.45	3.5			
1.08	1.14	2.85	0.67	0.85	1.45	0.84	0.93	0.75	0.82	0.71	0.53	0.48	4.0			
1.06	1.11	1.12	0.49	0.71	1.22	0.50	0.80	0.61	0.63	0.73	0.45	0.47	4.5			
1.03	0.99	1.29	0.67	0.76	0.81	0.46	0.62	0.54	0.51	0.59	0.44	0.40	5.0			
0.82	0.41	0.31	0.66	0.70	0.62	0.51	0.49	0.50	0.41	0.50	0.34	0.36	5.5			
0.47	0.26	0.84	0.31	0.39	0.80	0.41	0.38	0.27	0.40	0.48	0.27	0.39	6.0			
0.44	0.12	0.72	0.31	0.40	0.51	0.34	0.29	0.34	0.52	0.38	0.36	0.34	6.5			
0.21	0.43	0.69	0.32	0.40	0.49	0.35	0.35	0.37	0.32	0.42	0.17	0.23	7.0			
0.44	0.33	0.45	0.28	0.28	0.50	0.33	0.34	0.42	0.29	0.32	0.14	0.34	7.5			
1.29	0.66	0.61	0.29	0.29	0.44	0.25	0.26	0.39	0.23	0.33	0.16	0.19	8.0			
0.34	0.44	1.15	0.42	0.40	0.27	0.27	0.40	0.23	0.37	0.33	0.18	0.10	8.5			
0.58	0.14	0.14	0.47	0.54	0.39	0.29	0.27	0.33	0.32	0.32	0.14	0.22	9.0			
0.52	0.41	0.52	0.76	0.42	0.31	0.32	0.36	0.25	1.37	0.25	0.21	0.34	9.5			
0.74	1.16	1.26	0.49	0.69	0.69	0.44	0.48	0.35	0.27	0.35	0.39	0.44	1.00			
0.63	0.72	1.00	0.70	0.43	0.43	0.40	0.41	0.35	0.26	0.36	0.35	0.35	1.05			
0.75	0.76	0.53	0.64	0.51	0.41	0.47	0.40	0.34	0.38	0.34	0.34	0.28	1.10			
0.76	0.57	0.42	0.61	0.62	0.84	0.39	0.52	0.33	0.37	0.35	0.29	0.21	1.15			
0.77	0.43	0.17	0.51	0.43	0.34	0.36	0.47	0.50	0.34	0.33	0.33	0.25	1.20			
0.90	0.66	0.11	0.59	0.62	0.44	0.38	0.57	0.49	0.43	0.38	0.36	0.47	1.25			
0.79	0.81	0.44	0.51	0.61	0.49	0.33	0.72	0.57	0.45	0.50	0.42	0.30	1.30			
1.01	0.79	0.78	0.58	0.42	0.66	0.40	0.58	0.68	0.49	0.34	0.51	0.60	1.35			
1.02	0.42	0.31	0.56	0.47	0.63	0.41	0.79	0.43	0.51	0.50	0.48	0.45	1.40			
0.65	0.62	0.44	0.19	0.34	0.49	0.47	0.50	0.61	0.58	0.28	0.36	0.41	1.45			
0.69	0.77	0.46	0.74	0.80	0.36	0.48	0.74	0.67	0.46	0.47	0.33	0.58	1.50			
0.80	0.79	0.46	0.71	0.80	0.52	0.42	0.71	0.54	0.47	0.55	0.58	0.59	1.55			
0.92	0.92	0.71	0.83	0.82	0.83	0.60	0.78	0.49	0.46	0.66	0.45	0.52	1.60			
0.69	0.58	0.83	0.50	0.75	0.70	0.65	0.78	0.57	0.40	0.46	0.39	0.72	1.65			
0.65	0.69	0.83	0.63	0.63	0.44	0.26	0.56	0.10	0.45	0.41	0.49	0.64	1.70			
0.89	0.78	0.89	0.89	0.89	0.62	0.41	0.77	0.46	0.58	0.65	0.52	0.93	1.75			
2.94	2.94	3.55	2.94	3.55	2.94	2.78	3.18	3.52	3.46	3.00	3.19	2.78	1.80			
2.91	2.76	3.34	2.76	3.34	2.76	2.68	3.30	3.46	3.68	2.99	3.00	2.76	1.85			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.90			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.95			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.00			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.05			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.10			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.15			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.20			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.25			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.30			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.35			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.40			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.45			

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Set 2, Table D – Standard Deviation of Mean Local Pressurant Fractions, Scaling Runs 32-34

Locations														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1.621	1.330	1.555	1.767	1.208	1.749	2.07	1.198	1.177	1.266	1.030	2.48	0.98	0.5	0.6
1.257	2.394	2.846	3.470	2.393	1.472	3.93	6.282	2.230	2.427	1.998	5.08	1.77	1.0	1.0
1.265	2.580	3.279	3.367	2.335	1.512	4.46	6.229	2.282	2.577	2.068	5.60	1.40	1.0	1.5
1.183	2.156	2.896	2.760	1.981	1.351	4.93	5.187	1.967	2.260	1.813	5.74	1.09	2.0	2.0
0.997	1.506	2.044	1.981	1.510	1.083	4.67	3.756	1.476	1.705	1.360	5.19	0.68	2.5	2.5
7.25	9.15	1.126	1.158	9.38	7.19	3.30	2.224	9.01	1.067	8.54	3.53	0.56	3.0	3.0
4.66	2.77	2.95	3.42	3.82	3.75	2.39	6.95	3.32	4.39	3.47	1.97	1.00	3.5	3.5
2.98	1.08	2.37	0.35	1.65	2.27	1.71	0.42	1.28	2.13	1.06	0.96	0.97	4.0	4.0
1.51	1.16	2.61	0.68	0.70	1.32	0.99	0.89	0.90	1.59	0.23	0.23	0.81	4.5	4.5
0.82	0.79	1.40	0.56	0.55	0.88	0.59	0.43	0.57	1.03	0.08	0.37	0.65	5.0	5.0
0.73	0.61	0.36	0.30	0.55	0.64	0.52	0.18	0.41	0.73	0.16	0.38	0.47	5.5	5.5
0.49	0.38	0.37	0.51	0.48	0.40	0.28	0.03	0.38	0.26	0.22	0.37	0.45	6.0	6.0
0.52	0.23	0.32	0.52	0.28	0.43	0.12	0.08	0.25	0.17	0.10	0.23	0.39	6.5	6.5
0.50	0.19	0.28	0.44	0.20	0.53	0.01	0.10	0.18	0.25	0.08	0.21	0.33	7.0	7.0
0.37	0.19	0.37	0.36	0.30	0.51	0.11	0.08	0.10	0.15	0.08	0.21	0.26	7.5	7.5
0.75	0.15	0.36	0.28	0.46	0.26	0.13	0.04	0.04	0.10	0.11	0.09	0.18	8.0	8.0
0.24	0.23	0.39	0.22	0.44	0.21	0.17	0.10	0.08	0.10	0.26	0.03	0.13	8.5	8.5
0.19	0.31	0.29	0.15	0.27	0.39	0.13	0.15	0.12	0.09	0.17	0.03	0.03	9.0	9.0
0.23	0.30	0.12	0.28	0.27	0.58	2.06	0.20	0.22	0.22	0.13	0.14	0.23	9.5	9.5
0.26	0.25	0.57	0.27	0.26	0.08	0.06	0.08	0.05	0.08	0.09	0.03	1.0	10.0	10.0
0.43	0.13	0.28	0.34	0.31	0.34	0.09	0.02	0.07	0.02	0.06	0.06	0.04	1.05	1.05
0.45	0.10	0.26	0.38	0.42	0.36	0.08	0.05	0.06	0.02	0.04	0.09	0.06	1.1	1.1
0.26	0.11	0.31	0.44	0.58	0.24	0.20	0.14	0.08	0.09	0.02	0.04	0.08	1.15	1.15
0.26	0.26	0.33	0.50	0.37	0.26	0.20	0.14	0.08	0.11	0.10	0.07	0.13	1.20	1.20
0.43	0.36	0.30	0.57	0.18	0.38	0.13	0.12	0.05	0.07	0.18	0.14	0.20	1.25	1.25
0.53	0.34	0.21	0.64	0.27	0.36	0.11	0.13	0.10	0.05	0.17	0.13	0.25	1.30	1.30
0.50	0.39	0.17	0.50	0.39	0.37	0.17	0.11	0.10	0.08	0.09	0.08	0.23	1.35	1.35
0.28	0.24	0.48	0.43	0.32	0.41	0.15	0.06	0.08	0.09	0.13	0.09	0.21	1.40	1.40
0.18	0.27	0.56	0.53	0.32	0.45	0.13	0.10	0.09	0.27	0.19	0.12	0.24	1.45	1.45
0.11	0.40	0.65	0.61	0.32	0.30	0.08	0.16	0.13	0.39	0.16	0.19	0.30	1.50	1.50
0.34	0.39	0.69	0.60	0.32	0.34	0.02	0.19	0.16	0.47	0.23	0.24	0.32	1.55	1.55
0.43	0.41	0.54	0.41	0.16	0.43	0.13	0.15	0.15	0.45	0.24	0.24	0.24	1.60	1.60
0.36	0.40	0.47	0.49	0.06	0.36	0.10	0.15	0.14	0.44	0.19	0.18	0.14	1.65	1.65
0.15	0.49	0.47	0.80	0.39	0.15	0.10	0.12	0.16	0.45	0.17	0.14	0.11	1.70	1.70
0.23	0.37	0.18	0.90	0.43	0.03	0.11	0.12	0.15	0.35	0.19	0.16	0.04	1.75	1.75
0.51	0.07	0.03	0.84	0.46	0.02	0.12	0.10	0.12	0.31	0.16	0.19	0.00	1.80	1.80
0.46	0.14	0.28	0.56	0.33	0.22	0.11	0.06	0.13	0.33	0.08	0.22	0.01	1.85	1.85
0.36	0.24	0.44	0.47	0.16	0.34	0.09	0.13	0.16	0.31	0.05	0.18	0.07	1.90	1.90
0.27	0.48	0.47	0.51	0.03	0.38	0.18	0.23	0.16	0.29	0.10	0.15	0.16	1.95	1.95
0.46	0.34	0.46	0.66	0.17	0.36	0.21	0.27	0.23	0.30	0.08	0.15	0.14	2.00	2.00
0.40	0.21	0.46	0.59	0.26	0.21	0.27	0.36	0.27	0.38	0.14	0.23	0.14	2.05	2.05
0.45	0.12	0.55	0.56	0.15	0.41	0.34	0.40	0.34	0.47	0.17	0.38	0.20	2.10	2.10
0.67	0.13	0.98	0.64	0.17	0.42	0.40	0.46	0.42	0.48	0.18	0.27	0.20	2.15	2.15
0.84	0.32	0.62	0.80	0.32	0.32	0.52	0.59	0.44	0.33	0.26	0.48	0.18	2.20	2.20
0.63	0.33	0.63	0.81	0.33	0.15	0.52	0.51	0.45	0.50	0.23	0.29	0.13	2.25	2.25
0.38	0.36	0.57	0.84	0.36	0.12	0.49	0.43	0.47	0.38	0.20	0.27	0.13	2.30	2.30
0.43	0.37	0.52	0.66	0.30	0.14	0.41	0.48	0.34	0.30	0.23	0.23	0.24	2.35	2.35
0.46	0.14	0.46	0.47	0.14	0.26	0.39	0.52	0.27	0.26	0.24	0.26	0.34	2.40	2.40
0.34	0.12	0.44	0.46	0.17	0.34	0.44	0.47	0.32	0.20	0.27	0.29	0.37	2.45	2.45

Set 3, Table D — Standard Deviation of Mean Local Pressurant Fractions, Scaling Runs 35-37

Locations 1														r
1	2	3	4	5	6	7	8	9	10	11	12	13		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
1.682	1.535	2.419	2.261	2.420	1.694	1.040	4.550	2.102	2.261	1.760	2.320	1.89	05	
1.921	1.409	2.297	2.032	2.496	1.895	868	4.245	2.054	2.258	1.706	2.119	523	10	
2.234	1.285	2.178	1.804	2.635	2.162	764	3.957	2.009	2.279	1.683	1.919	868	15	
2.593	1.161	2.065	1.577	2.826	2.472	756	3.687	1.970	2.325	1.692	1.721	1.215	20	
2.904	1.040	1.938	1.352	3.061	2.814	847	3.441	1.933	2.392	1.733	1.529	1.962	25	
3.437	755	1.775	958	3.379	3.232	1.035	3.195	1.832	2.517	1.825	1.265	1.934	30	
3.923	527	1.783	623	3.762	3.697	1.260	3.090	1.874	2.747	2.004	1.080	2.386	35	
4.083	343	1.701	780	3.850	3.845	1.383	2.831	1.829	2.746	2.022	904	2.446	40	
3.528	200	1.296	240	3.317	3.310	1.204	2.316	1.547	2.251	1.684	751	2.038	45	
2.984	078	917	145	2.803	2.790	1.024	1.819	1.287	1.779	1.361	623	1.673	50	
2.440	083	543	147	2.289	2.269	844	1.323	1.030	1.307	1.041	498	1.286	55	
1.860	233	119	251	1.741	1.712	647	801	709	797	670	330	886	60	
1.464	332	150	355	1.373	1.340	515	470	502	491	413	224	608	65	
1.361	314	119	338	1.288	1.260	483	440	487	510	347	222	524	70	
1.259	298	091	322	1.203	1.182	451	413	475	531	282	221	439	75	
1.165	294	068	309	1.126	1.110	432	362	439	522	229	229	378	80	
1.120	276	063	326	1.097	1.070	436	364	401	450	230	221	367	85	
1.074	253	065	344	1.062	1.025	440	367	363	379	231	207	351	90	
1.030	253	069	347	1.024	991	400	361	341	351	235	186	328	95	
986	288	214	363	977	977	311	293	274	293	245	229	272	1.00	
977	274	164	371	970	970	324	321	287	300	224	204	286	1.05	
985	287	169	363	981	981	324	314	294	296	231	209	285	1.10	
993	300	176	355	991	991	322	318	302	292	236	213	282	1.15	
999	297	172	363	999	999	329	317	302	294	235	221	290	1.20	
1.006	294	175	371	1.006	1.006	337	313	300	295	231	224	298	1.25	
1.013	292	178	377	1.013	1.013	346	311	299	297	228	229	305	1.30	
1.023	292	185	378	1.022	1.023	349	317	299	298	233	234	304	1.35	
1.037	290	193	380	1.029	1.037	349	327	300	299	243	239	302	1.40	
1.047	289	201	382	1.033	1.050	346	335	300	301	251	244	300	1.45	
1.053	298	207	393	1.032	1.064	342	327	299	295	256	250	304	1.50	
1.059	303	211	401	1.036	1.072	342	318	299	288	260	256	311	1.55	
1.068	307	217	409	1.045	1.074	343	308	301	280	264	264	318	1.60	
1.077	312	227	399	1.054	1.069	342	312	303	281	266	266	316	1.65	
1.083	317	238	385	1.062	1.066	341	318	304	285	267	264	312	1.70	
1.083	323	245	366	1.065	1.073	342	327	304	291	268	263	310	1.75	
1.081	336	250	344	1.066	1.081	344	329	312	296	265	260	313	1.80	
1.079	345	255	322	1.068	1.090	345	331	321	300	264	258	316	1.85	
1.084	355	260	314	1.069	1.092	343	327	328	302	265	257	319	1.90	
1.089	342	265	328	1.071	1.094	341	327	327	302	266	257	325	1.95	
1.096	323	269	350	1.074	1.096	338	326	326	304	265	258	331	2.00	
1.091	303	280	360	1.081	1.100	334	326	324	305	266	263	335	2.05	
1.081	307	291	344	1.088	1.099	333	328	319	302	271	267	334	2.10	
1.071	316	301	320	1.091	1.098	332	332	312	297	279	269	330	2.15	
1.071	335	313	303	1.088	1.100	332	334	304	290	283	268	323	2.20	
1.060	352	322	306	1.087	1.109	331	330	304	285	282	271	320	2.25	
1.088	366	329	315	1.089	1.118	330	323	307	279	281	274	318	2.30	
1.091	372	333	318	1.097	1.122	330	317	315	271	281	281	319	2.35	
1.088	357	329	319	1.097	1.119	328	317	317	269	286	286	322	2.40	
1.084	332	319	321	1.095	1.116	325	322	315	272	293	290	330	2.45	

Set 4, Table D — Standard Deviation of Mean Local Pressurant
Fractions, Scaling Runs 39-41

Locations 1														r	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.042	1.132	897	856	940	986	1.078	510	267	538	4.297	3.158	629	0.05		
679	729	956	821	896	586	792	495	470	890	2.719	1.960	657	10		
486	379	1.091	993	986	449	492	611	497	933	1.560	1.201	574	15		
309	104	992	928	822	466	148	591	364	690	748	857	346	20		
218	058	044	659	567	423	073	451	227	496	580	671	193	25		
138	076	1.008	222	207	360	115	382	134	538	153	308	215	30		
151	108	1.274	286	197	411	131	514	165	694	106	366	300	35		
088	057	810	179	142	244	069	329	119	438	067	223	179	40		
032	032	300	019	060	090	010	109	056	152	036	064	047	45		
011	035	051	056	010	061	032	024	024	013	028	030	023	50		
033	073	043	043	032	042	029	034	023	014	026	035	018	55		
047	039	032	026	037	039	027	035	021	014	020	039	016	60		
037	024	021	025	011	043	025	030	021	017	006	046	012	65		
031	026	022	033	030	023	018	022	018	022	005	051	006	70		
046	021	027	030	030	038	013	018	016	023	009	047	001	75		
030	006	017	013	013	021	009	017	007	006	016	023	010	80		
026	047	010	009	009	008	009	008	005	005	025	012	012	85		
043	027	010	009	008	005	013	007	016	011	012	008	013	90		
043	051	006	014	032	012	027	014	015	006	015	024	040	95		
025	019	054	060	025	031	032	021	015	021	065	042	020	1.00		
014	014	018	016	040	013	010	016	001	010	030	023	015	1.05		
028	029	044	041	026	036	022	037	028	034	016	020	023	1.10		
035	036	038	030	013	030	017	017	027	032	020	031	025	1.15		
047	043	042	010	045	016	010	009	034	019	008	027	009	1.20		
036	042	024	027	010	033	019	016	028	024	016	039	016	1.25		
059	048	053	008	017	016	009	018	015	018	014	038	025	1.30		
066	030	047	031	047	016	021	025	028	031	017	044	030	1.35		
050	017	049	025	025	050	025	024	032	026	013	043	044	1.40		
048	050	061	013	013	036	018	024	029	032	003	040	030	1.45		
037	075	055	019	019	019	025	023	029	030	005	036	040	1.50		
056	070	049	056	056	025	027	034	039	049	007	047	048	1.55		
070	071	080	044	044	028	018	030	038	052	021	053	038	1.60		
052	077	063	044	044	041	014	028	050	067	035	066	058	1.65		
065	063	065	065	065	014	018	033	036	062	050	077	075	1.70		
076	076	038	038	038	049	009	032	035	052	033	070	057	1.75		
079	079	024	013	013	052	007	035	019	038	032	078	063	1.80		
081	081	072	034	034	006	013	029	021	039	045	081	070	1.85		
070	072	065	065	065	047	018	038	027	034	044	088	062	1.90		
095	057	057	056	055	036	025	042	030	040	034	077	056	1.95		
071	065	065	032	037	040	029	036	031	039	031	072	059	2.00		
462	462	462	462	462	462	496	474	340	365	413	426	430	2.05		
455	455	455	455	455	455	500	486	356	371	420	421	437	2.10		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.15		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.20		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.25		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.30		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.35		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.40		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.45		

Set 5, Table D — Standard Deviation of Mean Local Pressurant Fractions, Scaling Runs 42-44

Locations 1														r	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
0.363	0.934	0.776	0.261	0.261	1.602	0.990	0.660	1.007	1.950	0.999	0.739	1.366	0.03		
1.157	5.687	1.576	0.480	0.480	3.176	1.989	0.295	2.037	3.999	2.111	1.480	2.668	10		
0.770	4.408	1.102	0.660	0.774	2.777	1.677	0.891	1.609	3.363	1.849	1.271	1.978	13		
0.330	2.012	0.223	0.258	0.312	1.244	0.960	2.677	0.727	1.508	0.820	0.720	0.906	20		
0.661	0.277	0.084	0.143	0.035	0.206	0.241	0.370	0.134	0.181	0.136	0.220	0.232	23		
0.036	0.169	0.185	0.052	0.067	0.123	0.121	0.116	0.043	0.092	0.102	0.048	0.010	30		
0.045	0.129	0.162	0.028	0.025	0.062	0.080	0.075	0.038	0.048	0.076	0.022	0.012	35		
0.073	0.062	0.090	0.037	0.037	0.061	0.031	0.026	0.028	0.040	0.034	0.022	0.020	40		
0.063	0.051	0.058	0.042	0.049	0.025	0.039	0.010	0.011	0.039	0.039	0.040	0.023	45		
0.053	0.048	0.030	0.069	0.069	0.033	0.011	0.015	0.008	0.026	0.025	0.037	0.020	50		
0.042	0.048	0.046	0.059	0.059	0.060	0.012	0.019	0.008	0.021	0.010	0.029	0.012	55		
0.028	0.066	0.043	0.057	0.057	0.057	0.012	0.015	0.005	0.014	0.012	0.038	0.014	60		
0.008	0.062	0.007	0.016	0.016	0.061	0.016	0.013	0.015	0.024	0.018	0.032	0.014	65		
0.018	0.033	0.025	0.033	0.033	0.038	0.013	0.017	0.001	0.016	0.018	0.033	0.018	70		
0.021	0.067	0.051	0.050	0.050	0.041	0.007	0.010	0.013	0.019	0.015	0.013	0.008	75		
0.020	0.054	0.038	0.048	0.048	0.049	0.009	0.009	0.014	0.017	0.015	0.016	0.007	80		
0.016	0.073	0.011	0.016	0.049	0.049	0.014	0.014	0.008	0.017	0.025	0.031	0.016	85		
0.036	0.053	0.004	0.030	0.042	0.042	0.016	0.013	0.005	0.024	0.021	0.016	0.010	90		
0.071	0.011	0.038	0.067	0.014	0.014	0.014	0.023	0.014	0.020	0.024	0.016	0.020	95		
0.024	0.019	0.065	0.049	0.049	0.049	0.012	0.005	0.014	0.018	0.003	0.023	0.009	1.00		
0.040	0.049	0.068	0.041	0.049	0.056	0.009	0.021	0.012	0.023	0.016	0.016	0.022	1.05		
0.026	0.022	0.039	0.026	0.044	0.044	0.008	0.023	0.030	0.024	0.003	0.020	0.008	1.10		
0.081	0.020	0.071	0.052	0.048	0.053	0.007	0.013	0.009	0.019	0.004	0.015	0.004	1.15		
0.030	0.098	0.057	0.041	0.041	0.045	0.011	0.002	0.010	0.007	0.006	0.017	0.010	1.20		
0.024	0.031	0.061	0.024	0.024	0.053	0.009	0.004	0.010	0.018	0.003	0.010	0.009	1.25		
0.058	0.020	0.098	0.045	0.051	0.069	0.017	0.013	0.027	0.016	0.010	0.004	0.008	1.30		
0.039	0.039	0.062	0.040	0.026	0.040	0.010	0.016	0.014	0.018	0.022	0.017	0.029	1.35		
0.042	0.110	0.063	0.040	0.051	0.043	0.019	0.029	0.027	0.023	0.031	0.004	0.028	1.40		
0.101	0.066	0.068	0.038	0.062	0.037	0.028	0.035	0.037	0.026	0.014	0.010	0.019	1.45		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.50		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.55		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.60		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.65		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.70		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.75		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.80		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.85		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.90		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.95		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.00		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.05		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.10		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.15		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.20		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.25		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.30		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.35		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.40		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.45		

Set 6, Table D — Standard Deviation of Mean Local Pressurant
Fractions, Scaling Runs 45-47

Locations 1													
1	2	3	4	5	6	7	8	9	10	11	12	13	r
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
503	873	4540	1653	1892	624	508	759	327	552	517	446	701	05
1.160	4.212	7.852	444	1.761	400	1.283	1.488	1.463	1.625	1.306	930	290	10
1.357	5.141	8.461	166	1.557	166	1.489	2.077	1.800	4.05	752	1.091	414	15
043	045	172	042	103	036	029	090	033	035	010	008	039	20
009	036	076	042	089	049	018	016	019	014	016	032	030	25
024	032	084	030	087	032	018	021	004	025	010	032	043	30
041	085	038	056	029	045	023	098	009	013	004	004	014	35
015	020	055	042	076	034	005	011	016	015	011	012	022	40
013	063	089	054	107	048	017	014	019	012	026	013	044	45
020	013	080	025	060	087	039	032	013	024	005	017	025	50
033	074	078	037	081	037	006	018	004	013	011	022	030	55
054	084	070	077	079	037	005	011	014	013	009	015	015	60
018	075	057	031	076	031	013	014	001	026	020	028	028	65
010	048	056	037	083	077	016	021	017	014	010	010	027	70
010	055	050	033	080	033	012	027	007	027	021	020	034	75
011	057	047	013	043	046	004	021	021	021	024	023	028	80
007	073	103	046	096	046	005	028	008	021	013	024	024	85
015	011	108	096	089	037	019	016	006	032	018	025	021	90
059	065	124	058	002	055	012	008	017	012	007	011	020	95
068	068	183	048	093	056	023	025	011	014	013	025	032	1.00
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.05
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.10
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.15
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.20
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.25
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.30
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.35
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.40
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.45
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.50
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.55
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.60
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.65
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.70
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.75
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.80
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.85
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.90
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.95
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.00
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.05
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.10
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.15
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.20
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.25
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.30
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.35
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.40
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.45

Set 7, Table D — Standard Deviation of Mean Local Pressurant Fractions, Scaling Runs 48-50

Locations I													
1	2	3	4	5	6	7	8	9	10	11	12	13	r
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
1.019	920	962	1.149	1.134	1.019	289	1.151	486	373	793	834	432	05
.983	629	692	839	832	743	301	696	352	360	584	621	329	10
.094	.032	.228	103	163	128	219	370	092	140	104	123	087	15
.266	.019	.019	.107	.111	.064	.185	1.120	.084	.152	.080	.110	.037	20
.110	.028	.038	.043	.111	.105	.091	.852	.084	.075	.084	.077	.061	25
.173	.022	.072	.080	.055	.068	.117	.789	.078	.036	.057	.044	.035	30
.115	.051	.034	.090	.053	.089	.098	.784	.091	.071	.044	.058	.048	35
.129	.031	.031	.036	.116	.129	.077	.793	.081	.643	.045	.065	.044	40
.138	.054	.045	.060	.136	.144	.086	.807	.078	.073	.057	.060	.054	45
.096	.059	.039	.125	.122	.120	.079	.910	.071	.052	.043	.033	.035	50
.099	.059	.065	.100	.080	.103	.094	.842	.063	.049	.054	.048	.054	55
.099	.074	.071	.106	.071	.099	.067	.858	.070	.056	.046	.086	.074	60
.104	.086	.060	.114	.114	.104	.088	.873	.084	.069	.042	.057	.057	65
.110	.066	.079	.100	.079	.110	.081	.899	.073	.074	.051	.054	.049	70
.108	.059	.059	.137	.137	.122	.089	.932	.079	.066	.046	.052	.029	75
.110	.061	.061	.145	.145	.126	.090	.950	.087	.062	.027	.050	.049	80
.150	.063	.063	.142	.142	.150	.097	.970	.068	.043	.039	.053	.044	85
.162	.070	.020	.154	.154	.162	.100	.985	.083	.053	.032	.043	.054	90
.069	.042	.042	.091	.130	.223	.140	1.003	.099	.093	.117	.111	.090	95
.091	.026	.131	.116	.116	.157	.133	1.036	.124	.120	.104	.113	.103	1.00
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.05
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.10
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.15
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.20
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.25
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.30
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.35
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.40
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.45
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.50
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.55
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.60
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.65
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.70
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.75
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.80
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.85
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.90
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.95
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.00
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.05
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.10
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.15
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.20
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.25
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.30
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.35
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.40
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.45

Set 8, Table D — Standard Deviation of Mean Local Pressurant
Fractions. Scaling Runs 51-53

Locations 1														r
1	2	3	4	5	6	7	8	9	10	11	12	13		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
.302	.718	1.026	.686	.642	.502	.314	.988	.435	.518	.306	.239	.359		.05
.272	.375	1.376	.321	.700	.272	.306	.745	.292	.930	.484	.444	.571		.10
.202	.047	.736	.121	.466	.184	.306	.223	.067	.455	.240	.309	.441		.15
.390	.410	.137	.147	.296	.357	.355	.430	.233	.163	.237	.257	.298		.20
.411	.545	.462	.545	.160	.392	.337	.627	.314	.425	.361	.288	.173		.25
.180	.274	.238	.270	.084	.226	.173	.294	.157	.207	.193	.171	.167		.30
.028	.066	.117	.068	.055	.109	.047	.048	.068	.043	.067	.084	.055		.35
.059	.044	.062	.040	.040	.098	.018	.020	.037	.033	.047	.033	.026		.40
.080	.038	.023	.036	.036	.081	.005	.023	.012	.018	.029	.032	.014		.45
.045	.008	.034	.039	.036	.044	.009	.024	.045	.010	.024	.017	.010		.50
.018	.010	.014	.031	.040	.051	.008	.019	.023	.004	.020	.015	.010		.55
.009	.021	.021	.035	.026	.051	.014	.025	.009	.004	.012	.017	.017		.60
.023	.012	.012	.012	.012	.022	.009	.012	.020	.012	.006	.009	.009		.65
.006	.006	.022	.025	.025	.014	.001	.004	.021	.011	.003	.017	.006		.70
.011	.022	.036	.076	.023	.005	.009	.015	.024	.022	.009	.027	.015		.75
.018	.015	.016	.014	.015	.038	.007	.005	.023	.014	.008	.017	.015		.80
.014	.019	.019	.019	.019	.002	.013	.010	.014	.011	.001	.008	.020		.85
.016	.017	.017	.017	.017	.044	.014	.015	.025	.008	.016	.036	.021		.90
.015	.028	.062	.043	.062	.015	.017	.017	.021	.004	.022	.022	.040		.95
.010	.028	.028	.028	.028	.010	.022	.017	.029	.004	.008	.027	.030	1.00	
.005	.045	.033	.036	.033	.007	.016	.007	.017	.016	.018	.009	.026	1.05	
.011	.032	.032	.032	.032	.011	.020	.001	.016	.020	.013	.031	.046	1.10	
.031	.014	.014	.051	.008	.042	.013	.035	.004	.011	.015	.016	.031	1.15	
.005	.039	.039	.036	.039	.005	.016	.013	.016	.030	.022	.042	.034	1.20	
.009	.036	.036	.036	.036	.009	.020	.017	.033	.020	.013	.032	.023	1.25	
.015	.033	.033	.038	.033	.009	.029	.030	.010	.030	.019	.045	.043	1.30	
.061	.017	.026	.062	.074	.063	.011	.034	.012	.018	.021	.035	.020	1.35	
.021	.031	.031	.061	.031	.021	.006	.018	.016	.024	.030	.041	.027	1.40	
.479	.429	.429	.429	.429	.479	.500	.481	.488	.508	.484	.501	.495	1.45	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.50	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.55	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.60	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.65	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.70	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.75	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.80	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.85	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.90	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.95	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.00	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.05	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.10	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.15	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.20	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.25	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.30	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.35	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.40	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.45	

STONE, CORLETT, ALEXANDER, AND WILLIAMS

Set 9, Table D — Standard Deviation of Mean Local Pressurant
Fractions, Scaling Runs 54-56

Locations I													
1	2	3	4	5	6	7	8	9	10	11	12	13	r
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
.221	1.017	1.444	1.454	1.038	.230	.489	1.384	.809	1.116	.665	.667	.482	.65
.491	1.597	2.446	2.432	1.588	.452	.976	1.818	1.310	1.389	1.373	1.279	.913	1.0
.009	2.228	3.466	3.438	2.171	.720	1.588	2.346	1.833	1.732	2.081	1.894	1.346	1.5
1.093	2.921	4.684	4.661	2.876	.968	2.207	3.071	2.426	2.259	2.818	2.573	1.812	2.0
.752	2.117	3.379	3.343	2.046	.713	1.602	2.218	1.727	1.610	2.012	1.861	1.300	2.5
.382	1.231	1.936	1.888	1.133	.434	.936	1.273	.959	.892	1.124	1.075	.734	3.0
.019	.346	.493	.403	.207	.167	.276	.319	.186	.167	.232	.273	.168	3.5
.048	.134	.162	.082	.022	.090	.125	.089	.020	.022	.043	.090	.046	4.0
.040	.079	.109	.040	.014	.057	.089	.043	.011	.025	.022	.053	.027	4.5
.027	.048	.055	.015	.023	.028	.048	.029	.020	.036	.014	.029	.012	5.0
.028	.049	.042	.034	.028	.037	.030	.028	.026	.031	.024	.031	.010	5.5
.042	.045	.044	.016	.032	.042	.021	.020	.032	.032	.025	.030	.011	6.0
.038	.047	.038	.034	.032	.026	.036	.013	.020	.039	.010	.025	.027	6.5
.022	.016	.044	.045	.022	.022	.029	.013	.017	.028	.015	.027	.022	7.0
.021	.030	.030	.028	.023	.023	.024	.007	.017	.002	.034	.027	.009	7.5
.025	.064	.024	.036	.012	.012	.017	.007	.006	.023	.038	.018	.011	8.0
.022	.039	.040	.019	.020	.020	.024	.007	.011	.009	.023	.011	.014	8.5
.025	.064	.068	.024	.024	.024	.003	.001	.020	.011	.041	.026	.006	9.0
.027	.076	.033	.044	.044	.044	.024	.025	.021	.044	.024	.029	.016	9.5
.022	.042	.042	.022	.035	.035	.020	.017	.018	.038	.022	.009	.015	1.00
.018	.067	.066	.025	.025	.031	.032	.017	.017	.009	.037	.014	.025	1.05
.045	.073	.031	.016	.016	.016	.038	.004	.007	.029	.029	.007	.008	1.10
.029	.047	.047	.010	.013	.028	.036	.003	.008	.029	.023	.011	.018	1.15
.027	.065	.065	.027	.031	.025	.037	.017	.018	.014	.040	.023	.029	1.20
.008	.075	.075	.042	.008	.042	.039	.010	.006	.017	.035	.028	.033	1.25
.013	.059	.056	.014	.023	.044	.020	.021	.010	.022	.015	.027	.037	1.30
.042	.079	.071	.053	.054	.030	.042	.029	.025	.032	.031	.016	.024	1.35
.036	.081	.059	.047	.047	.047	.005	.032	.020	.027	.040	.010	.017	1.40
.030	.095	.083	.054	.019	.019	.004	.027	.020	.026	.044	.020	.025	1.45
.022	.097	.088	.029	.011	.018	.012	.047	.030	.029	.044	.027	.023	1.50
.034	.053	.110	.020	.018	.025	.005	.040	.026	.032	.042	.022	.011	1.55
.041	.040	.067	.040	.041	.040	.007	.035	.017	.024	.023	.021	.016	1.60
.024	.056	.048	.021	.036	.019	.024	.033	.017	.023	.041	.011	.011	1.65
.034	.088	.079	.042	.042	.039	.027	.026	.024	.009	.035	.010	.010	1.70
.038	.088	.093	.050	.031	.080	.029	.019	.017	.008	.040	.023	.021	1.75
.079	.030	.082	.030	.030	.009	.041	.017	.020	.026	.060	.028	.025	1.80
.044	.048	.034	.039	.032	.037	.045	.014	.002	.012	.043	.014	.018	1.85
.044	.099	.035	.034	.050	.010	.029	.023	.021	.025	.040	.009	.009	1.90
.494	.407	.407	.494	.494	.494	.435	.505	.468	.479	.486	.470	.465	1.95
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.00
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.05
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.10
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.15
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.20
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.25
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.30
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.35
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.40
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.45

Set 10. Table D — Standard Deviation of Mean Local Pressurant:
Fractions, Scaling Runs 58-60

Locations I														r
1	2	3	4	5	6	7	8	9	10	11	12	13		
.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.00
.025	.418	.131	.203	.037	.049	.041	.077	.003	.048	.023	.017	.021	.05	
.051	.836	.243	.407	.074	.098	.083	.154	.007	.137	.046	.035	.042	.10	
.068	.867	.342	.475	.097	.135	.111	.248	.043	.239	.004	.046	.061	.15	
.087	.713	.538	.510	.161	.262	.135	.402	.112	.365	.078	.060	.079	.20	
.249	.360	.245	.333	.387	.224	.069	.488	.420	.294	.209	.059	.016	.25	
.281	.242	.225	.179	.304	.238	.066	.380	.308	.195	.150	.034	.023	.30	
.210	.206	.177	.005	.236	.170	.067	.207	.202	.063	.062	.093	.039	.35	
.137	.183	.209	.061	.177	.128	.069	.125	.126	.066	.051	.105	.045	.40	
.064	.159	.214	.089	.124	.095	.071	.083	.061	.088	.064	.097	.043	.45	
.009	.134	.218	.119	.074	.064	.072	.062	.018	.113	.082	.091	.041	.50	
.076	.110	.217	.141	.046	.041	.076	.070	.063	.130	.097	.086	.039	.55	
.065	.087	.160	.092	.036	.023	.070	.039	.046	.087	.071	.069	.034	.60	
.041	.079	.121	.060	.031	.022	.051	.032	.034	.059	.052	.057	.033	.65	
.018	.074	.102	.037	.030	.030	.031	.031	.026	.041	.030	.038	.036	.70	
.029	.068	.085	.017	.026	.039	.015	.025	.018	.033	.031	.063	.039	.75	
.015	.068	.037	.011	.029	.041	.013	.011	.004	.020	.019	.050	.043	.80	
.012	.069	.038	.029	.032	.035	.011	.012	.008	.015	.015	.043	.078	.85	
.020	.062	.047	.024	.036	.026	.006	.020	.013	.007	.007	.035	.107	.90	
.004	.051	.021	.031	.034	.004	.008	.012	.011	.010	.004	.021	.047	.95	
.016	.029	.029	.025	.010	.009	.012	.007	.011	.010	.012	.005	.011	1.00	
.009	.033	.021	.029	.016	.008	.014	.008	.011	.006	.010	.007	.014	1.05	
.004	.039	.018	.036	.029	.017	.016	.009	.011	.004	.008	.008	.016	1.10	
.010	.046	.024	.046	.044	.028	.019	.010	.014	.003	.007	.011	.020	1.15	
.007	.046	.028	.051	.038	.022	.018	.014	.016	.007	.009	.008	.016	1.20	
.014	.046	.031	.053	.026	.014	.017	.018	.018	.011	.011	.003	.010	1.25	
.026	.045	.036	.058	.015	.013	.015	.024	.022	.015	.014	.003	.007	1.30	
.034	.052	.029	.045	.015	.008	.015	.027	.023	.016	.014	.007	.003	1.35	
.038	.056	.026	.034	.019	.005	.015	.026	.021	.012	.015	.006	.005	1.40	
.043	.059	.024	.022	.022	.002	.015	.026	.017	.007	.015	.006	.009	1.45	
.034	.051	.020	.025	.025	.003	.016	.020	.016	.004	.015	.004	.012	1.50	
.021	.042	.018	.028	.028	.006	.014	.015	.017	.007	.013	.002	.008	1.55	
.010	.037	.015	.032	.032	.009	.012	.010	.019	.011	.015	.006	.004	1.60	
.008	.036	.017	.031	.031	.008	.011	.010	.018	.014	.018	.009	.003	1.65	
.008	.038	.017	.031	.031	.008	.008	.012	.017	.014	.013	.008	.007	1.70	
.008	.038	.015	.032	.032	.008	.006	.015	.016	.011	.011	.008	.011	1.75	
.008	.044	.014	.033	.033	.008	.006	.017	.017	.009	.013	.012	.013	1.80	
.010	.047	.013	.034	.034	.008	.006	.020	.017	.007	.016	.012	.011	1.85	
.023	.050	.013	.037	.037	.006	.012	.024	.018	.008	.020	.011	.006	1.90	
.037	.056	.015	.040	.040	.006	.016	.023	.021	.008	.019	.006	.008	1.95	
.048	.061	.019	.043	.043	.007	.021	.021	.023	.007	.019	.004	.010	2.00	
.044	.061	.014	.047	.047	.012	.019	.019	.026	.005	.018	.002	.013	2.05	
.038	.059	.008	.050	.053	.017	.015	.018	.026	.011	.017	.006	.019	2.10	
.037	.057	.008	.052	.058	.020	.014	.019	.027	.020	.017	.010	.026	2.15	
.036	.055	.012	.053	.061	.014	.015	.019	.028	.027	.016	.012	.032	2.20	
.036	.056	.004	.056	.046	.021	.012	.020	.026	.026	.020	.012	.029	2.25	
.037	.056	.005	.060	.029	.033	.009	.022	.024	.023	.025	.015	.027	2.30	
.038	.058	.011	.065	.014	.038	.002	.024	.023	.018	.030	.015	.024	2.35	
.040	.050	.019	.067	.014	.024	.002	.027	.025	.008	.025	.015	.020	2.40	
.043	.046	.025	.071	.017	.009	.004	.031	.027	.010	.019	.016	.014	2.45	

Set 11, Table D — Standard Deviation of Mean Local Pressurant Fractions, Scaling Runs 61-63

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Set 12, Table D – Standard Deviation of Mean Local Pressurant Fractions, Scaling Runs 64-66

Locations I															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
486	179	1	447	179	185	1	118	345	911	108	521	120	122	411	
961	379	2	904	370	379	2	224	1	054	1	030	250	253	706	
020	304	2	510	209	359	1	945	927	1	574	237	874	223	231	
947	102	1	724	166	232	1	356	654	1	079	181	377	163	173	
286	003	0	973	111	107	0	780	380	599	130	305	103	117	259	
089	032	3	372	064	033	257	098	204	079	110	037	037	079	300	
065	032	128	032	054	108	018	068	049	034	031	002	041	331	000	
042	033	065	050	048	066	029	063	038	036	031	009	026	040	000	
028	051	040	028	033	038	028	049	028	030	020	009	021	451	000	
011	035	046	035	033	011	012	040	019	035	011	016	015	015	501	
011	019	035	034	022	011	009	026	009	021	010	007	008	531	000	
037	012	017	011	017	037	024	020	013	004	008	005	002	600	000	
043	023	005	023	013	043	024	020	010	013	007	013	009	651	000	
030	020	030	020	010	030	021	027	012	011	010	027	013	701	000	
026	004	006	004	004	028	023	018	019	011	017	009	010	751	000	
028	004	004	004	004	028	027	028	017	015	008	005	009	801	000	
025	009	009	009	009	025	022	037	018	021	013	005	009	851	000	
023	013	013	013	013	023	023	029	028	015	011	008	015	901	000	
023	021	009	009	009	032	006	028	018	010	015	009	012	951	000	
069	032	031	031	031	032	037	023	006	019	007	019	014	1	000	
031	013	013	020	020	021	009	021	010	009	003	004	012	151	000	
035	018	018	015	017	023	024	026	029	027	010	005	014	1	000	
037	016	016	016	048	041	016	038	033	011	020	010	008	151	000	
033	032	032	032	032	033	019	018	001	015	010	027	033	1	000	
067	038	014	040	040	036	041	008	017	009	012	018	025	1	000	
042	024	027	032	018	028	046	036	036	032	015	005	009	1	000	
048	037	003	038	003	042	034	028	030	023	012	008	006	1	000	
041	031	031	031	031	041	021	021	005	011	020	030	029	1	000	
067	035	035	035	035	040	029	013	011	016	035	028	012	1	000	
095	035	035	048	055	048	038	026	026	028	034	034	032	1	000	
041	035	032	044	012	079	037	017	030	029	025	035	016	1	000	
051	050	050	040	050	083	023	025	011	017	024	047	022	1	000	
050	047	047	047	047	064	022	028	010	034	027	049	017	1	000	
057	039	039	043	043	047	028	019	020	022	036	041	027	1	000	
308	464	464	423	454	447	470	501	472	478	472	486	484	1	000	
337	489	489	439	489	487	441	498	451	452	441	461	461	1	000	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.850	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.900	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.950	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.000	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.050	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.100	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.150	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.200	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.250	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.300	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.350	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.400	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.450	

Set 1, Table E — Deviations of Mean Local Pressurant Fractions,
Scaling Runs 23-31

Locations 1													
1	2	3	4	5	6	7	8	9	10	11	12	13	r
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
-1.033	0.000	2.452	170	415	796	722	128	190	456	524	319	0.10	05
-2.927	2.202	4.111	601	654	879	803	1.944	487	1.722	1.637	512	899	10
-3.794	2.611	9.257	2.712	485	941	890	3.466	1.101	2.780	2.536	666	966	15
-3.205	2.101	0.905	2.113	460	543	732	3.134	1.634	2.522	2.207	519	767	20
-2.442	1.769	6.758	988	117	251	574	2.043	611	1.634	1.362	304	512	25
-1.445	5.446	3.965	107	220	038	386	746	147	629	452	085	245	30
-1.000	350	2.555	282	281	100	260	349	026	295	191	016	109	35
-761	307	1.813	270	230	104	167	235	001	191	145	005	069	40
-600	304	1.476	225	220	116	150	160	009	130	105	006	053	45
-529	319	1.310	204	245	130	139	117	004	093	063	003	035	50
-487	321	1.204	270	249	140	128	104	008	069	048	001	019	55
-445	323	1.152	277	263	154	127	099	002	060	041	012	010	60
-379	326	1.152	298	287	158	138	034	001	075	029	008	031	65
-321	336	1.147	209	286	179	148	076	028	077	023	005	040	70
-294	356	1.110	269	269	208	153	088	046	061	036	016	027	75
-249	352	1.088	246	246	226	161	077	059	061	040	026	044	80
-230	379	1.060	228	246	232	156	104	055	056	058	034	039	85
-224	411	1.041	208	230	222	177	094	078	080	050	039	047	90
-238	402	1.075	165	236	244	163	095	065	103	053	037	048	95
-236	342	1.056	151	235	235	168	083	077	060	043	056	054	1.00
-109	197	576	099	132	136	117	064	034	007	045	020	010	1.05
-071	154	411	083	092	112	096	041	026	004	021	008	019	1.10
-079	160	342	053	071	114	101	062	016	046	049	001	008	1.15
-069	120	325	068	058	097	104	037	007	048	029	006	022	1.20
-056	099	243	063	042	089	084	036	014	079	037	011	020	1.25
-043	060	213	056	041	095	086	035	027	100	033	013	022	1.30
-047	067	190	051	020	085	086	056	036	114	055	022	025	1.35
-041	069	142	018	000	082	083	065	044	108	068	023	025	1.40
-005	030	107	025	011	064	084	064	063	116	063	021	020	1.45
-028	001	177	028	003	063	085	050	059	120	059	025	020	1.50
-006	006	112	041	021	062	090	035	063	138	046	021	026	1.55
-037	024	090	059	038	069	081	038	062	151	058	033	000	1.60
-061	031	071	028	056	079	064	051	073	161	068	041	017	1.65
-012	002	013	010	010	040	062	025	055	107	041	034	010	1.70
-005	005	005	005	005	020	048	016	047	081	026	025	002	1.75
-007	007	015	007	015	007	012	002	014	012	005	002	012	1.80
-013	013	014	013	014	013	016	006	012	019	005	005	013	1.85
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.90
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.95
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.00
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.05
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.10
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.15
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.20
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.25
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.30
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.35
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.40
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.45

9 CASES

NRL REPORT 8503

Set 2, Table E — Deviations of Mean Local Pressurant Fractions,
Scaling Runs 32-34

Locations 1														r
1	2	3	4	5	6	7	8	9	10	11	12	13		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
-323	-330	766	-690	-472	-147	-100	1.016	.112	-.016	.121	.014	.045	.05	
-636	-726	1.118	-1.445	-973	-322	-173	2.114	.348	.090	.300	.016	.100	.10	
-592	-297	2.576	-909	-595	-013	-357	.953	-.139	-.537	-.160	-.134	.068	.15	
-722	255	1.289	-.375	-.189	257	-.531	-.099	-.531	-.980	-.505	-.277	.002	.20	
-209	490	3.424	-.061	.034	350	-.616	-.645	-.662	-1.087	-.610	-.325	-.051	.25	
-253	613	3.273	.162	.129	323	-.612	-.975	-.649	-1.032	-.601	-.284	-.104	.30	
-268	749	1.122	.384	.224	295	-.606	-1.304	-.635	-.976	-.592	-.242	-.156	.35	
-348	604	2.570	.250	.097	.147	-.518	-.986	-.406	-.687	-.399	-.158	-.162	.40	
-421	418	1.532	.041	-.076	-.000	-.401	-.562	-.168	-.403	-.199	-.066	-.140	.45	
-306	342	1.623	-.047	-.121	-.030	-.319	-.405	-.095	-.277	-.128	-.043	-.110	.50	
-334	276	1.290	-.120	-.145	-.042	-.246	-.275	-.044	-.169	-.072	-.035	-.081	.55	
-301	243	1.098	-.158	-.175	-.062	-.213	-.203	-.016	-.089	-.034	-.022	-.062	.60	
-276	232	1.002	-.158	-.184	-.087	-.182	-.168	-.006	-.059	-.032	-.013	-.054	.65	
-255	234	.939	-.151	-.177	-.104	-.155	-.152	-.010	-.060	-.039	-.012	-.049	.70	
-238	246	.905	-.142	-.156	-.108	-.140	-.147	-.024	-.075	-.047	-.022	-.053	.75	
-205	266	.895	-.137	-.138	-.105	-.150	-.144	-.044	-.087	-.043	-.043	-.069	.80	
-164	279	.876	-.137	-.132	-.106	-.152	-.139	-.056	-.088	-.036	-.056	-.084	.85	
-132	275	.843	-.129	-.116	-.099	-.142	-.133	-.062	-.079	-.058	-.056	-.090	.90	
-113	308	.843	-.106	-.110	-.085	-.283	-.114	-.060	-.072	-.058	-.062	-.086	.95	
-093	247	.786	-.107	-.107	-.093	-.144	-.099	-.073	-.078	-.073	-.081	-.090	1.00	
-064	199	.588	-.096	-.079	-.073	-.117	-.081	-.061	-.051	-.047	-.054	-.066	1.05	
-047	160	.426	-.089	-.051	-.058	-.095	-.066	-.049	-.027	-.028	-.034	-.050	1.10	
-035	140	.386	-.080	-.029	-.056	-.080	-.062	-.038	-.016	-.025	-.031	-.051	1.15	
-049	136	.351	-.081	-.022	-.049	-.068	-.060	-.038	-.010	-.029	-.033	-.053	1.20	
-041	132	.320	-.073	-.003	-.045	-.065	-.062	-.043	-.006	-.036	-.037	-.056	1.25	
-035	116	.321	-.053	.011	-.045	-.072	-.060	-.037	-.005	-.043	-.040	-.062	1.30	
-039	095	.335	-.038	.000	-.024	-.088	-.038	-.034	-.003	-.049	-.044	-.069	1.35	
-034	092	.335	-.050	.016	-.023	-.080	-.039	-.031	.014	-.040	-.041	-.072	1.40	
-027	112	.307	-.051	-.017	-.044	-.075	-.037	-.027	.023	-.033	-.036	-.079	1.45	
-025	105	.280	-.053	-.019	-.038	-.069	-.055	-.019	.038	-.038	-.031	-.079	1.50	
-023	084	.236	-.049	-.008	-.023	-.071	-.038	-.013	.050	-.044	-.029	-.079	1.55	
-040	066	.221	-.033	.014	-.040	-.082	-.051	.002	.067	-.033	-.021	-.073	1.60	
-040	062	.186	-.035	.016	-.040	-.079	-.049	.014	.084	-.033	-.019	-.069	1.65	
-027	055	.164	-.029	.014	-.027	-.070	-.036	.017	.056	-.047	-.029	-.071	1.70	
-021	045	.167	-.037	.022	-.036	-.073	-.033	.025	.056	-.046	-.022	-.073	1.75	
-018	049	.169	-.047	.020	-.047	-.077	-.049	.035	.055	-.042	-.017	-.073	1.80	
-038	048	.171	-.047	.005	-.034	-.074	-.033	.036	.105	-.049	-.009	-.068	1.85	
-044	042	.165	-.057	-.003	-.032	-.068	-.050	.035	.117	-.048	-.001	-.062	1.90	
-040	036	.149	-.059	.010	-.039	-.066	-.040	.042	.125	-.042	.005	-.062	1.95	
-049	023	.127	-.032	.007	-.060	-.066	-.034	.049	.129	-.045	.010	-.066	2.00	
-045	027	.121	-.021	.018	-.060	-.069	-.038	.050	.124	-.050	.010	-.069	2.05	
-041	032	.115	-.024	.015	-.044	-.070	-.031	.059	.121	-.055	.010	-.071	2.10	
-042	036	.103	-.011	.029	-.060	-.070	-.035	.060	.132	-.061	.008	-.074	2.15	
-035	036	.094	-.004	.036	-.077	-.068	-.032	.052	.145	-.064	.006	-.075	2.20	
-019	017	.096	-.023	.017	-.072	-.060	-.042	.060	.148	-.057	.006	-.073	2.25	
-003	001	.097	-.041	-.001	-.056	-.053	-.043	.074	.147	-.056	.001	-.072	2.30	
-019	002	.091	-.038	.002	-.061	-.047	-.042	.083	.155	-.055	-.002	-.072	2.35	
-038	017	.081	-.040	.017	-.054	-.044	-.040	.081	.161	-.060	-.005	-.076	2.40	
-043	032	.065	-.056	.023	-.043	-.039	-.042	.083	.162	-.065	-.008	-.073	2.45	

3 CASES

MEAN VALUES OF ALL QUANTITIES

Set 3, Table E — Deviations of Mean Local Pressurant Fractions,
Scaling Runs 35-37

Locations 1														r	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-764	-934	-1189	-1449	-1742	-2066	-2429	-2799	-3195	-3611	-4049	-4509	-4989	-5489	-5999	-6529
-169	-536	-354	-979	-514	-071	-132	1834	336	359	676	1205	654	10	15	20
424	140	480	510	213	583	-1199	866	-323	-375	158	760	-946	15	20	25
1019	257	1316	-040	942	1239	-1265	-101	-982	-1107	-359	317	-1237	20	25	30
1612	654	2151	430	1669	1893	-1332	-1068	-1643	-1840	-876	-128	-1528	25	30	35
2108	866	2468	698	2255	2407	-1375	-1755	-2007	-2349	-1257	-430	-1787	30	35	40
2604	1076	3185	965	2841	2920	-1418	-2524	-2373	-2858	-1639	-731	-2046	35	40	45
2854	1211	3595	1151	3181	3187	-1376	-3030	-2580	-3148	-1861	-956	-2142	40	45	50
2367	530	2948	835	2684	2694	-1157	-2552	-2113	-2612	-1480	-750	-1814	45	50	55
1909	626	2351	488	2164	2183	-943	-2030	-1617	-2045	-1077	-519	-1484	50	55	60
1429	322	1755	142	1643	1672	-729	-1507	-1123	-1480	-675	-290	-1154	55	60	65
1001	069	1218	-130	1169	1211	-537	-1023	-715	-964	-335	-117	-842	60	65	70
724	-076	864	-298	854	900	-424	-695	-459	-642	-107	-007	-632	65	70	75
667	-074	778	-321	771	809	-428	-595	-414	-602	-040	021	-575	70	75	80
612	-071	693	-344	690	719	-430	-495	-370	-563	027	050	-517	75	80	85
555	-044	633	-371	610	632	-424	-440	-353	-543	089	097	-441	80	85	90
527	-015	604	-406	560	598	-437	-427	-334	-480	088	130	-402	85	90	95
500	-003	584	-441	517	568	-453	-411	-314	-410	088	150	-371	90	95	100
496	-007	580	-453	505	551	-432	-390	-316	-390	077	144	-357	95	100	105
520	-031	365	-414	533	533	-363	-304	-256	-315	-016	033	-288	100	105	110
561	-092	210	-386	570	570	-327	-279	-246	-282	-052	-013	-257	105	110	115
579	-122	181	-381	584	584	-314	-277	-241	-267	-054	-020	-254	110	115	120
596	-152	132	-375	598	598	-300	-275	-238	-251	-056	-027	-250	115	120	125
610	-158	109	-366	610	610	-301	-273	-238	-248	-065	-039	-253	120	125	130
621	-158	096	-358	621	621	-302	-272	-240	-245	-074	-052	-257	125	130	135
631	-157	084	-352	631	631	-301	-271	-240	-242	-084	-064	-261	130	135	140
637	-153	076	-351	639	637	-295	-273	-236	-243	-095	-073	-262	135	140	145
635	-148	071	-349	647	635	-295	-274	-232	-244	-103	-080	-261	140	145	150
639	-143	066	-348	659	634	-296	-277	-229	-243	-111	-087	-263	145	150	155
647	-148	059	-353	676	631	-300	-271	-228	-230	-116	-096	-269	150	155	160
656	-158	048	-367	688	637	-300	-267	-224	-215	-122	-104	-274	155	160	165
659	-173	044	-376	690	650	-297	-261	-218	-201	-128	-111	-279	160	165	170
653	-188	042	-366	684	663	-294	-265	-211	-197	-131	-110	-279	165	170	175
649	-204	039	-353	679	673	-291	-269	-204	-191	-136	-110	-281	170	175	180
655	-217	029	-347	680	670	-287	-270	-197	-183	-141	-112	-270	175	180	185
662	-228	015	-345	684	662	-280	-265	-196	-171	-148	-114	-276	180	185	190
670	-238	001	-343	687	655	-273	-258	-196	-159	-156	-116	-272	185	190	195
667	-250	017	-323	689	656	-273	-257	-199	-151	-158	-117	-269	190	195	200
666	-247	032	-316	692	660	-272	-260	-199	-144	-159	-126	-267	195	200	205
663	-238	049	-314	694	663	-272	-264	-197	-136	-161	-124	-268	200	205	210
676	-238	056	-328	690	663	-275	-266	-195	-129	-159	-124	-270	205	210	215
693	-235	062	-320	683	666	-280	-271	-189	-121	-163	-123	-268	210	215	220
704	-243	069	-321	676	666	-286	-277	-182	-113	-169	-122	-266	215	220	225
702	-249	079	-304	670	662	-289	-285	-177	-106	-179	-128	-265	220	225	230
696	-235	078	-299	686	655	-291	-286	-179	-095	-184	-127	-263	225	230	235
693	-221	083	-302	691	651	-290	-285	-182	-084	-187	-128	-262	230	235	240
698	-226	093	-312	688	655	-286	-284	-179	-075	-190	-126	-257	235	240	245
700	-237	099	-313	688	657	-283	-287	-171	-075	-193	-126	-260	240	245	250
702	-233	105	-306	686	657	-282	-290	-162	-078	-197	-128	-265	245	250	255

3 CASES

NRL REPORT 8503

Set 4, Table E — Deviations of Mean Local Pressurant Fractions,
Scaling Runs 39-41

Locations I															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-1.188	-0.112	-1.249	-1.314	-1.328	-1.148	-0.808	-0.767	-1.311	-1.504	-1.413	-0.887	-0.347	-0.05		
-1.252	-0.886	-1.326	-1.404	-1.520	-1.159	-0.551	-0.851	-1.114	-1.449	-1.603	-2.862	-1.115	-1.10		
-1.137	-0.352	-0.939	-1.208	-1.367	-0.974	-0.309	-0.711	-1.367	-1.505	-2.649	-2.211	-0.17	-1.15		
-0.824	-0.008	-1.01	-0.514	-0.748	-0.427	-0.135	-0.143	-0.214	-0.67	-1.280	-0.957	-0.097	-0.20		
-0.625	-0.221	-1.034	-0.75	-0.279	-0.003	-0.091	-0.316	-0.559	-0.378	-0.465	-1.07	-0.261	-0.25		
-0.527	-0.316	-1.765	-0.473	-0.45	-0.273	-0.148	-0.649	-0.884	-0.792	-1.31	-0.365	-0.443	-0.30		
-0.476	-0.298	-1.872	-0.522	-0.116	-0.352	-0.163	-0.690	-1.07	-0.849	-0.62	-0.454	-0.455	-0.35		
-0.394	-0.180	-1.276	-0.285	-0.114	-0.192	-0.115	-0.425	-0.30	-0.564	-1.02	-0.238	-0.280	-0.40		
-0.308	-0.72	-0.732	-0.105	-0.054	-0.42	-0.773	-0.205	-0.27	-0.295	-1.23	-0.45	-0.123	-0.45		
-0.273	-0.42	-0.527	-0.14	-0.84	-0.17	-0.43	-0.115	-0.37	-0.181	-1.39	-0.45	-0.69	-0.50		
-0.273	-0.67	-0.517	-0.33	-0.101	-0.15	-0.75	-0.107	-0.25	-0.164	-1.63	-0.77	-0.74	-0.55		
-0.270	-0.105	-0.513	-0.74	-0.125	-0.33	-0.88	-0.107	-0.10	-0.148	-1.87	-1.14	-0.83	-0.60		
-0.253	-0.135	-0.495	-1.02	-0.126	-0.77	-0.96	-0.107	-0.04	-0.137	-1.99	-1.58	-0.82	-0.65		
-0.238	-0.145	-0.465	-1.15	-0.121	-0.96	-1.02	-0.111	-0.26	-0.130	-2.21	-1.91	-0.73	-0.70		
-0.217	-0.115	-0.470	-0.150	-0.150	-0.81	-1.12	-0.123	-0.53	-0.125	-2.66	-2.18	-0.61	-0.75		
-0.175	-0.111	-0.470	-0.149	-0.149	-1.10	-1.26	-0.131	-0.74	-0.137	-2.80	-2.39	-0.58	-0.80		
-0.169	-0.148	-0.468	-0.129	-0.129	-1.27	-1.34	-0.127	-0.91	-0.142	-2.77	-2.32	-0.66	-0.85		
-0.183	-0.145	-0.490	-0.112	-0.121	-1.17	-1.37	-0.127	-1.12	-0.148	-2.94	-2.06	-0.64	-0.90		
-0.153	-0.153	-0.474	-0.110	-0.146	-1.31	-1.62	-0.142	-1.18	-0.138	-3.12	-2.40	-0.71	-0.95		
-0.123	-0.06	-0.467	-0.86	-0.123	-1.43	-1.53	-0.114	-1.09	-0.094	-2.24	-2.18	-0.54	-1.00		
-0.092	-0.34	-0.279	-0.091	-0.53	-0.93	-1.05	-0.69	-0.59	-0.34	-1.68	-1.55	-0.40	-1.05		
-0.071	-0.59	-0.207	-0.53	-0.69	-0.91	-0.82	-0.69	-0.40	-0.22	-1.48	-1.23	-0.35	-1.10		
-0.087	-0.46	-0.180	-0.83	-0.53	-0.83	-0.77	-0.63	-0.10	-0.18	-1.30	-1.11	-0.31	-1.15		
-0.103	-0.19	-0.149	-0.64	-0.28	-0.69	-0.69	-0.55	-0.04	-0.28	-1.15	-0.93	-0.20	-1.20		
-0.055	-0.20	-0.145	-0.48	-0.28	-0.65	-0.72	-0.58	-0.02	-0.40	-0.85	-0.69	-0.34	-1.25		
-0.073	-0.20	-0.153	-0.26	-0.15	-0.36	-0.75	-0.64	-0.03	-0.39	-0.61	-0.52	-0.37	-1.10		
-0.069	-0.20	-0.125	-0.31	-0.19	-0.42	-0.48	-0.64	-0.20	-0.54	-0.47	-0.41	-0.31	-1.35		
-0.056	-0.37	-0.091	-0.23	-0.23	-0.56	-0.47	-0.53	-0.34	-0.67	-0.25	-0.33	-0.28	-1.40		
-0.070	-0.46	-0.054	-0.03	-0.05	-0.58	-0.53	-0.50	-0.42	-0.75	-0.10	-0.21	-0.23	-1.45		
-0.058	-0.28	-0.056	-0.23	-0.23	-0.23	-0.37	-0.46	-0.45	-0.85	-0.01	-0.12	-0.15	-1.50		
-0.015	-0.04	-0.48	-0.15	-0.15	-0.55	-0.26	-0.42	-0.45	-1.00	-0.13	-0.12	-0.17	-1.55		
-0.036	-0.18	-0.079	-0.01	-0.01	-0.87	-0.21	-0.43	-0.54	-1.10	-0.22	-0.03	-0.15	-1.60		
-0.009	-0.48	-0.067	-0.07	-0.07	-0.75	-0.33	-0.52	-0.39	-1.00	-0.44	-0.22	-0.31	-1.65		
-0.027	-0.27	-0.027	-0.27	-0.27	-0.64	-0.34	-0.48	-0.51	-1.26	-0.66	-0.43	-0.46	-1.70		
-0.012	-0.12	-0.32	-0.32	-0.32	-0.37	-0.32	-0.35	-0.64	-1.42	-0.72	-0.53	-0.46	-1.75		
-0.042	-0.42	-0.045	-0.37	-0.37	-0.18	-0.14	-0.38	-0.70	-1.53	-0.84	-0.61	-0.37	-1.80		
-0.074	-0.67	-0.085	-0.43	-0.43	-0.01	-0.14	-0.42	-0.84	-1.43	-0.87	-0.58	-0.49	-1.85		
-0.032	-0.16	-0.44	-0.44	-0.12	-0.18	-0.50	-0.64	-1.36	-1.02	-0.69	-0.58	-1.90			
-0.037	-0.19	-0.19	-0.20	-0.21	-0.27	-0.03	-0.29	-0.72	-1.64	-0.99	-0.69	-0.45	-1.95		
-0.035	-0.11	-0.11	-0.20	-0.47	-0.22	-0.07	-0.25	-0.87	-1.61	-0.99	-0.67	-0.50	-2.00		
-0.006	-0.06	-0.06	-0.06	-0.06	-0.06	-0.18	-0.03	-0.50	-0.67	-0.40	-0.31	-0.28	-2.05		
-0.011	-0.11	-0.11	-0.11	-0.11	-0.11	-0.21	-0.11	-0.61	-0.72	-0.35	-0.34	-0.23	-2.10		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.15	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.20	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.25	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.30	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.35	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.40	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.45	

3 CASES

Set 5, Table E — Deviations of Mean Local Pressurant Fractions,
Scaling Runs 42-44

Locations I																
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-503	266	642	-2334	-2335	-1893	260	2166	617	1300	1096	297	-323	65			
-960	1574	581	-4638	-4638	-3729	549	4311	223	3070	2248	636	-605	10			
-794	1861	859	-2424	-2424	-1044	243	4023	1392	2704	1362	414	-743	15			
-640	1101	614	-1112	-2422	-1456	1093	3430	677	1294	852	143	-440	20			
-560	804	937	0.2	-208	-071	-336	-029	131	-043	-054	-066	-049	25			
-420	169	412	-013	-124	-034	-153	-260	015	-135	-044	034	044	30			
-268	655	644	-102	-126	-067	-104	-143	023	-066	-052	035	072	35			
-205	117	116	-127	-165	-144	-081	-103	028	-042	-024	016	041	40			
-179	141	149	-114	-117	-107	-013	-10	140	-043	-021	012	055	45			
-165	173	551	-156	-156	-081	-076	-085	027	-062	-029	013	040	50			
-162	151	554	-113	-113	-086	-071	-078	005	-075	-032	-008	018	55			
-179	102	573	-067	-087	-067	-088	-076	-015	-076	-035	-012	044	60			
-138	221	559	-117	-117	-085	-094	-069	-034	-076	-044	-017	042	65			
-098	219	562	-129	-129	-098	-095	-058	-041	-067	-035	-025	-002	70			
-077	227	554	-121	-121	-114	-093	-073	-041	-060	-037	-030	-021	75			
-069	225	571	-112	-112	-112	-093	-073	-048	-067	-048	-037	-035	80			
-077	263	593	-077	-121	-121	-093	-085	-050	-076	-064	-050	-034	85			
-071	283	586	-070	-126	-126	-093	-070	-033	-077	-064	-050	-046	90			
-068	293	624	-066	-117	-117	-098	-106	-084	-057	-064	-061	-053	95			
-032	256	642	-080	-080	-080	-119	-095	-095	-076	-090	-076	-081	100			
-005	150	263	-017	-042	-064	-070	-056	-061	-025	-032	-023	-037	105			
-016	133	134	-052	-065	-065	-074	-038	-077	-024	-015	-006	-003	110			
-006	074	126	-024	-013	-093	-056	-050	-030	-027	-016	-010	-005	115			
-011	070	066	-037	-037	-040	-055	-036	-045	-041	-011	-026	-003	120			
-037	117	018	-037	-032	-090	-043	-033	-008	-077	-006	-037	-011	125			
-006	053	020	-022	-018	-056	-059	-052	017	073	-018	042	004	130			
-006	006	034	-049	-039	-048	-042	-051	016	104	-023	038	012	135			
-032	017	020	-088	-005	-090	-056	-039	038	133	-014	056	047	140			
-039	011	-035	-026	-008	-075	-050	-045	025	133	-002	062	042	145			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	150			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	155			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	160			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	165			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	170			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	175			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	180			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	185			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	190			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	195			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	200			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	205			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	210			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	215			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	220			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	225			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	230			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	235			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	240			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	245			

3 CASES

Set 6, Table E — Deviations of Mean Local Pressurant Fractions,
Scaling Runs 45-47

LOCATIONS 1														r
1	2	3	4	5	6	7	8	9	10	11	12	13		
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
-251	1.270	-170	1.254	0.027	1.343	-1.160	-1.157	-0.322	-1.002	-0.899	-1.178	-0.448	0.03	
-1.093	3.601	5.120	739	-245	776	-901	-1.832	-1.278	-1.987	-1.502	-0.851	-0.521	1.0	
-1.296	4.065	6.742	203	-1.013	203	-1.124	-1.695	-1.153	-1.972	-1.474	-0.917	-0.425	1.5	
-273	256	791	-0.21	-0.76	0.05	-0.81	-1.11	-0.67	-1.64	-1.04	-0.72	-0.76	2.0	
-233	204	674	-0.92	-0.95	-0.77	-0.66	-0.77	-0.01	-1.27	-0.81	-0.41	-0.36	2.5	
-232	221	617	-1.18	-1.20	-0.11	-0.59	-0.55	-0.02	-1.01	-0.70	-0.28	-0.43	3.0	
-108	277	627	-1.60	-1.40	-0.27	-0.69	-0.77	-0.06	-0.95	-0.62	-0.52	-0.33	3.5	
-231	312	610	-1.03	-1.13	-0.81	-0.59	-0.69	-0.17	-0.81	-0.53	-0.56	-0.35	4.0	
-172	319	606	-0.79	-1.14	-0.73	-0.69	-0.74	-0.43	-0.81	-0.74	-0.63	-0.63	4.5	
-124	349	635	-1.53	-1.83	-1.01	-0.98	-0.80	-0.58	-0.93	-0.72	-0.55	-0.45	5.0	
-110	336	644	-1.23	-1.54	-1.23	-0.93	-0.85	-0.72	-0.85	-0.74	-0.59	-0.61	5.5	
-112	377	722	-1.15	-1.45	-1.15	-0.96	-0.91	-0.79	-0.89	-1.11	-0.70	-0.72	6.0	
-079	383	700	-1.11	-1.43	-1.11	-1.07	-0.96	-0.85	-1.10	-0.76	-0.74	-0.85	6.5	
-084	438	741	-1.17	-1.49	-1.17	-1.12	-1.01	-0.78	-1.18	-0.94	-0.85	-0.96	7.0	
-086	377	788	-1.20	-1.53	-1.20	-1.01	-1.00	-1.15	-1.06	-1.01	-0.84	-0.76	7.5	
-106	374	758	-1.15	-1.74	-1.40	-1.15	-1.01	-0.90	-0.93	-0.83	-0.82	-0.77	8.0	
-127	467	808	-0.70	-1.99	-1.64	-1.19	-1.07	-0.93	-1.14	-0.89	-0.90	-0.94	8.5	
-152	521	822	-0.40	-2.26	-1.89	-1.05	-1.09	-1.27	-1.17	-0.95	-0.96	-0.89	9.0	
-117	460	870	-0.01	-2.00	-1.60	-1.15	-1.16	-1.16	-1.48	-1.09	-0.97	-1.01	9.5	
-069	523	864	-0.69	-1.53	-1.11	-1.54	-1.45	-1.45	-1.45	-1.28	-1.45	-1.28	1.00	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.05	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.10	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.15	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.20	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.25	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.30	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.35	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.40	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.45	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.50	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.55	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.60	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.65	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.70	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.75	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.80	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.85	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.90	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.95	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.00	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.05	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.10	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.15	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.20	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.25	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.30	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.35	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.40	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.45	

3 CASES

Set 7, Table E — Deviations of Mean Local Pressurant Fractions,
Scaling Runs 48-50

Locations I													
1	2	3	4	5	6	7	8	9	10	11	12	13	r
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
742	-838	862	568	596	742	-018	-920	-156	-309	-568	-510	-200	05
575	-572	515	436	450	568	059	-1059	-054	-165	-130	-314	-112	10
036	-051	-072	007	007	120	039	-380	074	000	038	001	017	15
-240	-055	-050	030	034	029	-177	703	003	-120	-057	-076	-029	20
-060	-149	037	046	-073	-041	-114	554	-016	-063	-038	-053	-032	25
-128	-096	-028	006	-054	-021	-133	543	-022	-035	-006	0.000	-031	30
-099	-089	-044	006	-084	-051	-126	552	-023	-034	-000	-007	-012	35
-089	-126	-031	-027	-120	-089	-100	570	-010	-004	006	010	-002	40
-082	-158	-083	-018	-107	-075	-098	588	006	005	011	010	-017	45
-090	-131	-131	-065	-068	-035	-094	604	-015	010	017	017	-005	50
-071	-135	-104	-068	-086	-052	-109	627	-032	024	031	008	-022	55
-060	-161	-094	-062	-094	-060	-099	644	-044	-012	047	006	-015	60
-071	-176	-133	-064	-064	-071	-091	662	-022	-007	036	012	-015	65
-082	-171	-120	-099	-120	-082	-060	679	007	-005	031	034	-011	70
-081	-149	-149	-074	-074	-059	-087	695	-003	005	002	007	-022	75
-103	-168	-168	-090	-090	-076	-073	714	-014	031	018	017	-010	80
-076	-200	-200	-117	-117	-074	-060	733	011	040	029	036	002	85
-105	-233	-149	-149	-149	-105	-068	774	024	078	053	050	013	90
-054	-189	-189	-098	-146	-164	-073	806	-002	024	029	046	010	95
-116	-258	-163	-163	-163	-021	-071	826	022	053	024	043	-006	1.00
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.05
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.10
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.15
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.20
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.25
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.30
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.35
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.40
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.45
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.50
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.55
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.60
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.65
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.70
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.75
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.80
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.85
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.90
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.95
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.00
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.05
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.10
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.15
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.20
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.25
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.30
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.35
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.40
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.45

3 CASES

NRL REPORT 8503

Set 8, Table E — Deviations of Mean Local Pressurant Fractions,
Scaling Runs 51-53

Locations I													
1	2	3	4	5	6	7	8	9	10	11	12	13	r
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
.172	.351	.044	.454	.055	.172	.122	.476	.190	.033	.402	.195	.114	.65
.145	.138	.788	.054	.391	.145	.022	.115	.259	.233	.548	.772	.091	.17
.089	.516	1.120	.199	.324	.070	.017	.560	.025	.536	.560	.077	.060	.15
.142	.607	.960	.562	.030	.103	.058	.644	.211	.646	.591	.210	.056	.20
.247	.566	.652	.566	.145	.315	.072	.560	.260	.608	.513	.758	.129	.25
.088	.329	.432	.343	.040	.194	.004	.263	.154	.390	.304	.207	.072	.10
.040	.138	.273	.166	.048	.101	.074	.039	.040	.211	.117	.117	.022	.35
.038	.099	.171	.141	.048	.092	.046	.042	.022	.164	.132	.092	.017	.40
.035	.062	.118	.114	.043	.075	.046	.041	.003	.117	.112	.065	.010	.45
.012	.028	.082	.060	.034	.074	.035	.039	.007	.092	.077	.038	.008	.50
.016	.028	.054	.062	.054	.054	.039	.026	.005	.075	.051	.020	.010	.55
.010	.013	.013	.051	.052	.030	.039	.001	.009	.047	.035	.010	.021	.60
.002	.008	.008	.008	.008	.040	.027	.008	.022	.024	.032	.001	.034	.65
.076	.013	.015	.009	.009	.062	.021	.001	.008	.036	.010	.003	.016	.70
.047	.083	.001	.002	.083	.085	.037	.019	.013	.005	.011	.028	.020	.75
.026	.073	.051	.069	.073	.019	.041	.046	.023	.031	.044	.045	.049	.80
.031	.078	.078	.078	.078	.022	.051	.047	.060	.042	.056	.053	.055	.85
.043	.090	.090	.090	.090	.001	.047	.065	.040	.078	.059	.056	.059	.90
.085	.109	.032	.098	.022	.062	.022	.046	.032	.038	.056	.048	.041	.95
.033	.067	.087	.087	.087	.033	.028	.039	.039	.081	.075	.081	.071	1.00
.006	.095	.056	.063	.040	.017	.019	.030	.002	.042	.056	.049	.049	1.05
.026	.085	.085	.085	.085	.026	.036	.056	.017	.067	.069	.082	.071	1.10
.025	.085	.085	.113	.058	.014	.051	.044	.034	.067	.061	.065	.065	1.15
.013	.050	.050	.101	.050	.013	.036	.033	.004	.047	.024	.044	.040	1.20
.013	.078	.078	.078	.078	.013	.055	.054	.035	.045	.056	.051	.042	1.25
.030	.095	.095	.103	.095	.038	.070	.078	.040	.080	.058	.062	.075	1.30
.019	.013	.023	.154	.097	.038	.034	.031	.036	.049	.035	.065	.058	1.35
.026	.043	.043	.076	.043	.026	.021	.016	.028	.017	.003	.035	.033	1.40
.010	.060	.060	.060	.060	.010	.040	.013	.023	.052	.018	.042	.033	1.45
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.50
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.55
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.60
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.65
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.70
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.75
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.80
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.85
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.90
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.95
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.00
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.05
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.10
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.15
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.20
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.25
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.30
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.35
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.40
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.45

3 CASES

Set 9, Table E — Deviations of Mean Local Pressurant Fractions,
Scaling Runs 54-56

Locations																
1	2	3	4	5	6	7	8	9	10	11	12	13	r			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00			
.266	.234	.706	.737	.287	.293	-.750	-.099	-.247	-.053	-.590	-.488	-.319	.05			
.333	.926	1.004	1.970	1.013	410-1	0.61	1.017	-.801	-.745-1	119-1	0.40	-.697	10			
.399	1.617	3.062	3.183	1.739	524-1	3.79-1	4.36-1	157-1	539-1	648-1	594-1	0.77	15			
.919	2.234	4.034	4.075	2.298	605-1	7.10-2	6.37-1	8.10-2	0.70	2.176-2	0.52-1	4.08	20			
.324	1.602	2.961	2.959	1.643	542-1	2.06-1	9.19-1	1.45	1.521-1	5.24-1	4.68-1	0.13	25			
.100	.910	1.792	1.745	.920	381	-.817-1	1.130	-.710	.926	-.856	-.832	-.503	30			
-.109	.221	.623	.575	.234	204	-.339	-.370	-.176	-.339	-.194	-.213	-.155	35			
-.155	.052	.308	.296	.070	102	-.180	-.170	.011	-.163	-.049	-.062	-.048	40			
-.154	-.004	.183	.214	.030	.027	-.120	-.094	.057	-.082	-.021	-.015	-.017	45			
-.152	-.040	.105	.135	-.003	.010	-.090	-.040	.093	-.037	.012	.021	.006	50			
-.139	-.053	.074	.080	-.025	.001	-.090	-.019	.110	-.022	.035	.032	.019	55			
-.102	-.061	.039	.048	-.043	-.011	-.083	-.006	.110	0.000	.044	.034	.033	60			
-.063	-.072	.011	.018	-.055	-.040	-.066	.012	.090	.030	.048	.039	.050	65			
-.059	-.064	-.001	.012	-.059	-.059	-.058	.017	.079	.031	.064	.049	.047	70			
-.052	-.062	-.015	.014	-.051	-.051	-.063	.017	.074	.017	.070	.054	.039	75			
-.059	-.061	-.008	-.006	-.041	-.041	-.058	.024	.059	.042	.062	.053	.034	80			
-.025	-.064	-.062	-.026	-.031	-.031	-.057	.028	.045	.032	.076	.080	.062	85			
-.054	-.061	-.041	-.038	-.038	-.038	-.072	.039	.043	.037	.079	.069	.057	90			
-.079	-.060	-.017	-.016	-.016	-.016	-.039	.027	.023	.052	.053	.053	.028	95			
-.023	-.064	-.064	-.023	-.043	-.043	-.035	.049	.026	.049	.065	.061	.050	1.00			
-.015	-.066	-.072	-.028	-.028	-.062	-.017	.054	.037	.020	.063	.063	.051	1.05			
-.022	-.055	-.085	-.046	-.046	-.046	-.018	.057	.025	.028	.055	.063	.048	1.10			
-.007	-.040	-.040	-.021	-.008	-.034	-.035	.048	.003	.013	.050	.042	.028	1.15			
-.012	-.041	-.041	-.012	-.007	-.018	-.030	.048	.002	.012	.040	.030	.032	1.20			
0.000	-.043	-.043	-.034	0.000	-.034	-.026	.048	.010	.007	.038	.048	.037	1.25			
.006	-.043	-.031	-.027	-.002	-.068	-.019	.059	-.006	.028	.045	.037	.048	1.30			
.037	-.014	-.063	-.013	-.012	-.062	-.032	.043	.003	.006	.039	.039	.030	1.35			
.011	-.037	-.060	-.040	-.040	-.040	-.001	.063	0.000	.037	.052	.037	.021	1.40			
-.017	-.037	-.034	-.070	-.031	-.031	0.000	.061	.018	.042	.043	.050	.030	1.45			
-.024	-.040	-.077	-.051	-.022	-.034	-.008	.076	.012	.048	.048	.042	.034	1.50			
.001	-.045	-.086	-.049	-.003	-.040	-.008	.069	.014	.049	.039	.044	.017	1.55			
-.001	-.057	-.077	-.057	-.001	-.057	-.015	.064	.025	.046	.052	.052	.030	1.60			
-.006	-.062	-.076	-.031	-.019	-.053	-.019	.064	.014	.050	.052	.054	.036	1.65			
.003	-.054	-.062	-.044	-.044	-.046	-.012	.060	.016	.060	.037	.058	.033	1.70			
-.001	-.060	-.063	-.061	-.010	-.061	-.021	.066	.025	.037	.054	.058	.037	1.75			
.027	-.032	-.080	-.032	-.021	-.059	-.021	.071	-.008	.052	.043	.030	.030	1.80			
.039	-.021	-.037	-.047	.023	-.068	-.027	.040	.003	.040	.008	.025	.029	1.85			
.071	.009	-.050	-.006	.012	-.039	-.051	.039	-.007	.010	.011	-.001	.008	1.90			
.018	-.044	-.044	.018	.018	.018	-.024	.026	-.001	.007	.012	.001	-.003	1.95			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.00			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.05			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.10			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.15			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.20			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.25			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.30			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.35			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.40			
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.45			

3 CASES

Set 10, Table E — Deviations of Mean Local Pressurant Fractions,
Scaling Runs 58-60

Locations I													
1	2	3	4	5	6	7	8	9	10	11	12	13	r
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
-.032	.308	.043	.192	-.024	-.015	-.003	-.141	-.052	-.097	-.082	-.062	-.029	.05
-.065	.615	.085	.283	-.048	-.031	-.012	-.284	-.105	-.194	-.165	-.125	-.059	.10
-.084	.645	.284	.696	-.023	.037	-.004	-.455	-.190	-.332	-.295	-.199	-.085	.15
-.096	.539	.561	1.068	.027	.149	.011	-.640	-.292	-.488	-.447	-.278	-.109	.20
.206	.643	1.496	1.260	.506	.583	-.040	-.1354	-.744	-.1126	-.764	-.453	-.203	.25
.170	.569	1.379	1.318	.459	.620	-.054	-.1356	-.719	-.1151	-.788	-.477	-.213	.30
.140	.540	1.302	1.254	.434	.572	-.074	-.1245	-.635	-.1084	-.742	-.474	-.210	.35
.111	.473	1.322	1.109	.399	.505	-.091	-.1071	-.528	-.0950	-.656	-.435	-.194	.40
.083	.391	1.102	.931	.342	.429	-.109	-.072	-.410	-.0791	-.554	-.381	-.171	.45
.056	.310	.881	.754	.285	.354	-.126	-.072	-.292	-.0630	-.450	-.327	-.146	.50
.034	.231	.668	.584	.231	.281	-.141	-.078	-.179	-.0475	-.350	-.274	-.124	.55
.043	.169	.515	.475	.203	.235	-.146	-.064	-.136	-.0379	-.290	-.227	-.102	.60
.030	.128	.395	.387	.169	.206	-.136	-.083	-.105	-.0304	-.238	-.179	-.081	.65
.024	.093	.290	.316	.130	.181	-.119	-.212	-.077	-.0240	-.189	-.136	-.061	.70
.006	.060	.186	.246	.097	.156	-.101	-.147	-.050	-.0178	-.141	-.094	-.043	.75
.000	.037	.116	.195	.083	.143	-.079	-.104	-.039	-.0137	-.110	-.078	-.036	.80
.011	.020	.069	.154	.075	.125	-.053	-.068	-.030	-.0102	-.083	-.066	-.030	.85
.021	.007	.041	.122	.063	.113	-.034	-.039	-.019	-.0075	-.063	-.059	-.025	.90
.010	-.001	.024	.095	.054	.094	-.032	-.028	-.009	-.0063	-.051	-.049	-.021	.95
.007	-.035	-.035	.063	.021	.078	-.038	-.003	-.007	-.0015	-.013	-.019	-.010	1.00
.013	-.029	-.037	.056	.027	.071	-.033	-.004	-.009	-.0019	-.013	-.018	-.011	1.05
.021	-.023	-.041	.049	.033	.064	-.027	-.007	-.011	-.0022	-.014	-.017	-.011	1.10
.028	-.017	-.044	.042	.039	.057	-.021	-.007	-.013	-.0025	-.014	-.017	-.011	1.15
.025	-.017	-.035	.037	.047	.063	-.023	-.009	-.017	-.0029	-.014	-.017	-.015	1.20
.023	-.014	-.023	.031	.052	.068	-.028	-.011	-.021	-.0033	-.015	-.017	-.017	1.25
.023	-.012	-.011	.026	.058	.074	-.032	-.014	-.025	-.0037	-.017	-.016	-.020	1.30
.025	-.009	-.009	.033	.054	.070	-.032	-.015	-.031	-.0034	-.019	-.015	-.019	1.35
.025	-.013	-.012	.040	.051	.067	-.030	-.014	-.032	-.0029	-.021	-.016	-.017	1.40
.027	-.017	-.017	.047	.047	.063	-.028	-.014	-.034	-.0024	-.023	-.017	-.017	1.45
.037	-.011	-.021	.043	.043	.059	-.027	-.017	-.031	-.0021	-.024	-.017	-.017	1.50
.041	-.007	-.028	.036	.036	.052	-.027	-.019	-.027	-.0023	-.019	-.013	-.011	1.55
.045	-.004	-.036	.029	.029	.046	-.024	-.021	-.022	-.0025	-.013	-.007	-.006	1.60
.042	-.008	-.041	.025	.025	.042	-.022	-.015	-.021	-.0026	-.003	0.000	-.001	1.65
.039	-.010	-.044	.023	.023	.039	-.024	-.010	-.021	-.0025	-.001	.002	.005	1.70
.037	-.013	-.047	.020	.020	.037	-.027	-.005	-.021	-.0021	-.001	.003	.011	1.75
.035	-.015	-.049	.017	.017	.035	-.032	-.001	-.019	-.0014	-.002	.002	.020	1.80
.033	-.016	-.050	.017	.017	.031	-.035	.003	-.017	-.0009	-.001	-.001	.025	1.85
.037	-.017	-.052	.014	.014	.029	-.034	.006	-.016	-.0006	-.001	-.003	.024	1.90
.041	-.019	-.054	.015	.015	.019	-.029	.007	-.013	-.0005	-.002	-.001	.020	1.95
.049	-.020	-.055	.014	.014	.012	-.023	.007	-.009	-.0004	-.004	-.001	.015	2.00
.053	-.016	-.051	.014	.018	.006	-.021	.006	-.006	-.0006	-.006	-.003	.049	2.05
.053	-.011	-.047	.015	.024	.001	-.021	.003	-.006	-.0005	-.006	-.007	.004	2.10
.053	-.006	-.042	.015	.029	-.001	-.022	.003	-.005	-.0004	-.007	-.011	-.001	2.15
.049	-.007	-.042	.012	.027	.007	-.023	.002	-.005	-.0002	-.006	-.012	-.001	2.20
.039	-.015	-.045	.011	.032	.017	-.025	.006	-.006	-.0004	-.001	-.011	-.003	2.25
.033	-.021	-.049	.009	.038	.027	-.029	.010	-.008	-.0008	-.004	-.009	-.003	2.30
.027	-.027	-.045	.008	.044	.027	-.031	.012	-.009	-.0009	-.006	-.007	-.001	2.35
.020	-.023	-.046	.001	.039	.031	-.026	.011	-.006	-.0008	-.003	-.004	-.003	2.40
.014	-.018	-.047	-.003	.033	.038	-.021	.009	-.003	-.0008	-.001	-.003	.007	2.45

3 CASES

Set 11, Table E — Deviations of Mean Local Pressurant Fractions,
Scaling Runs 61-63

Locations I															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	r
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
1.627	3.813	3.621	3.546	3.682	4.353	4.61-9	5.25-7	5.88-2	4.89-3	5.15-1	5.58	1.577	0.5		
2.859	3.269	3.307	3.118	2.969	1.967	3.33-7	7.07-6	1.60-2	4.54-3	0.93-1	4.98	1.087	10		
2.092	2.725	2.995	2.691	2.256	1.580	2.04-5	0.83-4	7.33-2	4.17-2	2.669-1	4.37	3.598	15		
1.323	2.130	2.681	2.263	1.543	1.192	0.75-4	0.62-3	3.06-2	3.82-2	2.45-1	3.77	1.08	20		
5.44	1.594	2.316	1.793	8.06	2.723	-0.44-2	1.188-1	0.33-2	2.85-1	7.77-1	2.83	-3.69	25		
2.85	1.223	1.996	1.501	4.92	2.153	-0.07-1	4.54-1	2.17-1	1.973-1	4.50-1	0.96	-4.49	30		
2.08	9.87	1.619	1.226	3.72	1.634	-0.03-1	1.190	-9.61-1	6.00-1	2.202	-9.27	-4.10	35		
1.32	7.51	1.240	9.50	2.52	1.316	0.02	-8.44	-7.00-1	2.25	-9.52	-7.4	-3.72	40		
0.56	5.13	8.60	6.73	1.31	1.198	0.03	-3.39	-4.42	-0.51	-7.02	-5.73	-3.33	45		
0.01	3.26	5.39	4.50	0.49	9.54	-0.05	-2.96	-2.39	-5.48	-4.96	-4.31	-3.03	50		
0.01	2.58	4.29	3.65	0.42	8.82	-0.14	-2.47	-2.02	-4.67	-4.16	-3.67	-2.64	55		
0.03	1.92	3.34	3.80	0.28	8.07	-0.14	-2.04	-1.74	-3.94	-3.42	-3.02	-2.19	60		
0.05	1.24	2.41	3.07	0.13	7.32	-0.14	-1.62	-1.46	-3.21	-2.68	-2.36	-1.74	65		
0.01	1.10	1.85	1.38	-0.15	6.95	-0.10	-1.33	-1.33	-2.69	-2.28	-2.01	-1.45	70		
-0.04	1.08	1.26	0.89	-0.37	6.62	-0.06	-1.06	-1.21	-2.22	-1.92	-1.77	-1.23	75		
-0.14	0.93	0.91	0.63	-0.43	6.39	-0.10	-0.90	-1.12	-1.83	-1.63	-1.53	-1.10	80		
-0.23	0.67	0.57	0.59	-0.33	6.19	-0.21	-0.89	-1.06	-1.51	-1.42	-1.33	-1.09	85		
-0.16	0.42	0.31	0.42	-0.39	6.00	-0.29	-0.75	-0.94	-1.30	-1.20	-1.10	-0.98	90		
0.05	0.11	0.11	0.11	-0.58	5.81	-0.37	-0.55	-0.80	-1.21	-1.00	-0.91	-0.78	95		
-0.05	-0.05	-0.20	-0.20	-0.50	5.28	-0.52	-0.38	-0.61	-0.63	-0.82	-0.68	-0.72	1.00		
0.17	-0.23	-0.29	-0.35	-0.29	5.56	-0.50	-0.44	-0.78	-0.70	-0.79	-0.64	-0.62	1.05		
0.33	-0.21	-0.26	-0.48	-0.29	5.63	-0.47	-0.42	-0.89	-0.74	-0.81	-0.70	-0.63	1.10		
0.21	-0.03	-0.18	-0.42	-0.32	5.67	-0.44	-0.41	-0.88	-0.82	-0.91	-0.72	-0.72	1.15		
0.07	-0.03	-0.11	-0.21	-0.20	5.71	-0.43	-0.46	-0.93	-0.90	-0.95	-0.70	-0.78	1.20		
-0.05	-0.08	-0.08	-0.10	-0.08	5.70	-0.44	-0.46	-0.96	-0.93	-0.93	-0.74	-0.78	1.25		
0.10	-0.14	-0.14	-0.28	-0.14	5.81	-0.44	-0.46	-0.90	-0.89	-0.92	-0.80	-0.76	1.30		
0.20	-0.14	-0.23	-0.34	-0.23	5.98	-0.44	-0.44	-0.89	-0.87	-0.92	-0.86	-0.78	1.35		
0.20	-0.02	-0.33	-0.33	-0.33	6.09	-0.43	-0.42	-0.89	-0.85	-0.93	-0.89	-0.81	1.40		
0.16	0.03	-0.16	-0.33	-0.33	5.99	-0.47	-0.46	-0.88	-0.91	-0.95	-0.83	-0.80	1.45		
0.10	0.07	0.07	-0.30	-0.30	5.86	-0.57	-0.50	-0.93	-0.91	-0.95	-0.84	-0.80	1.50		
0.02	0.02	0.02	-0.35	-0.35	5.84	-0.57	-0.46	-0.91	-0.84	-0.91	-0.74	-0.70	1.55		
0.10	-0.10	-0.10	-0.48	-0.48	5.81	-0.51	-0.46	-0.82	-0.80	-0.87	-0.62	-0.63	1.60		
0.32	-0.20	-0.20	-0.61	-0.44	5.74	-0.52	-0.46	-0.80	-0.74	-0.83	-0.57	-0.63	1.65		
0.36	-0.26	-0.26	-0.61	-0.22	5.71	-0.57	-0.42	-0.87	-0.68	-0.88	-0.60	-0.65	1.70		
0.25	-0.18	-0.22	-0.42	-0.03	5.63	-0.59	-0.44	-0.95	-0.76	-0.93	-0.63	-0.70	1.75		
0.24	0.13	-0.13	-0.31	-0.04	5.58	-0.63	-0.45	-1.02	-0.89	-0.93	-0.72	-0.79	1.80		
0.20	0.20	-0.20	-0.37	-0.20	5.78	-0.67	-0.45	-0.97	-0.86	-0.91	-0.73	-0.79	1.85		
0.18	0.08	-0.32	-0.37	-0.32	5.87	-0.65	-0.45	-0.93	-0.73	-0.89	-0.71	-0.76	1.90		
0.32	-0.03	-0.23	-0.44	-0.44	5.81	-0.59	-0.44	-0.91	-0.60	-0.95	-0.73	-0.76	1.95		
0.25	0.03	-0.15	-0.56	-0.51	5.76	-0.51	-0.39	-0.89	-0.56	-0.97	-0.74	-0.76	2.00		
0.24	0.24	-0.22	-0.72	-0.34	5.65	-0.47	-0.34	-0.91	-0.63	-0.94	-0.74	-0.78	2.05		
0.31	0.31	-0.29	-0.76	-0.29	5.57	-0.36	-0.42	-0.89	-0.71	-0.95	-0.74	-0.78	2.10		
0.23	0.23	-0.20	-0.54	-0.20	5.56	-0.35	-0.47	-0.87	-0.78	-1.00	-0.73	-0.78	2.15		
0.26	0.26	-0.03	-0.47	-0.03	5.54	-0.52	-0.49	-0.99	-0.80	-1.04	-0.80	-0.79	2.20		
0.30	0.33	-0.10	-0.52	-0.13	5.63	-0.57	-0.45	-1.03	-0.79	-1.00	-0.84	-0.78	2.25		
0.16	0.33	-0.10	-0.42	-0.27	5.67	-0.57	-0.42	-1.06	-0.76	-0.94	-0.87	-0.74	2.30		
0.14	0.33	-0.10	-0.40	-0.40	5.73	-0.53	-0.44	-1.04	-0.70	-1.00	-0.85	-0.72	2.35		
0.25	0.53	-0.12	-0.55	-0.55	5.67	-0.49	-0.45	-1.00	-0.66	-1.08	-0.81	-0.73	2.40		
0.33	0.70	-0.19	-0.69	-0.43	5.59	-0.50	-0.41	-1.04	-0.65	-1.07	-0.85	-0.74	2.45		

3 CASES

Set 12, Table E — Deviations of Mean Local Pressurant Fractions,
Scaling Runs 64-66

Locations I													
1	2	3	4	5	6	7	8	9	10	11	12	13	r
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
- .359	.059	.953	.059	.059	- .807	.385	- .567	- .034	- .315	.133	.127	.306	.05
- .712	.126	1.914	.126	.126	-1.606	.744	-1.124	- .094	- .622	.273	.262	.588	.10
- .682	.130	1.881	.197	.089	-1.465	.643	-1.080	- .069	- .632	.233	.217	.538	.15
- .541	.106	1.540	.264	.073	-1.068	.421	- .876	- .034	- .556	.144	.126	.395	.20
- .398	.034	1.200	.332	.059	- .668	.200	- .672	.003	- .479	.058	.037	.253	.25
- .205	.031	.653	.285	.029	- .230	- .010	- .330	.032	- .292	- .005	- .022	.091	.30
- .108	.029	.313	.193	- .001	- .063	- .084	- .158	.045	- .155	- .008	- .022	.025	.35
- .077	.064	.157	.124	- .011	- .048	- .087	- .088	.043	- .093	.006	- .003	.015	.40
- .059	.087	.106	.098	- .038	- .043	- .088	- .061	.037	- .066	.014	.010	.011	.45
- .047	.068	.089	.053	- .069	- .045	- .077	- .036	.031	- .037	.029	.022	.013	.50
- .045	.038	.059	.017	- .068	- .045	- .057	- .014	.036	- .015	.033	.031	.020	.55
- .054	.024	.030	.020	- .076	- .054	- .041	- .002	.048	.003	.034	.036	.027	.60
- .059	.002	.029	.002	- .081	- .059	- .039	.010	.046	.017	.046	.037	.036	.65
- .039	- .043	.017	- .043	- .061	- .039	- .039	.034	.041	.017	.061	.042	.040	.70
- .023	- .045	- .038	- .045	- .045	- .023	- .038	.037	.038	.033	.053	.050	.044	.75
- .024	- .047	- .047	- .047	- .047	- .024	- .039	.040	.038	.042	.061	.060	.035	.80
- .026	- .048	- .048	- .048	- .048	- .026	- .037	.041	.043	.038	.070	.059	.038	.85
- .033	- .057	- .057	- .057	- .057	- .033	- .034	.033	.038	.034	.082	.064	.037	.90
- .030	- .053	- .072	- .072	- .072	- .049	- .008	.059	.053	.059	.078	.068	.041	.95
- .002	- .073	- .097	- .097	- .097	- .073	.015	.081	.057	.072	.091	.076	.052	1.00
- .017	- .040	- .040	- .048	- .048	- .024	0.000	.051	.022	.033	.045	.041	.030	1.05
.003	- .040	- .040	- .050	- .032	- .006	- .006	.054	.018	.021	.036	.031	.008	1.10
.029	- .042	- .042	- .042	- .003	- .015	- .013	.046	.008	.032	.030	.015	- .013	1.15
- .010	- .036	- .036	- .036	- .036	- .010	.003	.057	.023	.026	.034	.022	.006	1.20
- .010	- .038	- .042	- .068	- .068	- .041	- .001	.057	.043	.055	.040	.032	.004	1.25
.041	- .015	- .010	- .050	- .022	- .043	- .028	.050	0.000	.038	.025	.010	- .001	1.30
.036	- .001	- .027	- .054	- .027	.001	- .012	.049	- .003	.008	.026	.011	- .006	1.35
.006	- .024	- .024	- .024	- .024	.006	- .011	.034	.016	.025	.009	.008	0.000	1.40
.005	- .023	- .025	- .048	- .048	- .019	- .021	.064	.003	.038	.040	.015	.020	1.45
.008	.032	- .023	- .092	- .023	- .064	- .013	.059	.027	.029	.019	.027	.015	1.50
.043	.029	.012	- .054	.012	- .059	- .047	.036	- .004	.036	- .002	.005	.005	1.55
.038	.006	.006	- .001	.006	- .036	- .049	.033	- .020	.009	0.000	.006	0.000	1.60
.020	- .013	- .013	- .013	- .013	- .029	- .029	.036	- .007	.022	.002	.016	.018	1.65
.010	- .022	- .022	- .033	- .033	- .001	- .012	.054	- .007	.020	.009	.015	.024	1.70
.049	- .013	- .013	- .067	- .025	- .034	- .001	.045	.003	.010	.002	.021	.020	1.75
.046	.013	.013	- .023	.013	.010	- .022	.019	- .015	- .014	- .022	- .008	- .008	1.80
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.85
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.90
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.95
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.00
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.05
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.10
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.15
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.20
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.25
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.30
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.35
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.40
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.45

3 CASES

LIST OF SYMBOLS

c_p	Molar specific heat at constant pressure
c_v	Molar specific heat at constant volume
h_s	Specific enthalpy of pressurant at T_s
i	Index referring to spatial points (subscript)
N	Number of moles
P	Absolute pressure
P_0	Initial absolute pressure
Q	Heat-removal rate
R	Universal gas constant
T	Absolute temperature
$\bar{T}$	Mean absolute temperature
T_a	Resident air temperature
T_0	Initial absolute temperature
T_p	Pressurant absolute temperature
U	Total internal energy of chamber contents
u	Local specific internal energy
$\bar{u}$	Mean specific internal energy
$\bar{u}_a$	Mean specific internal energy of resident air
u_0	Local specific internal energy at T_0
V	Chamber volume
X	Pressurant mole fraction
β	Dimensionless parameter characterizing molar heat-transfer coefficient
γ	Ratio of specific heats: c_p/c_v
θ	Characteristic time
θ_c	θ evaluated at time just prior to $t = t_c$
ξ	Dimensionless pressurant deviation
τ	Dimensionless time

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