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MEMORANDUM REPORT NO. 1916

AIR SHOCK FILLING OF MODEL ROOMS

by

George A. Coulter

March 1968

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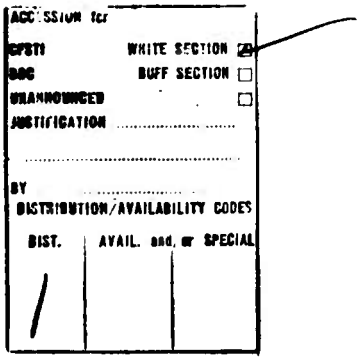
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BALLISTIC RESEARCH LABORATORIES

MEMORANDUM REPORT NO. 1916

MARCH 1968

AIR SHOCK FILLING OF MODEL ROOMS

George A. Coulter

Terminal Ballistics Laboratory

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RDT&E Project No. 1T014501A33E

ABERDEEN PROVING GROUND, MARYLAND

FOREWORD

The work reported here was begun in support of the assigned mission of the Terminal Ballistics Laboratory (TBL). The work was slanted toward a study for the Office of Civil Defense (OCD Work Unit 1123 C) which was being conducted at the same time and which could derive direct benefit.

BALLISTIC RESEARCH LABORATORIES

MEMORANDUM REPORT NO. 1916

GACoulter/sjw
Aberdeen Proving Ground, Md.
March 1968

AIR SHOCK FILLING OF MODEL ROOMS

ABSTRACT

The results of model room and chamber filling are given for two- and three-dimensional models exposed to shock waves 5-20 psi overpressure produced in the 4 x 15 in. and 24 in. shock tubes. Additional results are given for a field experiment in which a 3 ft cubic room was exposed to a 5 psi overpressure blast wave from the explosion of 100 tons of TNT. The results are presented on pressure-time filling records and on high speed photographs. A smoke grid technique was used to illustrate the shock filling process.

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LIST OF SYMBOLS

A	Area of entrance to model
P_{fill}	Pressure to which chamber fills
P_S	Side-on overpressure of input shock wave
P'_S	Side-on overpressure of diffracted shock wave
T	Time
V	Volume of model

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I. INTRODUCTION

The experiments reported in this memorandum report were designed to determine the important parameters of the blast wave filling process of rooms. To further the understanding of the filling process, two- and three-dimensional model rooms were constructed and tested in the shock tubes at the Ballistic Research Laboratories (BRL) Shock Tube Facility, through a shock overpressure range of 5 to 20 psi. As a check of the model scaling, a 3 ft cube model was exposed to filling from the blast wave produced by the explosion of a 100 ton of TNT during Shot 6 of the Canadian Distant Plain Series in July 1967.

Filling of the two-dimensional models was recorded by high speed framing cameras and by piezoelectric pressure transducers. In all the three-dimensional models, pressure transducers only recorded the filling as a function of time. The results of the high speed photography are shown in Appendix A and the pressure time records in Appendices B and C. Appendix D contains the results of the machine calculations for the motion of the smoke grids in the disturbed flow field within the two-dimensional models. Tables and flow vectors are given in this appendix.

Comparison of plots of the filling data are given in the Result Section illustrating the filling of the model as a function of orientation to the shock wave, type and number of entrances, and size and number of rooms.

The analysis of the experimental data and computer predictions for several typical models will be published separately as Reference 1.*

II. EXPERIMENTS

Three types of models were used for the present experiments: (a) three-dimensional models exposed to shock waves produced in the 24 in. shock tube, (b) two-dimensional models placed in the optical

References are listed on page 63.

test section of the 4 x 15 in. shock tube, and (c) a field model exposed to the blast wave produced by a large explosion of TNT. Table I summarizes the models and the conditions of the test.

A. Three-Dimensional Models

A series of three-dimensional models were designed and tested in the 24 in. shock tube to determine the comparative importance of filling parameters such as orientation to the shock wave, type and number of entrances, size and number of rooms, and strength of shock wave applied to the model.

Models I-IV were filled by the shock wave while attached to the outside of the test section. Both side-on and stagnation filling were used with entrance diameters of 1/2 in. and 2 in., interior volume to entrance area ratio of 435 ft and 27.2 ft. The remaining three-dimensional models, V-XIII, were placed inside the shock tube test section. Figures 1-6 show representative models given in Table I. Figure 7 shows typical undisturbed pressure-time records from the 24 in. shock tube test section without a model in the test section. Examples are shown for side-on overpressure (upper trace) and stagnation overpressure as measured by a pitot tube gage (bottom trace) at the 5, 10 and 20 psi test range. These are representative of the input pressures applied to the models.

B. Two-Dimensional Models

In order to observe the dependence of shock waves expansion and associated flow into a model as a function of entrance width, the two-dimensional model shown in Figure 8 was built. Figure 8-A shows the basic full reflection model, 8-B, a variable smoke grid which acted as a flow indicator, and 8-C shows the pressure transducer array used to monitor pressure as a function of time.

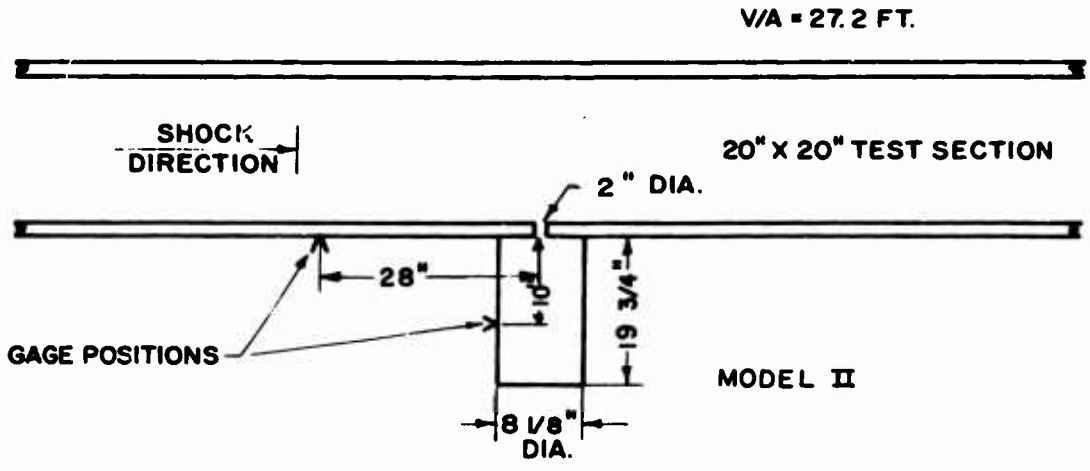
A complete description of the smoke grid technique may be found in Reference 2. Briefly, cigarette smoke is pulled through the model in vertical and crossing horizontal directions (streams do not touch) by means of a vacuum pump. The streams and shock wave are photographed with a Dynafax Model 326-3 high speed framing camera after the shock wave has

Table I. Experimental Models

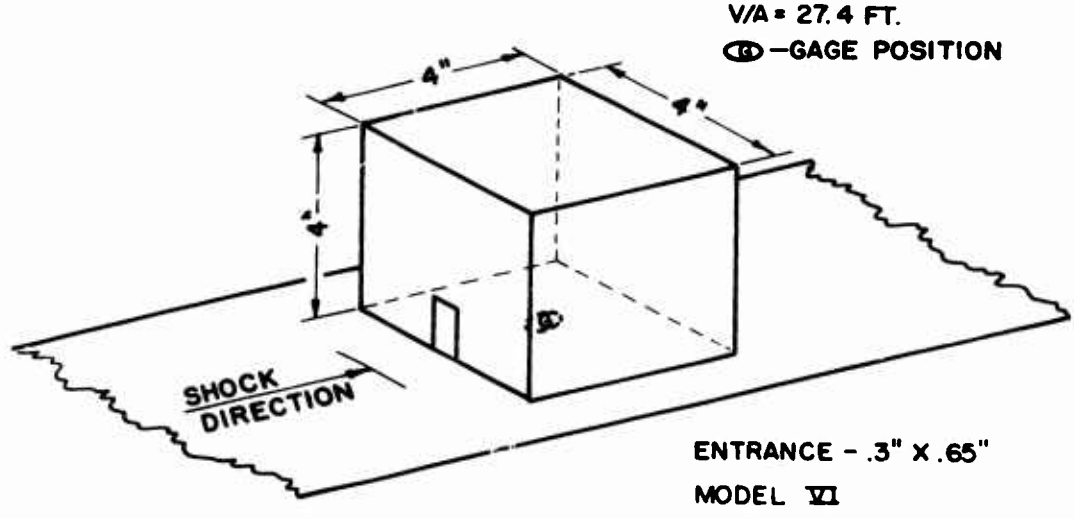
Model No.	Size	Type of Filling	Input Pressure (psi)	V/A (ft)	Type of Entrance
		Three-dimensional models outside shock tube			
I	8 1/8 in. dia x 19 3/4 in.	Side	10, 20	435	1/2 in. dia
II	Same	Side	10, 20	27.2	2 in. dia
III	Same	2 x 4 x 4 in. Stagnation Block	10, 20	435	1/2 in. dia
IV	Same	3 1/2 x 3 1/2 x 3 1/6 in. Stagnation Block	10, 20	27.2	2 in. dia
		Three-dimensional models inside shock tube			
V	4 in. cube	Front, Side, or Rear	10, 20	1.65	1.2 x 2.7 in.
VI	Same	Front, Side, or Rear	10, 20	27.4	0.3 x 0.65 in.
VII	Two 4 in. cubic rooms	Front, Side, or Rear	10, 20	27.4 ea	0.3 x 0.65 in.
VIII	4 1/2 in. cube (outside)	None (loading only)	5, 10, 20	----	----------
IX	4 in. cube	Front	5, 10, 20	54.8	Two 0.15 x 0.325 in. spaced 1.333 in.
X	4 1/2 in. cube (outside)	w/4 1/2 x 4 1/2 x 8 3/4 in. shield	5, 10, 20	----	----------
XI	4 in. cube	Front	5, 10, 20	27.4	Two 0.3 x 0.325 in. spaced 1.333 in.
XII	4 1/2 in. cube (outside)	Front	5, 10, 20	NA	None
XIII	4 in. cube	Front and Rear	5, 10, 20	27.4	0.3 x 0.65 in. 1.2 x 2.7 in. Two 0.3 x 0.325 in.

Table I. Experimental Models (Continued)

Model No.	Size	Type of Filling	Input Pressure (psi)	V/A (ft)	Type of Entrance
		Two-dimensional models inside shock tube			
XIV-A		Front (reflection plate)	5	10.7	1/8 x 4 in.
XIV-B			5	5.33	1/4 x 4 in.
XIV-C			5	2.67	1/2 x 4 in.
XIV-D			5	1.33	1 x 4 in.
XIV-E			5	0.67	2 x 4 in.
XIV-F			5	0.67	Two 1 x 4 in. spaced 0.667 in.
		Field model			
XV	36 in. cube	Front	5	27.4	0.702 x 1.403 ft

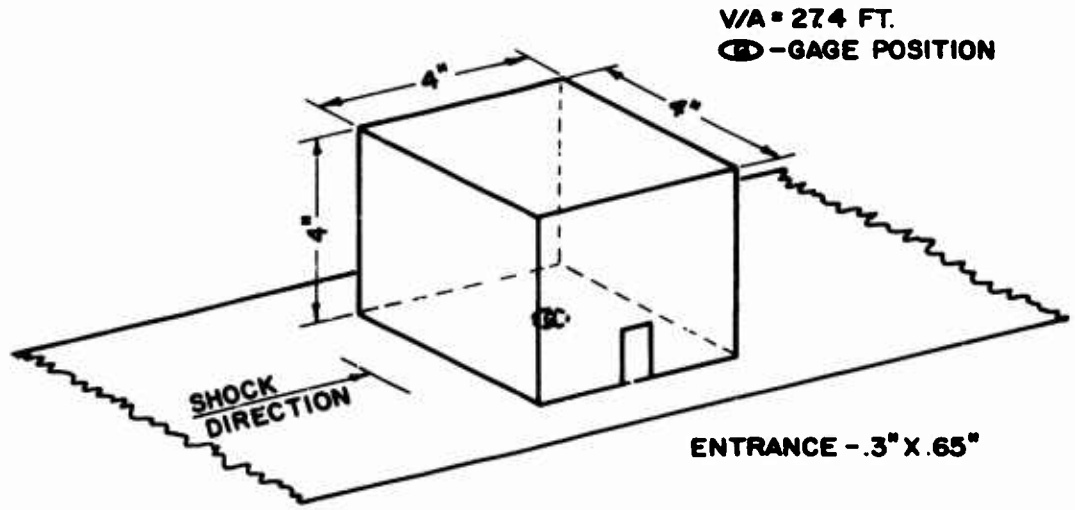


(A) SIDE-ON ENTRANCE MODEL OUTSIDE OF TEST SECTION

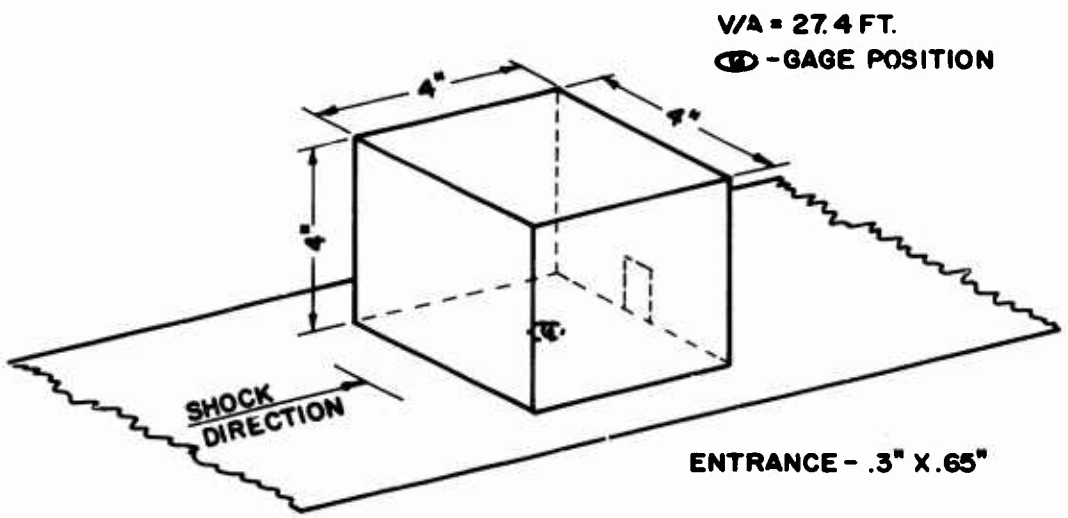


(B) FRONT ENTRANCE

Figure 1. Positions of models for comparing entrance orientations

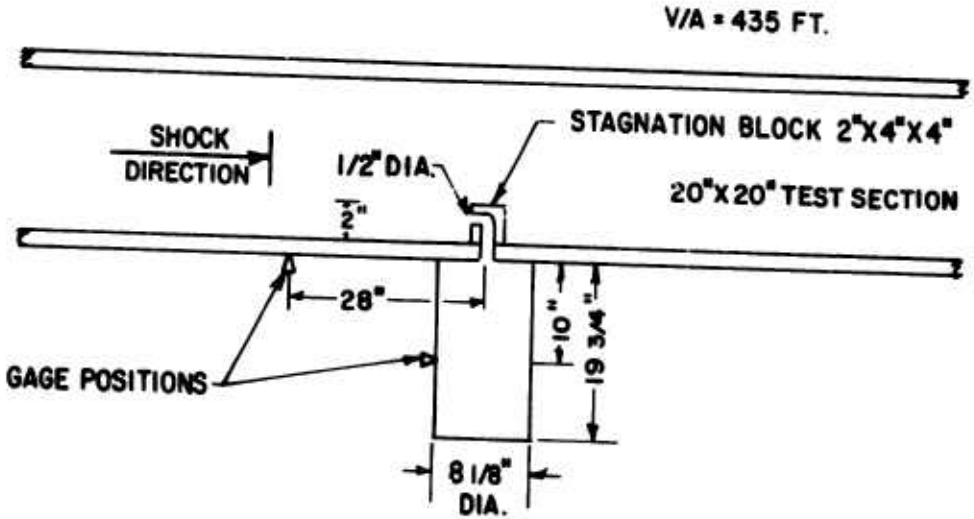


(C) SIDE ENTRANCE



(D) REAR ENTRANCE

Figure 1. Positions of models for comparing entrance orientations (Continued)



MODEL III

Figure 2. Stagnation entrance model outside of test section

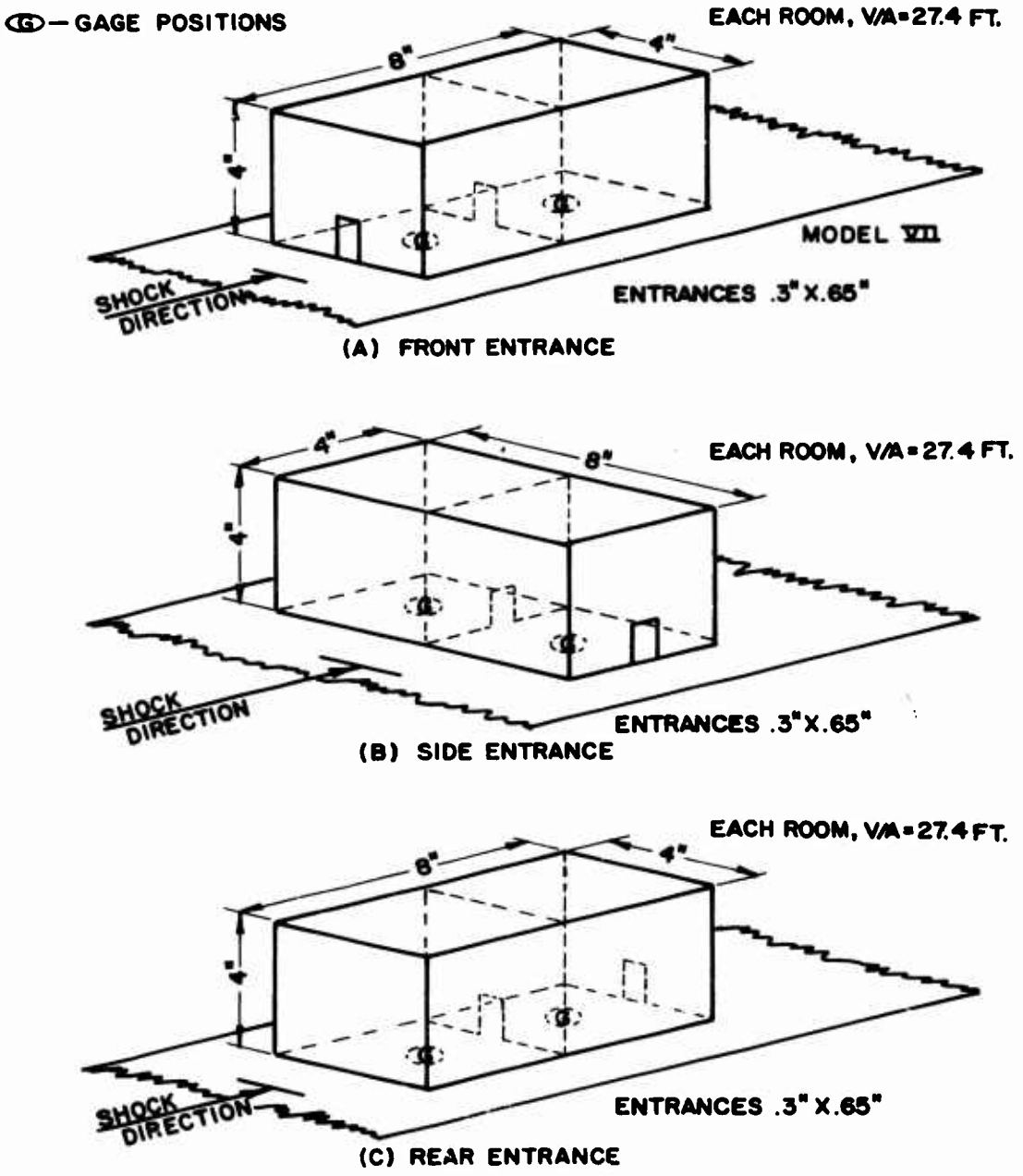
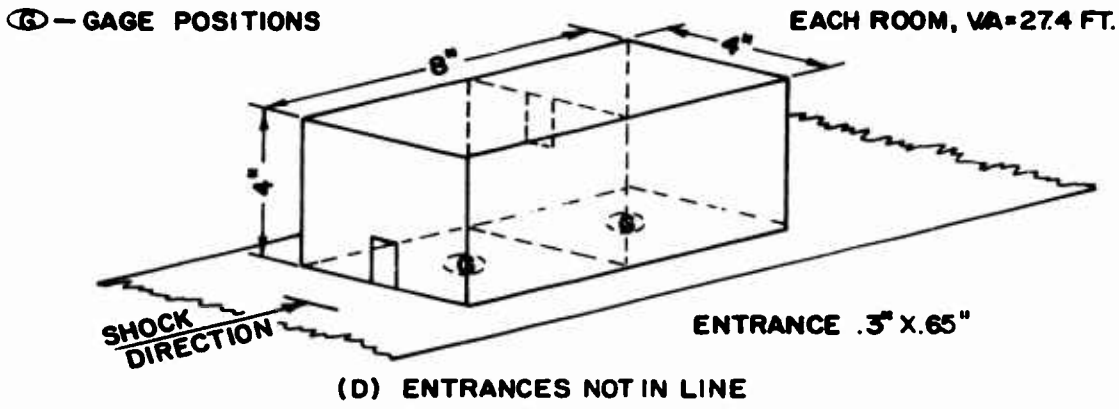
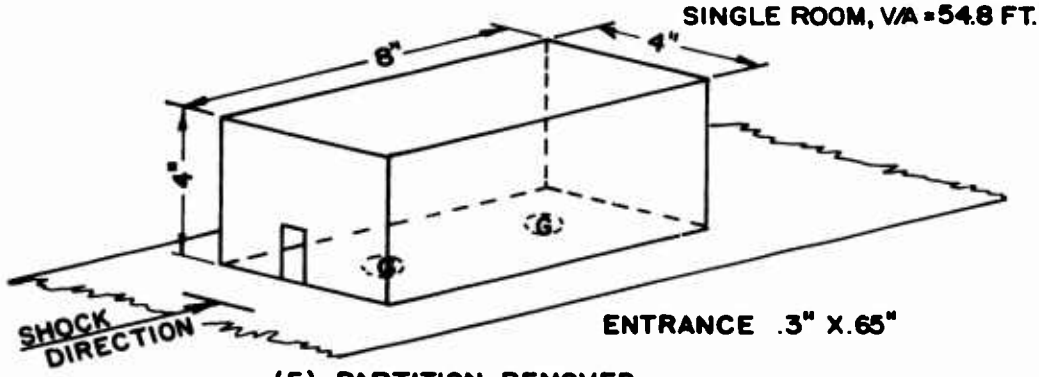


Figure 3. Two-room model used in fill-time test

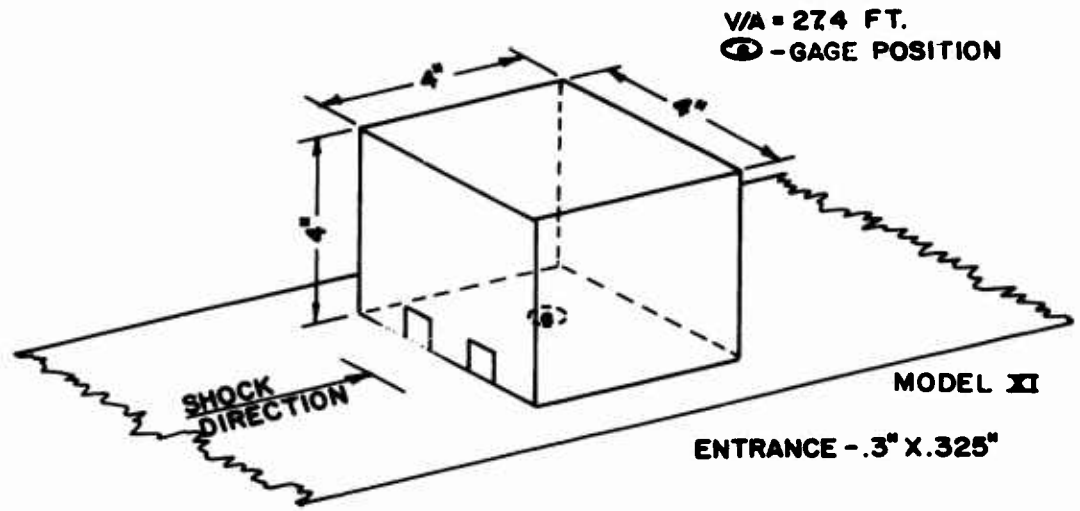


(D) ENTRANCES NOT IN LINE

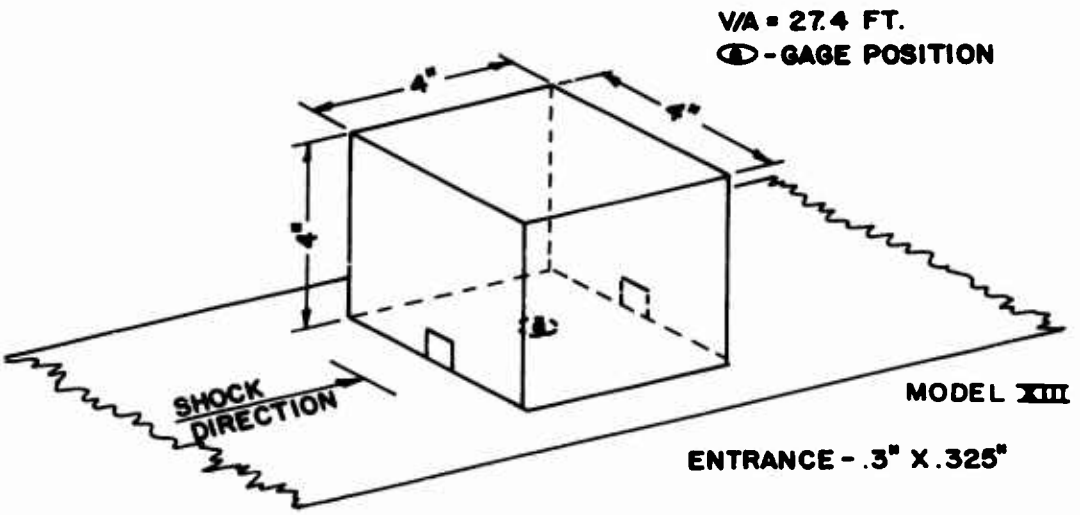


(E) PARTITION REMOVED

Figure 3. Two-room model used in fill-time test (Continued)



(A) DOUBLE ENTRANCE



(B) FRONT AND REAR ENTRANCE

Figure 4. Models with two entrances

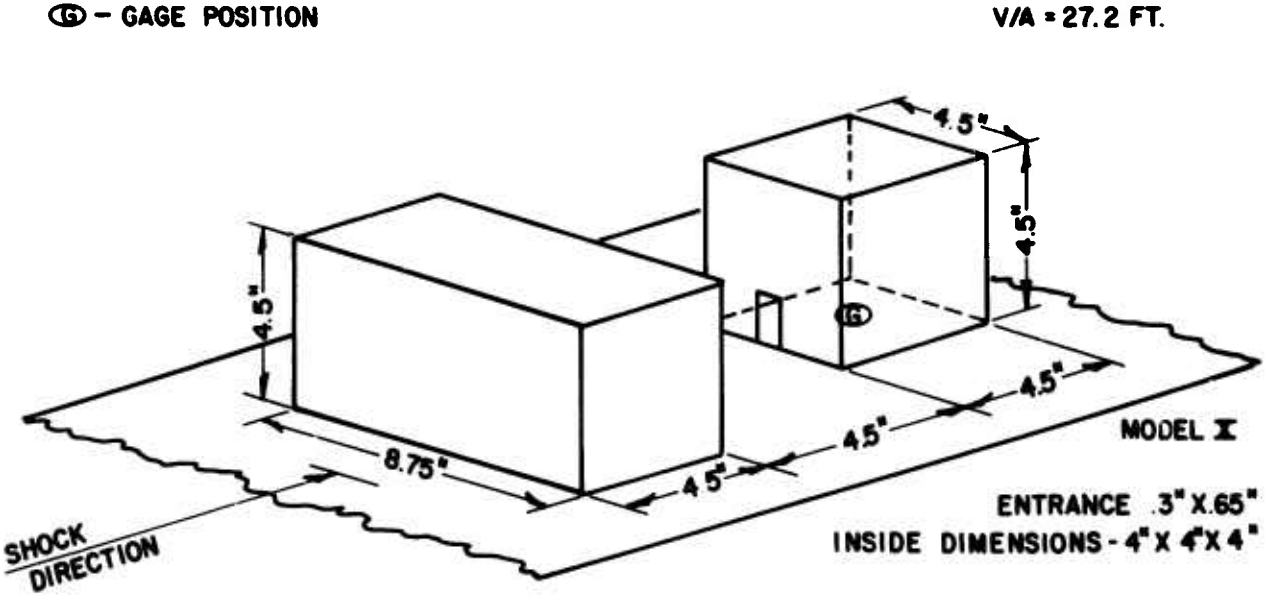


Figure 5. Model placed behind a shield a distance equal to one shield-height

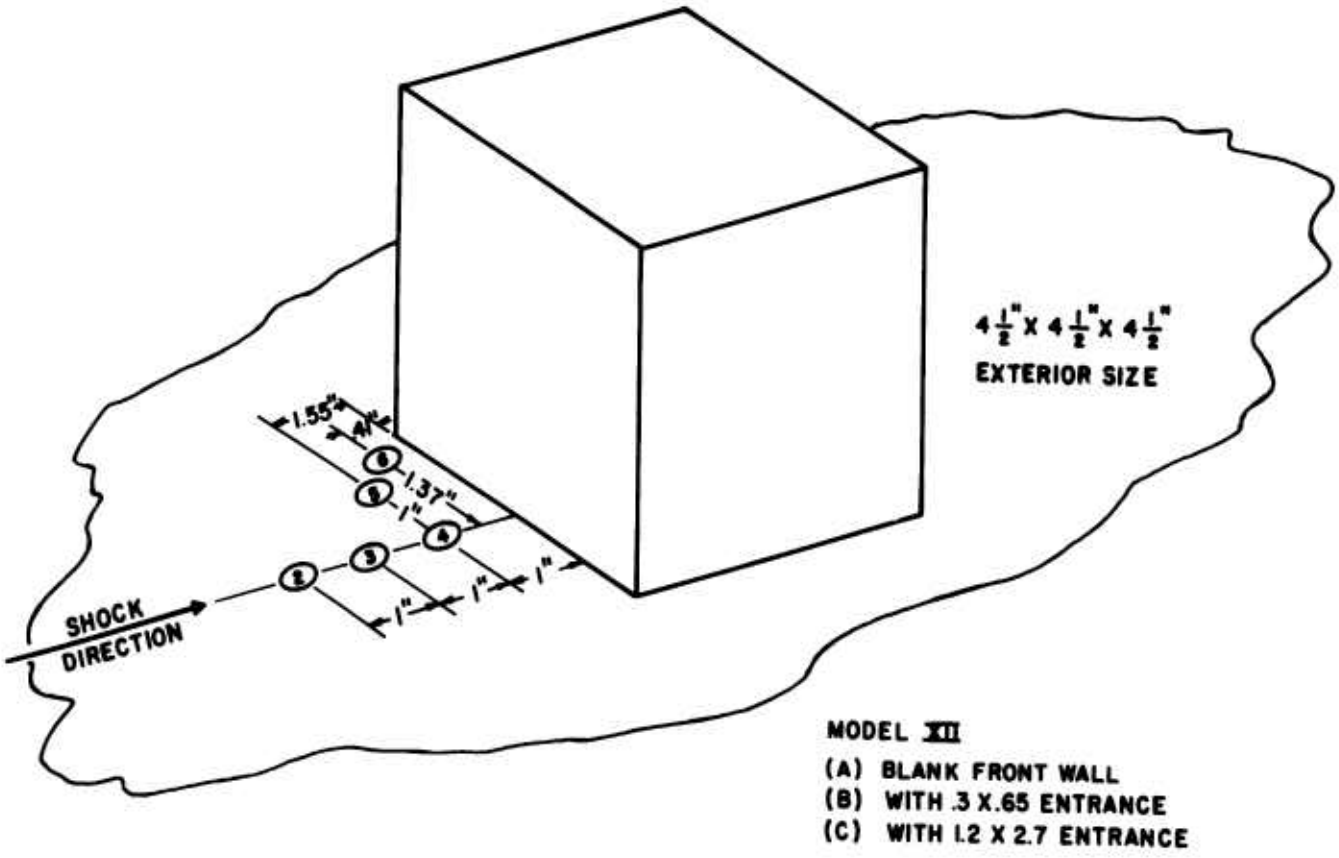


Figure 6. Model XII-upstream ground loading

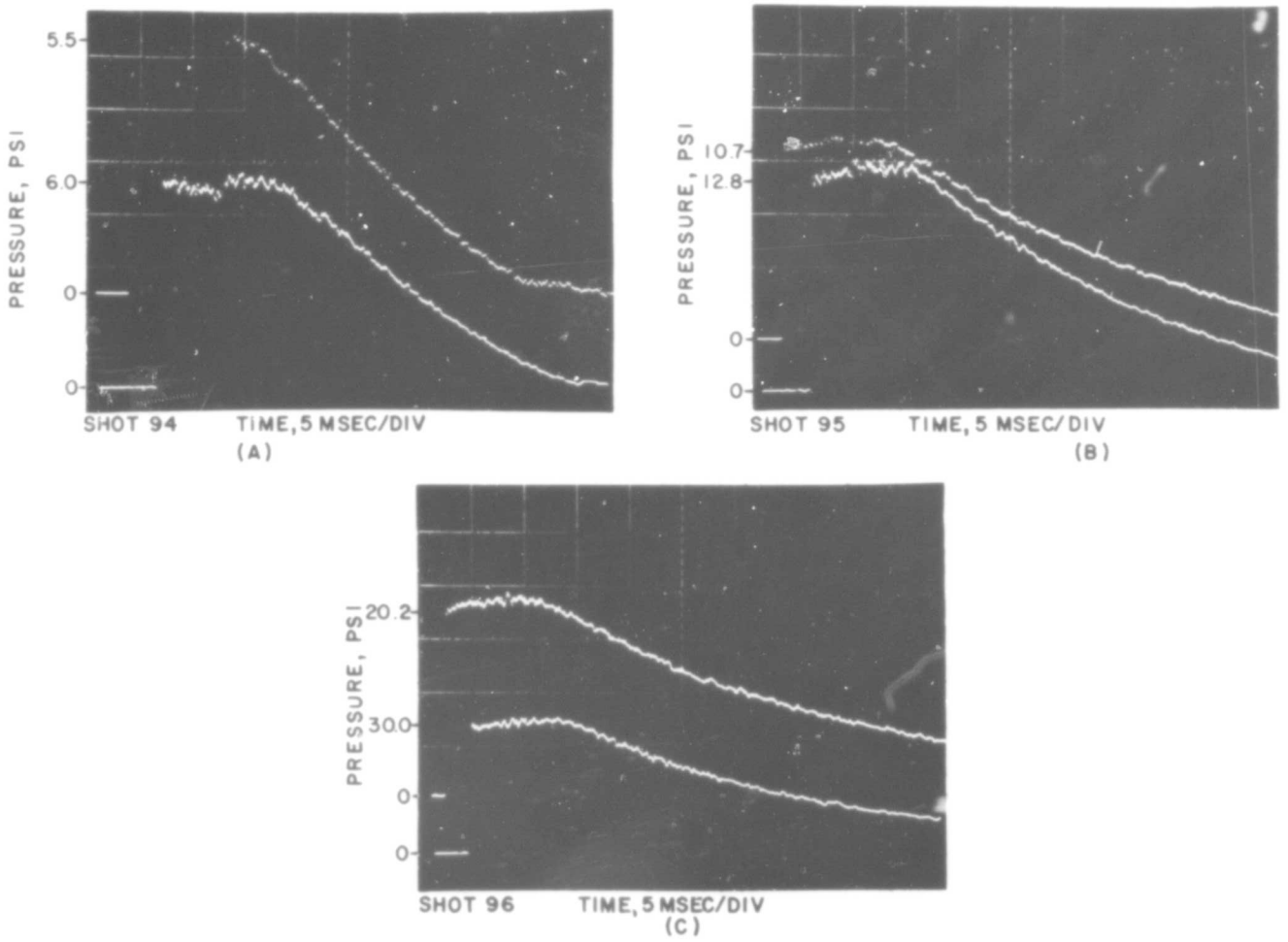
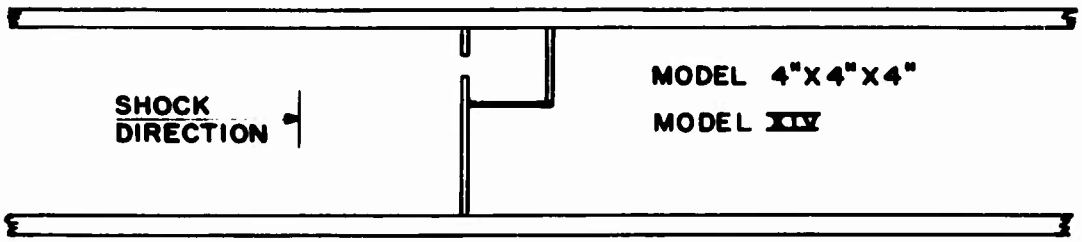
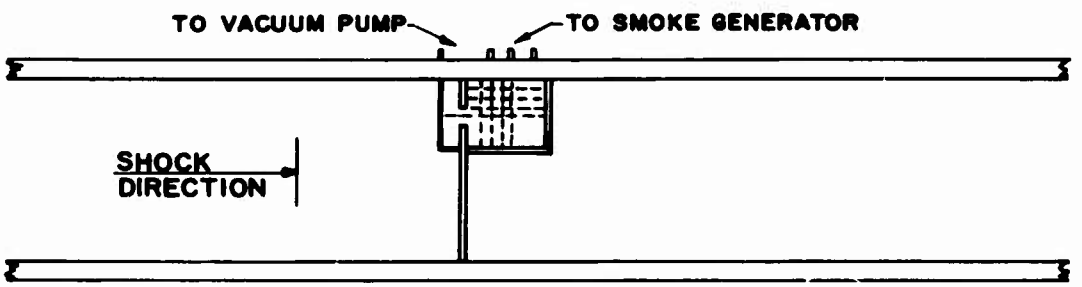


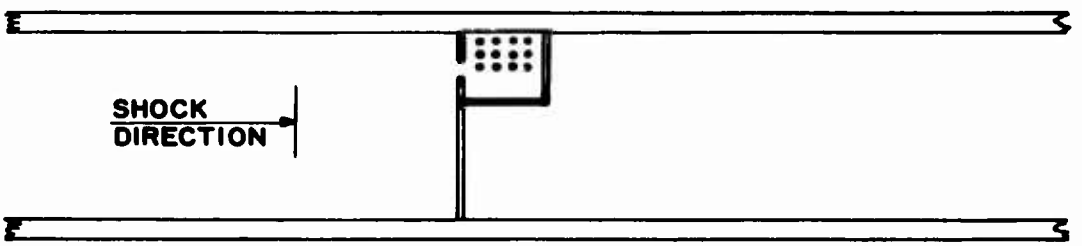
Figure 7. Shock side-on and stagnation overpressure input records



(A) BASIC MODEL FOR TWO-DIMENSIONAL EXPERIMENTS

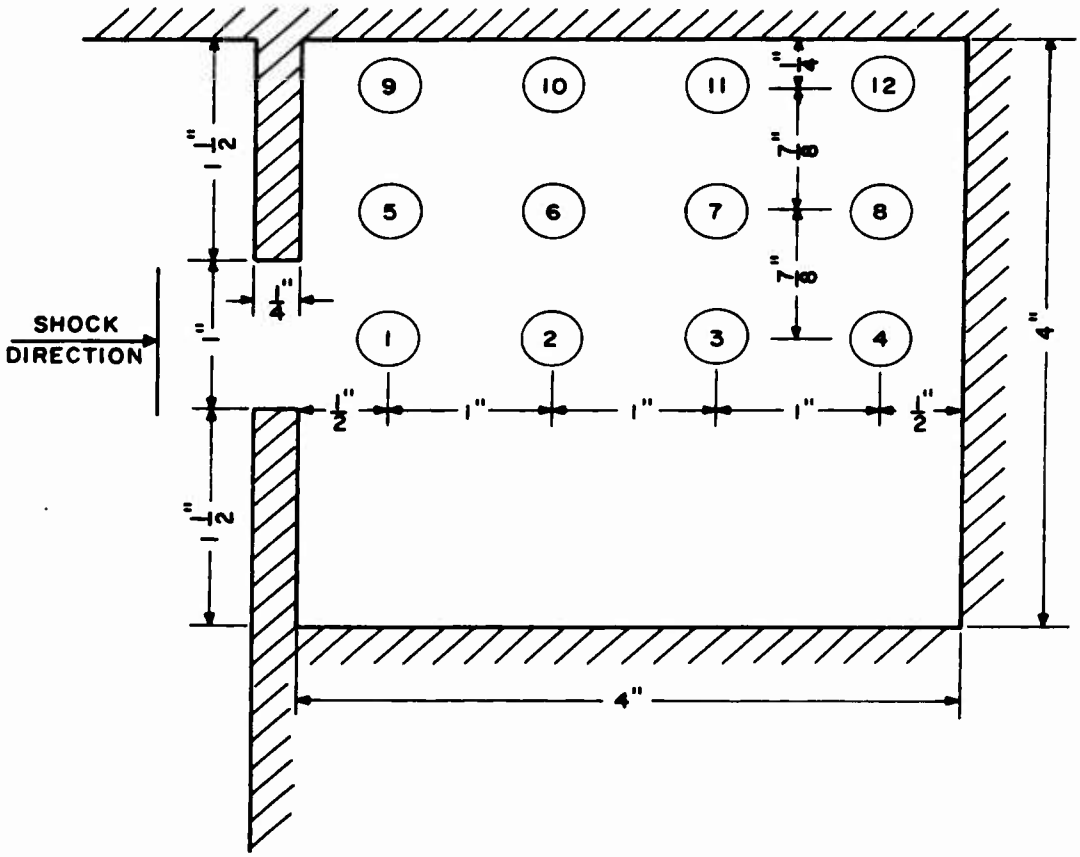


(B) SMOKE GRID GENERATOR



(C) PRESSURE TRANSDUCER POSITIONS

Figure 8. Two-dimensional model used with the smoke streams



(D) 4"X15" SHOCK TUBE GAGE POSITIONS-MODEL XIV-D

Figure 8. Two-dimensional model used with the smoke streams (Continued)

entered the model. Average flow speed, direction, and density may be calculated from the smoke displacement and the known camera frame time separation and conditions of ambient density.

The pressure transducer instrumentation used for the experiment has been described in Reference 3. It consisted of ceramic pressure transducers, charge amplifiers, and Tektronic oscilloscopes with Polaroid cameras which recorded the pressure-time traces. Figure 8-D shows the transducer spacing and numbering system that was used for Model XIV. This numbering is followed in Table A-I of Appendix A and in Appendix C.

A single shot (No. 151 of Table A-III, Appendix A) illustrates the path given to a nylon ball caught in the flow after the shock wave has passed the ball. An entrance of 1 in. width was used for this shot. The results are given as distance time plots in the Result Section.

C. Field Model

Figure 9 shows a sketch of the field model which was exposed to the blast from 100 tons of TNT during Shot 6 of the Canadian Distant Plain series in July 1967. The model was made of 2 in. thick plywood reinforced with angle iron. The entrance was 0.7 x 1.4 ft corresponding to the volume to area ratio of the 4 in. cube of Model VI. (See Table I.)

A peak overpressure of approximately 5 psi was expected for the blast wave at the models position on the blast line. Gage positions are shown in Figure 9 where pressure records were obtained. An additional position, not shown, was taken from the blast line transducers to show an undisturbed input wave. The general instrumentation used for the entire Distant Plain series, including this model, may be found in Reference 4.

The pressure-time traces for Model XV are presented in the Result Section of this report.

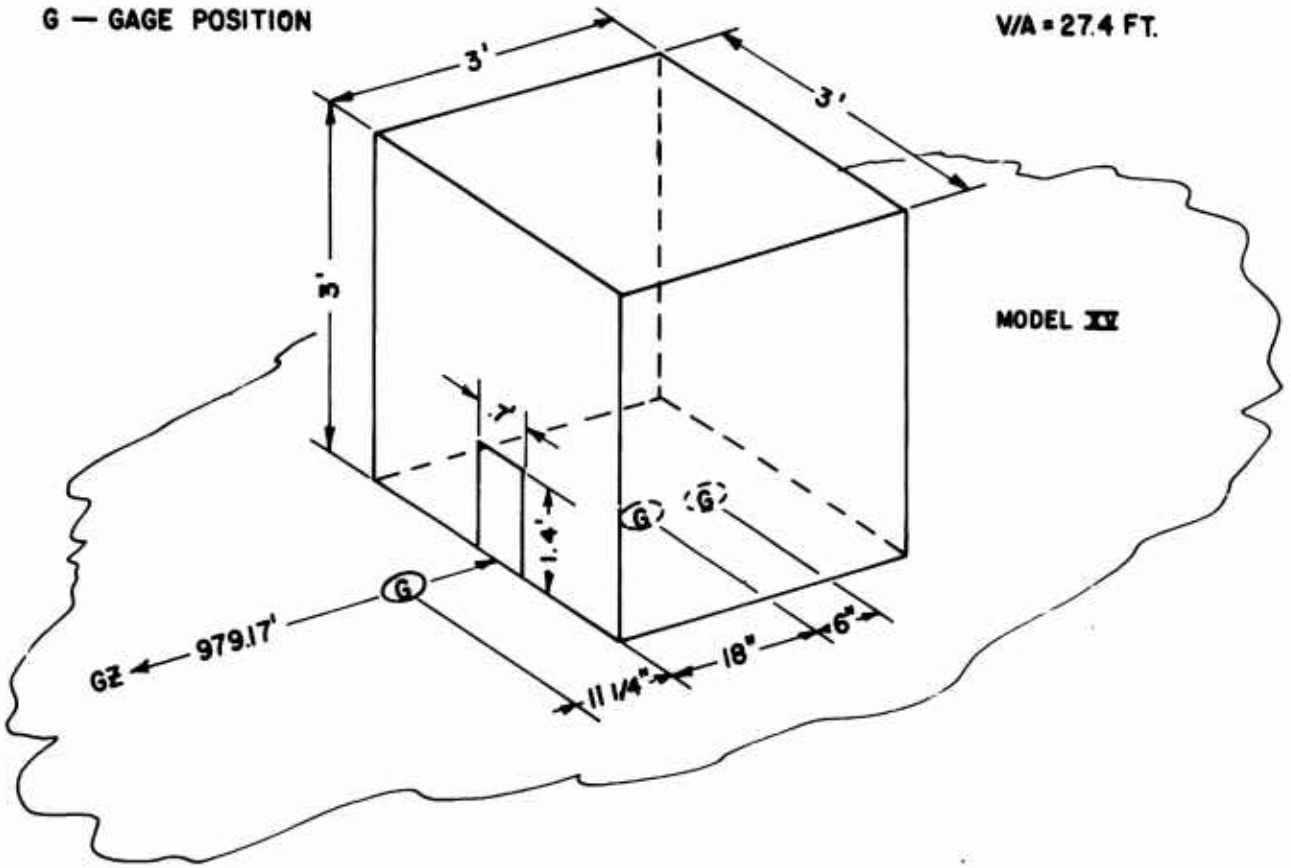


Figure 9. Field model exposed to blast from 100 tons of TNT

III. RESULTS

The results of the experiment are discussed in an order corresponding to the previous experimental parts.

A. Three-Dimensional Models

The tabulated results for the three-dimensional models are shown by model number in Table B-I, Appendix B. The various models and shots have been grouped for plotting according to the parameter the filling process is dependent upon.

Figures 10 and 11 show comparison plots of filling as a function of model orientation to the shock wave, and as a function of type of filling for Models II, IV, and VI. Nominal 10 and 20 psi side-on input waves are shown as applied to the models with volume to area (V/A) ratio of 27.2 ft. One can see a closer grouping of fill curves for P_s = 10 psi than for 20 psi, but the stagnation block filling outside of the test section corresponds roughly to the front fill inside the test section. Again the side-on filling for the model outside of the test section is similar to the rear-on filling for the model inside the shock tube. The side-on filling for the model in the shock tube is the lowest value of all orientations, or types of filling.

Figure 12 compares the filling curves for different values of V/A. Models III, V, VI, and VII are compared for ratios of V/A = 1.65 ft to 435 ft. The maximum pressure to which the models filled varied from 14 psi at 1.5 msec for the smallest V/A to about 1.3 psi at 56 msec for the largest V/A tested.

Figure 13 shows the filling of Model VI as a function of input side-on overpressure. Notice that the fill time to maximum pressure becomes greater as the input pressure increases, from 13.7 msec to 17.2 msec. Also, the maximum fill pressure is not quite the value of the input record; but the fill pressure would become greater if the input flat duration were longer. Notice, however, the overshoot of the filling pressure with respect to the side-on input record, but it is less than the stagnation overpressure corresponding to the input pressures. See

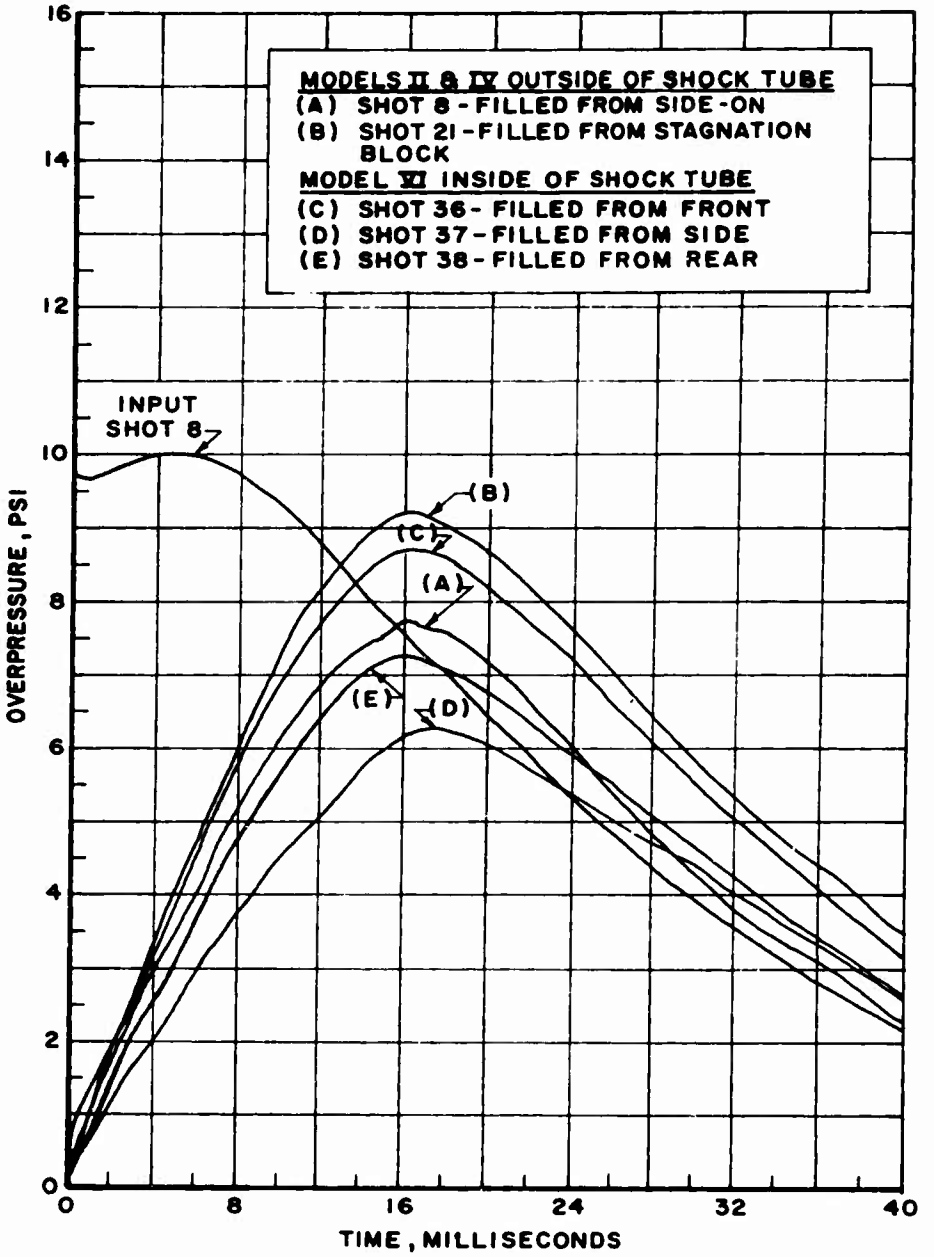


Figure 10. Comparison of filling as a function of orientation to shock wave, P_s = 9.8 psi

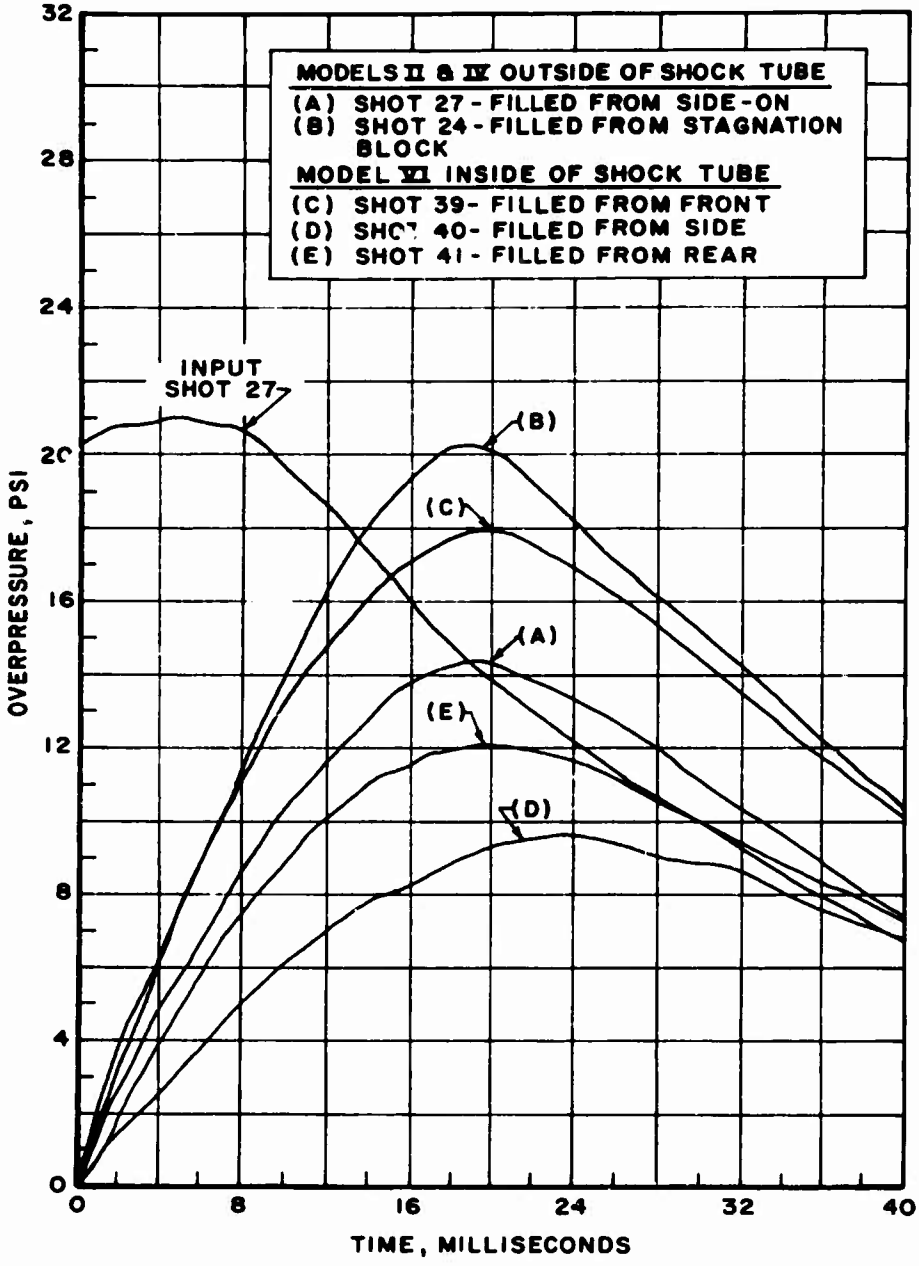


Figure 11. Comparison of filling as a function of orientation to shock wave, P_s = 20.5 psi

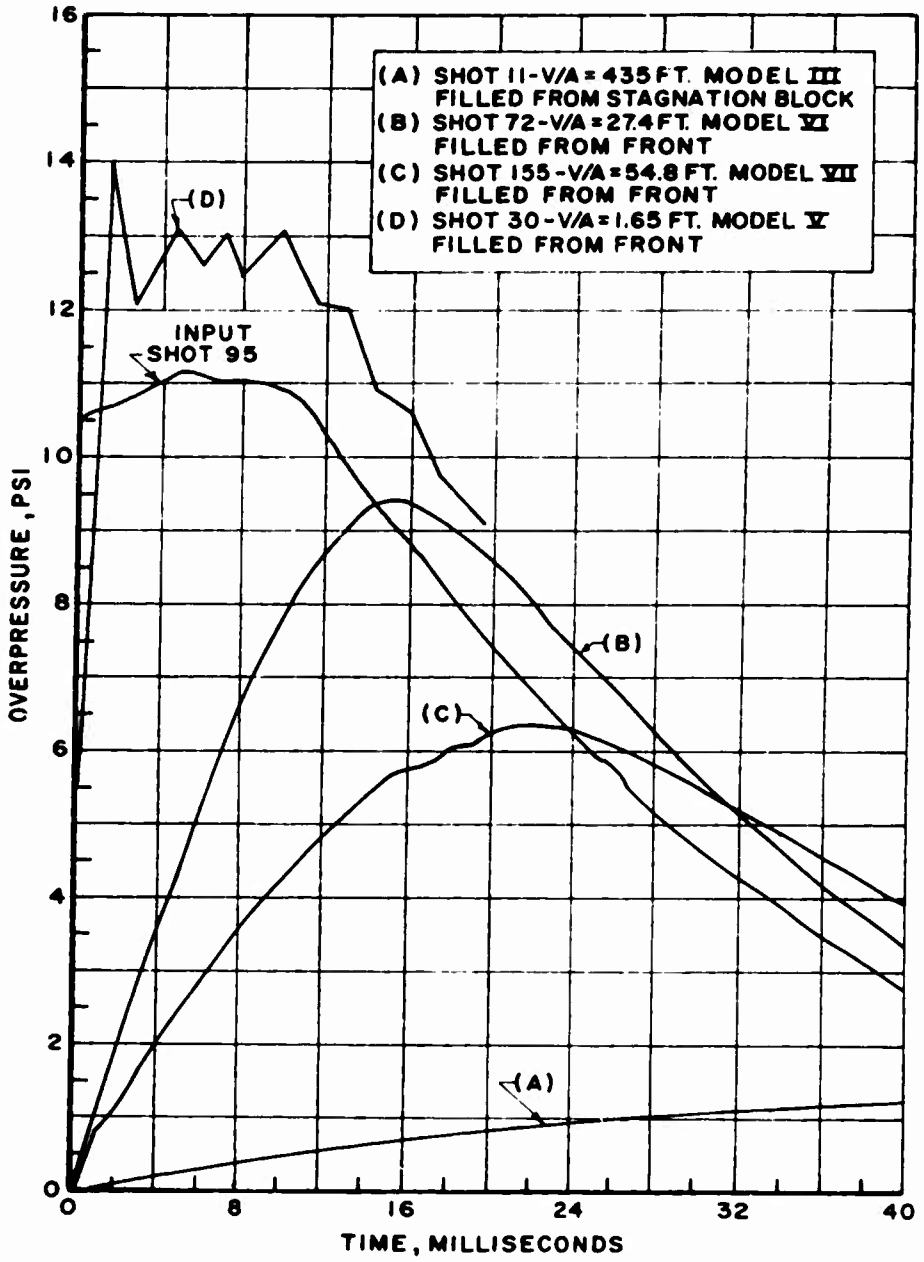


Figure 12. Comparison of filling as a function of model volume to entrance area ratio

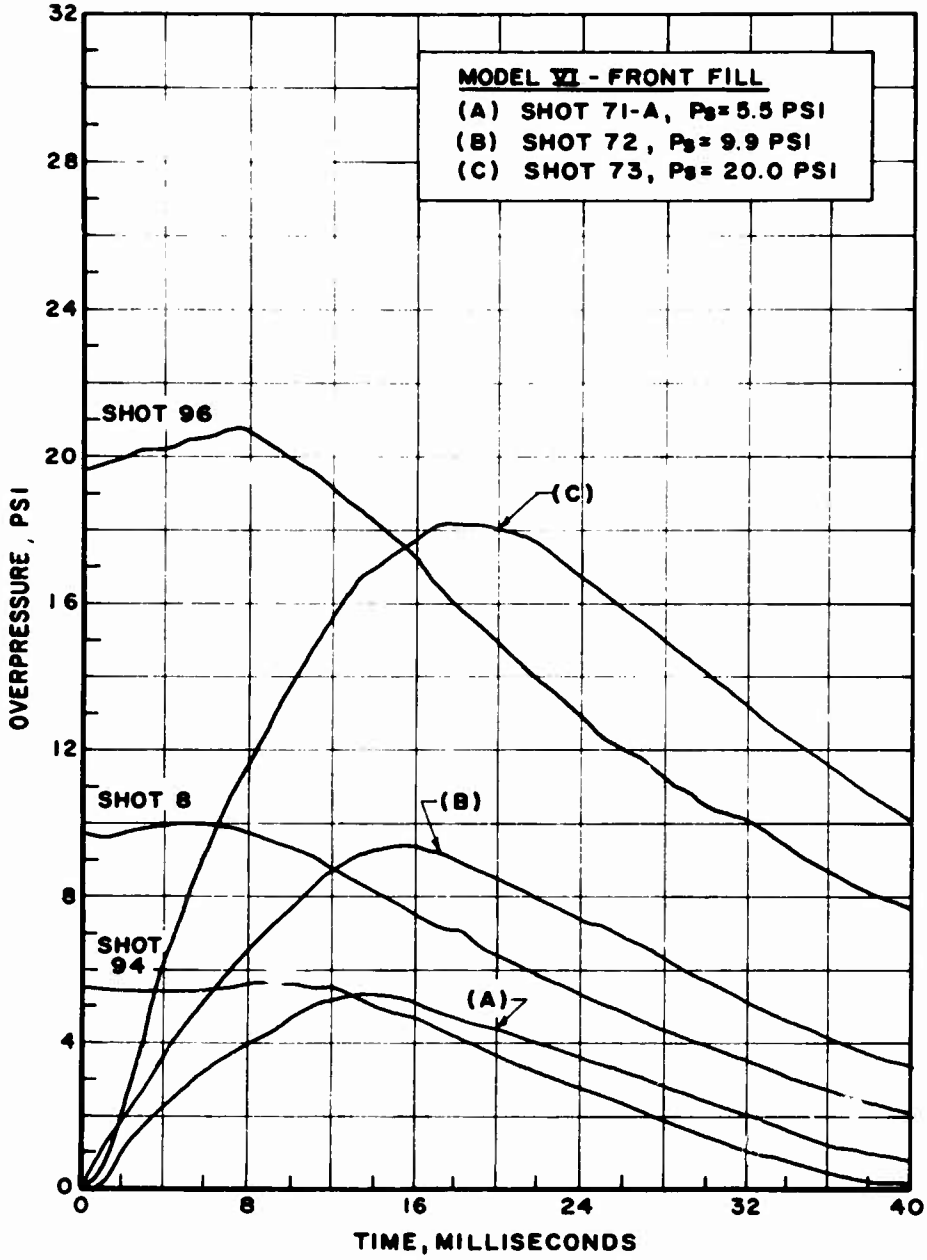


Figure 13. Comparison of filling as a function of input pressure

Figure 7 for typical stagnation records. The records plotted have all been smoothed for these comparisons and do not show the stepwise filling process that is present in the oscilloscope records, Appendix B. Reference 1 points out that stepwise filling is necessary to the mathematics model used in the computer predictions.

Figures 14-16 show filling results for input pressures 5.5-20 psi for Models VI, XI, XIII, and X. A single entrance, or two entrances of total area equal to the single entrance, behaved very much the same way in filling. The front and rear entrances caused a filling with a somewhat less maximum pressure at a greater fill time than did the front filling. There was also something of a greater fill rate during the first few milliseconds of filling for the lowest input pressure. The major difference in filling was apparent for the shielded model. Only about one-half the input pressure was reached for the 20 psi input; however, the fill time to the maximum remained about the same.

Figures 17-23 show comparisons between the two rooms and orientations for Model VII. The fill curves presented in Figures 17 and 18 for both rooms are quite similar, although shown in Figure 21 the second room fills to a little higher pressure (12 percent) than the first room at the 20 psi input pressure. Figures 19 and 20 show the comparison for the 20 psi input pressure. There is little difference for the 10 psi input pressure. Again as in the single room, Model VI, the front fill shown in Figure 21 gave the highest maximum pressure, rear-fill shown in Figure 22 was next, and side fill shown in Figure 23 was least. Figures 24 and 25 show results from Model VII for the two room entrances in-line, off-set (one at top and one at bottom, but on the same line), and a single room with the partition wall removed. The off-set entrances appear to cause the largest fill pressure and not much difference for in-line entrances compared with the single room.

Figures 26 and 27 show traces which compare the pressure loading as measured at the center of the external faces of Model VIII and the loading with a shield, Model X. The comparison shown is for an input pressure of 5.4 psi. Similar traces were observed for the 10 and 20 psi

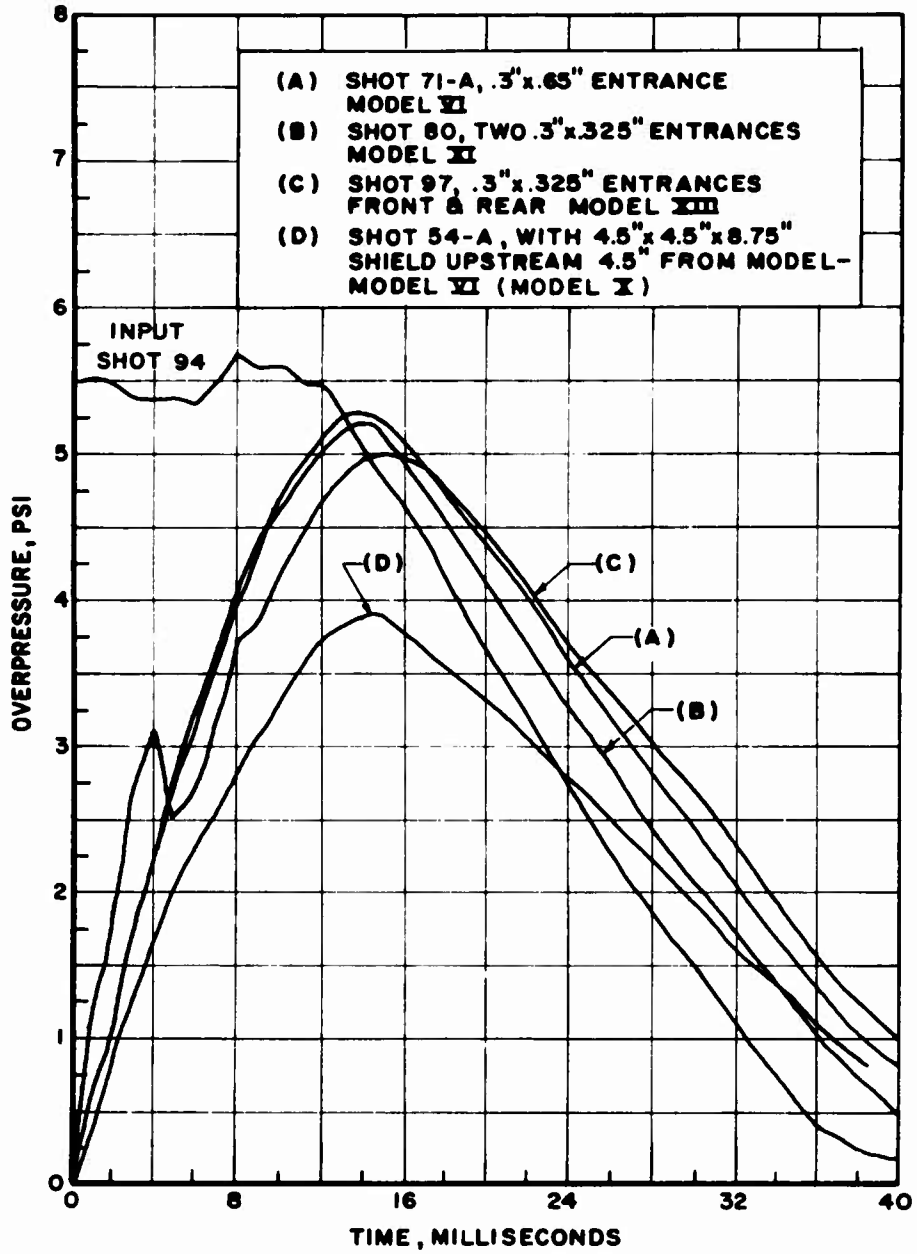


Figure 14. Comparison of filling as a function of entrance type, P_s = 5.5 psi

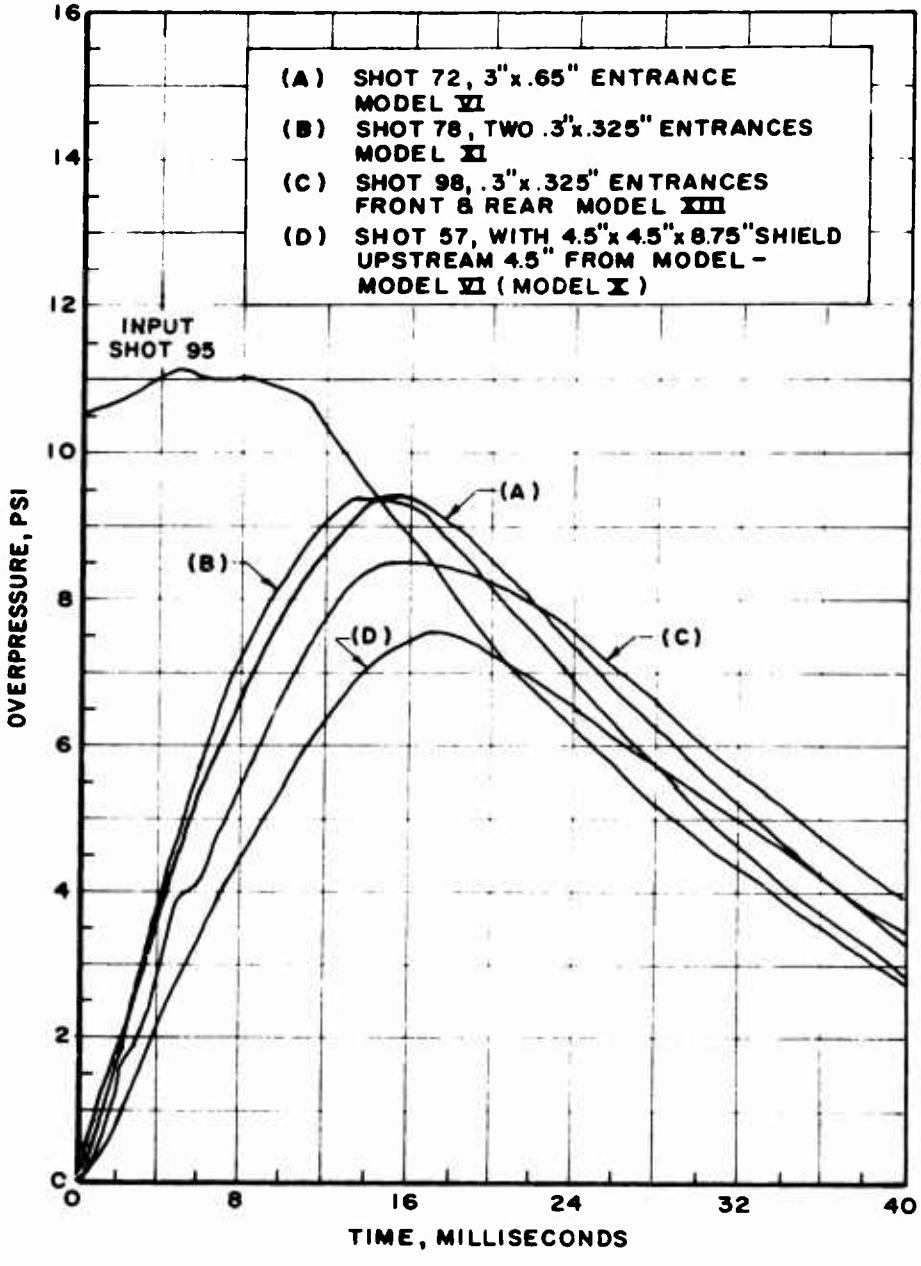


Figure 15. Comparison of filling as a function of entrance type, P_s = 10.8 psi

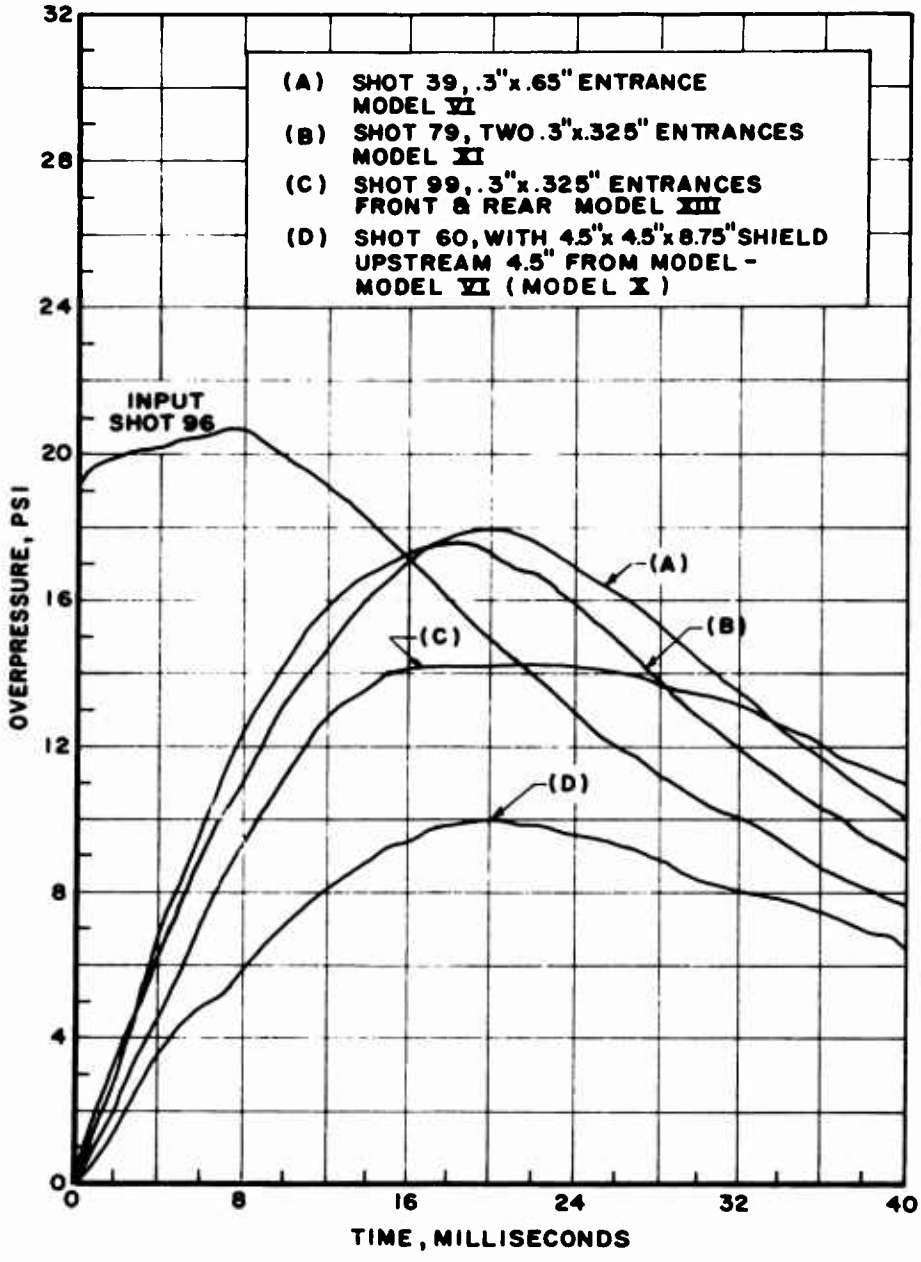


Figure 16. Comparison of filling as a function of entrance type, P_s = 20 psi

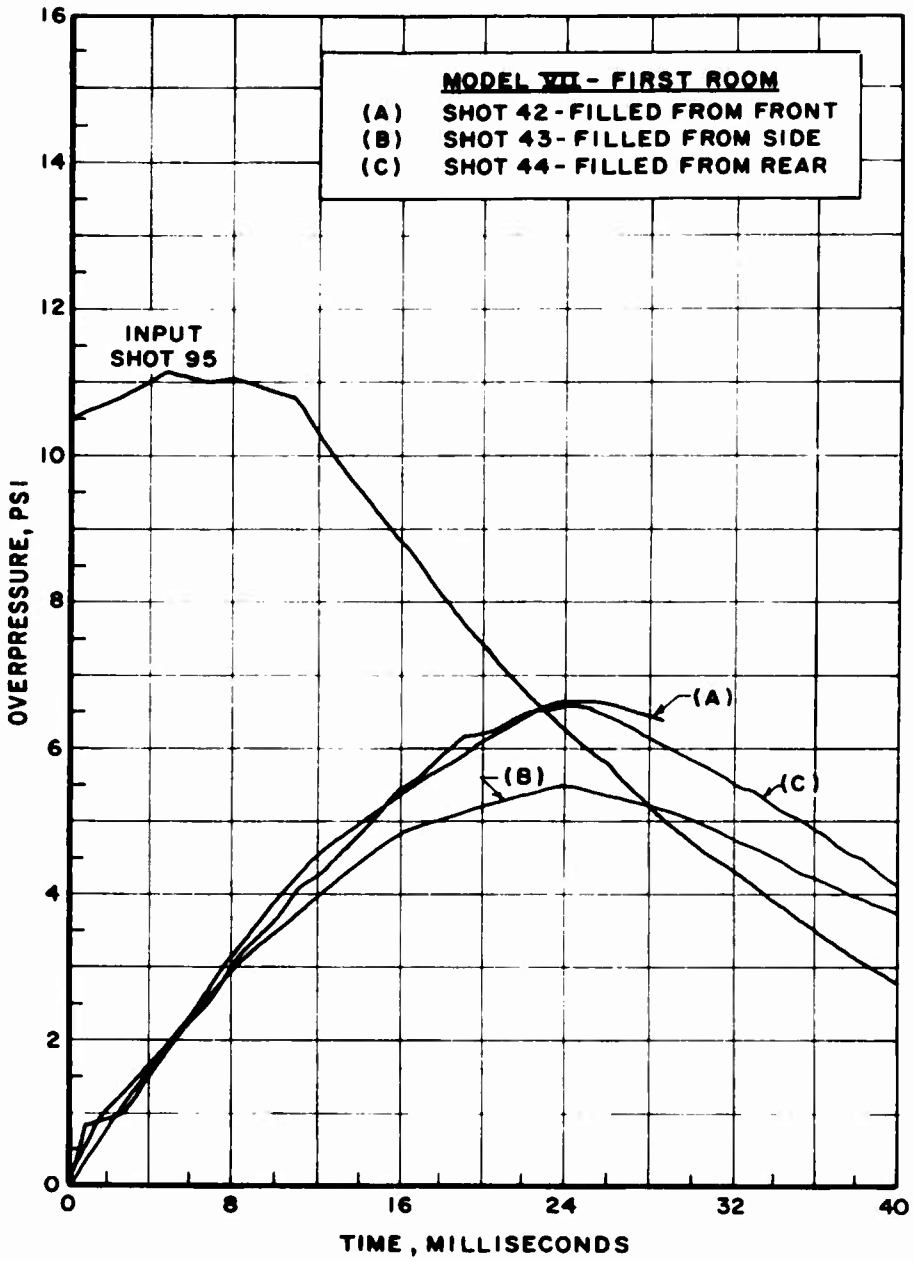


Figure 17. Comparison of entrance orientation for two-room model-gage in each room, P_s = 10.8 psi

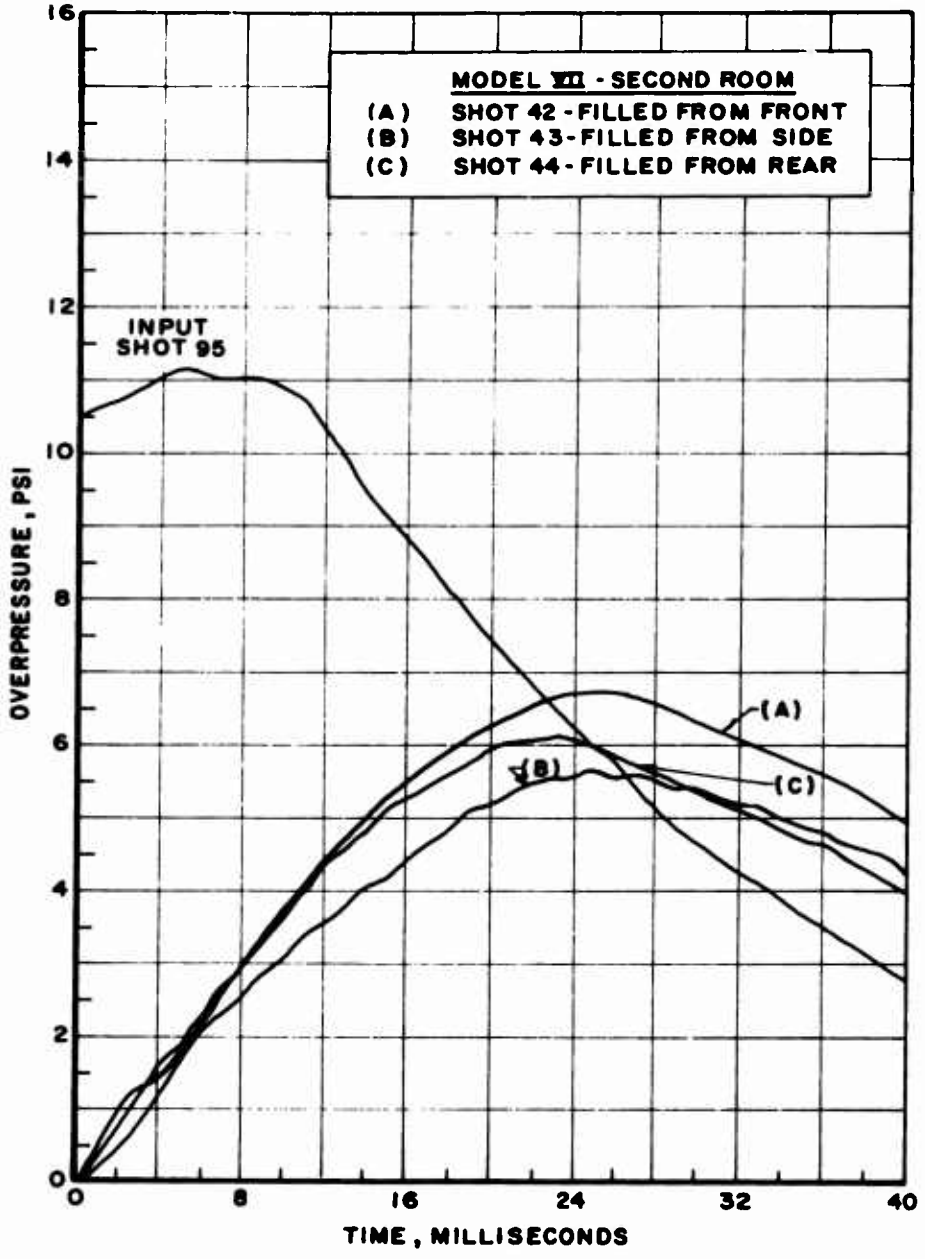


Figure 18. Comparison of entrance orientation for two-room model-gage in second room, P_s = 10.8 psi

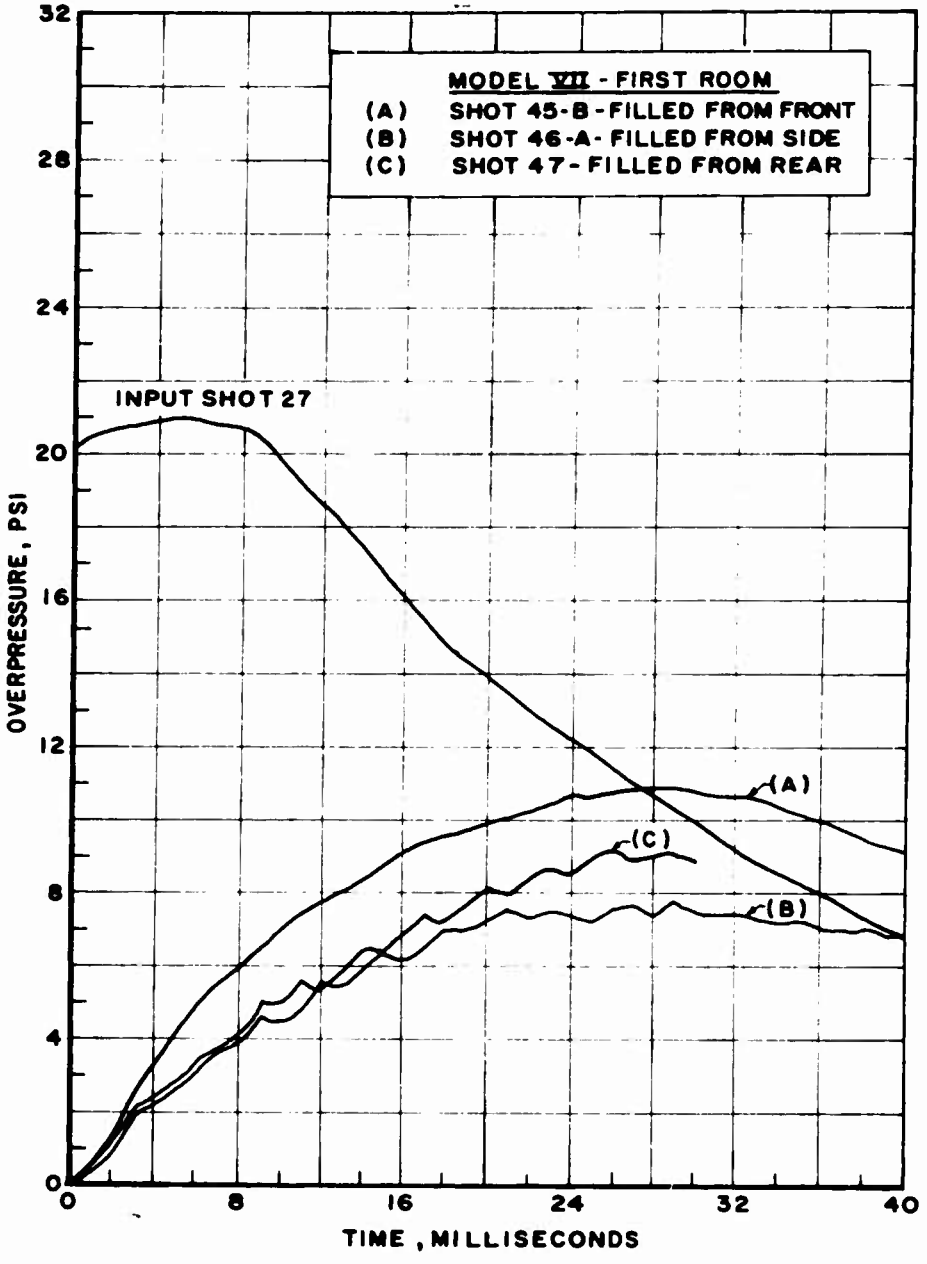


Figure 19. Comparison of entrance orientation for two-room model-gage in first room, P_s = 20.5 psi

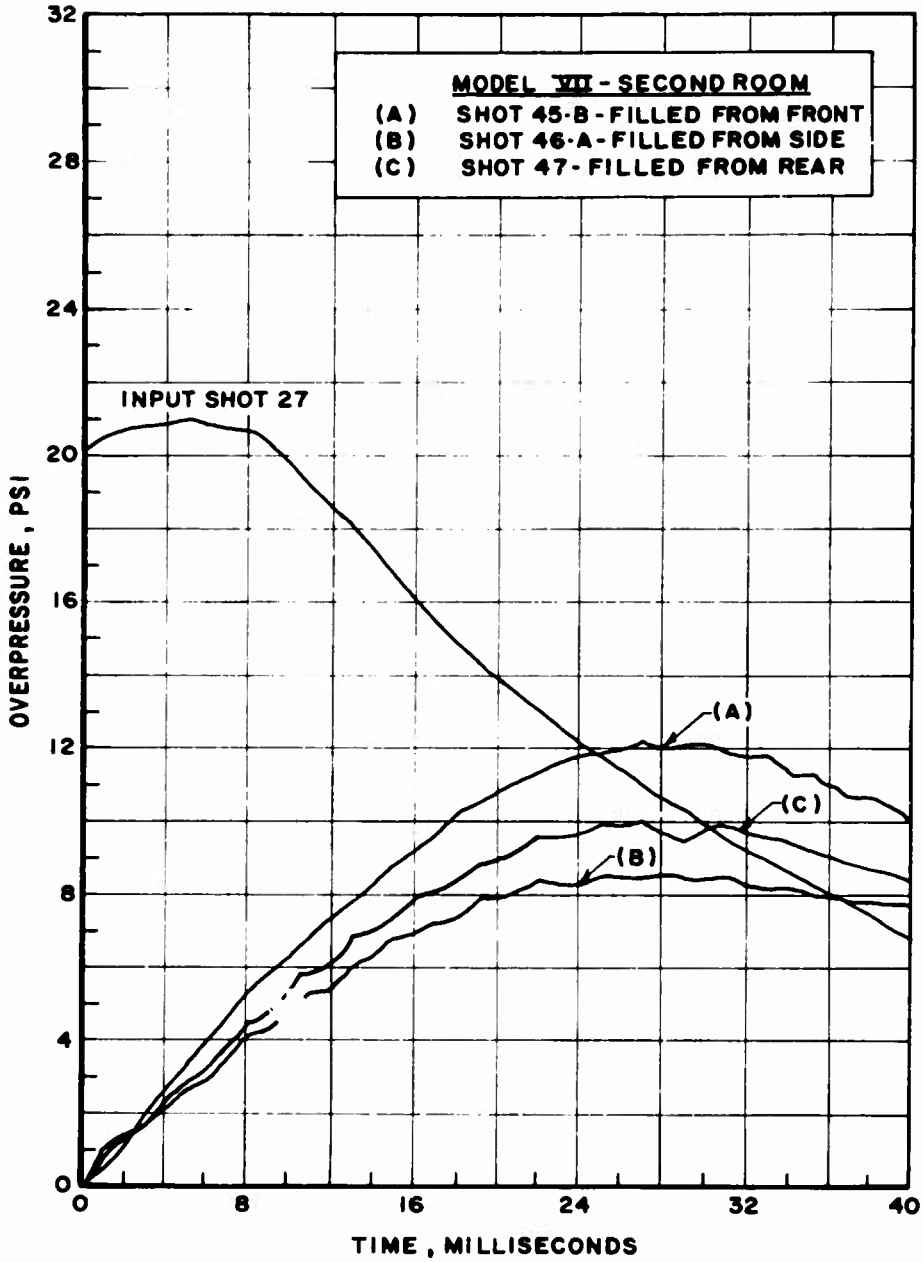


Figure 20. Comparison of entrance orientation for two room model-gage in second room, P_s = 20.5 psi

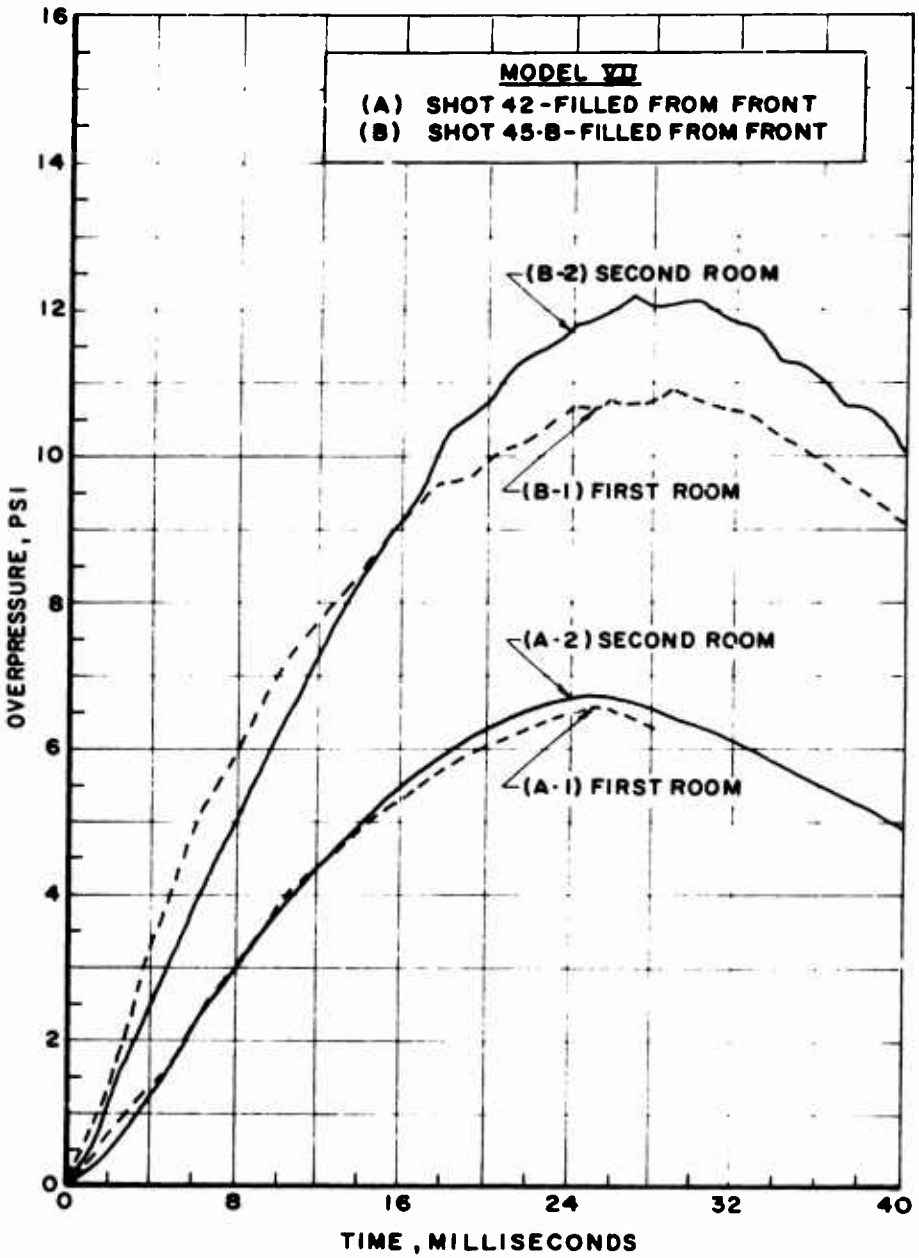


Figure 21. Comparison of front filling for each room of two-room model, P_s = 10.4 and 20.5 psi

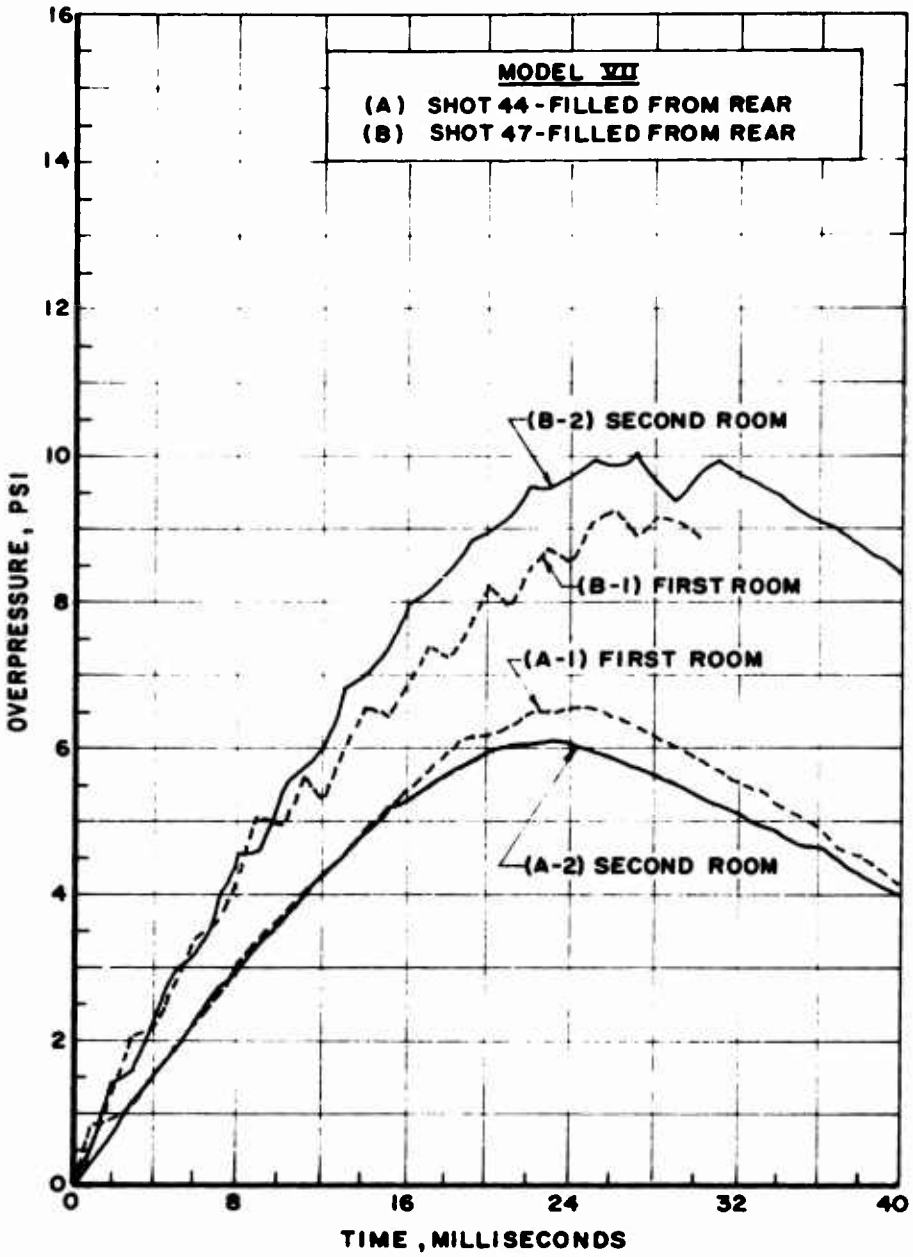


Figure 22. Comparison of rear filling for each room of two-room model, P_s = 10.9 and 20.6 psi

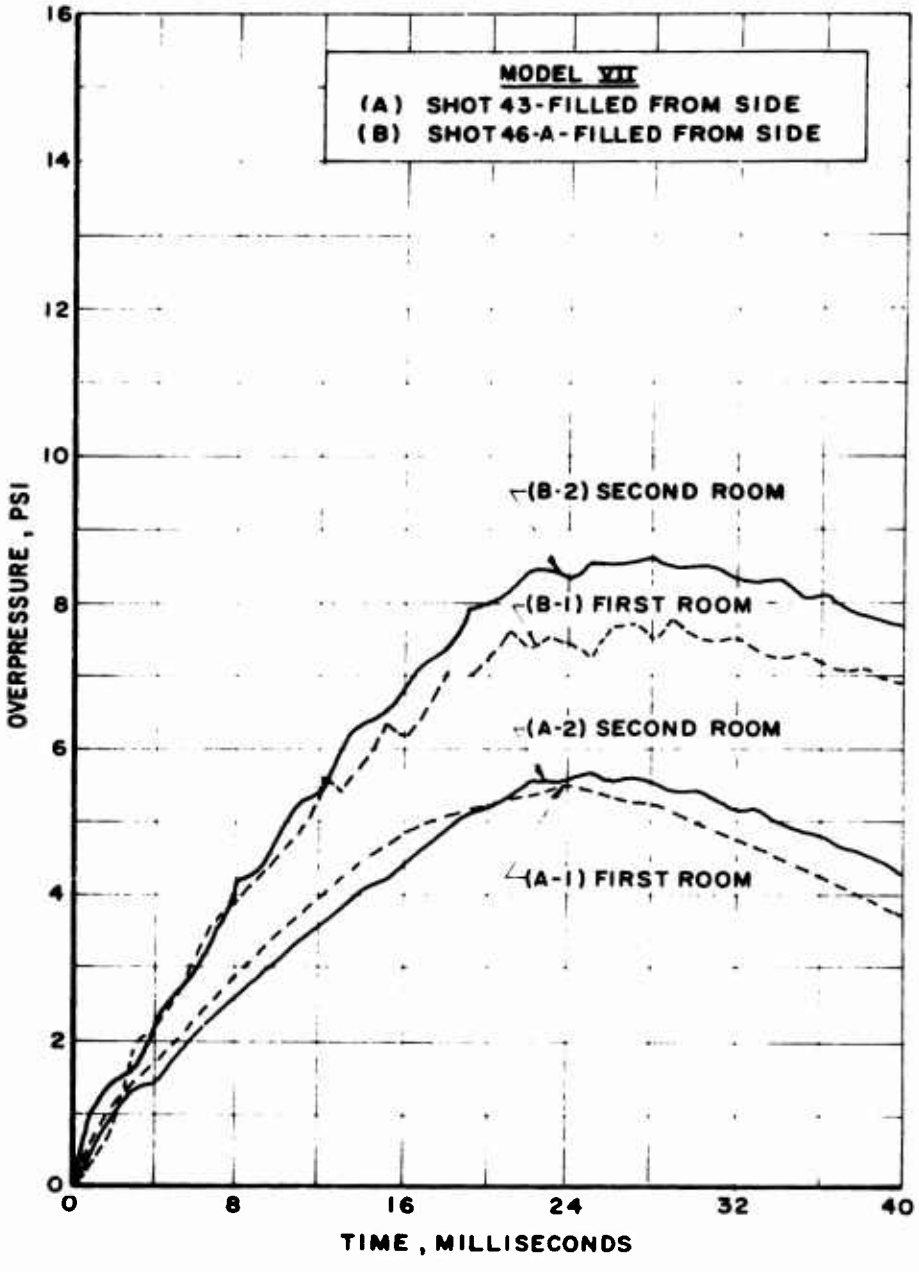


Figure 23. Comparison of side filling for each room of two-room model, P_s = 10.5 and 20.7 psi

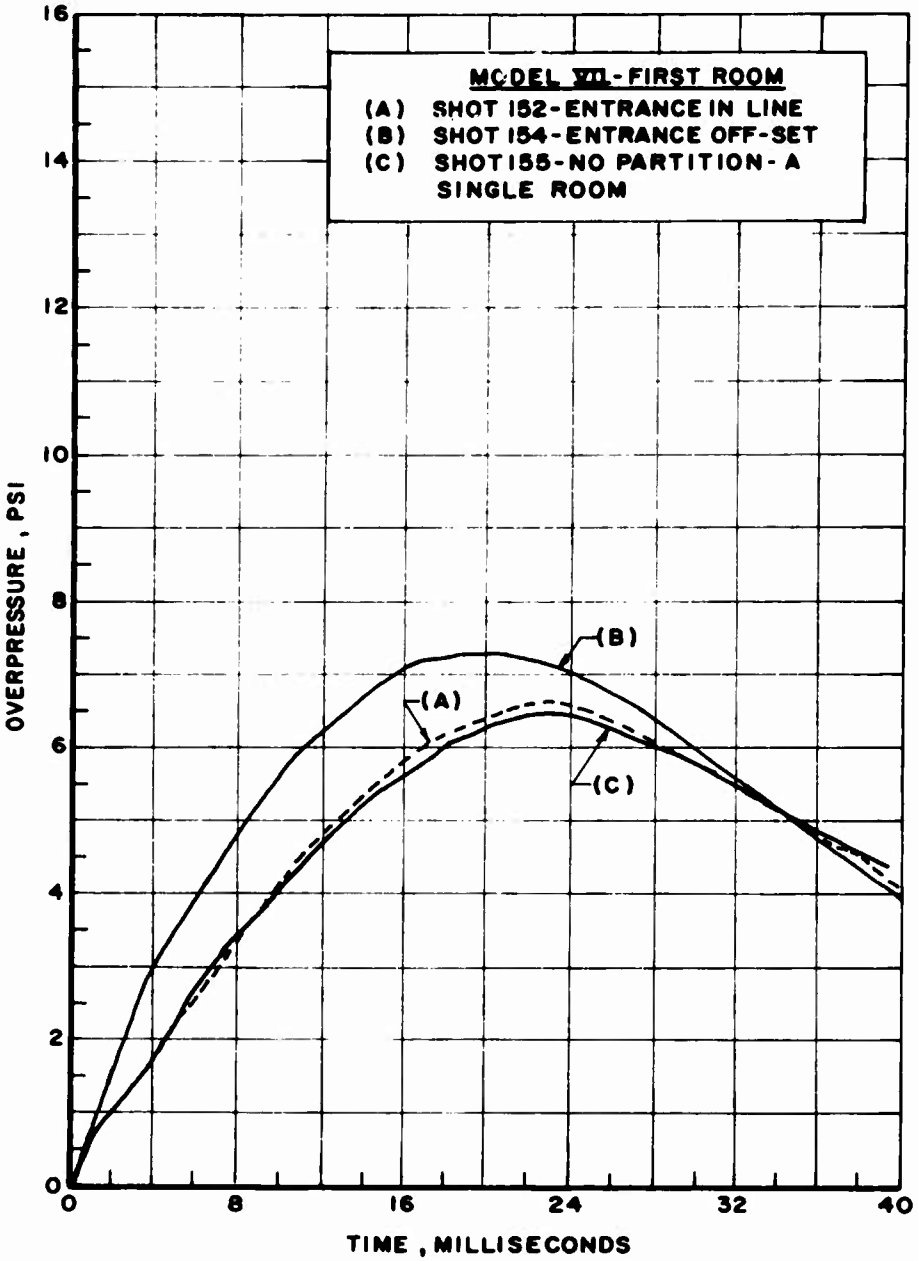


Figure 24. Comparison of filling of first room of two-room model P_s = 10.3 psi

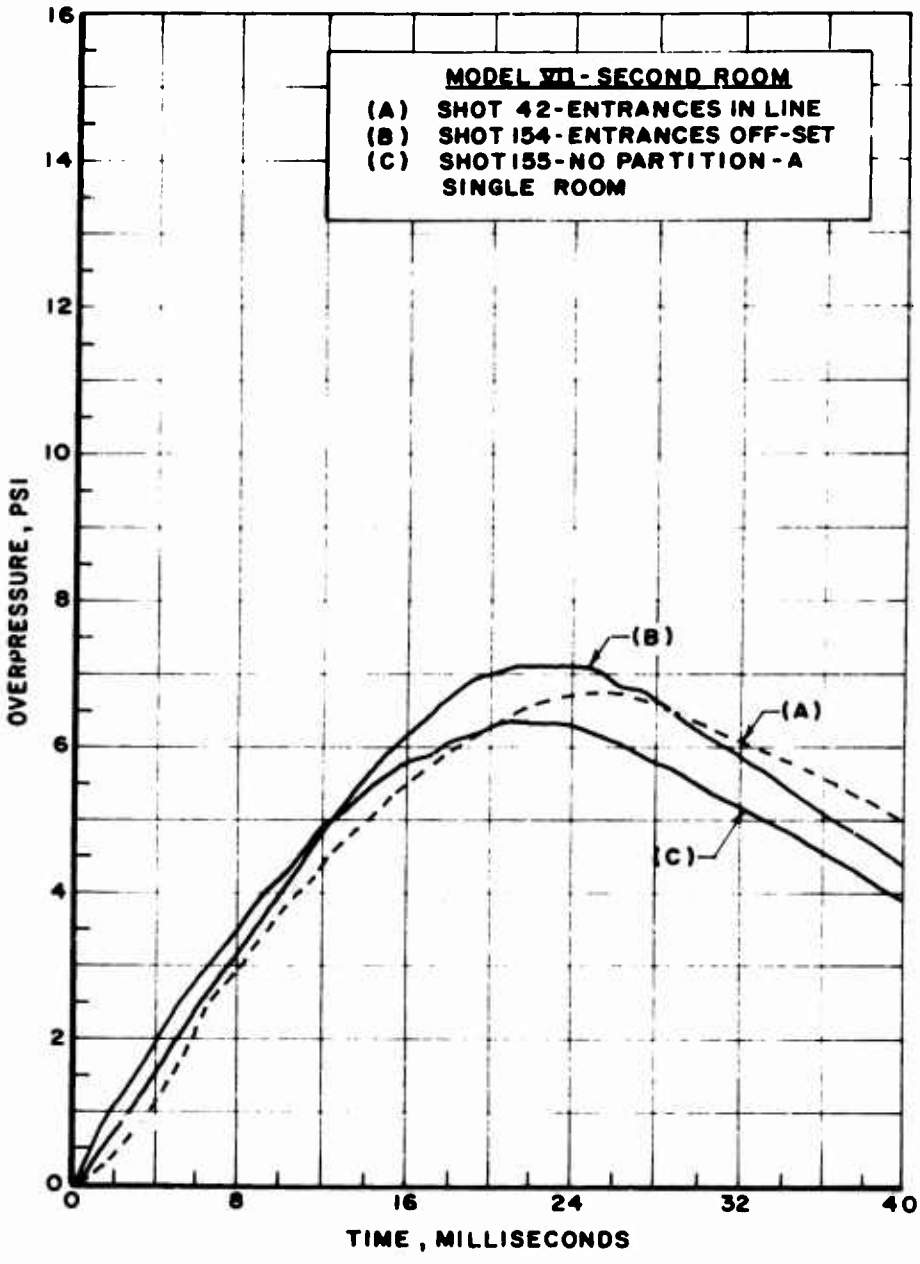
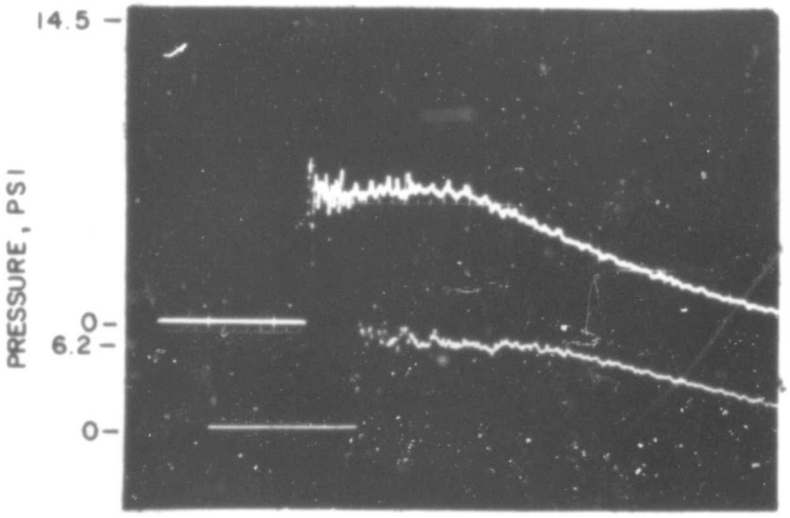
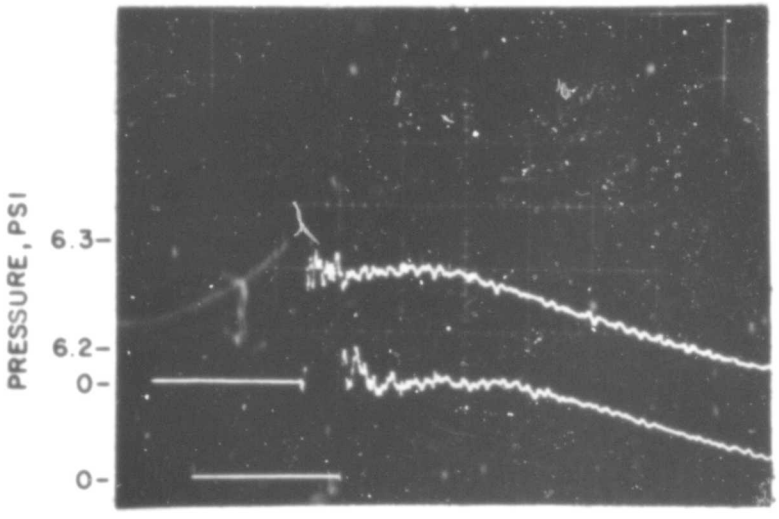


Figure 25. Comparison of filling of second room of two-room model P_s = 10.3 psi

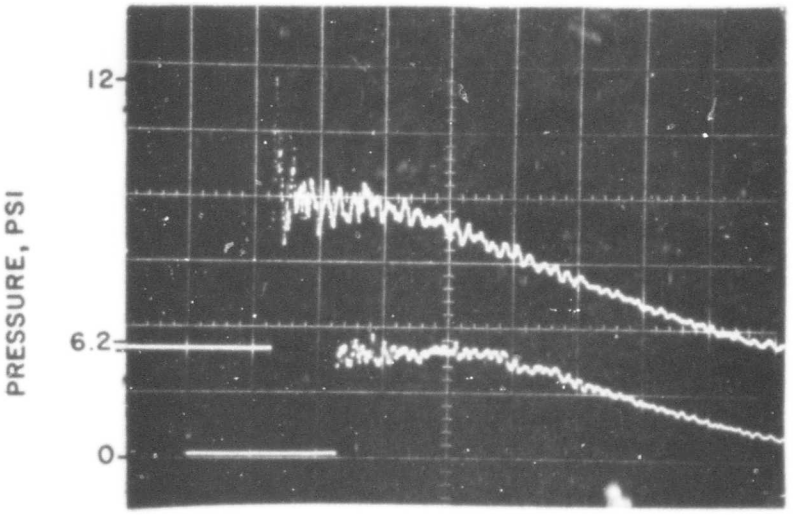


SHOT 63 TIME, 5 MSEC/DIV
(A) UPPER TRACE-FRONT LOADING MODEL VIII
LOWER TRACE-TOP LOADING



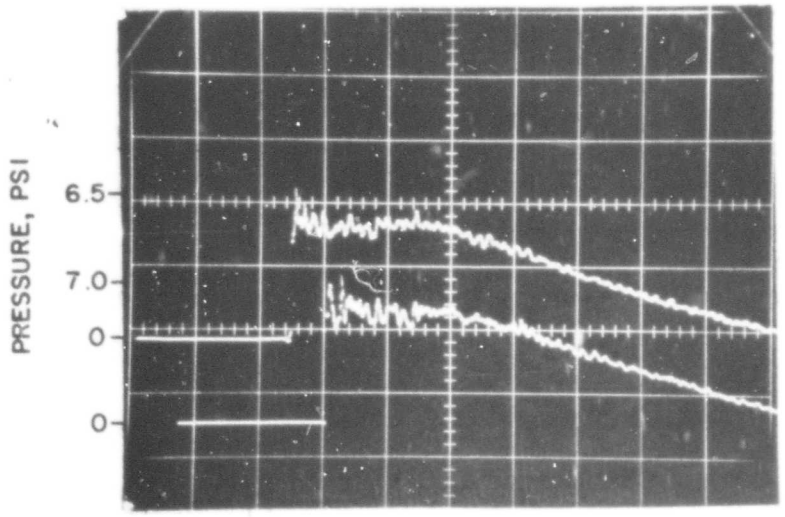
SHOT 63-A TIME, 5 MSEC/DIV
(B) UPPER TRACE-REAR LOADING MODEL VIII
LOWER TRACE-SIDE LOADING

Figure 26. External pressure at center of faces of 4.5 in. cube - P_s = 5.4 psi



SHOT 68 TIME, 5 MSEC/DIV

(A) UPPER TRACE-FRONT LOADING MODEL X
LOWER TRACE-TOP LOADING



SHOT 68 TIME, 5 MSEC/DIV

(B) UPPER TRACE-REAR LOADING MODEL X
LOWER TRACE-SIDE LOADING

Figure 27. External pressure at center of faces of 4.5 in. cube with shield, P_s = 5.4 psi

inputs. See Appendix B. The unshielded model record shows an initial reflected pressure peak for the front face, oscillations, and an average semi-steady value near stagnation pressure. The rear, top, and sides all have similar pressure records with initial peaks above the side-on input pressure and a semi-steady value below the input.

The shield (Model X) caused the full reflected pressure peak on the front face to decrease but introduced additional oscillations in the pressure records from the other faces. Also, the semi-steady pressures were all somewhat above the values for the unshielded case.

The last in this three-dimensional model series to be discussed is Model XII. A group of ground position pressure readings were obtained upstream of a solid model, and models with entrances. The purpose of the transducer array (Refer back to Figure 6) was hopefully to define the area of stagnation pressure influence. The peak values of upstream reflected pressure and average pressure value (stagnation) are given. The reflected pressure varied depending upon whether an opening was present or not, but the average stagnation pressure seemed to be about the same over the entire array of transducer positions. See Appendix B for the pressure time records.

B. Two-Dimensional Models

Tables A-I and C-I, Appendices A and C, show the results from the filling of two-dimensional models with a step shock wave. Appendices A and C show the high speed photographs of the shock diffraction and flow process involved in the filling process, and the pressure time records from the models.

Figures A-13 of Appendix A will be used to point out the processes involved.

The shock wave approached Model XIV-D from the left, entered the 1 in. entrance, and expanded into the model with a cylinder shaped expansion. Vortices at the entrance were set up during this time. The shock front reflected from side walls, crossed the length of the model, reflected at the rear wall, and started the return crossing with Mach reflections at the side walls. By Frame 15, multiple shock interactions have occurred and turbulent jet flow appears to have occurred.

The nylon ball, upper left at entrance, has barely begun to move at this time. The motion in later frames may be followed by comparing the ball with the black grid lines marked in both directions on the photographs.

Figures 28 and 29 show distance-time plots of the center of the ball as it moved during the times shown in Figure A-13. Initially, the ball oscillates a little before getting started at about 300 μsec. After about 700 μsec, a steady average horizontal velocity of about 30 ft/sec is reached and a vertical rise of about 7 ft/sec after 200 μsec. (True vertical direction is toward bottom of photographs in order to retain proper frame-time sequence.)

The remainder of the shots of Model XIV with smoke grids were read and quantities of average velocity flow vectors, densities, and dynamic pressure were calculated by machine. The tabulated results and representative plots of velocities as a function of times are shown in Appendix D. It is seen from the tabulated results that velocities were measured from minimum values of a few feet per second to several hundred feet per second maximum, depending both on position within the model and time of measurement.

Table C-I gives the diffracted values of initially transmitted shock overpressure into the models. Note that a minimum of about 0.6 psi pressure and a maximum of about 1.6 psi were recorded for the 1/8 in. entrance of Model XIV-A. Values of pressure ranged from these to a minimum of about 1.3 psi, to a maximum of about 5.8 psi, for the double entrance of Model XIV-F. The double slit caused a Mach interaction between the two incoming diffracted shock fronts to create higher pressures than for the single 2 in. entrance.

C. Field Model

The pressure-time traces from the gages mounted in the field model (Model XV) are shown in Figures 30 and 31. The first figure, Figure 30, shows tracings of the input pressure as recorded by an electronic gage (Reference 4) (Trace A) in front of the model, (Refer back to Figure 9.)

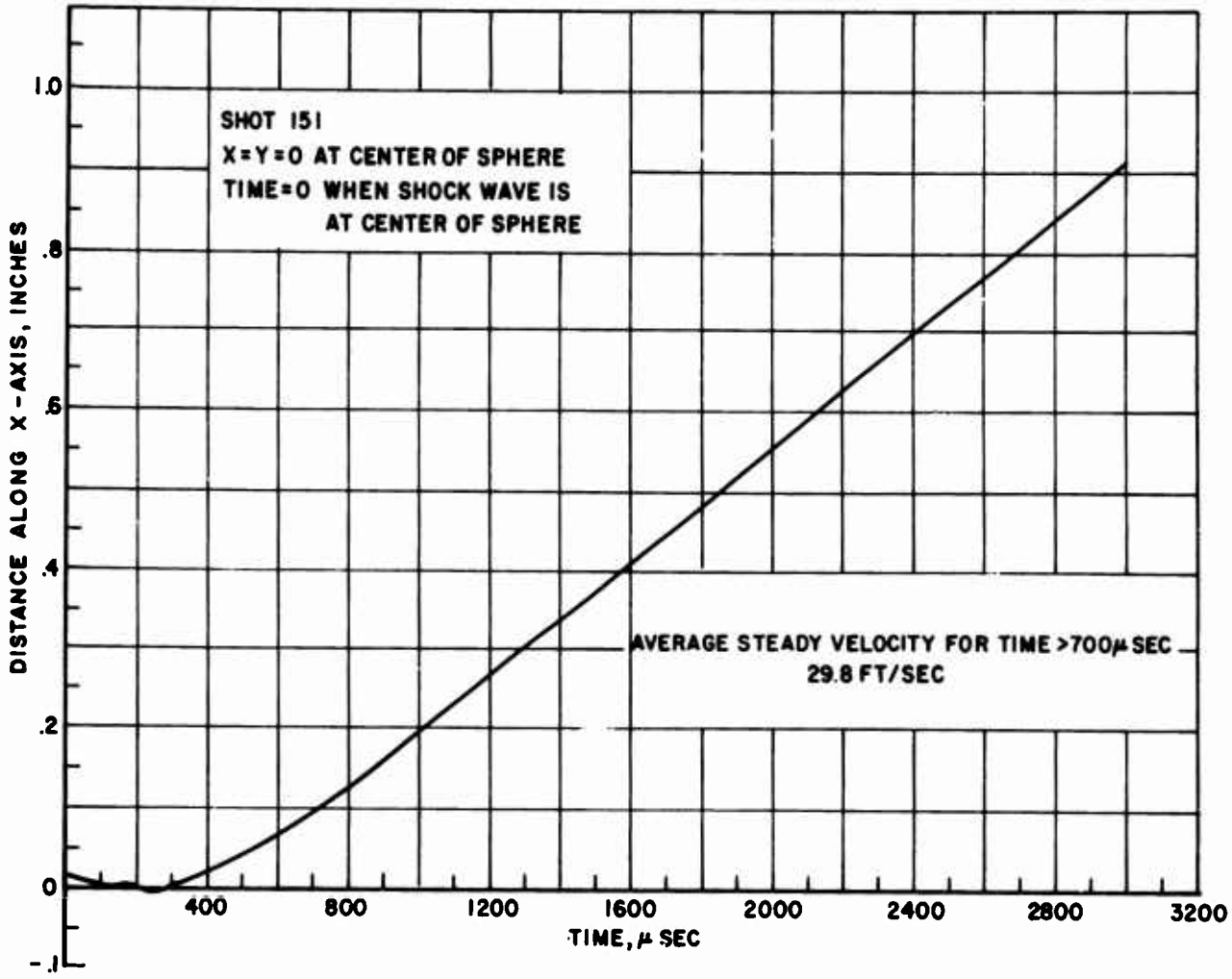


Figure 28. Horizontal motion of nylon sphere across Model XIV

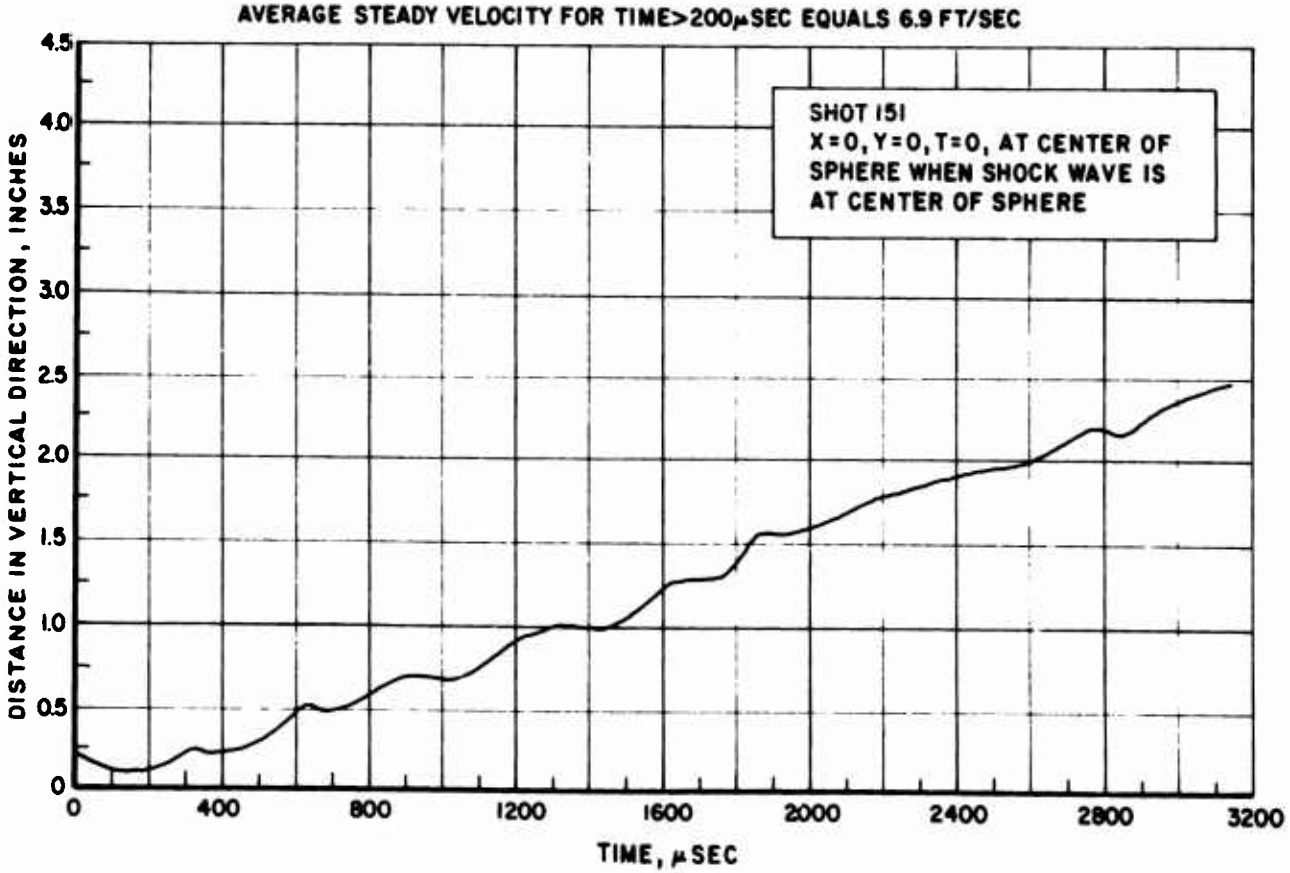


Figure 29. Vertical motion of nylon sphere as a function of time

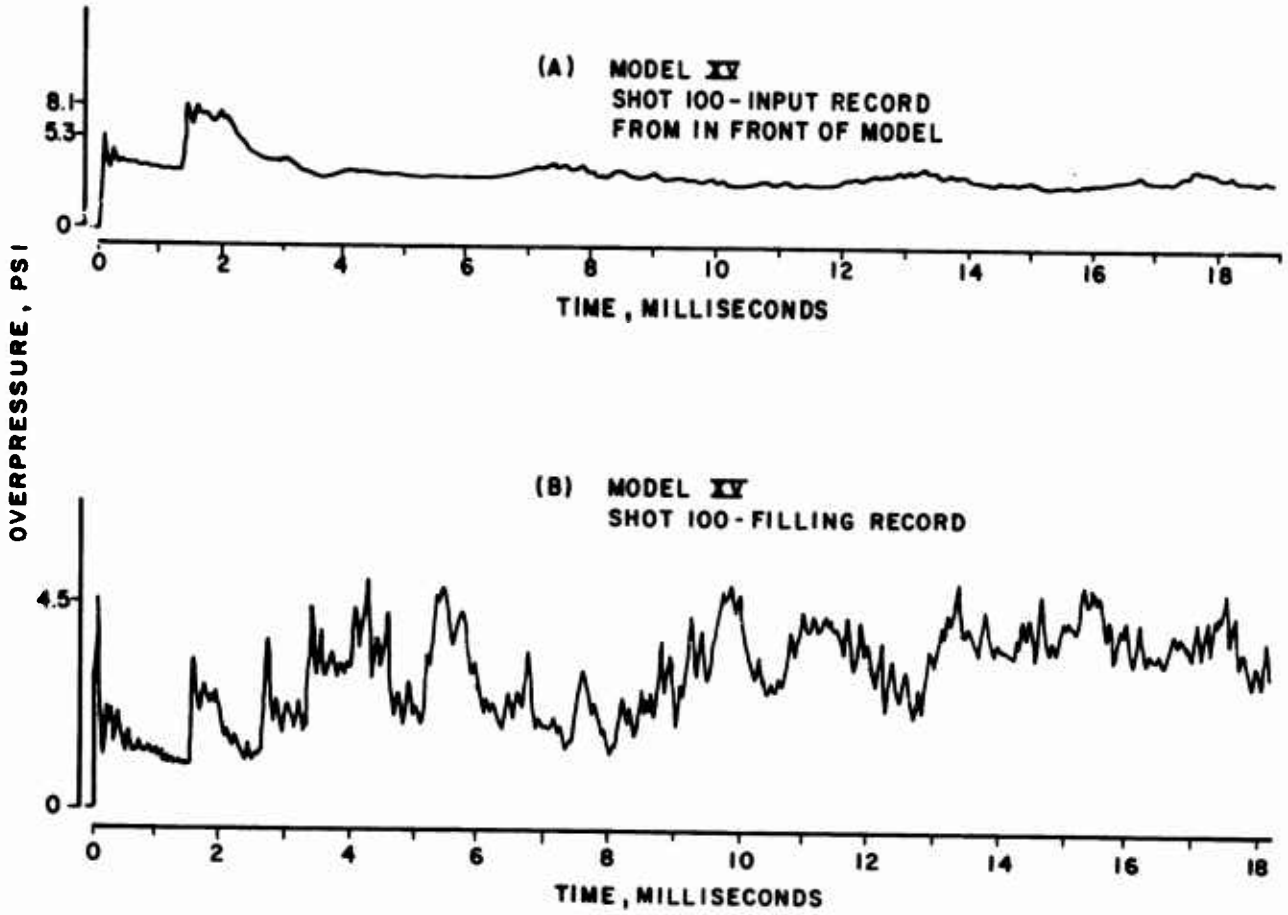


Figure 30. Filling of field Model XV

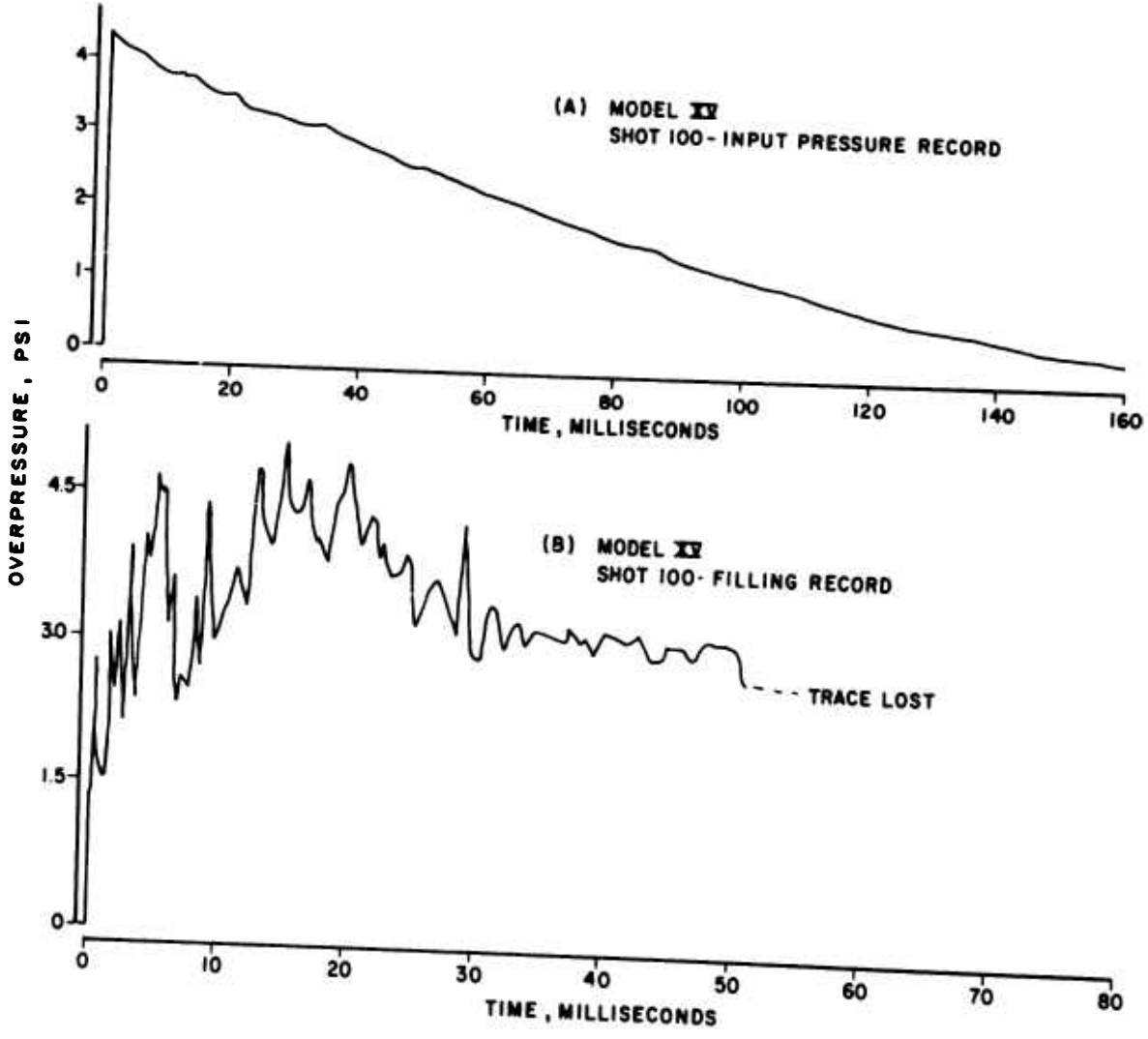


Figure 31. Machine smoothed pressure-time traces from Model XV

and the filling record from an electronic gage in the center of the interior bottom floor of the model (Trace B). Notice again, the periodic, step-wise type of filling which may be seen on the traces from the two-dimensional models, given in Appendix C.

Figure 31 shows machine smoothed traces from self-recording pressure capsule gages (Reference 4). Trace A is of the undisturbed input blast wave and Trace B is the filling record for the interior of the model. Trace B shows filling to about 4.5 psi at 15.5 msec which is nearly equal to the initial input side-on overpressure.

The results of the field model seem to correspond to the filling mode as seen in the smaller model study in the shock tubes. See Figure 32 for a comparison of the filling of a 4 in. cube (Model VI) in the shock tube with the 3 ft cube (Model XV) used for the field shot. The smoothing of the filling curve from the shock tube model has obscured the incremental filling process which is seen in the filling of the field model. This may be seen a little better in Figure 30 where the filling trace has been expanded in time. Overfilling with respect to the input wave is present for both models. The field model shows a large initial pre-filling at about 5 msec which was not obvious with the smaller shock tube model.

IV. SUMMARY AND CONCLUSIONS

Several two- and three-dimensional models of single and double rooms were tested under input shock waves of 5-20 psi peak overpressure in the BRL shock tubes. A larger model was exposed to the blast wave from the detonation of 100 tons of TNT. Model orientation to the shock waves; entrance sizes, shape, or number; input pressure; and number of rooms were varied to determine parameter importance in the shock wave filling process of the models.

From a study of photographs and pressure-time traces the following conclusions are valid for the 5-20 psi overpressure range tested.

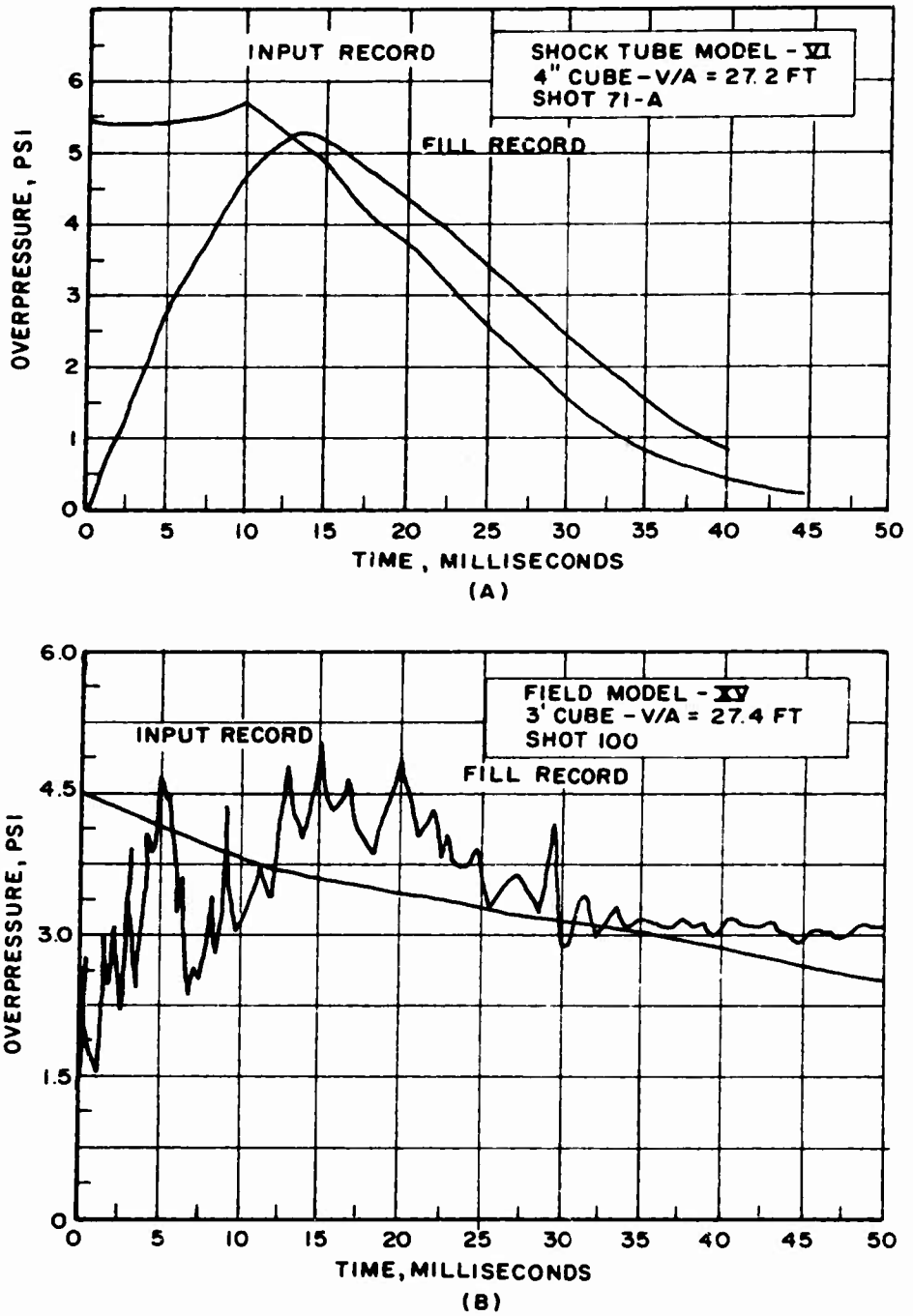


Figure 32. Comparison of filling for shock tube and field models

A. Three-Dimensional Models

1. For a constant volume to entrance area ratio (V/A), filling through an entrance in a stagnation block corresponds approximately to filling the model through a front entrance for a model exposed head-on to the shock wave.

2. Side-on filling, such as the shock wave does when passing side on past a short tunnel entrance leading to a model outside the shock tube, corresponds approximately to filling from a rear entrance, for a model of same V/A filled inside the shock tube.

3. Filling from the side entrance for an exposed model gives the lowest maximum fill pressure and lowest rate of fill compared to front or rear filling for a given input wave.

4. For increasing values of V/A, the time to maximum filling increases. Note, however, that if the input wave has a long duration compared to the model fill time, the model will eventually overfill to a value greater than the outside pressure existing at that particular time.

5. The fill time to maximum pressure became longer as the input shock overpressure was increased, from 13.7 msec for P_s = 5.3 psi to 17.2 msec for P_s = 19.6 psi. Also, the model filled to a pressure greater than the pressure outside during the decaying phase of the input shock wave; for example, overfilling occurs from a time of about 12 msec to the end of the recording time for the 10 psi input wave.

6. The filling from two front entrances is similar to that from one entrance for the same V/A for the model and a single entrance in both front and rear caused a longer fill time to maximum pressure.

7. The fill curves for each room of a two-room model were very similar, although the second room filled to about 12 percent higher than the first room for P_s = 20 psi. In-line entrances acted about the same as if the partition between the rooms were removed.

8. The shielded model filled to a lower pressure than the unshielded model.

9. The external center face loading, for the single cube model without entrances, showed on the front surface a reflected pressure, oscillations, and an average semi-steady pressure equal to about the stagnation value measured by the pitot tube transducer for a given input wave. The rear, top, and side faces showed initial pressures above the side-on input value and an average semi-steady value below the input pressure.

10. The effects of the shield upon the exterior loading were to lower the reflected pressure spike on the front surface, cause additional pressure oscillations, and to raise the value of the semi-steady pressure on all the faces of the model.

11. A uniform stagnation pressure field corresponding to the input pressure was found to exist to 3 in. in front of a 4.5 in. high cubic model. (Model XII, Table B-I).

B. Two-Dimensional Models

1. The shock filling process consisted of the shock wave diffraction into the model through the entrance, vortices which were set up at entrance, multiple reflections which occurred from all the interior walls, and a jet which seemed to be established from the entrance into the model.

2. Particle velocity vectors were calculated with magnitudes up to several hundred feet per second within the model. Others of varying magnitudes and directions were computed.

3. One-eighth inch diameter nylon balls obtained horizontal speeds of about 30 ft/sec and vertical speeds of about 7 ft/sec for input shock pressures of approximately 5 psi.

4. Transmitted shock front pressures increased with entrance width. Values were measured from less than 1 psi to 5.8 psi on the sidewall of Model XIV.

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2. George A. Coulter, and Robert L. Peterson, "Design of Aircraft Revetments," Ballistic Research Laboratories Memorandum Report No. 1440, October 1962.

3. George A. Coulter, "Dynamic Calibration of Pressure Transducers at the BRL Shock Tube Facility," Ballistic Research Laboratories Memorandum Report No. 1843, May 1967.

4. Louis Giglio-Tos, *et al*, "Air Blast Parameters from Summer and Winter 20-Ton TNT Explosions Operation Distant Plain (Defence Research Establishment, Suffield, Ralston, Alberta, Canada)," Ballistic Research Laboratories Memorandum Report No. 1894, November 1967.

APPENDIX A

HIGH SPEED PHOTOGRAPHS - MODEL XIV - TWO-DIMENSIONAL

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USE OF APPENDIX A

Table A-I shows the order in which the high speed photographs of Model XIV are given. They have been grouped according to the size of the entrance to the model, shot number, and a type letter which is a part of the titles for the photographs.

Each set of photographs includes one without a smoke grid, one with the grid near the front of the model, and one with the smoke grid at the rear of the model. Model XIV-D was photographed, in addition, with a nylon ball (Shot 151) to observe the effect of the flow within the model.

The photographs may be followed in proper time sequence by alternating from left to right for each succeeding frame. The frame number and the time at which the shock wave reaches the inside of the front wall are given near each frame of the photographs.

Each intersection of the smoke grid was followed from frame to frame and an average direction angle and velocity were calculated for the individual grid point. From a comparison of changed grid size with the undisturbed grid size at ambient density, densities were calculated. A measure of average drag force present as a function of frame time was calculated from a product of one-half the density and the average grid intersection velocity squared. Appendix D lists tables of these values as functions of frame time and coordinates of the smoke grid intersections as measured from the front lower left corner of the model as the origin.

Some grid intersections have become obscured due to turbulence of the smoke column making up the grids. The computer was instructed to print out "no reading" or "reading invalid" for such obscured grid intersections, and appear as such in the tables of Appendix D.

Table A-I. Data for High Speed Photographs

Entrance Size	Shot No.	Type	P_s, psi	V/Λ, ft	Remarks
1/8 in.	140	A	4.79	10.67	Model XIV, filled from front with reflecting plate.
	142		4.92		
	141		4.87		
1/4 in.	130	B	4.89	5.33	No smoke grid.
	131		4.98		
	132		4.94		
1/2 in.	121	C	4.85	2.67	No smoke grid.
	120		4.88		
	122		4.88		
1 in.	150	D	4.89	1.33	No smoke grid.
	104		4.96		
	111		4.81		
	151		4.89		With 1/8 in. nylon sphere, 0.0179 mg
2 in.	124	E	4.84		No smoke grid.
	126		4.93		
	123		4.91		
Two 1 in.	128	F	4.81		No smoke grid. Entrances spaced 0.667 in. apart.
	127		4.83		
	129		4.84		

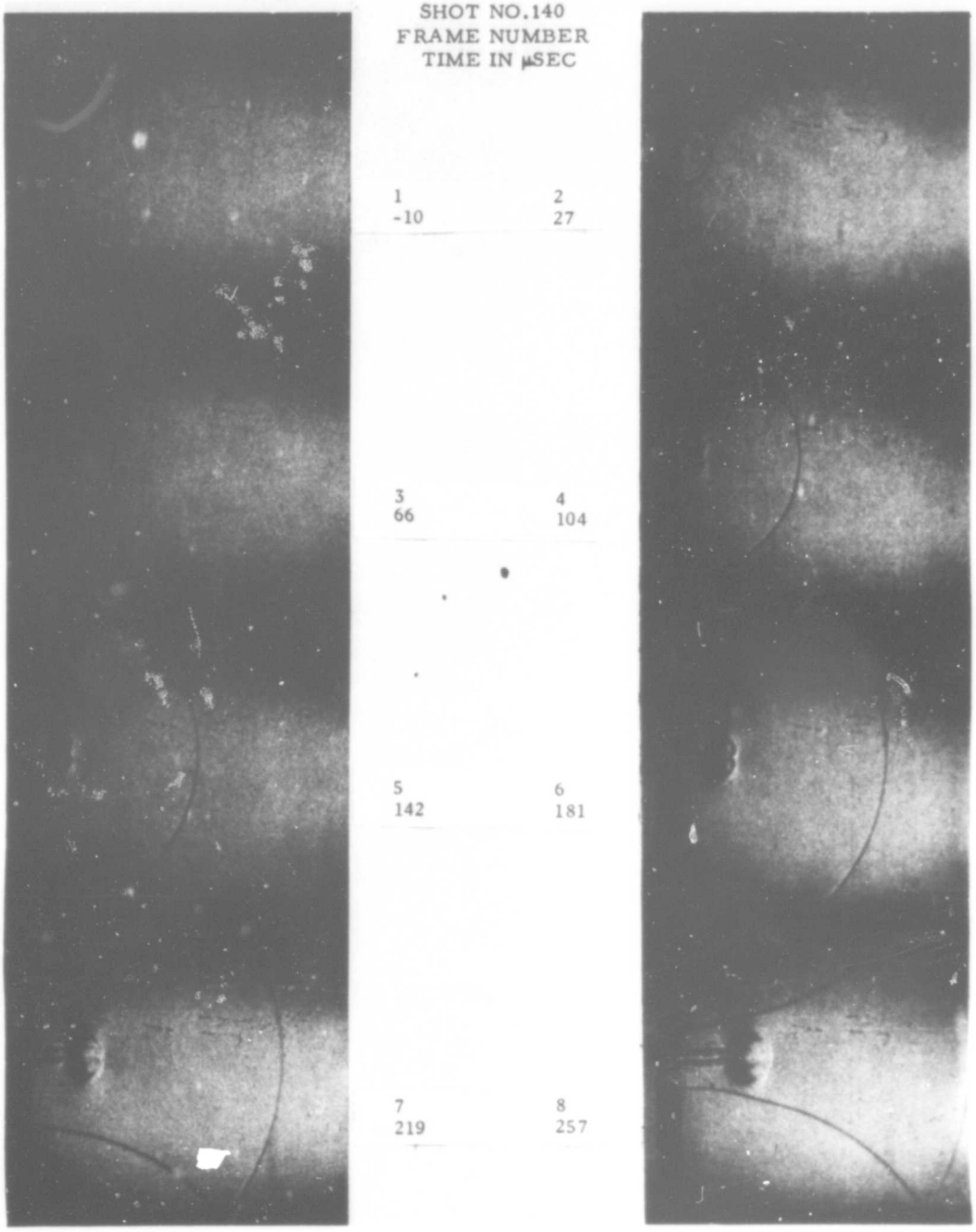


Figure A-1. Model XIV-A, with 1/8 in. entrance

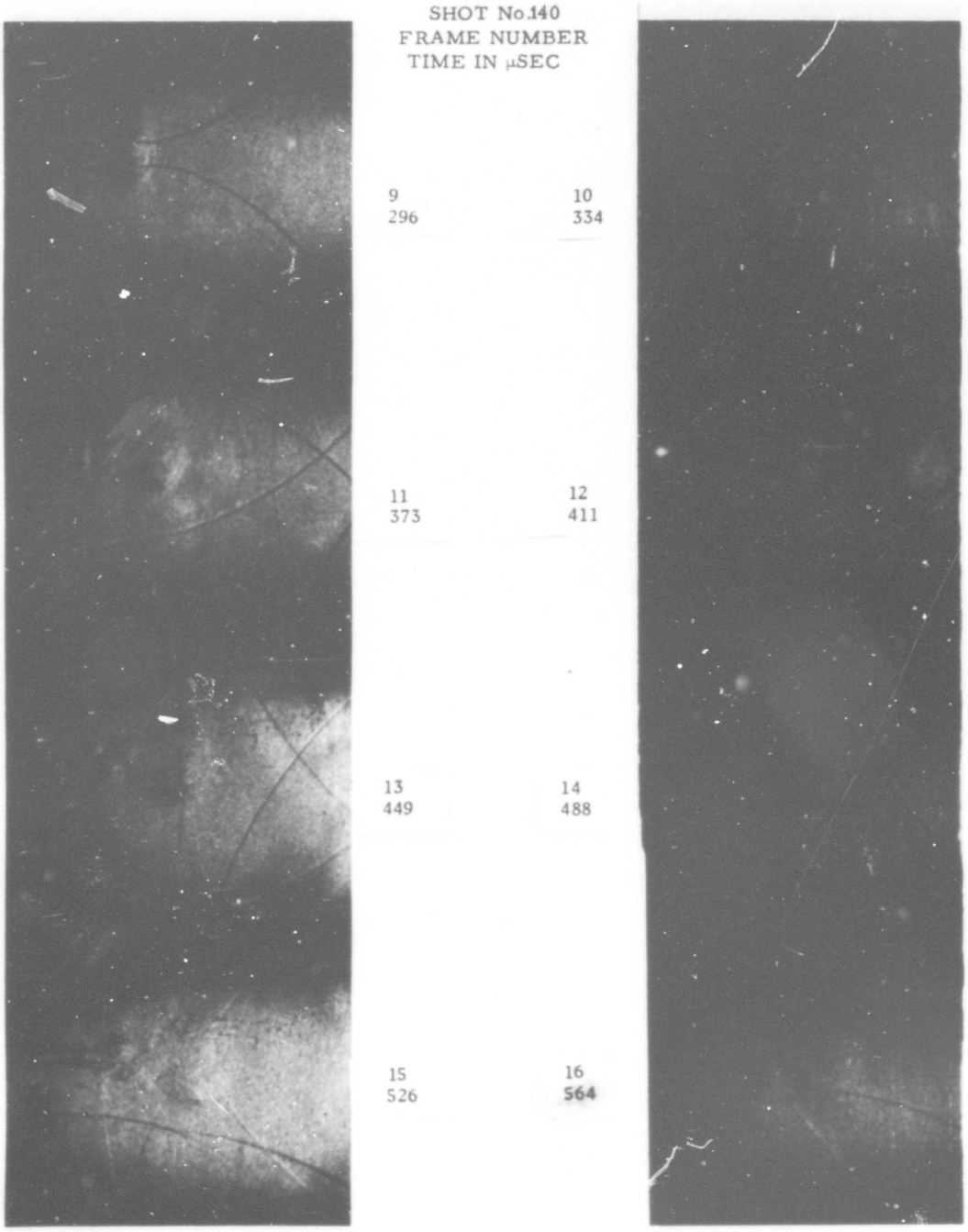


Figure A-1. Model XIV-A, with 1/8 in. entrance (Continued)

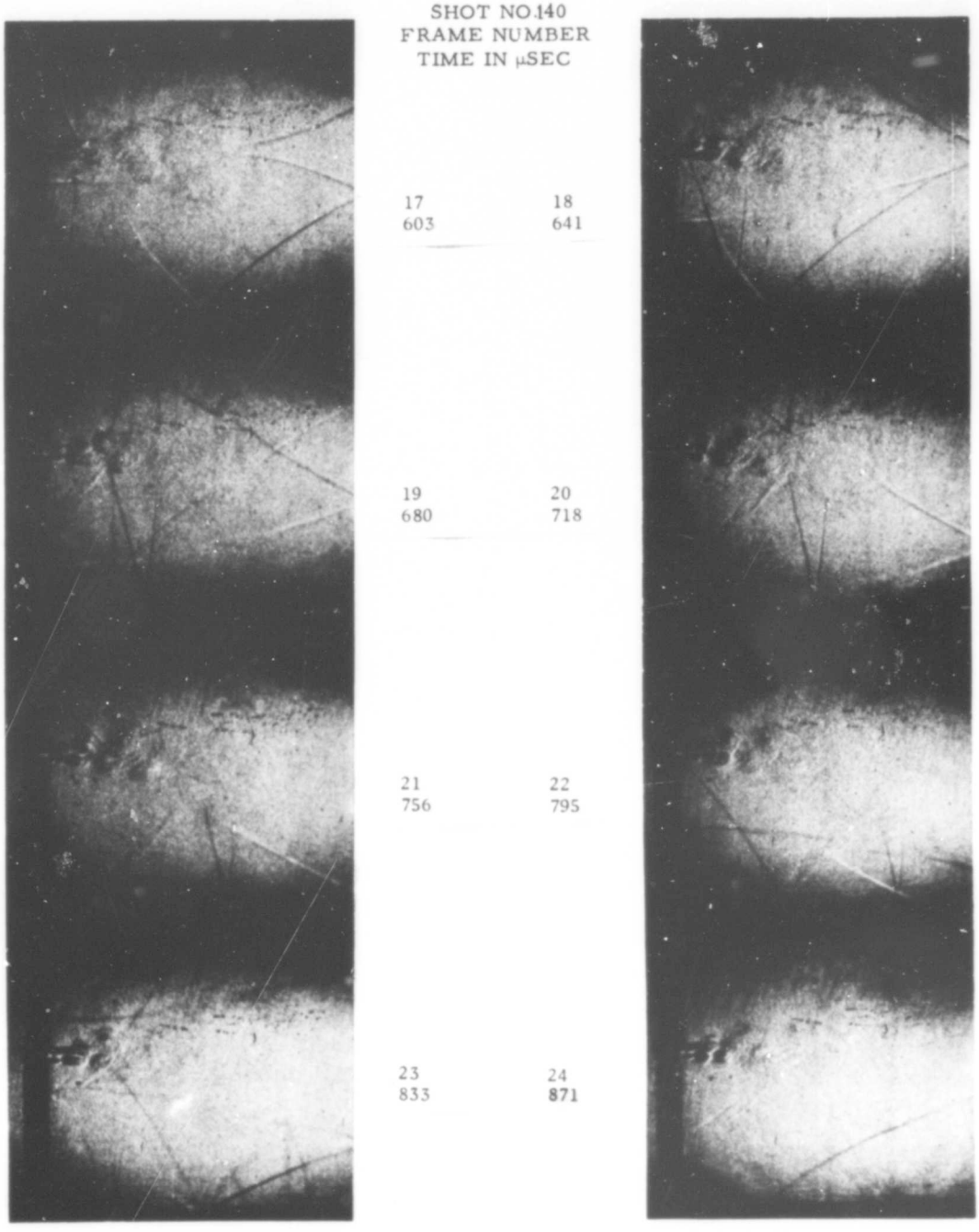


Figure A-1. Model XIV-A, with 1/8 in. entrance (Continued)

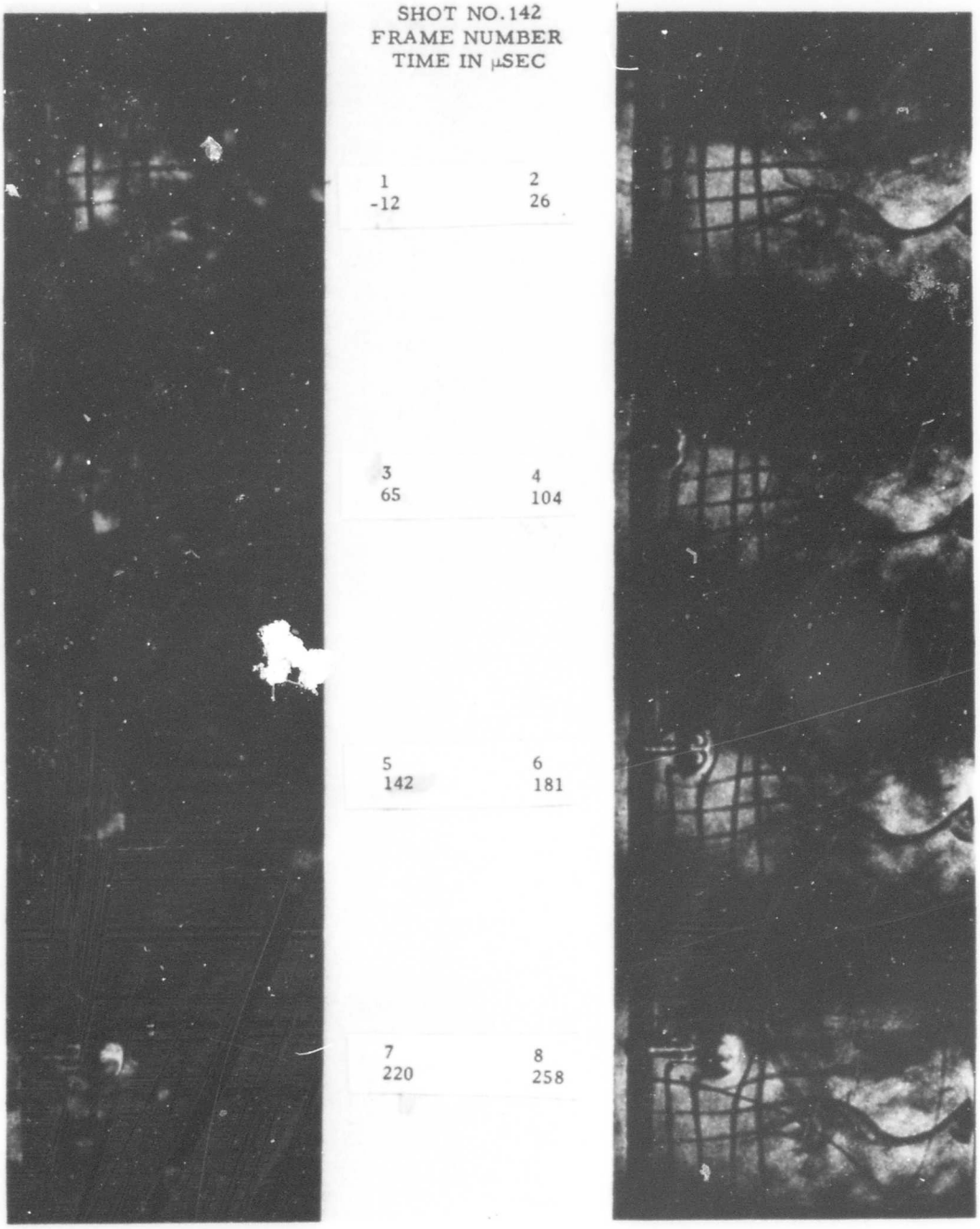


Figure A-2. Model XIV-A, with front grid

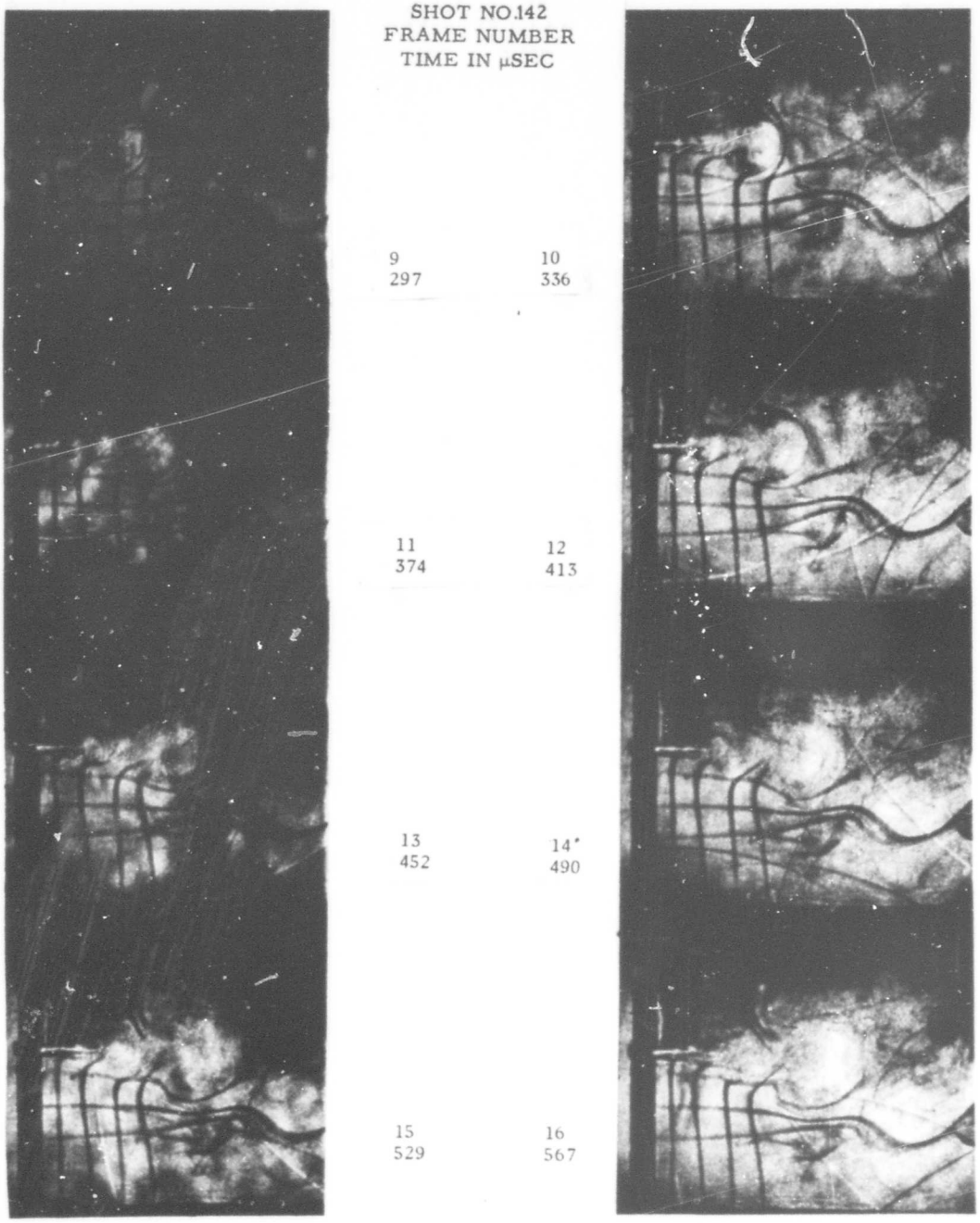


Figure A-2. Model XIV-A, with front grid (Continued)

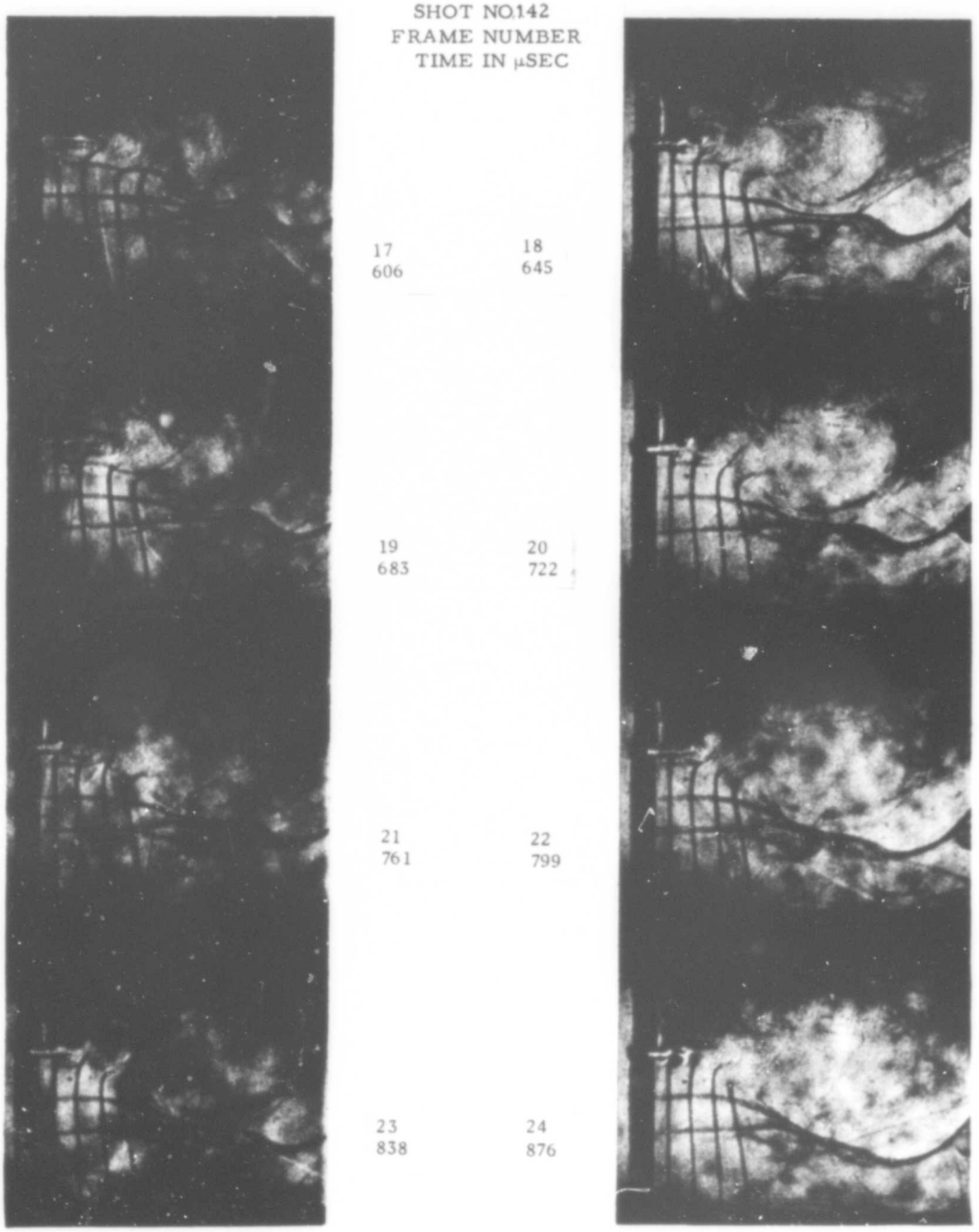


Figure A-2. Model XIV-A, with front grid (Continued)

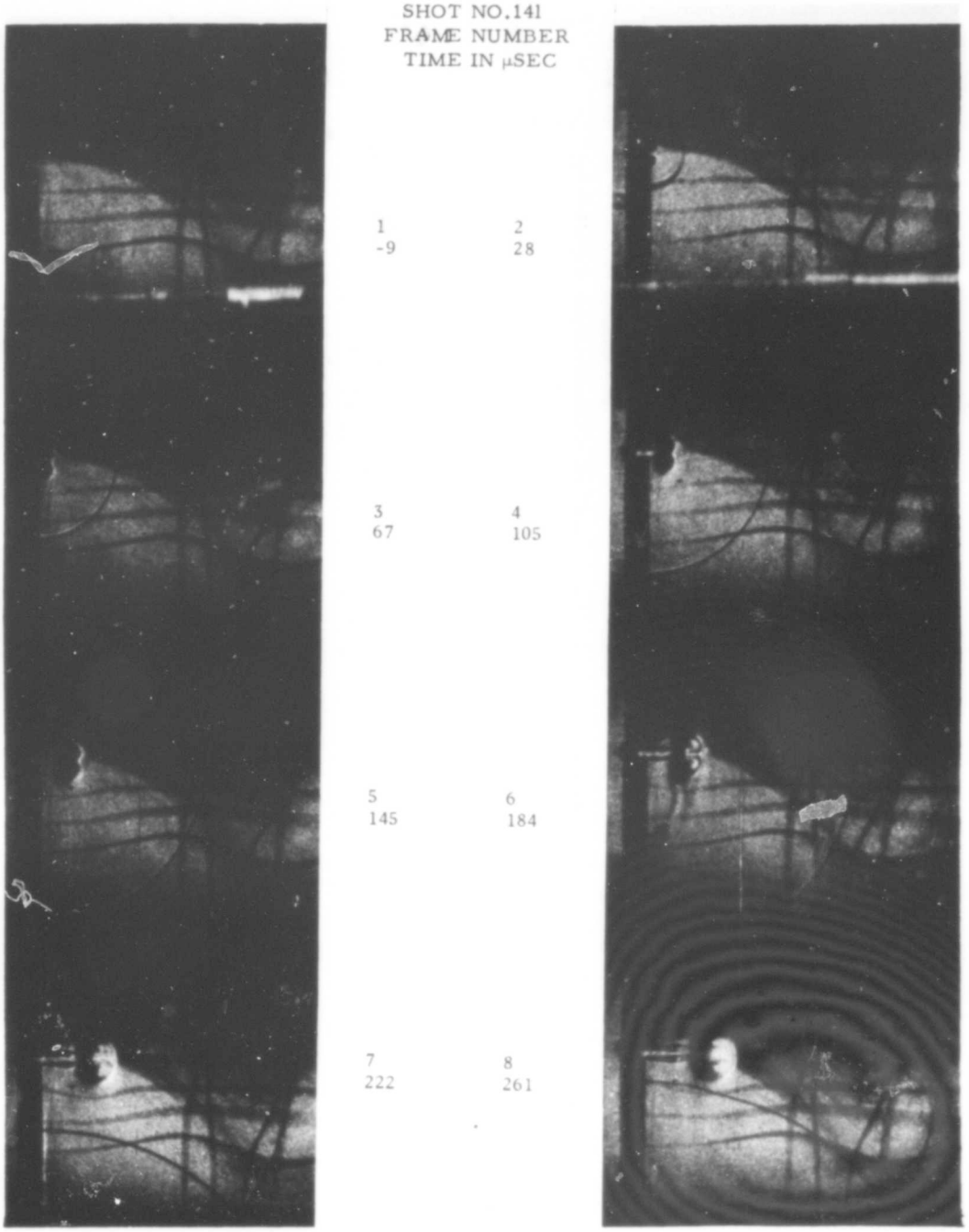


Figure A-3. Model XIV-A, with rear grid

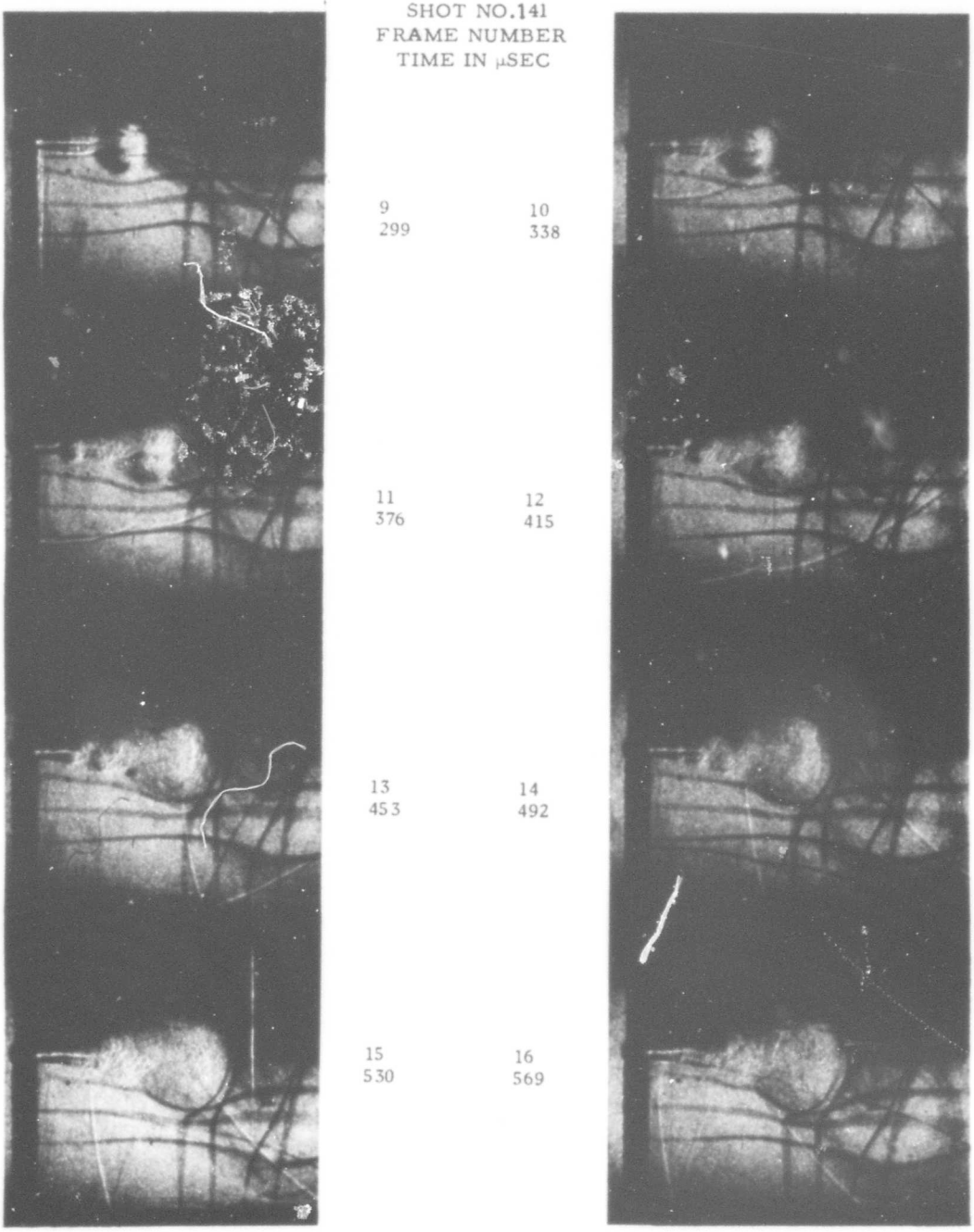


Figure A-3. Model XIV-A, with rear grid (Continued)

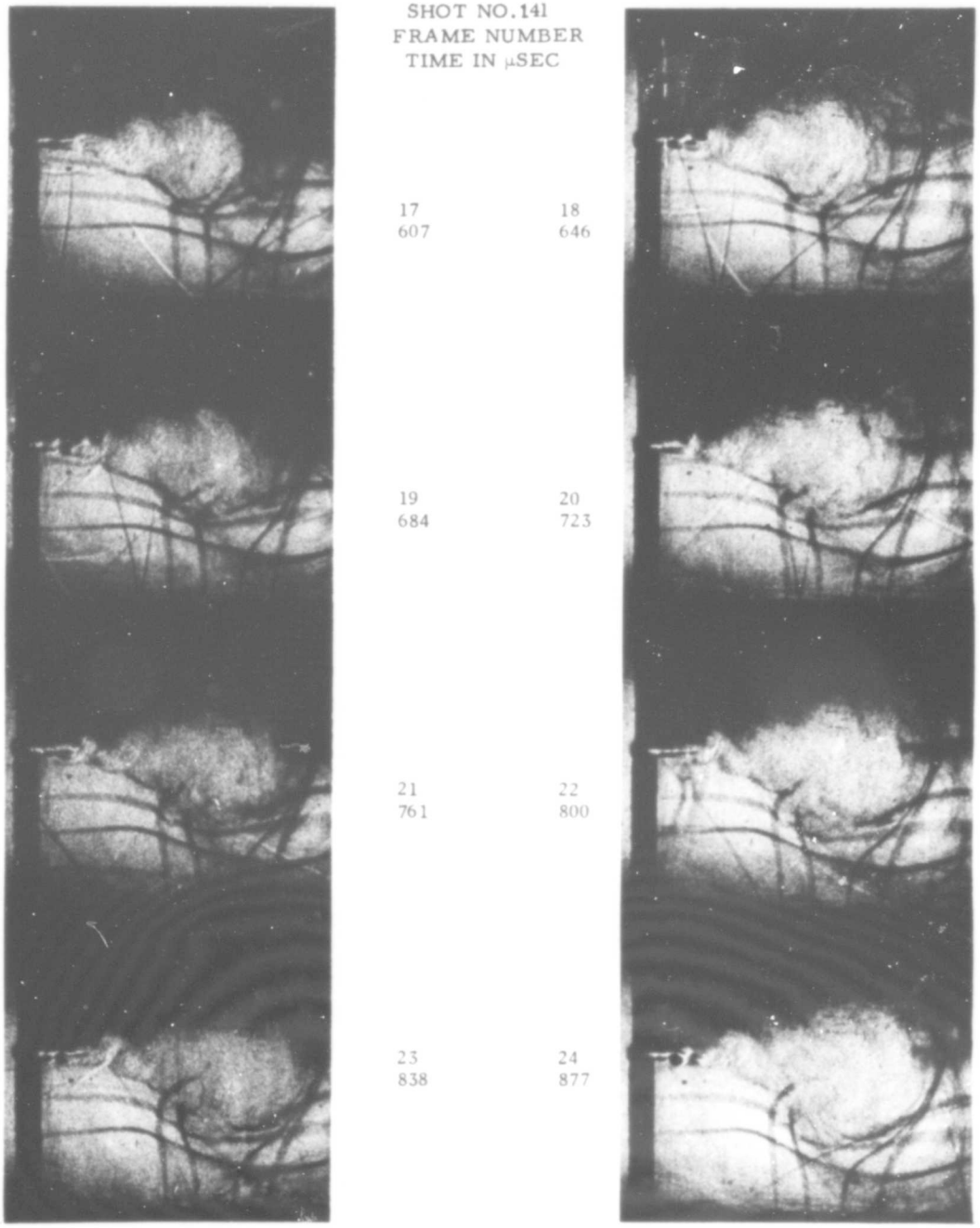


Figure A-3. Model XIV-A, with rear grid (Continued)

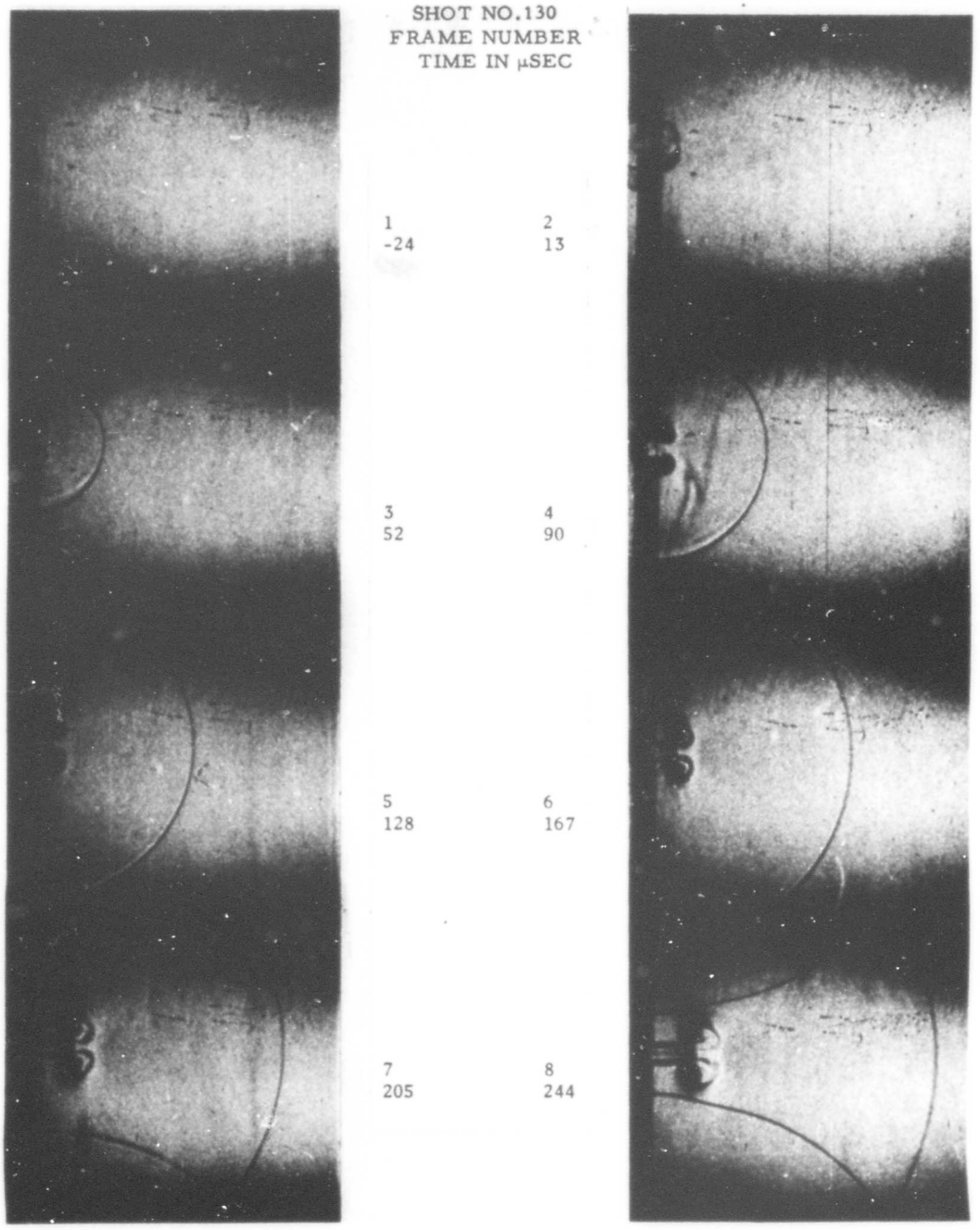


Figure A-4. Model XIV-B, with 1/4 in. entrance

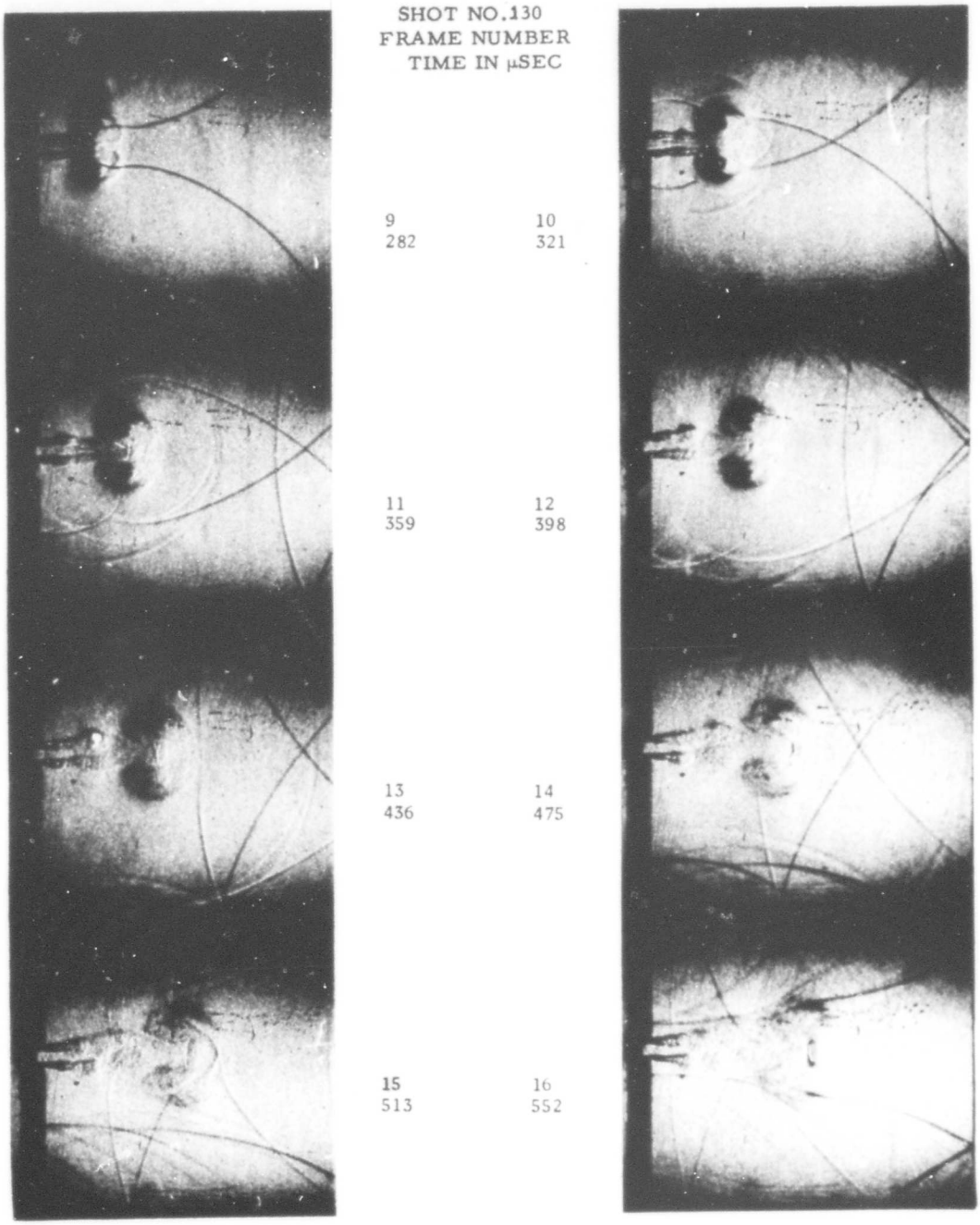


Figure A-4. Model XIV-B, with 1/4 in. entrance (Continued)

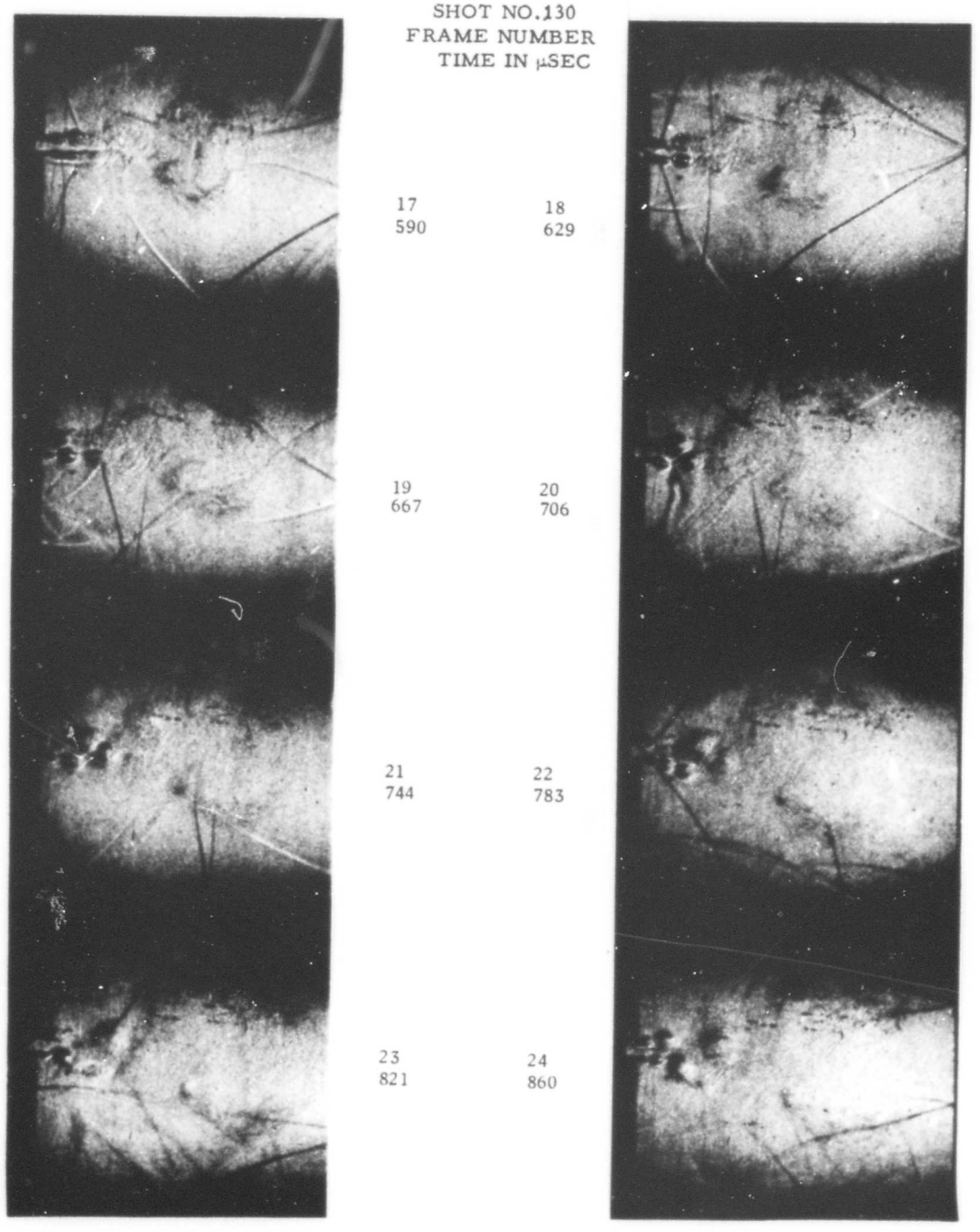


Figure A-4. Model XIV-B, with 1/4 in. entrance (Continued)

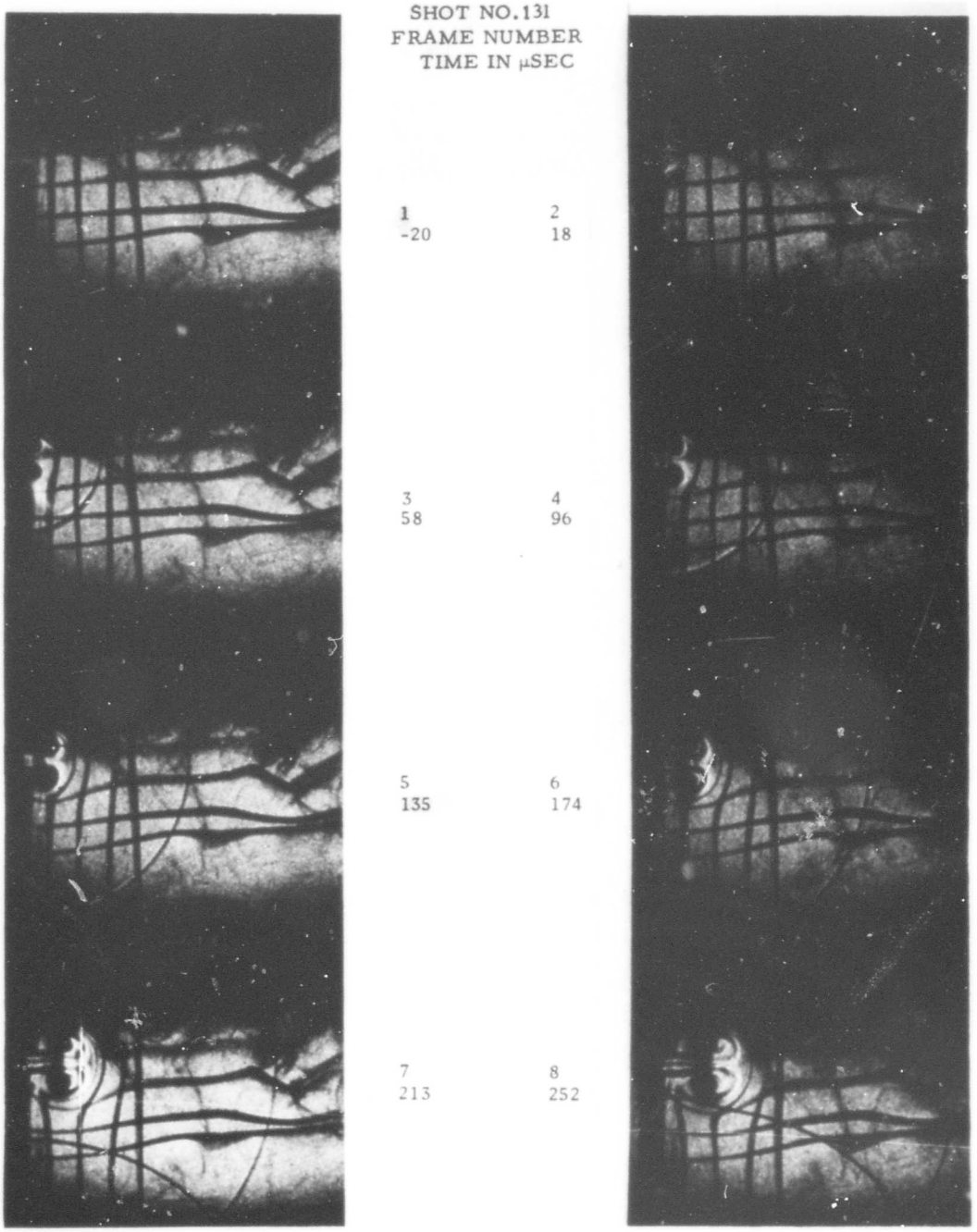


Figure A-5. Model XIV-B, with front grid

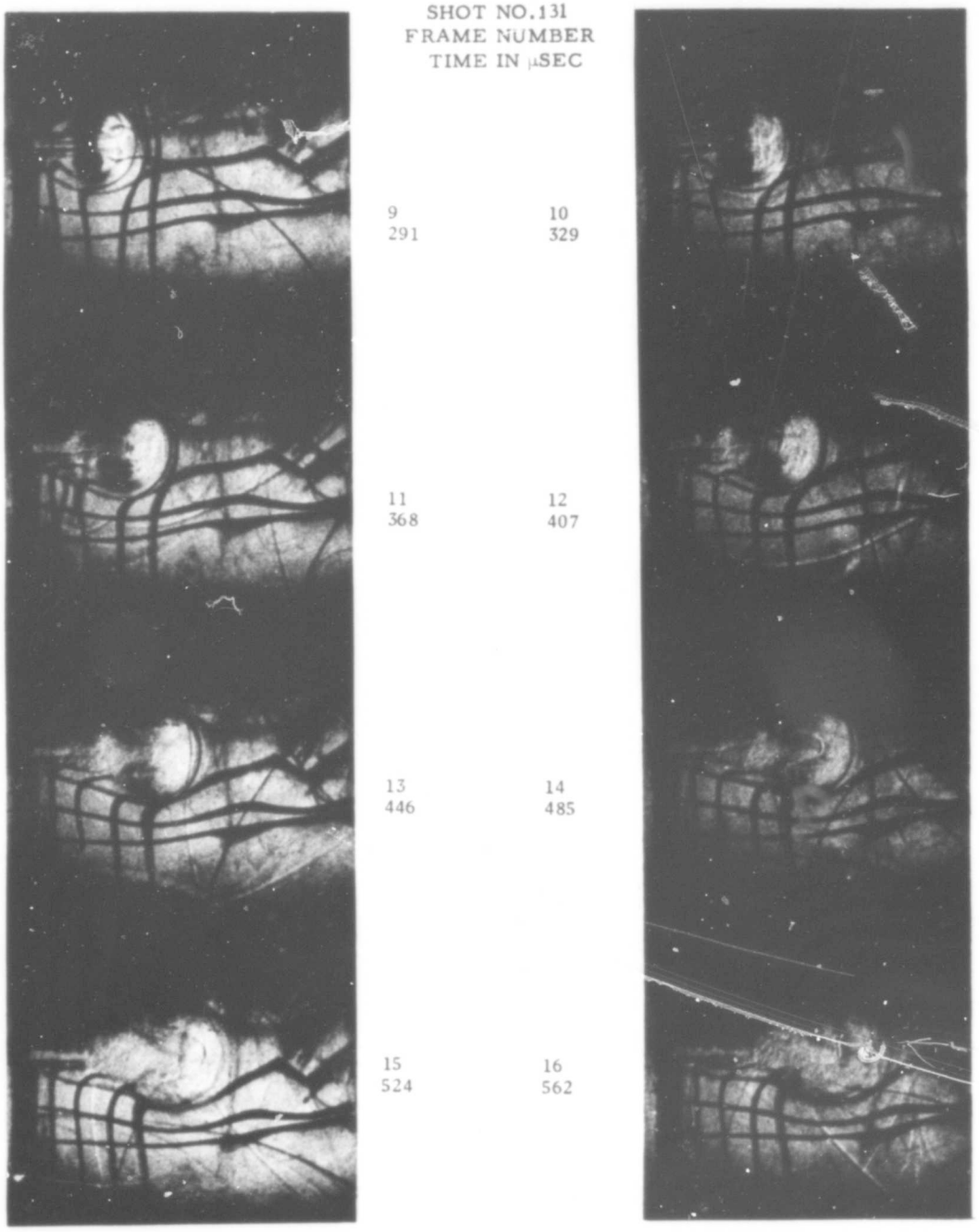


Figure A-5. Model XIV-B, with front grid (Continued)

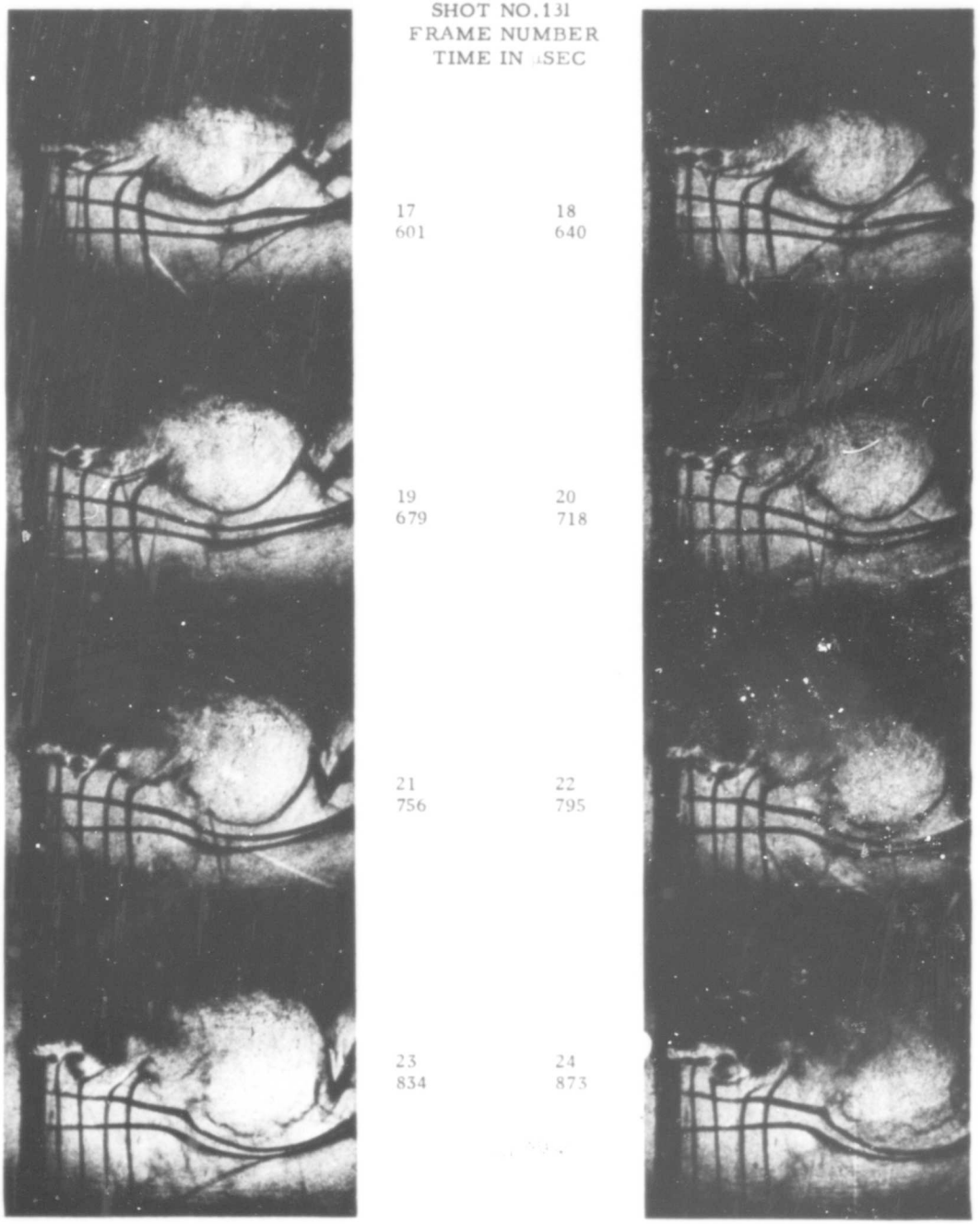


Figure A-5. Model XIV-B, with front grid (Continued)

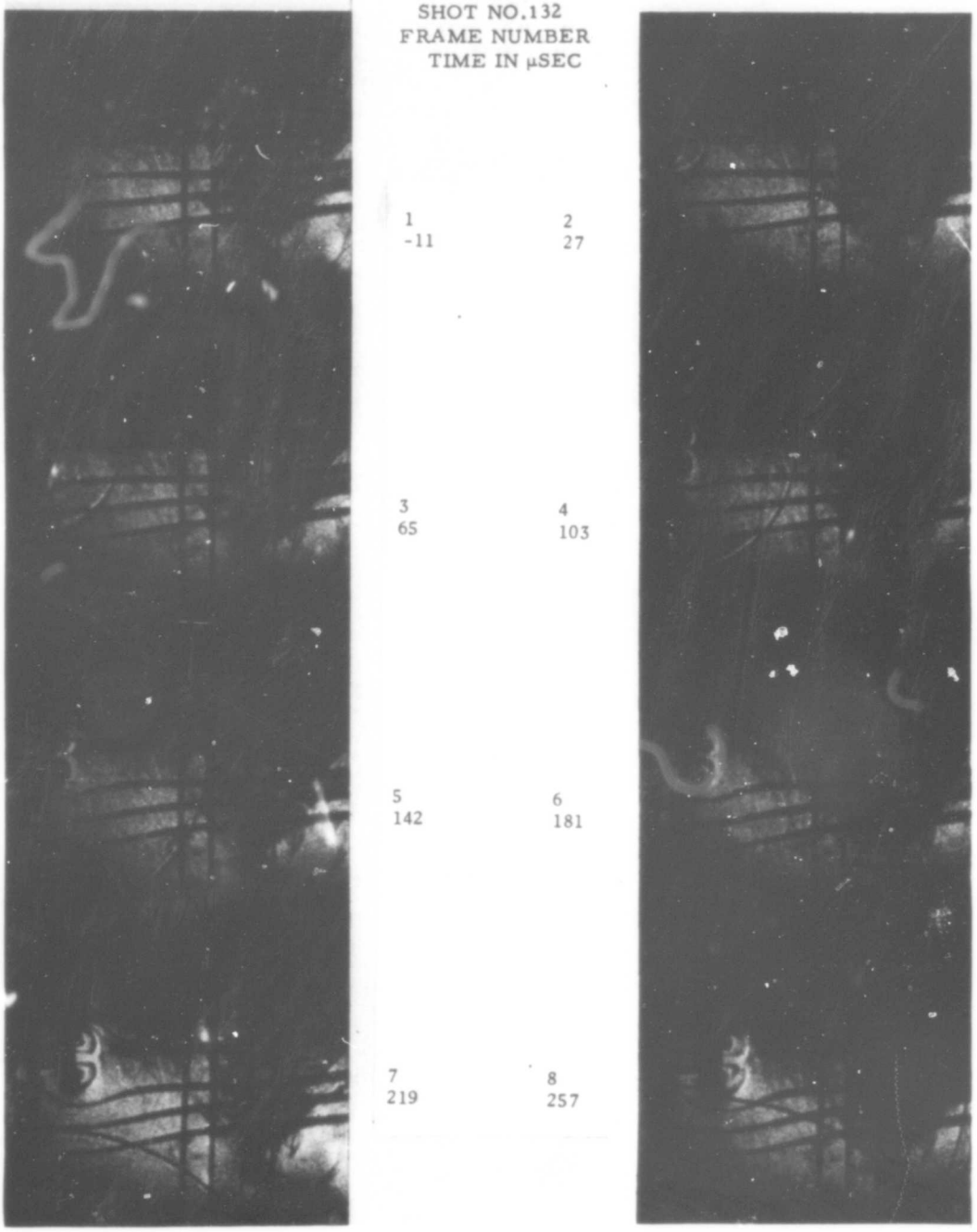


Figure A-6. Model XIV-B, with rear grid

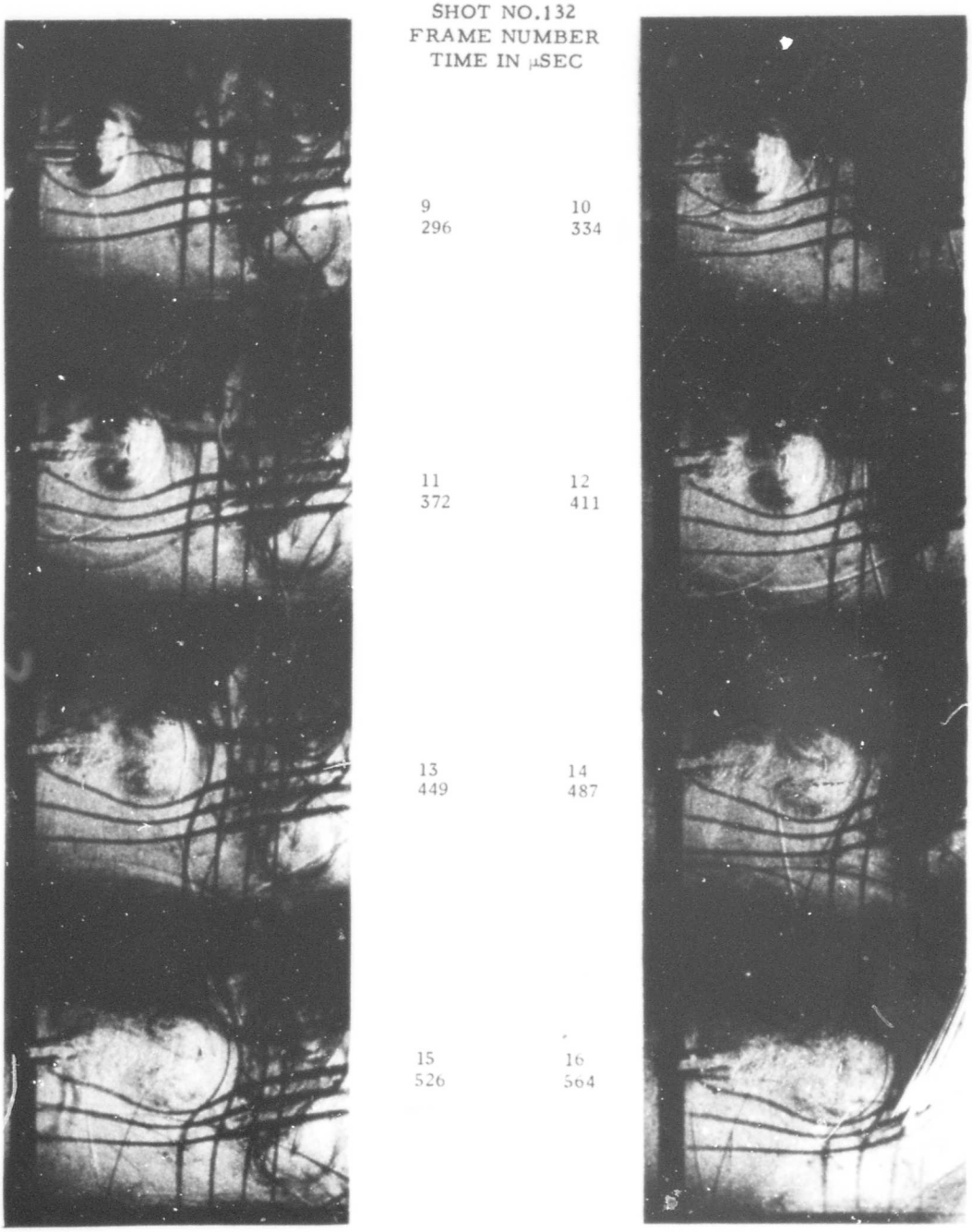


Figure A-6. Model XIV-B, with rear grid (Continued)

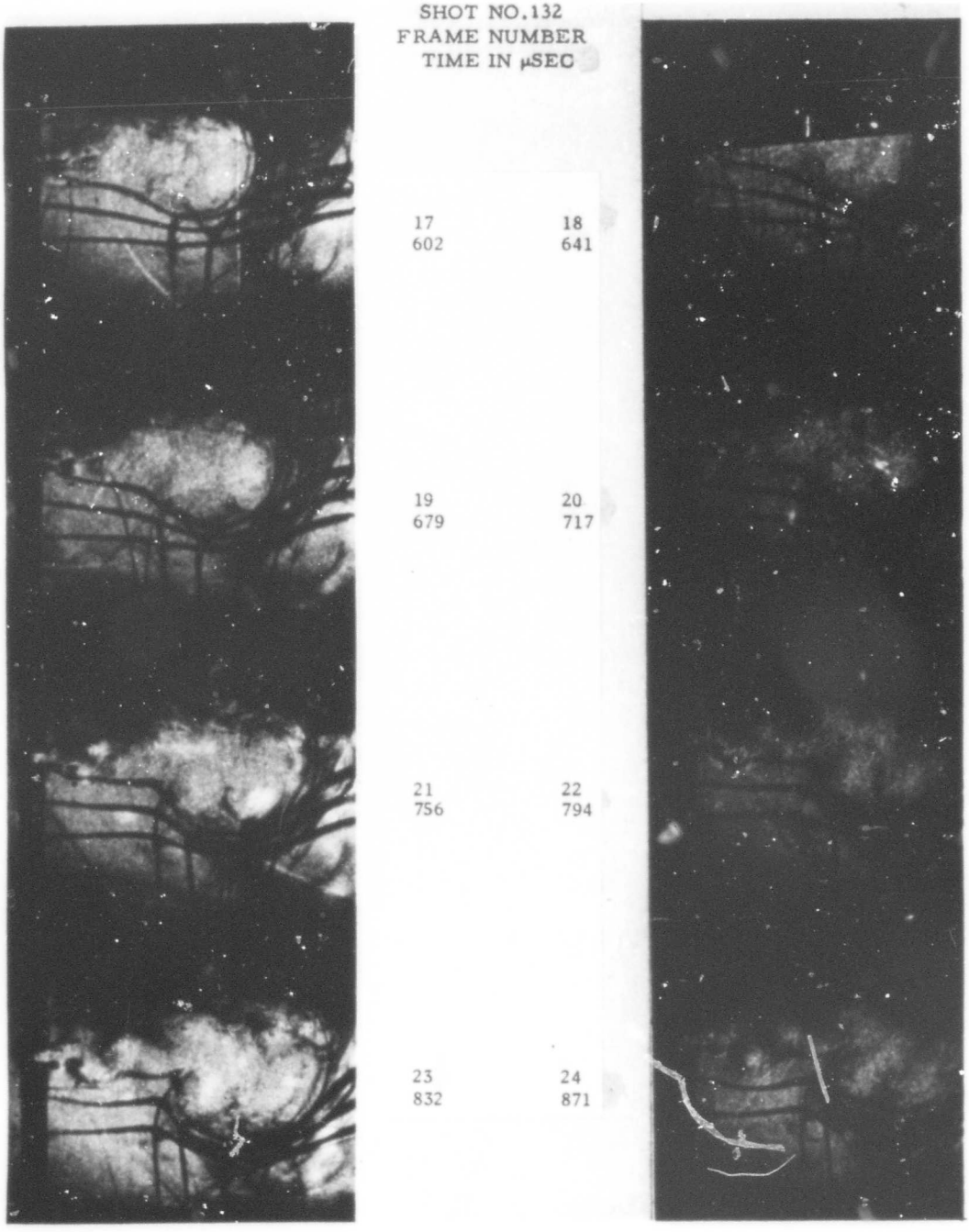


Figure A-6. Model XIV-B, with rear grid (Continued)

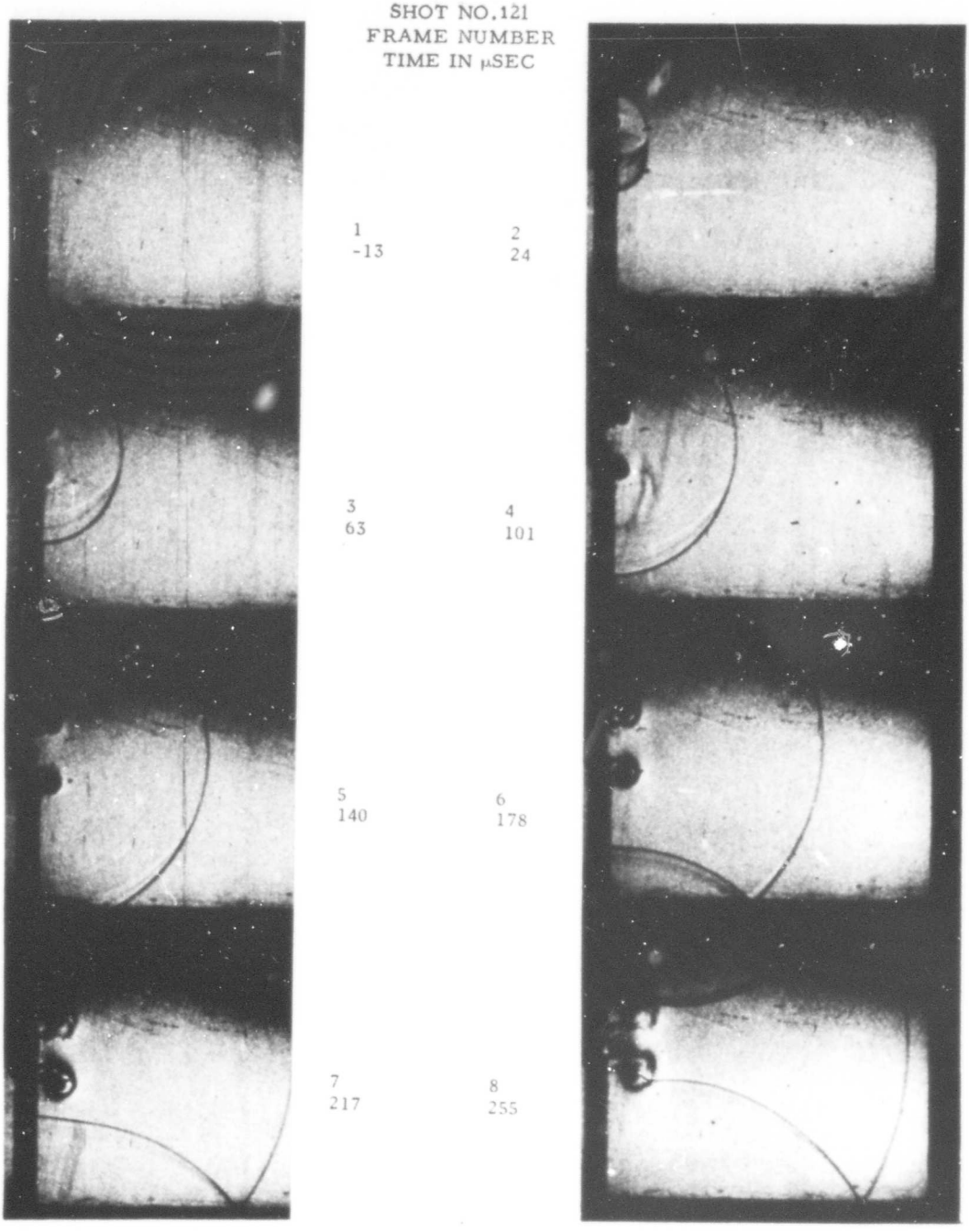


Figure A-7. Model XIV-C, with 1/2 in. entrance

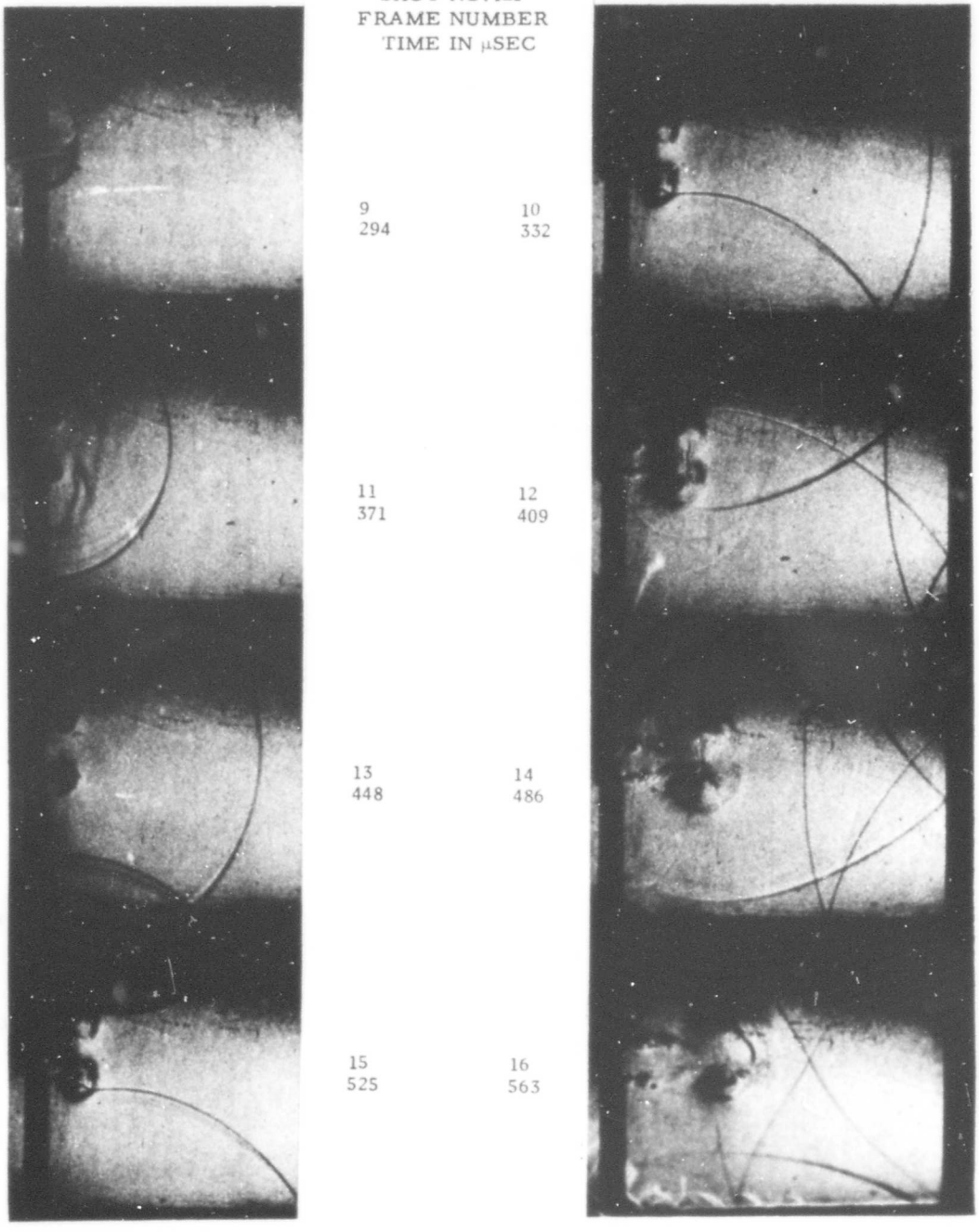


Figure A-7. Model XIV-C, with 1/2 in. entrance (Continued)

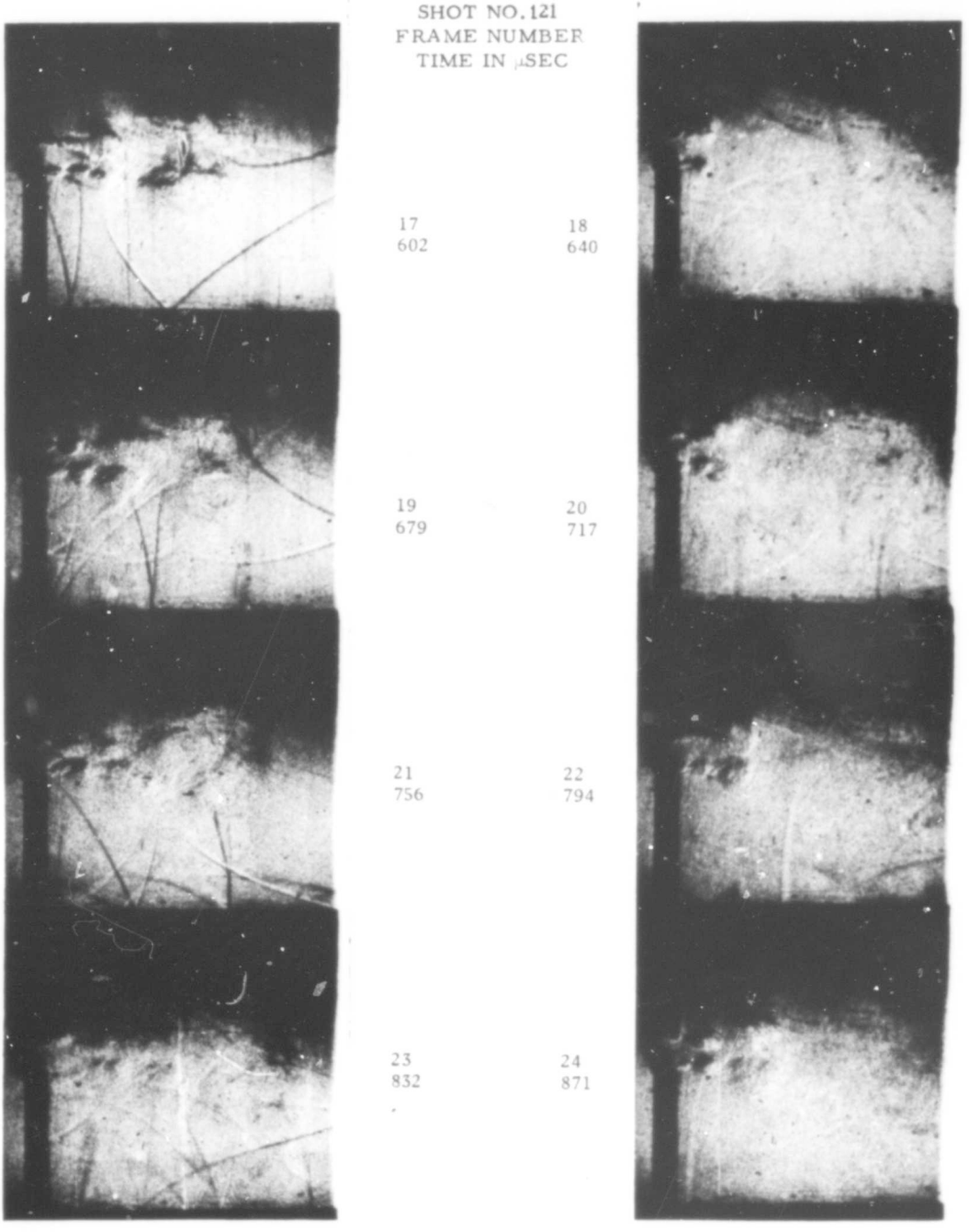


Figure A-7. Model XIV-C, with 1/2 in. entrance (Continued)

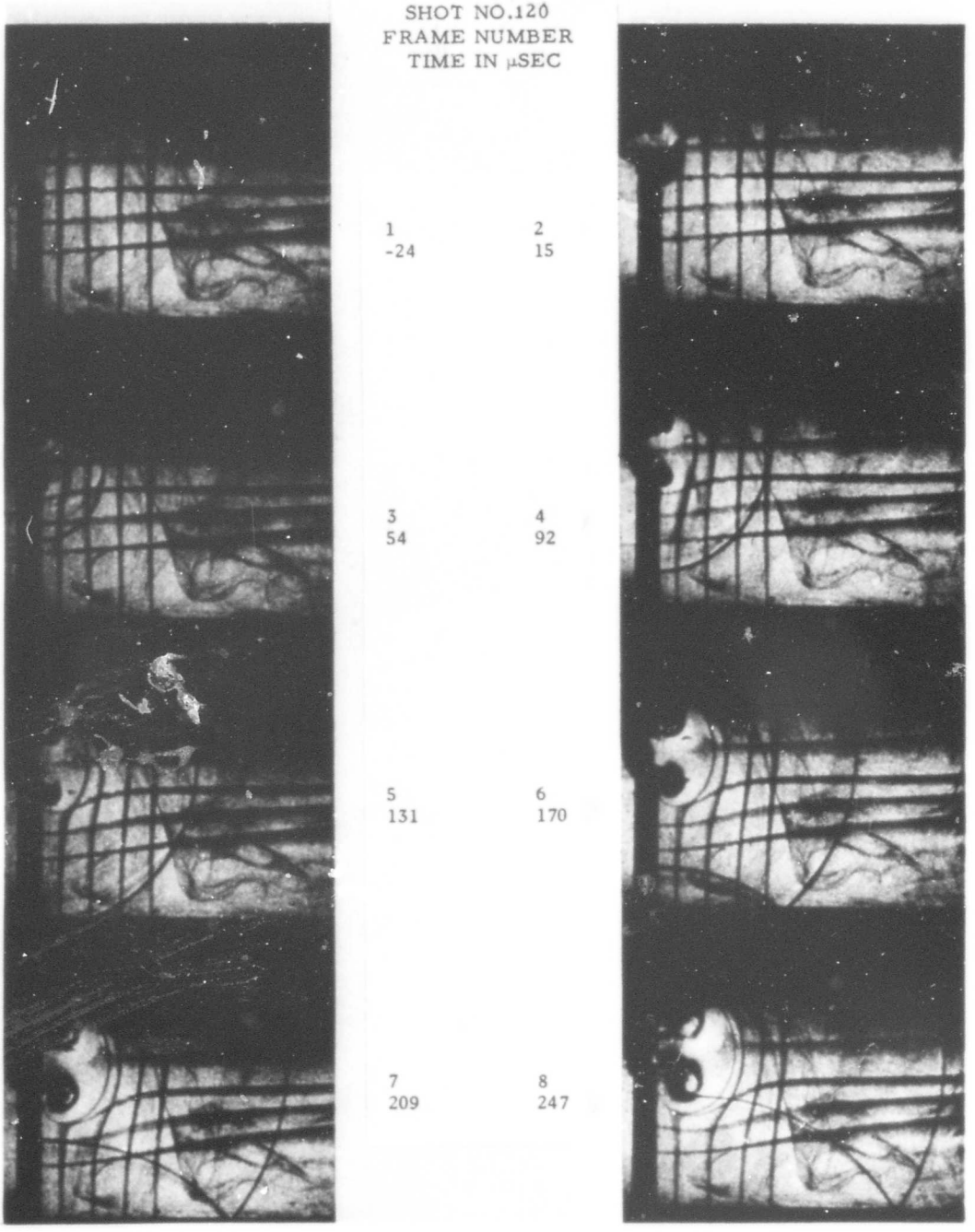


Figure A-8. Model XIV-C, with front grid

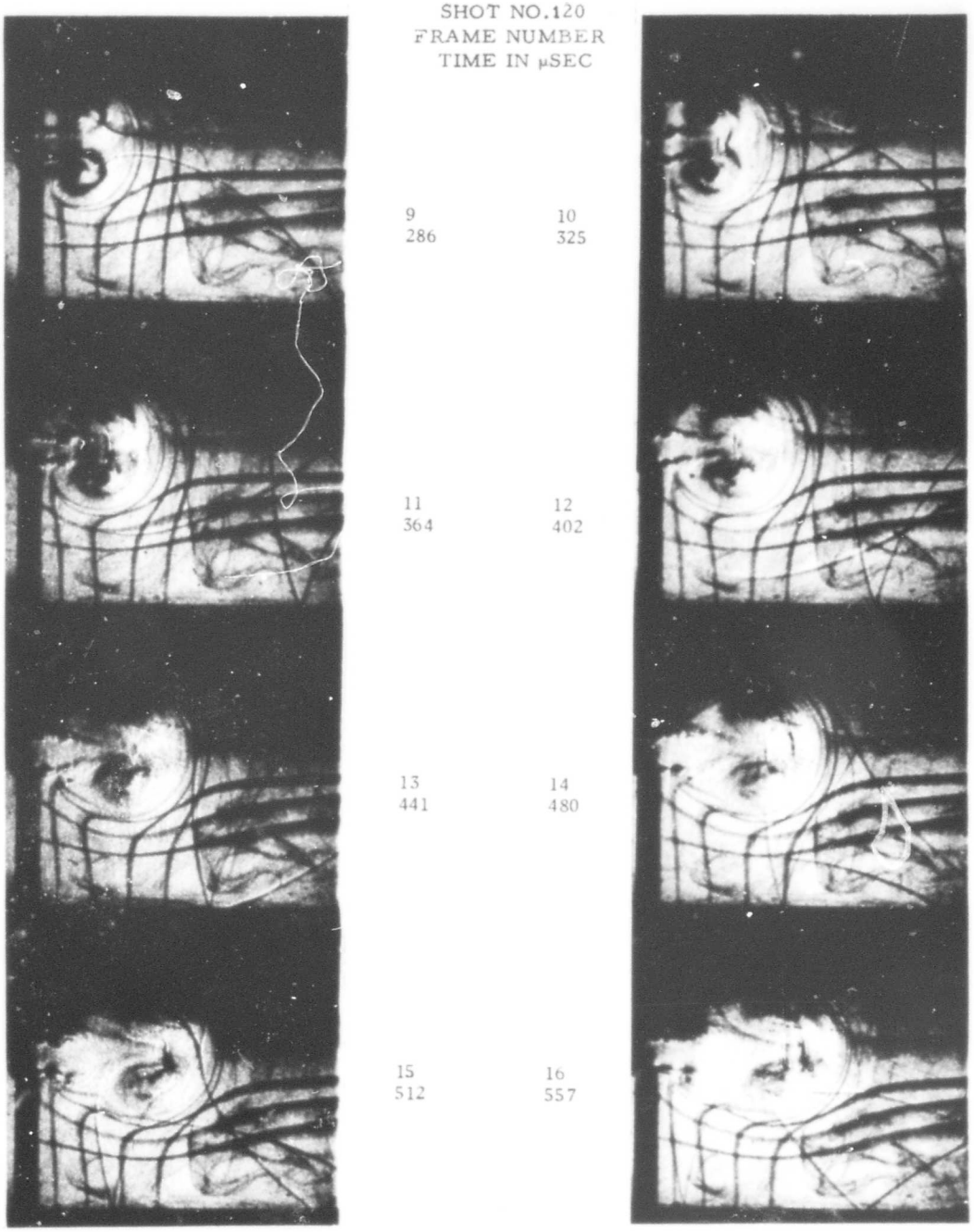


Figure A-8. Model XIV-C, with front grid (Continued)

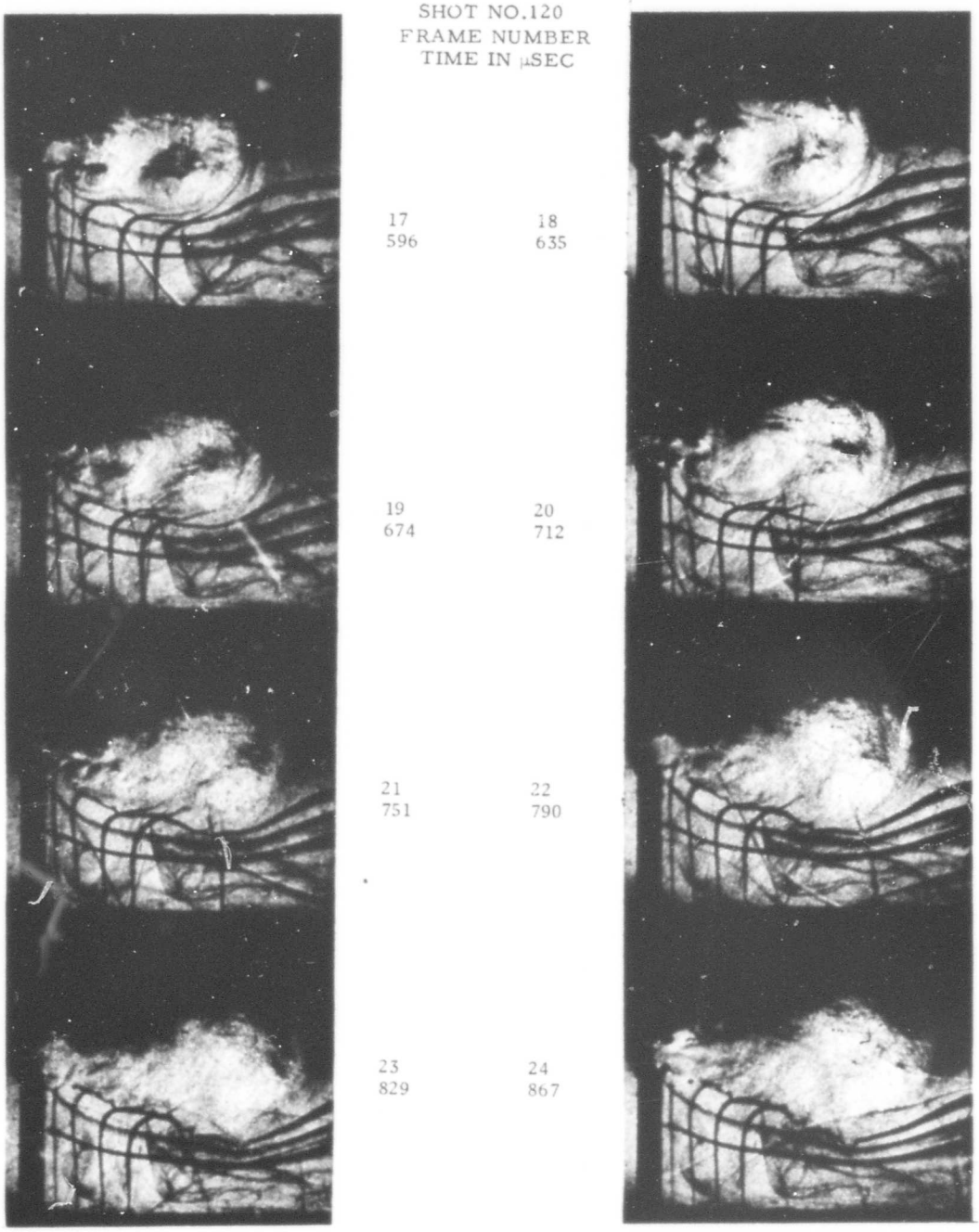


Figure A-8. Model XIV-C, with front grid (Continued)

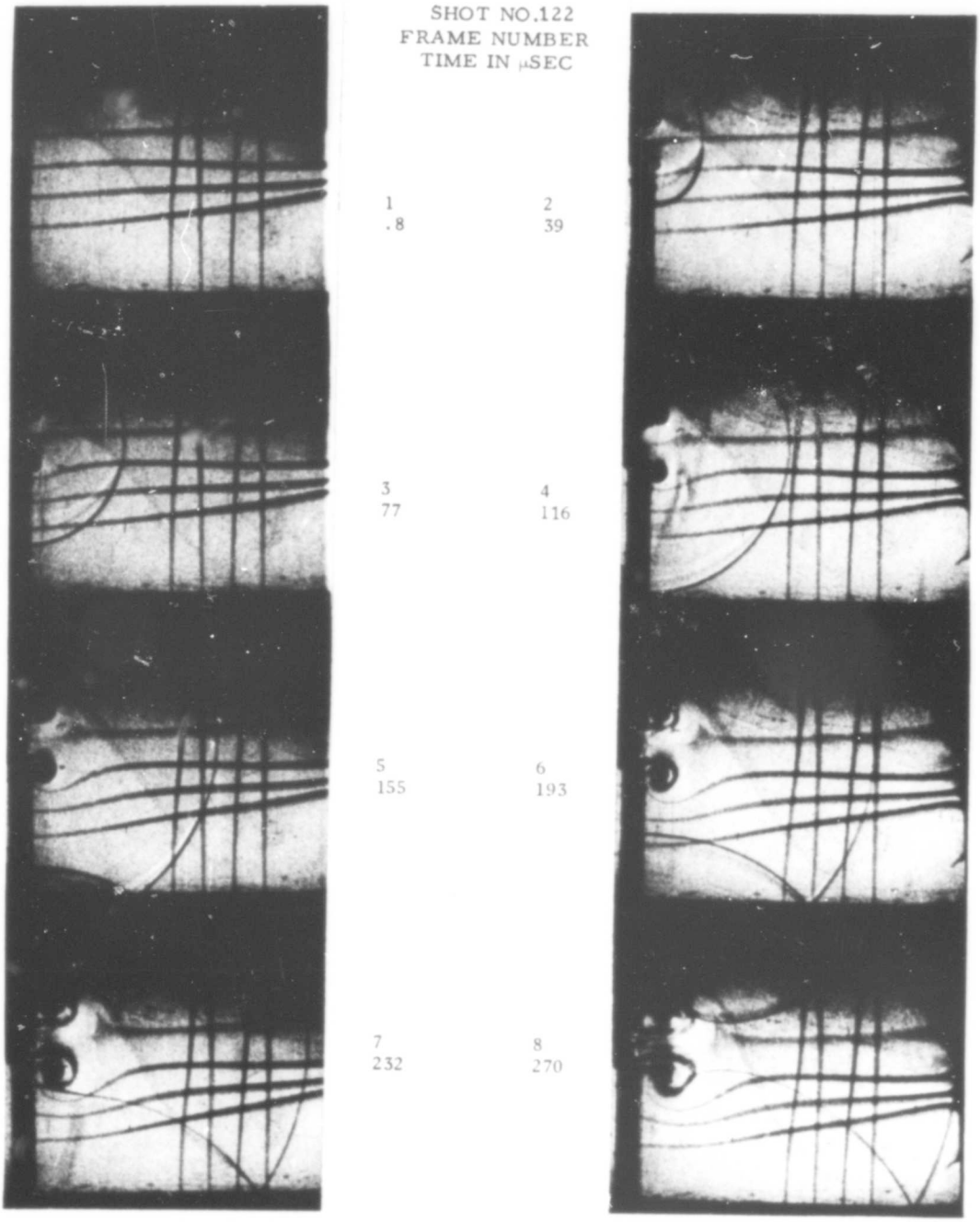


Figure A-9. Model XIV-C, with rear grid

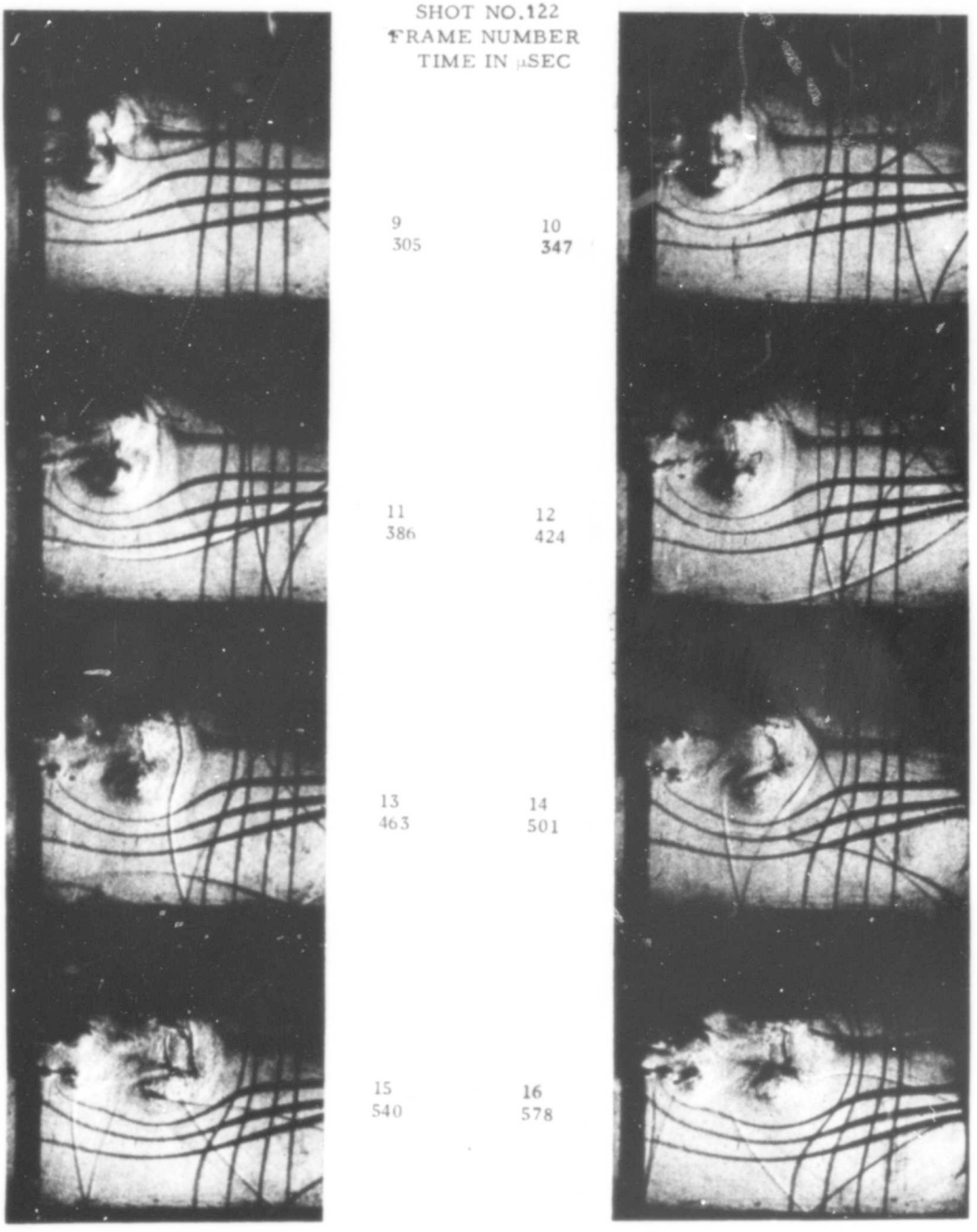


Figure A-9. Model XIV-C, with rear grid (Continued)

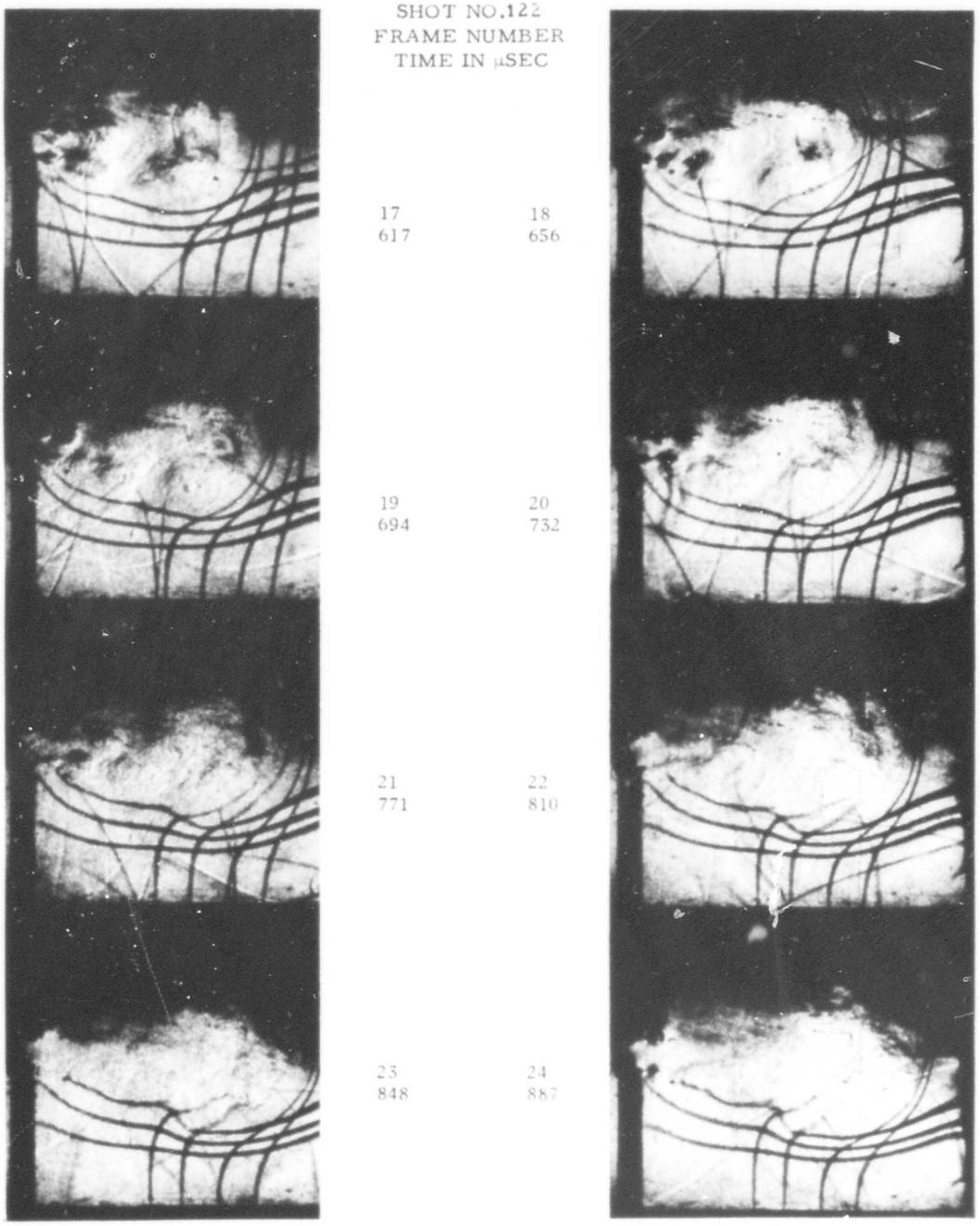


Figure A-9. Model XIV-C, with rear grid (Continued)

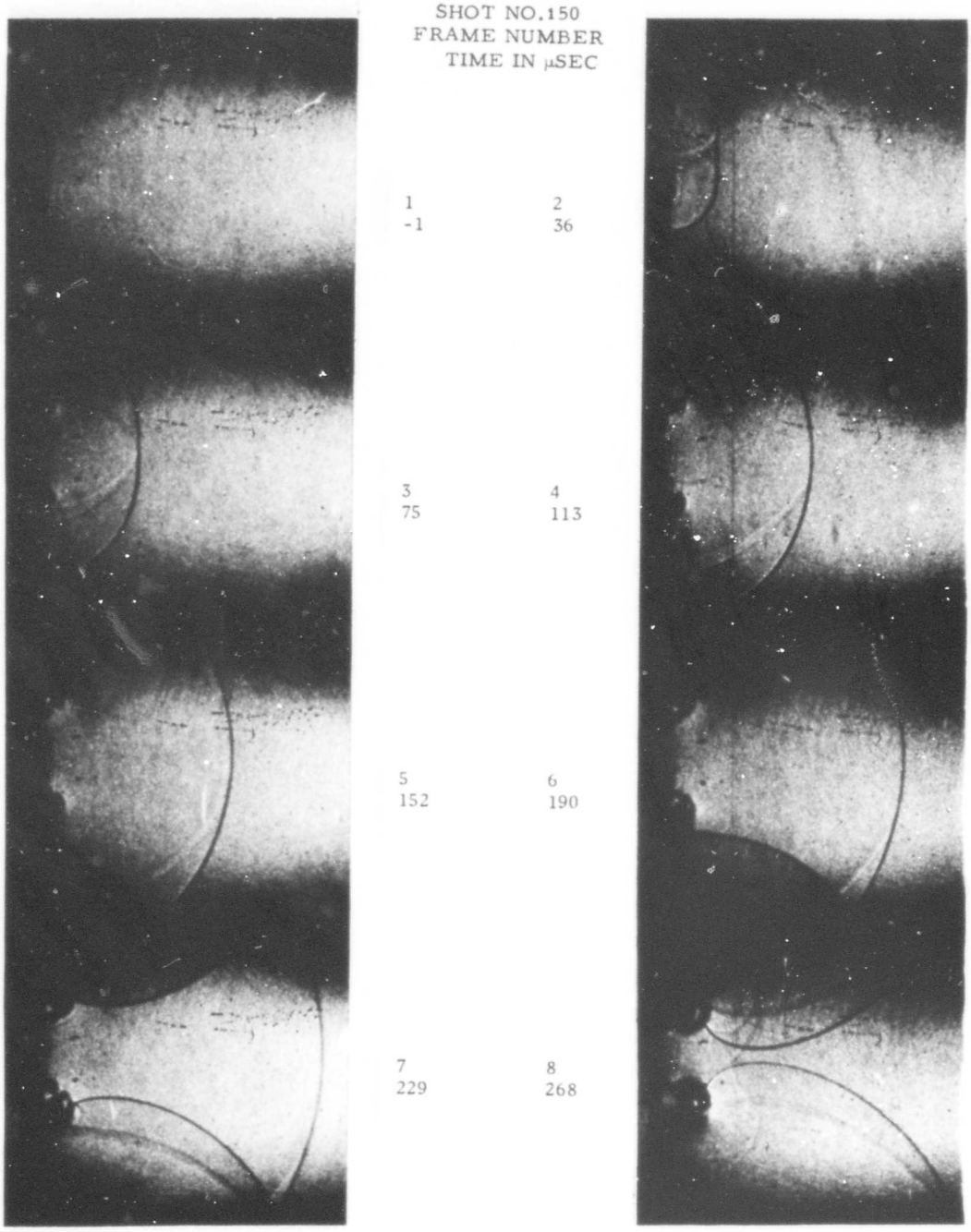


Figure A-10. Model XIV-D, with 1 in. entrance

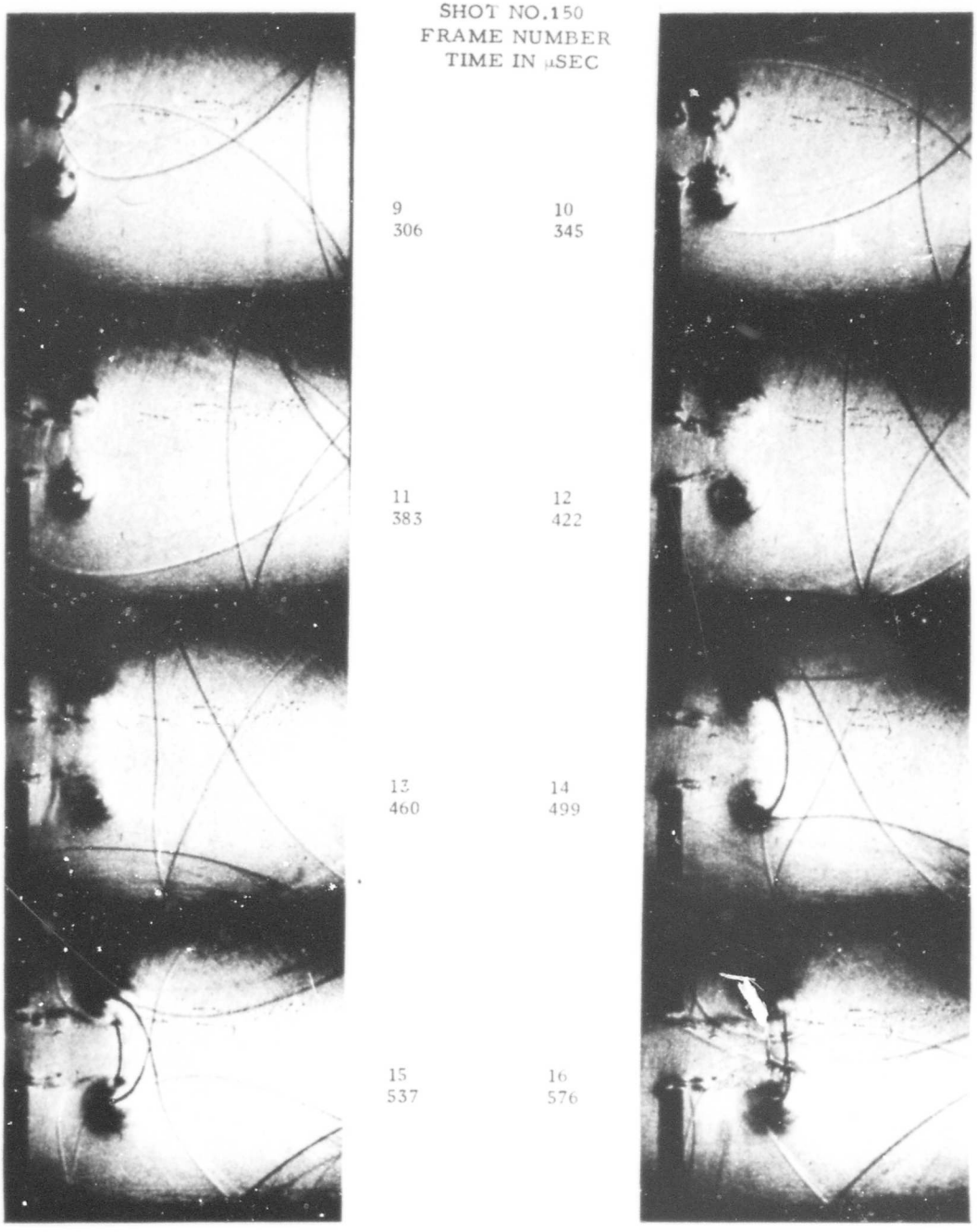


Figure A-10. Model XIV-D, with 1 in. entrance (Continued)

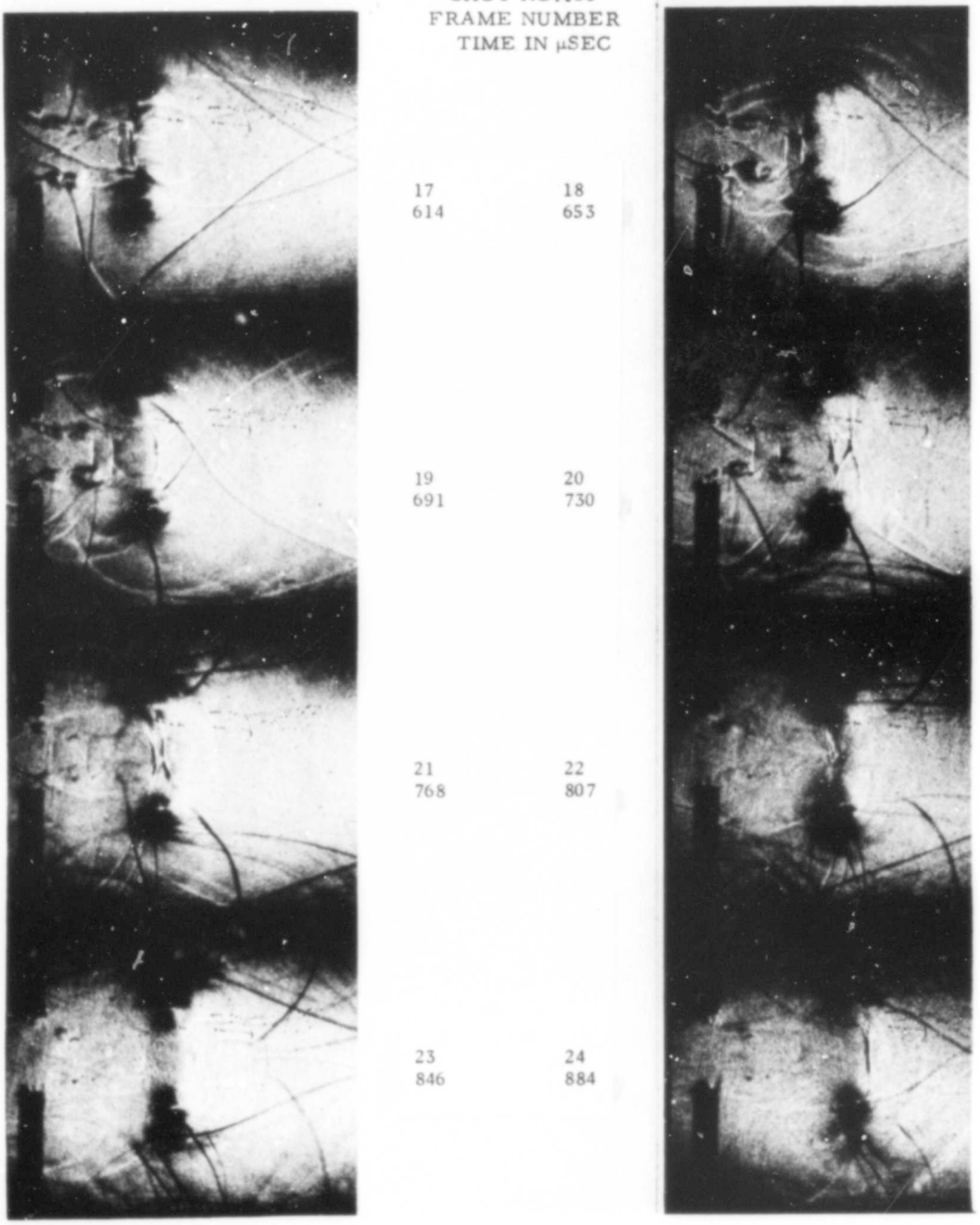


Figure A-10. Model XIV-D, with 1 in. entrance (Continued)

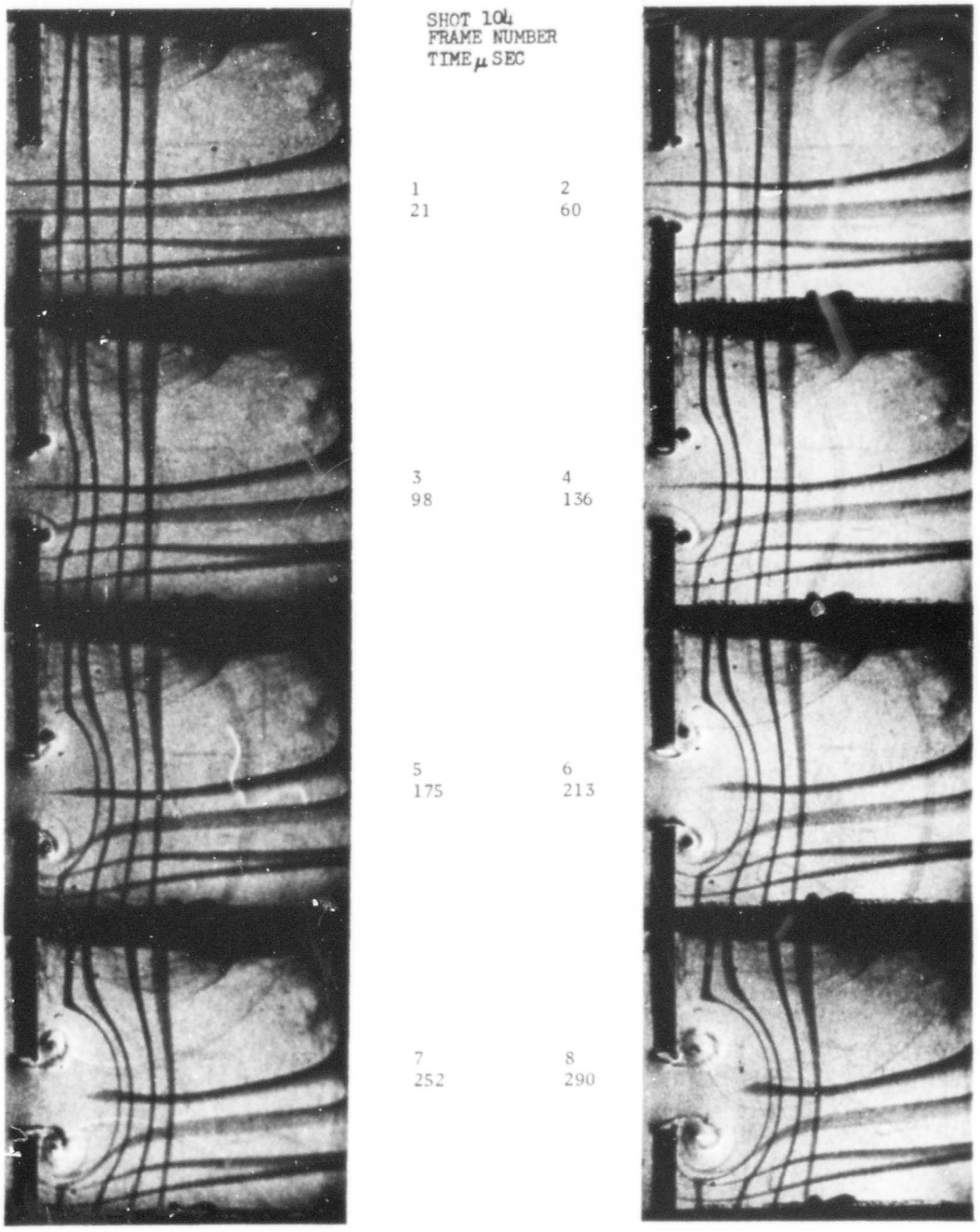


Figure A-11. Model XIV-D, with front grid

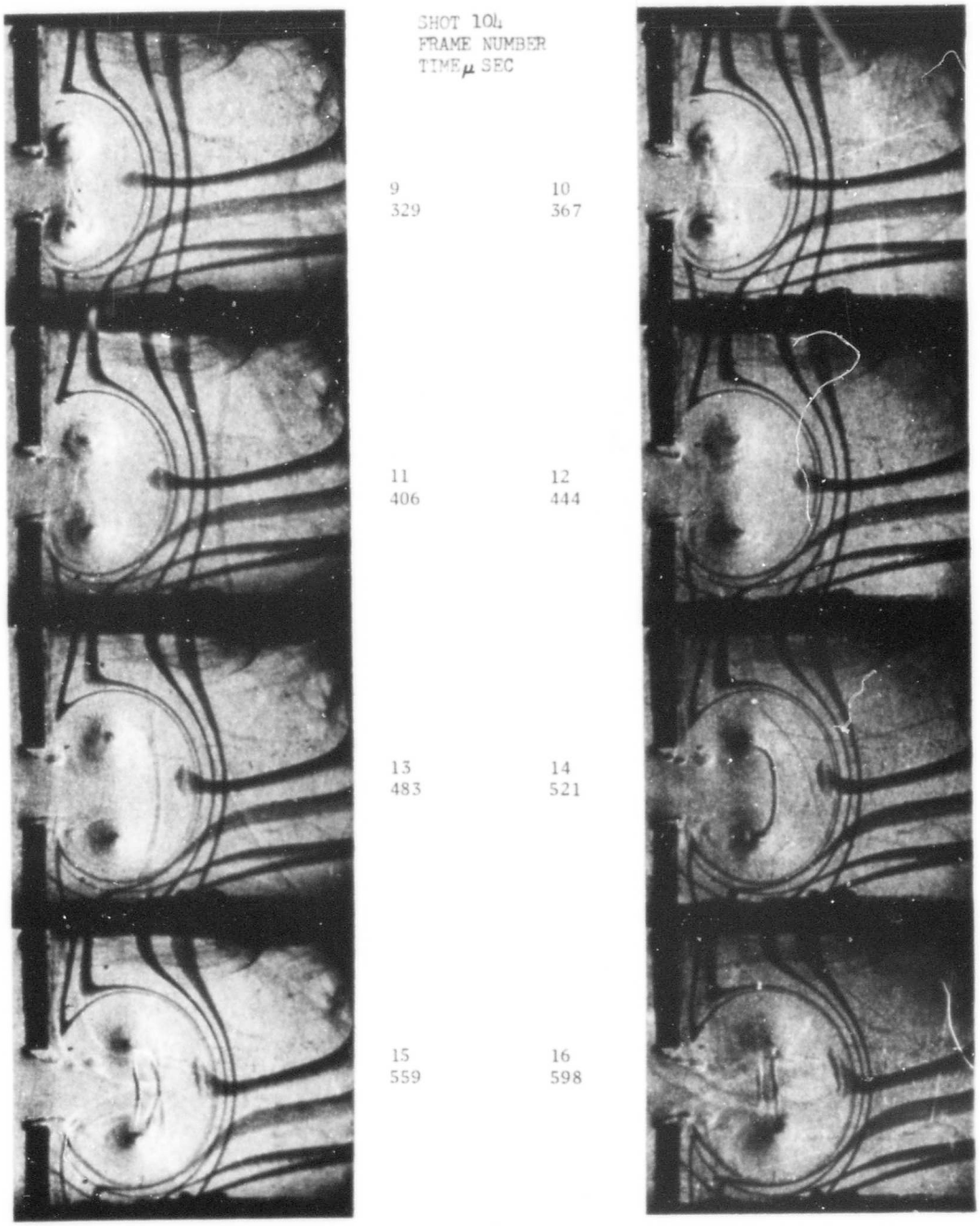


Figure A-11. Model XIV-D, with front grid (Continued)

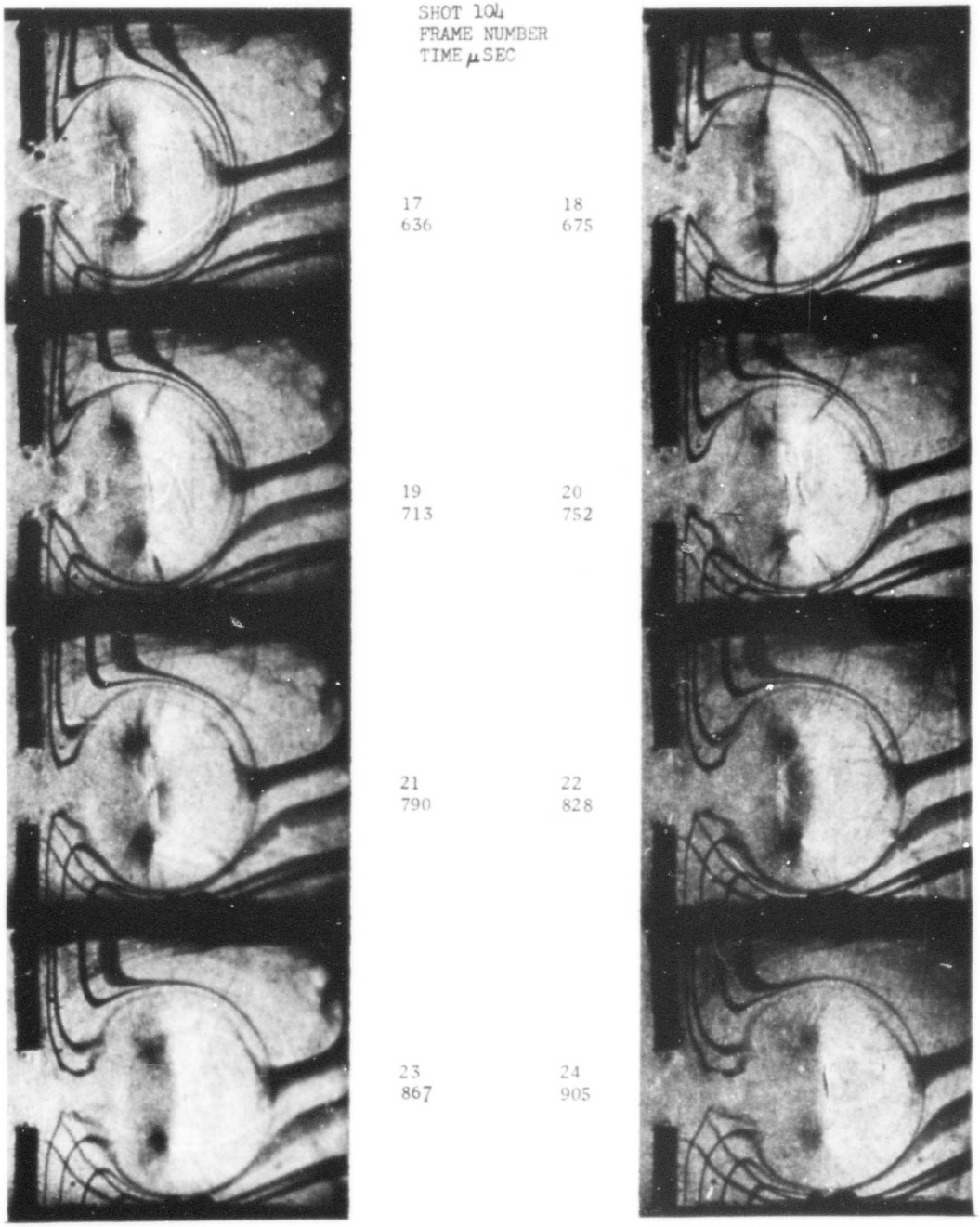


Figure A-11. Model XIV-D, with front grid (Continued)

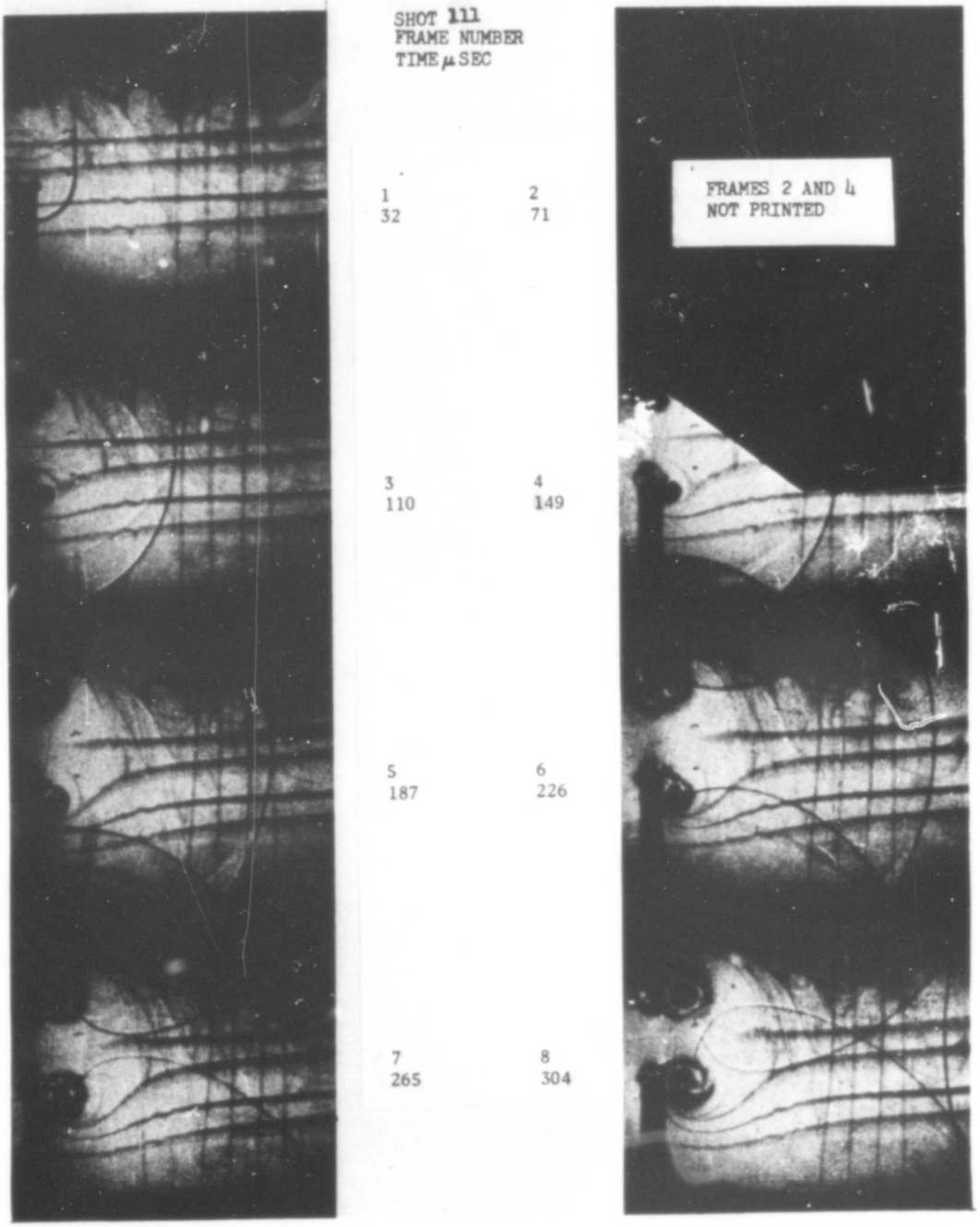


Figure A-12. Model XIV-D, with rear grid

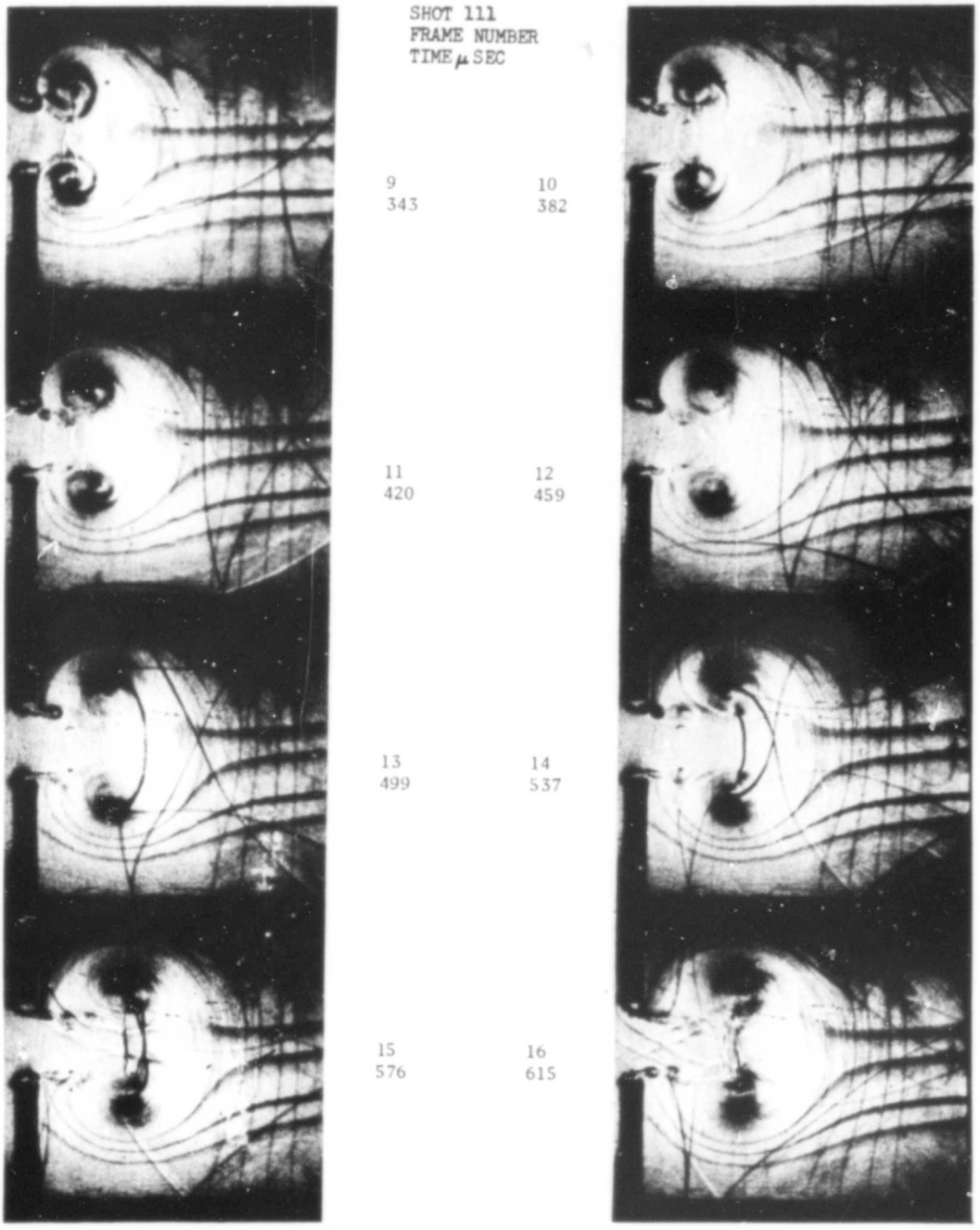


Figure A-12. Model XIV-D, with rear grid (Continued)

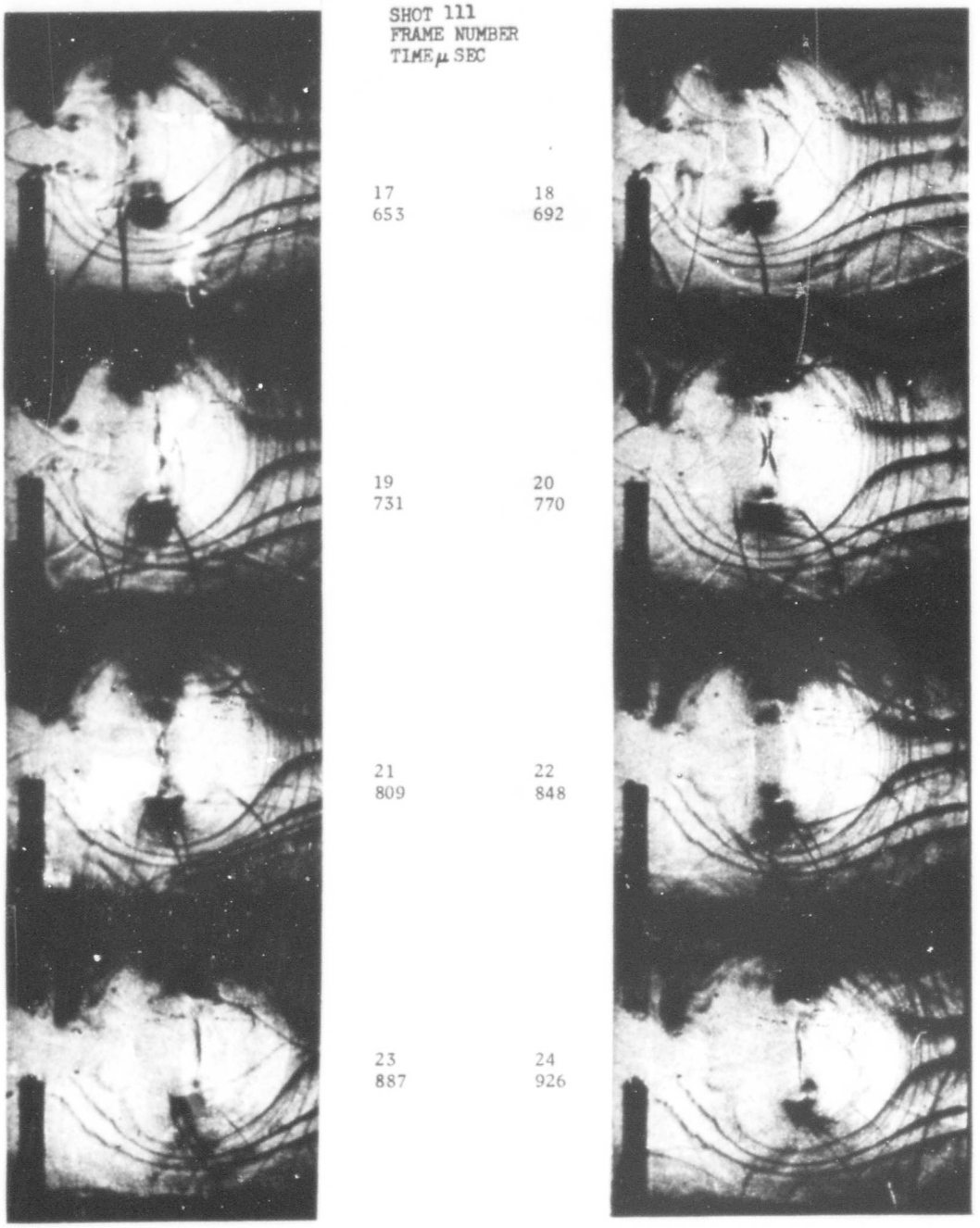


Figure A-12. Model XIV-D, with rear grid (Continued)

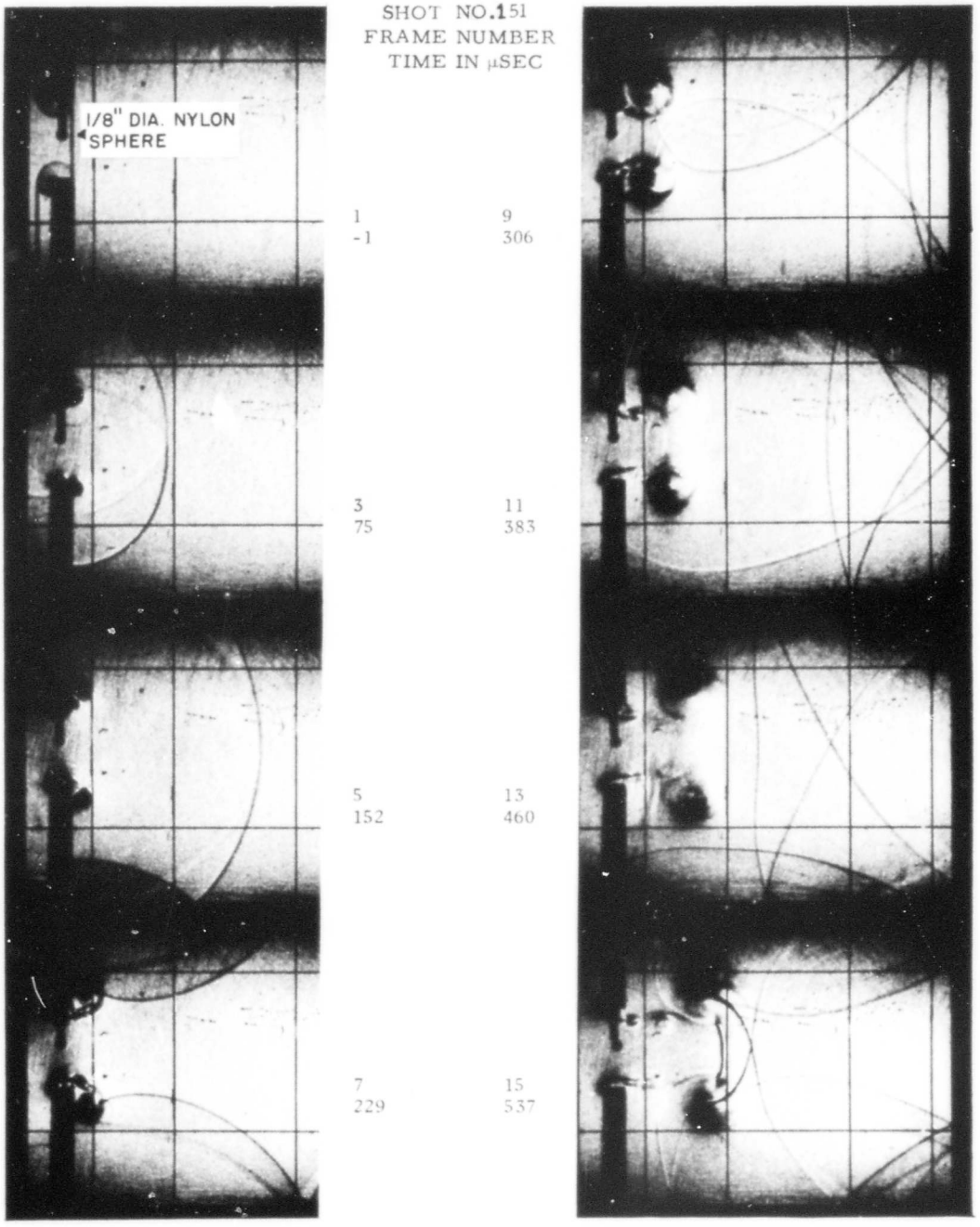


Figure A-13. Model XIV-D, with 1/8 in. nylon sphere

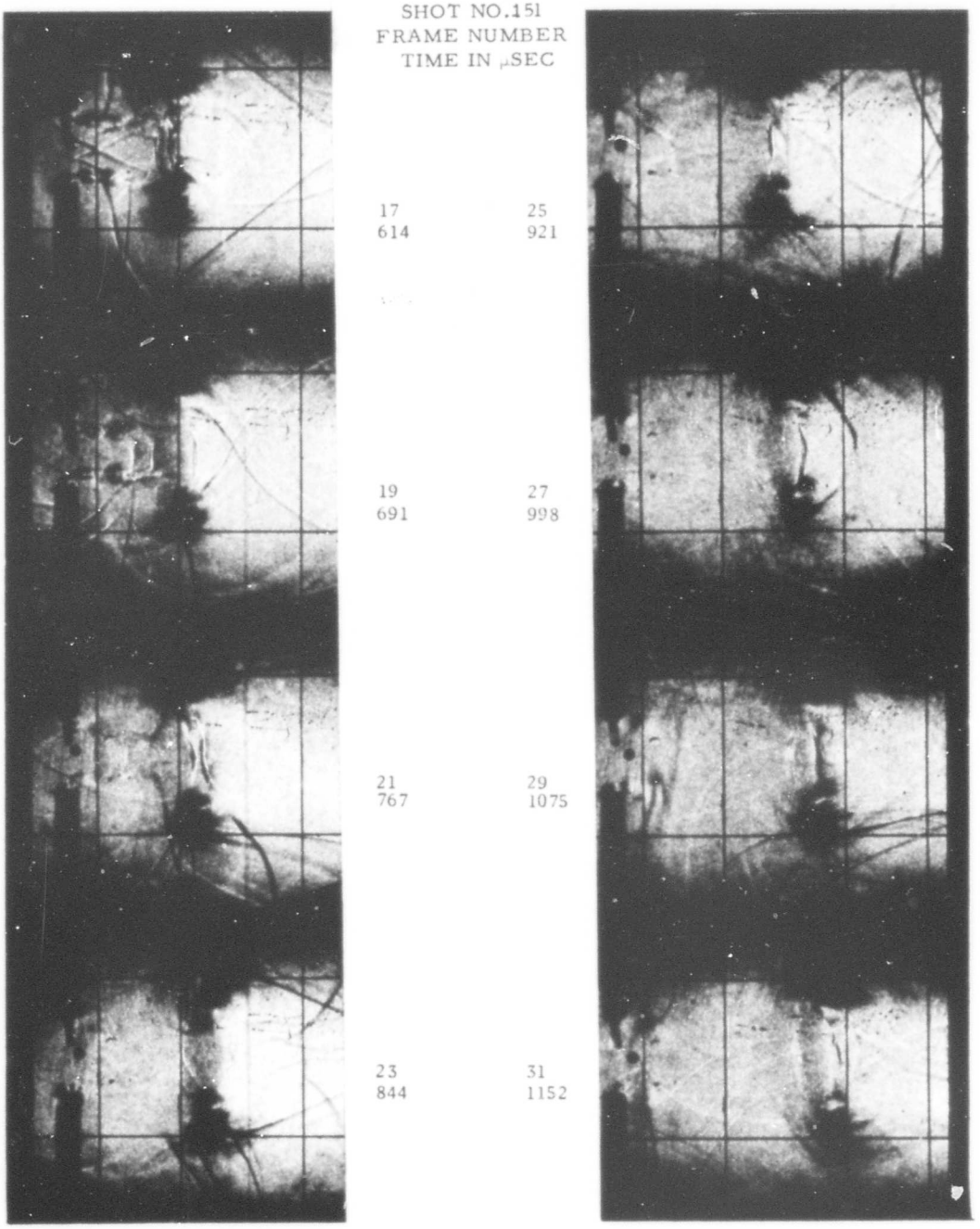


Figure A-13. Model XIV-D, with 1/8 in. nylon sphere (Continued)

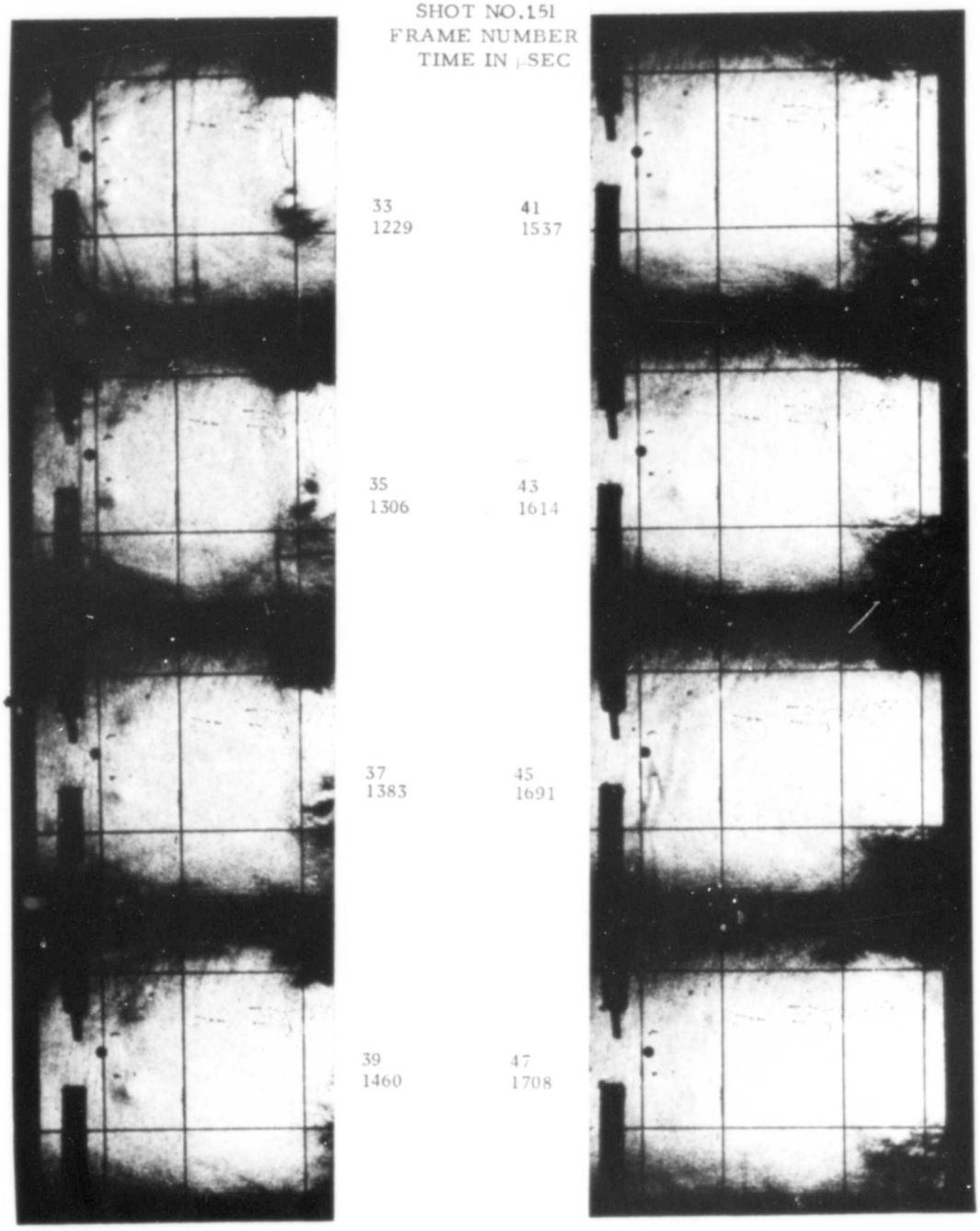


Figure A-13. Model XIV-D, with 1/8 in. nylon sphere (Continued)

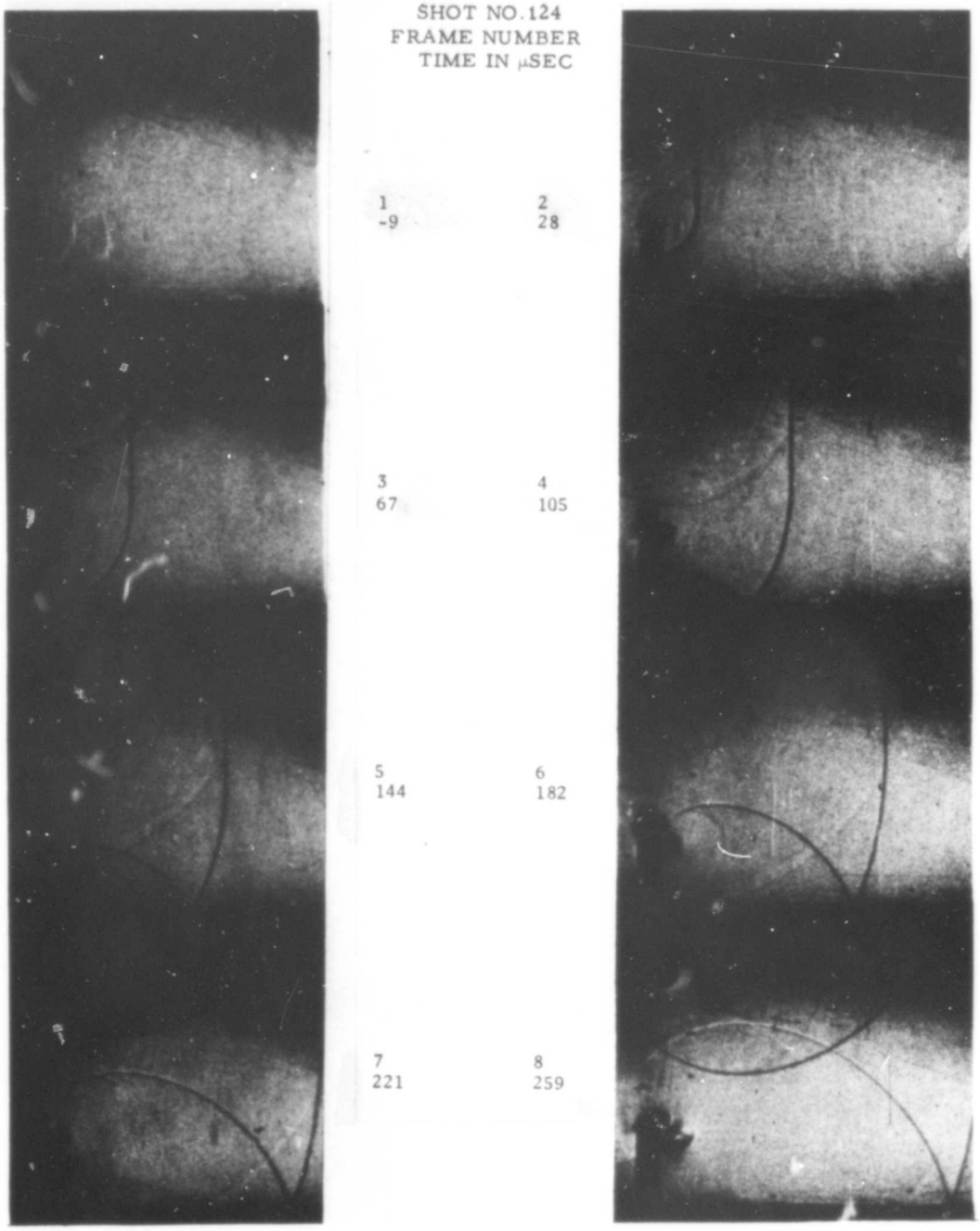


Figure A-14. Model XIV-E, with 2 in. entrance

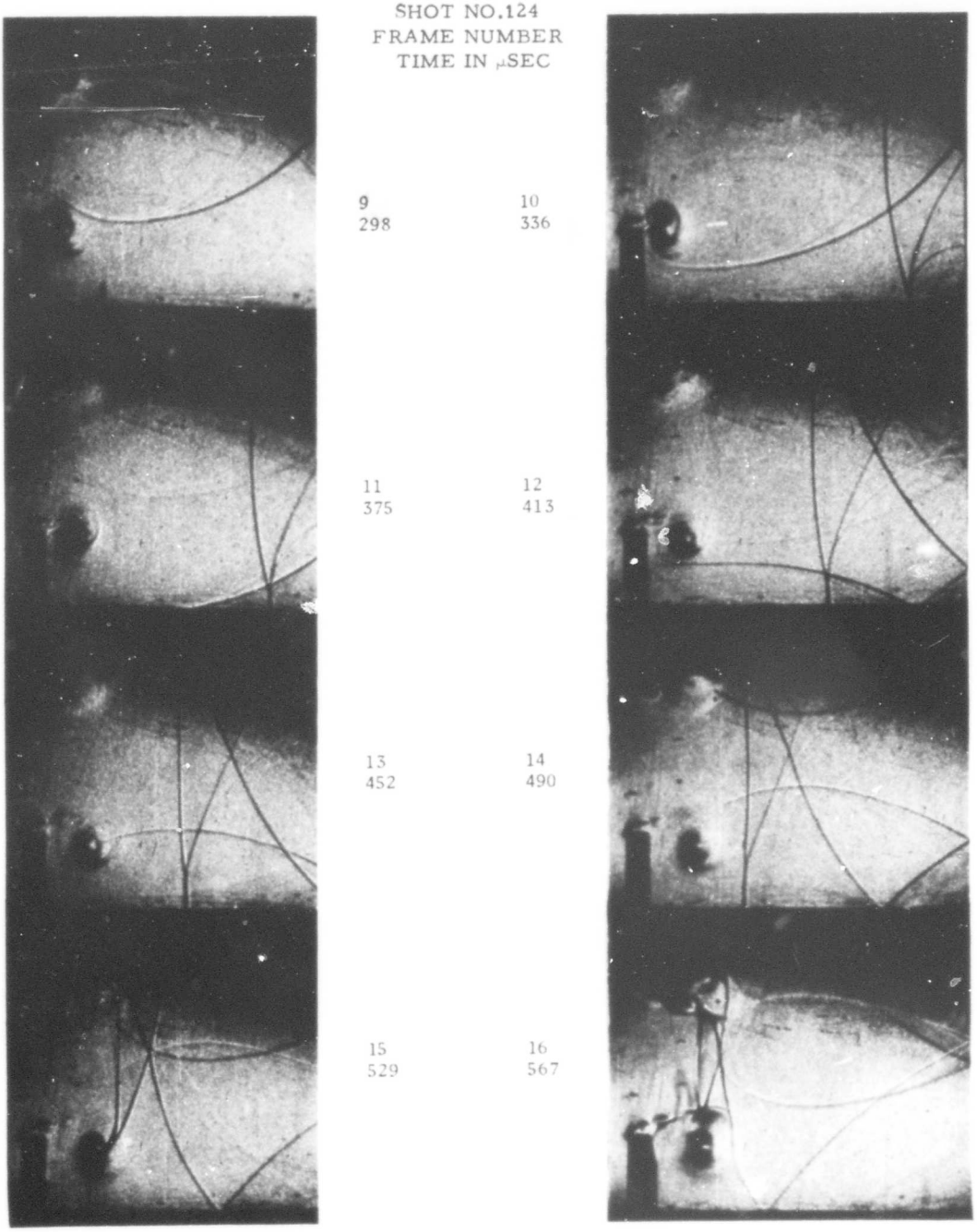


Figure A-14. Model XIV-E, with 2 in. entrance (Continued)

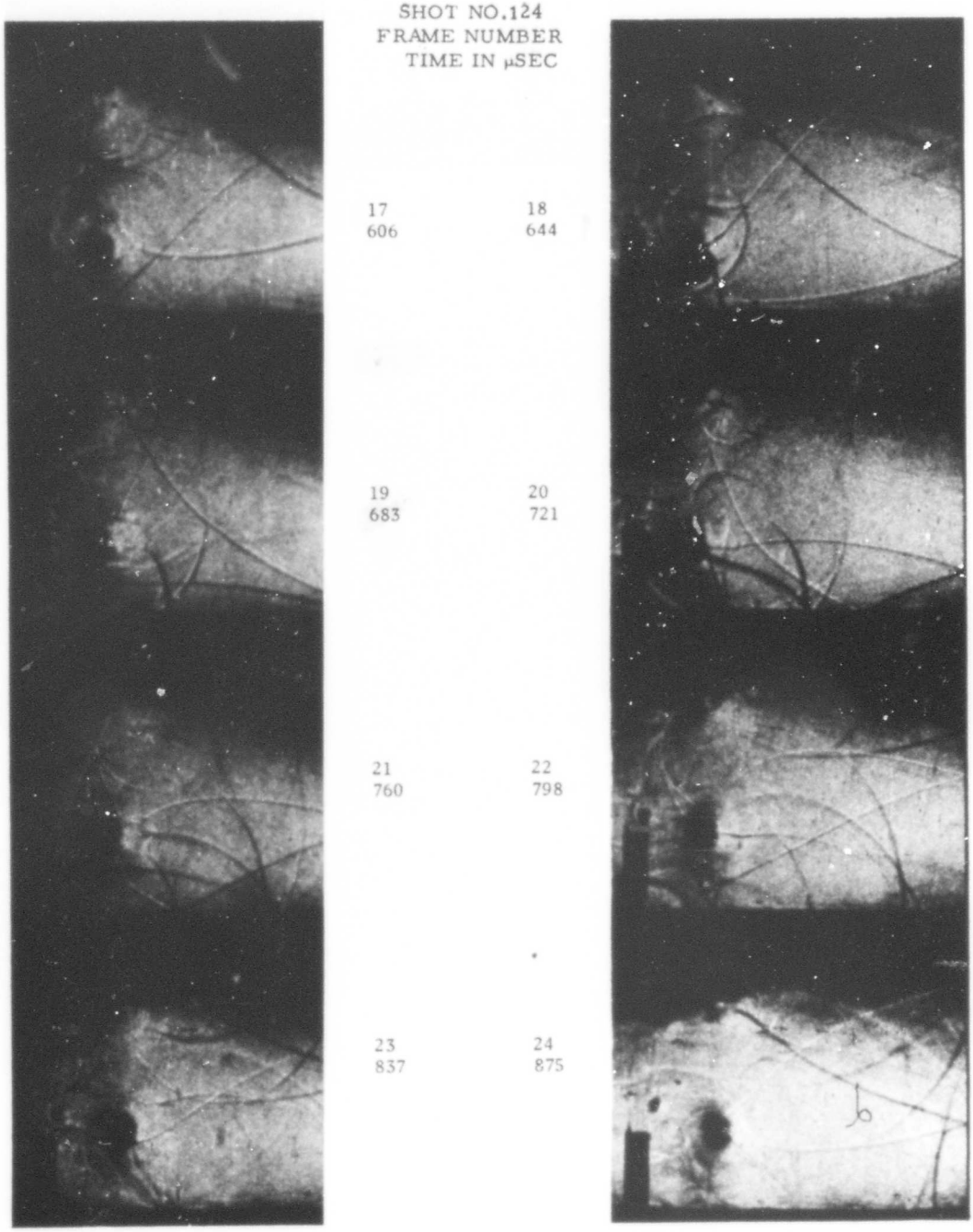


Figure A-14. Model XIV-E, with 2 in. entrance (Continued)

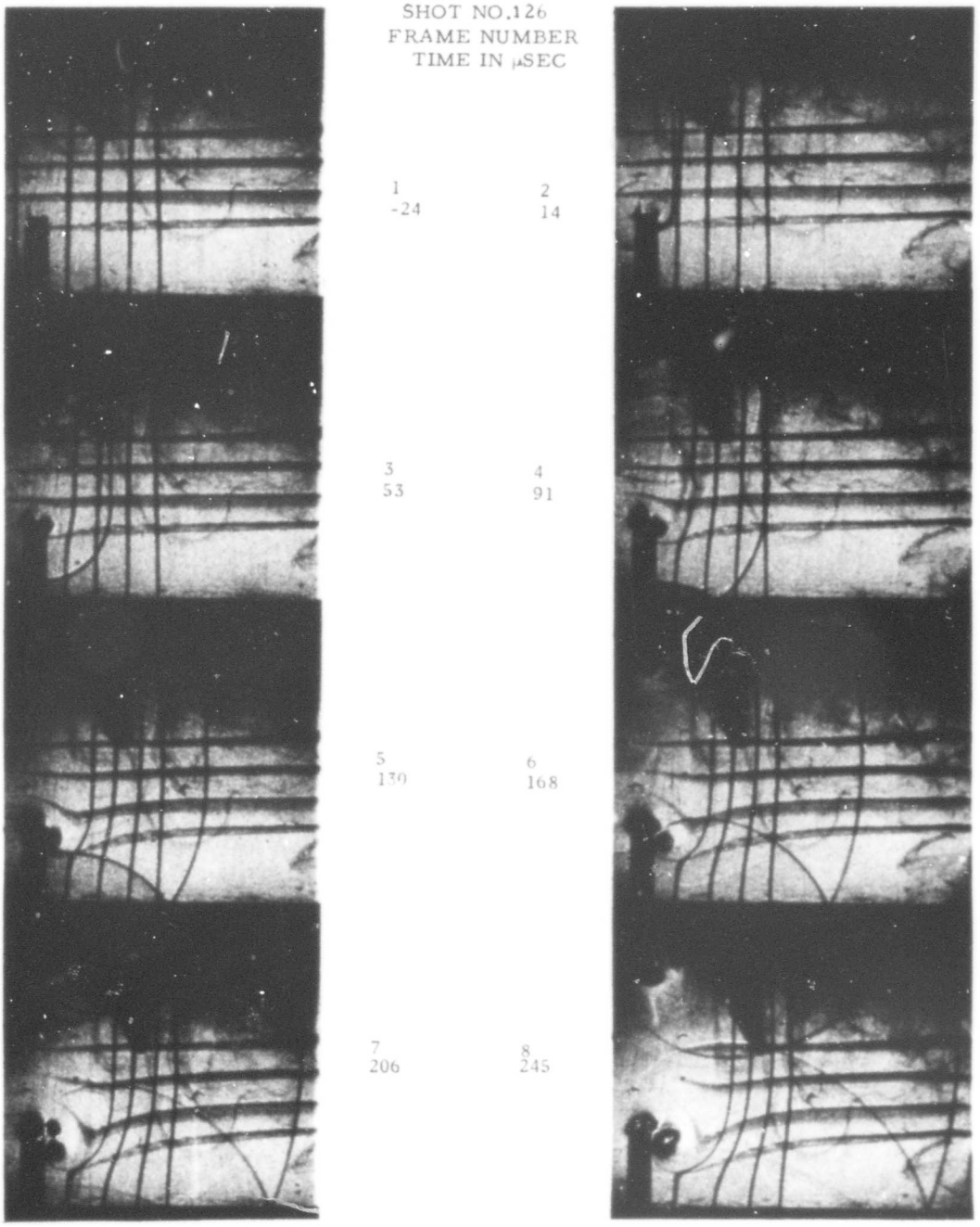


Figure A-15. Model XIV-E, with front grid

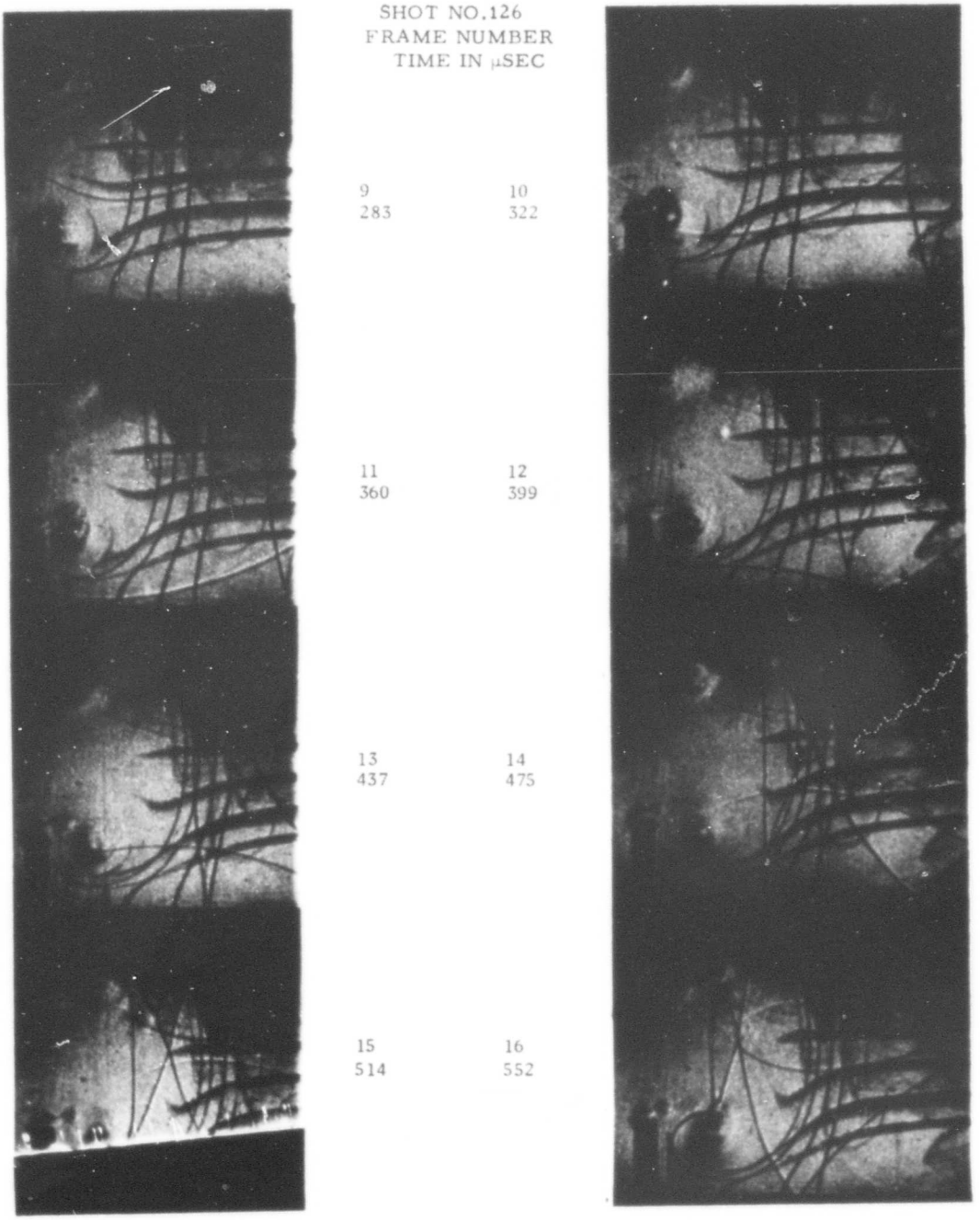


Figure A-15. Model XIV-E, with front grid (Continued)

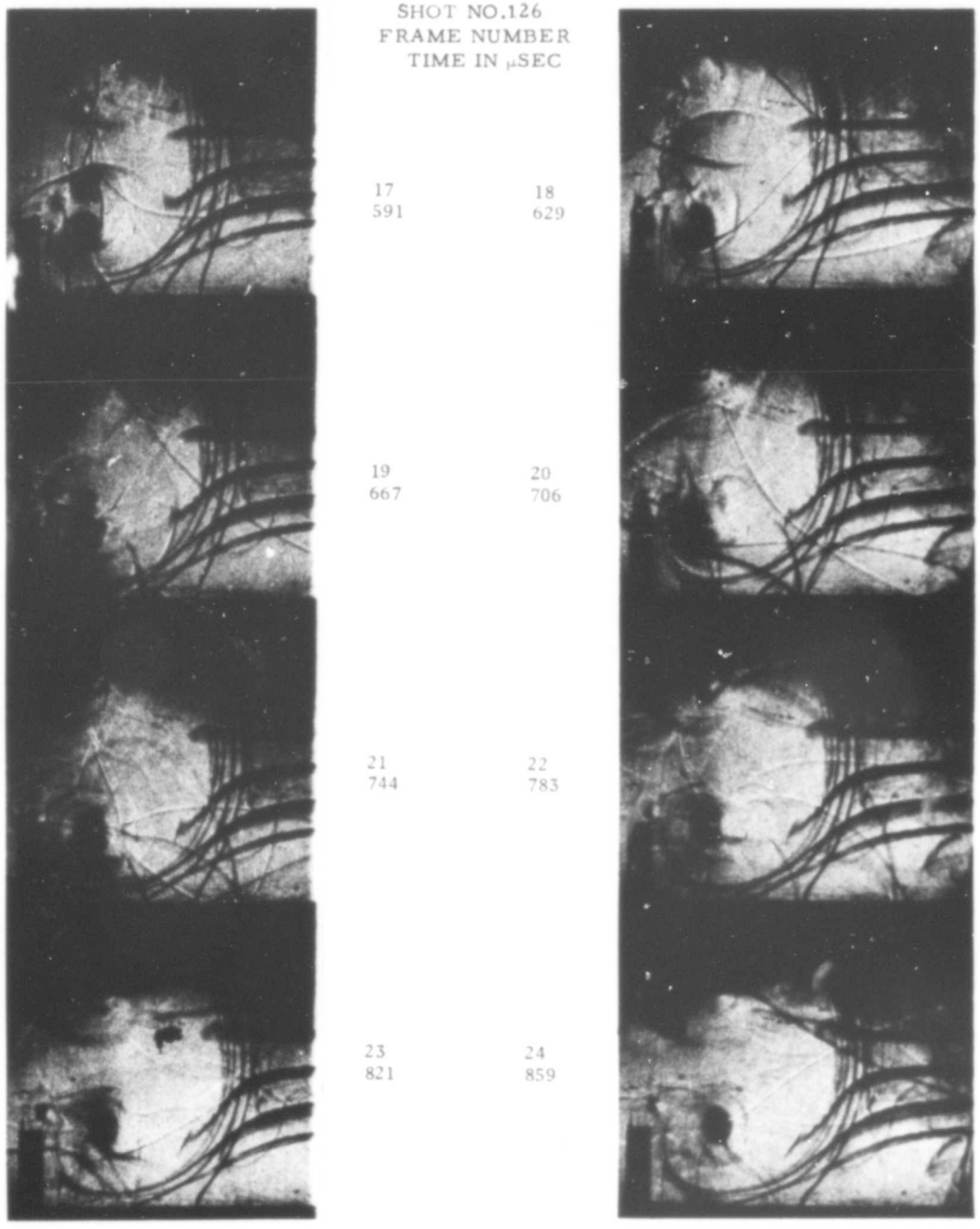


Figure A-15. Model XIV-E, with front grid (Continued)

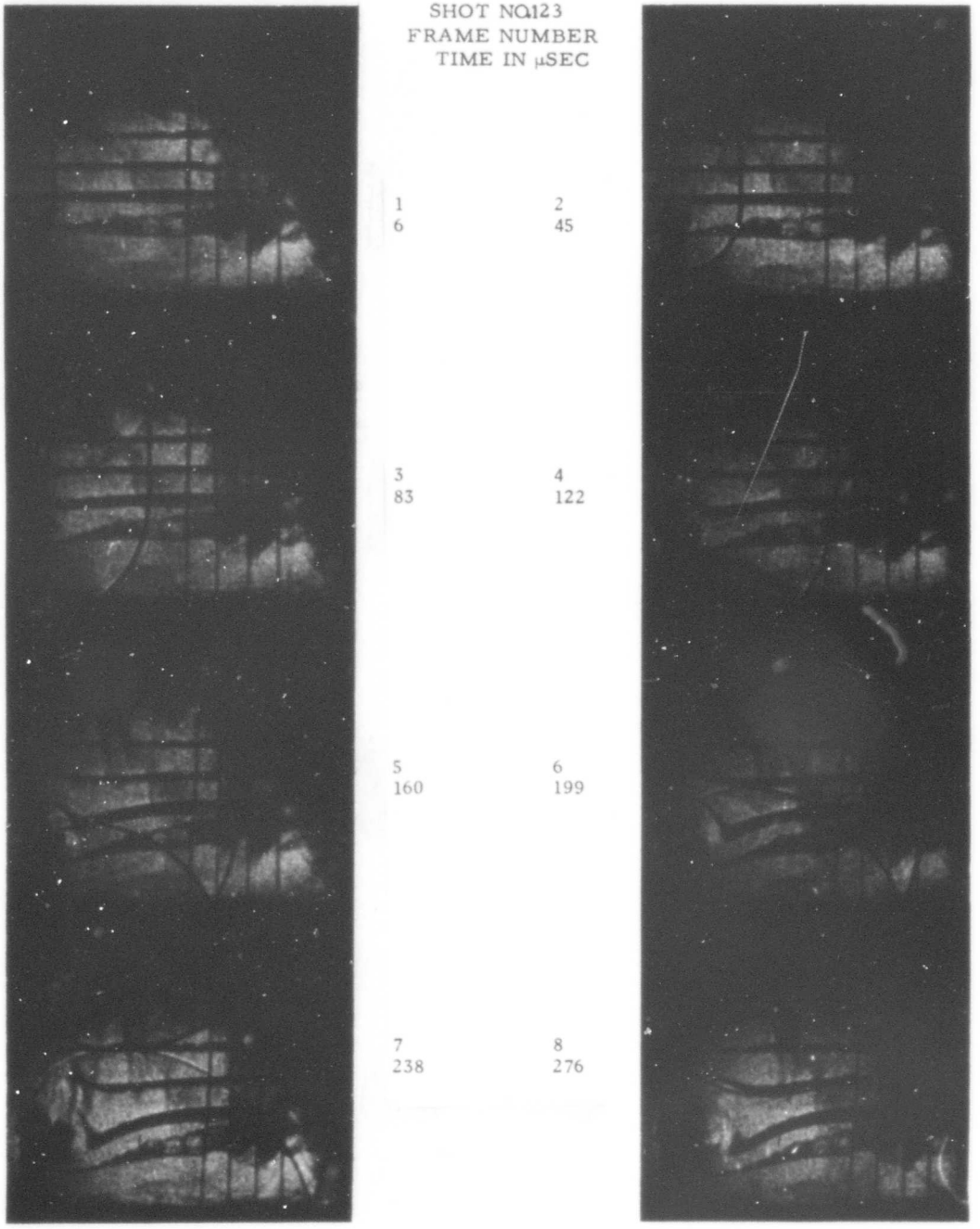


Figure A-16. Model XIV-E, with rear grid

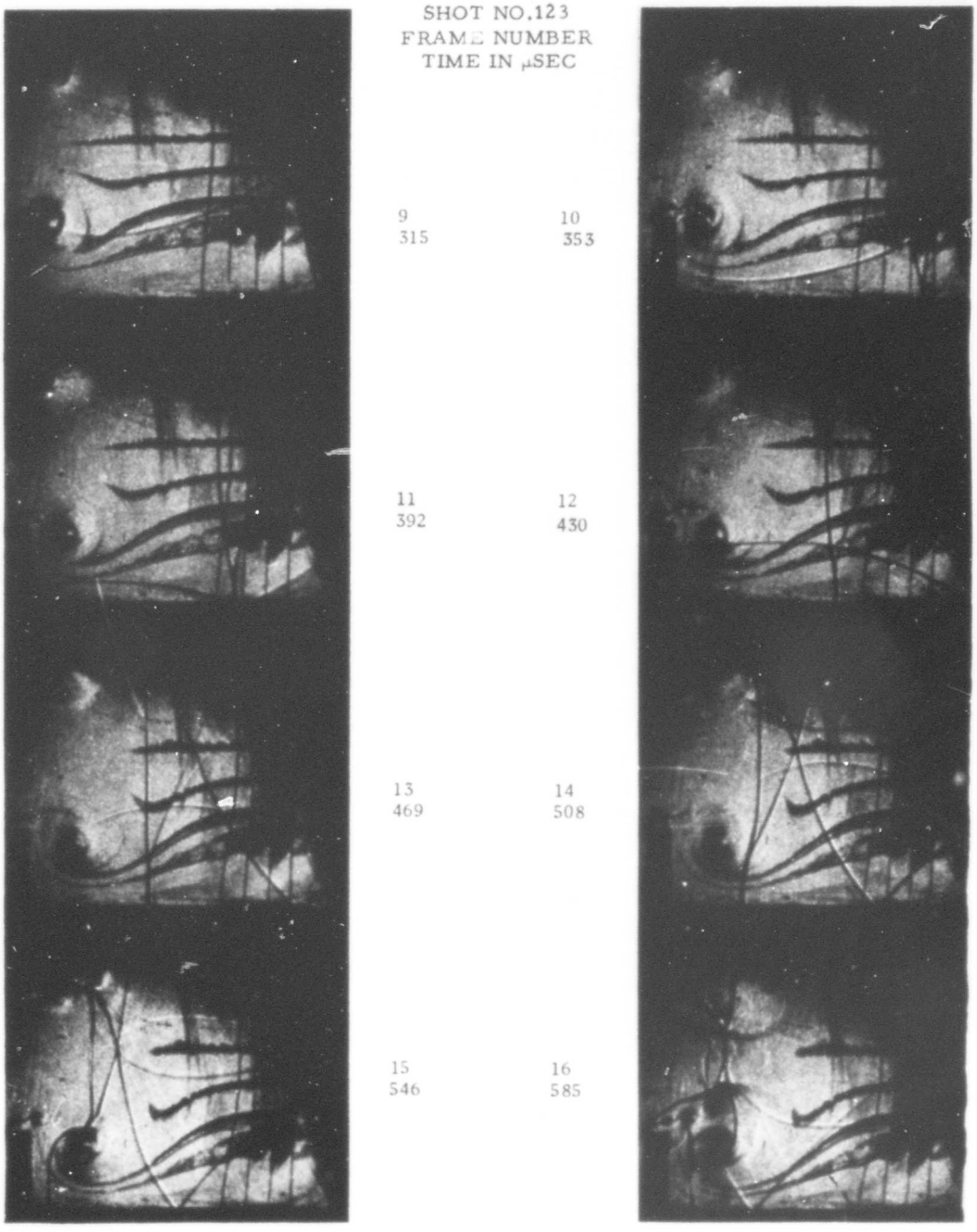


Figure A-16. Model XIV-E, with rear grid (Continued)

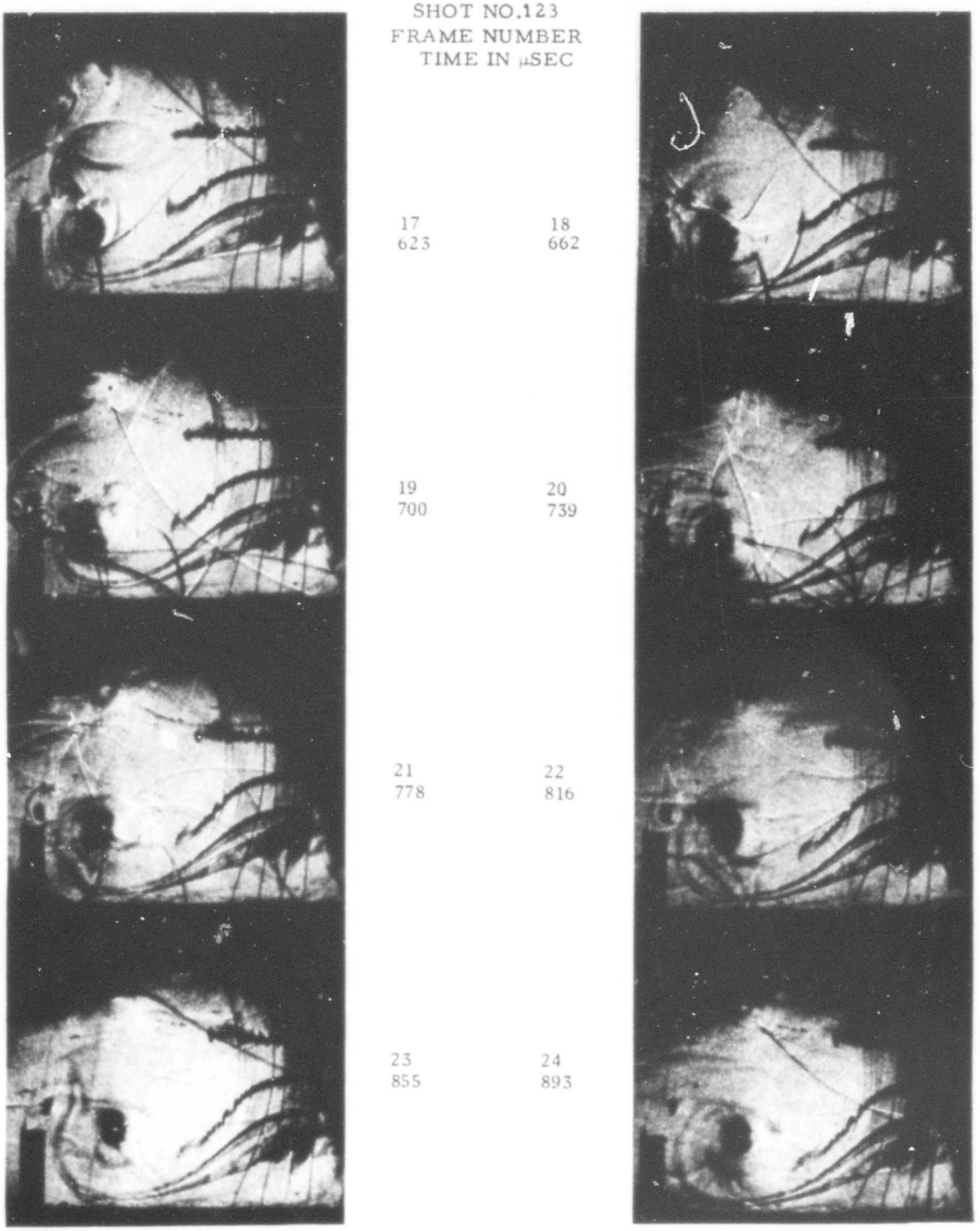


Figure A-16. Model XIV-E, with rear grid (Continued)

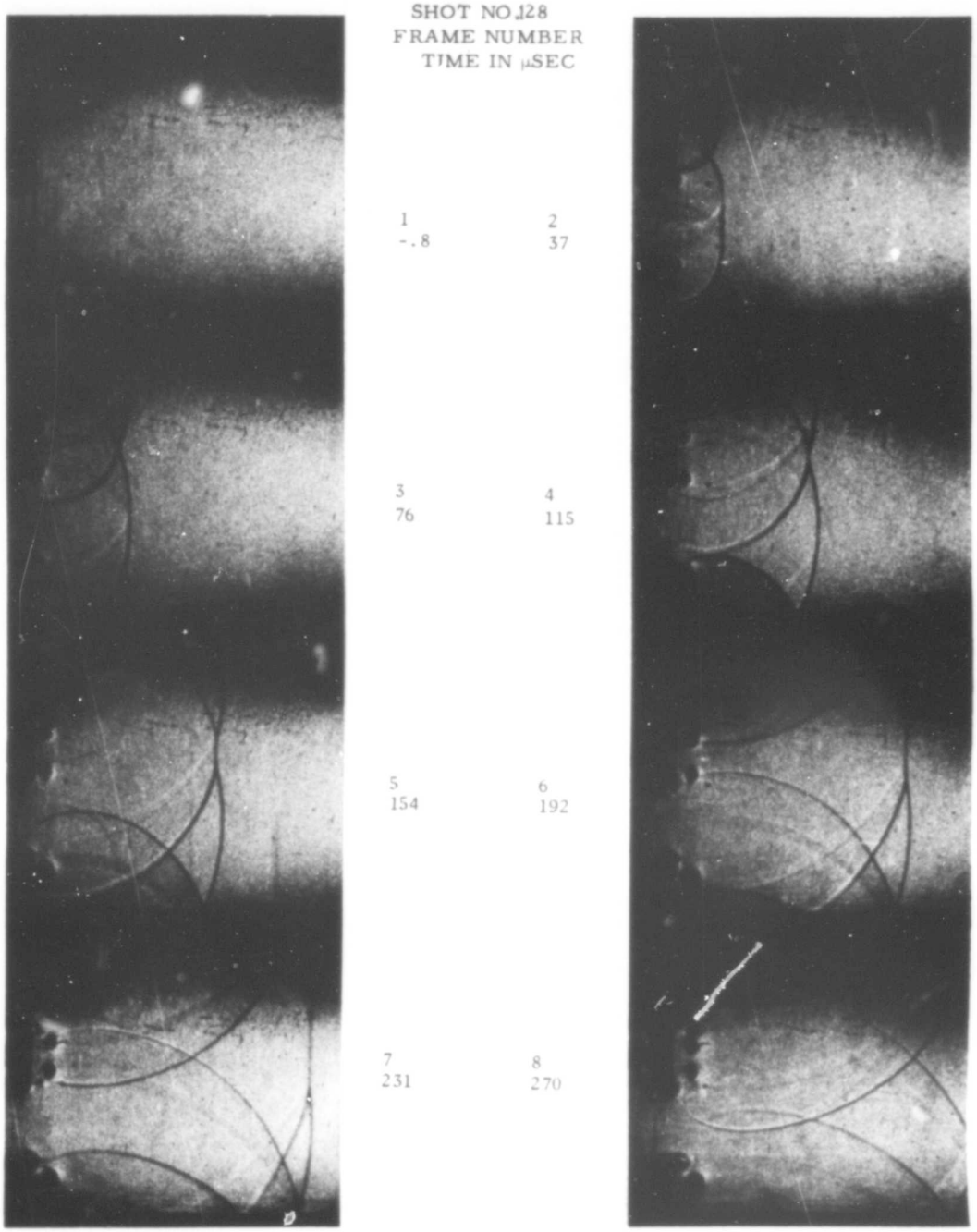


Figure A-17. Model XIV-F, with two 1 in. entrances

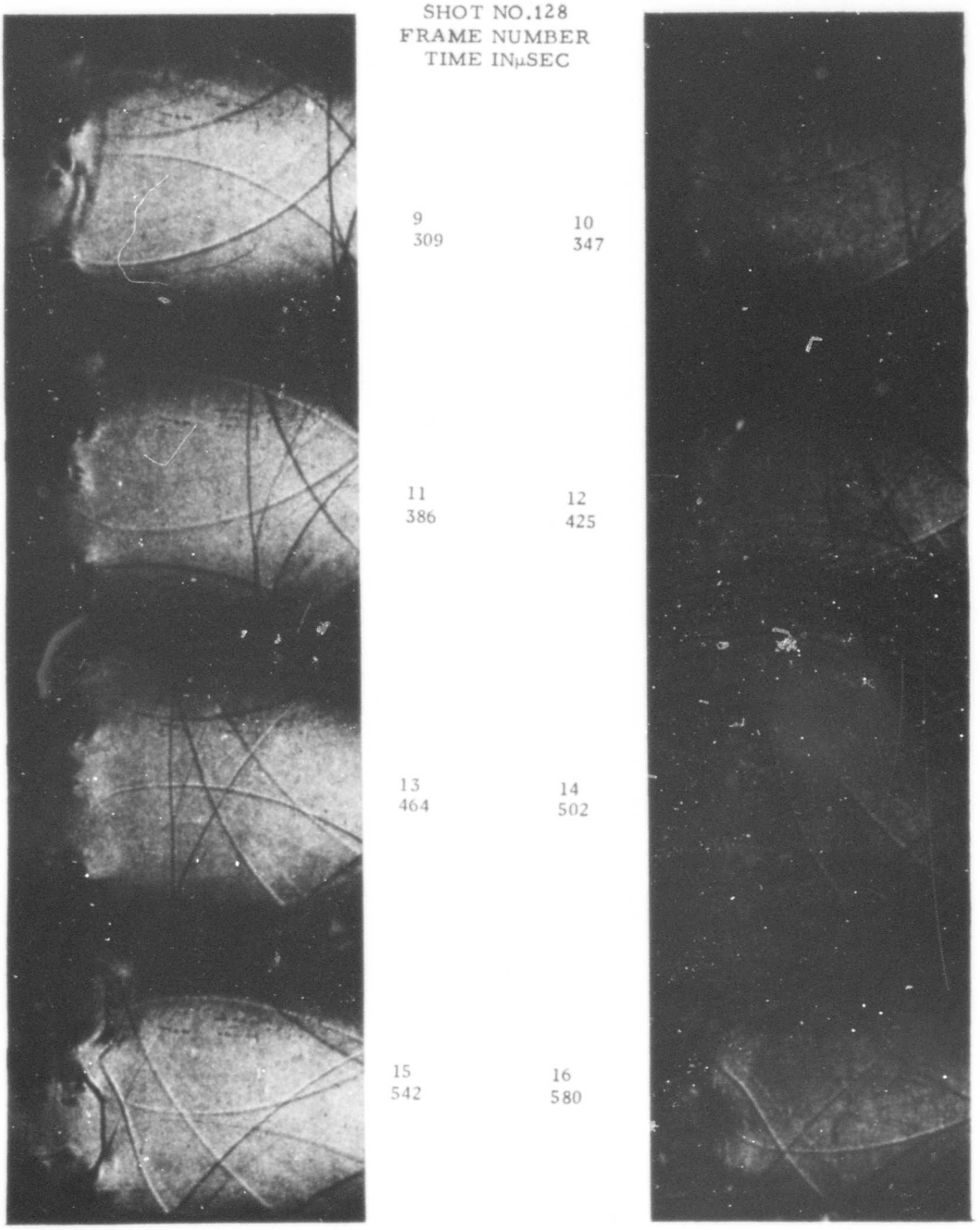


Figure A-17. Model XIV-F, with two 1 in. entrances (Continued)

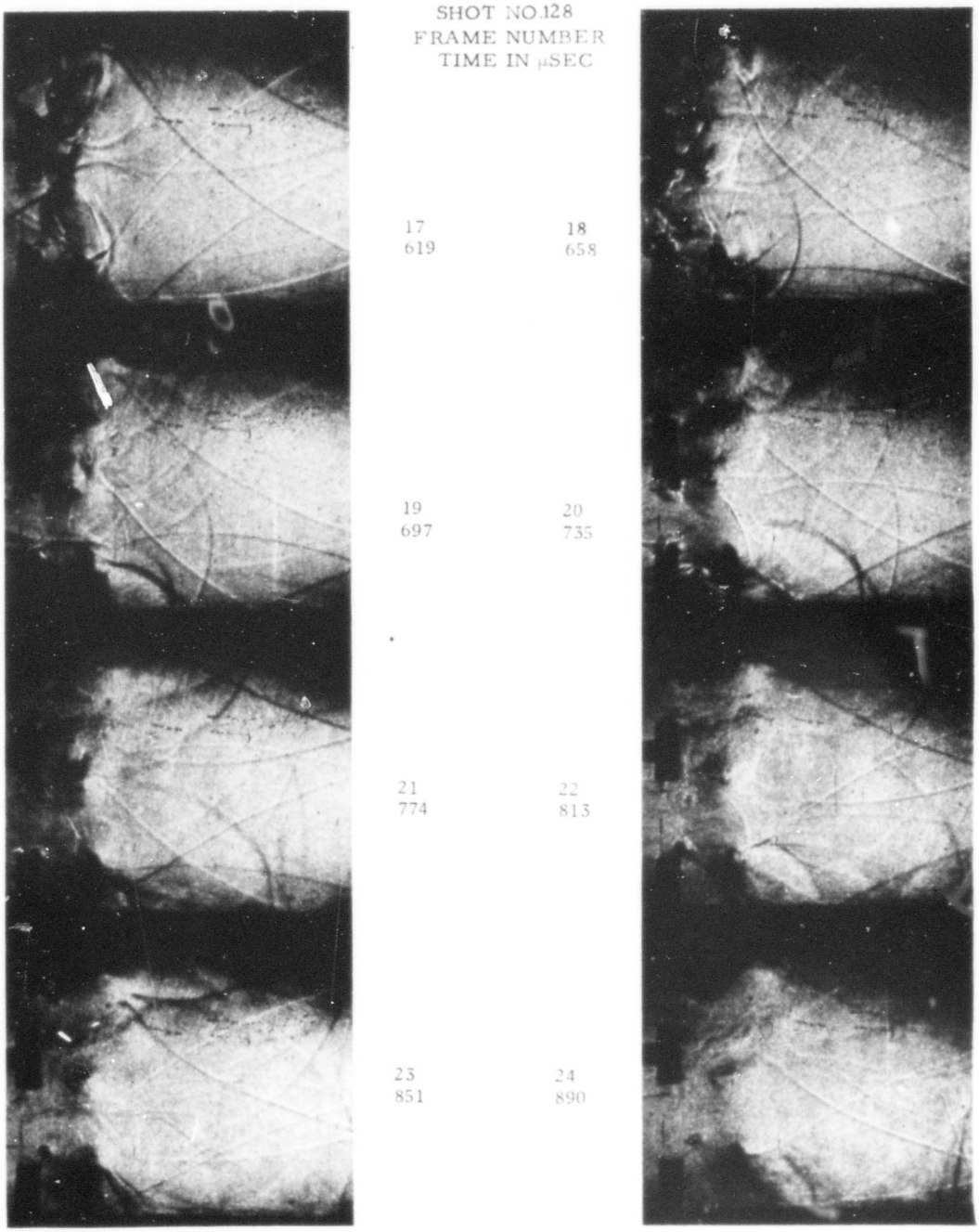


Figure A-17. Model XIV-F, with two 1 in. entrances (Continued)

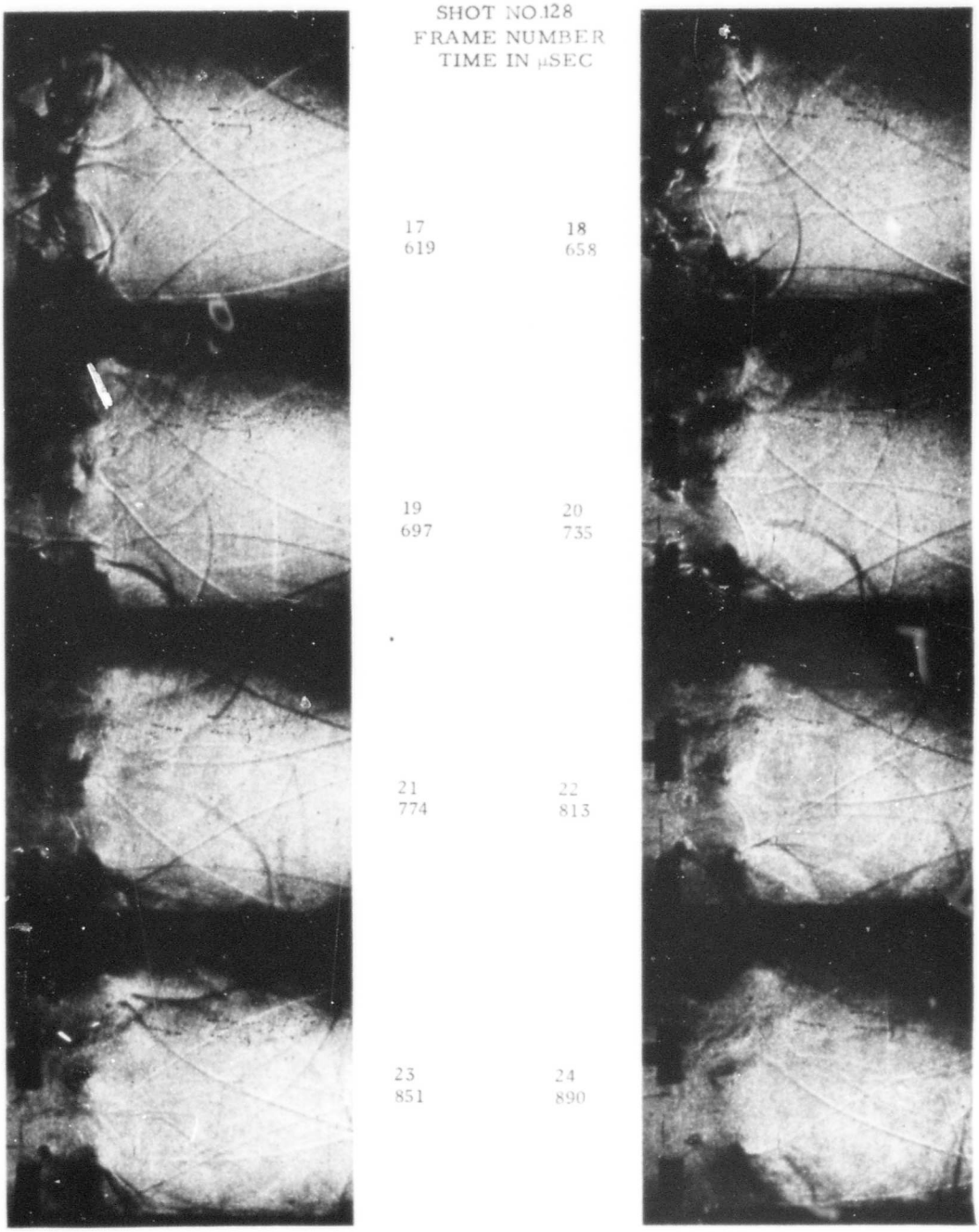


Figure A-17. Model XIV-F, with two 1 in. entrances (Continued)

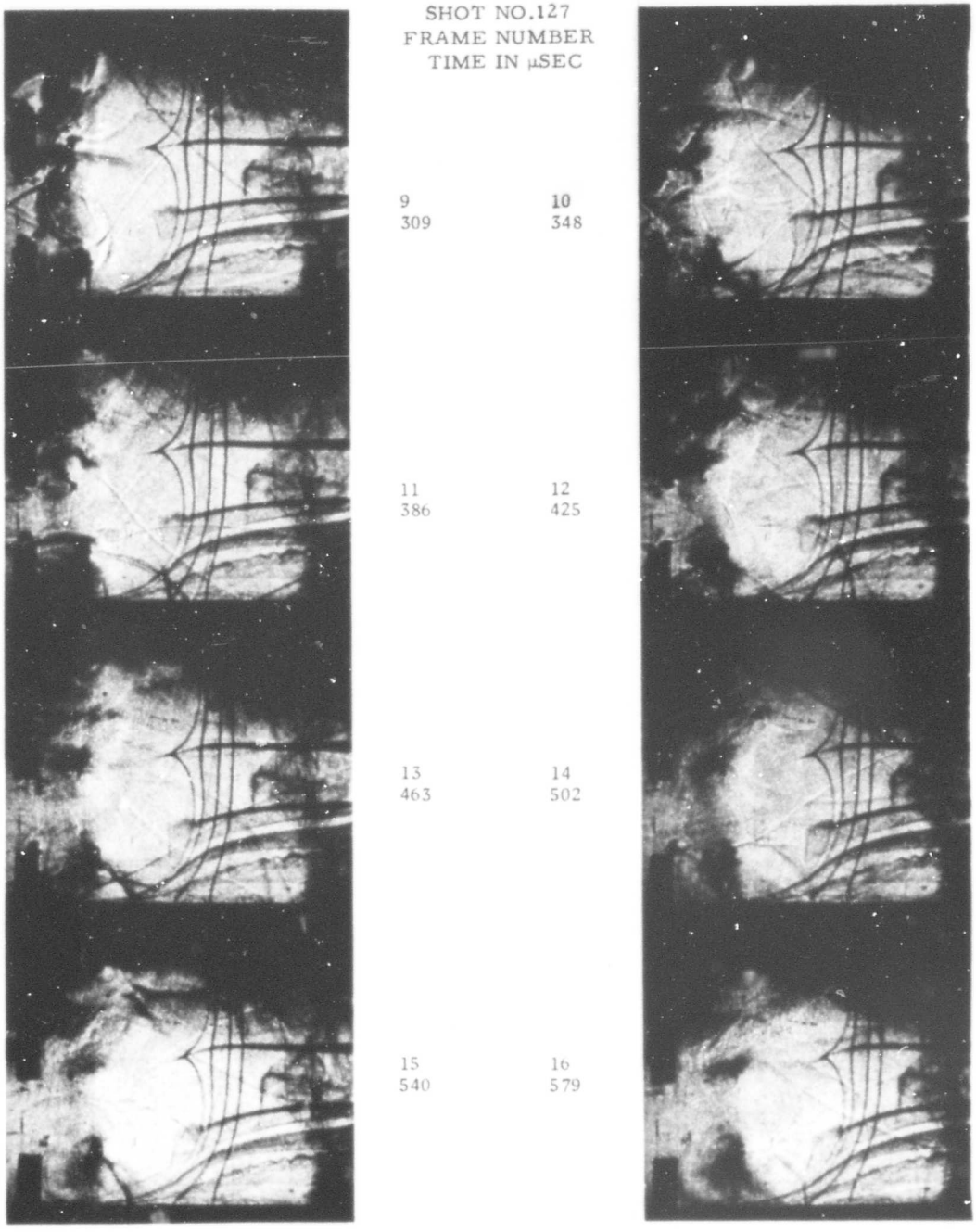


Figure A-18. Model XIV-F, with front grid (Continued)

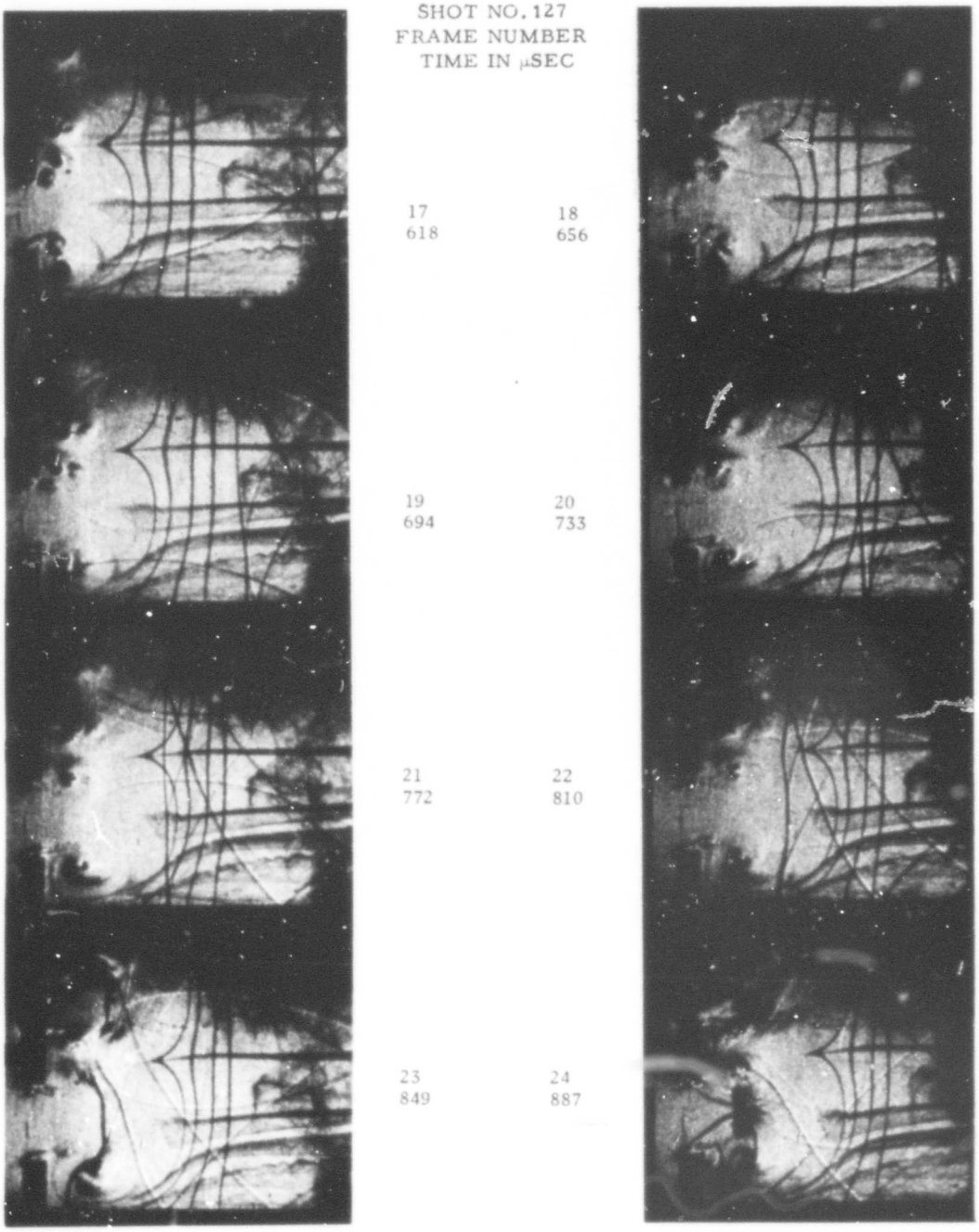


Figure A-18. Model XIV-F, with front grid (Continued)

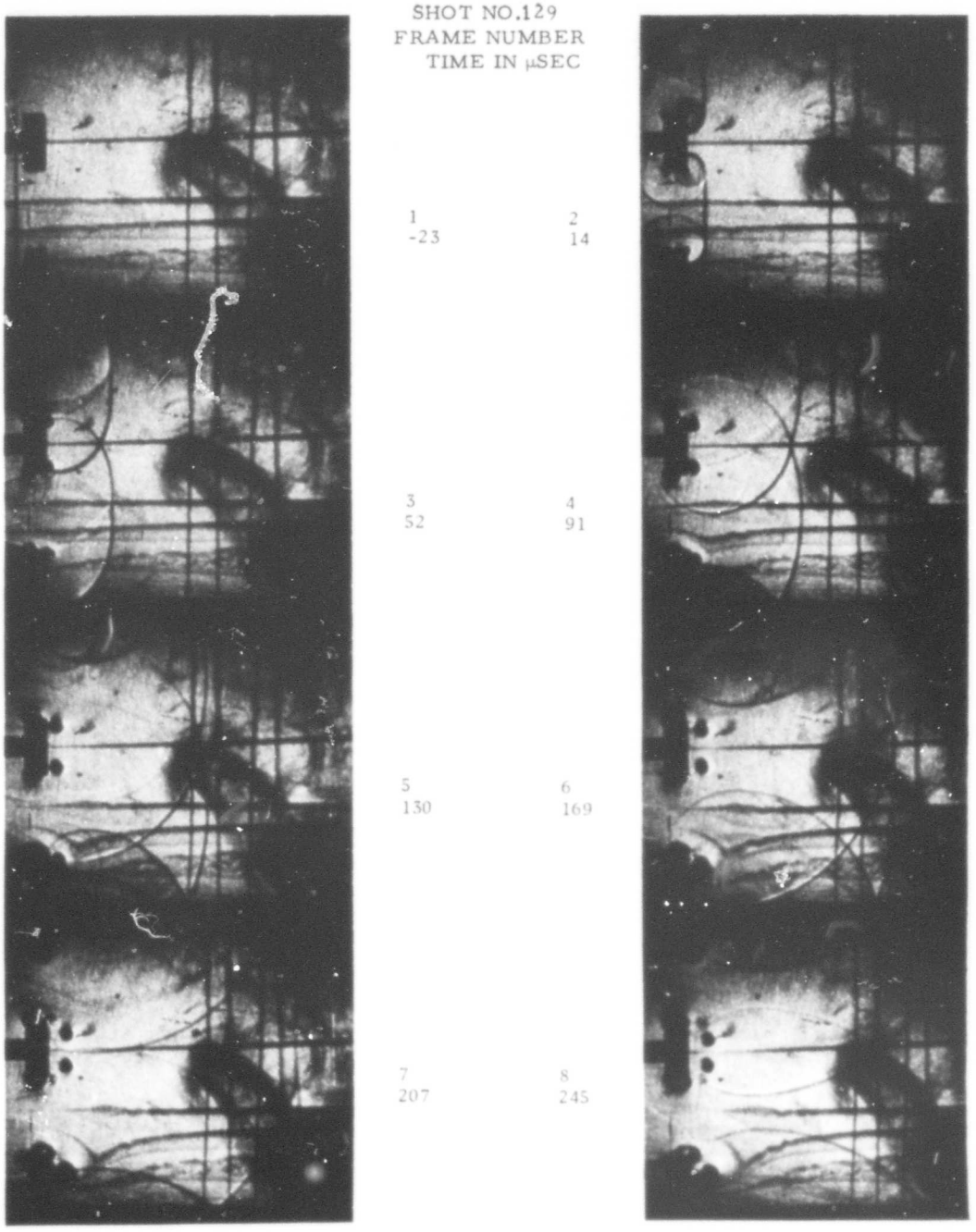


Figure A-19. Model XIV-F, with rear grid

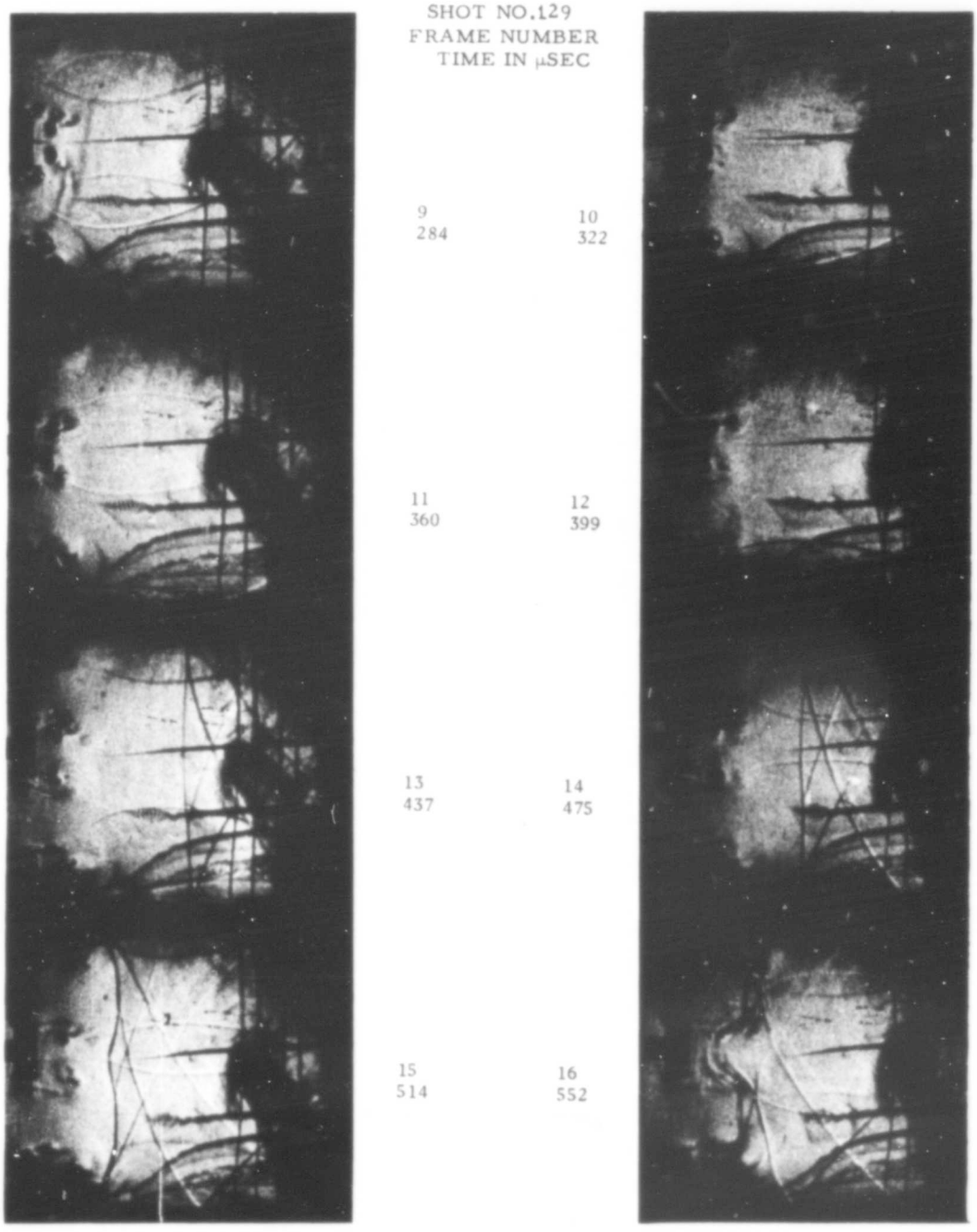


Figure A-19. Model XIV-F, with rear grid (Continued)

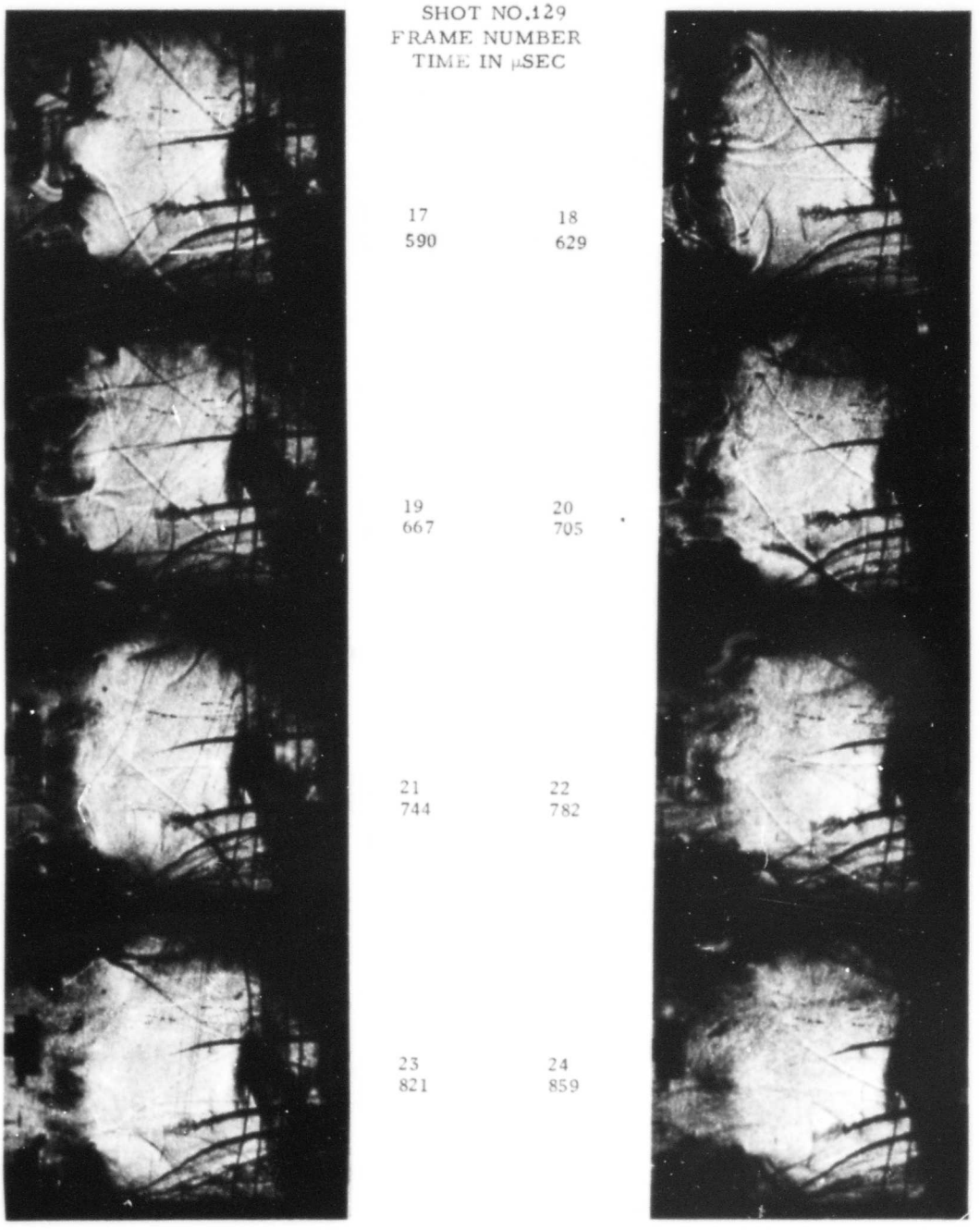


Figure A-19. Model XIV-F, with rear grid (Continued)

APPENDIX B

PRESSURE-TIME RECORDS - THREE-DIMENSIONAL MODELS

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USE OF APPENDIX B

Table B-I lists according to model number the several models and results of the filling of the three-dimensional models used for the experiments. The shot number, input peak overpressure (P_s) maximum pressure to which a model filled (P_{fill}), time of filling, orientation of model (type of fill), and entrance size or other remarks are tabulated for comparison between the models tested.

Figures showing the pressure-time records obtained for the different models are shown ordered in a similar manner as they were in Table B-I.

Table B-I. Results for Three-Dimensional Models

Model No.	Shot No.	P_s, psi	P_{fill} or Loading, psi	Fill Time, msec	Type of fill or Loading	Remarks
I	4	9.8	1.50	56.0	Side-fill	1/2 in. dia entrance
	18	20.8	2.62	61.6		V/A = 435 ft
II	8	10.1	7.76	16.0	Side-fill	2 in. dia entrance
	27	20.8	14.45	18.7		V/A = 27.2 ft
III	11	9.9	1.34	56.0	Stag-fill	1/2 in. dia entrance
	15	20.8	2.68	63.3		V/A = 435 ft
IV	21	10.1	9.24	16.0	Stag-fill	2 in. dia entrance
	24	20.7	20.4	18.4		V/A = 27.2 ft
V	30	10.5	14.0	1.5	Front-fill	Model placed in shock
	33	20.6	31.3	4.0		tube
	31	10.4	8.5	3.1	Side-fill	V/A = 1.65 ft
	34	20.5	13.0	8.5		1.2 x 2.7 in. model
	32	10.4	11.0	2.0	Rear-fill	entrance
	35	20.4	17.0	0.8		
VI	36	10.2	8.7	16.0	Front-fill	V/A = 27.4 ft
	39	20.6	17.9	19.0		3 x 0.65 in.
	37	10.3	6.2	18.0	Side-fill	model entrance
	40	20.8	9.6	23.0		
	38	10.3	7.3	16.0	Rear-fill	
	41	20.6	12.1	19.5		
	71-A	5.3	5.3	13.7	Front-fill	
	72	10.2	9.4	15.8		
	73	19.6	18.2	17.2		

Table B-I. Results for Three-Dimensional Models (Continued)

Model No.	Shot No.	P_s, psi	P_{fill} or Loading, psi	Fill Time msec	Type of Fill or Loading	Remarks
VII	42	10.4	6.6	24.6	Front-fill	Two - 4 in. cubic rooms, each
			6.8	25.6		
	43	10.5	5.5	24.0	Side-fill	V/A = 27.4 ft
			5.7	24.8		0.3 x 0.65 in.
	44	10.9	6.6	24.5	Rear-fill	model entrances
			6.1	23.5		
	45-B	20.5	10.9	28.8	Front-fill	
			12.3	29.5		
	46-A	20.7	7.8	26.3	Side-fill	
			8.7	27.7		
	47	20.6	9.3	28.6	Rear-fill	
			10.2	27.4		
	152	10.3	6.6	23.1	Front-fill	V/A = 27.4 ft
			7.0	21.8		0.3 x 0.65 in., in-line model entrances
	154	10.3	7.3	19.3		Entrances not in-line
			7.1	21.2		
	155	10.4	6.4	20.4		No partion one room, V/A = 54.8 ft
			6.5	22.7		
VIII	63	5.4	14.5, 5.9	----	Front-loading	Peak and average stagnation load at center of outside surfaces of 4.5 in. cube
			6.3, 4.3		Top	
	63-A	5.4	6.3, 4.9	----	Rear	
			6.2, 4.5	----	Side	
	64-A	10.2	27.1, 12.7	----	Front-loading	
			9.4, 7.7	----	Top	

Table B-I. Results for Three-Dimensional Models (Continued)

Model No.	Shot No.	P_s, psi	P_{fill} or Loading, psi	Fill Time, msec	Type of Fill or Loading	Remarks
	64	10.2	11.0, 9.5	----	Rear	
			11.0, 8.0	----	Side	
	65-A	20.8	48.4, 25.0	----	Front loading	
			16.6, 12.0	----	Top	
	65-A	20.8	21.7, 14.5	----	Rear	
			21.8, 11.0	----	Side	
IX	74	19.4	13.4	30.8	Front-fill	Two entrances,
	75	10.7	6.9	23.6		0.15 x 0.325 in.,
	76	5.5	4.0	19.8		spaced 1.33 in. apart,
						V/A = 54.8 ft
X	68	5.4	12.0, 6.0	----	Front loading	4.5 in. cube, 4.5 in.
			6.2, 5.4	----	Top	downstream from
			6.5, 5.0	----	Rear	4.5 x 4.5 x 8.75 in.
			7.0, 5.2	----	Side	shield. Peak and
	69-A	20.3	41.6, 11.5	----	Front loading	average stagnation
			23.6, 16.5	----	Top	load at center of out-
	69		22.2, 17.0	----	Rear	side surface
			27.1, 15.0	----	Side	
	70	10.7	19.5, 8.0	----	Front loading	
			12.8, 10.0	----	Top	
			11.0, 9.5	----	Rear	
			14.5, 9.5	----	Side	
	54-A	5.0	3.9	14.7	Front-fill	Gage position in
	55	5.0	4.0	15.5	Side	center of bottom
	56	5.1	4.1	14.6	Rear	inside model,
	57	10.0	7.6	17.7	Front-fill	V/A = 27.4 ft
	58	10.2	7.5	18.1	Side	

Table B-I. Results for Three-Dimensional Models (Continued)

Model No.	Shot No.	P_s, psi	P_{fill} or Loading, psi	Fill Time, msec	Type of Fill or Loading	Remarks
	59	10.5	6.8	17.7	Rear	
	60	19.4	10.1	19.4	Front-fill	
	61	20.8	11.5	25.3	Side	
	62	20.8	12.6	19.0	Rear	
XI	78	10.6	9.4	13.1	Front-fill	Two entrances, 0.3 x 0.325 in., spaced 1.33 in. apart, V/A = 27.4 ft
	79	20.2	17.6	17.6		
	80	5.5	5.3	13.7		
XII	82	10.1	(2)22.7, 11.5	----	Ground loading	Peak and average ground loading upstream of 4.5 in. cube. See Figure 6 in body of report for gage positions ( ) refers to gage positions
			(3)23.5, 11.5			
			(4)23.3, 11.5			
			(5)24.0, 12.6			
			(6)22.9, 11.5			
	83	19.3	(2)47.0, 25.5			
			(3)52.3, 24.0			
			(4)52.7, 25.5			
			(5)46.8, 21.5			
			(6)61.7, 26.0			
	84	5.3	(2)11.6, 5.5			
			(3)11.6, 5.5			
			(4)11.5, 5.5			
			(5)10.9, 5.2			
			(6)11.8, 5.5			
	85	5.3	(2)11.8, 5.0			
			(3)11.5, 5.6			
			(4)11.1, 5.2			0.3 x 0.65 in. entrance in front of model
			(5)10.5, 5.5			
			(6)11.5, 5.5			

Table B-I. Results for Three-Dimensional Models (Continued)

Model No.	Shot No.	P_s, psi	P_{fill} or Loading, psi	Fill Time, msec	Type of Fill or Loading	Remarks
	86	10.1	(2)22.5, 11.5			
			(3)23.9, 11.7			
			(4)22.9, 11.9			
			(5)19.9, 11.0			
			(6)18.4, 12.4			
	87	19.9	(2)47.4, 25.0			
			(3)54.5 26.0			
			(4)55.5, 28.0			
			(5)45.9, 21.5			
			(6)56.3, 29.0			
	88	19.8	(2)40.6, 27.5		Ground loading	Peak and average ground laoding upstream of 4.5 in. cube. 1.2 x 2.7 in. entrance in front of model
			(3)45.8, 27.0			
			(4)45.9, 28.0			
			(5)36.9, 26.0			
			(6)36.6, 28.5			
	89	5.8	(2)10.9, 6.0			
			(3)10.7, 6.0			
			(4) 9.4, 5.2			
			(5) 7.8, 5.5			
			(6) 7.6, 5.5			
	90	10.6	(2)19.0, 11.5			
			(3)21.8, 12.0			
			(4)20.3, 12.0			
			(5)16.5, 11.5			
			(6)16.6, 11.5			

Table B-I. Results for Three-Dimensional Models (Continued)

Model No.	Shot No.	P_s, psi	P_{fill} or Loading, psi	Fill Time, msec	Type of Fill or Loading	Remarks
XIII	97	5.6	5.0	15.6	Front and rear fill	0.3 x 0.325 in. entrance front and rear, V/A = 27.4 ft
	98	10.6	8.5	15.8		
	99	20.5	14.4	21.3		
XV	100	4.8	4.7	15.5	Front-fill	Field model, 0.702' x 1.403' entrance to 3 - ft cu, V/A = 27.4 ft

Table B-I. Results for Three-Dimensional Models (Continued)

Model No.	Shot No.	P_s, psi	P_{fill} or Loading, psi	Fill Time, msec	Type of Fill or Loading	Remarks
	86	10.1	(2)22.5, 11.5 (3)23.9, 11.7 (4)22.9, 11.9 (5)19.9, 11.0 (6)18.4, 12.4			
	87	19.9	(2)47.4, 25.0 (3)54.5 26.0 (4)55.5, 28.0 (5)45.9, 21.5 (6)56.3, 28.0			
	88	19.8	(2)40.6, 27.5 (3)45.8, 27.0 (4)45.9, 28.0 (5)36.9, 26.0 (6)36.6, 28.5		Ground loading	Peak and average ground laoding upstream of 4.5 in. cube. 1.2 x 2.7 in. entrance in front of model
	89	5.8	(2)10.9, 6.0 (3)10.7, 6.0 (4) 9.4, 5.2 (5) 7.8, 5.5 (6) 7.6, 5.5			
	90	10.6	(2)19.0, 11.5 (3)21.8, 12.0 (4)20.3, 12.0 (5)16.5, 11.5 (6)16.6, 11.5			

Table B-I. Results for Three-Dimensional Models (Continued)

Model No.	Shot No.	P_s, psi	P_{fill} or Loading, psi	Fill Time, msec	Type of Fill or Loading	Remarks
XIII	97	5.6	5.0	15.6	Front and rear fill	0.3 x 0.325 in. entrance front and rear, V/A = 27.4 ft
	98	10.6	8.5	15.8		
	99	20.5	14.4	21.3		
XV	100	4.8	4.7	15.5	Front-fill	Field model, 0.702' x 1.403' entrance to 3 - ft cu, V/A = 27.4 ft

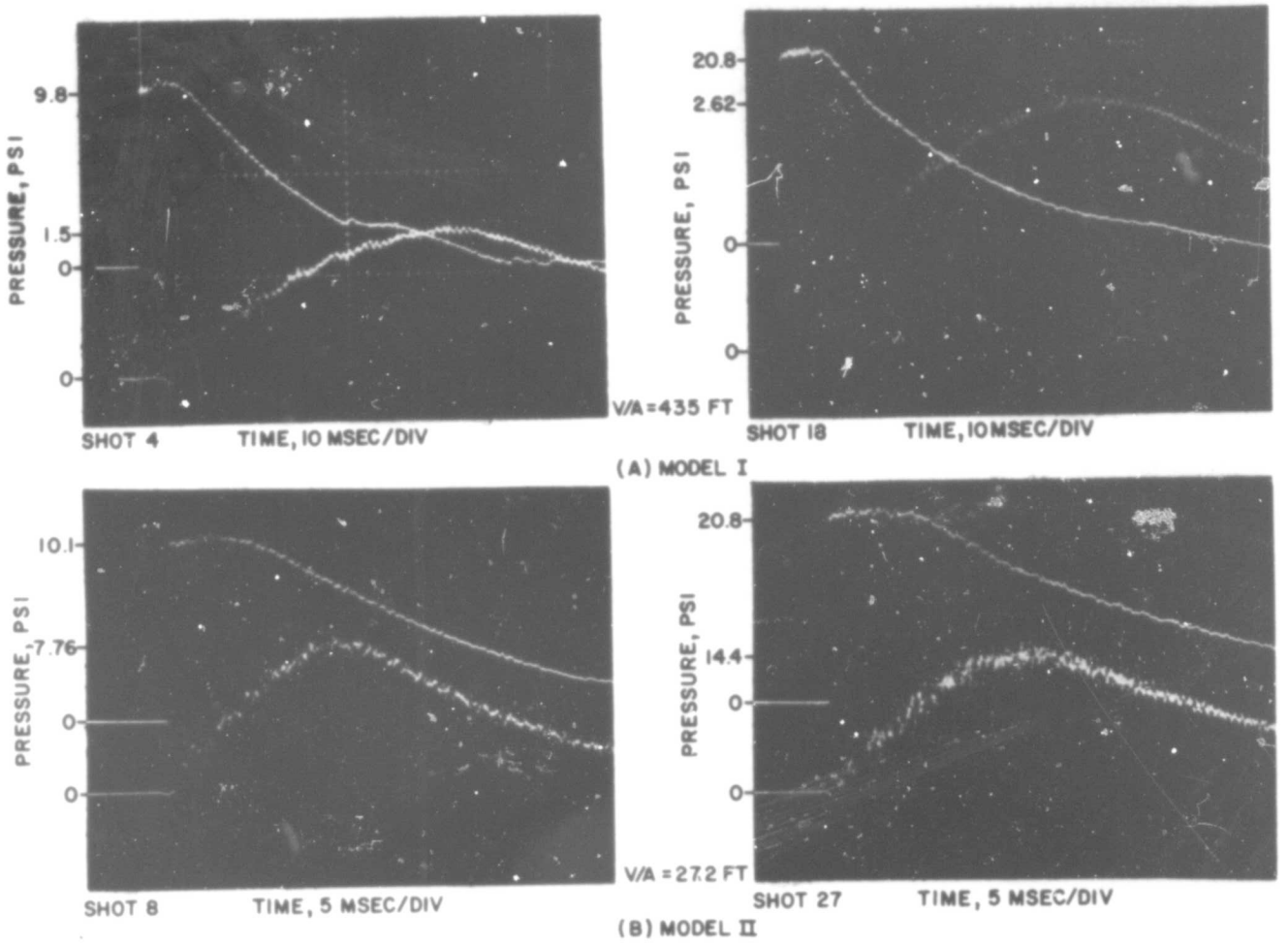


Figure B-1. Models I and II outside shock tube, side-on filled

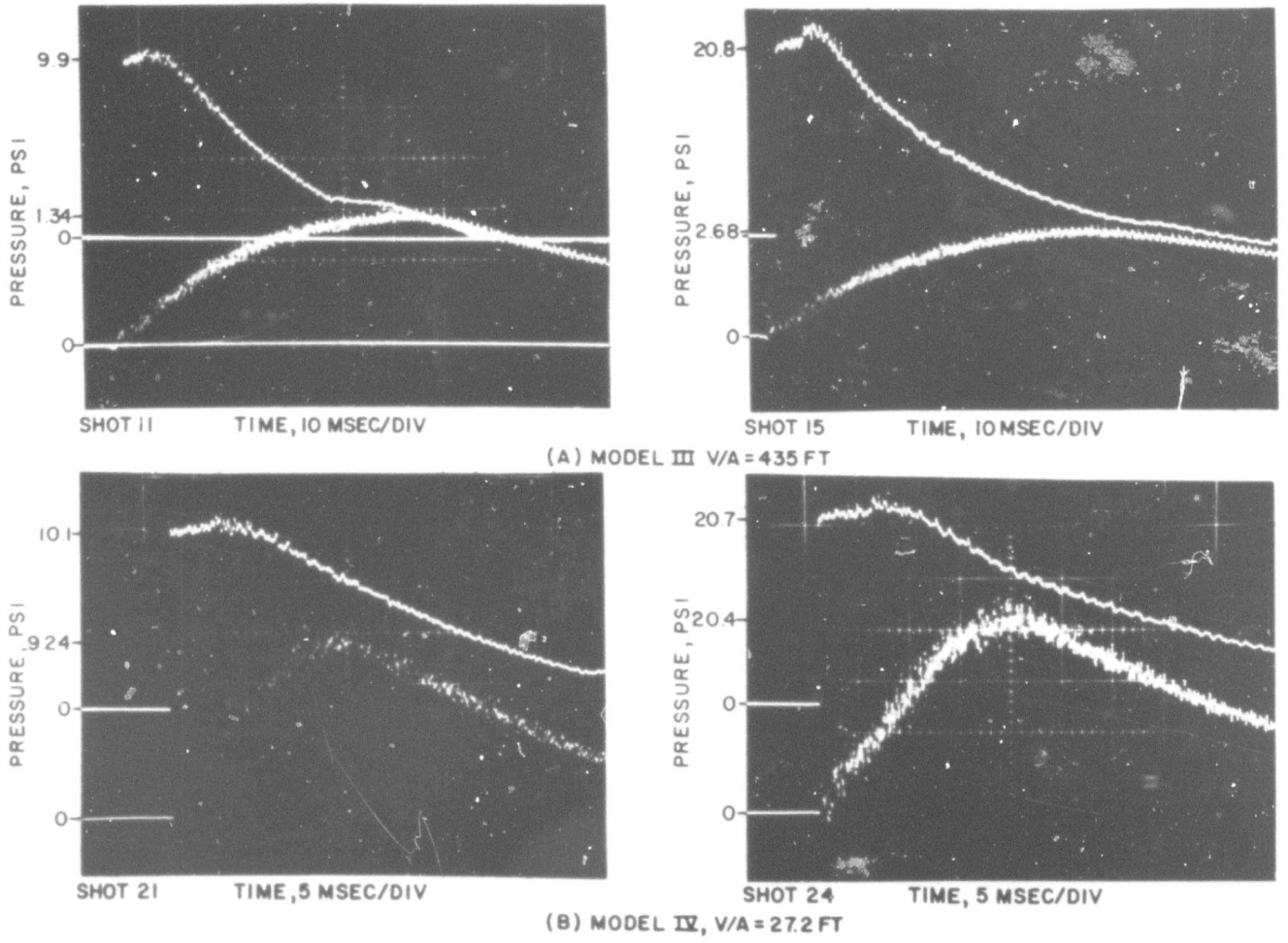


Figure B-2. Models III and IV outside of shock tube, filled from stagnation blocks

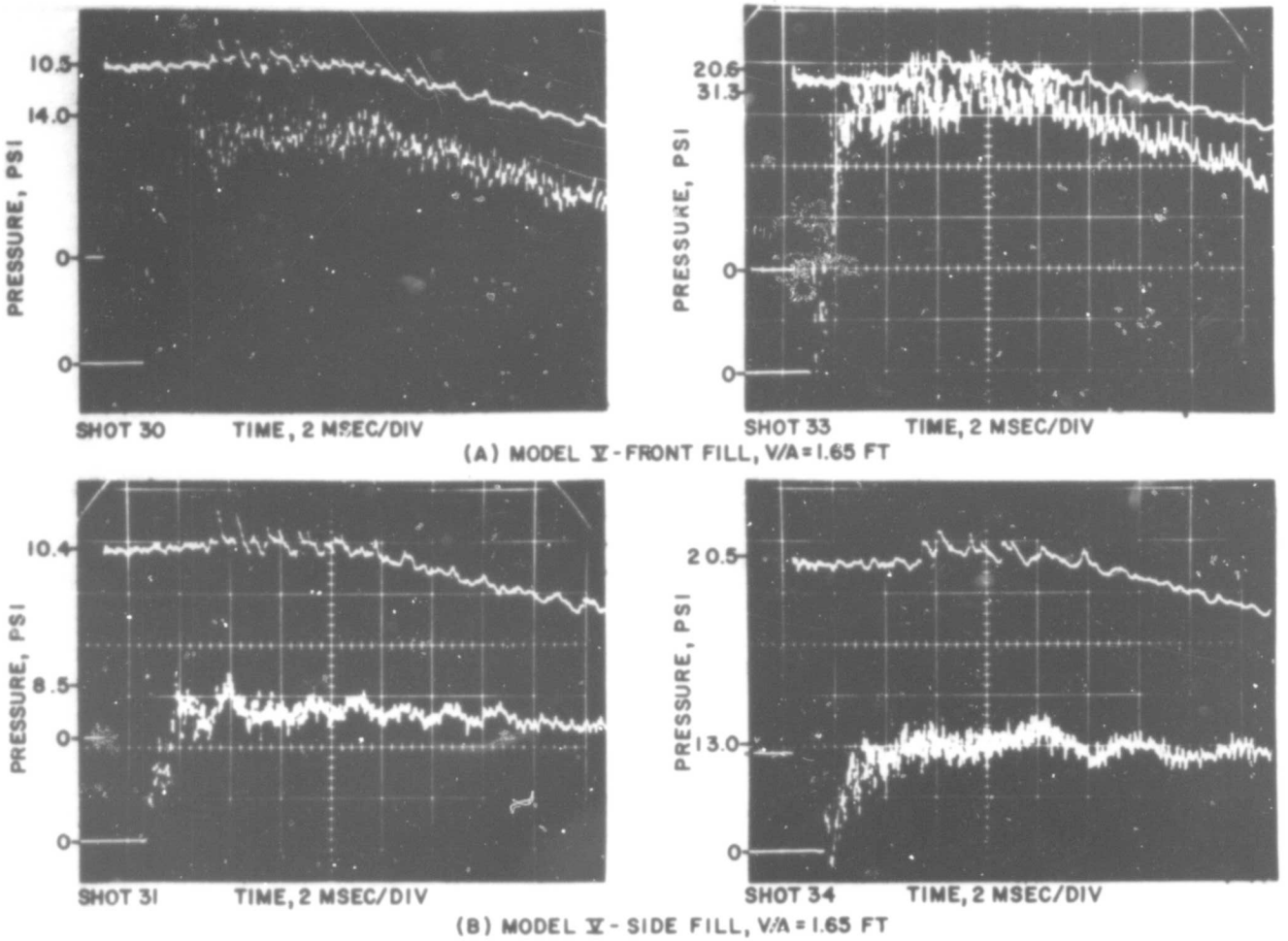
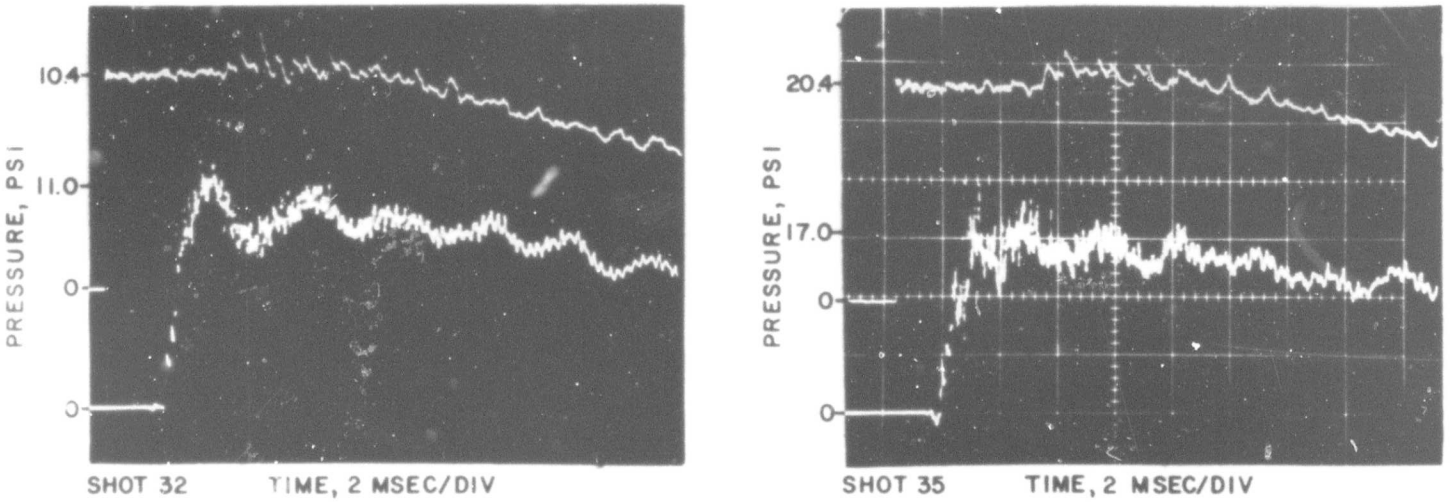


Figure B-3. Front, side, or rear fill of Model V, V/A = 1.65 ft



(C) MODEL V - REAR FILL, V/A = 1.65 FT

Figure B-3. Front, side, or rear fill of Model V, V/A = 1.65 ft (Continued)

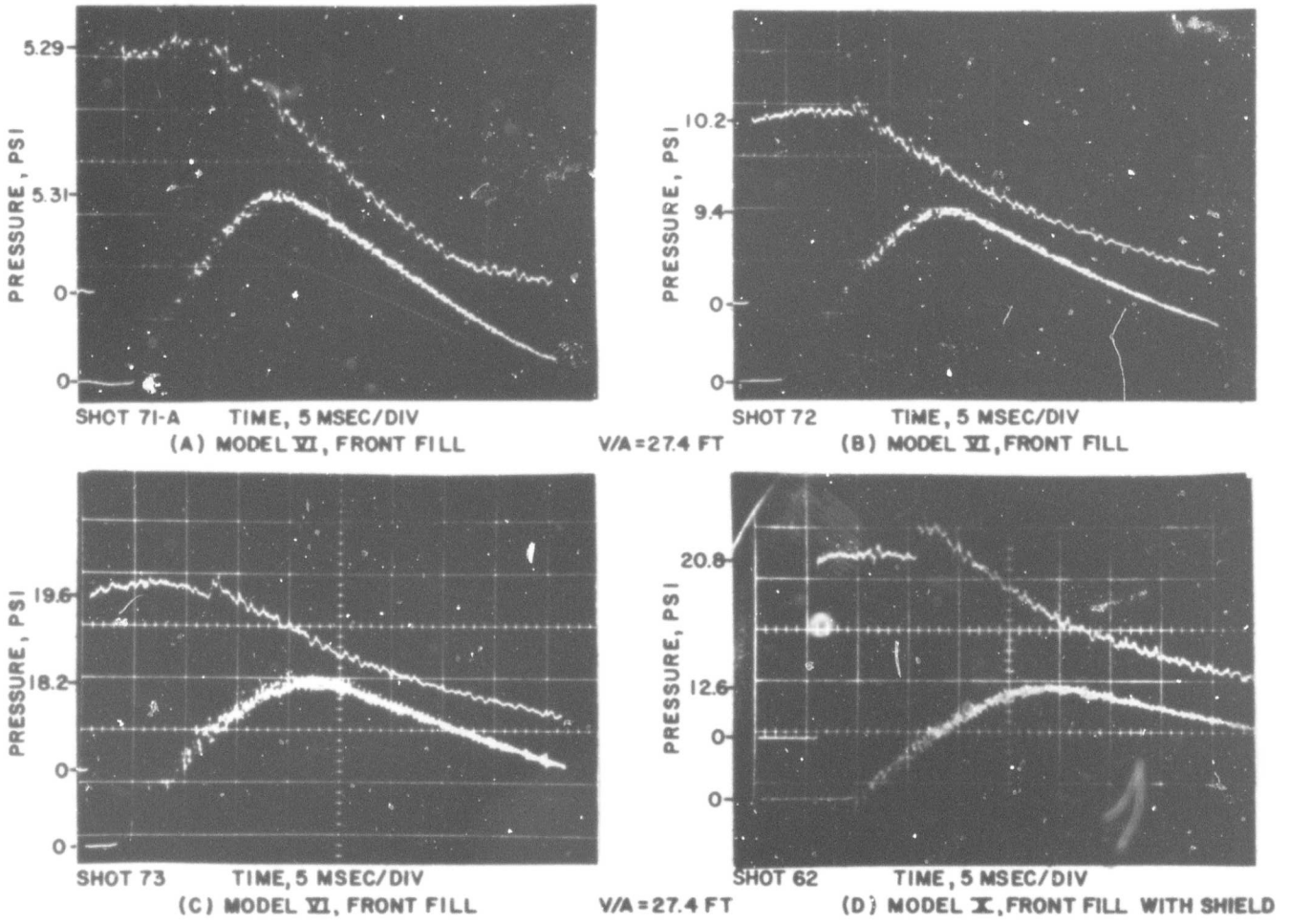
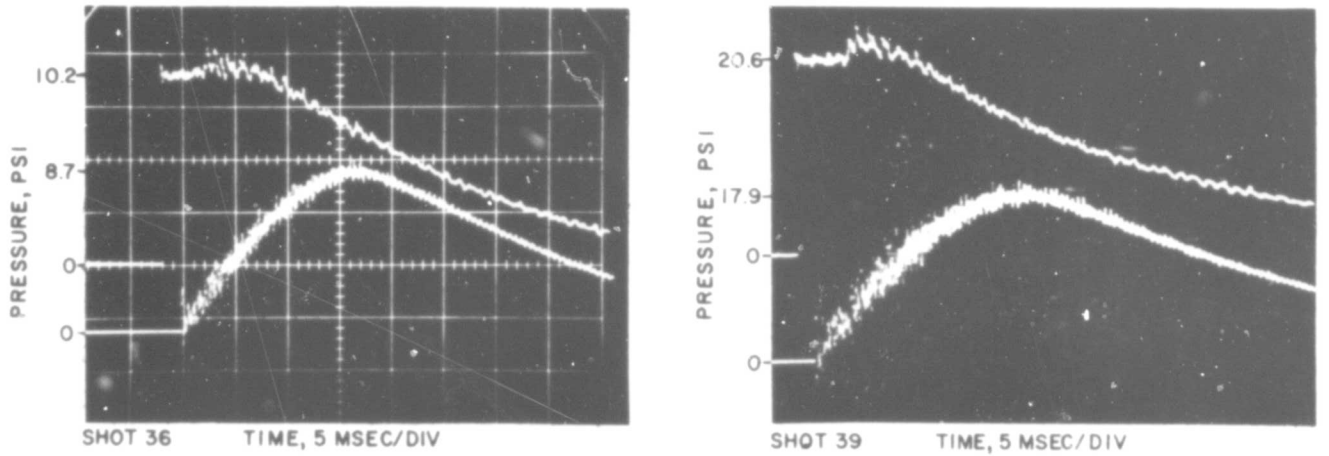
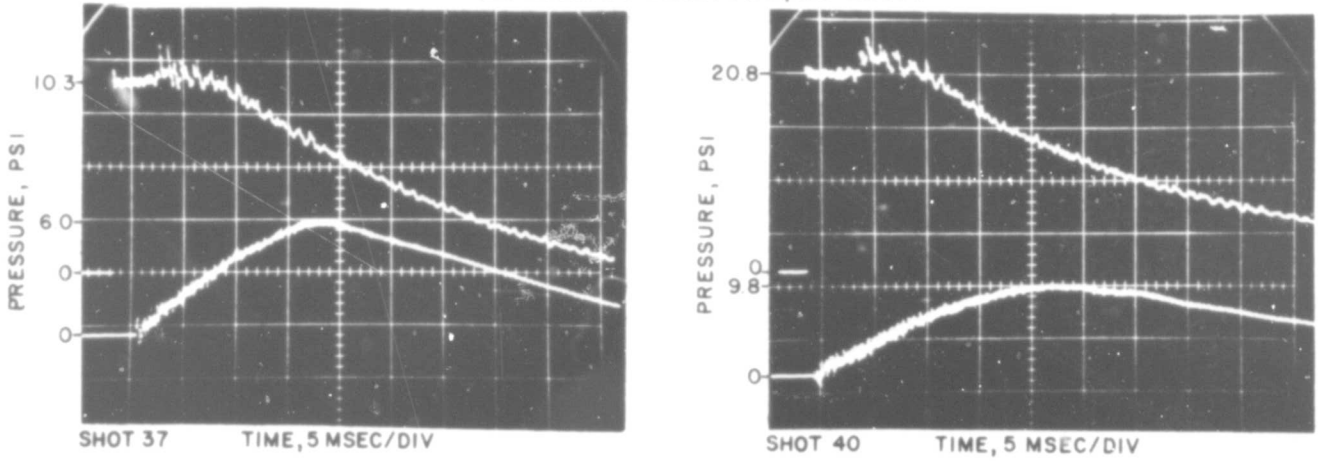


Figure B-4. Front or side fill of Model VI, V/A = 27.4 ft



(E) MODEL VI - FRONT FILL, V/A = 27.4 FT



(F) MODEL VI - SIDE FILL, V/A = 27.4 FT

Figure B-4. Front or side fill of Model VI, V/A = 27.4 ft (Continued)

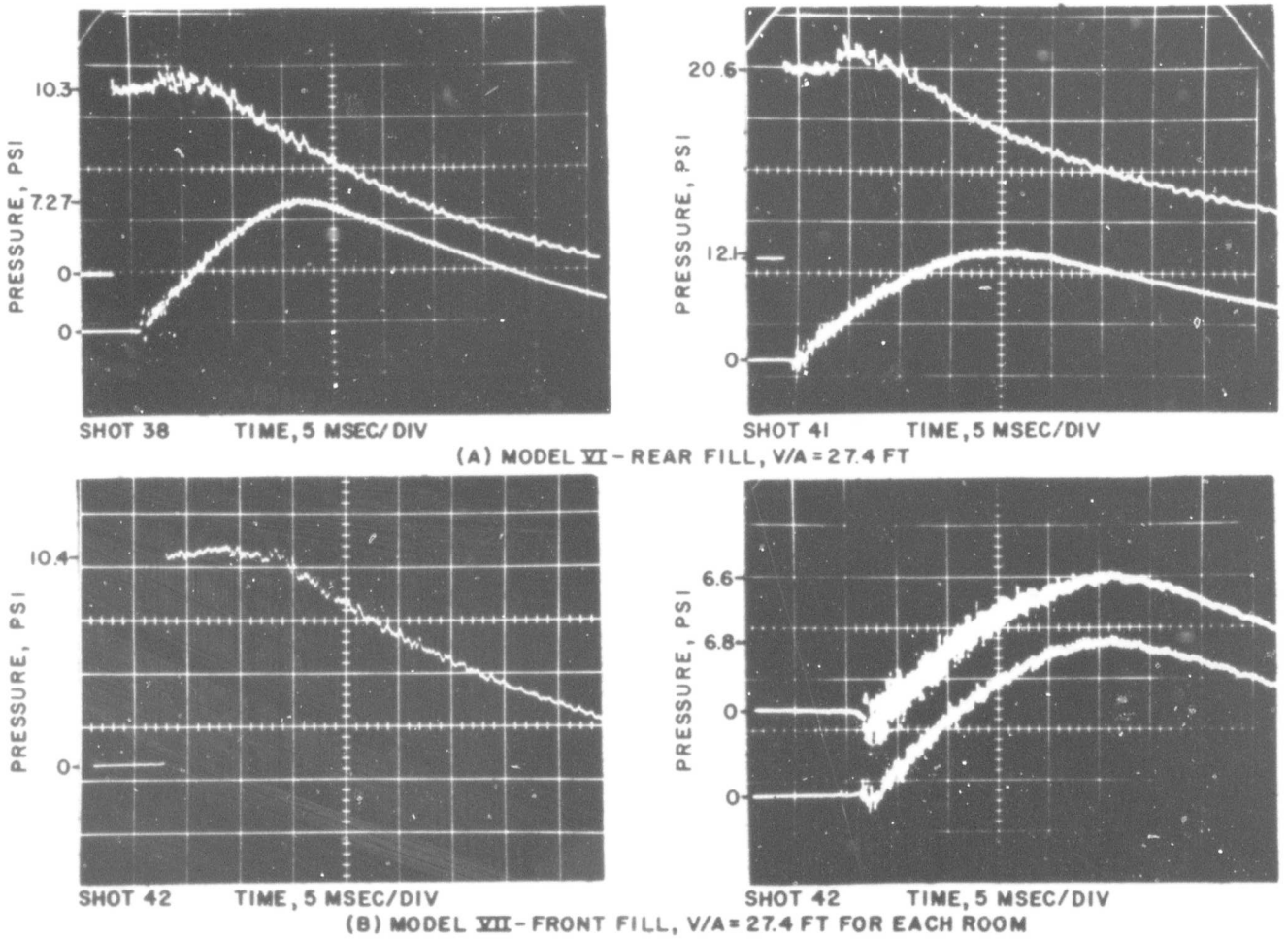
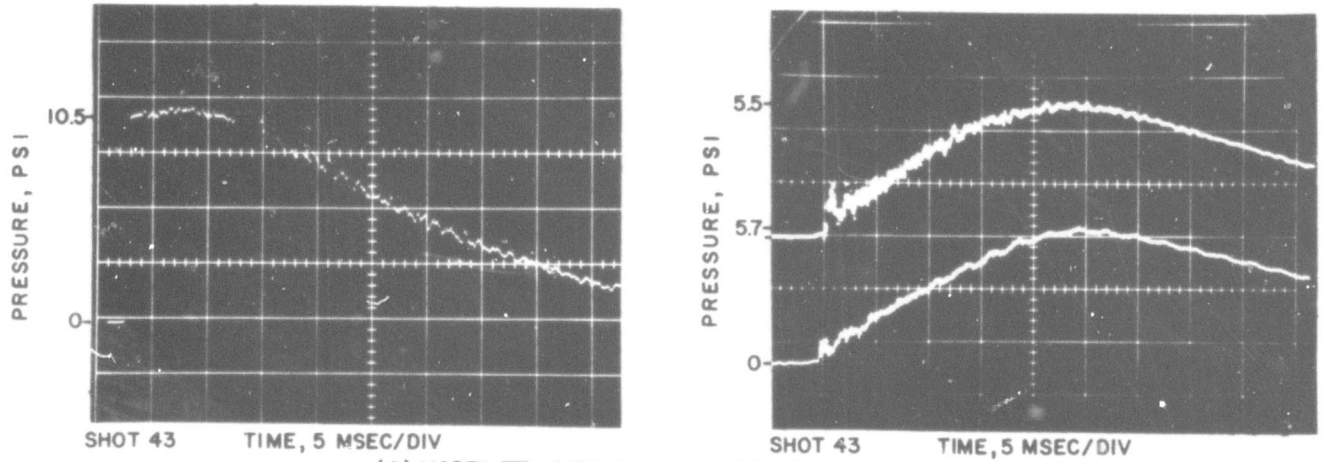
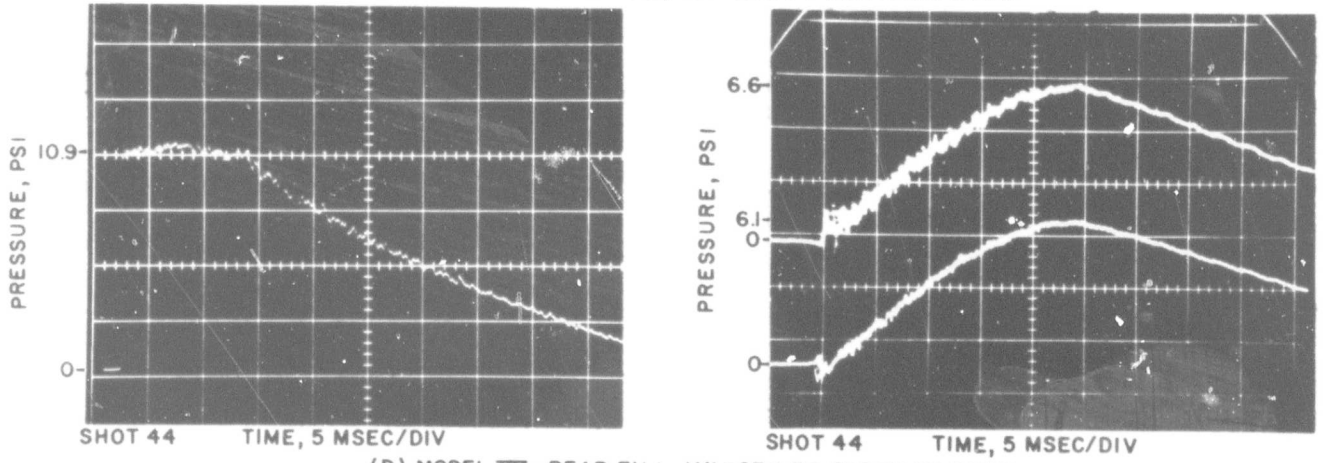


Figure B-5. Rear fill of Model VI; front, side, or rear fill of Model VII - two rooms

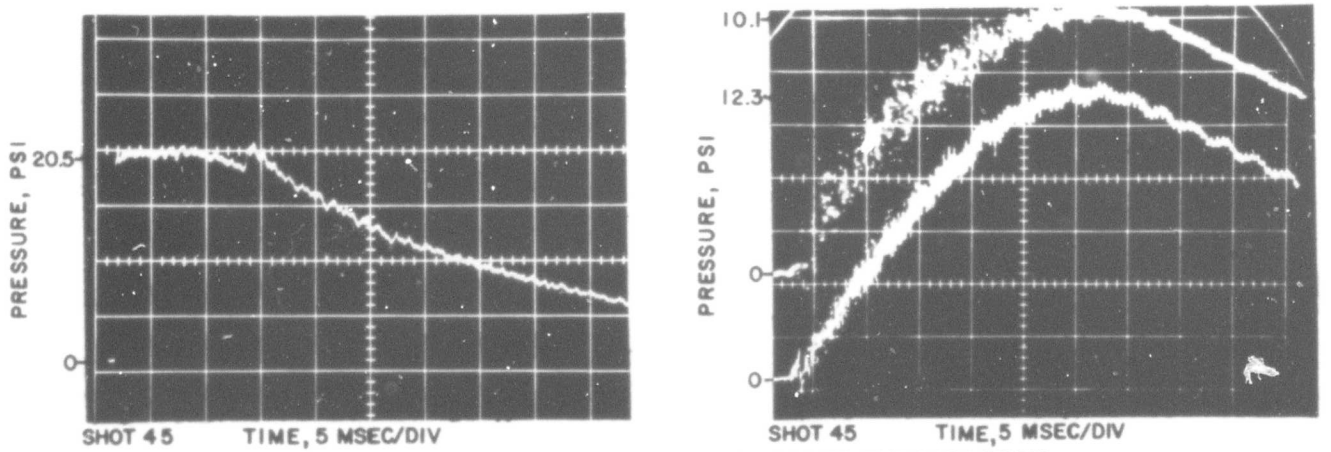


(C) MODEL VII - SIDE FILL, V/A = 27.4 FT FOR EACH ROOM

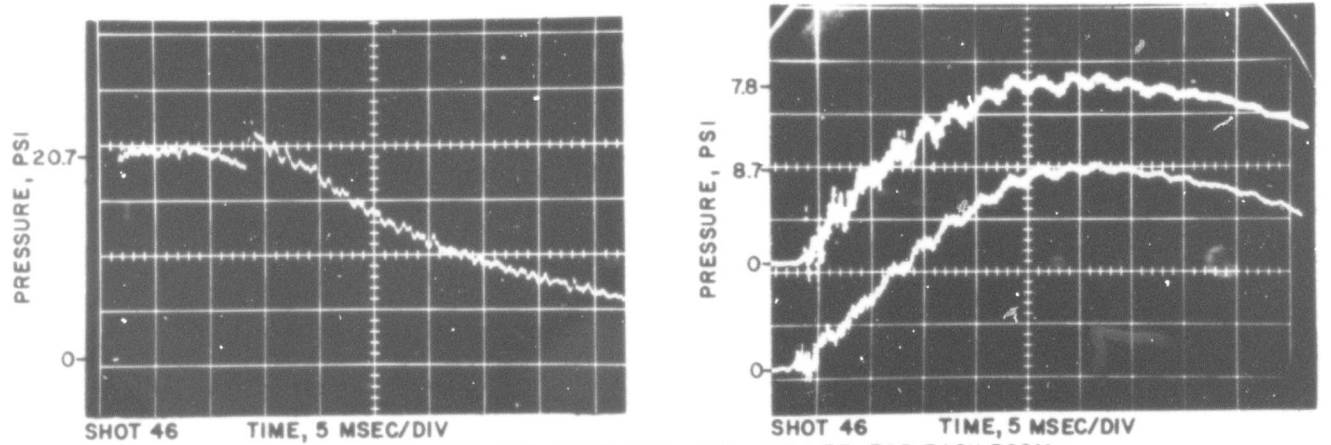


(D) MODEL VII - REAR FILL, V/A = 27.4 FT FOR EACH ROOM

Figure B-5. Rear fill of Model VI; front, side, or rear fill of Model VII - two rooms (Continued)



(E) MODEL VII - FRONT FILL, V/A = 27.4 FT. FOR EACH ROOM



(F) MODEL VII - SIDE FILL, V/A = 27.4 FT. FOR EACH ROOM

Figure B-5. Rear fill of Model VI; front, side, or rear fill of Model VII - two rooms (Continued)

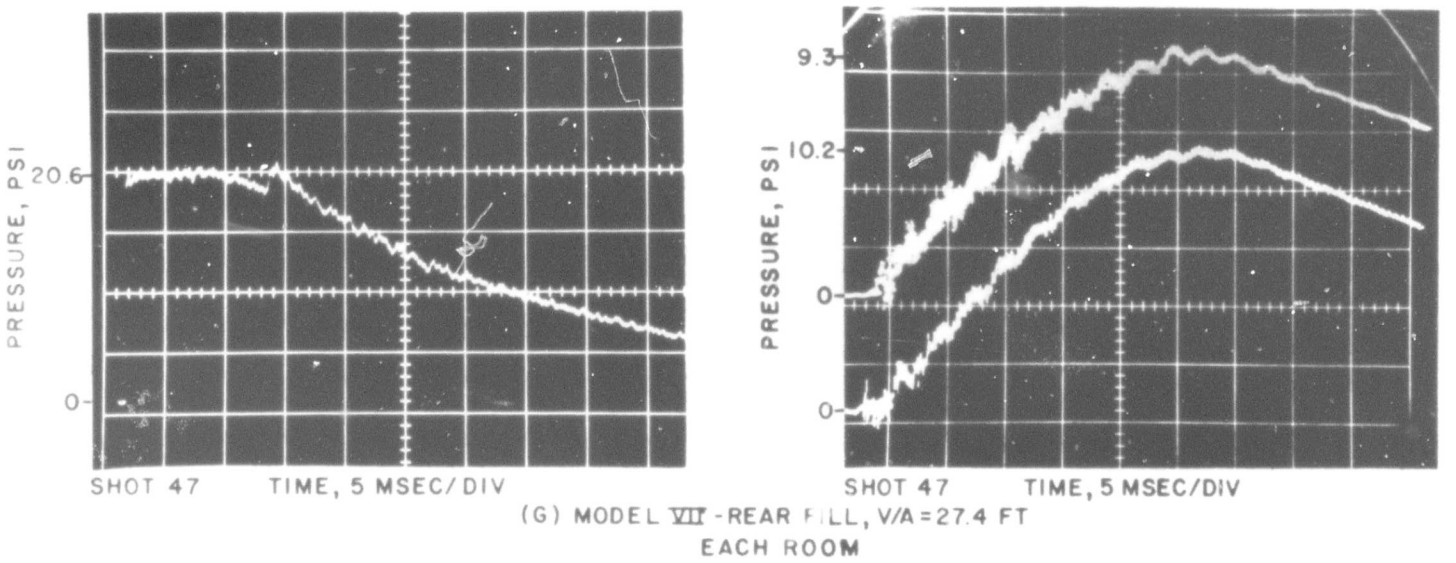


Figure B-5. Rear fill of Model VI; front, side, or rear fill of Model VII - two rooms (Continued)

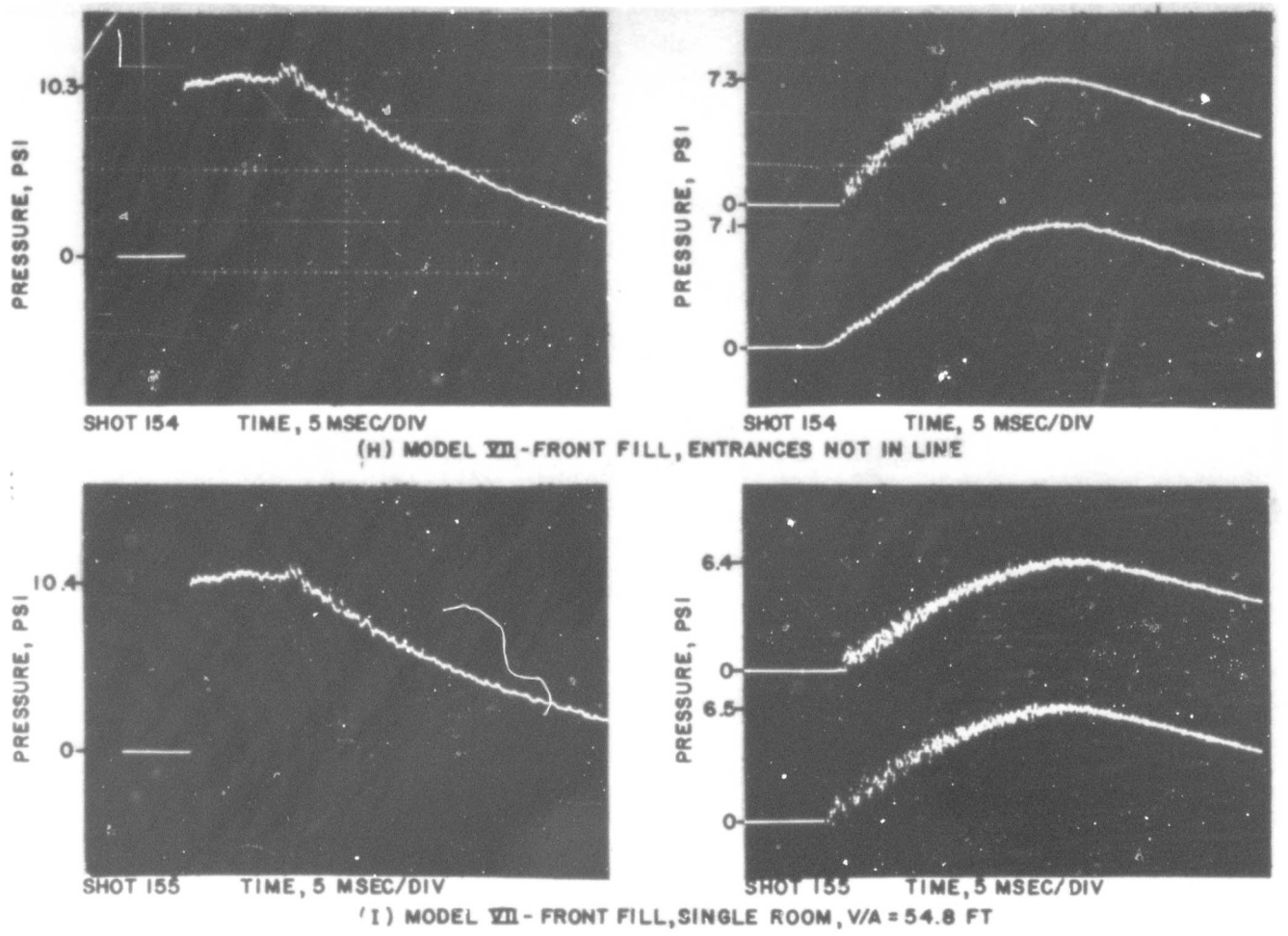


Figure B-5. Rear fill of Model VI; front, side, or rear fill of Model VII - two rooms (Continued)

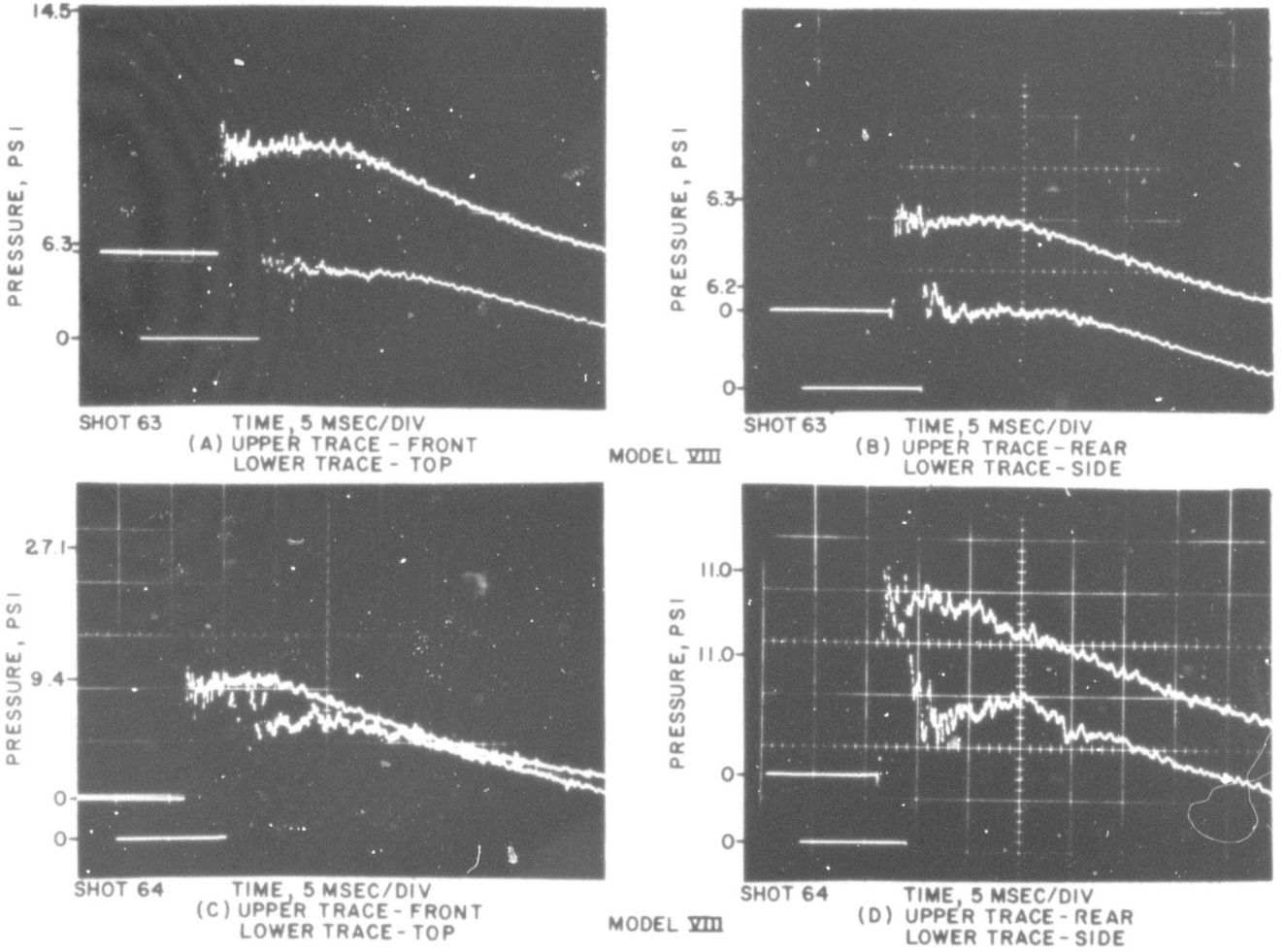


Figure B-6. Outside loading at center of each surface 4.5 in. cube - Model VIII

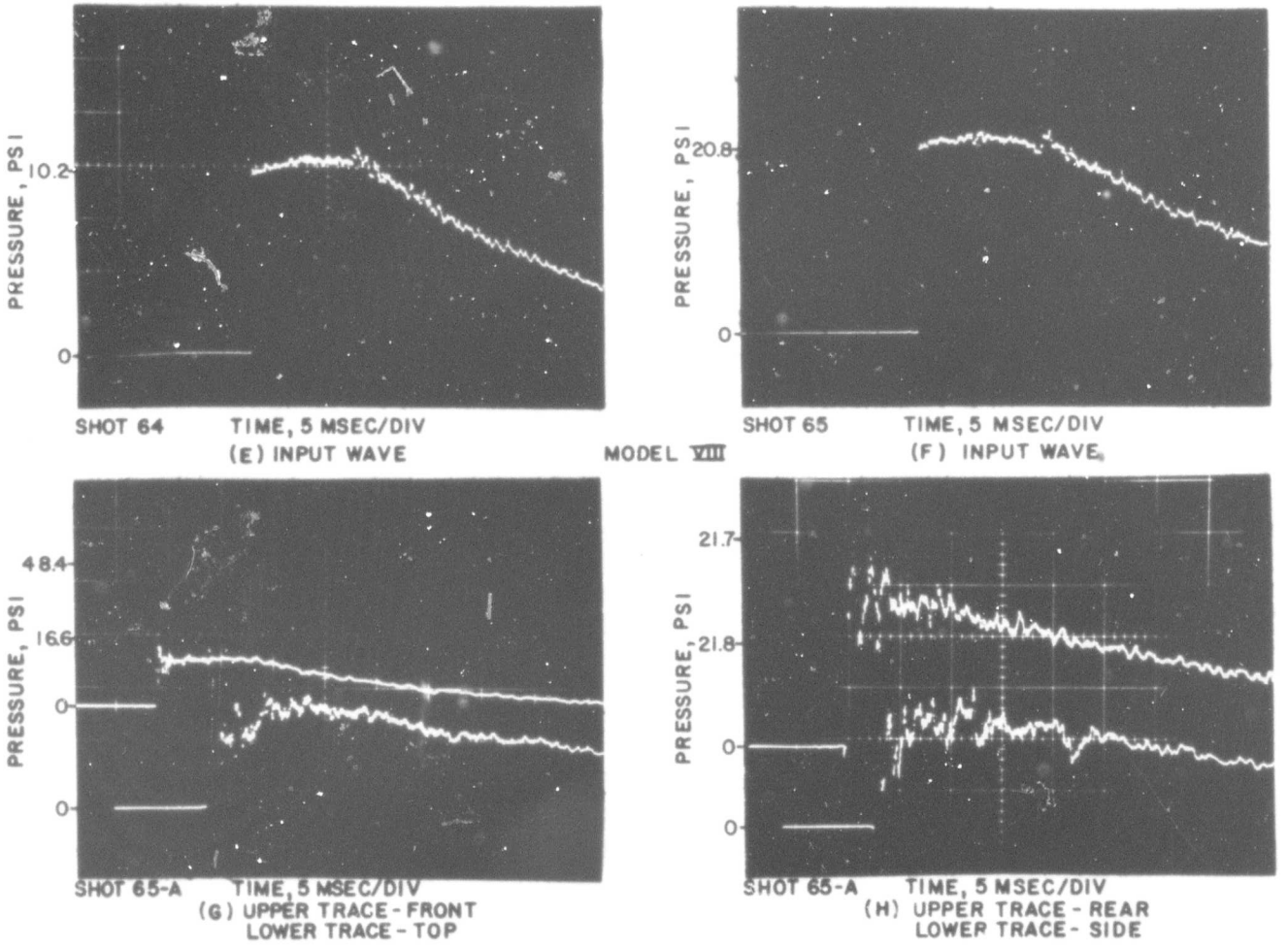


Figure B-6. Outside loading at center of each surface 4.5 in. cube - Model VIII (Continued)

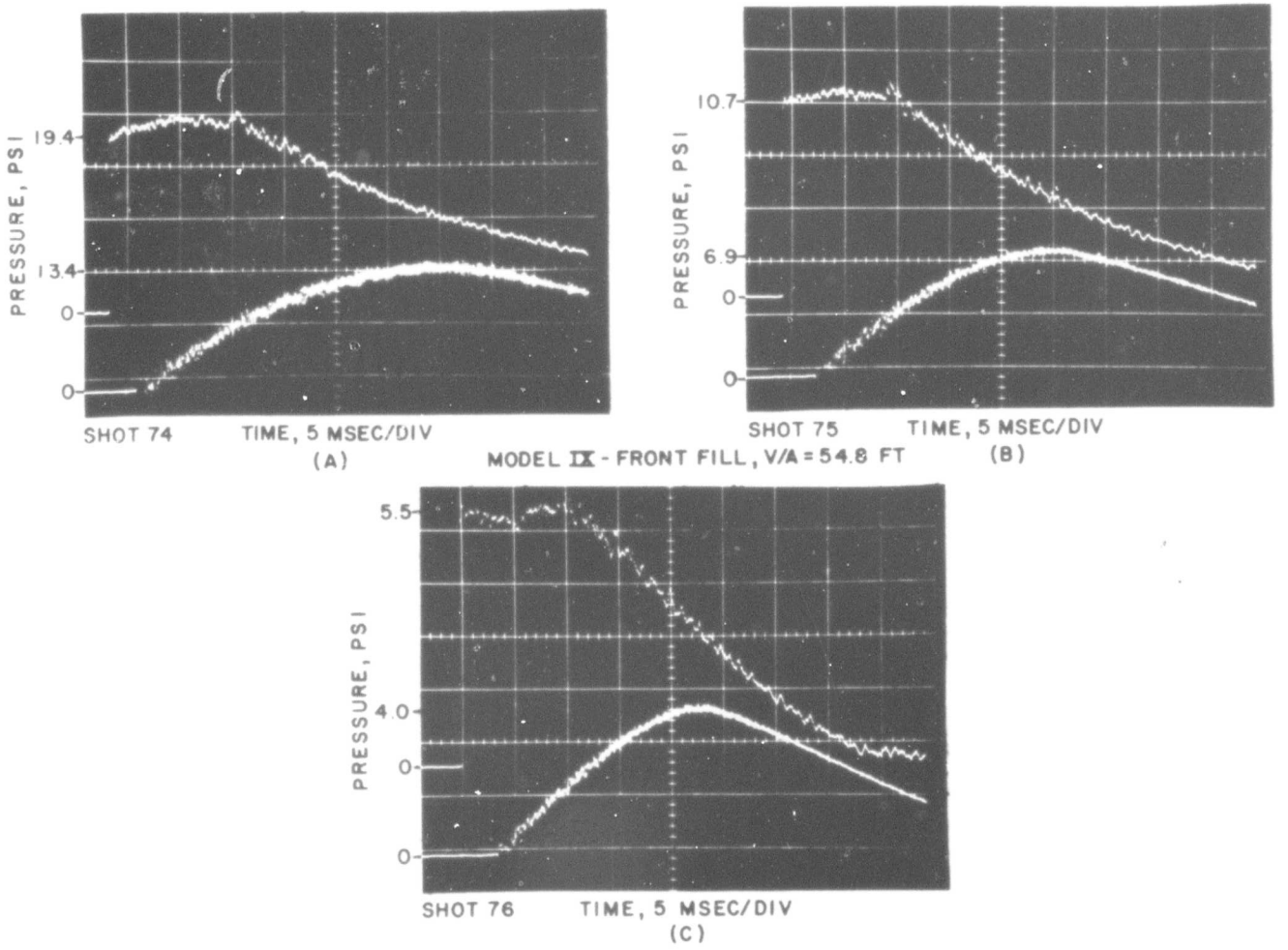


Figure B-7. Model IX, filled from two entrances, V/A = 54.8 ft

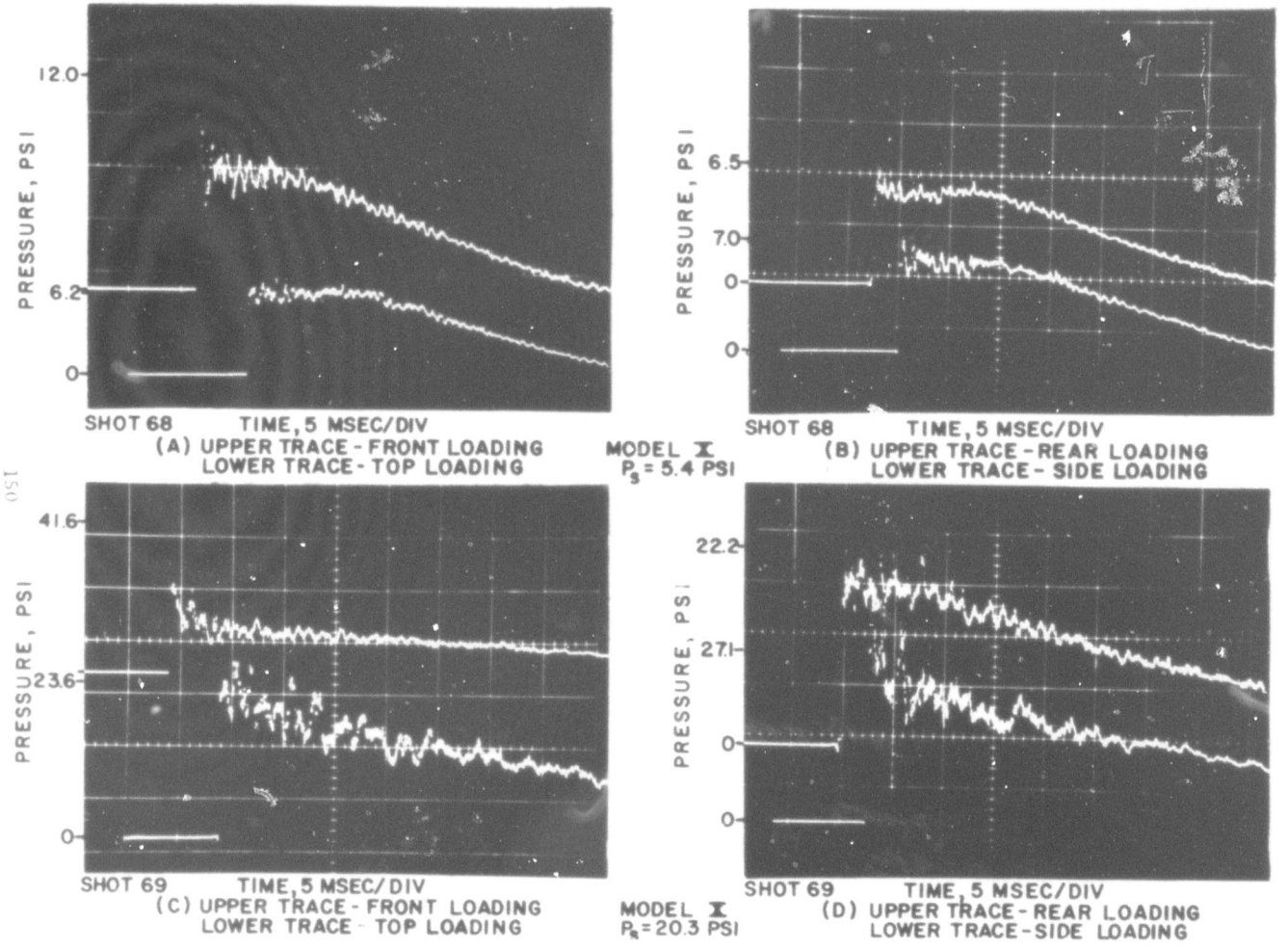


Figure B-8. Outside center loading on a 4.5 in. cube with shield - Model X

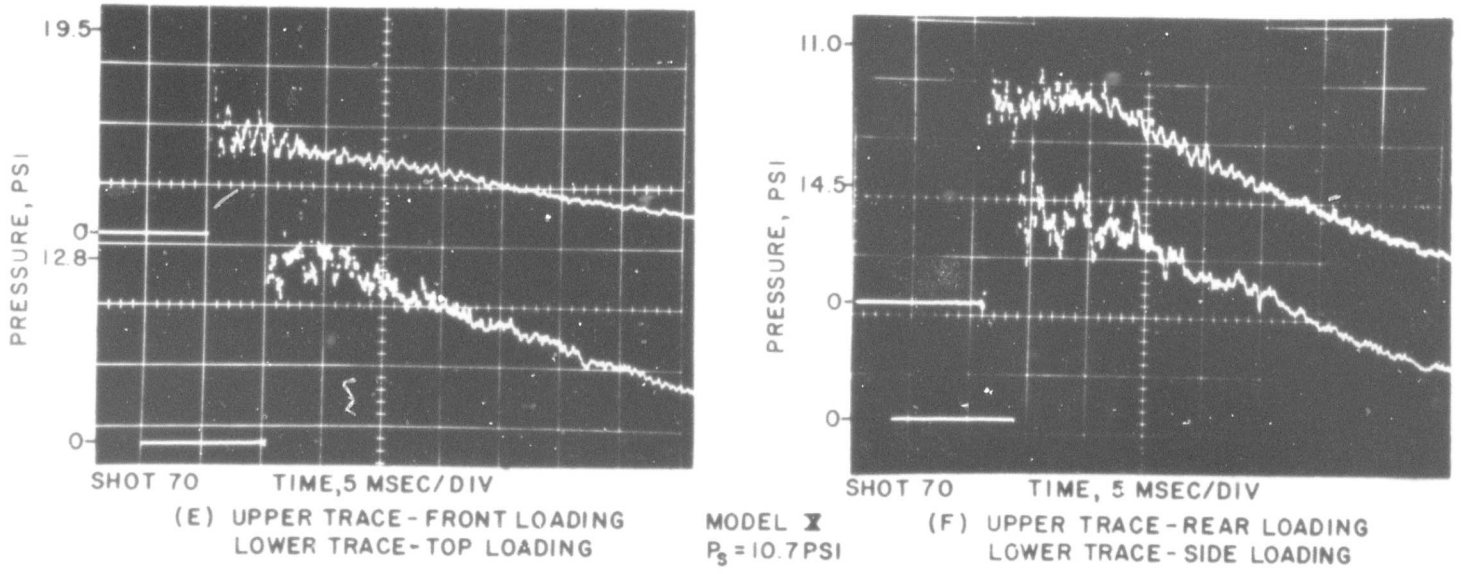


Figure B-8. Outside center loading on a 4.5 in. cube with shield - Model X (Continued)

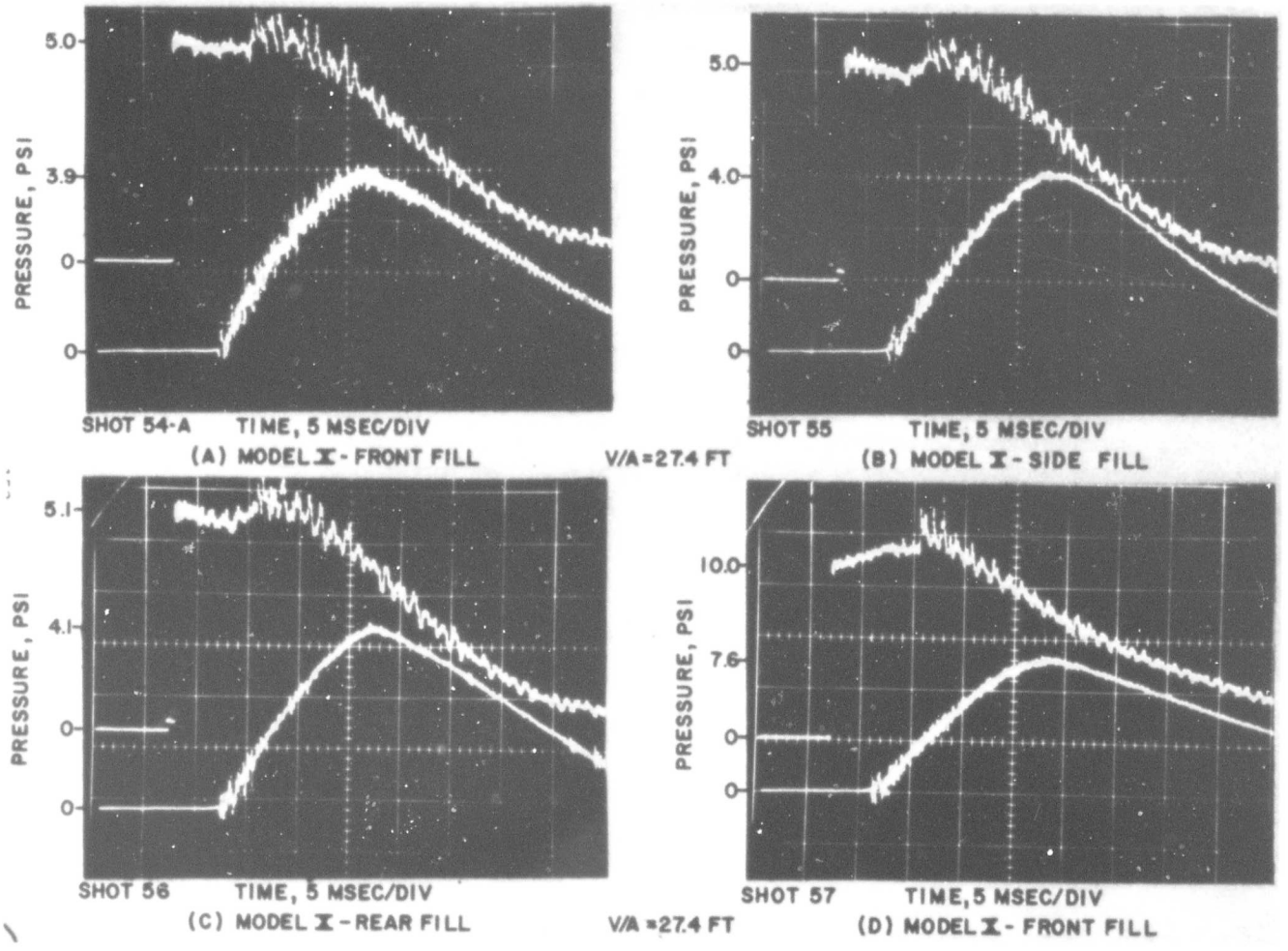


Figure B-9. Front, side, or rear fill of Model X with shield

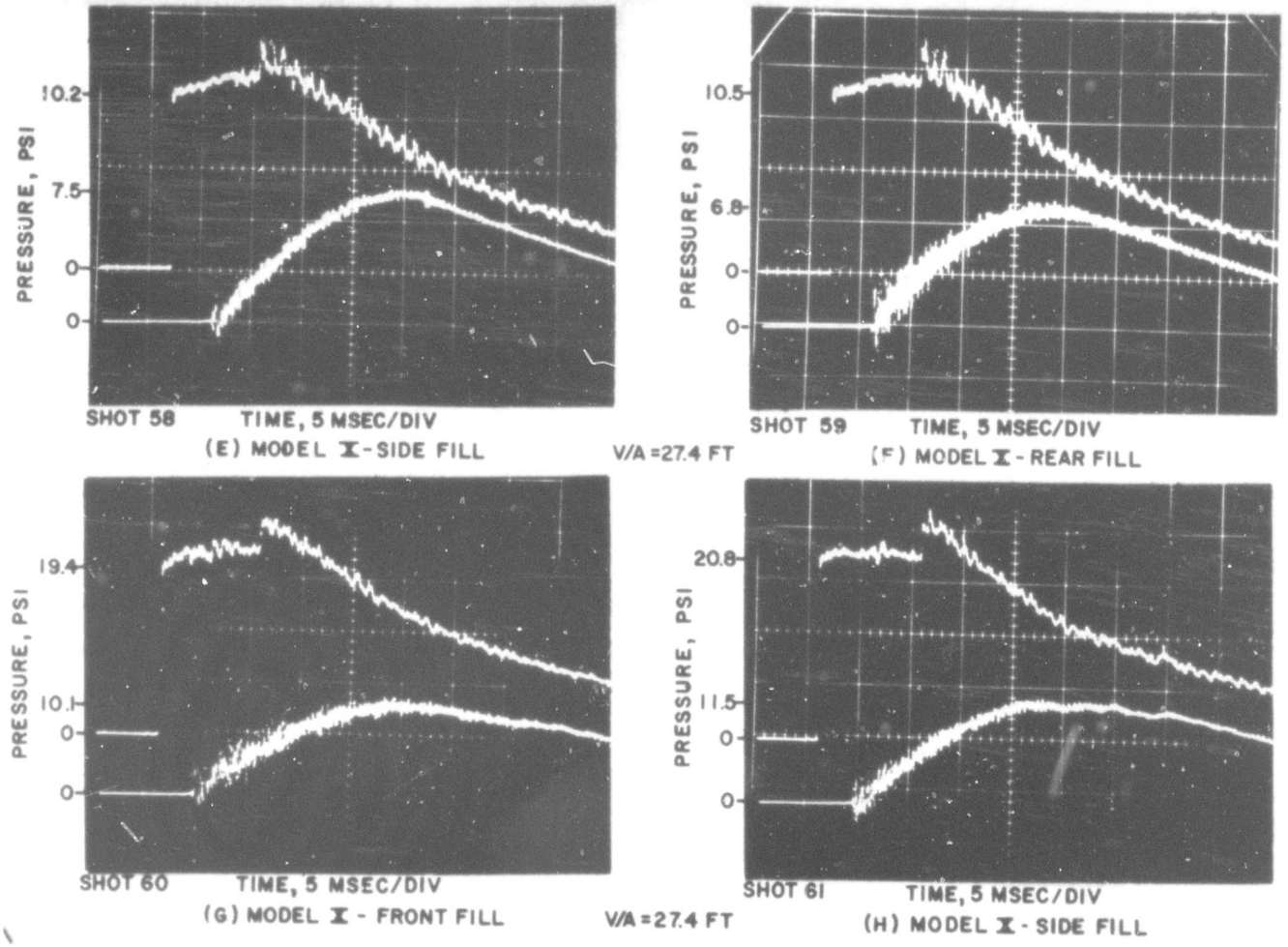


Figure B-9. Front, side, or rear fill of Model X with shield (Continued)

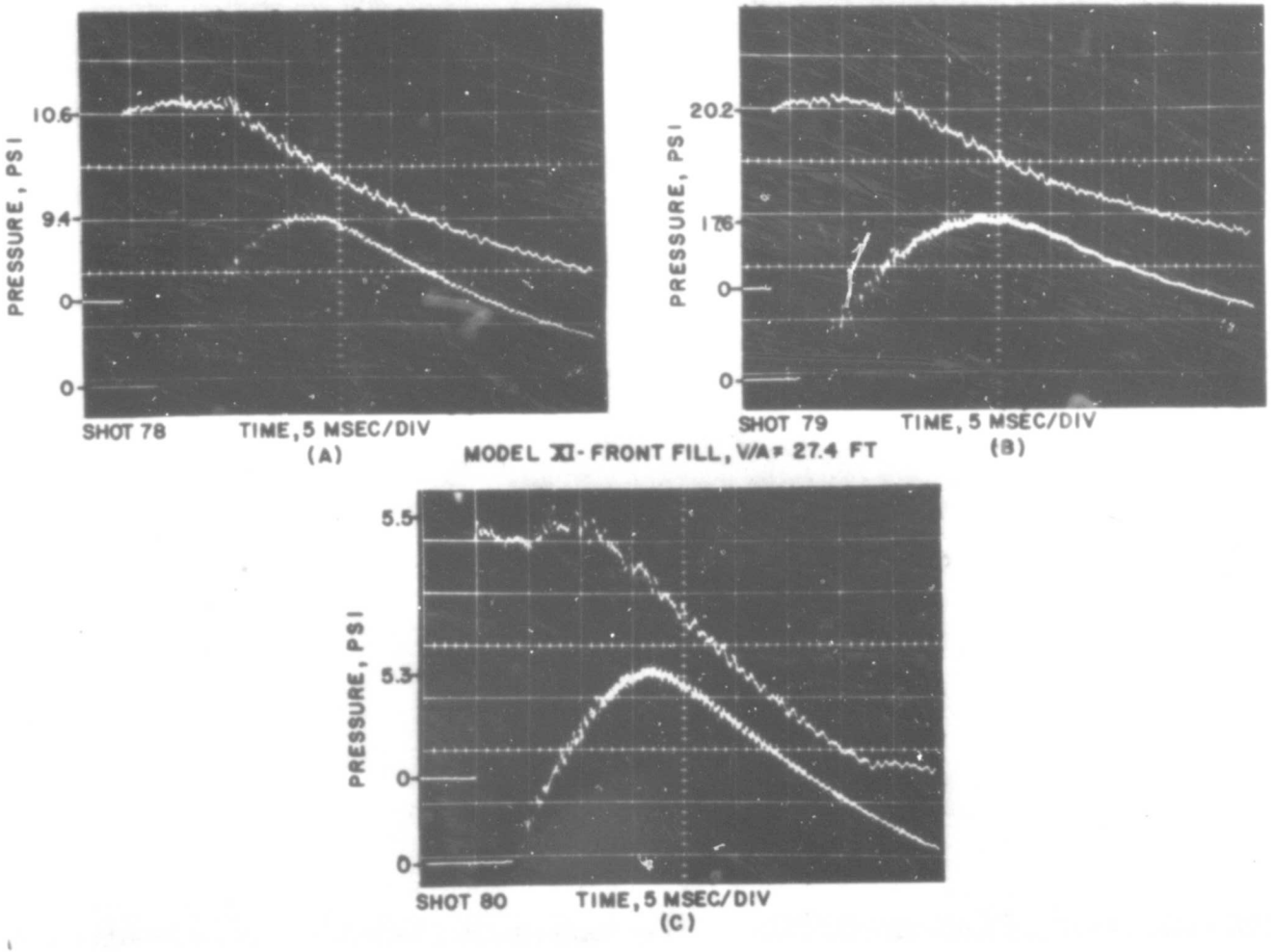


Figure B-10. Front fill of Model XI - two entrances, V/A = 27.4 ft

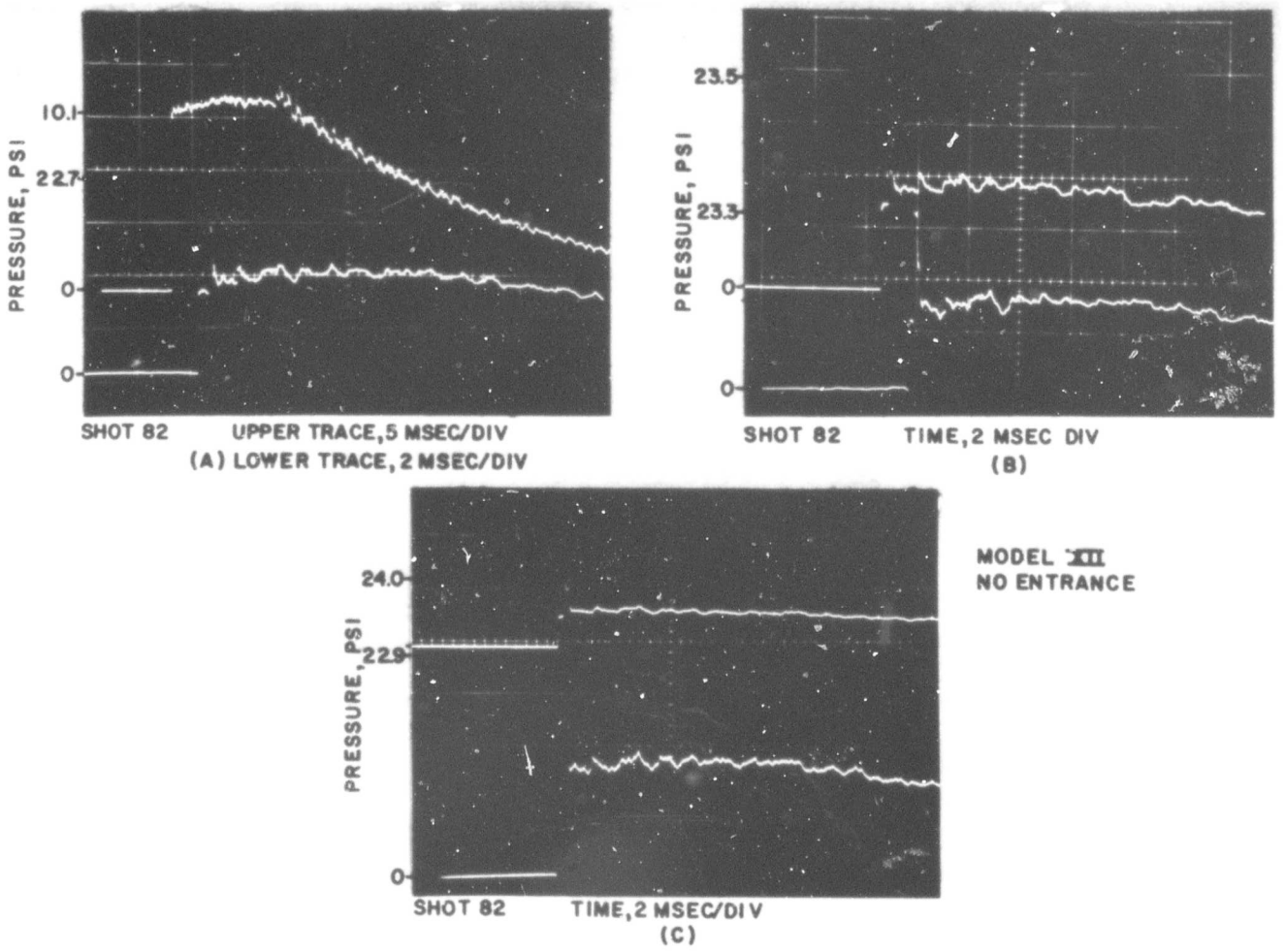


Figure B-11. Ground loading upstream of Model XII

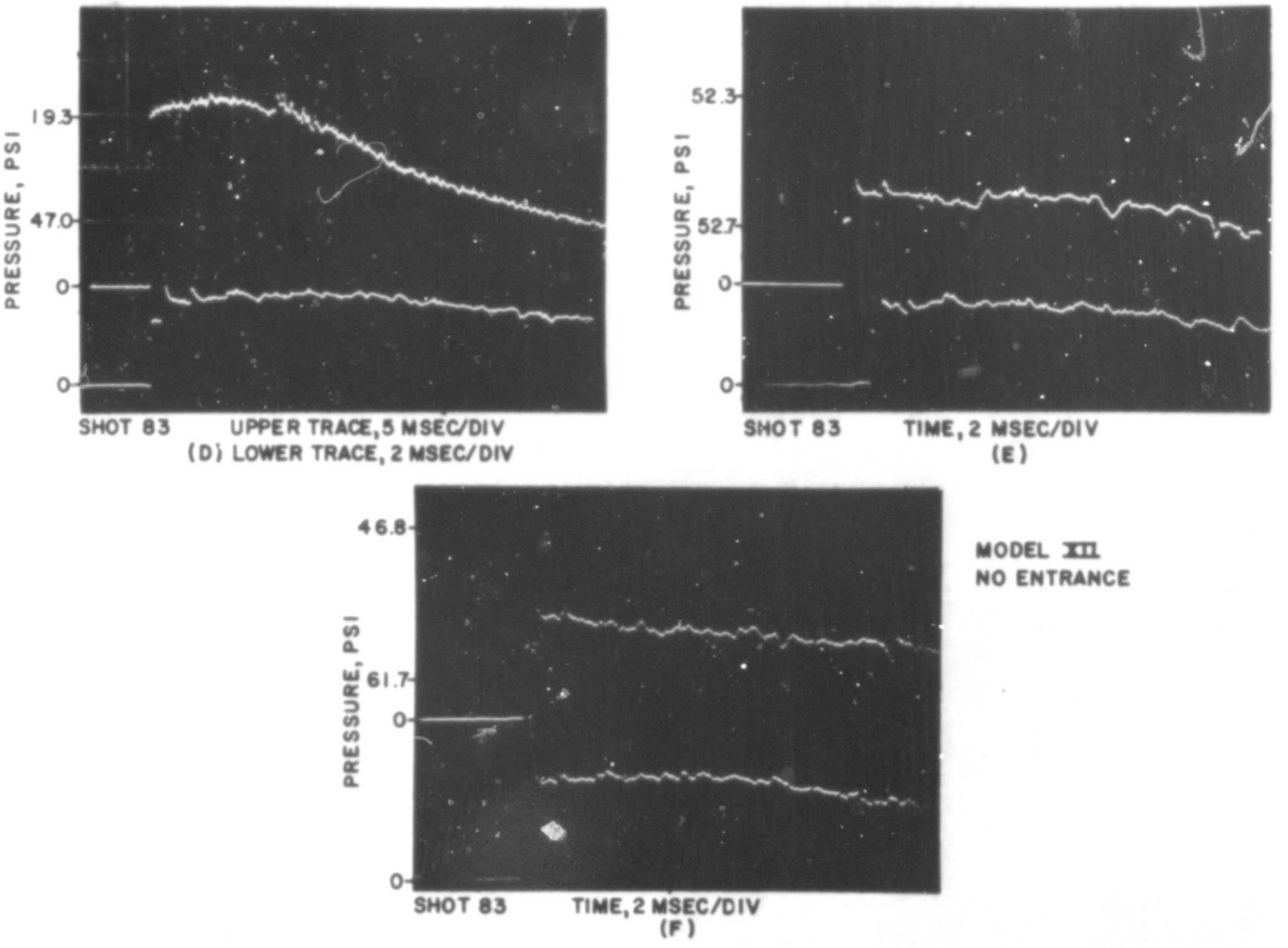


Figure B-11. Ground loading upstream of Model XII (Continued)

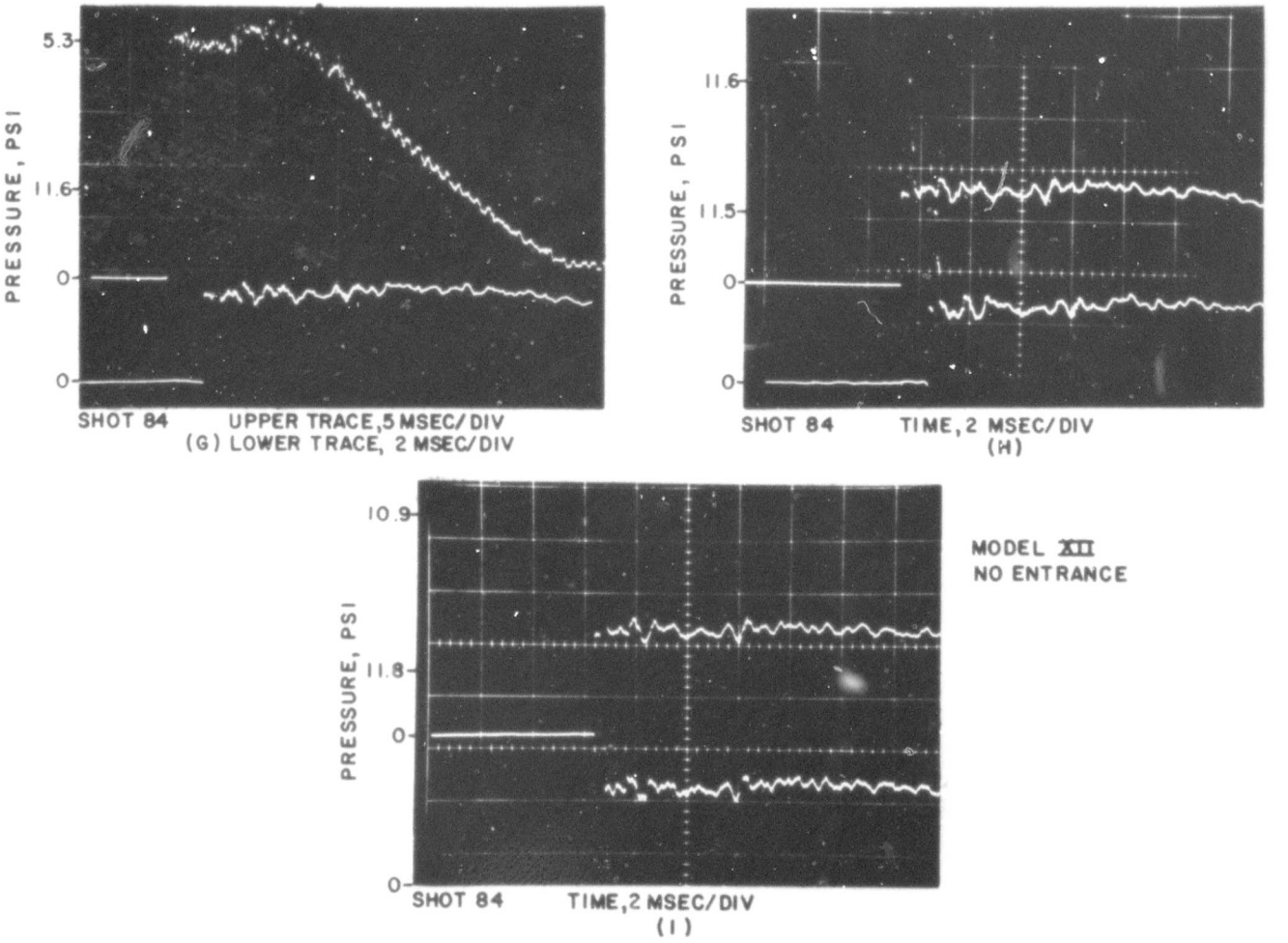


Figure B-11. Ground loading upstream of Model XII (Continued)

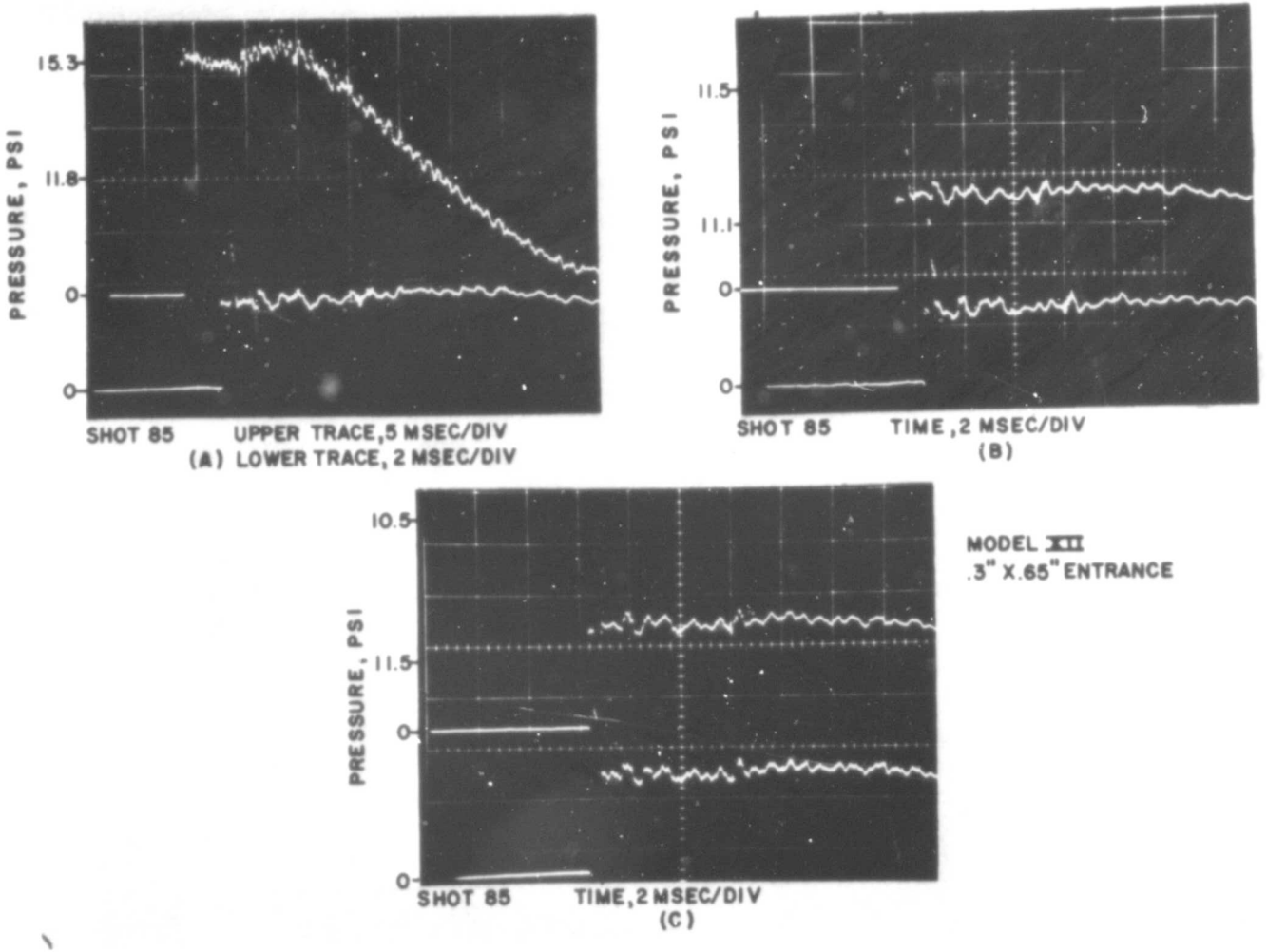


Figure B-12. Ground loading upstream of Model XII with a 0.3 x 0.65 in. entrance

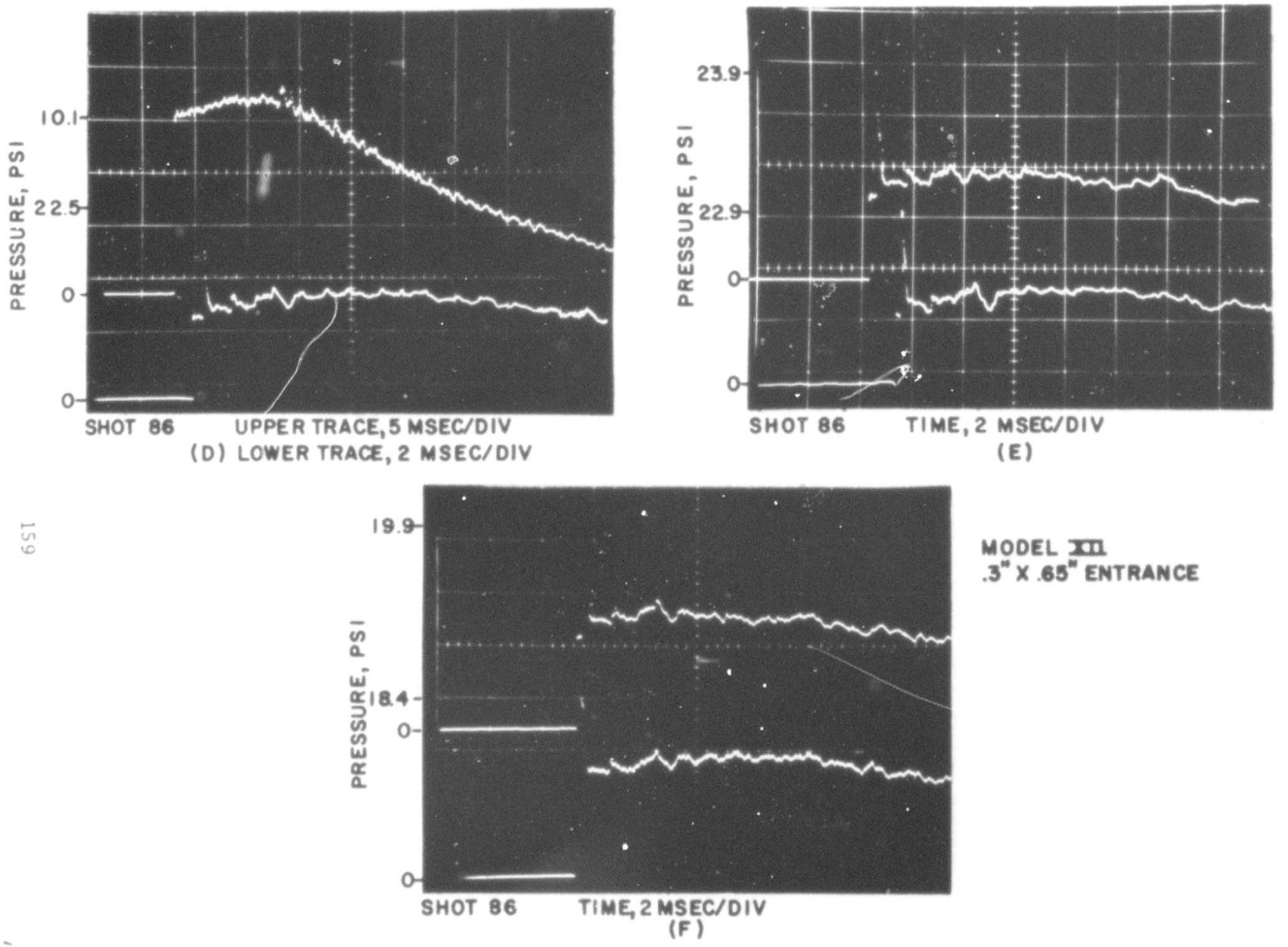


Figure B-12. Ground loading upstream of Model XII with a 0.3 x 0.65 in. entrance (Continued)

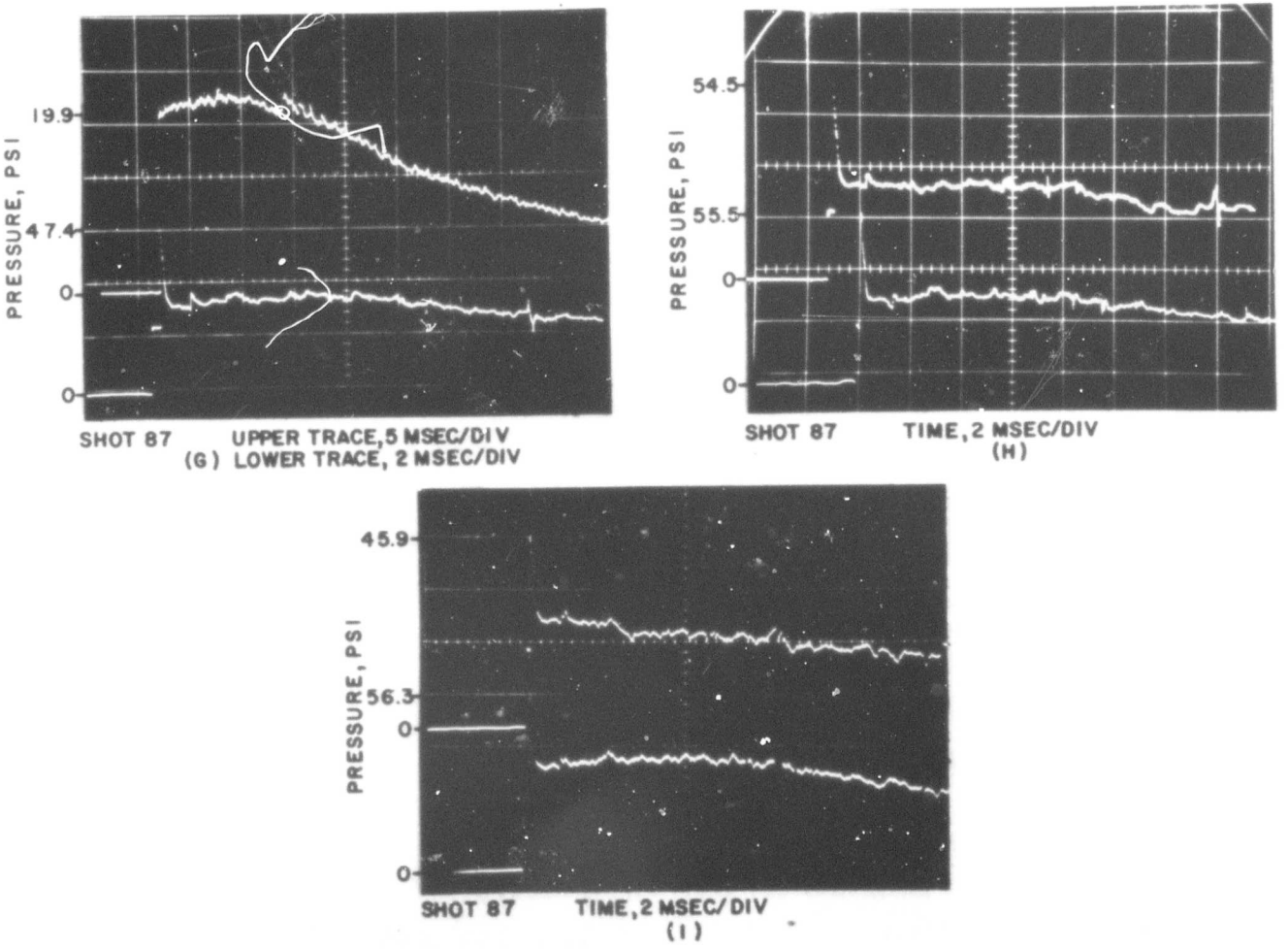


Figure B-12. Ground loading upstream of Model XII with a 0.3 x 0.65 in. entrance (Continued)

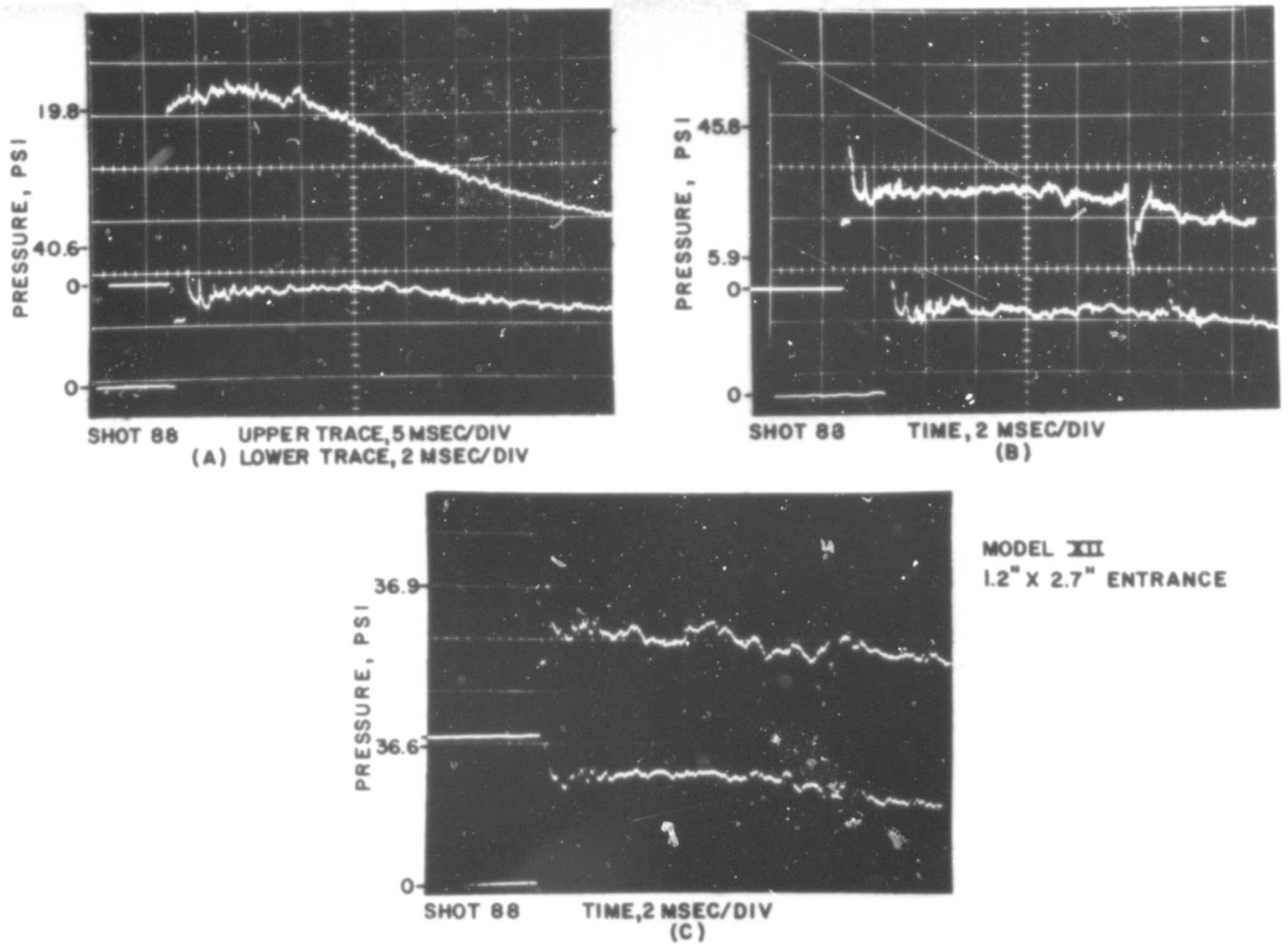


Figure B-13. Ground loading upstream of Model XII with a 1.2 x 2.7 in. entrance

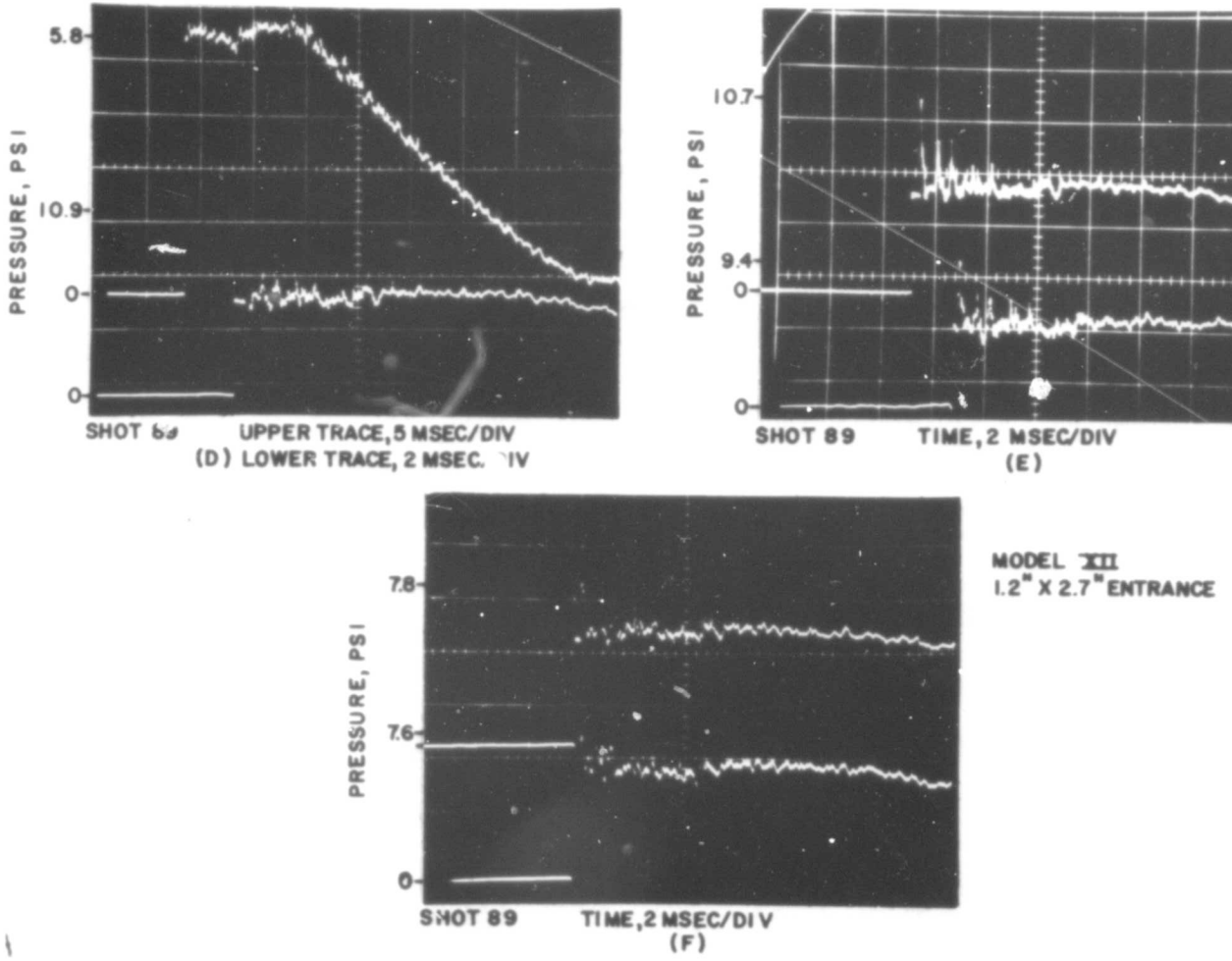


Figure B-13. Ground loading upstream of Model XII with a 1.2 x 2.7 in. entrance (Continued)

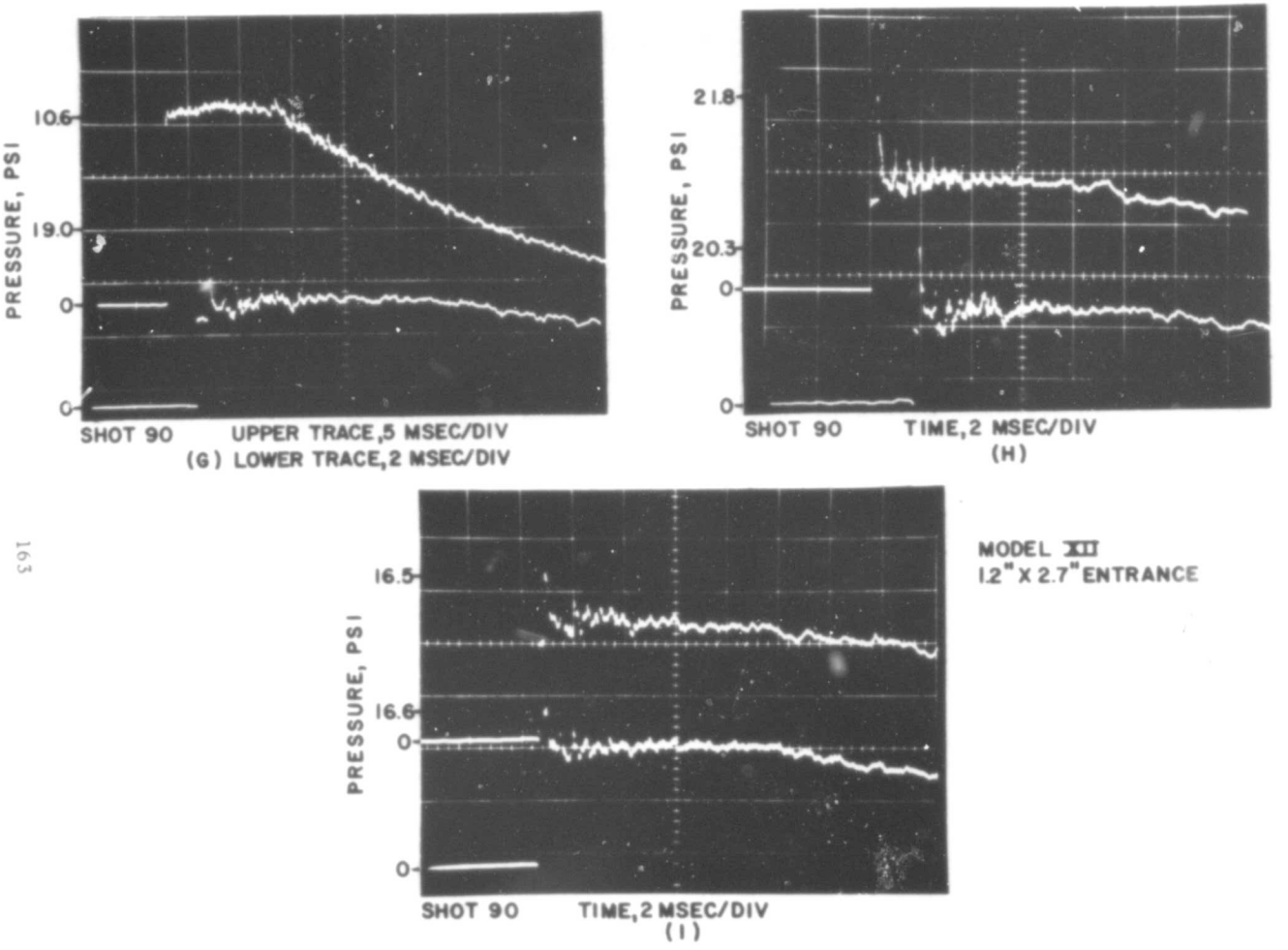


Figure B-13. Ground loading upstream of Model XII with a 1.2 x 2.7 in. entrance (Continued)

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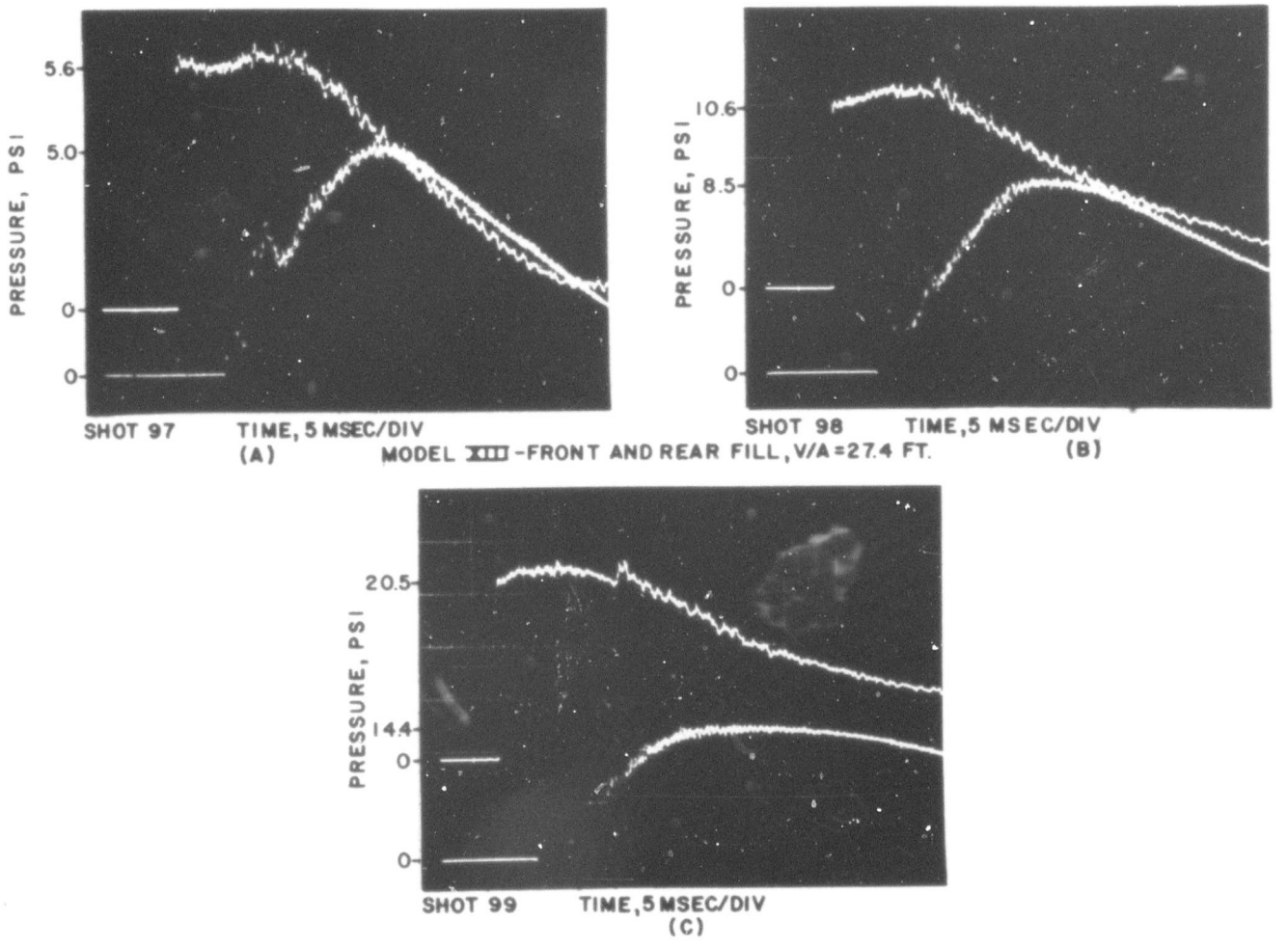


Figure B-14. Model XIII, filled from front and rear entrances

APPENDIX C

PRESSURE-TIME RECORDS - MODEL XIV - TWO DIMENSIONAL

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USE OF APPENDIX C

Table C-I presents the results from the pressure transducer records from Model XIV shown in this appendix. The results are listed according to the entrance width of the model and shot number for cross reference. The shock overpressure (P_s) in pounds per square inch is listed and the initial peak pressure (P'_s) for the transmitted shock wave into the model, is recorded at each of the gage positions. See Figure D-8 in body of the report for the gage positions. In the one case noted in the table, the first pressure measured is probably a reflected peak value instead of a side-on value which is true for the other positions listed.

Table C-I. Two-Dimensional Model Results

Entrance Size	Shot No.	Type	P_s, psi	Position	P'_s, psi	V/A, ft	Remarks
1/8 in.	138	A	4.77	9	1.57	10.67	Model XIV filled from front with reflection plate. See Figure C-1 for gage positions
				10	0.90		
				11	0.66		
				12	0.59		
	137		4.76	5	0.99		
				6	0.79		
				7	0.60		
				8	0.56		
	136		4.90	1	0.77		
				2	0.68		
				3	0.63		
				4	0.56		
1/4 in.	133	B	4.75	1	2.12	5.33	
				2	1.27		
				3	0.96		
				4	0.85		
	134		4.70	5	0.86		
				6	1.19		
				7	0.93		
				8	0.85		

Table C-I. Two-Dimensional Model Results (Continued)

Entrance Size	Shot No.	Type	P_s, psi	Position	P'_s, psi	V/A, ft	Remarks
	135		4.73	9	1.05		
				10	0.96		
				11	0.84		
				12	0.78		
1/2 in.	119	C	4.83	1	3.53	2.67	
				2	2.05		
				3	1.48		
				4	1.25		
	118		4.86	5	2.20		
				6	1.75		
				7	1.38		
				8	1.23		
	117		4.85	9	1.57		
				10	1.52		
				11	1.27		
				12	1.12		
1 in.	114	D	4.82	1	4.92	1.33	
				2	3.26		
				3	2.37		
				4	1.98		

Table C-I. Two-Dimensional Model Results (Continued)

Entrance Size	Shot No.	Type	P_s, psi	Position	P'_s, psi	V/A, ft	Remarks
	115		4.82	5	2.72		
				6	2.47		
				7	2.16		
				8	1.92		
	116		4.90	9	1.93		
				10	1.80		
				11	1.89		
				12	1.80		
2 in.	146	E	4.80	1	5.11	0.67	
				2	4.85		
				3	3.98		
				4	3.51		
	145		4.77	5	3.92		
				6	3.24		
				7	3.00		
				8	3.10		
	144		4.78	9	2.25		
				10	2.17		
				11	2.07		
				12	4.06		Reflected

Table C-I. Two-Dimensional Model Results (Continued)

Entrance Size	Shot No.	Type	P_s, psi	Position	P'_s, psi	V/A, ft	Remarks
Two 1 in.	147	F	4.82	1	5.76	0.67	
				2	5.11		Entrances spaced 0.667 in. apart
				3	4.56		
				4	4.02		
	148		4.75	5	4.95		
				6	3.33		
				7	2.38		
				8	3.02		
	149		4.80	9	1.29		
				10	2.37		
				11	3.71		
				12	3.61		

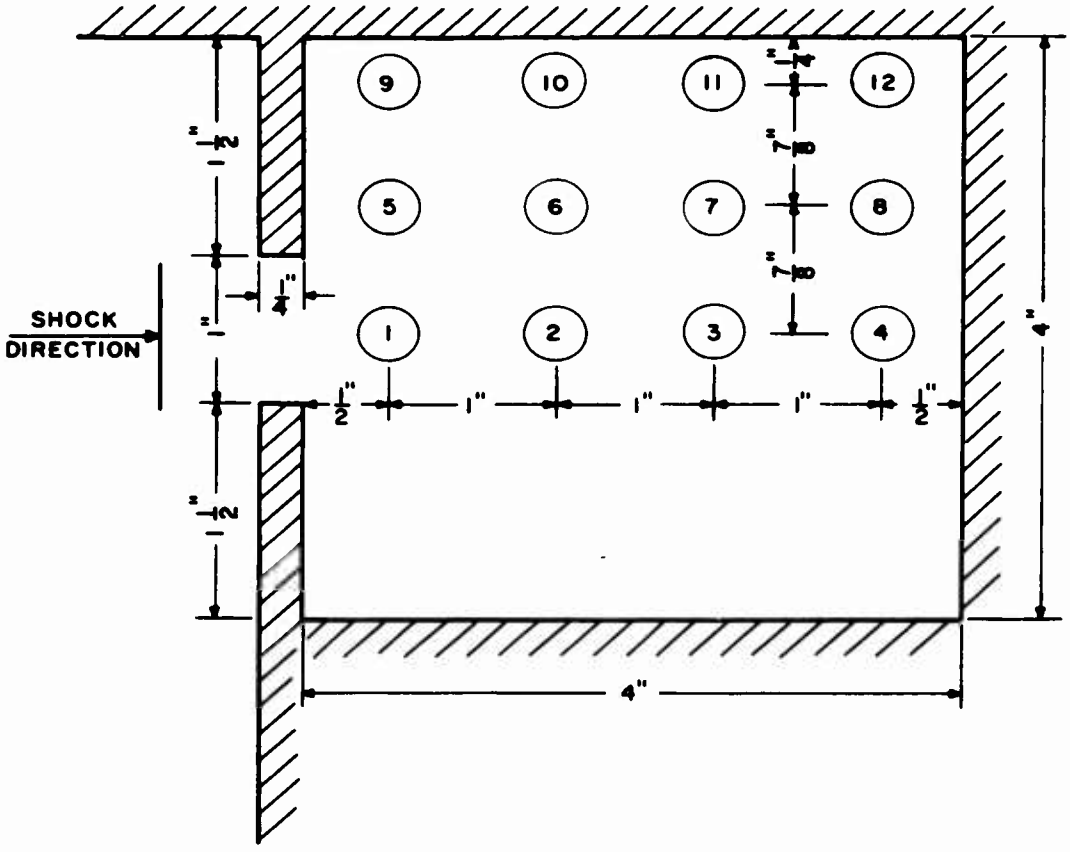


Figure C-1. Gage position for Model XIV

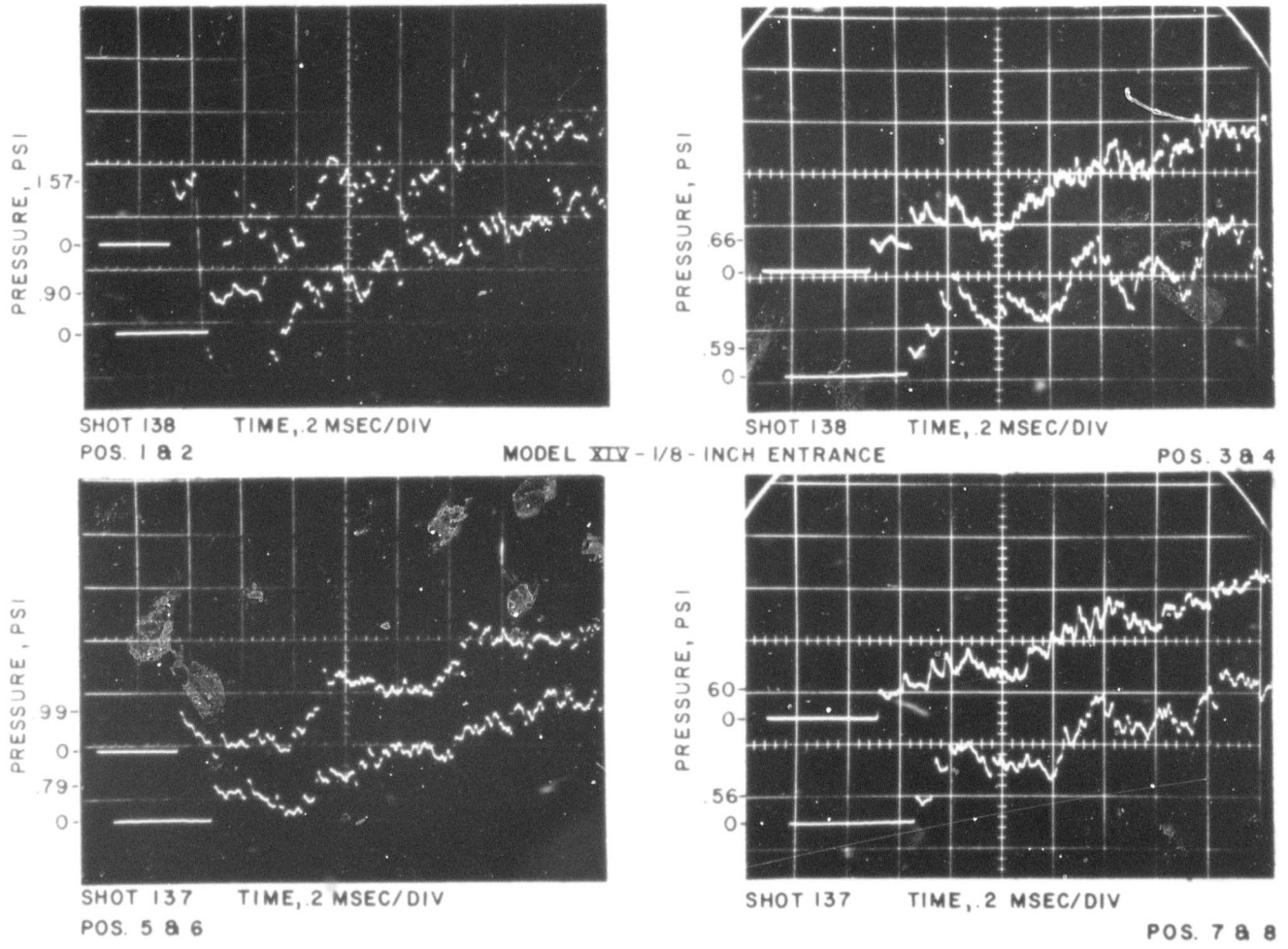


Figure C-2. Pressure-time records - Model XIV with 1/8 in. entrance

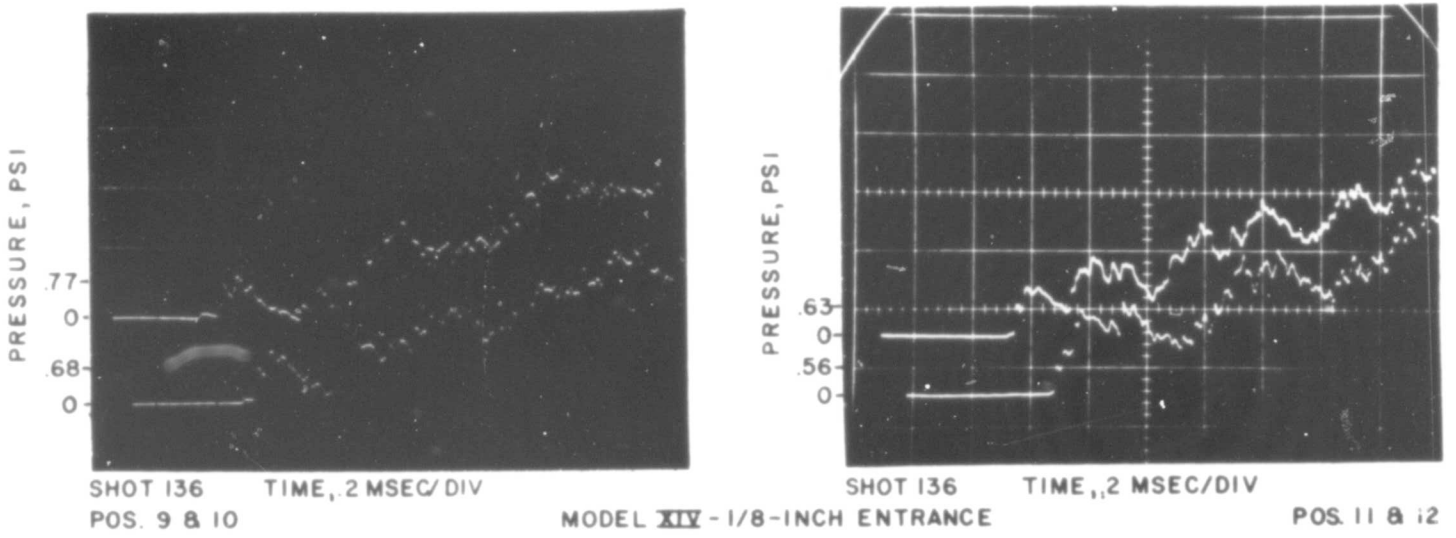


Figure C-2. Pressure-time records - Model XIV with 1/8 in. entrance (Continued)

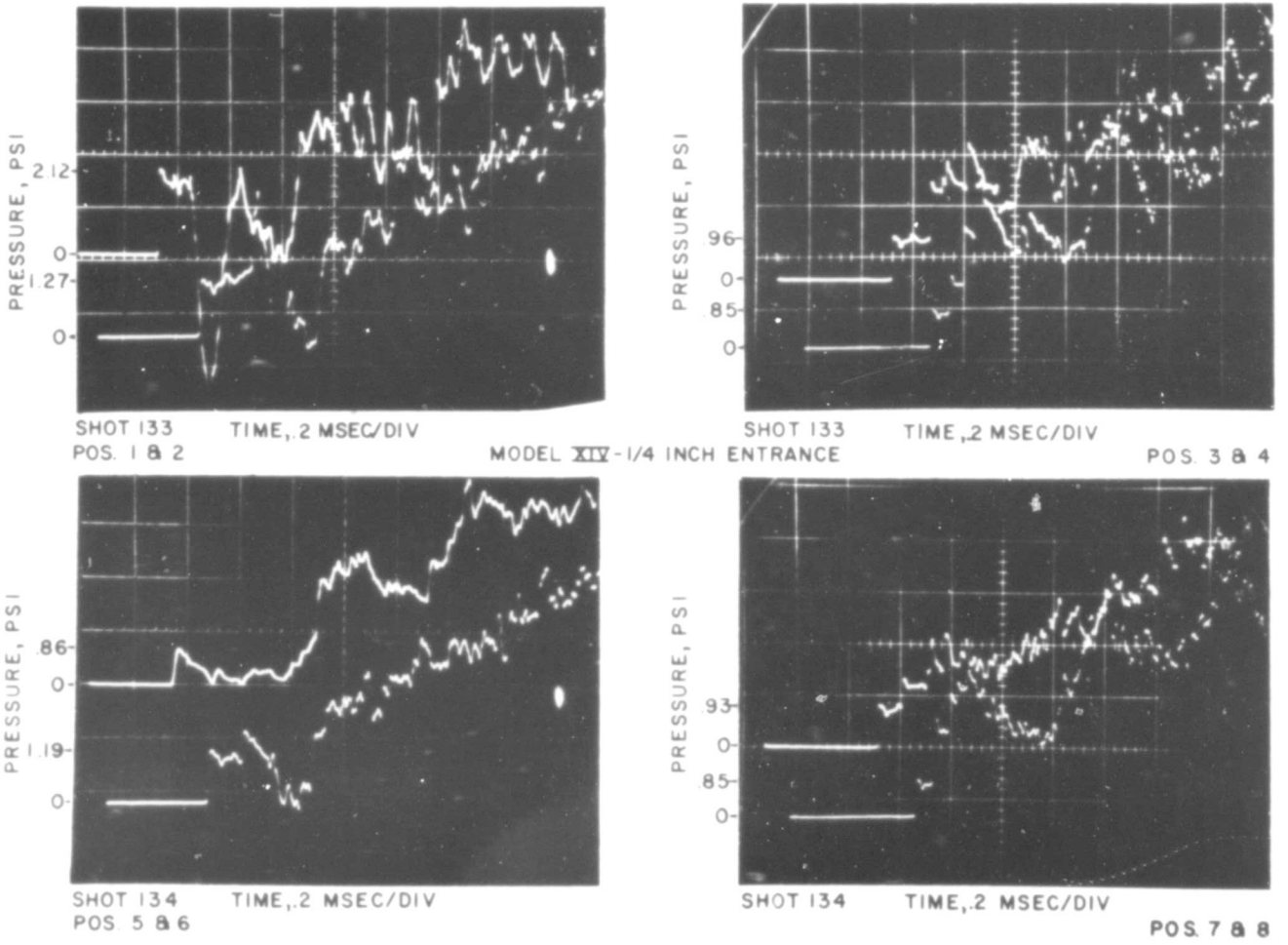


Figure C-3. Pressure-time records - Model XIV with 1/4 in. entrance

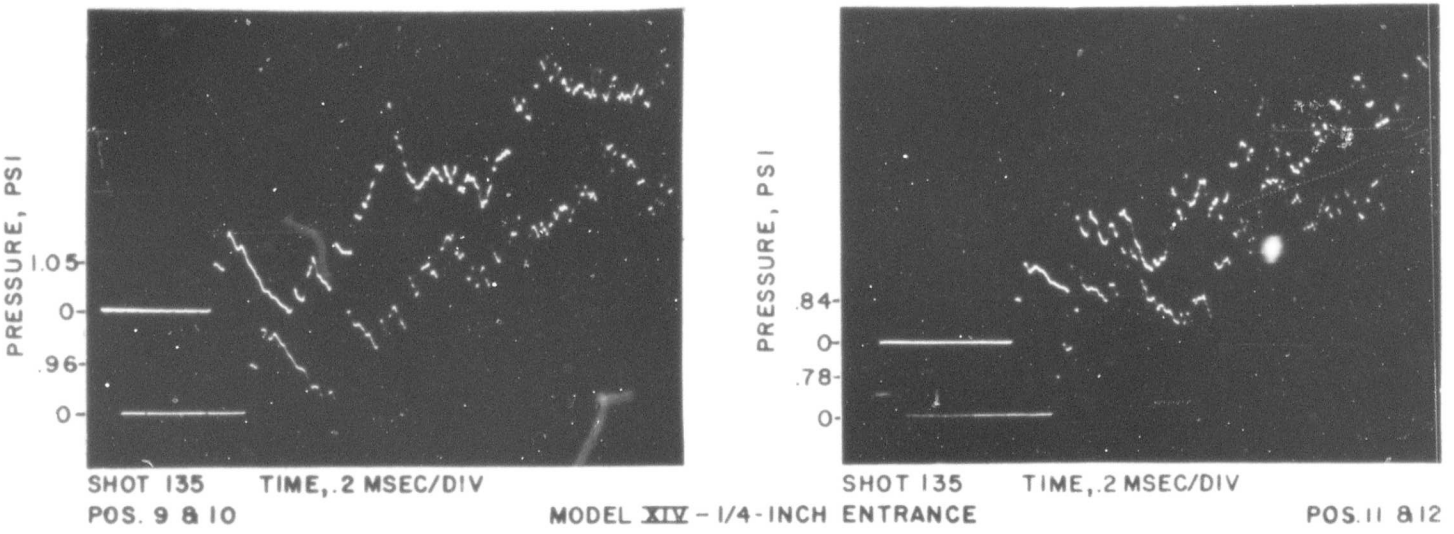


Figure C-3. Pressure-time records - Model XIV with 1/4 in. entrance (Continued)

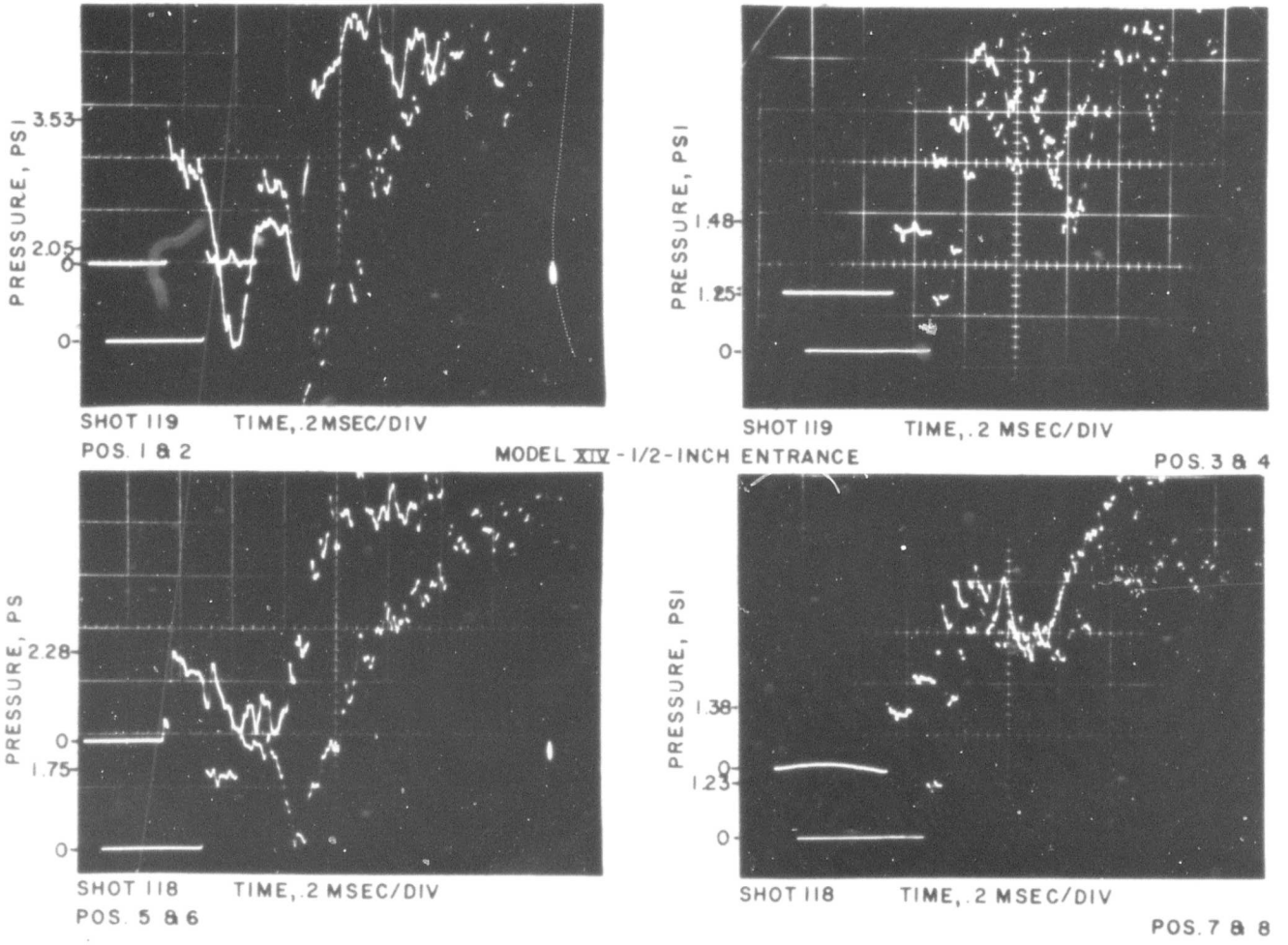


Figure C-4. Pressure-time records - Model XIV with 1/2 in. entrance

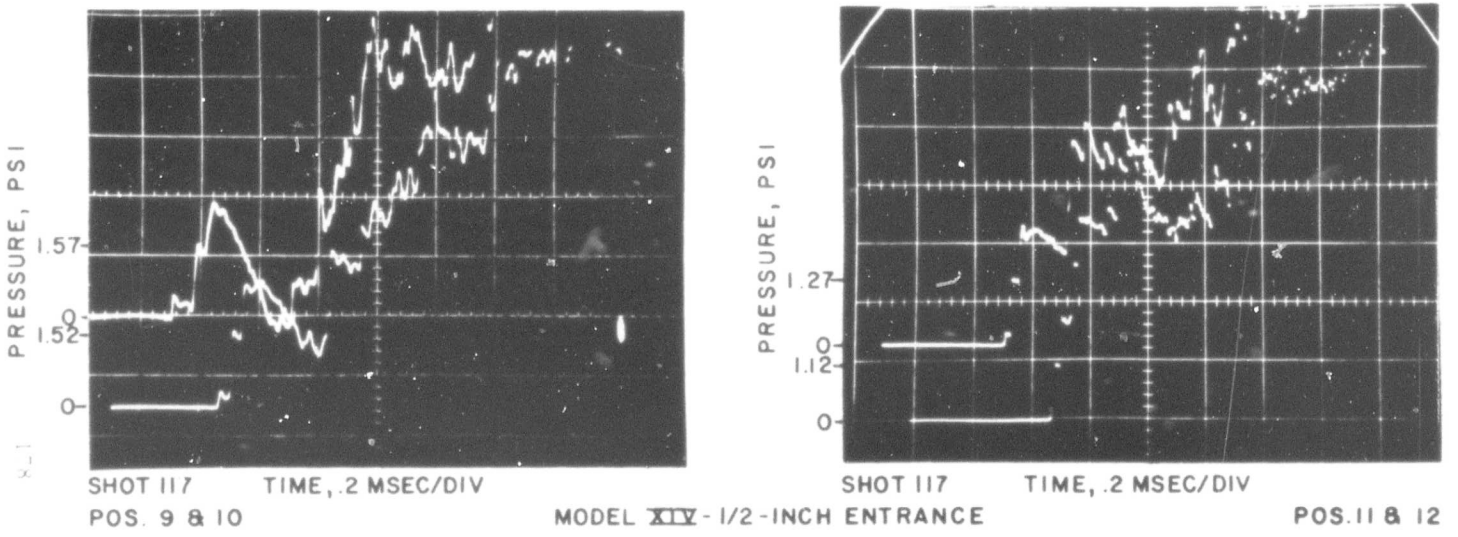


Figure C-4. Pressure-time records - Model XIV with 1/2 in. entrance (Continued)

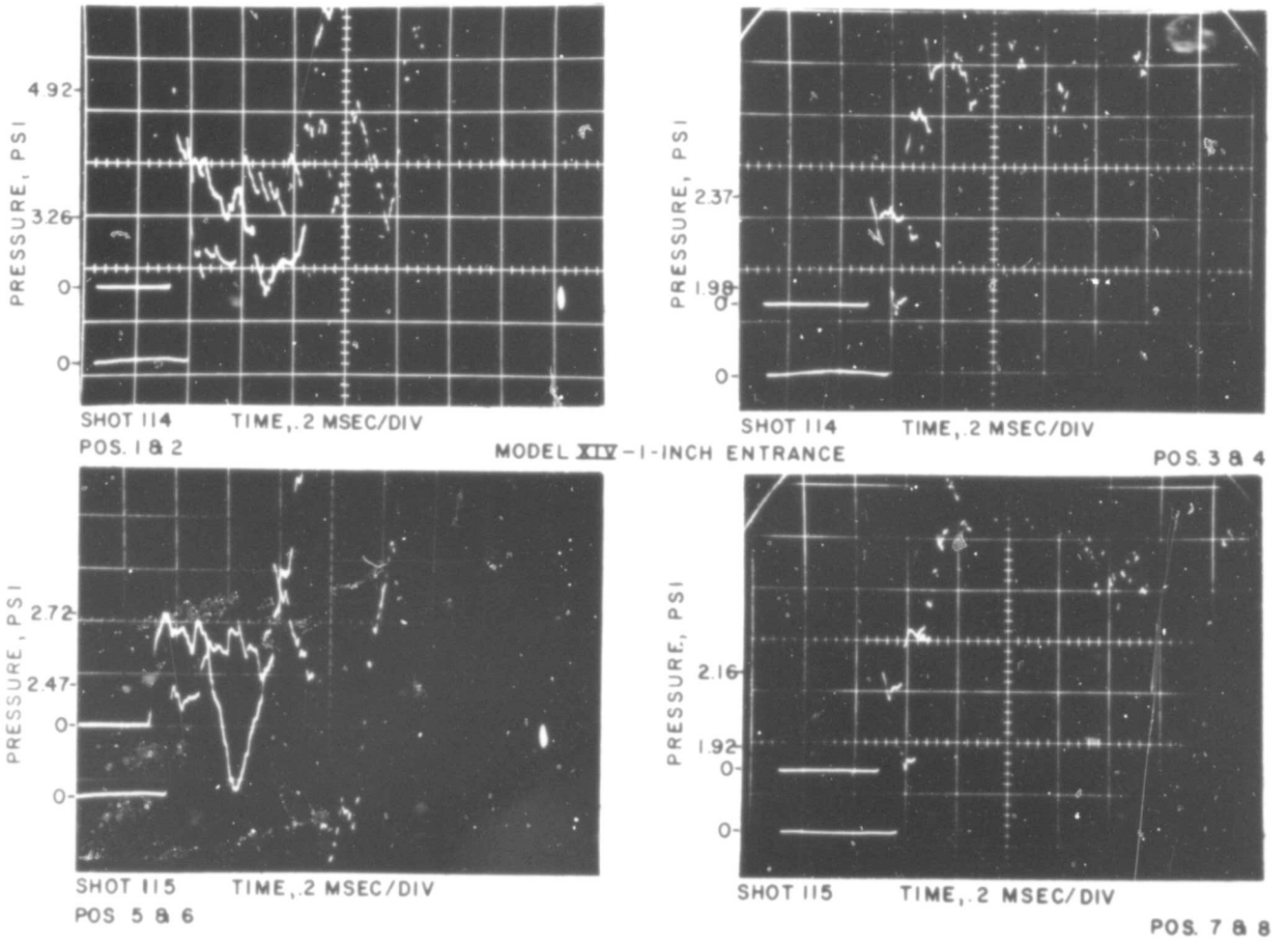


Figure C-5. Pressure-time records - Model XIV with 1 in. entrance

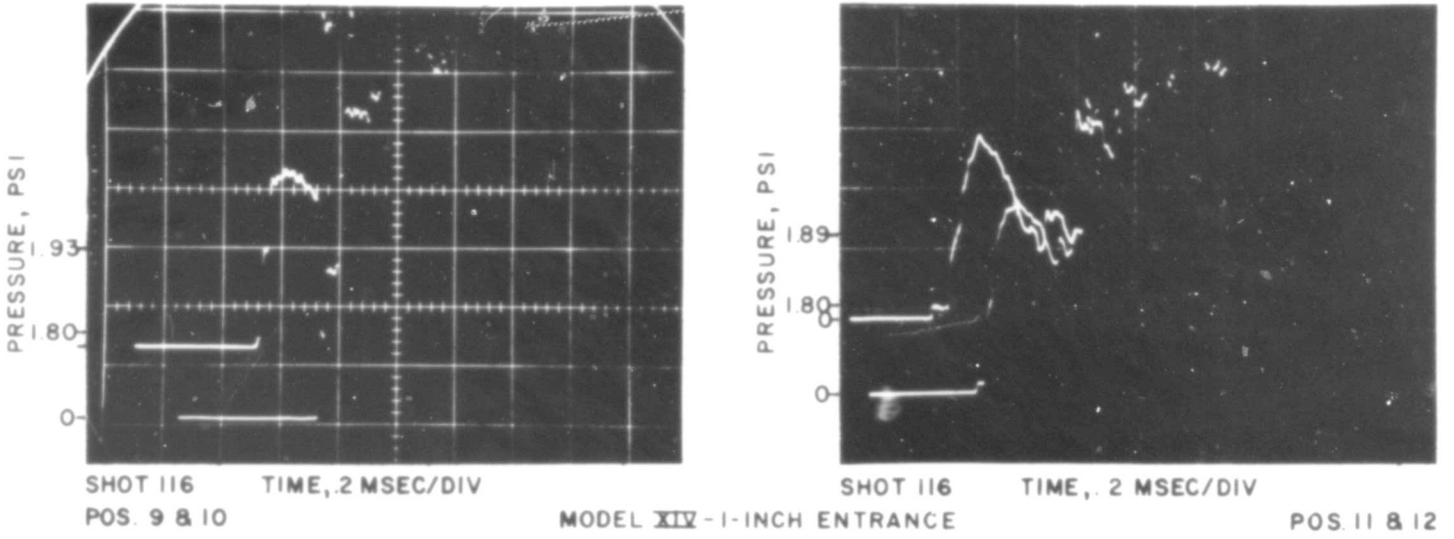


Figure C-5. Pressure-time records - Model XIV with 1 in. entrance (Continued)

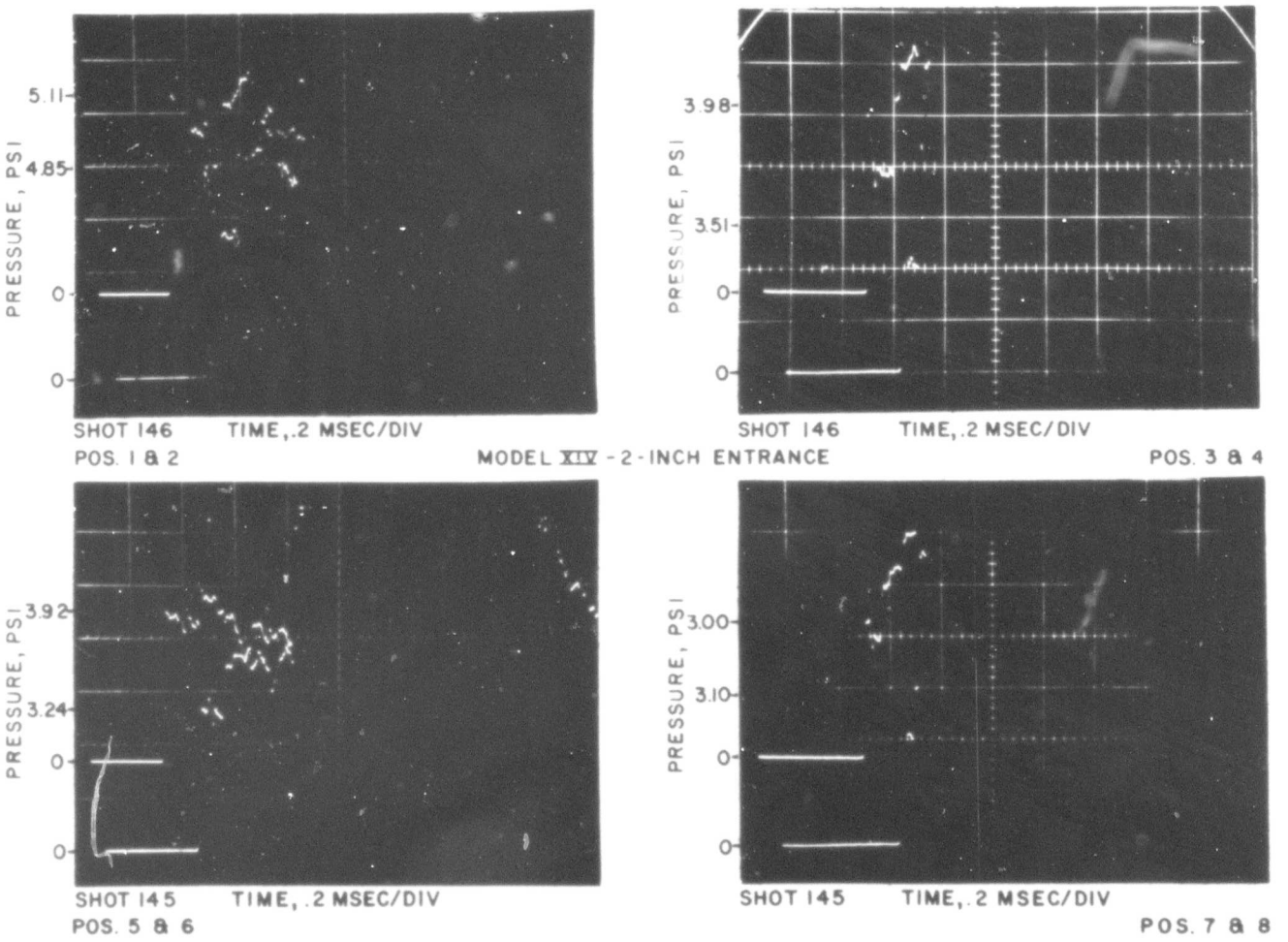


Figure C-6. Pressure-time records - Model XIV with 2 in. entrance

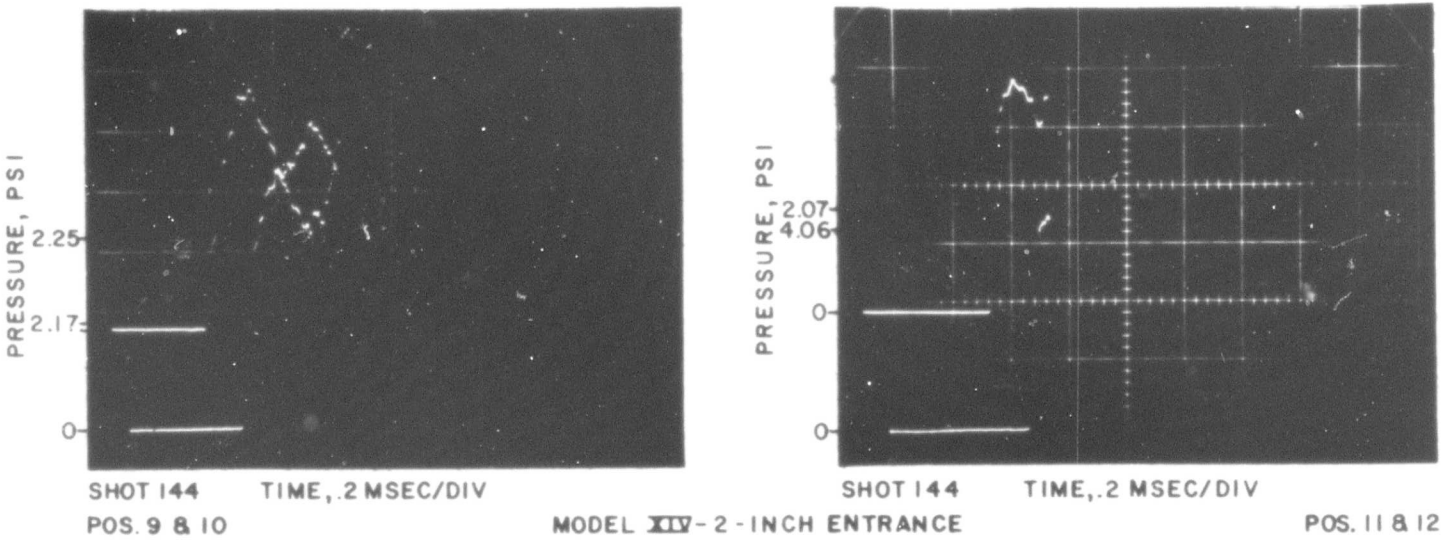


Figure C-6. Pressure-time records - Model XIV with 2 in. entrance (Continued)

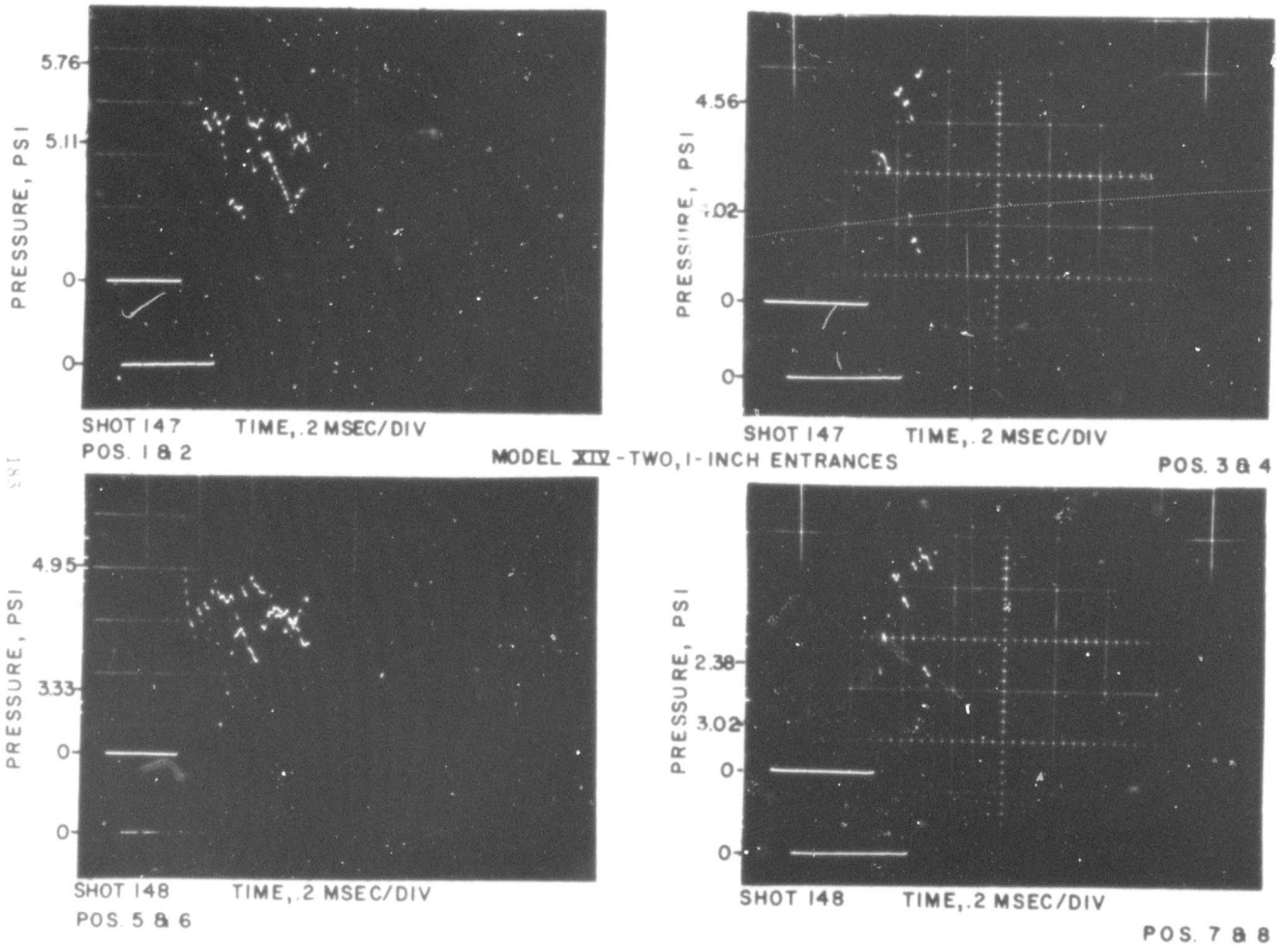


Figure C-7. Pressure-time records - Model XIV with two 1-in. entrances

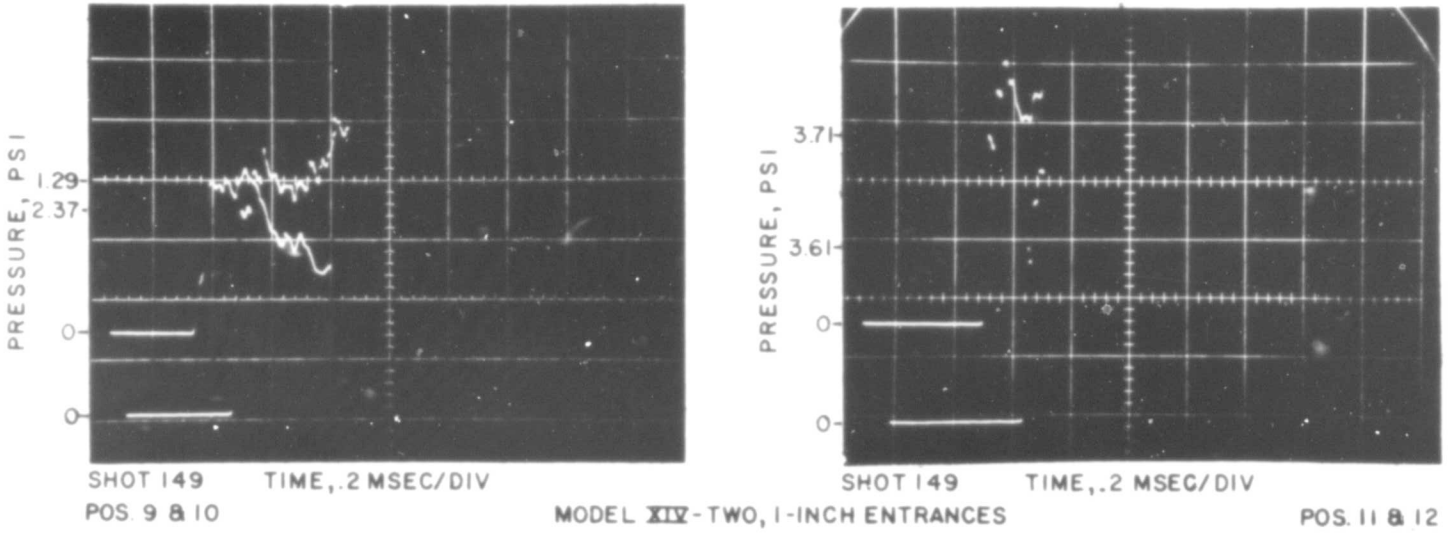


Figure C-7. pressure-time records - Model XIV with two 1 in. entrances (Continued)

APPENDIX D

AIR FLOW TABLES AND VECTOR PLOTS - MODEL XIV

USE OF APPENDIX D

Appendix D consists of two parts. The first consists of tables of the results of the calculations made from measurements from the smoke grids and the second consists of time plots of the first vertical row of grid intersections taken from the photographs of Appendix A. Additional plots of velocity vector fields computed from several grid intersections are shown for a few discrete frame times to illustrate the many directions of flow throughout the model.

The tables list the frame time in microseconds, the x-y coordinates in inches as measured from an origin at the inside, lower left bottom of the model, the average velocity of a particular smoke grid intersection (positions in frames behind and ahead of the given frame in time are used to find the average for the known camera framing speed), average angle of flow direction measured from a horizontal axis, the density obtained from the grid size and ambient grid area (density), and Q (equal to one-half the density times the velocity squared).

The first plot of each of the figures shows the path of smoke grid intersections followed from some initial time labled "start" to end times "T." Each path of the plot starts at a dot and ends at a time symbol, circled number. The remainder of the plots for each figure show average velocity vectors for many grid intersections for discrete times "T." The vector magnitudes are scaled at 1 in. = 200 ft/sec. Again, they are listed according to the entrance size to the model and position of the smoke grid within the model. The shot number is also given for a reference with the photographs of Appendix A.

APPENDIX D

I. AIR FLOW TABLES - MODEL XIV

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Table D-I. Front Smoke Grid Calculations - 1/8 In. Entrance

Shot 142

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
65.26	NO READING					
	.249	1.561	77.0	58.1	.0024	.6
	.231	1.204	30.9	63.5	.0023	.1
	.225	.842	26.9	102.8	.0024	.5
	.238	.000	9.9	.0	.0000	.0
	NO READING					
	.562	1.597	63.6	31.1	.0024	4.6
	.564	1.230	42.1	49.1	.0024	.6
	.580	.862	39.0	12.6	.0023	.1
	.611	.000	7.9	.0	.0000	.0
	NO READING					
	.981	1.661	36.6	- 55.1	.0023	.0
	.977	1.277	31.6	71.5	.0024	1.1
	.984	.942	28.8	16.8	.0023	.9
	.995	.000	2.0	.0	.0000	.0
	NO READING					
	1.248	1.669	27.5	- 5.2	.0023	.0
	1.274	1.312	18.2	- 87.4	.0024	1.1
	1.303	.992	13.2	- .0	.0023	.9
	1.365	.000	9.9	.0	.0000	.0
103.89	NO READING					
	.260	1.532	55.0	113.8	.0023	.6
	.236	1.191	34.9	75.5	.0023	.0
	.238	.825	36.9	63.1	.0024	.3
	.245	.000	9.9	90.0	.0000	.0
	NO READING					
	.600	1.588	89.4	37.9	.0025	4.8
	.578	1.215	40.5	42.8	.0025	.6
	.589	.875	38.2	6.9	.0023	.0
	.617	.000	7.9	90.0	.0000	.0
	NO READING					
	1.005	1.651	60.1	23.3	.0023	.6
	.988	1.263	47.8	46.2	.0024	1.1
	.984	.922	41.4	63.4	.0024	1.0
	.995	.000	.0	.0	.0000	.0
	NO READING					
	1.255	1.683	42.1	- 24.7	.0023	.6
	1.272	1.314	28.8	- 63.1	.0024	1.1
	1.306	.999	23.1	- 14.9	.0024	1.0
	1.369	.000	11.8	90.0	.0000	.0

Table D-I. Front Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	C LB/SQFT
142.52	NO READING					
	.242	1.524	70.6	161.0	.0022	2.5
	.238	1.173	44.6	101.4	.0023	.5
	.242	.812	34.1	100.5	.0024	1.4
	.243	.000	15.8	180.0	.0000	.0
	NO READING					
	.620	1.550	99.0	81.6	.0025	.1
	.591	1.204	61.9	74.5	.0024	4.3
	.597	.855	49.2	83.2	.0024	1.2
	.615	.000	2.0	90.0	.0000	.0
	NO READING					
	1.032	1.640	63.7	25.8	.0024	.6
	1.008	1.246	39.6	35.1	.0024	.0
	.999	.911	32.2	54.2	.0024	2.0
	.995	.000	7.9	90.0	.0000	.0
	NO READING					
	1.277	1.678	50.4	47.6	.0024	.6
	1.296	1.310	53.9	45.3	.0024	.0
	1.317	.992	34.1	59.0	.0024	2.0
	1.361	.000	11.8	180.0	.0000	.0
181.15	NO READING					
	.198	1.511	104.7	34.8	.0022	3.5
	.227	1.153	44.9	8.7	.0023	.5
	.231	.798	31.2	48.0	.0025	1.2
	.231	.000	23.7	90.0	.0000	.0
	NO READING					
	.611	1.502	101.0	129.8	.0024	.0
	.578	1.166	50.8	- 7.6	.0023	4.5
	.593	.831	31.9	49.1	.0024	1.2
	.615	.000	.0	.0	.0000	.0
	NO READING					
	1.058	1.625	90.5	38.7	.0025	1.2
	1.017	1.241	42.3	40.6	.0024	.9
	1.003	.900	39.0	67.5	.0024	2.4
	.988	.000	31.6	90.0	.0000	.0
	NO READING					
	1.281	1.654	83.2	41.6	.0025	1.2
	1.299	1.285	65.9	45.4	.0024	.9
	1.319	.973	57.1	58.1	.0024	2.4
	1.358	.000	33.6	90.0	.0000	.0

Table D-I. Front Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
219.78	NO READING					
	.194	1.563	65.3	-118.6	.0023	1.1
	.223	1.171	35.9	39.3	.0023	5.2
	.240	.803	30.2	- 96.3	.0024	.8
	.240	.000	19.7	90.0	.0000	.0
	NO READING					
	.569	1.486	106.2	- 2.7	.0022	.0
	.575	1.171	35.0	24.1	.0023	.2
	.597	.831	22.1	- 83.7	.0023	2.4
	.615	.000	7.9	.0	.0000	.0
	NO READING					
	1.094	1.585	128.1	61.4	.0025	2.1
	1.036	1.219	77.7	77.4	.0023	.9
	1.014	.878	38.5	81.4	.0024	.5
	1.010	.000	27.6	90.0	.0000	.0
	NO READING					
	1.334	1.652	104.8	25.2	.0025	2.1
	1.334	1.279	69.8	45.9	.0023	.9
	1.349	.955	51.2	65.1	.0024	.5
	1.385	.000	35.5	90.0	.0000	.0
258.41	NO READING					
	.187	1.568	47.4	-116.6	.0024	1.6
	.209	1.171	51.5	41.8	.0024	5.6
	.223	.809	42.5	-128.2	.0024	.9
	.231	.000	11.8	180.0	.0000	.0
	NO READING					
	.518	1.500	99.3	-136.7	.0022	5.4
	.549	1.167	50.0	9.2	.0023	1.4
	.580	.834	21.0	-106.2	.0023	3.3
	.622	.000	11.8	.0	.0000	.0
	NO READING					
	1.111	1.522	125.3	98.6	.0024	1.0
	1.025	1.177	63.8	- 27.4	.0024	6.3
	1.012	.867	26.2	- 23.4	.0024	4.4
	1.006	.000	9.9	90.0	.0000	.0
	NO READING					
	1.363	1.619	111.7	46.7	.0024	1.0
	1.338	1.250	57.6	70.2	.0024	6.3
	1.347	.942	23.8	30.6	.0024	4.4
	1.380	.000	23.7	90.0	.0000	.0

Table D-I. Front Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
297.04	NO READING					
	.187	1.603	63.8	- 83.5	.0024	1.6
	.205	1.204	55.9	- 98.8	.0024	.5
	.221	.831	39.7	- 95.9	.0024	2.6
	.229	.000	9.9	90.0	.0000	.0
	NO READING					
	.505	1.537	89.2	- 99.6	.0023	5.7
	.531	1.177	53.9	-136.6	.0024	1.6
	.582	.836	27.5	- 81.9	.0023	.9
	.626	.000	19.7	90.0	.0000	.0
	NO READING					
	1.083	1.478	144.8	149.7	.0022	1.6
	1.010	1.182	54.6	7.9	.0023	7.2
	1.001	.875	26.7	7.6	.0023	4.5
	1.012	.000	7.9	90.0	.0000	.0
	NO READING					
	1.405	1.577	137.2	68.3	.0022	1.6
	1.350	1.230	62.8	86.4	.0023	7.2
	1.354	.948	41.1	35.9	.0023	4.5
	1.396	.000	25.7	90.0	.0000	.0
335.67	NO READING					
	.192	1.627	40.6	23.5	.0023	7.0
	.201	1.222	34.1	- 1.6	.0024	.9
	.220	.845	38.4	4.1	.0024	2.7
	.231	.000	9.9	90.0	.0000	.0
	NO READING					
	.505	1.581	57.2	- 45.0	.0024	.4
	.516	1.202	35.8	-104.8	.0024	5.7
	.571	.856	37.2	21.5	.0023	.1
	.611	.000	21.7	90.0	.0000	.0
	NO READING					
	1.001	1.475	148.1	25.3	.0021	1.6
	.975	1.178	65.1	12.1	.0022	.9
	.990	.871	25.0	161.6	.0023	8.0
	1.010	.000	5.9	180.0	.0000	.0
	NO READING					
	1.403	1.510	176.9	110.2	.0021	1.6
	1.336	1.199	73.3	132.9	.0022	.9
	1.345	.920	41.1	125.8	.0023	8.0
	1.389	.000	15.8	90.0	.0000	.0

Table D-I. Front Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
374.30	NO READING					
	.185	1.616	45.1	30.1	.0023	8.6
	.199	1.210	39.6	15.4	.0023	2.3
	.214	.825	38.8	14.6	.0024	.3
	.223	.000	21.7	90.0	.0000	.0
	NO READING					
	.514	1.581	39.9	- 33.4	.0024	3.3
	.516	1.206	18.3	- 97.9	.0024	8.9
	.560	.853	22.4	54.2	.0023	2.2
	.617	.000	13.8	90.0	.0000	.0
	NO READING					
	.968	1.519	99.1	-104.2	.0023	.2
	.953	1.191	35.8	-142.4	.0023	.6
	.979	.867	19.6	7.6	.0023	8.8
	1.006	.000	7.9	180.0	.0000	.0
	NO READING					
	1.343	1.435	177.1	- 23.3	.0023	.2
	1.306	1.182	69.8	163.6	.0023	.6
	1.338	.915	25.3	141.7	.0023	8.8
	1.396	.000	9.9	90.0	.0000	.0
412.93	NO READING					
	.198	1.641	42.7	13.3	.0023	1.6
	.209	1.231	27.6	11.2	.0023	8.9
	.218	.840	28.3	2.3	.0024	1.9
	.236	.000	21.7	90.0	.0000	.0
	NO READING					
	.525	1.607	48.8	-114.2	.0023	3.4
	.512	1.219	30.3	- 94.4	.0024	3.3
	.565	.860	17.0	- 99.7	.0023	13.4
	.609	.000	17.8	90.0	.0000	.0
	NO READING					
	.973	1.555	72.0	- 62.0	.0025	.6
	.948	1.197	29.6	-123.4	.0023	.6
	.973	.871	25.3	-142.9	.0023	.8
	1.003	.000	5.9	180.0	.0000	.0
	NO READING					
	1.275	1.440	147.0	-142.9	.0025	.6
	1.275	1.180	58.9	17.6	.0023	.6
	1.327	.906	31.7	- 12.9	.0023	.8
	1.394	.000	2.0	90.0	.0000	.0

Table D-I. Front Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
451.56	NO READING					
	.198	1.630	64.5	- 6.5	.0023	2.3
	.209	1.230	20.7	- 9.4	.0023	8.0
	.220	.829	42.6	- 12.2	.0024	2.0
	.229	.000	9.9	180.0	.0000	.0
	NO READING					
	.509	1.612	40.4	-125.9	.0023	3.3
	.514	1.233	34.5	-102.4	.0023	2.9
	.560	.864	21.5	-155.2	.0024	12.7
	.618	.000	25.7	90.0	.0000	.0
	NO READING					
	.995	1.575	46.4	- 38.1	.0025	.4
	.941	1.215	49.3	-120.5	.0023	4.2
	.961	.882	37.9	-141.3	.0023	1.1
	1.001	.000	19.7	180.0	.0000	.0
	NO READING					
	1.252	1.504	127.1	- 98.1	.0025	.4
	1.257	1.195	65.2	-150.6	.0023	4.2
	1.312	.909	53.1	-165.2	.0023	1.1
	1.394	.000	13.8	90.0	.0000	.0
490.19	NO READING					
	.187	1.678	65.1	- 60.7	.0022	2.3
	.203	1.246	25.8	- 37.4	.0023	.5
	.212	.856	45.0	- 15.4	.0024	7.7
	.227	.000	3.9	90.0	.0000	.0
	NO READING					
	.509	1.632	46.1	- 83.0	.0023	3.6
	.505	1.248	22.6	- 61.0	.0024	3.0
	.547	.867	30.2	-127.0	.0024	1.3
	.604	.000	15.8	90.0	.0000	.0
	NO READING					
	1.006	1.583	35.2	7.6	.0024	1.6
	.924	1.235	52.5	18.3	.0024	4.4
	.946	.893	35.2	-141.7	.0024	1.9
	.984	.000	21.7	180.0	.0000	.0
	NO READING					
	1.255	1.554	69.3	- 46.4	.0024	1.6
	1.222	1.208	49.8	10.1	.0024	4.4
	1.279	.919	60.0	- 2.2	.0024	1.9
	1.382	.000	51.3	180.0	.0000	.0

Table D-I. Front Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
528.8<	NO READING					
	.198	1.682	46.3	- 50.9	.0023	1.7
	.209	1.242	44.8	- 31.2	.0024	1.0
	.216	.844	66.3	- 3.6	.0025	8.2
	.229	.000	9.9	.0	.0000	.0
	NO READING					
	.514	1.654	48.4	- 87.7	.0025	.5
	.509	1.248	48.3	- 55.4	.0025	5.5
	.547	.882	25.9	- 84.3	.0024	2.4
	.604	.000	19.7	90.0	.0000	.0
	NO READING					
	1.019	1.568	125.8	- 64.0	.0023	2.1
	.907	1.230	51.3	20.0	.0024	.2
	.935	.902	33.3	16.7	.0025	20.2
	.981	.000	23.7	180.0	.0000	.0
	NO READING					
	1.270	1.555	41.9	- 7.9	.0023	2.1
	1.213	1.208	45.0	19.1	.0024	.2
	1.259	.911	48.1	- .8	.0025	20.2
	1.347	.000	45.4	180.0	.0000	.0
567.45	NO READING					
	.201	1.713	50.8	-113.9	.0023	2.0
	.205	1.277	68.9	-110.4	.0024	1.0
	.223	.891	77.9	45.0	.0025	.6
	.236	.000	43.4	90.0	.0000	.0
	NO READING					
	.511	1.676	70.6	-112.9	.0027	3.7
	.494	1.286	63.0	-129.4	.0025	7.9
	.549	.891	56.9	-115.5	.0024	2.6
	.586	.000	53.3	180.0	.0000	.0
	NO READING					
	.922	1.574	194.3	-157.7	.0021	.9
	.887	1.250	80.8	-141.1	.0023	.5
	.919	.900	65.9	6.4	.0024	20.6
	.962	.000	53.3	180.0	.0000	.0
	NO READING					
	1.294	1.559	49.7	83.2	.0021	.9
	1.188	1.228	97.1	-149.7	.0023	.5
	1.237	.919	77.4	-160.9	.0024	20.6
	1.339	.000	47.4	180.0	.0000	.0

Table D-I. Front Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
606.08	NO READING					
	.188	1.722	36.4	-129.2	.0024	.4
	.186	1.301	56.9	-123.6	.0024	.2
	.199	.887	51.1	18.1	.0025	.0
	.203	.000	37.5	180.0	.0000	.0
	NO READING					
	.485	1.711	74.1	-118.7	.0027	3.8
	.479	1.296	59.3	-138.5	.0026	2.5
	.511	.911	78.6	-136.0	.0024	8.7
	.554	.000	55.3	180.0	.0000	.0
	NO READING					
	.860	1.629	155.1	-137.4	.0020	.7
	.842	1.270	108.7	-153.0	.0024	.5
	.876	.915	81.6	-156.4	.0024	1.2
	.931	.000	77.0	180.0	.0000	.0
	NO READING					
	1.272	1.557	63.7	7.7	.0020	.7
	1.134	1.250	131.9	-160.6	.0024	.5
	1.191	.935	102.4	-160.9	.0024	1.2
	1.303	.000	78.9	180.0	.0000	.0
644.71	NO READING					
	.181	1.738	31.4	- 97.3	.0025	3.4
	.176	1.321	41.6	- 91.4	.0024	.5
	.183	.904	31.4	-103.3	.0025	.2
	.201	.000	9.9	180.0	.0000	.0
	NO READING					
	.476	1.735	44.4	- .2	.0028	2.8
	.456	1.325	57.7	-136.8	.0026	1.7
	.496	.937	54.3	11.2	.0025	9.2
	.534	.000	25.7	180.0	.0000	.0
	NO READING					
	.816	1.671	123.0	-115.1	.0021	.3
	.798	1.296	83.1	-152.5	.0025	2.3
	.849	.930	73.5	-161.7	.0025	.5
	.891	.000	57.2	180.0	.0000	.0
	NO READING					
	1.237	1.570	134.9	-168.1	.0021	.3
	1.072	1.268	103.7	-168.5	.0025	2.3
	1.147	.950	88.7	-163.4	.0025	.5
	1.266	.000	75.0	180.0	.0000	.0

Table D-I. Front Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
683.34	NO READING					
	.193	1.749	36.4	- 92.3	.0026	3.6
	.183	1.334	50.8	- 96.5	.0024	.2
	.185	.909	26.6	-111.3	.0026	4.3
	.194	.000	19.7	180.0	.0000	.0
	NO READING					
	.470	1.720	68.2	9.2	.0026	2.8
	.443	1.334	46.3	-138.4	.0026	1.8
	.479	.924	51.8	4.9	.0025	.7
	.531	.000	29.6	180.0	.0000	.0
	NO READING					
	.812	1.724	162.4	- 61.0	.0011	.1
	.774	1.306	55.7	-133.1	.0026	2.9
	.812	.935	63.7	-154.9	.0025	.5
	.878	.000	35.5	180.0	.0000	.0
	NO READING					
	1.149	1.575	READINGS	INVALID		
	1.041	1.272	75.3	-164.0	.0026	2.9
	1.113	.959	75.2	-166.4	.0025	.5
	1.233	.000	71.1	180.0	.0000	.0
721.97	NO READING					
	.177	1.771	READINGS	INVALID		
	.161	1.358	48.9	- 70.4	.0024	.0
	.168	.919	32.2	-120.4	.0026	4.5
	.183	.000	17.8	90.0	.0000	.0
	NO READING					
	.468	1.768	READINGS	INVALID		
	.425	1.354	60.5	- 93.8	.0026	1.0
	.461	.944	43.3	-107.1	.0025	.6
	.507	.000	31.6	180.0	.0000	.0
	NO READING					
	.898	1.769	READINGS	INVALID		
	.765	1.330	51.3	-112.7	.0026	.6
	.796	.950	49.5	-130.4	.0026	2.7
	.858	.000	29.6	180.0	.0000	.0
	NO READING					
	NO READING					
	1.006	1.288	74.3	-138.7	.0026	.6
	1.080	.966	61.7	-154.4	.0026	2.7
	1.200	.000	47.4	180.0	.0000	.0

Table D-I. Front Smoke Grid Calculations - 1-8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
760.60	NO READING					
	NO READING					
	.174	1.360	31.8	- 52.2	.0024	.0
	.168	.930	45.6	- 79.7	.0026	.4
	.188	.000	7.9	90.0	.0000	.0
	NO READING					
	NO READING					
	.441	1.378	38.3	- 55.9	.0027	1.7
	.463	.957	36.0	- 80.8	.0026	.6
	.501	.000	7.9	90.0	.0000	.0
	NO READING					
	NO READING					
	.756	1.350	51.5	-102.2	.0026	.9
	.783	.970	45.2	-118.2	.0025	5.0
	.851	.000	37.5	180.0	.0000	.0
	NO READING					
	NO READING					
	.990	1.314	53.8	- 85.8	.0026	.9
	1.061	.981	36.4	-138.2	.0025	5.0
	1.189	.000	23.7	180.0	.0000	.0
799.23	NO READING					
	.185	1.810	READINGS INVALID			
	.172	1.376	43.1	- 73.8	.0024	1.1
	.179	.959	47.5	10.3	.0025	.9
	.187	.000	7.9	90.0	.0000	.0
	NO READING					
	.523	1.786	READINGS INVALID			
	.445	1.383	15.3	- 66.1	.0027	.7
	.467	.977	26.5	- 53.1	.0026	.5
	.503	.000	3.9	.0	.0000	.0
	NO READING					
	NO READING					
	.756	1.376	50.1	- 97.6	.0026	1.7
	.776	.986	42.5	- 92.0	.0025	2.3
	.823	.000	49.3	90.0	.0000	.0
	NO READING					
	NO READING					
	1.003	1.328	54.9	- 87.2	.0026	1.7
	1.054	.988	41.3	-128.3	.0025	2.3
	1.178	.000	15.8	90.0	.0000	.0

Table D-I. Front Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
837.86	NO READING					
	NO READING					
	.187	1.394	51.8	- 91.7	.0024	4.4
	.179	.946	43.7	- 3.8	.0025	1.4
	.192	.000	13.8	90.0	.0000	.0
	NO READING					
	NO READING					
	.446	1.391	52.0	- 86.9	.0028	.1
	.470	.979	36.3	- 69.2	.0025	1.0
	.505	.000	5.9	90.0	.0000	.0
	NO READING					
	NO READING					
	.750	1.396	53.7	-125.3	.0027	2.4
	.783	1.006	40.8	-111.7	.0026	.0
	.842	.000	31.6	90.0	.0000	.0
	NO READING					
	NO READING					
	.984	1.354	77.2	-129.3	.0027	2.4
	1.039	1.012	57.5	-120.9	.0026	.0
	1.182	.000	17.8	90.0	.0000	.0
876.49	NO READING					
	NO READING					
	.170	1.413	39.8	- 79.3	.0024	3.2
	.176	.973	41.7	- 93.8	.0025	1.6
	.185	.000	11.8	90.0	.0000	.0
	NO READING					
	NO READING					
	.441	1.431	73.7	- 90.1	.0027	.2
	.459	1.006	51.7	-103.8	.0025	.5
	.501	.000	7.9	180.0	.0000	.0
	NO READING					
	NO READING					
	.726	1.413	74.3	-109.7	.0026	2.9
	.769	1.014	46.4	-129.7	.0025	3.6
	.831	.000	23.7	180.0	.0000	.0
	NO READING					
	NO READING					
	.957	1.383	90.8	-114.0	.0026	2.9
	1.027	1.034	41.4	-109.2	.0025	3.6
	1.169	.000	31.6	180.0	.0000	.0

Table D-II. Rear Smoke Grid Calculations - 1/8 In. Entrance

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TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	G LB/SQFT
145.04	1.942	1.935	16.5	- 7.3	.0025	1.2
	1.832	1.579	38.6	- 58.4	.0023	.5
	1.772	1.327	56.8	- 29.9	.0024	2.4
	1.739	.989	39.0	- 67.2	.0024	.7
	1.737	.000	9.9	.0	.0000	.0
	2.050	1.915	73.2	69.9	.0024	.6
	2.025	1.572	48.8	- 63.1	.0023	.9
	2.038	1.305	37.4	- 57.0	.0023	.5
	2.074	.909	36.9	93.9	.0024	1.8
	2.104	.000	17.8	90.0	.0000	.0
	3.097	1.926	40.4	- 11.4	.0024	2.5
	2.954	1.539	15.9	- 89.0	.0023	.3
	2.822	1.231	39.7	2.8	.0022	.3
	2.576	.722	36.2	- 9.2	.0022	2.5
	2.483	.000	23.8	90.0	.0000	.0
	3.225	1.972	78.3	8.8	.0024	2.5
	3.100	1.534	14.5	37.4	.0023	.3
	3.000	1.213	41.8	- 24.6	.0022	.3
	2.943	.616	21.4	4.1	.0022	2.5
	2.855	.000	47.6	90.0	.0000	.0
153.55	1.953	1.939	42.7	- 20.8	.0023	2.0
	1.960	1.579	58.1	12.4	.0023	.5
	1.790	1.295	67.5	23.7	.0024	.3
	1.765	.989	42.1	29.2	.0024	2.2
	1.746	.000	31.7	.0	.0000	.0
	2.089	1.918	79.3	- 13.9	.0024	2.9
	2.049	1.561	54.2	12.4	.0023	.6
	2.054	1.305	46.4	16.8	.0023	.4
	2.093	.894	39.8	11.4	.0025	.4
	2.107	.000	33.7	.0	.0000	.0
	3.100	1.909	69.9	- 7.4	.0026	.1
	2.954	1.543	20.3	- 51.9	.0024	.2
	2.822	1.213	54.9	23.6	.0022	.9
	2.580	.704	29.1	26.1	.0023	.6
	2.492	.000	13.9	.0	.0000	.0
	3.221	1.935	70.0	- 30.5	.0026	.1
	3.097	1.532	18.9	- 5.3	.0024	.2
	3.011	1.193	45.1	25.0	.0022	.9
	2.946	.605	46.5	- 50.9	.0023	.6
	2.875	.000	23.8	90.0	.0000	.0

Table D-II. Rear Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
220.06	1.979	1.950	73.9	0.1	.0023	1.8
	1.884	1.568	56.8	24.8	.0025	3.0
	1.816	1.301	53.8	13.3	.0024	1.1
	1.772	.978	59.5	47.1	.0024	2.5
	1.766	.000	33.7	.0	.0000	.0
	2.120	1.931	60.0	15.0	.0024	3.1
	2.072	1.561	52.2	6.9	.0023	.6
	2.076	1.290	55.2	30.1	.0023	1.3
	2.105	.898	30.4	- 4.4	.0025	.6
	2.135	.000	37.7	.0	.0000	.0
	3.098	1.957	80.9	- 33.0	.0026	1.0
	2.968	1.546	31.4	4.6	.0025	.8
	2.846	1.235	56.4	12.7	.0023	1.2
	2.587	.707	29.9	7.3	.0024	3.9
	2.496	.000	33.7	.0	.0000	.0
	3.196	1.946	79.0	- 65.1	.0026	1.0
	3.084	1.536	50.9	- 70.1	.0025	.2
	3.029	1.197	27.4	67.5	.0023	1.2
	2.915	.609	57.9	- 74.4	.0024	3.9
	2.873	.000	15.9	90.0	.0000	.0
260.57	2.010	1.924	86.2	5.9	.0023	.2
	1.907	1.557	55.4	20.9	.0025	3.1
	1.834	1.286	54.3	27.3	.0024	1.2
	1.805	.953	59.5	- 9.3	.0024	2.5
	1.777	.000	25.8	.0	.0000	.0
	2.138	1.907	80.9	8.7	.0023	.7
	2.096	1.556	54.5	10.6	.0023	2.5
	2.098	1.279	50.5	10.9	.0024	4.5
	2.120	.896	43.7	3.6	.0025	2.3
	2.142	.000	39.7	.0	.0000	.0
	3.122	1.944	51.9	- 4.8	.0023	1.2
	2.981	1.541	44.6	21.4	.0025	5.2
	2.853	1.217	47.1	24.1	.0024	2.4
	2.602	.694	46.8	20.6	.0024	4.4
	2.523	.000	47.6	.0	.0000	.0
	3.236	1.926	86.9	- .7	.0023	1.2
	3.115	1.523	56.7	5.5	.0025	5.2
	3.023	1.193	21.2	69.1	.0024	2.4
	2.935	.599	51.6	1.7	.0024	4.4
	2.886	.000	47.6	.0	.0000	.0

Table D-II. Rear Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
299.08	2.045	1.942	92.7	2.6	.0024	1.9
	1.931	1.550	70.4	20.7	.0025	.7
	1.860	1.279	58.6	34.5	.0024	1.0
	1.812	.964	32.6	- 3.5	.0023	1.6
	1.790	.000	21.8	.0	.0000	.0
	2.175	1.933	82.2	25.7	.0023	1.3
	2.122	1.552	59.1	17.3	.0024	3.0
	2.120	1.281	57.6	17.7	.0024	3.9
	2.146	.896	52.6	14.3	.0025	6.0
	2.171	.000	37.7	.0	.0000	.0
	3.139	1.957	38.1	6.2	.0022	.3
	3.007	1.532	39.6	60.5	.0026	6.1
	2.877	1.217	30.2	58.3	.0023	2.3
	2.626	.694	39.7	.0	.0023	1.8
	2.540	.000	33.7	.0	.0000	.0
	3.267	1.942	50.7	21.8	.0022	.3
	3.133	1.526	40.6	8.9	.0026	6.1
	3.036	1.195	61.7	- 26.6	.0023	2.3
	2.959	.608	73.9	- 5.6	.0023	1.8
	2.917	.000	59.5	.0	.0000	.0
337.59	2.076	1.922	97.2	26.6	.0025	3.9
	1.968	1.534	99.0	29.5	.0025	2.1
	1.876	1.257	80.9	53.8	.0025	2.8
	1.823	.951	54.8	49.4	.0023	.5
	1.798	.000	17.8	.0	.0000	.0
	2.177	1.902	112.7	37.5	.0024	2.1
	2.148	1.539	79.3	22.9	.0024	4.1
	2.144	1.261	58.6	34.4	.0024	1.8
	2.166	.885	51.8	41.3	.0025	6.1
	2.177	.000	13.9	.0	.0000	.0
	3.148	1.946	35.7	30.8	.0024	.5
	3.005	1.523	51.0	43.6	.0026	4.0
	2.875	1.213	56.1	60.5	.0022	6.6
	2.639	.694	49.6	16.8	.0023	1.7
	2.554	.000	31.7	.0	.0000	.0
	3.271	1.931	56.2	- 7.9	.0024	.5
	3.150	1.517	32.3	- 30.4	.0026	4.0
	3.067	1.226	76.3	5.7	.0022	6.5
	3.001	.601	64.0	- 26.8	.0023	1.7
	2.941	.000	33.7	.0	.0000	.0

Table D-II. Rear Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	C LB/SQFT
376.10	2.126	1.904	133.4	- 2.1	.0024	5.1
	2.010	1.504	106.1	41.5	.0026	2.3
	1.904	1.219	69.1	75.4	.0025	2.1
	1.845	.925	66.0	90.8	.0023	2.6
	1.807	.000	25.8	90.0	.0000	.0
	2.248	1.917	120.8	- 8.5	.0024	1.6
	2.190	1.525	84.0	26.4	.0023	4.0
	2.164	1.250	60.6	42.5	.0024	4.3
	2.180	.865	34.1	55.1	.0025	2.1
	2.184	.000	11.9	.0	.0000	.0
	3.166	1.942	44.1	26.5	.0027	5.7
	3.042	1.532	48.8	- 7.0	.0027	4.5
	2.923	1.209	70.4	63.2	.0024	7.9
	2.666	.676	52.8	- 10.4	.0024	5.7
	2.569	.000	15.9	.0	.0000	.0
	3.273	1.972	71.8	- 18.3	.0027	5.7
	3.150	1.528	32.1	- 39.3	.0027	4.5
	3.082	1.204	39.3	39.1	.0024	7.9
	3.009	.616	39.9	45.0	.0024	5.7
	2.948	.000	13.9	90.0	.0000	.0
414.61	2.190	1.933	142.2	- 4.4	.0023	3.3
	2.041	1.470	130.9	61.2	.0028	3.4
	1.902	1.202	65.9	96.7	.0024	1.7
	1.827	.905	71.3	108.4	.0024	3.8
	1.792	.000	17.8	90.0	.0000	.0
	2.287	1.920	99.6	8.4	.0024	1.1
	2.217	1.506	102.2	48.6	.0024	1.1
	2.182	1.222	71.5	63.4	.0025	4.9
	2.184	.859	34.1	81.7	.0025	.6
	2.188	.000	9.9	90.0	.0000	.0
	3.183	1.928	43.7	2.4	.0026	6.3
	3.049	1.532	34.5	31.7	.0025	3.2
	2.913	1.195	38.6	103.1	.0024	3.7
	2.675	.689	42.8	29.1	.0025	11.2
	2.569	.000	11.9	90.0	.0000	.0
	3.289	1.951	52.4	52.9	.0026	6.3
	3.168	1.525	31.4	28.2	.0025	3.2
	3.091	1.200	28.5	55.9	.0024	3.7
	2.990	.607	54.4	127.0	.0025	11.2
	2.943	.000	29.7	180.0	.0000	.0

Table D-II. Rear Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	C LB/SCFT
453.12	2.248	1.917	129.6	5.2	.0020	2.7
	2.061	1.398	157.3	88.1	.0032	3.3
	1.896	1.158	88.1	77.1	.0026	3.3
	1.831	.867	83.6	129.6	.0024	2.2
	1.794	.000	19.8	90.0	.0000	.0
	2.336	1.900	113.6	8.0	.0024	4.9
	2.245	1.451	126.1	69.0	.0026	2.1
	2.193	1.191	76.6	91.7	.0025	4.2
	2.177	.836	52.4	117.9	.0026	1.1
	2.182	.000	17.8	180.0	.0000	.0
	3.197	1.939	37.6	13.3	.0027	1.7
	3.060	1.510	36.5	5.2	.0025	6.8
	2.915	1.176	25.9	87.1	.0024	4.1
	2.666	.667	32.9	129.5	.0026	7.6
	2.558	.000	19.8	180.0	.0000	.0
	3.302	1.933	32.4	- 55.5	.0027	1.7
	3.175	1.517	28.9	54.2	.0025	6.8
	3.091	1.184	39.7	90.0	.0024	4.1
	2.985	.577	38.5	- 3.9	.0026	7.6
	2.921	.000	29.7	90.0	.0000	.0
491.63	2.307	1.922	112.8	- 9.7	.0015	3.4
	2.047	1.328	186.4	117.7	.0034	3.5
	1.917	1.127	174.3	109.1	.0026	2.8
	1.792	.863	92.8	170.5	.0024	2.5
	1.777	.000	47.6	180.0	.0000	.0
	2.388	1.906	126.2	1.8	.0024	5.8
	2.259	1.398	140.9	81.6	.0027	3.6
	2.179	1.156	111.1	109.6	.0025	2.9
	2.162	.817	63.9	126.6	.0026	4.2
	2.171	.000	47.6	180.0	.0000	.0
	3.205	1.924	30.4	6.0	.0033	2.1
	3.066	1.517	13.9	18.4	.0025	6.2
	2.915	1.171	13.1	73.1	.0025	3.8
	2.661	.663	27.0	144.7	.0026	4.4
	2.551	.000	21.8	180.0	.0000	.0
	3.295	1.935	42.8	-166.4	.0033	2.1
	3.183	1.503	39.9	- 45.0	.0025	6.2
	3.091	1.164	37.8	104.9	.0025	3.8
	2.983	.583	27.7	18.9	.0026	4.4
	2.926	.000	39.7	90.0	.0000	.0

Table D-II. Rear Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
530.14	2.351	1.933	230.2	- 43.1	.0009	1.9
	1.977	1.255	221.7	146.4	.0037	11.1
	1.799	1.087	207.6	- 8.7	.0025	3.5
	1.746	.852	98.7	170.9	.0024	2.9
	1.750	.000	61.5	180.0	.0000	.0
	2.452	1.895	119.4	15.5	.0023	1.7
	2.261	1.323	184.1	106.3	.0030	5.4
	2.160	1.094	140.3	130.6	.0026	3.3
	2.142	.788	100.0	151.3	.0025	6.6
	2.138	.000	67.4	180.0	.0000	.0
	3.212	1.933	30.4	-102.4	.0031	3.1
	3.066	1.514	44.8	101.3	.0026	.6
	2.919	1.165	42.9	90.0	.0025	2.5
	2.646	.652	55.6	151.8	.0026	3.3
	2.538	.000	47.6	180.0	.0000	.0
	3.263	1.942	78.2	- 83.4	.0031	3.1
	3.164	1.512	42.0	- 31.7	.0026	.6
	3.084	1.151	33.0	132.1	.0025	2.5
	2.967	.572	38.5	135.9	.0026	3.3
	2.895	.000	35.7	90.0	.0000	.0
568.65	2.402	2.093	READINGS	INVALID		
	1.880	1.219	260.9	165.1	.0037	8.3
	1.732	1.088	152.7	-178.5	.0025	2.9
	1.702	.848	91.8	1.5	.0024	1.2
	1.721	.000	59.5	180.0	.0000	.0
	2.494	1.878	118.6	.7	.0022	1.0
	2.208	1.244	205.9	126.0	.0031	10.3
	2.102	1.066	122.9	139.6	.0026	8.0
	2.085	.786	107.3	142.9	.0025	4.6
	2.109	.000	57.5	180.0	.0000	.0
	3.197	1.940	43.6	- 74.5	.0024	9.4
	3.051	1.479	70.7	54.5	.0025	7.7
	2.901	1.138	59.9	79.3	.0025	7.1
	2.615	.641	66.8	138.6	.0025	3.7
	2.507	.000	45.6	180.0	.0000	.0
	3.304	1.942	85.4	- 29.3	.0024	9.4
	3.164	1.493	56.2	59.7	.0025	7.7
	3.071	1.142	51.7	110.6	.0025	7.1
	2.957	.559	42.3	130.3	.0025	3.7
	2.897	.000	5.9	.0	.0000	.0

Table D-II. Rear Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
607.16	NO READING					
	1.744	1.157	240.0	9.0	.0030	17.9
	1.658	1.090	145.2	-175.4	.0025	6.8
	1.662	.854	102.4	- 1.0	.0024	1.9
	1.695	.000	73.4	180.0	.0000	.0
	2.554	1.900	162.5	- 29.9	.0020	2.3
	2.149	1.169	207.7	140.5	.0029	6.9
	2.074	1.026	144.2	140.0	.0026	6.6
	2.072	.746	109.2	- 35.3	.0025	5.9
	2.085	.000	73.4	180.0	.0000	.0
	3.221	1.939	52.8	20.2	.0025	15.0
	3.078	1.481	76.0	27.6	.0025	10.7
	2.919	1.125	73.2	69.5	.0024	7.1
	2.602	.616	67.5	125.8	.0026	8.3
	2.496	.000	45.6	180.0	.0000	.0
	3.324	1.975	86.2	10.6	.0025	15.0
	3.194	1.477	56.6	20.3	.0025	10.7
	3.078	1.110	47.9	70.1	.0024	7.1
	2.941	.542	45.5	118.2	.0026	8.3
	2.901	.000	33.7	90.0	.0000	.0
645.67	NO READING					
	1.669	1.235	192.3	-143.9	.0031	20.1
	1.598	1.098	127.9	-172.9	.0027	7.1
	1.609	.845	100.0	173.7	.0024	1.7
	1.653	.000	107.1	180.0	.0000	.0
	2.620	1.955	READINGS	INVALID		
	2.063	1.125	214.6	152.5	.0027	7.0
	1.997	.991	156.3	161.7	.0027	1.9
	2.014	.748	104.3	- 19.6	.0025	6.4
	2.041	.000	77.3	180.0	.0000	.0
	3.241	1.924	81.1	- 12.8	.0025	7.7
	3.100	1.444	64.5	35.9	.0024	7.3
	2.908	1.081	61.6	87.8	.0024	3.7
	2.578	.592	49.7	- 9.2	.0025	8.0
	2.464	.000	69.4	180.0	.0000	.0
	3.331	1.935	73.6	9.0	.0025	7.7
	3.212	1.473	48.3	28.2	.0024	7.3
	3.084	1.099	24.5	54.2	.0024	3.7
	2.937	.524	29.1	18.9	.0025	8.0
	2.873	.000	45.6	180.0	.0000	.0

Table D-II. Rear Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
684.18	NO READING					
	1.603	1.301	READINGS	INVALID		
	1.541	1.105	109.1	-169.0	.0031	2.8
	1.570	.843	89.9	3.4	.0024	.3
	1.596	.000	81.3	180.0	.0000	.0
	NO READING					
	1.973	1.077	READINGS	INVALID		
	1.939	.978	150.3	172.5	.0027	.9
	1.981	.729	112.3	163.9	.0025	4.2
	2.014	.000	39.7	180.0	.0000	.0
	3.265	1.968	100.2	- 19.0	.0025	1.7
	3.117	1.440	69.8	40.0	.0023	4.4
	2.912	1.070	96.8	94.1	.0025	4.3
	2.567	.597	80.8	- 6.8	.0025	3.2
	2.432	.000	49.6	180.0	.0000	.0
	3.344	1.959	71.0	- 32.2	.0025	1.7
	3.230	1.455	52.9	53.2	.0023	4.4
	3.091	1.092	70.9	75.2	.0025	4.3
	2.941	.531	75.4	45.0	.0025	3.2
	2.858	.000	41.6	180.0	.0000	.0
722.69	NO READING					
	NO READING					
	1.499	1.116	84.8	-171.2	.0038	11.6
	1.526	.850	95.8	4.7	.0026	5.0
	1.578	.000	59.5	180.0	.0000	.0
	NO READING					
	NO READING					
	1.860	.975	167.0	175.9	.0027	11.3
	1.915	.726	139.1	162.5	.0026	5.5
	2.005	.000	83.3	180.0	.0000	.0
	3.304	1.950	69.2	- 16.8	.0023	2.5
	3.135	1.396	103.2	80.9	.0022	.3
	2.877	1.000	98.1	58.3	.0024	2.1
	2.519	.557	143.7	140.6	.0026	1.9
	2.419	.000	61.5	180.0	.0000	.0
	3.383	1.961	75.8	- 19.1	.0023	2.5
	3.241	1.435	54.6	49.1	.0022	.3
	3.077	1.039	88.9	83.5	.0024	2.1
	2.886	.504	86.4	79.6	.0026	1.9
	2.835	.000	55.5	180.0	.0000	.0

Table D-II. Rear Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
761.20	NO READING					
	1.541	1.396	READINGS	INVALID		
	1.464	1.118	88.5	-143.8	.0040	10.3
	1.482	.850	84.4	22.5	.0028	6.5
	1.541	.000	47.6	180.0	.0000	.0
	NO READING					
	NO READING					
	1.785	.967	122.5	8.6	.0028	14.5
	1.862	.693	100.7	.3	.0026	4.9
	1.937	.000	95.2	180.0	.0000	.0
	3.315	1.968	90.2	- 39.0	.0020	9.8
	3.131	1.349	102.4	62.5	.0021	12.0
	2.890	1.000	107.4	55.6	.0024	5.0
	2.464	.513	88.7	- 10.1	.0026	6.6
	2.375	.000	63.4	180.0	.0000	.0
	3.408	1.979	88.2	- 32.0	.0020	9.8
	3.263	1.418	95.6	55.5	.0021	12.0
	3.089	1.015	80.2	82.6	.0024	5.0
	2.904	.502	81.6	70.4	.0026	6.6
	2.807	.000	73.4	180.0	.0000	.0
799.71	NO READING					
	NO READING					
	1.448	1.162	53.6	-122.8	.0042	17.4
	1.471	.861	25.7	-144.2	.0029	6.7
	1.534	.000	21.8	180.0	.0000	.0
	NO READING					
	NO READING					
	1.750	.982	103.1	-150.0	.0031	4.2
	1.836	.709	77.0	-159.7	.0026	1.7
	1.917	.000	45.6	180.0	.0000	.0
	3.373	1.988	114.2	- 16.8	.0020	8.4
	3.172	1.325	114.6	56.7	.0021	12.0
	2.858	.920	116.7	90.6	.0026	4.3
	2.454	.517	56.1	- 5.8	.0027	5.0
	2.360	.000	35.7	180.0	.0000	.0
	3.452	2.003	99.4	.2	.0020	8.4
	3.280	1.360	102.5	61.8	.0021	12.0
	3.078	.969	92.6	96.7	.0026	4.3
	2.864	.462	85.6	136.7	.0027	5.0
	2.767	.000	57.5	90.0	.0000	.0

Table D-II. Rear Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
838.22	NO READING					
	NO READING					
	1.446	1.164	48.8	-116.2	.0041	17.0
	1.464	.865	38.3	-142.9	.0031	5.2
	1.521	.000	35.7	180.0	.0000	.0
	NO READING					
	NO READING					
	1.704	1.017	90.5	- 1.7	.0033	63.9
	1.796	.715	67.2	- 6.1	.0027	7.3
	1.895	.000	49.6	180.0	.0000	.0
	3.415	1.999	105.7	- 19.3	.0018	1.5
	3.179	1.266	155.9	90.2	.0021	10.8
	2.866	.900	109.3	90.2	.0027	18.7
	2.419	.497	71.1	154.4	.0027	13.4
	2.342	.000	45.6	180.0	.0000	.0
	3.489	1.983	111.7	1.1	.0018	1.5
	3.302	1.334	120.4	73.1	.0021	10.8
	3.078	.931	89.3	98.5	.0027	18.7
	2.847	.447	33.8	132.6	.0027	13.4
	2.780	.000	39.7	90.0	.0000	.0
876.73	NO READING					
	NO READING					
	1.440	1.206	98.1	- 98.1	.0034	.7
	1.446	.885	66.0	-131.4	.0032	.2
	1.501	.000	57.5	180.0	.0000	.0
	NO READING					
	NO READING					
	1.691	1.006	79.5	12.2	.0035	63.6
	1.776	.707	78.8	7.4	.0027	10.2
	1.871	.000	55.5	180.0	.0000	.0
	3.465	2.021	127.4	- 6.2	.0015	2.1
	3.168	1.182	136.0	66.6	.0020	11.2
	2.816	.837	157.9	123.2	.0030	20.0
	2.395	.487	63.1	156.2	.0027	16.4
	2.318	.000	25.8	90.0	.0000	.0
	3.544	2.010	156.9	- 26.3	.0015	2.1
	3.293	1.257	141.7	59.5	.0020	11.2
	3.066	.889	104.0	118.1	.0030	20.0
	2.842	.440	40.8	130.9	.0027	16.4
	2.756	.000	41.6	180.0	.0000	.0

Table D-II. Rear Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
915.24	NO READING					
	NO READING					
	1.433	1.253	62.8	-105.3	.0032	16.0
	1.424	.911	47.2	-144.4	.0032	7.3
	1.468	.000	51.5	180.0	.0000	.0
	NO READING					
	NO READING					
	1.667	1.057	105.2	- 8.6	.0041	49.3
	1.733	.737	66.2	6.5	.0028	17.3
	1.843	.000	37.7	180.0	.0000	.0
	3.527	2.008	124.7	- 7.9	.0012	4.8
	3.201	1.158	112.2	67.1	.0019	2.5
	2.785	.779	94.4	130.1	.0032	2.5
	2.366	.473	71.2	157.0	.0028	7.9
	2.318	.000	53.5	90.0	.0000	.0
	3.619	2.047	181.8	- 26.6	.0012	4.8
	3.342	1.237	166.4	66.8	.0019	2.5
	3.033	.848	109.9	110.7	.0032	2.5
	2.822	.420	69.3	140.2	.0028	7.9
	2.741	.000	43.6	180.0	.0000	.0
953.75	NO READING					
	NO READING					
	1.429	1.262	40.9	-116.7	.0039	21.2
	1.415	.914	48.6	-147.7	.0033	13.7
	1.453	.000	53.5	180.0	.0000	.0
	NO READING					
	NO READING					
	1.662	1.017	148.6	- 1.0	.0040	49.6
	1.724	.733	50.2	- 2.1	.0028	14.1
	1.836	.000	49.6	180.0	.0000	.0
	3.573	2.032	READINGS	INVALID		
	3.192	1.096	148.0	97.7	.0020	44.1
	2.769	.766	101.2	144.2	.0033	23.1
	2.334	.462	62.2	- 3.2	.0028	10.1
	2.268	.000	85.2	180.0	.0000	.0
	3.694	2.085	148.4	66.3	.0006	4.2
	3.306	1.143	156.6	74.9	.0020	44.1
	3.031	.799	94.2	112.6	.0033	23.1
	2.792	.399	66.9	150.4	.0028	10.1
	2.716	.000	49.6	180.0	.0000	.0

Table D-II. Rear Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
992.26	NO READING					
	NO READING					
	1.415	1.286	54.8	22.2	.0053	64.5
	1.389	.938	53.4	-138.7	.0035	16.5
	1.418	.000	43.6	180.0	.0000	.0
	NO READING					
	NO READING					
	1.645	1.112	118.6	-117.4	.0034	3.3
	1.689	.744	53.9	.8	.0029	2.6
	1.798	.000	85.2	180.0	.0000	.0
	NO READING					
	3.183	1.022	READINGS	INVALID		
	2.708	.726	233.9	156.1	.0033	22.6
	2.311	.467	89.0	1.0	.0028	10.4
	2.239	.000	75.3	180.0	.0000	.0
	3.665	2.067	140.7	64.1	.0000	.0
	3.340	1.116	250.9	81.1	.0010	42.1
	3.005	.771	72.7	100.6	.0033	22.6
	2.769	.388	66.7	157.0	.0028	10.4
	2.695	.000	73.4	180.0	.0000	.0
1030.77	NO READING					
	NO READING					
	1.393	1.281	70.5	41.7	.0061	63.4
	1.378	.947	40.9	-134.4	.0039	10.2
	1.413	.000	41.6	180.0	.0000	.0
	NO READING					
	NO READING					
	1.636	1.121	46.0	-116.1	.0035	17.4
	1.577	.740	40.5	- 3.6	.0030	13.3
	1.757	.000	67.4	180.0	.0000	.0
	NO READING					
	NO READING					
	2.569	.691	235.0	- 4.2	.0031	33.3
	2.254	.456	114.1	174.5	.0028	28.8
	2.199	.000	77.3	180.0	.0000	.0
	3.710	2.107	READINGS	INVALID		
	3.236	.960	READINGS	INVALID		
	3.016	.744	138.7	103.1	.0031	33.3
	2.736	.376	99.8	159.0	.0028	28.8
	2.648	.000	63.4	180.0	.0000	.0

Table D-II. Rear Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1069.28	NO READING					
	NO READING					
	1.398	1.323	90.0	-104.2	.0067	9.1
	1.363	.966	77.4	-134.1	.0037	7.0
	1.380	.000	73.4	180.0	.0000	.0
	NO READING					
	NO READING					
	1.633	1.151	64.5	-119.8	.0039	20.1
	1.653	.744	86.1	-171.8	.0032	17.0
	1.735	.000	79.3	180.0	.0000	.0
	NO READING					
	NO READING					
	2.496	.698	250.2	- 1.5	.0029	34.0
	2.206	.456	126.9	.9	.0029	26.5
	2.168	.000	101.1	180.0	.0000	.0
	NO READING					
	NO READING					
	2.943	.678	193.3	151.0	.0029	34.0
	2.683	.355	133.5	165.7	.0029	26.5
	2.637	.000	113.0	180.0	.0000	.0
1107.79	NO READING					
	NO READING					
	1.374	1.356	132.7	-102.8	.0061	25.9
	1.327	.997	98.3	-144.3	.0033	12.9
	1.345	.000	69.4	180.0	.0000	.0
	NO READING					
	NO READING					
	1.609	1.169	111.5	-125.0	.0045	60.8
	1.598	.751	109.6	-157.8	.0033	20.1
	1.684	.000	107.1	180.0	.0000	.0
	NO READING					
	NO READING					
	2.340	.674	215.4	16.4	.0029	9.5
	2.137	.458	138.1	-170.0	.0030	3.6
	2.105	.000	119.0	180.0	.0000	.0
	NO READING					
	NO READING					
	2.866	.656	112.7	122.7	.0029	9.5
	2.617	.346	149.0	170.1	.0030	3.6
	2.543	.000	140.8	180.0	.0000	.0

Table D-II. Rear Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1146.30	NO READING					
	NO READING					
	1.389	1.437	166.0	- 96.?	.0043	24.9
	1.290	1.019	84.5	-130.1	.0033	8.7
	1.316	.000	73.4	180.0	.0000	.0
	NO READING					
	NO READING					
	1.587	1.239	119.8	-113.?	.0044	56.1
	1.561	.779	79.9	-155.9	.0033	14.6
	1.636	.000	109.0	180.0	.0000	.0
	NO READING					
	NO READING					
	2.309	.702	160.0	19.7	.0028	14.5
	2.082	.476	118.8	5.2	.0031	8.2
	2.058	.000	97.1	180.0	.0000	.0
	NO READING					
	NO READING					
	2.969	.632	198.8	124.?	.0028	14.5
	2.547	.332	130.8	170.9	.0031	8.2
	2.507	.000	101.1	180.0	.0000	.0
1184.81	NO READING					
	NO READING					
	1.361	1.503	135.1	- 3.3	.0032	3.9
	1.277	1.052	85.6	-129.1	.0031	24.9
	1.277	.000	75.3	180.0	.0000	.0
	NO READING					
	NO READING					
	1.568	1.272	77.9	-112.3	.0039	7.9
	1.534	.784	67.6	-161.7	.0035	10.1
	1.583	.000	97.1	180.0	.0000	.0
	NO READING					
	NO READING					
	2.202	.698	201.6	9.1	.0028	6.7
	2.030	.469	124.3	8.8	.0031	12.7
	2.016	.000	109.0	180.0	.0000	.0
	NO READING					
	NO READING					
	2.714	.597	279.7	173.2	.0028	6.7
	2.497	.326	128.2	172.2	.0031	12.7
	2.450	.000	128.9	180.0	.0000	.0

Table D-II. Rear Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	C LB/SQFT
1223.32	NO READING					
	NO READING					
	1.347	1.451	123.4	- 4.5	.0033	14.2
	1.240	1.076	91.0	-142.9	.0030	24.2
	1.246	.000	83.3	180.0	.0000	.0
	NO READING					
	NO READING					
	1.559	1.305	82.3	25.6	.0036	12.8
	1.503	.799	97.6	-155.3	.0036	17.5
	1.546	.000	97.1	180.0	.0000	.0
	NO READING					
	NO READING					
	2.127	.726	184.4	6.6	.0028	.5
	1.973	.497	127.8	-166.1	.0031	25.9
	1.957	.000	128.9	180.0	.0000	.0
	NO READING					
	NO READING					
	2.615	.596	263.7	.2	.0028	.5
	2.430	.315	115.1	160.9	.0031	25.9
	2.388	.000	107.1	180.0	.0000	.0
1261.83	NO READING					
	NO READING					
	1.321	1.506	83.6	- 99.3	.0029	15.6
	1.209	1.101	62.5	-124.5	.0029	9.5
	1.200	.000	73.4	180.0	.0000	.0
	NO READING					
	NO READING					
	1.521	1.288	64.9	10.9	.0037	13.7
	1.451	.821	78.7	5.3	.0037	12.7
	1.493	.000	101.1	180.0	.0000	.0
	NO READING					
	NO READING					
	2.038	.715	145.6	17.3	.0029	1.2
	1.918	.498	107.7	-174.3	.0031	23.3
	1.896	.000	128.9	180.0	.0000	.0
	NO READING					
	NO READING					
	2.470	.599	206.4	- 30.0	.0029	1.2
	2.397	.297	131.1	- 10.1	.0031	23.3
	2.351	.000	115.0	180.0	.0000	.0

Table D-II. Rear Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1300.34	NO READING					
	NO READING					
	1.323	1.523	112.0	- 77.6	.0022	6.3
	1.204	1.118	52.0	-107.9	.0027	8.3
	1.178	.000	49.6	180.0	.0000	.0
	NO READING					
	NO READING					
	1.508	1.301	64.0	-107.1	.0036	8.6
	1.435	.817	64.6	17.1	.0042	12.2
	1.453	.000	61.5	180.0	.0000	.0
	NO READING					
	NO READING					
	2.005	.744	124.3	-150.9	.0031	15.7
	1.874	.506	95.9	-166.8	.0032	11.1
	1.838	.000	83.3	180.0	.0000	.0
	NO READING					
	NO READING					
	2.448	.559	181.9	- 24.2	.0031	15.7
	2.314	.310	135.9	-174.3	.0032	11.1
	2.281	.000	109.0	180.0	.0000	.0
1339.85	NO READING					
	NO READING					
	1.350	1.605	121.7	-115.3	.0019	5.4
	1.195	1.147	55.0	- 98.7	.0026	8.4
	1.154	.000	27.8	180.0	.0000	.0
	NO READING					
	NO READING					
	1.515	1.339	48.7	- 3.3	.0035	13.6
	1.405	.848	63.1	-134.1	.0047	16.9
	1.437	.000	33.7	180.0	.0000	.0
	NO READING					
	NO READING					
	1.937	.764	120.4	-162.5	.0032	14.5
	1.832	.519	72.7	-162.3	.0033	8.6
	1.820	.000	57.5	180.0	.0000	.0
	NO READING					
	NO READING					
	2.329	.586	176.8	-157.4	.0032	14.5
	2.272	.311	108.2	-173.3	.0033	8.6
	2.250	.000	93.2	180.0	.0000	.0

Table D-II. Rear Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1377.36	NO READING					
	NO READING					
	1.327	1.614	173.3	-107.5	.0016	.5
	1.195	1.167	96.5	- 84.6	.0025	17.1
	1.153	.000	31.7	180.0	.0000	.0
	NO READING					
	NO READING					
	1.517	1.334	87.7	- 7.8	.0034	20.6
	1.394	.859	88.3	-122.2	.0040	22.0
	1.422	.000	61.5	180.0	.0000	.0
	NO READING					
	NO READING					
	1.998	.777	109.1	-135.6	.0035	1.5
	1.810	.526	121.2	-163.6	.0035	7.6
	1.785	.000	103.1	180.0	.0000	.0
	NO READING					
	NO READING					
	2.294	.608	213.2	-152.1	.0035	1.5
	2.215	.322	193.6	-165.7	.0035	7.6
	2.195	.000	178.4	180.0	.0000	.0
1415.87	NO READING					
	NO READING					
	1.402	1.726	READINGS	INVALID		
	1.208	1.235	126.4	- 86.8	.0023	9.9
	1.125	.000	77.3	180.0	.0000	.0
	NO READING					
	NO READING					
	1.521	1.409	READINGS	INVALID		
	1.372	.922	108.4	-126.6	.0036	16.4
	1.380	.000	95.2	180.0	.0000	.0
	NO READING					
	NO READING					
	1.879	.834	READINGS	INVALID		
	1.724	.548	196.4	-141.4	.0037	8.6
	1.724	.000	138.8	180.0	.0000	.0
	NO READING					
	NO READING					
	2.151	.671	READINGS	INVALID		
	2.100	.359	239.2	-158.1	.0037	8.6
	2.085	.000	212.1	180.0	.0000	.0

Table D-II. Rear Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1454.38	NO READING					
	NO READING					
	NO READING					
	1.204	1.283	113.7	- 88.5	.0022	18.6
	1.081	.000	83.3	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	1.345	.942	95.6	-122.7	.0039	19.2
	1.334	.000	93.2	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	1.682	.630	164.7	-124.8	.0039	3.9
	1.656	.000	132.8	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	2.010	.403	187.4	-151.1	.0039	3.9
	1.999	.000	170.9	180.0	.0000	.0
1492.89	NO READING					
	NO READING					
	NO READING					
	1.211	1.339	106.3	- 99.6	.0021	21.0
	1.048	.000	77.3	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	1.334	.595	116.5	-111.3	.0037	30.2
	1.294	.000	93.2	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	1.642	.674	160.5	-130.4	.0038	9.6
	1.601	.000	144.7	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	1.948	.442	220.2	-151.2	.0038	9.6
	1.928	.000	198.3	180.0	.0000	.0

Table D-II. Rear Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	C LB/SCFT
1531.40	NO READING					
	NO READING					
	NO READING					
	1.193	1.376	104.5	-111.9	.0020	17.7
	1.010	.000	95.2	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	1.306	1.041	135.0	8.6	.0041	15.5
	1.248	.000	120.9	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	1.587	.744	168.7	-141.2	.0039	7.4
	1.523	.000	164.6	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	1.831	.498	243.3	-149.3	.0038	7.4
	1.816	.000	222.0	180.0	.0000	.0
1569.91	NO READING					
	NO READING					
	NO READING					
	1.176	1.429	136.0	-122.7	.0019	18.5
	.960	.000	107.1	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	1.253	.993	169.5	10.0	.0044	21.9
	1.182	.000	148.7	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	1.526	.773	148.1	-153.8	.0043	37.8
	1.449	.000	180.4	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	1.754	.553	197.5	-146.5	.0043	37.8
	1.722	.000	214.1	180.0	.0000	.0

Table D-II. Rear Smoke Grid Calculations - 1/8 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1608.42	NO READING					
	NO READING					
	NO READING					
	1.125	1.477	114.0	-124.2	.0019	5.1
	.911	.000	81.3	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	1.213	1.068	121.7	-128.0	.0045	27.3
	1.110	.000	119.0	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	1.464	.804	148.7	-131.2	.0039	73.2
	1.356	.000	154.6	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	1.678	.599	172.2	-147.1	.0039	73.2
	1.618	.000	180.4	180.0	.0000	.0
1646.93	NO READING					
	NO READING					
	NO READING					
	1.112	1.510	103.0	- 80.6	.0018	12.5
	.865	.000	45.6	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	1.193	1.087	66.5	-121.6	.0047	22.3
	1.072	.000	59.5	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	1.442	.869	120.6	-116.0	.0038	38.0
	1.306	.000	83.3	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	1.620	.639	186.7	-124.0	.0038	38.0
	1.556	.000	120.9	180.0	.0000	.0

Table D-III. Front Smoke Grid Calculations - 1/4 In. Entrance

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TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
57.64	.313	2.007	192.1	- 7.1	.0023	5.6
	.238	1.557	134.0	74.9	.0026	7.2
	.220	1.218	106.6	- 31.0	.0024	6.5
	.223	.839	58.0	- 40.4	.0024	5.1
	.223	.000	29.5	90.0	.0000	.0
	.568	2.029	95.6	- 24.8	.0024	17.3
	.555	1.623	98.2	- 3.6	.0024	6.0
	.555	1.231	72.4	- 39.8	.0024	3.3
	.582	.875	54.0	- 18.6	.0024	2.5
	.599	.000	19.7	90.0	.0000	.0
	.974	2.049	62.9	- 44.4	.0025	3.5
	.965	1.683	63.4	- 34.0	.0024	4.2
	.967	1.266	54.6	- 24.7	.0025	2.6
	.974	.923	27.4	- 39.8	.0024	5.4
	.980	.000	25.6	90.0	.0000	.0
	1.190	2.077	70.3	- 60.7	.0025	3.5
	1.216	1.712	57.1	- 45.0	.0024	4.2
	1.262	1.271	46.8	110.0	.0025	2.6
	1.288	.974	60.1	- 62.6	.0024	5.4
	1.352	.000	29.5	90.0	.0000	.0
96.46	.418	2.020	231.2	57.6	.0019	3.6
	.258	1.473	149.7	76.3	.0026	4.4
	.238	1.143	105.9	53.6	.0024	5.7
	.233	.804	69.3	62.7	.0025	3.1
	.234	.000	23.6	.0	.0000	.0
	.630	2.022	171.1	- 6.0	.0024	15.5
	.599	1.557	150.1	40.7	.0025	4.5
	.577	1.187	104.0	49.0	.0025	2.0
	.588	.846	70.9	62.2	.0024	3.0
	.603	.000	9.8	.0	.0000	.0
	1.004	2.026	124.2	4.8	.0025	3.2
	.993	1.648	102.9	22.8	.0024	3.6
	.974	1.227	89.6	43.2	.0025	3.3
	.982	.908	38.8	59.9	.0024	1.9
	.989	.000	15.7	.0	.0000	.0
	1.218	2.073	64.1	- 2.3	.0025	3.2
	1.227	1.690	83.7	28.8	.0024	3.6
	1.275	1.256	54.5	27.8	.0025	3.3
	1.304	.956	46.5	29.7	.0024	1.9
	1.361	.000	15.7	.0	.0000	.0

Table D-III. Front Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
135.20	.359	1.927	236.1	122.8	.0015	17.6
	.271	1.421	107.1	108.7	.0024	20.3
	.256	1.132	72.2	72.2	.0024	17.4
	.251	.782	56.6	74.5	.0026	4.5
	.245	.000	21.6	90.0	.0000	.0
	.722	2.053	201.1	- 5.3	.0024	.7
	.654	1.531	141.6	42.9	.0026	12.0
	.617	1.161	94.7	58.6	.0025	18.1
	.614	.821	74.4	65.9	.0025	11.2
	.608	.000	17.7	.0	.0000	.0
	1.071	2.064	125.1	- 12.1	.0025	4.8
	1.044	1.654	102.9	16.1	.0024	1.7
	1.018	1.222	89.3	28.0	.0025	6.9
	.993	.892	57.8	55.0	.0025	6.6
	.995	.000	5.9	.0	.0000	.0
	1.249	2.081	91.9	- 2.7	.0025	4.8
	1.280	1.696	98.6	9.7	.0024	1.7
	1.306	1.252	74.2	14.9	.0025	6.9
	1.322	.952	52.5	12.7	.0025	6.6
	1.366	.000	9.8	90.0	.0000	.0
174.10	.299	1.835	READINGS INVALID			
	.234	1.392	94.5	- 8.9	.0022	20.4
	.238	1.090	59.3	141.1	.0023	16.4
	.247	.758	43.4	107.7	.0026	6.1
	.236	.000	13.8	90.0	.0000	.0
	.811	2.040	READINGS INVALID			
	.689	1.469	150.0	71.6	.0026	12.9
	.621	1.121	85.5	92.8	.0024	19.2
	.615	.788	61.3	84.0	.0026	7.4
	.619	.000	19.7	.0	.0000	.0
	1.110	2.060	READINGS INVALID			
	1.079	1.626	119.7	32.1	.0025	8.4
	1.044	1.192	81.4	56.1	.0025	5.4
	1.013	.864	79.7	59.9	.0025	8.1
	.995	.000	19.7	.0	.0000	.0
	1.302	2.073	READINGS INVALID			
	1.315	1.679	79.3	23.3	.0025	8.4
	1.341	1.238	73.2	40.0	.0025	5.4
	1.352	.945	70.6	46.1	.0025	8.1
	1.362	.000	29.5	90.0	.0000	.0

Table D-III. Front Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
212.92	NO READING					
	.196	1.407	110.3	-139.8	.0022	24.6
	.229	1.088	27.6	7.6	.0023	10.1
	.240	.744	23.1	- 9.2	.0025	8.9
	.240	.000	5.9	.0	.0000	.0
	NO READING					
	.698	1.401	154.9	96.0	.0025	1.2
	.614	1.082	60.6	111.4	.0024	18.7
	.619	.764	28.6	18.1	.0025	7.9
	.626	.000	19.8	- 4.7	.0000	.0
	NO READING					
	1.139	1.597	144.4	35.4	.0026	9.5
	1.060	1.159	89.1	66.0	.0025	1.4
	1.029	.828	62.8	32.9	.0026	5.4
	1.013	.000	39.3	.0	.0000	.0
	NO READING					
	1.348	1.667	102.4	16.8	.0026	9.5
	1.357	1.212	73.6	46.2	.0025	1.4
	1.359	.910	83.6	47.9	.0026	5.4
	1.386	.000	51.1	.0	.0000	.0
251.74	.178	1.652	READINGS	INVALID		
	.165	1.460	176.6	-107.7	.0024	26.9
	.214	1.095	72.9	-130.0	.0023	10.8
	.236	.747	30.4	-121.7	.0025	6.7
	.242	.000	2.0	.0	.0000	.0
	NO READING					
	.672	1.330	181.7	- 29.5	.0024	5.6
	.604	1.068	56.4	- 15.0	.0024	22.7
	.621	.766	13.4	-101.6	.0025	9.3
	.637	.002	14.7	62.8	.0000	.0
	1.258	2.077	READINGS	INVALID		
	1.187	1.549	161.9	48.6	.0027	27.4
	1.077	1.117	74.2	77.1	.0025	14.7
	1.048	.828	37.2	58.3	.0025	7.6
	1.031	.000	29.5	.0	.0000	.0
	1.403	2.101	READINGS	INVALID		
	1.407	1.654	140.9	19.1	.0027	27.4
	1.388	1.190	85.1	33.7	.0025	14.7
	1.399	.897	60.4	42.2	.0025	7.6
	1.410	.000	45.2	.0	.0000	.0

Table D-III. Front Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
290.50	NO READING					
	.156	1.562	158.9	- 79.3	.0026	3.3
	.200	1.145	79.3	-103.0	.0023	5.0
	.229	.769	34.7	- 80.8	.0025	5.8
	.242	.000	22.9	- 29.5	.0000	.0
	NO READING					
	.581	1.348	177.1	-145.6	.0021	8.3
	.573	1.084	69.5	-151.2	.0023	5.7
	.612	.769	16.1	-146.6	.0024	9.7
	.636	.000	22.4	67.5	.0000	.0
	NO READING					
	1.238	1.484	188.5	62.4	.0029	31.0
	1.079	1.093	55.1	87.8	.0025	17.3
	1.040	.813	37.2	76.7	.0025	4.7
	1.040	.000	25.6	.0	.0000	.0
	NO READING					
	1.471	1.623	188.6	31.9	.0029	31.0
	1.423	1.168	86.7	44.3	.0025	17.3
	1.405	.985	47.0	54.7	.0025	4.7
	1.429	.000	43.2	.0	.0000	.0
329.38	.273	1.733	READINGS	INVALID		
	.176	1.603	93.9	- 80.4	.0027	5.5
	.196	1.167	79.3	-103.0	.0024	4.3
	.234	.777	73.3	- 82.5	.0025	6.4
	.253	.018	50.7	38.0	.0000	.0
	NO READING					
	.542	1.408	156.5	-116.3	.0022	2.7
	.548	1.099	104.2	-140.4	.0023	12.3
	.608	.773	54.7	-139.1	.0024	12.3
	.654	.000	55.0	90.0	.0000	.0
	NO READING					
	1.266	1.396	200.8	101.1	.0028	5.0
	1.079	1.066	94.8	131.5	.0024	2.6
	1.055	.802	66.8	108.4	.0024	11.9
	1.055	.000	43.2	90.0	.0000	.0
	NO READING					
	1.553	1.559	198.2	46.5	.0028	5.0
	1.445	1.136	87.9	82.0	.0024	2.6
	1.427	.864	40.1	73.3	.0024	11.9
	1.451	.000	29.5	90.0	.0000	.0

Table D-III. Front Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
366.20	NO READING					
	.170	1.645	78.0	- 41.7	.0026	9.8
	.181	1.216	72.2	- 63.5	.0024	1.2
	.212	.852	88.1	- 25.2	.0025	.8
	.234	.000	33.7	67.5	.0000	.0
	NO READING					
	.516	1.478	123.3	- 73.0	.0024	2.7
	.504	1.150	85.1	- 84.6	.0023	15.7
	.571	.800	53.1	- 26.6	.0024	5.8
	.621	.000	51.1	90.0	.0000	.0
	NO READING					
	1.205	1.322	212.2	149.1	.0025	10.4
	1.018	1.059	87.3	171.4	.0024	.8
	1.011	.802	55.3	142.0	.0024	12.0
	1.029	.000	43.2	90.0	.0000	.0
	NO READING					
	1.599	1.493	198.2	61.8	.0025	10.4
	1.432	1.095	107.9	110.9	.0024	.8
	1.425	.857	51.2	109.1	.0024	12.0
	1.445	.000	5.9	90.0	.0000	.0
407.02	.317	1.751	READINGS INVALID			
	.200	1.637	60.6	- 70.6	.0025	4.7
	.196	1.222	26.6	61.3	.0024	16.7
	.223	.811	46.3	- 56.7	.0025	.9
	.240	.000	23.6	90.0	.0000	.0
	NO READING					
	.549	1.502	57.5	- 85.4	.0027	3.1
	.513	1.158	41.8	- 88.2	.0023	3.4
	.571	.797	35.4	- 43.3	.0024	14.5
	.636	.000	49.1	90.0	.0000	.0
	NO READING					
	1.104	1.302	204.4	8.7	.0024	11.1
	.998	1.055	94.7	4.3	.0024	1.7
	1.009	.795	50.4	131.1	.0025	.1
	1.044	.000	59.0	90.0	.0000	.0
	NO READING					
	1.637	1.396	219.8	86.6	.0024	11.1
	1.408	1.042	140.2	136.7	.0024	1.7
	1.408	.821	105.6	133.0	.0025	.1
	1.445	.000	35.4	90.0	.0000	.0

Table D-III. Front Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
443.84	NO READING					
	.176	1.648	142.2	- 78.6	.0026	4.7
	.189	1.216	38.5	18.6	.0024	20.6
	.203	.813	25.6	-132.3	.0026	2.5
	.223	.000	29.5	180.0	.0000	.0
	NO READING					
	.540	1.511	47.3	-112.5	.0026	29.8
	.493	1.176	33.6	-127.1	.0023	7.1
	.542	.799	43.9	-142.4	.0025	14.5
	.604	.000	45.2	180.0	.0000	.0
	NO READING					
	1.027	1.344	176.8	-119.3	.0024	.9
	.934	1.077	93.9	-136.4	.0023	23.9
	.973	.780	66.1	1.3	.0025	3.5
	1.004	.000	45.2	90.0	.0000	.0
	NO READING					
	1.612	1.299	314.3	138.3	.0024	.9
	1.341	1.016	91.7	- 6.3	.0023	23.9
	1.357	.793	68.3	120.9	.0025	3.5
	1.412	.000	39.3	90.0	.0000	.0
484.66	NO READING					
	.282	1.652	208.8	- 88.6	.0026	4.7
	.181	1.242	40.6	- 93.2	.0024	4.8
	.203	.817	35.4	- 91.7	.0026	22.1
	.212	.000	15.7	90.0	.0000	.0
	NO READING					
	.540	1.542	74.9	- 74.3	.0024	30.1
	.491	1.179	32.0	-101.2	.0024	7.3
	.538	.810	41.7	-109.0	.0025	1.5
	.593	.000	23.6	180.0	.0000	.0
	NO READING					
	1.031	1.421	157.4	- 89.4	.0026	5.3
	.927	1.095	64.3	-122.5	.0024	23.5
	.952	.789	66.9	-146.2	.0025	4.5
	1.005	.000	47.2	90.0	.0000	.0
	NO READING					
	1.421	1.271	360.7	14.8	.0026	5.3
	1.328	1.018	108.9	-163.7	.0024	23.5
	1.357	.788	95.4	- 40.6	.0025	4.5
	1.416	.000	59.0	90.0	.0000	.0

Table D-III. Front Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
523.48	NO READING					
	.194	1.659	190.7	-172.3	.0023	5.3
	.193	1.253	25.1	- 98.6	.0024	1.4
	.201	.846	48.4	-119.0	.0026	20.7
	.216	.000	17.7	90.0	.0000	.0
	NO READING					
	.560	1.575	62.0	52.4	.0024	.7
	.493	1.205	52.2	-102.3	.0024	14.7
	.529	.835	53.0	-132.6	.0026	2.6
	.582	.000	33.4	180.0	.0000	.0
	NO READING					
	1.029	1.491	117.1	- 79.9	.0014	5.3
	.899	1.125	83.6	-131.1	.0025	.6
	.923	.817	94.2	-147.1	.0026	26.4
	.963	.000	76.7	180.0	.0000	.0
	NO READING					
	1.308	1.359	READINGS	INVALID		
	1.247	1.055	153.5	-158.0	.0025	.6
	1.275	.800	133.2	-171.7	.0026	26.4
	1.364	.000	100.3	180.0	.0000	.0
502.30	NO READING					
	.106	1.676	194.5	- 97.7	.0024	6.3
	.178	1.264	44.7	-101.5	.0025	2.0
	.189	.855	46.4	-117.2	.0026	.2
	.203	.000	29.5	180.0	.0000	.0
	NO READING					
	.542	1.570	50.3	40.4	.0024	4.4
	.482	1.225	72.5	-113.9	.0024	16.9
	.509	.844	68.7	-134.4	.0026	4.0
	.562	.000	45.2	180.0	.0000	.0
	NO READING					
	1.044	1.527	141.0	- 57.0	.0001	.1
	.875	1.154	105.4	-116.6	.0025	7.6
	.879	.835	108.3	-137.0	.0026	35.6
	.934	.000	70.8	180.0	.0000	.0
	NO READING					
	NO READING					
	1.196	1.073	121.4	-132.4	.0025	7.6
	1.234	.806	114.7	-151.9	.0026	35.6
	1.327	.000	84.5	180.0	.0000	.0

Table D-III. Front Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
601.12	NO READING					
	.189	1.716	READINGS	INVALID		
	.179	1.293	42.6	-110.7	.0026	17.1
	.189	.883	36.6	-106.8	.0026	14.1
	.189	.000	17.7	180.0	.0000	.0
	NO READING					
	.546	1.597	69.8	43.1	.0025	7.5
	.467	1.267	62.0	18.6	.0024	2.5
	.493	.883	62.6	33.4	.0026	28.9
	.540	.000	45.2	180.0	.0000	.0
	NO READING					
	1.108	1.593	209.0	- 28.6	.0001	.3
	.861	1.212	104.6	-137.8	.0023	9.3
	.855	.883	83.4	25.2	.0026	10.2
	.897	.000	78.6	180.0	.0000	.0
	NO READING					
	NO READING					
	1.181	1.130	97.8	- 89.0	.0023	9.3
	1.190	.855	115.8	-148.2	.0026	10.2
	1.286	.000	94.4	180.0	.0000	.0
639.94	NO READING					
	NO READING					
	.172	1.300	43.4	-131.3	.0027	16.7
	.185	.888	39.8	-123.2	.0027	14.2
	.187	.000	15.7	180.0	.0000	.0
	NO READING					
	.509	1.590	88.6	28.7	.0013	3.2
	.456	1.260	56.7	.0	.0026	.8
	.476	.883	62.5	18.9	.0027	29.2
	.520	.000	51.1	180.0	.0000	.0
	NO READING					
	1.209	1.614	READINGS	INVALID		
	.824	1.218	90.8	-167.9	.0024	6.6
	.832	.877	94.1	4.6	.0026	.4
	.861	.000	84.5	180.0	.0000	.0
	NO READING					
	NO READING					
	1.190	1.161	161.9	-122.8	.0024	6.6
	1.150	.866	120.2	-164.8	.0026	.4
	1.234	.000	127.8	180.0	.0000	.0

Table D-III. Front Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
678.76	NO READING					
	.191	1.747	READINGS	INVALID		
	.154	1.324	53.9	-109.8	.0027	.2
	.168	.914	57.1	-138.1	.0028	34.7
	.174	.000	15.7	90.0	.0000	.0
	NO READING					
	.493	1.632	READINGS	INVALID		
	.423	1.282	66.4	-122.9	.0027	1.4
	.442	.908	52.7	18.9	.0028	1.7
	.493	.000	47.2	180.0	.0000	.0
	NO READING					
	NO READING					
	.778	1.231	76.7	-143.4	.0025	9.6
	.772	.901	94.3	-155.7	.0027	.4
	.819	.000	70.8	180.0	.0000	.0
	NO READING					
	NO READING					
	1.073	1.178	169.3	-144.9	.0025	9.6
	1.082	.885	113.1	-146.8	.0027	.4
	1.167	.000	106.2	180.0	.0000	.0
717.58	NO READING					
	NO READING					
	.154	1.344	45.3	- 65.8	.0027	.3
	.165	.916	31.8	-132.2	.0028	36.0
	.176	.000	17.7	90.0	.0000	.0
	NO READING					
	NO READING					
	.419	1.304	55.7	- 83.8	.0027	1.2
	.436	.908	32.2	38.0	.0028	2.4
	.476	.000	37.4	180.0	.0000	.0
	NO READING					
	NO READING					
	.766	1.251	64.3	-113.6	.0026	4.7
	.751	.912	45.7	-133.7	.0027	24.1
	.795	.000	57.0	180.0	.0000	.0
	NO READING					
	NO READING					
	1.055	1.212	70.0	-126.4	.0026	4.7
	1.060	.912	75.5	-135.0	.0027	24.1
	1.136	.000	74.7	180.0	.0000	.0

Table D-III. Front Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
756.40	NO READING					
	NO READING					
	.170	1.359	90.6	67.5	.0026	4.8
	.156	.940	39.3	- 50.8	.0028	1.3
	.161	.000	23.6	90.0	.0000	.0
	NO READING					
	NO READING					
	.430	1.332	36.2	- 20.8	.0026	10.8
	.430	.930	32.4	- 45.0	.0028	5.9
	.458	.000	19.7	90.0	.0000	.0
	NO READING					
	NO READING					
	.756	1.286	62.3	- 76.6	.0027	2.2
	.744	.929	43.7	- 95.0	.0027	24.1
	.766	.000	33.4	180.0	.0000	.0
	NO READING					
	NO READING					
	1.037	1.231	45.6	-115.7	.0027	2.2
	1.033	.934	57.5	-118.5	.0027	24.1
	1.097	.000	57.0	180.0	.0000	.0
795.22	NO READING					
	NO READING					
	.108	1.355	144.0	62.2	.0025	7.5
	.167	.938	47.4	- 38.7	.0028	.1
	.168	.000	7.9	.0	.0000	.0
	NO READING					
	NO READING					
	.434	1.330	28.1	- 29.3	.0027	10.3
	.436	.929	61.2	- 39.0	.0028	22.0
	.458	.000	2.0	.0	.0000	.0
	NO READING					
	NO READING					
	.771	1.302	66.8	- 54.1	.0027	2.3
	.749	.951	64.4	- 88.6	.0027	.0
	.764	.000	4.7	22.5	.0000	.0
	NO READING					
	NO READING					
	1.035	1.247	74.1	- 87.1	.0027	2.3
	1.031	.952	57.1	- 92.8	.0027	.0
	1.082	.000	21.6	180.0	.0000	.0

Table D-III. Front Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
834.04	NO READING					
	NO READING					
	.152	1.412	130.2	-115.1	.0026	3.0
	.168	.971	49.8	-125.4	.0027	.1
	.169	.000	3.9	90.0	.0000	.0
	NO READING					
	NO READING					
	.436	1.352	51.5	-128.6	.0026	.4
	.436	.979	61.2	36.9	.0027	21.2
	.460	.000	9.8	90.0	.0000	.0
	NO READING					
	NO READING					
	.791	1.337	45.1	14.9	.0026	4.3
	.742	.987	46.3	- 59.9	.0027	2.0
	.762	.002	7.2	9.2	.0000	.0
	NO READING					
	NO READING					
	1.046	1.299	108.2	- 57.6	.0026	4.3
	1.031	.987	63.6	- 83.5	.0027	2.0
	1.077	.000	27.5	180.0	.0000	.0
872.56	NO READING					
	NO READING					
	.103	1.414	117.1	-112.7	.0026	.1
	.156	.974	22.4	-120.0	.0027	15.1
	.165	.000	7.9	90.0	.0000	.0
	NO READING					
	NO READING					
	.410	1.355	77.1	-142.7	.0025	5.5
	.429	.976	16.9	51.3	.0026	2.6
	.452	.000	7.9	90.0	.0000	.0
	NO READING					
	NO READING					
	.791	1.335	26.0	107.3	.0024	22.7
	.747	.989	10.1	- 9.2	.0026	9.9
	.758	.000	12.3	166.7	.0000	.0
	NO READING					
	NO READING					
	1.084	1.328	104.1	- 28.6	.0024	22.7
	1.037	1.011	54.4	- 50.9	.0026	9.9
	1.057	.000	33.4	180.0	.0000	.0

Table D-III. Front Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
911.65	NO READING					
	NO READING					
	.143	1.458	81.6	- 55.5	.0026	.5
	.158	.982	26.2	- 76.7	.0027	15.9
	.160	.000	7.9	.0	.0000	.0
	NO READING					
	NO READING					
	.392	1.397	81.7	-109.9	.0026	6.3
	.432	.984	29.0	- 91.3	.0027	1.6
	.452	.000	7.9	90.0	.0000	.0
	NO READING					
	NO READING					
	.778	1.317	67.1	140.4	.0022	18.4
	.751	.989	21.5	- 76.7	.0026	12.4
	.751	.000	13.8	180.0	.0000	.0
	NO READING					
	NO READING					
	1.130	1.344	112.4	- 4.2	.0022	18.4
	1.060	1.022	38.7	66.7	.0026	12.4
	1.046	.000	17.7	180.0	.0000	.0
950.50	NO READING					
	NO READING					
	.150	1.473	36.9	- 88.7	.0028	3.3
	.161	.998	54.2	- 98.4	.0028	.8
	.172	.000	23.6	90.0	.0000	.0
	NO READING					
	NO READING					
	.365	1.427	90.8	-113.3	.0028	6.5
	.423	1.000	72.6	-132.4	.0027	7.1
	.445	.000	15.7	180.0	.0000	.0
	NO READING					
	NO READING					
	.742	1.300	115.6	4.3	.0022	2.2
	.736	.996	65.1	-151.8	.0025	6.8
	.745	.000	35.4	180.0	.0000	.0
	NO READING					
	NO READING					
	1.185	1.333	123.4	68.7	.0022	2.2
	1.051	1.018	46.5	- 6.2	.0025	6.8
	1.040	.000	41.3	180.0	.0000	.0

Table D-III. Front Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
989.32	NO READING					
	NO READING					
	.143	1.489	84.3	-129.4	.0026	4.9
	.145	1.027	50.0	-100.6	.0028	6.3
	.152	.000	31.5	90.0	.0000	.0
	NO READING					
	NO READING					
	.355	1.473	108.7	- 87.0	.0029	5.4
	.383	1.027	74.8	-110.2	.0027	31.5
	.438	.000	11.8	180.0	.0000	.0
	NO READING					
	NO READING					
	.685	1.337	137.6	-131.1	.0023	6.0
	.698	1.018	62.5	-153.5	.0025	2.2
	.718	.000	35.4	90.0	.0000	.0
	NO READING					
	NO READING					
	1.150	1.286	185.4	136.3	.0023	6.0
	1.018	1.024	55.5	- 13.7	.0025	2.2
	1.007	.000	37.4	90.0	.0000	.0
1028.14	NO READING					
	NO READING					
	.093	1.524	140.4	- 91.8	.0024	14.7
	.147	1.040	65.4	- 89.2	.0027	10.5
	.161	.000	17.7	90.0	.0000	.0
	NO READING					
	NO READING					
	.385	1.509	102.4	- 65.2	.0028	.3
	.388	1.048	58.0	- 85.5	.0027	26.2
	.434	.000	19.7	180.0	.0000	.0
	NO READING					
	NO READING					
	.659	1.392	138.0	- 95.5	.0030	9.6
	.685	1.024	66.1	-134.7	.0026	.5
	.723	.000	17.7	90.0	.0000	.0
	NO READING					
	NO READING					
	1.055	1.223	195.8	- 12.0	.0030	9.6
	1.004	1.013	70.0	.9	.0026	.5
	1.009	.000	23.6	90.0	.0000	.0

Table D-III. Front Smoke Grid Calcu'ations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1066.96	NO READING					
	NO READING					
	.148	1.568	120.9	-100.5	.0024	12.6
	.141	1.088	57.7	- 84.1	.0027	36.1
	.154	.000	11.8	180.0	.0000	.0
	NO READING					
	NO READING					
	.394	1.557	67.0	- 51.2	.0026	4.3
	.385	1.081	53.7	- 86.9	.0027	.1
	.419	.000	17.7	90.0	.0000	.0
	NO READING					
	NO READING					
	.676	1.458	126.9	- 66.4	.0032	11.3
	.667	1.068	69.7	-117.3	.0027	8.8
	.712	.000	17.7	180.0	.0000	.0
	NO READING					
	NO READING					
	.987	1.234	116.8	-160.4	.0032	11.3
	.967	1.042	82.0	-157.1	.0027	8.8
	.999	.000	41.3	180.0	.0000	.0
1105.78	NO READING					
	NO READING					
	.108	1.581	102.0	- 91.3	.0024	2.6
	.143	1.093	20.5	- 88.8	.0027	34.9
	.150	.000	15.7	180.0	.0000	.0
	NO READING					
	NO READING					
	.407	1.562	56.4	- 53.9	.0026	10.1
	.388	1.097	46.1	-103.4	.0027	5.0
	.421	.000	39.3	90.0	.0000	.0
	NO READING					
	NO READING					
	.703	1.500	93.3	- 74.9	.0014	5.5
	.658	1.082	58.1	-137.7	.0027	8.3
	.707	.000	47.2	180.0	.0000	.0
	NO READING					
	NO READING					
	.952	1.255	READINGS INVALID			
	.938	1.046	98.2	-159.4	.0027	8.3
	.971	.000	62.9	180.0	.0000	.0

Table D-III. Front Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1144.60	NO READING					
	NO READING					
	.158	1.599	68.1	- 70.6	.0025	7.9
	.139	1.106	46.6	-116.8	.0029	3.0
	.139	.000	11.9	90.0	.0000	.0
	NO READING					
	NO READING					
	.410	1.601	53.3	- 87.3	.0027	22.3
	.372	1.117	69.7	-130.2	.0027	19.4
	.386	.000	68.8	180.0	.0000	.0
	NO READING					
	NO READING					
	.701	1.537	113.0	-108.5	.0001	.0
	.625	1.099	109.3	-137.2	.0027	.1
	.668	.000	84.5	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	.886	1.081	121.2	-144.1	.0027	.1
	.930	.000	86.5	180.0	.0000	.0
1153.42	NO READING					
	NO READING					
	.152	1.608	56.7	-104.2	.0026	5.3
	.121	1.130	80.1	-104.1	.0028	1.6
	.139	.000	11.8	90.0	.0000	.0
	NO READING					
	NO READING					
	.410	1.612	32.7	- 65.6	.0029	16.3
	.346	1.147	89.3	-107.0	.0028	14.4
	.357	.000	39.3	90.0	.0000	.0
	NO READING					
	NO READING					
	.663	1.593	135.3	- 95.8	.0002	.2
	.592	1.154	102.3	-107.2	.0027	.1
	.628	.000	57.0	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	.946	1.112	126.9	-127.3	.0027	.1
	.990	.000	62.9	180.0	.0000	.0

Table D-III. Front Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1222.24	NO READING					
	NO READING					
	.154	1.650	95.4	-128.1	.0025	3.5
	.128	1.174	56.6	- 98.6	.0027	4.6
	.128	.000	23.6	180.0	.0000	.0
	NO READING					
	NO READING					
	.425	1.625	42.9	- 97.3	.0029	1.6
	.352	1.190	51.5	3.5	.0029	2.2
	.364	.000	21.6	90.0	.0000	.0
	NO READING					
	NO READING					
	.685	1.647	113.3	- 13.6	.0002	.2
	.590	1.185	51.6	-130.4	.0029	3.1
	.615	.000	39.3	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	.821	1.174	113.8	-143.5	.0029	3.1
	.872	.000	78.6	180.0	.0000	.0
1261.06	NO READING					
	NO READING					
	.108	1.659	106.4	- 96.7	.0026	3.5
	.125	1.181	44.2	-103.3	.0028	3.0
	.117	.000	19.7	180.0	.0000	.0
	NO READING					
	NO READING					
	.407	1.634	77.6	-117.7	.0027	4.2
	.352	1.187	58.7	- 10.6	.0030	2.2
	.352	.000	33.4	180.0	.0000	.0
	NO READING					
	NO READING					
	.722	1.615	145.4	3.7	.0002	.3
	.573	1.189	84.2	-143.9	.0030	8.0
	.592	.000	57.0	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	.782	1.178	105.7	-144.0	.0030	8.0
	.817	.000	96.3	180.0	.0000	.0

Table D-IV. Rear Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
219.04	1.821	2.071	86.2	- .7	.0025	1.0
	1.794	1.602	77.3	13.8	.0024	3.1
	1.779	1.311	76.4	16.8	.0024	.5
	1.772	1.012	64.4	25.7	.0025	.9
	1.753	.000	63.5	.0	.0000	.0
	2.135	2.082	87.3	9.2	.0025	173.7
	2.146	1.616	75.9	20.3	.0025	174.6
	2.144	1.357	76.7	24.6	.0025	.7
	2.128	1.068	64.8	32.0	.0024	.3
	2.115	.000	53.6	.0	.0000	.0
	2.621	2.108	79.1	6.0	.0024	1.0
	2.583	1.626	45.7	27.6	.0024	1.5
	2.564	1.384	52.6	10.8	.0024	.3
	2.541	1.100	52.6	11.3	.0024	4.3
	2.480	.000	53.6	90.0	.0000	.0
	2.913	2.153	41.6	39.9	.0024	1.0
	2.897	1.655	47.8	29.6	.0024	1.5
	2.888	1.416	47.8	34.2	.0024	.3
	2.875	1.129	44.0	29.5	.0024	4.3
	2.846	.000	35.7	90.0	.0000	.0
257.38	1.865	2.060	96.3	- .3	.0025	150.5
	1.830	1.585	89.4	14.6	.0024	200.8
	1.816	1.293	92.2	15.7	.0025	1.1
	1.801	.986	77.9	20.6	.0025	.4
	1.792	.000	69.5	.0	.0000	.0
	2.168	2.071	79.1	.9	.0025	2.3
	2.181	1.596	66.8	25.0	.0025	2.2
	2.170	1.335	75.6	27.7	.0025	2.3
	2.153	1.039	80.4	28.9	.0025	2.8
	2.152	.000	65.5	.0	.0000	.0
	2.652	2.132	66.6	- 14.0	.0023	.9
	2.605	1.620	62.5	10.0	.0024	2.4
	2.590	1.379	62.6	23.8	.0024	2.0
	2.572	1.094	63.8	26.1	.0025	4.1
	2.521	.000	65.5	.0	.0000	.0
	2.937	2.148	86.0	- 20.1	.0023	.9
	2.932	1.651	57.8	3.0	.0024	2.4
	2.921	1.410	54.5	11.0	.0024	2.0
	2.904	1.121	60.5	7.0	.0025	4.1
	2.873	.000	61.5	.0	.0000	.0

Table D-IV. Rear Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
295.72	1.907	2.071	109.4	1.0	.0026	151.0
	1.872	1.582	105.5	13.2	.0025	199.6
	1.859	1.289	88.5	23.9	.0025	.7
	1.834	.986	78.7	16.8	.0025	.4
	1.817	.000	49.6	.0	.0000	.0
	2.205	2.082	72.3	- 15.8	.0024	2.3
	2.201	1.589	68.5	2.4	.0025	2.2
	2.205	1.326	75.6	1.1	.0025	2.0
	2.188	1.034	71.9	4.5	.0025	4.6
	2.175	.000	55.6	.0	.0000	.0
	2.674	2.128	71.9	- 3.7	.0024	.8
	2.639	1.616	72.6	- 12.5	.0025	2.4
	2.616	1.361	76.0	2.1	.0024	1.8
	2.592	1.076	69.7	4.7	.0024	.2
	2.541	.000	53.6	.0	.0000	.0
	2.970	2.192	110.4	8.2	.0024	.8
	2.950	1.651	45.7	.0	.0025	2.4
	2.937	1.406	52.0	- 7.8	.0024	1.8
	2.930	1.121	58.0	- 11.6	.0024	.2
	2.902	.000	63.5	.0	.0000	.0
334.06	1.962	2.055	170.5	- 4.7	.0026	4.1
	1.923	1.562	140.7	16.4	.0025	3.0
	1.887	1.264	98.5	29.5	.0025	2.7
	1.867	.964	76.9	20.2	.0025	1.3
	1.837	.000	27.8	.0	.0000	.0
	2.232	2.089	114.8	- 4.1	.0025	1.3
	2.241	1.600	125.1	- 4.8	.0025	6.5
	2.237	1.333	93.4	- .2	.0025	2.7
	2.219	1.034	81.8	3.6	.0025	6.0
	2.203	.000	53.6	.0	.0000	.0
	2.716	2.141	92.1	- 13.6	.0025	2.0
	2.667	1.633	96.4	- 17.3	.0025	1.3
	2.648	1.381	103.5	- 17.6	.0025	3.5
	2.623	1.096	89.8	- 16.5	.0025	1.2
	2.570	.000	79.4	.0	.0000	.0
	2.986	2.148	114.4	15.4	.0025	2.0
	2.974	1.651	67.3	- 8.3	.0025	1.3
	2.964	1.421	77.1	- 6.1	.0025	3.5
	2.955	1.132	69.8	- 2.8	.0025	1.2
	2.932	.000	69.5	.0	.0000	.0

Table D-IV. Rear Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
372.40	2.051	2.099	200.7	- 17.4	.0025	5.0
	1.996	1.547	162.4	28.2	.0026	3.8
	1.938	1.249	122.8	37.3	.0025	2.9
	1.898	.961	92.4	39.4	.0025	1.8
	1.843	.000	23.8	.0	.0000	.0
	2.309	2.080	152.9	- 2.4	.0026	1.5
	2.314	1.593	146.4	16.1	.0026	6.6
	2.289	1.322	116.1	25.8	.0026	3.0
	2.263	1.028	98.6	24.5	.0025	4.1
	2.225	.000	43.7	.0	.0000	.0
	2.756	2.148	80.6	- .4	.0025	7.4
	2.723	1.637	106.3	14.3	.0026	5.4
	2.705	1.384	103.9	22.6	.0026	8.5
	2.668	1.096	86.2	20.3	.0025	5.6
	2.614	.000	53.6	.0	.0000	.0
	3.032	2.184	97.7	- 1.6	.0025	7.4
	3.010	1.662	76.6	13.0	.0026	5.4
	3.003	1.410	76.4	24.3	.0026	8.5
	2.990	1.121	75.3	25.6	.0025	5.6
	2.966	.000	53.6	.0	.0000	.0
410.74	2.135	2.111	170.2	- 14.0	.0024	5.6
	2.049	1.494	156.9	49.8	.0027	4.8
	1.969	1.198	130.5	74.4	.0026	5.2
	1.914	.910	95.7	93.7	.0025	4.0
	1.859	.000	19.8	90.0	.0000	.0
	2.371	2.093	120.5	- 17.1	.0026	4.7
	2.369	1.565	107.9	30.9	.0026	4.5
	2.331	1.288	91.8	46.0	.0026	5.0
	2.298	.997	80.1	56.1	.0026	1.7
	2.243	.000	25.8	90.0	.0000	.0
	2.789	2.142	75.3	- 7.3	.0025	8.2
	2.758	1.615	74.8	27.7	.0027	8.1
	2.731	1.355	72.2	28.2	.0026	10.0
	2.694	1.074	69.5	52.8	.0026	6.3
	2.619	.000	7.9	.0	.0000	.0
	3.058	2.166	67.9	3.7	.0025	8.2
	3.034	1.640	67.2	10.5	.0027	8.1
	3.028	1.394	57.0	4.1	.0026	10.0
	3.017	1.103	60.0	- 10.7	.0026	6.3
	2.981	.000	37.7	90.0	.0000	.0

Table D-IV. Rear Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
449.08	2.203	2.135	194.0	- 19.7	.0024	7.5
	2.089	1.437	157.3	60.9	.0029	7.8
	1.969	1.139	108.4	96.7	.0026	7.7
	1.900	.879	64.3	120.6	.0025	5.6
	1.858	.000	21.8	180.0	.0000	.0
	2.415	2.111	151.9	- 24.8	.0026	10.6
	2.400	1.543	96.7	24.9	.0027	9.9
	2.349	1.264	70.7	45.5	.0026	10.6
	2.307	.972	52.1	87.8	.0026	4.8
	2.237	.000	21.8	180.0	.0000	.0
	2.822	2.157	77.6	- 6.0	.0026	4.1
	2.784	1.604	68.4	- 7.7	.0026	7.6
	2.758	1.352	53.9	3.8	.0026	6.4
	2.707	1.047	69.4	21.3	.0026	5.8
	2.621	.000	2.0	.0	.0000	.0
	3.085	2.181	67.9	- 41.3	.0026	4.1
	3.061	1.651	57.9	- 10.9	.0026	7.6
	3.048	1.403	48.1	- 7.5	.0026	6.4
	3.030	1.121	49.6	- 1.8	.0026	5.8
	2.961	.000	49.6	90.0	.0000	.0
487.42	2.303	2.172	216.1	- 30.5	.0021	6.0
	2.119	1.368	229.7	89.6	.0031	6.0
	1.960	1.100	154.0	117.4	.0027	4.4
	1.885	.858	115.1	135.1	.0025	5.9
	1.839	.000	73.4	180.0	.0000	.0
	2.497	2.153	144.9	- 24.0	.0026	9.1
	2.449	1.531	141.5	39.3	.0029	8.3
	2.376	1.242	142.1	71.0	.0027	7.3
	2.301	.952	93.6	110.9	.0026	12.7
	2.223	.000	55.6	180.0	.0000	.0
	2.857	2.150	73.3	- 23.6	.0026	3.0
	2.811	1.626	106.7	20.7	.0027	5.4
	2.780	1.352	72.9	52.0	.0026	3.4
	2.738	1.059	102.2	46.3	.0027	6.7
	2.621	.000	39.7	90.0	.0000	.0
	3.103	2.206	40.1	- 27.2	.0026	3.0
	3.085	1.651	45.7	45.0	.0027	5.4
	3.070	1.399	50.8	63.0	.0026	3.4
	3.045	1.103	69.0	82.8	.0027	6.7
	2.986	.000	67.5	90.0	.0000	.0

Table D-IV. Rear Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
525.76	2.373	2.232	198.0	- 36.4	.0015	7.4
	2.068	1.242	343.3	131.5	.0033	14.1
	1.892	1.023	235.5	151.6	.0026	5.6
	1.819	.811	175.6	160.8	.0025	3.1
	1.790	.000	105.2	180.0	.0000	.0
	2.535	2.168	177.1	- 51.1	.0013	3.0
	2.484	1.459	207.8	79.8	.0015	2.7
	2.354	1.149	163.7	107.3	.0029	7.5
	2.272	.893	145.4	126.3	.0027	13.1
	2.186	.000	65.5	180.0	.0000	.0
	2.873	2.177	READINGS	INVALID		
	2.822	1.563	READINGS	INVALID		
	2.769	1.308	113.2	107.9	.0013	2.0
	2.712	1.005	119.1	123.5	.0027	6.0
	2.584	.000	61.5	180.0	.0000	.0
	3.109	2.206	READINGS	INVALID		
	3.085	1.633	READINGS	INVALID		
	3.059	1.377	READINGS	INVALID		
	3.028	1.067	84.5	121.7	.0027	6.0
	2.950	.000	47.6	180.0	.0000	.0
564.10	2.449	2.279	273.5	- 71.8	.0010	6.0
	1.911	1.154	348.8	163.2	.0033	17.2
	1.779	1.006	239.6	- 2.6	.0025	6.6
	1.739	.807	168.8	178.7	.0024	10.9
	1.742	.000	115.1	180.0	.0000	.0
	2.553	2.299	222.3	- 76.7	.0009	1.2
	2.473	1.348	200.8	84.0	.0019	4.2
	2.334	1.098	193.1	122.3	.0030	8.8
	2.223	.846	161.4	144.5	.0027	6.3
	2.163	.000	97.3	180.0	.0000	.0
	NO READING					
	NO READING					
	2.747	1.253	137.0	86.2	.0014	9.4
	2.679	.968	106.0	116.4	.0028	6.5
	2.564	.000	67.5	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	3.005	1.037	81.4	103.9	.0028	6.5
	2.942	.000	55.6	180.0	.0000	.0

Table D-IV. Rear Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
602.44	2.389	2.429	READINGS	INVALID		
	1.770	1.143	308.5	8.3	.0016	5.2
	1.673	1.012	223.3	-170.0	.0025	18.6
	1.664	.807	176.0	4.8	.0025	14.6
	1.684	.000	135.0	180.0	.0000	.0
	2.579	2.367	READINGS	INVALID		
	2.495	1.279	14480.5	36.5	.0019	4.2
	2.250	1.008	266.1	139.3	.0028	8.1
	2.152	.809	189.1	153.1	.0026	12.5
	2.097	.000	150.9	180.0	.0000	.0
	2.924	2.250	READINGS	INVALID		
	2.991	1.503	77.3	- 48.4	.0029	25.9
	2.780	1.195	139.1	71.0	.0029	16.0
	2.670	.921	141.4	110.2	.0028	14.5
	2.522	.000	117.1	180.0	.0000	.0
	3.136	2.241	READINGS	INVALID		
	3.123	1.593	57.3	95.8	.0029	25.9
	3.083	1.315	56.8	- 53.3	.0029	16.0
	3.012	1.001	77.6	92.1	.0028	14.5
	2.899	.000	85.4	180.0	.0000	.0
640.78	NO READING					
	1.637	1.195	287.4	-148.8	.0008	3.0
	1.578	1.041	229.1	-154.0	.0025	20.0
	1.578	.822	209.6	-164.5	.0025	11.8
	1.618	.000	150.9	180.0	.0000	.0
	NO READING					
	15.746	1.173	28808.5	90.1	.0010	12.6
	2.150	.939	242.6	154.3	.0030	19.4
	2.068	.767	207.8	164.0	.0025	18.3
	2.024	.000	150.9	180.0	.0000	.0
	NO READING					
	2.939	1.450	171.9	64.2	.0031	22.3
	2.789	1.134	151.5	91.7	.0031	21.3
	2.630	.849	154.0	130.9	.0028	20.9
	2.457	.000	113.1	180.0	.0000	.0
	NO READING					
	3.167	1.563	110.1	34.0	.0031	22.3
	3.105	1.268	100.8	68.4	.0031	21.3
	3.003	.968	80.9	100.4	.0028	20.9
	2.864	.000	79.4	180.0	.0000	.0

Table D-IV. Rear Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
679.12	2.590	2.513	READINGS INVALID			
	1.545	1.275	220.9	-134.6	.0023	4.1
	1.487	1.105	201.0	-145.1	.0026	7.5
	1.479	.860	174.2	-162.6	.0026	8.9
	1.545	.000	138.9	180.0	.0000	.0
	2.721	2.486	READINGS INVALID			
	2.489	1.090	14779.0	171.8	.0022	16.1
	2.053	.910	206.8	166.3	.0038	14.1
	1.971	.758	206.9	176.7	.0025	11.4
	1.958	.000	144.9	180.0	.0000	.0
	3.017	2.380	65.5	- 17.6	.0021	3.2
	2.953	1.364	241.7	86.7	.0034	19.0
	2.773	1.059	214.1	110.3	.0036	19.7
	2.583	.813	162.0	138.3	.0027	10.3
	2.418	.000	125.1	180.0	.0000	.0
	3.204	2.338	108.0	- 34.8	.0021	3.2
	3.207	1.536	121.8	37.9	.0034	19.0
	3.118	1.229	107.0	74.4	.0036	19.7
	2.999	.928	102.2	101.5	.0027	10.3
	2.826	.000	83.4	180.0	.0000	.0
717.46	NO READING					
	1.492	1.337	188.0	-110.8	.0046	36.2
	1.426	1.147	163.3	-126.6	.0030	17.4
	1.426	.873	137.8	-150.7	.0027	9.2
	1.490	.000	119.1	180.0	.0000	.0
	NO READING					
	2.161	.995	422.5	151.0	.0023	9.1
	1.965	.893	240.5	- 2.5	.0045	8.3
	1.878	.756	197.8	4.2	.0025	5.7
	1.890	.000	140.9	180.0	.0000	.0
	3.067	2.415	247.0	- 69.2	.0016	3.6
	2.946	1.229	314.1	101.6	.0033	4.1
	2.716	.953	288.8	126.8	.0037	10.3
	2.521	.749	212.6	141.6	.0027	3.2
	2.342	.000	142.9	180.0	.0000	.0
	3.238	2.431	187.1	- 60.3	.0016	3.6
	3.255	1.494	162.5	57.1	.0033	4.1
	3.131	1.173	159.4	84.8	.0037	10.3
	2.983	.877	153.5	110.6	.0027	3.2
	2.787	.000	93.3	180.0	.0000	.0

Table D-IV. Rear Smoke Grid Calculations - 1/4 In. Entrance (Continued

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
755.80	NO READING					
	1.490	1.428	186.3	- 78.5	.0043	37.8
	1.403	1.220	147.1	-100.8	.0029	13.8
	1.375	.924	121.1	-131.2	.0029	7.4
	1.436	.000	97.3	180.0	.0000	.0
	NO READING					
	2.126	.964	336.8	- 14.9	.0023	7.1
	1.834	.906	247.8	-168.4	.0042	10.3
	1.790	.771	174.9	-170.9	.0027	4.0
	1.828	.000	125.1	180.0	.0000	.0
	3.028	2.577	READINGS	INVALID		
	2.893	1.085	321.5	113.0	.0024	12.5
	2.612	.849	331.8	140.7	.0037	12.6
	2.429	.694	228.8	149.2	.0028	4.6
	2.287	.000	123.1	180.0	.0000	.0
	3.284	2.488	172.7	- 68.1	.0006	1.1
	3.280	1.412	232.6	82.2	.0024	12.5
	3.127	1.085	240.4	100.8	.0037	12.6
	2.948	.796	200.3	117.6	.0028	4.6
	2.740	.000	123.1	180.0	.0000	.0
794.14	NO READING					
	1.523	1.501	200.8	- 56.4	.0014	4.6
	1.399	1.279	138.4	- 83.3	.0025	7.5
	1.352	.955	89.2	-114.8	.0032	8.3
	1.401	.000	63.5	180.0	.0000	.0
	NO READING					
	1.868	1.019	READINGS	INVALID		
	1.742	.935	201.3	-150.7	.0039	8.3
	1.719	.782	154.6	-156.3	.0028	5.4
	1.775	.000	107.2	180.0	.0000	.0
	NO READING					
	2.831	.957	453.7	132.4	.0018	14.6
	2.480	.762	307.6	150.6	.0048	7.3
	2.340	.641	209.0	161.1	.0029	5.5
	2.228	.000	125.1	180.0	.0000	.0
	3.291	2.574	197.0	- 85.9	.0003	.4
	3.277	1.284	233.3	86.6	.0018	14.6
	3.083	.959	321.8	115.9	.0048	7.3
	2.897	.714	216.1	128.1	.0029	5.5
	2.674	.000	111.2	180.0	.0000	.0

Table D-IV. Rear Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
832.48	NO READING					
	1.595	1.578	READINGS	INVALID		
	1.419	1.344	167.4	- 59.0	.0024	9.1
	1.342	.997	98.9	- 91.8	.0034	7.5
	1.377	.000	39.7	180.0	.0000	.0
	NO READING					
	NO READING					
	1.675	.994	191.0	-121.3	.0045	66.2
	1.664	.826	118.0	-128.3	.0030	28.7
	1.730	.000	77.4	180.0	.0000	.0
	3.216	2.658	READINGS	INVALID		
	2.595	.815	READINGS	INVALID		
	2.367	.709	235.1	167.5	.0050	31.9
	2.252	.630	189.3	175.8	.0029	33.9
	2.172	.000	115.1	180.0	.0000	.0
	3.297	2.668	READINGS	INVALID		
	3.289	1.198	169.9	33.9	.0008	2.2
	2.995	.822	240.4	104.5	.0050	31.9
	2.826	.641	167.1	133.2	.0029	33.9
	2.637	.000	89.3	180.0	.0000	.0
870.82	NO READING					
	NO READING					
	1.479	1.405	186.3	- 49.3	.0024	4.4
	1.350	1.045	98.0	- 83.1	.0034	18.8
	1.364	.000	37.7	180.0	.0000	.0
	NO READING					
	NO READING					
	1.655	1.078	165.5	- 98.3	.0050	68.3
	1.647	.860	111.1	-114.5	.0034	24.7
	1.704	.000	61.5	180.0	.0000	.0
	NO READING					
	NO READING					
	2.276	.709	182.8	2.0	.0040	38.9
	2.166	.628	179.8	4.0	.0029	35.2
	2.122	.000	109.2	180.0	.0000	.0
	NO READING					
	3.357	1.215	422.2	52.9	.0000	.0
	2.999	.763	184.6	112.7	.0040	38.9
	2.791	.603	170.1	144.6	.0029	35.2
	2.592	.000	119.1	180.0	.0000	.0

Table D-IV. Rear Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
909.16	NO READING					
	NO READING					
	1.531	1.474	228.9	- 46.9	.0022	35.5
	1.353	1.087	73.9	- 65.0	.0034	41.8
	1.342	.000	43.7	180.0	.0000	.0
	NO READING					
	NO READING					
	1.651	1.143	153.2	- 82.4	.0026	8.7
	1.622	.919	119.3	-105.2	.0036	13.5
	1.673	.000	61.5	180.0	.0000	.0
	NO READING					
	NO READING					
	2.199	.714	READINGS	INVALID		
	2.088	.641	148.5	-155.5	.0030	4.7
	2.071	.000	99.2	180.0	.0000	.0
	NO READING					
	3.200	.937	READINGS	INVALID		
	2.915	.690	256.7	149.2	.0018	7.0
	2.694	.563	200.6	159.7	.0030	4.7
	2.528	.000	123.1	180.0	.0000	.0
947.50	NO READING					
	NO READING					
	1.626	1.554	250.6	- 33.4	.0020	33.6
	1.372	1.105	60.1	- 18.9	.0033	25.7
	1.324	.000	43.7	180.0	.0000	.0
	NO READING					
	NO READING					
	1.675	1.215	143.4	- 59.6	.0000	.6
	1.616	.964	102.1	- 84.5	.0044	13.7
	1.647	.000	63.5	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	2.044	.678	124.8	-142.7	.0032	22.0
	2.031	.000	77.4	180.0	.0000	.0
	NO READING					
	NO READING					
	2.798	.647	READINGS	INVALID		
	2.619	.535	198.4	163.8	.0032	22.0
	2.479	.000	105.2	180.0	.0000	.0

Table D-IV. Rear Smoke Grid Calculations - 1/4 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
985.84	NO READING					
	NO READING					
	1.721	1.602	176.1	26.1	.0010	1.2
	1.401	1.101	46.0	52.6	.0032	57.3
	1.302	.000	37.7	180.0	.0000	.0
	NO READING					
	NO READING					
	1.713	1.257	READINGS	INVALID		
	1.631	1.010	68.0	- 81.1	.0047	.3
	1.615	.000	59.5	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	1.996	.711	97.4	-150.8	.0035	22.0
	2.000	.000	79.4	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	2.519	.513	211.0	- 5.6	.0035	22.0
	2.431	.000	131.0	180.0	.0000	.0
1024.18	NO READING					
	NO READING					
	1.732	1.547	READINGS	INVALID		
	1.399	1.089	34.3	99.7	.0032	64.6
	1.289	.000	43.7	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	1.631	1.025	33.6	- 76.7	.0045	40.5
	1.593	.000	61.5	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	1.967	.723	95.0	-146.4	.0039	73.3
	1.958	.000	111.2	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	2.427	.515	210.6	-177.9	.0039	73.3
	2.358	.000	158.8	180.0	.0000	.0

Table D-V. Front Smoke Grid Calculations - 1/2 In. Entrance

Shot 120

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
- 24.00	.250	1.979	24.9	19.3	.0023	1.9
	.243	1.596	27.8	- 13.3	.0024	2.5
	.232	1.210	24.1	- 9.7	.0023	.2
	.232	.828	26.4	- 3.3	.0024	1.5
	.241	.000	17.8	90.0	.0000	.0
	.570	2.005	21.9	22.5	.0022	1.4
	.574	1.618	23.9	46.3	.0023	3.0
	.576	1.238	20.5	63.9	.0023	1.8
	.592	.864	22.4	66.1	.0023	.2
	.605	.000	5.9	90.0	.0000	.0
	.997	2.030	21.7	55.7	.0024	1.3
	.978	1.628	25.5	19.4	.0023	.0
	.980	1.247	36.8	54.2	.0023	1.0
	.989	.886	31.8	66.8	.0023	.9
	.991	.000	7.9	.0	.0000	.0
	1.366	2.056	48.6	12.4	.0024	1.3
	1.354	1.644	44.5	6.0	.0023	.0
	1.350	1.291	77.3	9.0	.0023	1.0
	1.357	.927	36.1	33.6	.0023	.9
	1.366	.000	9.9	.0	.0000	.0
14.75	.259	1.964	105.6	20.4	.0025	1.9
	.245	1.598	59.8	- 5.7	.0026	1.1
	.239	1.221	26.9	36.2	.0023	.0
	.234	.839	16.5	18.0	.0024	1.5
	.237	.000	9.9	180.0	.0000	.0
	.570	1.997	31.1	55.0	.0023	1.1
	.577	1.617	20.4	43.4	.0023	2.6
	.583	1.227	32.5	- 37.1	.0023	1.0
	.594	.857	20.8	- 32.7	.0023	.3
	.609	.000	9.9	90.0	.0000	.0
	.999	2.025	23.3	108.0	.0025	1.0
	.988	1.629	27.1	- 68.4	.0023	.3
	.988	1.243	31.0	- 45.0	.0023	.6
	.991	.875	41.4	- 14.6	.0023	2.1
	.999	.000	19.9	90.0	.0000	.0
	1.363	2.030	36.1	132.0	.0025	1.0
	1.355	1.622	37.8	- 24.9	.0023	.3
	1.352	1.251	59.5	- 4.9	.0023	.6
	1.354	.912	21.9	- 15.5	.0023	2.1
	1.370	.000	13.8	90.0	.0000	.0

Table D-V. Front Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
53.50	.337	1.988	224.8	- 12.7	.0025	1.4
	.289	1.569	165.8	48.3	.0028	5.6
	.232	1.212	83.5	94.3	.0024	.7
	.232	.835	16.9	94.1	.0024	.5
	.232	.000	9.9	90.0	.0000	.0
	.590	1.990	116.6	7.0	.0025	19.2
	.585	1.604	93.6	37.5	.0025	8.3
	.572	1.240	78.5	- 44.8	.0024	.5
	.585	.864	30.9	- 50.4	.0024	.3
	.603	.000	21.8	90.0	.0000	.0
	.986	2.016	74.6	64.3	.0026	.3
	.978	1.642	60.2	- 54.8	.0024	1.6
	.978	1.262	47.8	- 47.0	.0023	.7
	.982	.901	36.5	- 26.7	.0023	2.6
	.988	.000	21.8	90.0	.0000	.0
	1.355	2.029	33.9	71.7	.0026	.3
	1.346	1.631	31.0	- 85.3	.0024	1.6
	1.350	1.265	34.6	- 77.6	.0023	.7
	1.350	.916	14.4	- 99.2	.0023	2.6
	1.361	.000	9.9	90.0	.0000	.0
92.25	.463	2.006	266.4	- 4.6	.0023	1.7
	.335	1.479	221.8	60.1	.0029	5.5
	.265	1.155	154.0	73.6	.0025	1.4
	.235	.824	92.8	75.9	.0024	.8
	.235	.000	5.9	90.0	.0000	.0
	.677	1.999	198.6	- .9	.0025	20.2
	.655	1.585	172.6	25.2	.0026	10.5
	.614	1.203	136.6	47.2	.0026	.8
	.598	.853	83.7	50.9	.0024	.2
	.618	.000	21.8	90.0	.0000	.0
	1.037	2.030	124.8	- 8.0	.0026	.6
	1.017	1.631	108.0	23.6	.0024	1.9
	1.000	1.252	88.6	34.4	.0024	.7
	.986	.896	57.5	49.1	.0024	1.0
	.997	.000	11.9	.0	.0000	.0
	1.377	2.038	73.5	- 14.9	.0026	.6
	1.359	1.640	71.4	- 8.2	.0024	1.9
	1.359	1.280	59.4	- 3.5	.0024	.7
	1.354	.923	41.3	- 5.8	.0024	1.0
	1.361	.000	9.9	.0	.0000	.0

Table D-V. Front Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
131.00	.583	2.008	271.3	1.5	.0022	40.2
	.392	1.390	219.3	68.8	.0030	37.0
	.269	1.078	125.4	83.2	.0024	12.8
	.248	.750	118.1	82.0	.0025	1.1
	.234	.000	9.9	90.0	.0000	.0
	.774	1.992	209.0	- 8.4	.0025	1.3
	.726	1.534	178.4	33.6	.0026	25.0
	.657	1.146	134.0	60.6	.0026	15.4
	.627	.800	106.3	64.1	.0025	9.6
	.612	.000	17.8	90.0	.0000	.0
	1.100	2.030	134.6	1.7	.0026	1.4
	1.069	1.600	140.1	22.5	.0025	1.3
	1.041	1.210	116.0	36.4	.0025	8.4
	1.021	.864	107.0	53.5	.0025	5.0
	.999	.000	17.8	.0	.0000	.0
	1.422	2.043	111.5	14.5	.0026	1.4
	1.407	1.624	103.8	17.7	.0025	1.3
	1.383	1.251	83.4	36.4	.0025	8.4
	1.372	.899	63.4	39.5	.0025	5.0
	1.370	.000	13.8	.0	.0000	.0
169.75	.715	1.999	274.7	- 6.3	.0018	40.9
	.408	1.293	202.2	96.1	.0030	37.0
	.276	1.039	102.3	93.2	.0024	12.3
	.252	.715	67.0	101.1	.0025	2.1
	.241	.000	9.9	90.0	.0000	.0
	.864	2.027	224.7	- 9.2	.0024	.7
	.793	1.493	192.2	42.3	.0027	23.7
	.677	1.096	119.6	65.6	.0025	15.3
	.642	.765	83.4	67.7	.0026	9.4
	.623	.000	31.6	.0	.0000	.0
	1.162	2.027	148.5	1.0	.0027	45.1
	1.137	1.582	148.5	16.3	.0026	33.0
	1.085	1.188	117.4	37.0	.0025	25.7
	1.043	.817	100.2	57.9	.0026	21.7
	1.013	.000	47.5	.0	.0000	.0
	1.469	2.008	127.5	3.2	.0027	45.1
	1.451	1.611	110.5	20.6	.0026	33.0
	1.420	1.236	102.4	28.0	.0025	25.7
	1.398	.886	84.4	38.8	.0026	21.7
	1.374	.000	45.5	.0	.0000	.0

Table D-V. Front Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
208.50	.833	2.034	293.8	- 14.3	.0013	1.0
	.375	1.210	228.9	140.3	.0026	24.7
	.259	.986	87.8	141.6	.0023	21.0
	.239	.691	46.2	76.9	.0025	16.3
	.239	.000	7.9	90.0	.0000	.0
	.977	2.021	245.5	.0	.0024	11.2
	.853	1.412	213.1	40.1	.0029	1.1
	.703	1.045	118.5	64.3	.0026	12.4
	.657	.728	67.9	53.4	.0026	10.8
	.642	.000	37.6	.0	.0000	.0
	1.238	2.029	177.0	- 4.3	.0026	54.6
	1.201	1.561	160.8	23.6	.0026	39.0
	1.126	1.144	128.8	47.5	.0026	17.4
	1.069	.785	89.2	34.1	.0026	23.0
	1.043	.000	63.3	.0	.0000	.0
	1.521	2.038	143.5	- 18.4	.0026	54.6
	1.503	1.587	132.5	14.8	.0026	39.0
	1.466	1.205	118.3	23.0	.0026	17.4
	1.429	.848	104.1	35.8	.0026	23.0
	1.412	.000	79.1	.0	.0000	.0
247.25	.980	2.065	332.4	- 11.0	.0010	2.6
	.254	1.186	184.1	21.7	.0022	28.2
	.234	.984	48.1	28.4	.0023	23.2
	.252	.682	19.8	- 4.7	.0025	14.9
	.245	.000	27.7	.0	.0000	.0
	1.092	2.027	282.8	- 17.2	.0023	52.5
	.940	1.368	209.6	45.7	.0031	36.7
	.725	.997	100.2	76.3	.0027	16.9
	.675	.714	51.9	51.0	.0026	14.5
	.658	.000	47.5	.0	.0000	.0
	1.326	2.041	229.7	- 23.3	.0026	10.5
	1.273	1.523	183.1	27.7	.0026	35.2
	1.166	1.100	136.4	42.3	.0027	19.1
	1.109	.772	97.0	22.6	.0026	14.7
	1.072	.000	53.4	.0	.0000	.0
	1.594	2.047	171.6	5.8	.0026	10.5
	1.569	1.582	149.3	14.4	.0026	35.2
	1.519	1.194	134.3	22.5	.0027	19.1
	1.473	.831	108.8	19.2	.0026	14.7
	1.447	.000	83.1	.0	.0000	.0

Table D-V. Front Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	G LB/SQFT
286.00	1.137	2.093	339.8	.4	.0010	4.4
	.226	1.225	387.1	-118.1	.0019	3.9
	.224	1.000	98.3	-116.5	.0023	12.6
	.254	.684	46.2	- 79.6	.0024	13.8
	.265	.000	57.6	90.0	.0000	.0
	1.217	2.104	314.9	- 8.9	.0020	47.7
	.982	1.280	178.4	67.7	.0038	50.8
	.726	.956	80.7	121.1	.0025	5.3
	.686	.691	40.5	117.7	.0025	13.8
	.686	.000	31.6	90.0	.0000	.0
	1.423	2.119	266.9	.4	.0027	7.3
	1.352	1.482	190.1	26.6	.0027	33.6
	1.219	1.059	108.8	36.7	.0027	21.6
	1.151	.750	77.1	42.5	.0026	8.7
	1.092	.000	35.6	.0	.0000	.0
	1.675	2.019	190.3	1.9	.0027	7.3
	1.635	1.552	163.8	4.6	.0027	33.6
	1.578	1.155	132.8	22.7	.0027	21.6
	1.525	.815	101.3	16.9	.0026	8.7
	1.490	.000	73.2	.0	.0000	.0
324.75	1.291	2.063	343.7	.5	.0010	19.1
	.116	1.517	360.1	- 50.6	.0018	19.5
	.195	1.067	184.1	-114.1	.0023	18.7
	.237	.721	82.8	-110.9	.0024	15.6
	.250	.000	21.8	180.0	.0000	.0
	1.359	2.069	316.6	.9	.0019	5.7
	1.004	1.216	160.0	104.9	.0038	60.0
	.695	.942	95.9	- 2.8	.0024	28.7
	.673	.690	54.6	19.4	.0024	19.3
	.684	.000	9.9	180.0	.0000	.0
	1.534	2.029	282.0	17.9	.0028	12.1
	1.431	1.444	194.4	32.7	.0028	6.1
	1.247	1.039	106.9	52.4	.0027	20.4
	1.164	.730	61.4	75.4	.0025	13.5
	1.105	.000	15.8	.0	.0000	.0
	1.764	2.043	199.6	- 1.4	.0028	12.1
	1.712	1.572	195.6	9.7	.0028	6.1
	1.629	1.142	123.2	26.5	.0027	20.4
	1.563	.804	87.9	30.5	.0025	13.5
	1.515	.000	43.5	.0	.0000	.0

Table D-V. Front Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
363.50	1.451	2.091	READINGS	INVALID		
	.138	1.514	151.3	- 34.4	.0029	26.4
	.154	1.157	157.7	-101.0	.0026	11.4
	.226	.756	89.8	-111.5	.0024	11.6
	.245	.000	13.8	180.0	.0000	.0
	1.504	2.100	332.3	- 8.0	.0013	3.9
	.943	1.162	227.5	145.5	.0031	57.0
	.644	.960	119.3	-164.5	.0023	34.5
	.647	.717	77.9	7.5	.0024	13.3
	.677	.000	9.9	180.0	.0000	.0
	1.653	2.036	286.6	- 7.9	.0027	74.1
	1.503	1.385	221.0	47.8	.0030	57.8
	1.271	.978	118.3	84.0	.0027	20.0
	1.162	.697	56.0	106.1	.0025	14.2
	1.107	.000	23.7	.0	.0000	.0
	1.856	2.023	227.8	6.2	.0027	74.1
	1.797	1.515	209.7	29.3	.0030	57.8
	1.677	1.103	145.9	43.5	.0027	20.0
	1.593	.774	83.7	37.7	.0025	14.2
	1.530	.000	37.6	.0	.0000	.0
402.25	NO READING					
	.162	1.629	221.7	- 2.1	.0041	78.4
	.156	1.205	69.7	- 64.2	.0030	36.3
	.206	.798	80.1	-121.2	.0024	17.2
	.237	.000	33.6	180.0	.0000	.0
	1.664	2.111	367.1	- 4.6	.0010	4.5
	.828	1.102	278.8	- 2.0	.0041	12.8
	.589	.971	119.3	-153.2	.0023	27.4
	.618	.699	86.7	2.4	.0024	22.2
	.675	.000	33.6	180.0	.0000	.0
	1.797	2.067	312.3	- 10.9	.0025	78.7
	1.565	1.291	213.2	59.0	.0037	65.5
	1.263	.934	126.5	122.9	.0026	4.7
	1.153	.680	63.1	132.7	.0024	15.8
	1.127	.000	51.4	90.0	.0000	.0
	1.973	2.023	250.7	- 11.2	.0025	78.7
	1.881	1.477	205.6	31.3	.0037	65.5
	1.727	1.048	138.6	59.2	.0026	4.7
	1.624	.756	92.5	62.4	.0024	15.8
	1.550	.000	33.6	.0	.0000	.0

Table D-V. Front Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	L FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
441.00	NO READING					
	.186	1.545	159.1	62.1	.0048	88.8
	.169	1.216	69.7	- 64.2	.0031	41.5
	.189	.820	38.5	- 76.7	.0025	11.2
	.213	.000	41.5	90.0	.0000	.0
	1.845	2.128	349.4	- 7.9	.0009	24.3
	.710	1.153	195.8	-139.7	.0042	10.2
	.548	1.008	92.6	-124.1	.0023	22.0
	.581	.726	76.3	-153.0	.0024	18.1
	.646	.000	53.4	180.0	.0000	.0
	1.938	2.091	300.7	- 11.4	.0020	10.3
	1.606	1.216	244.3	90.7	.0037	85.9
	1.203	.894	147.5	151.3	.0025	29.9
	1.120	.658	88.8	150.4	.0024	19.7
	1.100	.000	45.5	180.0	.0000	.0
	2.080	2.067	238.2	- 15.7	.0020	10.3
	1.959	1.416	201.1	47.1	.0037	85.9
	1.745	.997	144.2	86.9	.0025	29.9
	1.620	.706	111.2	103.2	.0024	19.7
	1.561	.000	25.7	90.0	.0000	.0
479.75	NO READING					
	.224	1.499	88.7	52.5	.0046	21.0
	.171	1.263	67.4	-119.0	.0030	58.6
	.197	.824	29.2	- 72.8	.0026	27.2
	.228	.000	27.7	90.0	.0000	.0
	1.986	2.154	READINGS	INVALID		
	.682	1.199	107.1	-105.5	.0038	20.0
	.537	1.037	60.2	-106.8	.0024	2.2
	.557	.734	46.7	-153.0	.0025	21.1
	.625	.000	51.4	180.0	.0000	.0
	2.071	2.122	288.7	- 11.4	.0014	7.3
	1.536	1.092	388.7	141.0	.0036	101.1
	1.144	.868	130.0	- 5.2	.0025	36.1
	1.081	.640	100.7	- 6.5	.0025	10.0
	1.085	.000	57.3	180.0	.0000	.0
	2.185	2.084	226.6	- 9.5	.0014	7.3
	2.008	1.343	227.8	79.9	.0036	101.1
	1.727	.920	180.1	127.3	.0025	36.1
	1.600	.657	133.4	138.5	.0025	10.0
	1.549	.000	87.0	180.0	.0000	.0

Table D-V. Front Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
519.50	NO READING					
	.237	1.480	146.8	- 36.4	.0040	424.4
	.158	1.271	17.9	-120.0	.0029	66.8
	.188	.840	30.4	24.8	.0026	28.6
	.217	.000	23.7	180.0	.0000	.0
	NO READING					
	.682	1.245	84.0	- 96.6	.0042	111.0
	.531	1.061	50.8	-134.5	.0026	16.1
	.543	.745	55.0	-142.5	.0026	24.8
	.598	.000	63.3	180.0	.0000	.0
	2.201	2.144	269.9	- 1.2	.0010	6.7
	1.326	1.026	329.0	1.2	.0067	24.1
	1.089	.881	152.5	-166.6	.0026	71.1
	1.032	.651	128.0	-172.2	.0026	29.1
	1.046	.000	120.6	180.0	.0000	.0
	2.288	2.102	229.3	9.1	.0010	6.7
	1.979	1.223	294.6	119.9	.0067	24.1
	1.650	.877	203.0	160.9	.0026	71.1
	1.532	.638	180.6	171.9	.0026	29.1
	1.480	.000	152.3	180.0	.0000	.0
557.25	NO READING					
	.167	1.571	147.9	-134.6	.0040	423.5
	.158	1.273	58.6	-104.5	.0030	18.8
	.178	.839	52.9	22.5	.0027	31.2
	.206	.000	45.5	180.0	.0000	.0
	NO READING					
	.675	1.276	50.8	-103.6	.0043	114.6
	.509	1.067	86.2	-147.9	.0027	19.9
	.517	.765	83.5	-143.4	.0027	5.8
	.566	.000	87.0	180.0	.0000	.0
	2.319	2.130	READINGS	INVALID		
	1.245	1.056	213.3	-152.5	.0079	3.9
	1.006	.901	166.0	-147.9	.0026	92.1
	.964	.655	141.5	-163.7	.0027	27.9
	.973	.000	130.5	180.0	.0000	.0
	2.383	2.051	READINGS	INVALID		
	1.870	1.118	309.5	147.0	.0079	3.9
	1.550	.861	220.1	- .7	.0026	92.1
	1.434	.636	183.6	5.3	.0027	27.9
	1.407	.000	144.4	180.0	.0000	.0

Table D-V. Front Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
596.00	NO READING					
	.149	1.585	161.8	-116.1	.0050	150.7
	.132	1.319	126.9	-109.5	.0031	24.4
	.156	.872	70.3	-117.4	.0029	36.1
	.175	.000	35.6	180.0	.0000	.0
	NO READING					
	.671	1.291	173.3	-133.6	.0042	15.3
	.473	1.111	118.4	-140.3	.0028	53.3
	.480	.791	92.5	-149.2	.0028	30.7
	.517	.000	81.1	180.0	.0000	.0
	NO READING					
	1.153	1.120	212.7	-148.4	.0059	10.5
	.962	.954	160.6	-150.2	.0026	29.9
	.909	.686	150.4	-160.4	.0027	32.6
	.925	.000	116.7	180.0	.0000	.0
	NO READING					
	1.743	1.067	323.7	167.0	.0059	10.5
	1.447	.875	225.4	-172.4	.0026	29.9
	1.363	.651	184.0	3.1	.0027	32.6
	1.346	.000	146.3	180.0	.0000	.0
634.75	NO READING					
	.147	1.712	READINGS	INVALID		
	.121	1.383	112.9	-101.6	.0032	30.4
	.147	.896	78.9	-109.3	.0029	10.7
	.173	.000	4.0	180.0	.0000	.0
	NO READING					
	.531	1.333	180.8	-126.6	.0041	72.7
	.427	1.137	128.3	-140.1	.0029	56.2
	.443	.809	100.2	-142.8	.0029	36.0
	.491	.000	45.5	180.0	.0000	.0
	NO READING					
	1.078	1.160	125.7	-145.3	.0053	169.7
	.883	.967	146.7	-156.2	.0028	56.6
	.833	.699	134.0	-151.9	.0029	38.8
	.864	.000	110.7	180.0	.0000	.0
	2.597	2.165	READINGS	INVALID		
	1.580	1.056	288.3	14.1	.0053	169.7
	1.343	.888	209.4	-165.6	.0029	56.6
	1.265	.642	186.8	8.7	.0028	38.8
	1.271	.000	144.4	180.0	.0000	.0

Table D-V. Front Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
673.50	NO READING					
	NO READING					
	.112	1.422	92.2	- 97.3	.0032	83.5
	.134	.942	69.0	-111.1	.0031	47.7
	.171	.000	21.8	180.0	.0000	.0
	NO READING					
	.531	1.355	271.1	-115.4	.0041	74.0
	.384	1.188	159.8	-130.8	.0030	9.2
	.408	.848	98.5	-142.2	.0029	53.5
	.474	.000	61.3	180.0	.0000	.0
	NO READING					
	1.054	1.181	114.3	-154.2	.0058	202.1
	.839	1.002	131.3	-147.5	.0028	60.9
	.800	.734	114.9	-146.7	.0029	11.6
	.822	.000	94.9	180.0	.0000	.0
	NO READING					
	1.491	1.111	173.5	-141.5	.0058	202.1
	1.260	.921	163.3	-153.2	.0028	60.9
	1.195	.671	156.1	-157.7	.0029	11.8
	1.212	.000	150.3	180.0	.0000	.0
712.25	NO READING					
	.109	1.810	READINGS	INVALID		
	.110	1.468	97.1	- 93.5	.0030	77.8
	.127	.956	57.4	-106.1	.0033	49.9
	.153	.000	23.7	90.0	.0000	.0
	NO READING					
	.353	1.501	384.1	- 63.3	.0041	170.6
	.329	1.249	100.1	- 66.1	.0031	61.5
	.373	.866	55.7	-134.4	.0030	56.9
	.434	.000	59.3	180.0	.0000	.0
	NO READING					
	.980	1.195	138.2	-161.1	.0056	44.1
	.780	1.032	124.2	-147.2	.0028	71.4
	.745	.754	98.2	-161.7	.0030	27.0
	.776	.000	91.0	180.0	.0000	.0
	NO READING					
	1.451	1.151	127.3	-135.6	.0056	44.1
	1.206	.954	131.1	-161.4	.0028	71.4
	1.131	.697	129.9	-168.1	.0030	27.0
	1.131	.000	142.4	180.0	.0000	.0

Table D-V. Front Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
751.00	NO READING					
	NO READING					
	.107	1.512	74.0	- 53.9	.0033	4.3
	.123	.993	68.1	- 86.9	.0033	52.8
	.156	.000	13.8	90.0	.0000	.0
	NO READING					
	.476	1.469	221.7	- 37.2	.0046	185.6
	.340	1.249	75.1	- 34.9	.0032	69.6
	.368	.877	63.3	-107.9	.0030	11.1
	.419	.000	27.7	180.0	.0000	.0
	NO READING					
	.932	1.219	137.0	-139.2	.0050	25.4
	.741	1.063	107.2	-124.1	.0028	74.5
	.714	.763	83.2	-136.4	.0030	25.8
	.737	.000	59.3	180.0	.0000	.0
	NO READING					
	1.407	1.194	110.5	-135.6	.0050	25.4
	1.148	.960	123.7	-146.0	.0028	74.5
	1.080	.699	100.2	-154.7	.0030	25.8
	1.080	.000	81.8	6.5	.0000	.0
789.75	NO READING					
	NO READING					
	.131	1.517	39.0	- 32.2	.0037	15.2
	.129	1.019	36.2	- 83.9	.0032	53.5
	.147	.000	15.8	180.0	.0000	.0
	NO READING					
	.478	1.549	113.0	- 48.4	.0045	18.5
	.360	1.304	70.3	- 63.1	.0034	84.9
	.360	.923	63.3	- 81.3	.0030	72.3
	.408	.000	13.8	180.0	.0000	.0
	NO READING					
	.890	1.280	142.9	- 81.8	.0047	29.7
	.726	1.111	65.0	-121.1	.0029	8.1
	.699	.806	62.6	-136.6	.0030	40.3
	.721	.000	23.7	180.0	.0000	.0
	NO READING					
	1.377	1.223	72.7	-135.0	.0047	29.7
	1.122	1.010	100.1	-144.4	.0029	8.1
	1.052	.790	76.7	-140.2	.0030	40.3
	1.056	.006	52.8	- .0	.0000	.0

Table D-V. Front Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
828.50	NO READING					
	NO READING					
	.138	1.526	22.7	-110.0	.0039	25.6
	.129	1.026	44.3	-101.2	.0031	4.2
	.142	.000	11.9	180.0	.0000	.0
	NO READING					
	.504	1.552	114.8	- 19.1	.0045	4.7
	.364	1.309	41.2	- 55.4	.0035	76.3
	.366	.934	45.5	- 82.0	.0030	73.1
	.406	.000	23.7	180.0	.0000	.0
	NO READING					
	.936	1.317	132.4	- 76.1	.0044	9.4
	.719	1.118	66.9	-115.6	.0029	7.7
	.686	.909	51.3	-134.6	.0031	42.2
	.715	.000	27.7	180.0	.0000	.0
	NO READING					
	1.359	1.241	130.3	-137.0	.0044	9.4
	1.085	1.015	104.4	-139.7	.0029	7.7
	1.026	.745	68.7	-139.3	.0031	42.2
	1.032	.000	52.1	173.5	.0000	.0
867.25	NO READING					
	NO READING					
	.129	1.528	34.9	- 25.0	.0039	88.5
	.116	1.057	65.8	- 32.3	.0031	173.5
	.136	.000	9.9	90.0	.0000	.0
	NO READING					
	.574	1.593	READINGS	INVALID		
	.383	1.335	56.4	- 4.7	.0033	6.5
	.360	.964	38.1	- 50.3	.0030	39.5
	.386	.000	31.6	90.0	.0000	.0
	NO READING					
	.910	1.376	READINGS	INVALID		
	.714	1.170	82.3	- 72.1	.0029	23.3
	.677	.842	52.9	-101.3	.0030	18.2
	.695	.000	23.7	180.0	.0000	.0
	NO READING					
	1.287	1.304	READINGS	INVALID		
	1.067	1.072	98.1	-100.6	.0029	23.3
	1.006	.772	56.7	-111.0	.0030	18.2
	1.008	.000	35.6	180.0	.0000	.0

Table D-V. Front Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
906.00	NO READING					
	NO READING					
	.118	1.508	41.8	122.1	.0038	74.7
	.134	1.037	33.8	100.6	.0031	173.3
	.140	.000	9.9	90.0	.0000	.0
	NO READING					
	NO READING					
	.397	1.320	39.4	85.3	.0032	9.3
	.366	.964	21.8	45.0	.0030	40.1
	.395	.000	27.7	90.0	.0000	.0
	NO READING					
	NO READING					
	.730	1.188	54.4	- 26.0	.0029	63.4
	.675	.857	21.9	41.4	.0030	41.9
	.693	.000	19.8	180.0	.0000	.0
	NO READING					
	NO READING					
	1.065	1.103	83.1	- 91.7	.0029	63.4
	1.004	.791	50.1	-108.7	.0030	41.9
	.999	.000	35.6	180.0	.0000	.0
944.75	NO READING					
	NO READING					
	.109	1.495	72.4	17.8	.0037	22.9
	.131	1.035	24.6	26.1	.0032	43.4
	.134	.000	9.9	90.0	.0000	.0
	NO READING					
	NO READING					
	.388	1.308	36.6	130.3	.0030	37.1
	.366	.949	34.3	- 16.0	.0030	20.1
	.379	.000	29.7	90.0	.0000	.0
	NO READING					
	.962	1.451	READINGS	INVALID		
	.756	1.190	37.6	16.4	.0029	56.4
	.669	.857	15.8	63.4	.0030	31.5
	.677	.000	35.6	90.0	.0000	.0
	NO READING					
	1.295	1.471	READINGS	INVALID		
	1.065	1.149	59.0	- 67.5	.0029	56.4
	.989	.815	36.4	- 96.6	.0030	31.5
	.975	.000	29.7	90.0	.0000	.0

Table D-V. Front Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
983.50	NO READING					
	NO READING					
	.109	1.547	150.5	- 81.5	.0030	23.5
	.127	1.054	48.5	-101.7	.0031	55.0
	.138	.000	7.9	.0	.0000	.0
	NO READING					
	NO READING					
	.375	1.295	68.7	2.4	.0030	33.5
	.357	.964	33.7	- 94.4	.0029	60.5
	.390	.000	17.8	90.0	.0000	.0
	NO READING					
	NO READING					
	.763	1.184	21.8	18.4	.0029	17.0
	.675	.864	23.9	- 22.5	.0031	5.6
	.693	.000	27.7	90.0	.0000	.0
	NO READING					
	NO READING					
	1.078	1.162	45.3	- 22.5	.0029	17.0
	.991	.820	18.8	- 45.0	.0031	5.6
	.978	.000	9.9	90.0	.0000	.0
1022.25	NO READING					
	NO READING					
	.134	1.631	177.7	- 87.1	.0023	13.8
	.121	1.080	62.8	-102.7	.0033	26.6
	.142	.000	23.7	.0	.0000	.0
	NO READING					
	NO READING					
	.346	1.330	99.0	-126.9	.0029	14.9
	.362	.977	33.0	-120.2	.0030	44.5
	.384	.000	11.9	90.0	.0000	.0
	NO READING					
	NO READING					
	.774	1.184	48.3	65.3	.0029	79.9
	.688	.863	39.8	91.9	.0030	9.5
	.694	.000	13.8	180.0	.0000	.0
	NO READING					
	NO READING					
	1.102	1.162	29.7	44.9	.0029	79.9
	1.002	.824	25.2	- 73.5	.0030	9.5
	.973	.000	7.9	180.0	.0000	.0

Table D-V. Front Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1061.00	NO READING					
	NO READING					
	.120	1.707	READINGS	INVALID		
	.114	1.111	72.1	-105.8	.0035	45.6
	.160	.000	51.4	90.0	.0000	.0
	NO READING					
	NO READING					
	.320	1.368	114.7	-122.5	.0033	30.3
	.346	.978	56.3	-159.6	.0030	2.3
	.390	.000	31.6	90.0	.0000	.0
	NO READING					
	NO READING					
	.752	1.159	94.4	151.4	.0029	103.8
	.664	.861	55.4	16.2	.0030	29.1
	.680	.000	31.6	180.0	.0000	.0
	NO READING					
	NO READING					
	1.102	1.159	18.4	7.9	.0029	103.8
	.995	.833	44.9	-149.0	.0030	29.1
	.971	.000	37.6	180.0	.0000	.0
1099.75	NO READING					
	NO READING					
	NO READING					
	.103	1.144	47.6	- 93.6	.0038	41.6
	.131	.000	39.6	90.0	.0000	.0
	NO READING					
	NO READING					
	.289	1.420	133.8	- 99.0	.0034	17.2
	.316	.999	41.2	- 5.2	.0030	16.2
	.366	.000	33.6	180.0	.0000	.0
	NO READING					
	NO READING					
	.699	1.151	91.7	172.7	.0029	31.5
	.642	.877	53.8	.9	.0030	23.1
	.655	.000	51.4	180.0	.0000	.0
	NO READING					
	NO READING					
	1.105	1.171	60.4	20.7	.0029	31.5
	.966	.839	62.4	- 10.5	.0030	23.1
	.938	.000	53.4	180.0	.0000	.0

Table D-V. Front Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	C LB/SQFT
1139.50	NO READING					
	NO READING					
	.088	1.686	READINGS	INVALID		
	.105	1.153	46.4	- 95.5	.0040	10.6
	.138	.000	23.7	90.0	.0000	.0
	NO READING					
	NO READING					
	.303	1.482	125.6	-101.6	.0031	21.9
	.314	.997	67.0	5.7	.0032	29.6
	.359	.000	27.7	180.0	.0000	.0
	NO READING					
	NO READING					
	.668	1.148	124.1	11.1	.0028	6.8
	.623	.864	79.0	- 4.7	.0030	4.4
	.633	.000	55.4	180.0	.0000	.0
	NO READING					
	NO READING					
	1.087	1.133	107.4	140.3	.0028	6.8
	.942	.824	78.3	- 11.1	.0030	4.4
	.921	.000	61.3	180.0	.0000	.0
1177.25	NO READING					
	NO READING					
	NO READING					
	.092	1.184	89.8	-100.1	.0044	37.3
	.123	.000	19.8	90.0	.0000	.0
	NO READING					
	NO READING					
	.272	1.525	116.7	- 85.1	.0029	20.1
	.281	1.046	93.0	-114.8	.0033	35.1
	.340	.000	25.7	180.0	.0000	.0
	NO READING					
	NO READING					
	.594	1.188	141.6	-134.4	.0029	14.2
	.577	.886	95.6	-136.7	.0031	1.0
	.603	.000	45.5	180.0	.0000	.0
	NO READING					
	NO READING					
	1.032	1.118	122.8	- 5.6	.0029	14.2
	.897	.831	96.8	-162.0	.0031	1.0
	.881	.000	81.1	180.0	.0000	.0

Table D-V. Front Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1216.00	NO READING					
	NO READING					
	NO READING					
	.094	1.234	71.1	-120.7	.0051	77.7
	.127	.000	31.6	90.0	.0000	.0
	NO READING					
	NO READING					
	.313	1.563	121.1	- 39.7	.0027	5.9
	.274	1.072	65.3	-122.7	.0035	27.5
	.335	.000	29.7	180.0	.0000	.0
	NO READING					
	NO READING					
	.572	1.230	94.9	-123.5	.0030	64.5
	.559	.920	92.1	-138.2	.0032	.4
	.590	.000	61.3	180.0	.0000	.0
	NO READING					
	NO READING					
	.975	1.122	137.5	-165.9	.0030	64.5
	.857	.851	106.3	-163.8	.0032	.4
	.846	.000	71.2	180.0	.0000	.0
1254.75	NO READING					
	NO READING					
	NO READING					
	.079	1.241	47.1	- 86.5	.0052	57.2
	.101	.000	53.4	90.0	.0000	.0
	NO READING					
	NO READING					
	.359	1.596	115.9	- 2.7	.0028	11.2
	.248	1.094	64.4	- 92.2	.0036	5.8
	.313	.000	23.7	90.0	.0000	.0
	NO READING					
	NO READING					
	.546	1.262	77.3	- 99.5	.0031	66.5
	.515	.938	72.4	-103.1	.0032	10.4
	.546	.000	55.4	90.0	.0000	.0
	NO READING					
	NO READING					
	.910	1.151	125.5	-130.8	.0031	66.5
	.804	.857	83.4	-134.2	.0032	10.4
	.815	.000	39.6	180.0	.0000	.0

Table D-V. Front Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1293.50	NO READING					
	NO READING					
	NO READING					
	.105	1.251	55.8	- 93.3	.0046	20.0
	.125	.000	43.5	90.0	.0000	.0
	NO READING					
	NO READING					
	.403	1.571	READINGS	INVALID		
	.267	1.113	29.9	- 22.5	.0036	14.3
	.313	.000	11.9	90.0	.0000	.0
	NO READING					
	NO READING					
	.557	1.291	64.5	- 87.2	.0031	9.4
	.528	.953	48.5	- 84.5	.0034	31.9
	.554	.000	25.7	90.0	.0000	.0
	NO READING					
	NO READING					
	.897	1.195	89.0	-116.6	.0031	9.4
	.802	.881	58.0	-131.9	.0034	31.9
	.809	.000	39.6	180.0	.0000	.0
1332.25	NO READING					
	NO READING					
	NO READING					
	.081	1.256	44.3	-125.3	.0043	3.3
	.109	.000	27.7	180.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	.269	1.113	47.1	- 63.9	.0035	16.7
	.302	.000	21.8	180.0	.0000	.0
	NO READING					
	NO READING					
	.550	1.319	40.8	- 46.8	.0031	.5
	.515	.975	33.4	29.9	.0034	22.1
	.537	.000	21.8	90.0	.0000	.0
	NO READING					
	NO READING					
	.875	1.225	70.8	- 99.2	.0031	.5
	.772	.886	52.0	-129.7	.0034	22.1
	.778	.000	45.5	90.0	.0000	.0

Table D-VI. Rear Smoke Grid Calculations - 1/2 In. Entrance

Shot 122

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
154.84	1.865	2.034	95.5	.5	.0025	.5
	1.839	1.610	89.7	13.8	.0026	1.2
	1.812	1.291	82.8	18.1	.0025	.5
	1.792	.966	60.0	30.0	.0025	1.1
	1.760	.000	21.8	90.0	.0000	.0
	2.126	2.061	52.8	.2	.0024	.4
	2.126	1.612	55.1	19.1	.0024	.2
	2.126	1.302	51.4	24.2	.0024	.5
	2.126	1.013	35.4	38.3	.0024	2.0
	2.126	.000	11.9	90.0	.0000	.0
	2.603	2.074	39.7	4.6	.0025	.4
	2.564	1.601	17.5	13.3	.0023	1.0
	2.548	1.322	14.0	- .0	.0024	1.1
	2.533	1.054	30.5	- 6.0	.0023	.5
	2.511	.000	31.8	90.0	.0000	.0
	2.889	2.096	43.0	- 26.9	.0025	.4
	2.895	1.590	43.6	- 46.7	.0023	1.0
	2.886	1.325	25.7	- 99.2	.0024	1.1
	2.982	1.109	38.1	- 5.7	.0023	.5
	2.886	.000	12.4	103.2	.0000	.0
193.35	1.915	2.052	118.9	- 8.3	.0025	.3
	1.880	1.617	104.3	- 2.3	.0026	1.5
	1.849	1.285	92.6	16.6	.0025	.4
	1.814	.949	83.1	31.7	.0026	2.4
	1.755	.000	75.5	90.0	.0000	.0
	2.151	2.071	80.6	- 13.6	.0025	.2
	2.151	1.623	91.9	- 4.1	.0024	2.1
	2.150	1.307	83.7	3.7	.0024	.6
	2.140	1.002	79.6	29.2	.0025	.5
	2.117	.000	73.5	90.0	.0000	.0
	2.610	2.093	73.1	- 35.2	.0025	3.9
	2.572	1.606	70.1	- 16.7	.0024	5.4
	2.552	1.325	64.7	- 12.7	.0026	5.4
	2.530	1.065	66.0	- 46.7	.0024	2.8
	2.491	.000	63.6	90.0	.0000	.0
	2.878	2.107	67.1	- 76.7	.0025	3.9
	2.878	1.604	63.8	- 66.3	.0024	5.4
	2.875	1.336	64.2	- 51.0	.0026	5.4
	2.878	1.127	52.3	- 35.8	.0024	2.8
	2.878	.000	17.9	90.0	.0000	.0

Table D-VI. Rear Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
231.86	1.972	2.049	126.9	- 16.9	.0025	.7
	1.935	1.612	107.6	1.7	.0025	2.1
	1.893	1.265	102.2	10.0	.0025	1.9
	1.858	.927	104.9	5.5	.0026	3.3
	1.819	.000	97.3	.0	.0000	.0
	2.207	2.078	107.3	- 14.9	.0024	.6
	2.207	1.608	101.8	3.2	.0024	2.0
	2.199	1.289	101.1	7.6	.0025	1.1
	2.192	.982	105.1	- .9	.0026	.4
	2.175	.000	101.3	.0	.0000	.0
	2.658	2.095	86.4	- 12.9	.0026	3.9
	2.625	1.597	96.3	- 10.2	.0024	3.6
	2.603	1.307	91.1	- 5.0	.0026	5.1
	2.577	1.052	89.3	- 2.2	.0025	4.0
	2.530	.000	77.5	.0	.0000	.0
	2.922	2.122	92.5	- 29.8	.0026	3.9
	2.915	1.601	82.9	- 14.0	.0024	5.6
	2.911	1.313	106.6	- 9.7	.0026	5.1
	2.904	1.112	71.1	2.9	.0025	4.0
	2.888	.000	41.7	.0	.0000	.0
270.37	2.019	2.085	129.2	- 3.9	.0025	1.6
	1.979	1.614	121.2	8.3	.0026	1.6
	1.939	1.268	120.3	8.5	.0026	2.4
	1.904	.940	110.2	6.3	.0026	1.6
	1.845	.000	75.5	.0	.0000	.0
	2.247	2.095	95.9	- 5.2	.0025	8.7
	2.243	1.614	102.5	7.0	.0025	5.0
	2.240	1.292	95.5	8.7	.0025	4.9
	2.230	.999	108.2	5.7	.0026	2.4
	2.210	.000	79.4	.0	.0000	.0
	2.687	2.107	81.0	3.7	.0026	.3
	2.654	1.615	90.9	5.0	.0024	3.0
	2.629	1.322	93.2	3.0	.0026	2.7
	2.609	1.063	90.3	6.8	.0026	3.5
	2.563	.000	95.3	.0	.0000	.0
	2.952	2.148	78.7	1.9	.0026	.3
	2.948	1.623	95.1	8.0	.0024	3.0
	2.946	1.355	104.6	5.4	.0026	2.7
	2.937	1.127	88.5	13.0	.0026	3.5
	2.917	.000	85.4	.0	.0000	.0

Table D-VI. Rear Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
308.38	2.071	2.056	159.9	17.9	.0026	2.0
	2.043	1.592	151.0	8.7	.0027	.5
	1.999	1.245	135.1	16.1	.0026	2.0
	1.951	.914	118.4	21.9	.0026	.4
	1.869	.000	89.4	.0	.0000	.0
	2.291	2.065	134.9	9.7	.0025	8.1
	2.296	1.592	136.1	8.9	.0025	5.4
	2.284	1.274	125.4	9.0	.0025	5.3
	2.278	.966	120.4	18.3	.0026	3.0
	2.249	.000	99.3	.0	.0000	.0
	2.724	2.085	118.6	7.5	.0026	1.6
	2.691	1.582	128.6	14.9	.0025	2.9
	2.675	1.289	128.6	11.1	.0026	3.5
	2.651	1.035	120.4	14.0	.0026	2.0
	2.618	.000	107.2	.0	.0000	.0
	2.976	2.124	98.1	23.5	.0026	1.6
	2.979	1.586	116.5	20.4	.0025	2.9
	2.966	1.318	116.8	30.6	.0026	3.5
	2.966	1.092	115.1	22.4	.0026	2.0
	2.966	.000	105.3	.0	.0000	.0
347.39	2.159	2.047	185.6	.4	.0027	11.1
	2.115	1.593	160.9	5.5	.0027	10.0
	2.058	1.234	138.4	12.5	.0027	8.7
	2.005	.899	112.3	13.2	.0026	7.8
	1.927	.000	75.5	.0	.0000	.0
	2.370	2.074	167.9	1.9	.0026	13.2
	2.364	1.597	155.4	- .2	.0026	10.0
	2.352	1.279	136.1	2.1	.0026	11.2
	2.331	.964	109.9	- 3.4	.0026	9.1
	2.302	.000	99.3	.0	.0000	.0
	2.788	2.104	127.9	- 6.9	.0027	11.5
	2.759	1.597	122.9	- 4.9	.0026	11.5
	2.735	1.303	119.7	- 2.4	.0028	8.8
	2.711	1.041	121.6	- 4.6	.0027	9.7
	2.662	.000	95.3	.0	.0000	.0
	3.031	2.122	105.7	- 2.8	.0027	11.5
	3.038	1.595	94.2	- 2.5	.0026	11.5
	3.033	1.318	107.3	- 9.7	.0028	8.8
	3.027	1.098	96.9	- 15.9	.0027	9.7
	3.014	.000	85.4	.0	.0000	.0

Table D-VI. Rear Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
385.90	2.241	2.054	162.0	- 13.0	.0026	19.3
	2.190	1.577	156.2	14.9	.0027	17.7
	2.122	1.217	129.5	20.5	.0027	12.2
	2.052	.890	106.3	30.9	.0027	14.5
	1.959	.000	59.6	.0	.0000	.0
	2.445	2.080	137.4	- 4.1	.0027	17.4
	2.440	1.592	130.8	9.1	.0027	15.6
	2.410	1.270	121.1	22.7	.0027	12.8
	2.379	.971	114.1	16.8	.0027	8.6
	2.341	.000	45.7	.0	.0000	.0
	2.840	2.102	95.4	1.0	.0028	22.3
	2.803	1.595	92.5	7.6	.0028	17.2
	2.783	1.296	86.2	7.7	.0029	15.2
	2.763	1.045	96.7	20.5	.0028	17.3
	2.706	.000	49.7	90.0	.0000	.0
	3.073	2.126	82.6	7.5	.0028	22.3
	3.066	1.593	60.1	13.5	.0028	17.2
	3.064	1.329	59.7	14.5	.0029	15.2
	3.053	1.111	49.4	7.0	.0028	17.3
	3.045	.000	49.7	90.0	.0000	.0
424.41	2.304	2.078	165.7	- 9.2	.0027	11.4
	2.254	1.557	158.4	19.6	.0028	14.3
	2.170	1.193	138.4	39.3	.0028	9.3
	2.084	.852	114.5	51.3	.0029	12.7
	1.983	.000	41.7	.0	.0000	.0
	2.497	2.084	137.4	- 11.3	.0028	10.1
	2.484	1.581	120.4	13.5	.0027	9.9
	2.453	1.239	107.4	31.0	.0027	6.1
	2.421	.933	97.2	40.3	.0028	4.2
	2.344	.000	21.8	.0	.0000	.0
	2.877	2.102	92.0	4.4	.0030	15.4
	2.844	1.586	92.5	6.4	.0028	10.1
	2.814	1.292	71.7	12.6	.0029	11.1
	2.783	1.024	61.2	34.1	.0029	12.9
	2.704	.000	25.8	90.0	.0000	.0
	3.104	2.115	74.7	- 2.8	.0030	15.4
	3.091	1.582	70.8	5.9	.0028	10.1
	3.078	1.313	61.7	22.7	.0029	11.1
	3.066	1.100	64.0	21.5	.0029	12.9
	3.031	.000	29.8	90.0	.0000	.0

Table D-VI. Rear Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
462.92	2.390	2.074	151.3	- 9.2	.0028	7.3
	2.328	1.527	143.2	32.7	.0029	17.0
	2.216	1.134	124.4	71.0	.0029	9.1
	2.118	.808	117.0	93.3	.0029	8.6
	1.997	.000	77.5	90.0	.0000	.0
	2.568	2.107	109.5	- 11.3	.0028	17.1
	2.548	1.566	103.9	25.2	.0028	19.1
	2.495	1.219	81.5	50.3	.0027	16.7
	2.447	.912	78.2	70.8	.0028	13.8
	2.361	.000	45.7	90.0	.0000	.0
	2.924	2.095	72.7	- 26.1	.0030	9.9
	2.888	1.586	71.9	27.5	.0029	10.6
	2.847	1.281	57.5	35.8	.0028	14.5
	2.809	1.013	56.1	54.4	.0029	13.0
	2.726	.000	47.7	90.0	.0000	.0
	3.135	2.131	46.6	- 36.4	.0030	9.9
	3.128	1.590	56.9	32.3	.0029	10.6
	3.113	1.314	47.7	16.9	.0028	14.5
	3.108	1.098	82.8	54.0	.0029	13.0
	3.044	.000	17.9	.0	.0000	.0
501.43	2.440	2.095	129.5	- 12.7	.0028	15.9
	2.366	1.491	140.6	61.3	.0030	15.7
	2.216	1.094	134.5	101.6	.0030	11.1
	2.082	.771	119.8	138.2	.0028	10.9
	1.940	.000	117.2	180.0	.0000	.0
	2.594	2.109	81.7	- 4.2	.0027	21.6
	2.572	1.547	92.1	50.9	.0028	23.6
	2.502	1.191	96.4	81.7	.0029	24.1
	2.436	.874	74.9	111.6	.0029	13.7
	2.335	.000	59.6	180.0	.0000	.0
	2.933	2.111	50.7	- 42.1	.0030	15.0
	2.900	1.568	54.5	60.9	.0029	12.9
	2.858	1.267	63.6	70.3	.0029	18.1
	2.810	.989	61.4	101.1	.0029	16.2
	2.704	.000	35.8	180.0	.0000	.0
	3.141	2.137	36.1	12.0	.0030	15.0
	3.132	1.575	37.8	72.1	.0029	12.9
	3.121	1.309	52.1	67.5	.0029	18.1
	3.099	1.065	57.0	97.7	.0029	16.2
	3.047	.000	11.9	90.0	.0000	.0

Table D-VI. Rear Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
539.94	2.506	2.098	181.3	- 28.9	.0025	30.9
	2.381	1.415	207.7	91.4	.0030	23.9
	2.183	1.017	208.9	125.5	.0031	19.6
	2.036	.734	180.8	147.6	.0028	17.8
	1.989	.000	127.1	180.0	.0000	.0
	2.643	2.113	146.2	- 33.0	.0026	14.4
	2.596	1.498	125.5	73.7	.0029	30.4
	2.504	1.131	129.5	102.0	.0030	26.5
	2.423	.848	113.5	128.4	.0029	19.6
	2.306	.000	89.4	180.0	.0000	.0
	2.959	2.122	150.0	- 53.7	.0028	16.5
	2.911	1.542	58.3	74.3	.0029	15.4
	2.860	1.226	88.4	99.1	.0030	22.9
	2.796	.960	85.8	112.5	.0030	25.5
	2.693	.000	67.5	180.0	.0000	.0
	3.150	2.113	214.5	- 9.3	.0028	16.5
	3.139	1.557	41.6	84.8	.0029	15.4
	3.115	1.270	62.4	99.7	.0030	22.9
	3.099	1.046	35.4	109.9	.0030	25.5
	3.040	.000	55.6	180.0	.0000	.0
578.45	2.564	2.181	READINGS	INVALID		
	2.353	1.303	254.4	104.5	.0034	35.0
	2.102	.944	219.0	140.3	.0032	20.6
	1.939	.687	203.5	159.6	.0028	19.9
	1.823	.000	137.0	180.0	.0000	.0
	2.684	2.188	READINGS	INVALID		
	2.603	1.437	147.0	80.9	.0029	36.7
	2.478	1.078	166.5	118.7	.0029	28.7
	2.368	.797	164.4	136.5	.0029	23.4
	2.252	.000	133.1	180.0	.0000	.0
	2.970	2.232	READINGS	INVALID		
	2.915	1.516	80.1	62.7	.0029	29.6
	2.845	1.188	92.7	96.9	.0030	31.5
	2.781	.916	82.3	114.1	.0030	25.6
	2.642	.000	107.3	180.0	.0000	.0
	3.157	2.285	READINGS	INVALID		
	3.135	1.538	61.2	65.2	.0029	29.6
	3.112	1.252	53.0	89.6	.0030	31.5
	3.089	1.035	74.6	119.7	.0030	25.6
	2.996	.000	85.4	180.0	.0000	.0

Table D-VI. Rear Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
616.98	NO READING					
	2.322	1.188	306.8	121.4	.0040	44.5
	2.027	.885	242.3	156.6	.0033	29.1
	1.861	.666	186.0	169.8	.0028	21.6
	1.762	.000	152.9	180.0	.0000	.0
	NO READING					
	2.619	1.364	184.3	84.3	.0032	20.8
	2.429	.997	207.9	127.9	.0030	22.3
	2.313	.743	176.2	146.1	.0028	14.1
	2.183	.000	147.0	180.0	.0000	.0
	NO READING					
	2.950	1.483	104.9	49.6	.0030	29.6
	2.851	1.144	84.5	101.1	.0030	22.5
	2.766	.890	105.1	126.3	.0031	15.0
	2.594	.000	105.3	180.0	.0000	.0
	NO READING					
	3.168	1.520	67.6	38.5	.0030	29.6
	3.119	1.223	55.4	75.4	.0030	22.5
	3.071	.984	76.1	117.6	.0031	15.0
	2.961	.000	83.4	180.0	.0000	.0
655.47	2.750	2.194	READINGS	INVALID		
	2.201	1.078	373.1	150.0	.0044	34.3
	1.898	.865	278.6	- 4.0	.0032	24.6
	1.770	.657	220.3	1.4	.0028	14.7
	1.682	.000	190.7	180.0	.0000	.0
	2.845	2.170	READINGS	INVALID		
	2.618	1.268	275.7	106.4	.0041	31.6
	2.361	.927	220.0	143.2	.0031	20.0
	2.234	.709	207.1	162.0	.0028	14.2
	2.117	.000	160.9	180.0	.0000	.0
	3.073	2.157	READINGS	INVALID		
	2.978	1.443	107.5	63.3	.0030	18.6
	2.834	1.114	113.1	113.0	.0029	13.8
	2.721	.841	139.1	133.3	.0030	16.1
	2.544	.000	125.1	180.0	.0000	.0
	3.227	2.166	READINGS	INVALID		
	3.185	1.502	72.0	50.1	.0030	18.6
	3.124	1.202	72.3	81.2	.0029	13.8
	3.062	.971	63.2	111.5	.0030	16.1
	2.919	.000	95.3	180.0	.0000	.0

Table D-VI. Rear Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
693.26	NO READING					
	2.028	1.022	383.5	- 6.1	.0058	6.0
	1.771	.870	239.4	-174.8	.0033	8.3
	1.659	.674	216.0	-173.9	.0028	8.9
	1.586	.000	170.8	180.0	.0000	.0
	NO READING					
	2.531	1.134	406.0	132.5	.0039	28.4
	2.267	.877	274.2	156.6	.0032	10.7
	2.131	.687	236.1	167.4	.0027	11.3
	2.034	.000	184.7	180.0	.0000	.0
	NO READING					
	2.994	1.395	180.5	83.6	.0031	11.0
	2.814	1.046	165.5	111.6	.0032	8.3
	2.678	.797	156.3	137.1	.0030	10.4
	2.478	.000	137.0	180.0	.0000	.0
	NO READING					
	3.211	1.469	128.8	72.4	.0031	11.0
	3.126	1.156	137.6	98.1	.0032	8.3
	3.056	.929	134.8	110.7	.0030	10.4
	2.873	.000	93.4	180.0	.0000	.0
732.49	2.889	2.146	READINGS	INVALID		
	1.856	1.039	244.7	-167.1	.0061	38.2
	1.679	.883	179.8	-169.4	.0032	25.8
	1.571	.679	147.8	-173.3	.0029	16.8
	1.524	.000	103.3	180.0	.0000	.0
	3.023	2.175	READINGS	INVALID		
	2.361	1.002	421.4	149.6	.0037	32.3
	2.128	.830	248.2	162.8	.0034	18.9
	2.021	.661	182.5	169.6	.0027	10.6
	1.946	.000	150.9	180.0	.0000	.0
	3.198	2.153	READINGS	INVALID		
	2.981	1.279	221.3	92.0	.0034	3.0
	2.777	.973	196.9	121.3	.0036	11.6
	2.614	.743	179.7	141.7	.0030	7.6
	2.418	.000	131.1	180.0	.0000	.0
	3.317	2.205	READINGS	INVALID		
	3.207	1.391	160.9	76.8	.0034	3.0
	3.101	1.079	159.5	100.8	.0036	11.6
	3.011	.861	151.0	118.3	.0030	7.6
	2.832	.000	91.4	180.0	.0000	.0

Table D-VI. Rear Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
771.00	NO READING					
	1.806	1.057	174.4	-150.4	.0050	42.4
	1.608	.899	165.0	-153.6	.0031	22.4
	1.524	.687	119.8	-163.5	.0030	15.4
	1.491	.000	95.3	180.0	.0000	.0
	NO READING					
	2.201	.934	344.8	- 10.4	.0051	37.7
	2.049	.800	205.6	- 2.9	.0039	27.2
	1.966	.654	150.9	1.2	.0028	7.6
	1.894	.000	113.2	180.0	.0000	.0
	NO READING					
	2.985	1.191	194.0	102.6	.0039	15.6
	2.719	.892	194.0	136.2	.0045	20.5
	2.548	.694	178.6	153.2	.0030	16.3
	2.357	.000	123.1	180.0	.0000	.0
	NO READING					
	3.242	1.329	160.8	76.1	.0039	15.6
	3.097	1.013	147.9	110.9	.0045	20.5
	2.989	.808	139.6	126.9	.0030	16.3
	2.788	.000	103.3	180.0	.0000	.0
809.31	NO READING					
	1.722	1.125	167.1	-127.3	.0048	8.2
	1.546	.951	112.6	-151.0	.0033	5.4
	1.467	.712	87.1	-155.9	.0031	7.3
	1.436	.000	73.5	180.0	.0000	.0
	NO READING					
	2.056	.940	215.8	- 4.8	.0045	10.7
	1.942	.826	174.1	- 5.3	.0043	10.3
	1.893	.668	137.5	- 1.1	.0029	2.2
	1.841	.000	89.4	180.0	.0000	.0
	NO READING					
	2.943	1.111	232.9	118.4	.0044	17.4
	2.653	.848	199.0	144.6	.0057	13.5
	2.469	.670	163.0	158.0	.0030	9.7
	2.304	.000	89.4	180.0	.0000	.0
	NO READING					
	3.240	1.252	221.3	96.5	.0044	17.4
	3.053	.958	173.0	118.9	.0057	13.5
	2.933	.764	156.7	132.1	.0030	9.7
	2.737	.000	71.5	180.0	.0000	.0

Table D-VI. Rear Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
848.02	NO READING					
	1.704	1.168	89.5	-101.7	.0048	4.3
	1.524	.958	70.4	-144.7	.0034	8.2
	1.450	.720	62.3	-157.1	.0032	3.0
	1.423	.000	47.7	180.0	.0000	.0
	NO READING					
	2.003	.929	128.1	7.8	.0031	23.0
	1.893	.809	114.1	2.2	.0043	35.4
	1.841	.659	97.4	- .5	.0029	13.5
	1.912	.000	83.4	180.0	.0000	.0
	NO READING					
	2.982	1.002	252.4	136.1	.0042	14.5
	2.570	.786	191.7	159.3	.0062	25.5
	2.408	.639	147.2	165.6	.0031	13.9
	2.274	.000	93.4	180.0	.0000	.0
	NO READING					
	3.214	1.127	247.1	114.3	.0042	14.5
	3.023	.874	181.7	125.9	.0062	25.5
	2.893	.701	167.5	137.9	.0031	13.9
	2.722	.000	95.3	180.0	.0000	.0
886.53	NO READING					
	1.704	1.204	115.2	- 89.2	.0043	4.4
	1.498	.991	124.7	-127.4	.0034	7.8
	1.413	.734	104.5	-140.7	.0032	2.9
	1.391	.000	75.5	180.0	.0000	.0
	NO READING					
	1.946	.958	159.2	-144.7	.0030	24.3
	1.845	.830	145.6	-147.4	.0039	34.0
	1.795	.668	129.7	-154.9	.0029	14.1
	1.764	.000	99.3	180.0	.0000	.0
	NO READING					
	2.785	.953	210.5	153.8	.0045	20.3
	2.497	.780	163.9	173.8	.0075	25.5
	2.341	.637	149.0	- .0	.0031	13.9
	2.218	.000	115.2	180.0	.0000	.0
	NO READING					
	3.154	1.046	205.3	123.3	.0045	20.3
	2.961	.826	172.2	146.3	.0075	25.5
	2.821	.665	152.6	159.4	.0031	13.9
	2.649	.000	115.2	180.0	.0000	.0

Table D-VI. Rear Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
925 04	NO READING					
	1.705	1.274	READINGS	INVALID		
	1.454	1.050	133.7	-122.7	.0034	50.7
	1.382	.782	116.6	-131.3	.0031	45.7
	1.353	.000	79.4	180.0	.0000	.0
	NO READING					
	1.885	1.015	182.6	-135.9	.0029	28.1
	1.782	.883	169.1	-134.8	.0035	15.2
	1.738	.714	145.5	-141.1	.0029	13.9
	1.720	.000	105.3	180.0	.0000	.0
	NO READING					
	2.708	.916	154.3	164.5	.0048	24.0
	2.419	.769	154.1	3.3	.0078	101.1
	2.271	.639	147.8	-171.3	.0031	2.6
	2.168	.000	127.1	180.0	.0000	.0
	NO READING					
	3.110	.969	180.3	127.4	.0048	24.0
	2.891	.786	173.5	153.5	.0078	101.1
	2.763	.650	133.0	166.2	.0031	2.6
	2.616	.000	115.2	180.0	.0000	.0
963.55	NO READING					
	NO READING					
	1.430	1.094	71.2	-114.5	.0035	58.7
	1.344	.815	59.4	-101.4	.0032	157.8
	1.318	.000	43.7	180.0	.0000	.0
	NO READING					
	1.825	1.076	121.3	-140.7	.0029	25.5
	1.735	.940	104.5	-150.3	.0034	15.5
	1.691	.753	94.3	17.4	.0029	18.5
	1.667	.000	73.5	180.0	.0000	.0
	NO READING					
	2.651	.911	130.5	166.2	.0040	72.0
	2.357	.786	133.4	7.4	.0067	165.1
	2.207	.657	131.9	8.0	.0031	26.3
	2.100	.000	107.3	180.0	.0000	.0
	NO READING					
	3.055	.914	139.5	127.6	.0040	72.0
	2.818	.754	153.9	156.3	.0067	165.1
	2.702	.635	138.8	166.7	.0031	26.3
	2.542	.000	139.0	180.0	.0000	.0

Table D-VI. Rear Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1002.06	NO READING					
	NO READING					
	1.425	1.109	54.8	- 98.8	.0039	38.2
	1.346	.819	29.0	- 83.7	.0033	149.7
	1.313	.000	25.8	180.0	.0000	.0
	NO READING					
	1.803	1.090	87.3	-130.1	.0031	20.2
	1.713	.944	70.7	-155.4	.0035	.8
	1.665	.751	63.2	23.9	.0031	15.4
	1.652	.000	43.7	180.0	.0000	.0
	NO READING					
	2.592	.887	172.2	- 8.9	.0032	59.8
	2.298	.786	160.9	5.9	.0055	79.4
	2.151	.657	128.5	5.8	.0033	23.9
	2.069	.000	87.4	180.0	.0000	.0
	NO READING					
	3.029	.870	144.2	130.8	.0032	59.8
	2.761	.729	173.5	164.6	.0055	79.4
	2.638	.620	167.4	170.0	.0033	23.9
	2.487	.000	115.2	180.0	.0000	.0
1040.57	NO READING					
	NO READING					
	1.426	1.144	68.2	- 82.8	.0042	42.0
	1.340	.841	50.0	-116.3	.0033	39.5
	1.294	.000	31.8	180.0	.0000	.0
	NO READING					
	1.781	1.140	READINGS INVALID			
	1.680	.971	79.4	-127.6	.0035	70.9
	1.645	.777	76.1	-130.6	.0032	39.9
	1.626	.000	57.6	180.0	.0000	.0
	NO READING					
	2.497	.894	227.3	-162.9	.0027	3.1
	2.210	.804	181.7	-156.9	.0043	55.6
	2.089	.670	130.1	-156.3	.0033	36.9
	2.019	.000	91.4	180.0	.0000	.0
	NO READING					
	2.965	.819	133.4	84.0	.0027	3.1
	2.664	.718	189.9	.2	.0043	55.6
	2.550	.609	180.4	3.9	.0033	36.9
	2.436	.000	107.3	180.0	.0000	.0

Table D-VI. Rear Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1079.08	NO READING					
	NO READING					
	1.432	1.171	63.3	- 96.9	.0046	14.9
	1.325	.859	61.2	-152.7	.0033	14.1
	1.283	.000	71.5	180.0	.0000	.0
	NO READING					
	NO READING					
	1.667	.999	69.1	-131.5	.0036	81.2
	1.619	.804	89.1	-151.8	.0032	31.4
	1.599	.000	79.4	180.0	.0000	.0
	NO READING					
	2.397	.951	265.8	-151.8	.0020	.9
	2.146	.848	172.0	-156.2	.0040	44.9
	2.043	.703	146.5	-156.1	.0034	44.0
	1.984	.000	107.3	180.0	.0000	.0
	NO READING					
	3.001	.800	103.7	65.1	.0020	.9
	2.587	.727	209.7	-173.9	.0040	44.9
	2.475	.630	189.7	-170.9	.0034	44.0
	2.388	.000	139.0	180.0	.0000	.0
1117.59	NO READING					
	NO READING					
	1.419	1.199	48.9	- 87.6	.0047	83.6
	1.292	.861	60.1	-160.9	.0033	58.0
	1.228	.000	61.4	180.0	.0000	.0
	NO READING					
	1.733	1.246	READINGS	INVALID		
	1.623	1.026	86.6	-124.7	.0036	119.2
	1.575	.811	84.1	-147.1	.0033	42.8
	1.553	.000	91.4	180.0	.0000	.0
	NO READING					
	2.280	1.010	240.8	-141.8	.0016	13.5
	2.067	.866	159.3	-150.4	.0039	1.1
	1.966	.720	133.8	-146.4	.0034	17.4
	1.920	.000	127.1	180.0	.0000	.0
	NO READING					
	2.989	.747	109.3	138.4	.0016	13.5
	2.471	.736	232.0	-160.9	.0039	1.1
	2.377	.635	192.6	-163.3	.0034	17.4
	2.307	.000	149.0	180.0	.0000	.0

Table D-VI. Rear Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1156.10	NO READING					
	NO READING					
	1.426	1.212	27.2	- 97.6	.0044	105.6
	1.274	.874	54.3	-158.7	.0033	48.7
	1.208	.000	59.6	180.0	.0000	.0
	NO READING					
	NO READING					
	1.617	1.054	68.3	-117.1	.0037	116.9
	1.557	.839	68.4	-133.1	.0033	51.1
	1.514	.000	87.4	180.0	.0000	.0
	NO READING					
	2.221	1.079	174.2	-123.3	.0008	13.1
	2.021	.914	134.0	-138.3	.0038	39.5
	1.940	.756	113.4	-140.8	.0035	42.0
	1.867	.000	115.2	180.0	.0000	.0
	NO READING					
	2.943	.742	READINGS	INVALID		
	2.388	.791	217.4	-150.3	.0038	39.5
	2.307	.676	170.9	-153.8	.0035	42.0
	2.251	.000	137.0	180.0	.0000	.0
1194.61	NO READING					
	NO READING					
	1.419	1.219	41.0	- 4.1	.0043	260.2
	1.246	.877	79.8	-175.1	.0034	89.8
	1.173	.000	51.6	180.0	.0000	.0
	NO READING					
	NO READING					
	1.593	1.079	65.8	-154.4	.0037	8.0
	1.533	.857	86.2	-160.2	.0033	60.1
	1.472	.000	93.4	180.0	.0000	.0
	NO READING					
	2.190	1.142	140.3	-128.3	.0021	35.1
	1.975	.949	95.4	-145.0	.0039	56.5
	1.885	.780	103.3	-157.7	.0035	31.7
	1.814	.000	109.2	180.0	.0000	.0
	NO READING					
	NO READING					
	2.296	.837	173.4	-151.4	.0039	56.5
	2.236	.705	142.4	-154.7	.0035	31.7
	2.181	.000	131.1	180.0	.0000	.0

Table D-VI. Rear Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1233.12	NO READING					
	NO READING					
	1.402	1.197	61.8	- 23.0	.0043	270.8
	1.201	.879	89.9	-168.7	.0034	96.1
	1.160	.000	81.4	180.0	.0000	.0
	NO READING					
	1.749	1.313	READINGS	INVALID		
	1.568	1.081	64.4	-155.5	.0036	21.8
	1.483	.859	85.7	-164.1	.0033	60.8
	1.428	.000	90.5	6.7	.0000	.0
	NO READING					
	2.144	1.180	128.0	-121.3	.0043	34.6
	1.950	.966	78.8	-135.8	.0041	167.1
	1.852	.793	90.3	-147.6	.0035	27.8
	1.766	.000	111.2	180.0	.0000	.0
	NO READING					
	2.403	1.002	91.8	- 64.4	.0043	34.6
	2.247	.866	136.8	-142.7	.0041	167.1
	2.188	.731	139.7	-147.8	.0035	27.8
	2.129	.000	137.0	180.0	.0000	.0
1271.63	NO READING					
	NO READING					
	1.373	1.201	75.6	- 8.6	.0041	32.6
	1.166	.892	62.4	5.0	.0034	37.4
	1.098	.000	79.4	180.0	.0000	.0
	NO READING					
	NO READING					
	1.544	1.105	58.7	- 17.3	.0037	37.6
	1.458	.874	56.6	7.9	.0032	9.0
	1.390	.009	76.2	- 2.0	.0000	.0
	NO READING					
	2.131	1.237	83.4	- 57.0	.0044	22.6
	1.926	1.000	52.9	- 90.3	.0042	166.4
	1.817	.826	58.3	12.5	.0036	36.0
	1.711	.000	79.4	180.0	.0000	.0
	NO READING					
	2.350	1.068	135.8	-100.2	.0044	22.6
	2.197	.914	107.3	-125.5	.0042	166.4
	2.128	.775	99.4	-141.7	.0036	36.0
	2.054	.000	117.2	180.0	.0000	.0

Table D-VI. Rear Smoke Grid Calculations - 1/2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1310.14	NO READING					
	NO READING					
	1.336	1.184	82.7	17.7	.0041	31.3
	1.145	.888	53.6	12.2	.0034	46.5
	1.087	.000	35.8	180.0	.0000	.0
	NO READING					
	NO READING					
	1.540	1.085	50.6	- 33.8	.0037	108.5
	1.436	.868	56.0	2.2	.0032	43.7
	1.360	.000	57.1	171.3	.0000	.0
	NO READING					
	2.150	1.241	78.2	- 39.6	.0043	36.7
	1.929	1.006	46.9	- 91.6	.0042	16.3
	1.812	.824	47.2	10.3	.0036	43.0
	1.693	.000	61.6	180.0	.0000	.0
	NO READING					
	2.363	1.107	115.9	- 84.0	.0043	36.7
	2.184	.942	82.7	-114.3	.0042	16.3
	2.115	.786	70.3	-136.4	.0036	43.0
	2.021	.000	85.4	180.0	.0000	.0
1348.65	NO READING					
	NO READING					
	1.318	1.215	90.1	-115.5	.0040	44.1
	1.122	.905	54.1	-125.3	.0034	15.5
	1.065	.000	25.8	90.0	.0000	.0
	NO READING					
	NO READING					
	1.514	1.090	71.2	-139.9	.0036	112.6
	1.408	.877	57.2	-137.1	.0032	53.5
	1.338	.000	33.8	180.0	.0000	.0
	NO READING					
	2.170	1.291	105.3	- 50.4	.0041	23.9
	1.907	1.035	72.1	- 87.2	.0042	2.7
	1.782	.848	58.7	-128.7	.0035	36.0
	1.654	.000	63.6	180.0	.0000	.0
	NO READING					
	2.355	1.173	150.7	- 76.3	.0041	23.9
	2.166	.984	86.9	- 94.0	.0042	2.7
	2.082	.821	89.0	-114.9	.0035	36.0
	1.975	.000	85.4	180.0	.0000	.0

Table D-VII. Front Smoke Grid Calculations - 1 In. Entrance

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TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
21.00	.260	1.506*	122.5	14.6	.0025	3.6
	.253	1.140	115.2	18.5	.0025	2.7
	.245	.766	69.9	- 3.6	.0023	.8
	.242	.384	26.6	21.6	.0023	3.2
	.242	.004	13.4	45.0	.0000	.0
	.579	1.502	69.1	22.6	.0024	2.6
	.585	1.151	62.7	28.8	.0024	3.0
	.601	.766	35.0	77.0	.0024	2.6
	.607	.406	27.2	99.7	.0024	3.3
	.607	.000	14.0	.0	.0000	.0
	1.035	1.483	52.4	- 61.2	.0023	23.6
	1.020	1.137	39.2	- 53.7	.0023	24.3
	1.002	.769	30.6	122.6	.0023	8.7
	1.006	.424	41.6	- 42.5	.0024	2.4
	.996	.002	6.5	31.6	.0000	.0
	1.371	1.487	56.2	103.0	.0023	23.6
	1.367	1.140	39.3	121.7	.0023	24.3
	1.375	.755	38.9	- 54.2	.0023	8.7
	1.375	.450	40.8	- 52.5	.0024	2.4
	1.380	.000	38.0	90.0	.0000	.0
59.45	.351	1.498	246.9	5.0	.0027	2.4
	.339	1.107	224.9	23.3	.0026	7.4
	.266	.723	147.1	68.8	.0024	5.7
	.234	.373	73.2	97.9	.0024	3.0
	.234	.000	12.9	166.7	.0000	.0
	.620	1.494	149.6	9.0	.0026	2.6
	.618	1.122	146.8	29.7	.0026	1.6
	.598	.760	95.3	81.6	.0025	3.0
	.601	.402	62.8	103.0	.0026	1.7
	.609	.000	10.0	.0	.0000	.0
	1.018	1.487	93.1	- 76.0	.0025	22.7
	1.011	1.140	77.2	- 68.5	.0025	24.4
	1.000	.769	45.8	111.6	.0024	6.1
	.996	.432	39.6	- 39.0	.0024	1.6
	.996	.000	6.0	134.8	.0000	.0
	1.352	1.482	44.9	102.5	.0025	22.7
	1.360	1.140	20.8	109.3	.0025	24.4
	1.363	.760	31.5	- 28.5	.0024	6.1
	1.365	.454	26.8	- 34.1	.0024	1.6
	1.367	.000	20.0	90.0	.0000	.0

*Add 0.5 In. to Y-coordinates, Shot 104 only.

Table D-VII. Front Smoke Grid Calculations - 1 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
97.90	.487	1.485	297.9	- 1.1	.0027	.4
	.443	1.057	269.1	29.2	.0026	5.6
	.292	.638	198.0	73.6	.0024	6.0
	.251	.321	129.7	72.9	.0027	.7
	.231	.000	36.0	90.0	.0000	.0
	.716	1.482	226.1	- 2.8	.0026	56.4
	.705	1.094	208.2	19.6	.0027	41.8
	.661	.708	182.9	37.1	.0026	25.4
	.627	.358	122.0	51.8	.0029	10.8
	.616	.000	34.0	.0	.0000	.0
	1.085	1.469	168.9	- .9	.0027	.1
	1.068	1.118	151.0	14.0	.0026	29.4
	1.030	.742	120.5	29.1	.0025	24.8
	1.007	.410	94.0	46.9	.0026	22.2
	.993	.000	38.0	90.0	.0000	.0
	1.369	1.467	115.8	12.6	.0027	.1
	1.369	1.133	86.8	19.3	.0026	29.4
	1.362	.744	92.1	48.9	.0025	24.8
	1.365	.439	64.0	45.0	.0026	22.2
	1.373	.000	22.0	.0	.0000	.0
136.35	.624	1.504	295.6	- 1.9	.0026	8.0
	.555	.985	308.4	45.0	.0028	.7
	.317	.548	208.3	79.3	.0024	13.5
	.269	.258	157.4	78.5	.0034	18.0
	.260	.000	34.0	90.0	.0000	.0
	.825	1.507	251.1	- 1.8	.0025	61.1
	.799	1.057	231.6	28.2	.0027	43.8
	.732	.659	192.6	47.0	.0026	24.6
	.672	.315	163.0	60.3	.0034	12.6
	.640	.000	58.0	.0	.0000	.0
	1.168	1.494	201.4	- 1.6	.0026	.5
	1.146	1.109	188.3	15.9	.0027	29.9
	1.098	.723	170.3	27.5	.0026	25.5
	1.061	.378	147.6	42.8	.0030	21.3
	1.024	.000	78.0	.0	.0000	.0
	1.450	1.491	172.0	1.2	.0026	.5
	1.437	1.133	159.8	13.9	.0027	29.9
	1.430	.742	143.3	22.7	.0026	25.5
	1.410	.439	118.9	24.8	.0030	21.3
	1.387	.000	58.0	.0	.0000	.0

Table D-VII. Front Smoke Grid Calculations - 1 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
174.80	.758	1.494	290.3	- 2.8	.0026	68.0
	.637	.858	305.6	46.4	.0033	76.2
	.327	.450	170.5	89.1	.0024	38.5
	.279	.179	112.6	70.4	.0040	37.8
	.258	.000	20.0	90.0	.0000	.0
	.943	1.487	258.9	- 1.4	.0025	7.4
	.891	.993	238.5	23.4	.0027	41.9
	.779	.581	184.3	49.8	.0027	33.6
	.692	.229	148.5	49.7	.0038	37.3
	.670	.000	80.0	.0	.0000	.0
	1.264	1.470	207.7	- 1.7	.0027	12.3
	1.232	1.068	191.8	11.9	.0027	2.7
	1.164	.668	166.1	33.9	.0026	23.6
	1.103	.317	137.7	39.9	.0032	23.8
	1.065	.000	112.0	- .8	.0000	.0
	1.520	1.467	163.8	- 1.1	.0027	12.3
	1.507	1.096	164.2	11.0	.0027	2.7
	1.476	.697	148.2	26.3	.0026	23.6
	1.452	.389	139.3	32.4	.0032	23.8
	1.426	.000	110.0	.0	.0000	.0
213.25	.889	1.517	295.0	- 1.4	.0026	74.5
	.744	.782	260.0	43.2	.0044	99.2
	.323	.391	130.7	108.2	.0024	28.0
	.292	.159	66.3	87.0	.0046	62.9
	.275	.000	18.0	.0	.0000	.0
	1.059	1.513	265.3	1.0	.0026	16.8
	.996	.970	245.7	25.6	.0028	55.5
	.839	.530	184.9	51.9	.0029	40.3
	.736	.210	112.1	45.6	.0042	36.3
	.714	.000	56.0	.0	.0000	.0
	1.352	1.498	206.3	- 1.0	.0027	71.5
	1.314	1.070	198.9	13.3	.0027	75.6
	1.223	.637	163.3	33.8	.0027	54.5
	1.151	.295	131.0	28.8	.0035	51.6
	1.127	.002	104.1	.7	.0000	.0
	1.592	1.494	176.7	.8	.0027	71.5
	1.579	1.103	167.8	10.4	.0027	75.6
	1.548	.686	155.7	23.7	.0027	54.5
	1.513	.373	136.6	23.5	.0035	51.6
	1.489	.000	112.0	.0	.0000	.0

Table D-VII. Front Smoke Grid Calculations - 1 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
251.70	1.028	1.500	326.3	- 2.2	.0024	14.4
	.812	.697	220.2	40.9	.0043	80.0
	.290	.339	68.6	151.4	.0024	37.5
	.275	.125	54.2	58.3	.0050	89.9
	.275	.000	14.0	.0	.0000	.0
	1.181	1.482	286.2	- .9	.0025	37.4
	1.089	.895	248.1	26.0	.0029	18.4
	.880	.448	169.0	46.1	.0029	40.1
	.756	.159	103.2	45.2	.0045	48.8
	.721	.000	60.0	.0	.0000	.0
	1.446	1.472	233.3	3.2	.0028	84.2
	1.404	1.022	221.5	20.2	.0029	92.9
	1.288	.583	195.0	21.5	.0028	37.1
	1.208	.258	152.7	20.8	.0037	51.9
	1.161	.000	120.0	1.6	.0000	.0
	1.672	1.461	205.8	3.1	.0028	84.2
	1.653	1.066	191.7	11.0	.0029	92.9
	1.603	.642	177.1	17.0	.0028	37.1
	1.566	.339	146.2	15.2	.0037	51.9
	1.530	.000	142.0	.0	.0000	.0
290.15	1.186	1.531	341.2	.7	.0022	14.6
	.893	.649	241.0	54.5	.0027	66.8
	.288	.339	42.2	177.1	.0023	45.9
	.288	.125	35.5	79.1	.0053	57.5
	.288	.000	48.0	90.0	.0000	.0
	1.314	1.520	313.1	.4	.0026	78.3
	1.196	.871	247.6	20.2	.0030	64.7
	.937	.417	143.1	45.4	.0030	45.7
	.793	.144	91.4	43.7	.0052	51.7
	.769	.000	60.0	.0	.0000	.0
	1.563	1.491	251.7	3.0	.0028	25.4
	1.504	1.000	230.4	20.2	.0030	68.5
	1.384	.577	189.7	20.4	.0028	42.6
	1.280	.247	141.4	29.5	.0039	54.2
	1.238	.000	88.0	.0	.0000	.0
	1.771	1.491	239.7	- 1.9	.0028	25.4
	1.747	1.074	214.0	2.9	.0030	68.5
	1.696	.649	201.4	6.9	.0028	42.6
	1.638	.341	167.2	9.1	.0039	54.2
	1.620	.000	138.0	.0	.0000	.0

Table D-VII. Front Smoke Grid Calculations - 1 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
328.60	1.336	1.498	334.0	7.6	.0017	18.3
	.919	.524	238.8	84.2	.0019	14.1
	.251	.336	93.0	27.4	.0022	33.2
	.269	.118	44.9	24.1	.0057	54.4
	.256	.000	52.0	90.0	.0000	.0
	1.458	1.476	314.7	4.4	.0026	68.5
	1.301	.815	266.0	35.5	.0032	72.9
	.969	.358	151.5	67.9	.0031	27.3
	.812	.103	87.8	62.5	.0060	46.0
	.777	.000	42.0	.0	.0000	.0
	1.673	1.461	276.4	5.6	.0028	18.5
	1.601	.948	250.1	15.7	.0030	68.2
	1.446	.530	194.4	28.9	.0028	50.9
	1.317	.203	148.8	31.8	.0042	50.2
	1.242	.000	116.0	.0	.0000	.0
	1.886	1.465	247.3	4.5	.0028	18.5
	1.849	1.055	235.9	12.6	.0030	68.2
	1.784	.620	197.7	15.8	.0028	50.9
	1.716	.314	179.4	16.2	.0042	50.2
	1.657	.000	134.0	.0	.0000	.0
367.05	1.491	1.491	312.1	.6	.0012	28.5
	.919	.432	166.4	82.1	.0018	29.8
	.227	.378	148.8	-122.6	.0021	31.1
	.262	.138	60.6	-126.9	.0055	53.0
	.273	.000	60.0	90.0	.0000	.0
	1.596	1.496	281.5	- 4.6	.0025	13.4
	1.393	.729	259.9	57.1	.0042	103.4
	.989	.288	149.1	100.4	.0033	71.3
	.830	.072	64.9	97.3	.0064	107.4
	.808	.000	38.0	.0	.0000	.0
	1.814	1.470	266.4	- 3.4	.0029	28.3
	1.721	.941	244.4	3.8	.0030	19.0
	1.541	.494	185.6	29.5	.0030	48.1
	1.395	.185	125.1	34.4	.0046	80.4
	1.345	.000	144.0	.0	.0000	.0
	1.996	1.472	231.1	- 5.5	.0029	28.3
	1.959	1.026	224.2	6.3	.0030	19.0
	1.871	.600	181.9	16.9	.0030	48.1
	1.797	.295	150.2	21.4	.0046	80.4
	1.744	.000	116.0	.0	.0000	.0

Table D-VII. Front Smoke Grid Calculations - 1 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
405.50	1.624	1.494	329.8	3.2	.0009	30.5
	.935	.373	932.7	- 43.8	.0016	33.5
	.175	.450	144.0	-107.8	.0022	12.1
	.234	.159	74.1	-137.2	.0058	62.1
	.234	.000	44.0	90.0	.0000	.0
	1.716	1.498	296.9	2.7	.0026	21.3
	1.430	.622	287.1	42.2	.0041	110.8
	.950	.236	165.2	128.0	.0033	71.5
	.814	.055	73.6	133.3	.0110	94.8
	.812	.000	48.0	90.0	.0000	.0
	1.919	1.476	244.3	.3	.0031	107.7
	1.827	.934	253.0	20.1	.0030	33.2
	1.596	.450	197.7	44.9	.0032	34.3
	1.415	.155	141.6	59.5	.0057	61.6
	1.375	.000	86.0	.0	.0000	.0
	2.098	1.485	220.7	1.6	.0031	107.7
	2.052	1.030	214.0	9.7	.0030	33.2
	1.945	.572	190.8	27.0	.0032	34.3
	1.845	.268	160.9	31.8	.0057	61.6
	1.764	.000	144.0	.0	.0000	.0
443.95	1.793	1.470	303.4	- .9	.0006	5.8
	.175	.620	990.8	-128.8	.0013	33.6
	.175	.494	149.2	- 94.5	.0028	50.0
	.212	.185	120.9	-123.0	.0052	74.7
	.236	.000	12.0	90.0	.0000	.0
	1.869	1.482	287.1	5.0	.0025	25.7
	1.577	.587	379.7	62.6	.0025	23.6
	.895	.168	153.5	143.4	.0038	85.4
	.784	.022	110.2	- 23.3	.0152	215.6
	.771	.000	92.0	180.0	.0000	.0
	2.039	1.469	222.3	3.0	.0032	132.1
	1.930	.858	226.1	28.2	.0031	52.3
	1.666	.363	192.6	64.1	.0036	28.0
	1.458	.070	146.0	38.4	.0073	103.5
	1.424	.000	92.0	- 1.5	.0000	.0
	2.197	1.467	192.0	3.2	.0032	132.1
	2.149	.991	188.4	26.2	.0031	52.3
	2.026	.518	168.1	46.4	.0036	28.0
	1.923	.216	137.0	45.0	.0073	103.5
	1.876	.000	144.0	.0	.0000	.0

Table D-VII. Front Smoke Grid Calculations - 1 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
482.40	1.900	1.489	232.1	- 7.4	.0006	6.6
	.164	.734	209.3	- 83.1	.0010	34.6
	.161	.587	190.3	- 90.0	.0028	61.0
	.179	.255	146.1	-110.1	.0039	55.3
	.227	.000	34.0	180.0	.0000	.0
	1.980	1.474	209.3	- 2.6	.0023	65.7
	1.504	.402	291.3	56.7	.0017	36.4
	.845	.148	151.4	- 3.6	.0058	82.2
	.727	.024	122.0	-164.1	.0129	191.2
	.727	.000	100.0	180.0	.0000	.0
	2.124	1.465	156.1	.3	.0036	39.6
	2.006	.830	161.6	43.1	.0033	111.0
	1.681	.299	128.1	91.8	.0044	107.6
	1.496	.061	77.7	91.7	.0093	157.5
	1.459	.002	66.1	86.5	.0000	.0
	2.273	1.472	120.4	.9	.0036	39.6
	2.208	.956	115.6	29.9	.0033	111.0
	2.055	.469	100.7	65.5	.0044	107.6
	1.941	.188	105.9	85.0	.0093	157.5
	1.897	.000	42.0	90.0	.0000	.0
520.85	2.006	1.498	204.6	3.9	.0006	7.8
	.190	.808	138.1	- 28.9	.0011	8.8
	.173	.668	129.6	- 75.4	.0026	58.4
	.164	.310	114.4	-100.8	.0034	79.7
	.205	.000	44.0	180.0	.0000	.0
	2.061	1.487	157.2	- 2.8	.0017	70.3
	1.574	.400	389.5	74.8	.0015	36.9
	.762	.170	222.3	-161.6	.0054	30.6
	.679	.052	181.3	-158.3	.0054	6.3
	.679	.000	148.0	180.0	.0000	.0
	2.183	1.467	130.0	- 1.8	.0040	56.0
	2.033	.768	120.9	48.6	.0032	121.5
	1.666	.249	175.9	124.1	.0024	79.8
	1.465	.055	READINGS	INVALID		
	1.434	.000	88.0	178.0	.0000	.0
	2.308	1.469	84.2	3.0	.0040	56.0
	2.242	.937	85.6	41.6	.0032	121.5
	2.066	.435	97.0	92.8	.0024	79.8
	1.915	.129	120.3	118.7	.0053	55.3
	1.878	.000	54.0	180.0	.0000	.0

Table D-VII. Front Smoke Grid Calculations - 1 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
559.30	2.087	1.480	197.4	2.1	.0006	18.7
	.238	.797	165.9	- 44.7	.0010	6.7
	.186	.703	147.4	- 83.6	.0027	51.5
	.159	.358	126.5	-100.3	.0031	47.3
	.186	.000	50.0	180.0	.0000	.0
	2.124	1.483	187.7	- 3.1	.0015	9.6
	1.328	.247	648.2	66.0	.0014	38.6
	.651	.214	248.3	-148.6	.0037	87.4
	.570	.077	210.0	-155.4	.0001	2.0
	.590	.000	189.9	180.0	.0000	.0
	2.244	1.469	148.0	- 7.2	.0046	59.6
	2.070	.745	129.8	46.9	.0028	32.9
	1.579	.181	247.8	145.4	.0000	.5
	NO READING					
	1.378	.000	221.9	180.0	.0000	.0
	2.351	1.469	123.8	- 13.0	.0046	59.6
	2.266	.904	105.4	42.9	.0028	32.9
	2.044	.386	143.8	111.6	.0000	.5
	1.889	.090	124.7	138.2	.0000	.0
	1.847	.000	110.0	180.0	.0000	.0
597.75	2.185	1.494	READINGS	INVALID		
	.216	.899	213.2	- 99.6	.0005	9.3
	.173	.801	179.0	- 95.4	.0022	31.5
	.142	.424	146.2	- 97.8	.0029	41.4
	.159	.000	38.0	180.0	.0000	.0
	2.232	1.502	202.0	- 2.0	.0040	96.3
	1.625	.332	894.5	- 21.3	.0017	51.2
	.568	.286	219.5	-135.8	.0045	144.3
	.504	.125	165.2	-138.5	.0001	1.2
	.504	.000	146.0	180.0	.0000	.0
	2.317	1.485	183.9	- 6.3	.0052	115.2
	2.105	.677	155.6	45.4	.0023	11.7
	1.478	.120	354.2	157.9	.0019	63.1
	NO READING					
	1.229	.000	169.9	180.0	.0000	.0
	2.415	1.500	159.8	- 13.7	.0052	115.2
	2.314	.875	133.1	32.6	.0023	11.7
	2.018	.312	172.8	119.4	.0019	63.1
	1.828	.059	READINGS	INVALID		
	1.777	.000	134.0	180.0	.0000	.0

Table D-VII. Front Smoke Grid Calculations - 1 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
636.20	NO READING					
	.205	.991	190.5	- 99.2	.0006	18.0
	.170	.867	193.3	- 98.3	.0017	47.6
	.140	.491	196.7	- 96.8	.0025	50.3
	.151	.000	34.0	180.0	.0000	.0
	2.308	1.494	183.4	- 10.7	.0036	96.3
	2.087	.565	1367.5	62.5	.0026	18.2
	.506	.354	202.4	-125.3	.0049	136.1
	.456	.177	166.0	-130.8	.0001	2.1
	.456	.000	108.0	1.0	.0000	.0
	2.411	1.485	176.7	- 7.8	.0068	157.4
	2.164	.646	141.3	46.1	.0019	11.2
	1.275	.072	419.0	- 3.7	.0019	62.7
	NO READING					
	1.221	.000	293.9	.2	.0000	.0
	2.491	1.502	142.7	- 9.3	.0068	157.4
	2.369	.838	125.9	46.2	.0019	11.2
	1.967	.249	216.7	131.9	.0019	62.7
	NO READING					
	1.723	.000	88.0	180.0	.0000	.0
674.65	2.363	1.504	READINGS	INVALID		
	.188	1.072	136.5	-117.4	.0006	17.6
	.144	.976	135.7	-113.5	.0016	29.4
	.116	.603	160.9	- 99.2	.0022	11.7
	.127	.000	48.0	180.0	.0000	.0
	2.391	1.537	190.9	2.6	.0029	166.5
	1.430	.212	1645.6	66.1	.0019	444.7
	.461	.437	204.2	-119.3	.0057	75.9
	.404	.242	169.0	-129.8	.0024	7.7
	.404	.002	122.0	.2	.0000	.0
	2.478	1.504	151.1	- 10.8	.0078	50.3
	2.192	.589	268.6	20.6	.0015	35.0
	1.098	.090	342.4	-170.8	.0019	69.1
	NO READING					
	.958	.002	471.9	.2	.0000	.0
	2.544	1.518	131.7	- 13.5	.0078	50.3
	2.395	.795	148.0	68.2	.0015	35.0
	1.884	.164	260.3	136.2	.0019	69.1
	1.740	.079	READINGS	INVALID		
	1.696	.000	84.0	90.0	.0000	.0

Table D-VII. Front Smoke Grid Calculations - 1 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
713.10	NO READING					
	.159	1.103	118.9	- 87.4	.0003	2.8
	.137	.987	49.3	-100.2	.0019	40.5
	.113	.637	122.3	- 91.8	.0022	40.2
	.107	.000	24.0	90.0	.0000	.0
	2.461	1.493	223.9	15.3	.0064	282.9
	2.159	.470	921.4	- 4.2	.0005	449.0
	.413	.518	194.2	-105.9	.0065	33.5
	.356	.297	164.2	-114.5	.0043	54.9
	.343	.000	78.0	179.1	.0000	.0
	2.548	1.511	164.4	- 3.7	.0050	37.5
	2.362	.661	482.7	49.5	.0027	66.7
	.963	.120	252.2	-155.3	.0038	104.9
	.786	.028	75.4	- 37.7	.0001	1.4
	.786	.002	275.9	179.4	.0000	.0
	2.609	1.530	143.7	- 8.8	.0050	37.5
	2.413	.710	190.1	68.2	.0027	66.7
	1.793	.083	READINGS INVALID			
	NO READING					
	1.745	.000	445.9	.0	.0000	.0
751.55	2.548	1.520	READINGS INVALID			
	.208	1.148	146.4	- 23.1	.0003	4.5
	.144	1.018	112.1	- 65.1	.0021	57.0
	.116	.716	131.7	- 74.3	.0020	53.6
	.109	.000	2.0	.0	.0000	.0
	2.585	1.496	252.2	- 12.8	.0073	117.6
	2.234	.456	364.9	- 4.0	.0003	8.4
	.411	.603	189.7	- 79.2	.0060	289.5
	.345	.375	148.9	- 92.3	.0040	61.8
	.332	.000	24.0	180.0	.0000	.0
	2.629	1.513	226.2	- 7.8	.0032	60.0
	2.223	.439	721.9	45.2	.0044	68.4
	.887	.177	221.8	-131.0	.0038	48.3
	.721	.054	166.4	-133.7	.0018	9.2
	.703	.000	134.2	2.0	.0000	.0
	2.675	1.539	203.7	- 10.1	.0032	60.0
	2.459	.635	READINGS INVALID			
	NO READING					
	NO READING					
	2.107	.000	READINGS INVALID			

Table D-VII. Front Smoke Grid Calculations - 1 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
790.00	NO READING					
	.277	1.153	READINGS	INVALID		
	.186	1.076	153.7	- 47.1	.0024	26.6
	.137	.753	106.4	- 70.9	.0021	28.4
	.109	.000	14.0	90.0	.0000	.0
	2.685	1.541	READINGS	INVALID		
	2.480	.541	READINGS	INVALID		
	.446	.686	180.1	- 71.5	.0054	277.9
	.349	.434	154.1	- 88.2	.0037	14.8
	.321	.000	34.0	180.0	.0000	.0
	2.753	1.544	READINGS	INVALID		
	2.568	.651	READINGS	INVALID		
	.834	.273	244.3	-116.8	.0037	44.3
	.694	.133	192.2	-111.9	.0038	8.6
	.662	.004	97.5	-170.9	.0000	.0
	2.793	1.565	READINGS	INVALID		
	NO READING					
	NO READING					
	NO RFADING					
	NO READING					
828.45	NO READING					
	NO READING					
	.240	1.122	129.5	- 25.8	.0033	26.2
	.146	.808	84.8	- 40.3	.0022	34.0
	.096	.000	16.0	180.0	.0000	.0
	NO READING					
	NO READING					
	.465	.760	167.7	- 63.3	.0054	30.5
	.349	.517	145.7	- 79.5	.0035	20.9
	.301	.000	30.0	90.0	.0000	.0
	NO READING					
	NO READING					
	.786	.378	241.7	- 99.8	.0052	37.0
	.655	.218	179.2	-108.9	.0052	9.2
	.614	.015	85.6	- 8.4	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	NO READING					
	NO READING					

Table D-VII. Front Smoke Grid Calculations - 1 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
866.90	NO READING					
	NO READING					
	.288	1.131	143.5	- 2.3	.0040	42.7
	.168	.808	64.0	.0	.0025	21.2
	.094	.000	10.0	90.0	.0000	.0
	NO READING					
	NO READING					
	.515	.821	144.1	- 30.2	.0074	38.6
	.367	.565	79.8	- 55.3	.0037	30.1
	.308	.000	36.0	90.0	.0000	.0
	NO READING					
	NO READING					
	.795	.485	178.4	- 87.5	.0061	551.4
	.638	.288	118.3	- 93.8	.0059	101.5
	.589	.000	72.2	165.1	.0000	.0
	NO READING					
	NO READING					
	1.146	.181	96.2	- 57.4	.0061	551.4
	1.004	.085	76.3	- 58.3	.0059	101.5
	.972	.000	64.0	90.0	.0000	.0
905.35	NO READING					
	NO READING					
	.371	1.122	183.8	18.7	.0053	48.3
	.205	.808	81.7	53.3	.0030	8.3
	.101	.000	46.0	90.0	.0000	.0
	NO READING					
	NO READING					
	.568	.830	101.6	- 31.2	.0082	41.4
	.384	.579	32.1	24.1	.0041	19.7
	.282	.000	50.0	180.0	.0000	.0
	NO READING					
	NO READING					
	.795	.542	117.7	- 82.7	.0051	558.2
	.642	.325	71.2	-124.7	.0054	98.5
	.552	.000	80.0	180.0	.0000	.0
	NO READING					
	NO READING					
	1.085	.245	164.4	-127.6	.0051	558.2
	.954	.135	149.6	-140.0	.0054	98.5
	.913	.000	150.0	180.0	.0000	.0

Table D-VIII. Rear Smoke Grid Calculations - 1 In. Entrance

Shot 111

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	C LB/SQFT
109.68	1.773	2.022	154.6	62.4	.0024	.5
	1.753	1.703	140.4	64.8	.0024	.5
	1.747	1.247	120.1	5.5	.0025	.1
	1.745	.895	109.4	56.8	.0024	1.0
	1.738	.000	53.1	90.0	.0000	.0
	2.125	2.033	90.7	31.9	.0024	1.1
	2.108	1.736	99.6	87.3	.0024	.5
	2.108	1.263	83.0	- 69.1	.0024	.1
	2.115	.929	72.5	- 50.0	.0024	2.1
	2.106	.000	41.3	90.0	.0000	.0
	2.530	2.048	58.5	78.0	.0027	.3
	2.522	1.747	58.2	- 63.4	.0025	.9
	2.510	1.276	43.7	5.2	.0024	.2
	2.500	.950	71.2	96.4	.0024	.9
	2.489	.000	23.6	90.0	.0000	.0
	2.836	2.081	19.9	110.9	.0027	.3
	2.843	1.775	25.3	97.3	.0025	.9
	2.852	1.283	19.9	- 7.0	.0024	.2
	2.860	.950	59.5	.5	.0024	.9
	2.860	.000	11.8	90.0	.0000	.0
148.52	1.901	2.024	196.7	- .4	.0025	.6
	1.872	1.701	211.9	8.6	.0026	.7
	1.852	1.226	186.7	21.9	.0028	.6
	1.819	.874	152.9	19.9	.0026	.6
	1.782	.000	100.3	.0	.0000	.0
	2.192	2.048	135.7	- 3.3	.0025	.8
	2.192	1.723	149.6	13.5	.0025	.9
	2.163	1.239	132.9	25.4	.0026	.5
	2.158	.885	100.8	23.1	.0025	2.2
	2.132	.000	66.9	.0	.0000	.0
	2.572	2.046	102.6	- 14.2	.0027	.1
	2.563	1.731	100.5	- .8	.0026	1.1
	2.539	1.254	93.0	22.6	.0027	3.0
	2.537	.911	93.3	2.9	.0025	1.0
	2.500	.000	33.4	.0	.0000	.0
	2.829	2.075	73.9	66.3	.0027	.1
	2.830	1.760	91.7	66.4	.0026	1.1
	2.854	1.276	46.7	45.4	.0027	3.0
	2.863	.975	53.4	- 29.6	.0025	1.0
	2.863	.000	9.8	.0	.0000	.0

Table D-VIII. Rear Smoke Grid Calculations - 1 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	G LB/SQFT
187.36	1.956	2.024	128.5	4.1	.0025	49.1
	1.947	1.679	139.9	13.2	.0026	43.4
	1.908	1.190	128.9	29.4	.0029	38.2
	1.879	.847	126.9	28.2	.0028	19.0
	1.831	.000	114.1	.0	.0000	.0
	2.249	2.042	108.6	.4	.0024	5.4
	2.240	1.698	103.7	10.4	.0025	14.1
	2.220	1.210	113.5	21.3	.0027	23.2
	2.191	.885	95.1	8.6	.0026	11.0
	2.169	.000	92.4	.0	.0000	.0
	2.618	2.073	112.9	- 4.0	.0027	11.8
	2.609	1.751	108.4	3.3	.0026	2.3
	2.588	1.247	96.2	21.1	.0027	8.3
	2.563	.933	88.6	- 3.2	.0026	5.9
	2.521	.000	88.5	.0	.0000	.0
	2.887	2.086	108.9	9.1	.0027	11.8
	2.896	1.758	106.3	2.4	.0026	2.3
	2.889	1.267	79.2	14.4	.0027	8.3
	2.885	.966	75.8	26.6	.0026	5.9
	2.869	.000	59.0	.0	.0000	.0
226.20	2.020	2.015	179.0	- 4.8	.0026	53.2
	1.998	1.670	179.1	- 4.7	.0026	51.4
	1.956	1.168	159.5	8.6	.0029	38.1
	1.923	.819	155.1	3.7	.0026	18.9
	1.888	.000	129.8	.0	.0000	.0
	2.293	2.046	146.2	- 5.2	.0025	6.5
	2.282	1.703	154.4	- 10.0	.0025	13.7
	2.260	1.199	155.6	- .6	.0028	25.0
	2.244	.869	170.0	3.0	.0026	10.8
	2.218	.000	159.3	.0	.0000	.0
	2.665	2.053	133.1	- 3.8	.0027	20.8
	2.653	1.725	129.9	5.2	.0026	20.1
	2.621	1.225	134.1	9.4	.0028	20.5
	2.603	.906	145.0	8.5	.0026	18.9
	2.583	.000	147.5	.0	.0000	.0
	2.924	2.066	123.4	3.4	.0027	20.8
	2.929	1.756	109.2	- 3.0	.0026	20.1
	2.926	1.258	117.3	5.6	.0028	20.5
	2.926	.942	125.6	7.7	.0026	18.9
	2.918	.000	141.6	.0	.0000	.0

Table D-VIII. Rear Smoke Grid Calculations - 1 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
265.04	2.117	2.046	217.0	.2	.0027	12.0
	2.106	1.709	224.0	.5	.0028	19.5
	2.051	1.181	203.5	- 3.8	.0029	10.3
	2.007	.858	203.6	- 6.8	.0026	12.8
	1.952	.000	157.3	.0	.0000	.0
	2.385	2.055	189.4	- 4.1	.0025	4.3
	2.381	1.725	192.8	1.9	.0027	4.4
	2.359	1.228	187.5	- 7.5	.0029	11.2
	2.345	.889	192.5	- .1	.0027	7.9
	2.317	.000	184.9	.0	.0000	.0
	2.728	2.090	173.6	- 9.9	.0027	16.9
	2.719	1.749	158.8	- 2.4	.0026	21.7
	2.704	1.247	172.2	- 8.2	.0027	16.3
	2.686	.931	166.7	- 3.3	.0026	23.7
	2.658	.000	165.2	.0	.0000	.0
	2.992	2.093	151.3	- 10.3	.0027	16.9
	2.997	1.767	156.7	- 7.3	.0026	21.7
	2.997	1.261	152.2	- 5.2	.0027	16.3
	2.994	.961	169.1	- 2.7	.0026	23.7
	3.001	.000	169.1	.0	.0000	.0
303.86	2.213	2.015	217.9	3.4	.0029	22.8
	2.194	1.676	209.6	7.2	.0027	14.8
	2.145	1.181	137.2	32.4	.0028	11.6
	2.103	.840	152.0	.7	.0025	12.6
	2.035	.000	143.7	- 2.0	.0000	.0
	2.469	2.059	165.0	4.9	.0026	16.7
	2.456	1.703	190.9	5.0	.0028	13.4
	2.431	1.226	185.0	- .3	.0029	18.6
	2.420	.874	176.3	.1	.0028	16.6
	2.390	.000	151.4	.0	.0000	.0
	2.816	2.073	161.1	3.6	.0029	19.5
	2.794	1.729	171.9	- 2.9	.0029	10.5
	2.779	1.248	161.7	- 7.7	.0029	7.7
	2.753	.918	152.4	- 3.4	.0027	16.3
	2.737	.000	141.6	.0	.0000	.0
	3.060	2.092	117.7	- 10.8	.0029	19.5
	3.074	1.775	118.6	.4	.0029	10.5
	3.067	1.270	119.6	- 14.2	.0029	7.7
	3.080	.946	131.3	- 16.6	.0027	16.3
	3.076	.000	100.3	.0	.0000	.0

Table D-VIII. Rear Smoke Grid Calculations - 1 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
342.72	2.313	2.035	216.0	- .8	.0030	25.5
	2.295	1.687	220.2	7.2	.0028	12.2
	2.159	1.149	197.0	35.2	.0029	11.3
	2.147	.847	177.7	11.3	.0027	8.7
	2.086	.004	124.1	- .4	.0000	.0
	2.537	2.044	190.5	5.6	.0028	18.5
	2.555	1.714	189.8	3.7	.0029	17.0
	2.532	1.230	185.2	15.2	.0031	23.9
	2.506	.891	162.3	11.2	.0030	15.0
	2.458	.000	118.0	.0	.0000	.0
	2.876	2.077	152.6	- 6.3	.0032	15.8
	2.871	1.758	170.9	- 4.2	.0032	12.2
	2.852	1.267	151.5	10.9	.0031	14.4
	2.823	.940	135.8	10.3	.0029	14.1
	2.790	.000	74.7	.0	.0000	.0
	3.098	2.108	119.4	- 5.5	.0032	15.8
	3.107	1.771	97.1	- .5	.0032	12.2
	3.105	1.285	95.2	3.3	.0031	14.4
	3.105	.970	98.2	5.7	.0029	14.1
	3.094	.000	49.2	.0	.0000	.0
381.56	2.411	2.018	186.8	- 2.2	.0030	47.6
	2.392	1.650	184.2	11.1	.0031	56.8
	2.308	1.135	238.1	19.7	.0034	48.4
	2.249	.783	178.4	26.7	.0030	38.7
	2.150	.000	74.8	1.6	.0000	.0
	2.645	2.046	169.0	- 8.0	.0029	19.5
	2.631	1.696	142.5	3.1	.0029	37.6
	2.592	1.192	119.4	22.9	.0031	50.8
	2.559	.856	93.2	39.1	.0031	43.6
	2.500	.000	62.9	.0	.0000	.0
	2.957	2.090	126.6	18.0	.0034	46.3
	2.946	1.742	106.2	8.6	.0032	41.1
	2.906	1.228	102.4	12.6	.0032	27.0
	2.865	.907	93.6	30.2	.0030	25.6
	2.807	.000	47.2	.0	.0000	.0
	3.166	2.093	96.7	28.6	.0034	46.3
	3.164	1.778	102.0	26.8	.0032	41.1
	3.148	1.263	96.4	22.6	.0032	27.0
	3.138	.924	88.7	14.7	.0030	25.6
	3.122	.000	53.1	.0	.0000	.0

Table D-VIII. Rear Smoke Grid Calculations - 1 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
420.40	2.484	2.037	113.1	- 30.8	.0031	63.3
	2.460	1.648	102.4	- 1.1	.0032	75.5
	2.368	1.094	96.1	41.5	.0035	61.2
	2.291	.766	74.8	62.2	.0030	48.8
	2.156	.000	11.8	.0	.0000	.0
	2.693	2.059	66.9	- 30.0	.0030	30.7
	2.686	1.703	77.3	- .6	.0031	48.0
	2.631	1.182	63.7	34.9	.0031	54.5
	2.576	.840	52.4	37.6	.0031	61.8
	2.517	.000	19.7	90.0	.0000	.0
	2.983	2.064	58.7	- 25.4	.0034	80.2
	2.968	1.740	49.2	47.4	.0032	68.9
	2.935	1.234	59.8	35.6	.0032	52.5
	2.896	.895	64.8	48.2	.0032	52.9
	2.834	.000	39.3	.0	.0000	.0
	3.181	2.079	40.1	70.7	.0034	80.2
	3.182	1.745	46.7	39.7	.0032	68.9
	3.188	1.250	70.4	76.3	.0032	52.5
	3.162	.935	56.0	36.7	.0032	52.9
	3.144	.000	29.5	90.0	.0000	.0
459.24	2.504	2.059	69.0	- 11.1	.0032	52.1
	2.488	1.650	73.5	29.8	.0033	55.5
	2.379	1.082	51.7	59.4	.0035	47.3
	2.286	.742	66.1	106.6	.0031	37.0
	2.161	.000	41.3	90.0	.0000	.0
	2.702	2.068	36.2	- 45.0	.0030	36.3
	2.702	1.701	27.6	29.7	.0031	37.0
	2.642	1.166	45.2	68.4	.0032	48.0
	2.598	.827	58.4	69.3	.0031	46.1
	2.515	.000	21.6	180.0	.0000	.0
	2.981	2.082	29.8	- 42.2	.0033	60.2
	2.968	1.716	51.2	16.2	.0032	50.6
	2.939	1.208	41.0	99.2	.0033	57.5
	2.904	.869	44.0	101.9	.0033	53.7
	2.843	.000	15.7	.0	.0000	.0
	3.179	2.062	55.6	7.7	.0033	60.2
	3.188	1.743	20.1	- 31.7	.0032	50.6
	3.171	1.234	27.0	157.5	.0033	57.5
	3.159	.909	41.7	.0	.0033	53.7
	3.138	.000	23.6	180.0	.0000	.0

Table D-VIII. Rear Smoke Grid Calculations - 1 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
498.08	2.535	2.044	81.9	1.0	.0033	48.8
	2.506	1.613	86.4	25.0	.0035	48.3
	2.390	1.052	73.4	69.6	.0037	58.4
	2.273	.708	95.8	109.3	.0032	39.9
	2.128	.000	68.8	180.0	.0000	.0
	2.717	2.082	65.9	- 26.4	.0029	54.4
	2.708	1.694	38.9	57.4	.0029	52.2
	2.645	1.144	57.4	83.6	.0032	34.3
	2.588	.799	63.3	118.0	.0031	28.8
	2.497	.000	49.2	180.0	.0000	.0
	2.990	2.081	41.1	- 3.6	.0034	32.5
	2.981	1.736	55.6	- 17.2	.0032	35.6
	2.933	1.197	48.2	77.4	.0033	61.2
	2.895	.858	37.0	109.9	.0033	55.7
	2.849	.000	39.3	90.0	.0000	.0
	3.184	2.097	63.5	- 56.7	.0034	32.5
	3.190	1.756	31.7	- 37.8	.0032	35.6
	3.170	1.234	26.6	104.3	.0033	61.2
	3.157	.922	49.1	- 17.3	.0033	55.7
	3.122	.000	19.7	90.0	.0000	.0
536.92	2.574	2.060	70.8	- 27.1	.0034	52.9
	2.544	1.622	86.8	- .3	.0034	37.6
	2.403	1.017	87.7	89.5	.0037	48.7
	2.257	.658	117.2	123.0	.0033	47.4
	2.097	.000	112.1	180.0	.0000	.0
	2.757	2.088	69.3	- 20.1	.0029	54.0
	2.720	1.670	86.2	17.6	.0029	51.8
	2.647	1.113	58.1	74.0	.0033	15.5
	2.570	.775	67.7	118.5	.0031	13.4
	2.469	.000	84.6	180.0	.0000	.0
	3.017	2.090	54.0	- 38.7	.0033	14.5
	3.006	1.725	41.9	16.3	.0033	24.5
	2.959	1.177	53.6	80.1	.0034	42.3
	2.895	.838	36.6	- 11.6	.0032	38.9
	2.818	.000	49.2	180.0	.0000	.0
	3.204	2.110	40.6	- 27.8	.0033	14.5
	3.206	1.754	32.0	- 13.7	.0033	24.5
	3.190	1.223	41.6	86.5	.0034	42.3
	3.171	.893	58.9	- 46.1	.0032	38.9
	3.124	.000	19.7	90.0	.0000	.0

Table D-VIII. Rear Smoke Grid Calculations - 1 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
575.76	2.610	2.082	105.7	- 20.2	.0034	68.7
	2.585	1.613	107.7	19.3	.0034	59.8
	2.389	.975	119.7	104.3	.0038	115.3
	2.214	.620	125.8	132.6	.0033	81.6
	2.024	.000	180.9	180.0	.0000	.0
	2.777	2.101	74.8	- 16.2	.0031	34.8
	2.768	1.694	109.5	14.6	.0030	59.8
	2.658	1.093	75.9	77.9	.0035	35.7
	2.559	.744	71.6	110.9	.0031	24.9
	2.418	.000	110.1	180.0	.0000	.0
	3.028	2.108	48.1	- 10.2	.0035	21.4
	3.017	1.723	46.8	- 3.5	.0033	13.0
	2.950	1.162	29.1	71.9	.0035	31.4
	2.889	.851	31.2	- 4.6	.0032	22.5
	2.803	.000	62.9	180.0	.0000	.0
	3.217	2.115	26.9	28.7	.0035	21.4
	3.217	1.762	32.8	- 7.6	.0033	13.0
	3.177	1.214	37.0	77.9	.0035	31.4
	3.151	.902	39.1	- 52.7	.0032	22.5
	3.107	.000	35.4	180.0	.0000	.0
614.60	2.665	2.092	123.9	- 13.7	.0036	57.3
	2.638	1.588	129.0	17.2	.0034	53.4
	2.378	.909	126.6	87.5	.0040	101.4
	2.178	.572	140.1	128.1	.0034	75.6
	1.929	.000	165.2	180.0	.0000	.0
	2.823	2.101	101.1	- 12.3	.0030	26.1
	2.796	1.654	108.7	21.8	.0030	49.1
	2.654	1.045	95.8	69.7	.0035	37.0
	2.546	.713	80.3	111.6	.0031	21.3
	2.367	.000	120.0	180.0	.0000	.0
	3.047	2.093	85.0	5.6	.0036	40.5
	3.049	1.732	85.6	9.6	.0034	25.7
	2.959	1.159	61.0	30.2	.0035	48.5
	2.885	.836	61.6	88.2	.0033	29.4
	2.759	.000	57.0	180.0	.0000	.0
	3.219	2.104	61.7	31.1	.0036	40.5
	3.234	1.756	52.3	12.6	.0034	25.7
	3.195	1.210	42.5	24.6	.0035	48.5
	3.160	.891	48.8	70.1	.0033	29.4
	3.091	.000	49.2	180.0	.0000	.0

Table D-VIII. Rear Smoke Grid Calculations - 1 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
653.44	2.722	2.110	110.1	- 18.9	.0038	18.8
	2.698	1.578	126.8	26.8	.0031	19.3
	2.390	.860	171.8	96.2	.0043	17.4
	2.134	.517	212.2	139.2	.0036	26.1
	1.870	.000	212.4	180.0	.0000	.0
	2.867	2.121	82.0	- 6.7	.0030	13.0
	2.847	1.665	106.1	3.2	.0030	8.6
	2.684	1.016	127.3	69.5	.0035	18.0
	2.532	.675	141.8	114.2	.0031	4.4
	2.306	.000	137.7	180.0	.0000	.0
	3.096	2.119	80.1	- 28.2	.0035	26.9
	3.087	1.705	73.0	40.3	.0035	23.5
	2.995	1.129	107.1	71.3	.0035	25.2
	2.898	.796	117.7	92.4	.0035	9.9
	2.750	.000	47.2	180.0	.0000	.0
	3.263	2.119	71.0	- 26.1	.0035	26.9
	3.265	1.753	46.1	12.6	.0035	23.5
	3.212	1.197	59.8	62.4	.0035	25.2
	3.160	.860	70.8	89.5	.0035	9.9
	3.061	.000	55.1	180.0	.0000	.0
692.28	2.763	2.125	153.2	- 33.6	.0038	6.3
	2.739	1.538	132.1	39.3	.0027	13.4
	2.341	.763	203.2	115.6	.0045	19.6
	2.024	.453	272.1	152.0	.0035	8.3
	1.731	.000	255.7	180.0	.0000	.0
	2.895	2.115	102.1	- 11.9	.0032	5.3
	2.891	1.650	119.5	34.0	.0032	3.8
	2.678	.939	143.4	85.5	.0038	6.7
	2.489	.594	157.5	117.5	.0034	4.3
	2.238	.000	118.0	180.0	.0000	.0
	3.113	2.128	55.4	- 27.8	.0036	3.7
	3.102	1.690	60.2	11.9	.0034	5.1
	2.983	1.078	104.0	88.6	.0036	4.2
	2.873	.733	104.3	106.5	.0035	3.3
	2.715	.000	106.2	180.0	.0000	.0
	3.280	2.130	53.3	- 56.5	.0036	3.7
	3.276	1.749	32.5	14.9	.0034	5.1
	3.214	1.162	70.9	86.8	.0036	4.2
	3.162	.825	66.1	96.5	.0035	3.3
	3.039	.000	59.0	180.0	.0000	.0

Table D-VIII. Rear Smoke Grid Calculations - 1 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
731.12	2.830	2.198	150.7	- 77.9	.0031	8.0
	2.794	1.501	160.1	9.8	.0023	5.2
	2.308	.689	151.6	110.0	.0039	4.9
	1.910	.398	255.1	162.4	.0036	4.4
	1.632	.000	247.8	180.0	.0000	.0
	2.950	2.154	148.4	- 34.8	.0033	6.0
	2.933	1.600	137.6	33.2	.0034	5.7
	2.691	.884	106.9	77.3	.0038	1.7
	2.464	.544	182.7	128.8	.0037	3.7
	2.196	.000	133.7	180.0	.0000	.0
	3.142	2.143	95.8	- 31.2	.0037	.3
	3.135	1.703	77.8	- .5	.0034	2.7
	2.995	1.036	92.7	72.7	.0036	3.8
	2.867	.704	110.3	101.1	.0035	1.7
	2.651	.000	163.2	180.0	.0000	.0
	3.285	2.159	73.8	- 64.1	.0037	.3
	3.294	1.745	49.3	15.5	.0034	2.7
	3.215	1.131	80.4	71.8	.0036	3.8
	3.155	.799	88.2	94.2	.0035	1.7
	3.006	.000	68.8	180.0	.0000	.0
769.96	2.818	2.236	READINGS	INVALID		
	2.874	1.522	278.6	31.7	.0017	2.4
	2.291	.631	320.7	126.8	.0038	6.1
	1.800	.379	269.5	173.0	.0023	3.9
	1.500	.000	238.0	180.0	.0000	.0
	3.008	2.194	711.9	23.7	.0026	5.0
	2.994	1.582	1056.0	64.4	.0059	7.0
	2.700	.841	648.9	105.2	.0025	.5
	2.376	.471	769.4	134.4	.0024	1.8
	2.114	.000	2773.7	58.5	.0000	.0
	3.188	2.176	567.7	23.7	.0029	2.1
	3.170	1.690	838.8	60.1	.0044	4.2
	3.008	.995	459.2	92.2	.0023	2.7
	2.852	.632	849.1	110.0	.0036	4.3
	2.563	.000	2630.5	55.1	.0000	.0
	3.311	2.189	560.4	15.8	.0029	2.1
	3.320	1.736	752.9	56.9	.0044	4.2
	3.239	1.094	449.2	78.8	.0023	2.7
	3.162	.744	890.4	94.2	.0036	4.3
	2.975	.000	READINGS	INVALID		

Table D-IX. Front Smoke Grid Calculations - 2 In. Entrance

Shot 126

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
52.82	.354	1.986	213.6	- 1.3	.0029	.2
	.345	1.619	205.3	- .1	.0027	1.1
	.330	1.193	209.8	19.9	.0026	.2
	.277	.797	144.1	48.8	.0025	.4
	.229	.000	15.9	180.0	.0000	.0
	.648	1.992	131.4	.5	.0027	28.0
	.631	1.621	137.5	2.4	.0026	26.2
	.628	1.235	130.1	- 1.8	.0026	28.9
	.613	.841	82.1	26.0	.0024	10.1
	.613	.000	10.0	90.0	.0000	.0
	1.013	1.995	59.3	- 31.4	.0024	.5
	1.000	1.619	85.5	35.9	.0025	1.2
	.995	1.219	42.8	- 19.6	.0024	1.1
	.995	.859	19.9	.0	.0023	1.9
	.991	.000	11.9	180.0	.0000	.0
	1.324	2.003	23.5	- 8.4	.0024	.5
	1.333	1.617	35.0	16.6	.0025	1.2
	1.344	1.224	36.2	5.1	.0024	1.1
	1.353	.877	22.1	31.3	.0023	1.9
	1.369	.000	31.9	90.0	.0000	.0
91.23	.461	1.995	246.3	1.0	.0028	.3
	.444	1.615	243.8	8.7	.0026	.5
	.424	1.156	262.3	24.7	.0026	.2
	.314	.727	218.8	69.2	.0027	3.2
	.228	.000	25.9	90.0	.0000	.0
	.749	1.990	222.2	- 3.5	.0028	28.1
	.740	1.623	234.4	6.4	.0028	26.2
	.712	1.193	214.9	24.7	.0028	28.6
	.670	.808	168.6	38.8	.0026	9.0
	.608	.000	53.8	90.0	.0000	.0
	1.061	2.001	161.9	- 1.2	.0025	.8
	1.046	1.637	173.1	.9	.0026	2.6
	1.032	1.215	140.7	15.1	.0026	1.4
	1.013	.859	117.1	17.5	.0025	2.5
	.982	.000	43.8	90.0	.0000	.0
	1.331	1.994	114.5	24.0	.0025	.8
	1.351	1.630	104.9	- 13.2	.0026	2.6
	1.344	1.212	91.8	42.8	.0026	1.4
	1.346	.872	74.3	82.5	.0025	2.5
	1.355	.000	27.9	90.0	.0000	.0

Table D-IX. Front Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
129.64	.580	1.981	284.2	1.3	.0028	38.1
	.565	1.582	286.2	10.3	.0026	28.8
	.549	1.090	308.6	32.0	.0026	31.9
	.343	.608	225.6	66.8	.0030	25.3
	.250	.000	45.8	.0	.0000	.0
	.852	2.005	249.0	- .7	.0027	.0
	.844	1.597	255.1	12.7	.0028	32.7
	.808	1.153	253.4	29.7	.0028	39.6
	.731	.742	212.7	45.5	.0029	31.4
	.652	.000	81.6	.0	.0000	.0
	1.162	1.994	231.7	- .3	.0026	13.4
	1.147	1.593	229.3	13.9	.0027	1.5
	1.116	1.177	214.7	24.7	.0026	7.4
	1.087	.808	195.8	39.2	.0027	8.8
	1.013	.000	101.6	.0	.0000	.0
	1.425	1.999	205.3	- 1.1	.0026	13.4
	1.425	1.619	184.2	5.4	.0027	1.5
	1.415	1.217	191.1	14.9	.0026	7.4
	1.401	.850	157.7	27.7	.0027	8.8
	1.366	.000	87.6	.0	.0000	.0
168.05	.721	1.992	294.1	- 5.5	.0028	42.1
	.703	1.570	299.4	13.2	.0026	29.8
	.665	1.006	268.6	35.2	.0026	32.1
	.389	.536	185.1	89.2	.0030	22.9
	.270	.000	23.9	.0	.0000	.0
	.977	1.990	255.8	3.4	.0027	1.5
	.969	1.571	262.1	18.7	.0028	33.2
	.912	1.076	253.1	28.1	.0029	39.8
	.808	.668	195.8	36.7	.0030	31.8
	.683	.000	77.7	.0	.0000	.0
	1.274	2.003	229.4	- 1.8	.0025	55.9
	1.248	1.586	223.9	10.2	.0027	51.8
	1.212	1.133	215.0	19.8	.0026	69.4
	1.153	.745	189.4	29.3	.0028	59.2
	1.076	.000	135.4	.0	.0000	.0
	1.520	1.997	199.2	- .0	.0025	55.9
	1.520	1.615	203.5	12.9	.0027	51.8
	1.502	1.158	202.3	22.3	.0026	69.4
	1.472	.802	179.8	24.2	.0028	59.2
	1.436	.000	155.3	.0	.0000	.0

Table D-IX. Front Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
206.46	.850	2.006	293.8	- 4.4	.0027	5.9
	.832	1.520	307.2	15.6	.0028	37.4
	.751	.947	247.2	22.7	.0026	35.2
	.345	.463	146.5	81.5	.0029	36.5
	.272	.000	29.9	.0	.0000	.0
	1.087	1.990	264.8	- 4.7	.0027	28.5
	1.072	1.522	266.9	9.5	.0028	6.7
	1.010	1.041	228.5	13.3	.0029	35.0
	.872	.631	180.5	25.4	.0030	44.0
	.723	.000	107.5	.0	.0000	.0
	1.373	2.001	227.8	3.9	.0026	70.2
	1.349	1.557	240.5	4.5	.0028	77.8
	1.302	1.109	223.6	14.0	.0027	65.5
	1.234	.723	199.0	10.8	.0029	81.6
	1.138	.000	149.4	.0	.0000	.0
	1.608	1.999	207.4	- 2.6	.0026	70.2
	1.604	1.579	211.7	9.7	.0028	77.8
	1.582	1.144	198.9	7.2	.0027	65.5
	1.549	.782	190.5	10.1	.0029	81.6
	1.509	.000	161.3	.0	.0000	.0
244.87	.991	2.012	314.5	3.1	.0029	20.6
	.975	1.494	305.8	10.5	.0029	54.5
	.872	.923	255.6	25.4	.0032	50.5
	.382	.430	123.7	93.7	.0028	36.4
	.297	.000	35.8	90.0	.0000	.0
	1.219	2.012	285.9	- 1.1	.0028	93.4
	1.202	1.542	276.6	4.3	.0028	70.4
	1.116	1.028	227.8	12.8	.0029	104.4
	.958	.598	175.1	23.1	.0030	68.3
	.782	.000	97.6	.0	.0000	.0
	1.483	1.988	252.3	.7	.0027	28.8
	1.465	1.571	250.7	- .4	.0028	78.5
	1.412	1.083	232.3	7.6	.0028	58.4
	1.333	.712	208.5	6.6	.0030	89.7
	1.213	.000	159.3	.0	.0000	.0
	1.711	2.006	235.5	- 3.9	.0027	28.8
	1.707	1.586	227.3	- 2.5	.0028	78.5
	1.683	1.136	212.9	7.1	.0028	58.4
	1.645	.773	199.8	4.5	.0030	89.7
	1.584	.000	169.3	.0	.0000	.0

Table D-IX. Front Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
283.28	1.138	1.990	316.5	5.4	.0030	60.8
	1.109	1.469	299.6	6.9	.0030	21.6
	.958	.852	243.5	25.5	.0040	79.8
	.329	.393	88.5	156.4	.0026	31.7
	.290	.000	23.9	90.0	.0000	.0
	1.347	1.995	282.3	1.6	.0028	102.5
	1.320	1.505	273.0	7.9	.0029	92.4
	1.213	.995	234.9	14.5	.0029	82.9
	1.021	.569	153.3	30.5	.0029	56.8
	.813	.000	67.7	.0	.0000	.0
	1.604	1.999	267.4	- 2.2	.0028	32.0
	1.579	1.559	259.5	7.9	.0029	90.5
	1.513	1.079	223.5	3.5	.0029	80.1
	1.425	.701	192.1	9.7	.0030	76.1
	1.285	.000	153.3	.0	.0000	.0
	1.825	2.014	241.6	.6	.0028	32.0
	1.814	1.588	239.0	- .0	.0029	90.5
	1.777	1.120	218.6	5.0	.0029	80.1
	1.733	.767	199.3	1.8	.0030	76.1
	1.665	.000	173.2	.0	.0000	.0
321.69	1.281	1.984	323.5	3.8	.0031	103.0
	1.248	1.461	302.3	9.2	.0030	71.0
	1.068	.830	235.0	19.8	.0031	89.4
	.312	.389	58.2	173.7	.0025	52.2
	.305	.000	23.9	90.0	.0000	.0
	1.478	2.005	295.5	.2	.0028	36.0
	1.448	1.509	288.7	8.5	.0029	70.7
	1.325	.975	245.7	13.1	.0029	57.7
	1.079	.527	168.7	28.9	.0030	70.0
	.844	.000	85.6	.0	.0000	.0
	1.729	1.997	274.0	- 3.3	.0028	48.0
	1.702	1.538	268.9	6.4	.0030	43.8
	1.617	1.070	244.8	9.1	.0029	57.9
	1.507	.683	197.7	14.5	.0030	55.3
	1.355	.000	155.3	.0	.0000	.0
	1.933	2.005	261.3	1.6	.0028	48.0
	1.927	1.586	258.1	4.3	.0030	43.8
	1.883	1.120	243.0	.9	.0029	57.9
	1.828	.767	220.8	4.9	.0030	55.3
	1.744	.000	187.2	.0	.0000	.0

Table D-IX. Front Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
360.10	1.436	1.970	317.5	1.6	.0032	94.2
	1.382	1.425	293.0	16.6	.0029	89.8
	1.160	.780	218.7	41.3	.0017	32.1
	.275	.389	51.4	150.5	.0025	44.2
	.297	.000	55.8	180.0	.0000	.0
	1.619	1.994	285.2	2.2	.0028	27.4
	1.579	1.465	276.0	13.4	.0030	65.8
	1.434	.944	247.6	30.2	.0030	67.9
	1.156	.496	167.8	35.1	.0032	59.1
	.892	.000	57.7	.0	.0000	.0
	1.856	2.014	278.9	- .5	.0027	83.5
	1.825	1.531	256.2	5.4	.0030	79.4
	1.735	1.043	233.5	15.6	.0029	84.6
	1.601	.655	204.9	23.3	.0030	47.2
	1.428	.000	123.5	.0	.0000	.0
	2.065	2.008	260.9	- .3	.0027	83.5
	2.050	1.570	251.5	8.2	.0030	79.4
	2.001	1.116	230.2	9.9	.0029	84.6
	1.935	.749	211.4	11.6	.0030	47.2
	1.838	.000	167.3	.0	.0000	.0
398.51	1.573	1.975	308.8	- 1.9	.0033	35.7
	1.507	1.384	304.1	15.7	.0026	83.1
	1.217	.701	244.6	41.7	.0013	30.1
	.270	.380	59.1	- 13.0	.0026	58.2
	.253	.000	61.7	90.0	.0000	.0
	1.740	1.994	270.9	.8	.0028	56.7
	1.694	1.448	269.3	10.1	.0030	35.5
	1.516	.863	257.7	30.0	.0031	68.2
	1.204	.442	175.3	40.7	.0034	78.1
	.898	.000	49.8	.0	.0000	.0
	1.984	1.999	246.0	1.5	.0028	109.3
	1.937	1.516	245.2	10.3	.0030	110.2
	1.825	1.013	237.5	17.2	.0030	72.3
	1.680	.609	211.5	26.6	.0032	50.2
	1.469	.000	145.4	.0	.0000	.0
	2.173	2.006	213.6	3.5	.0028	109.3
	2.157	1.553	221.2	11.0	.0030	110.2
	2.091	1.087	216.9	20.3	.0030	72.3
	2.019	.729	194.9	19.0	.0032	50.2
	1.898	.000	177.2	.0	.0000	.0

Table D-IX. Front Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
436.92	1.720	1.979	266.4	- 5.5	.0037	51.0
	1.652	1.349	290.8	.1	.0028	93.7
	1.329	.639	239.8	40.7	.0010	33.4
	.233	.404	96.1	-136.0	.0027	53.9
	.266	.000	35.8	90.0	.0000	.0
	1.869	1.990	231.1	- .4	.0031	116.9
	1.823	1.421	232.5	8.6	.0033	89.9
	1.634	.830	219.7	29.4	.0034	100.7
	1.279	.393	178.3	36.7	.0041	79.8
	.938	.000	47.8	90.0	.0000	.0
	2.082	2.005	166.0	2.2	.0031	43.3
	2.047	1.491	188.7	4.0	.0033	103.7
	1.944	.978	177.8	14.8	.0032	78.8
	1.775	.569	155.2	25.3	.0035	87.8
	1.562	.000	121.5	.0	.0000	.0
	2.262	1.997	135.9	3.0	.0031	43.3
	2.251	1.531	138.2	6.6	.0033	103.7
	2.188	1.046	142.6	30.9	.0032	78.8
	2.104	.690	131.9	44.0	.0035	87.8
	2.001	.000	127.4	90.0	.0000	.0
475.33	1.817	1.995	216.9	- 16.0	.0041	73.1
	1.768	1.377	238.8	15.1	.0024	35.2
	1.386	.565	293.0	88.1	.0011	31.4
	.207	.441	314.5	-111.8	.0025	52.0
	.246	.000	113.5	180.0	.0000	.0
	1.953	1.994	169.2	- 14.2	.0034	129.3
	1.905	1.413	172.8	7.4	.0035	112.4
	1.693	.775	152.4	46.6	.0040	81.7
	1.336	.345	309.1	94.8	.0047	96.6
	.934	.000	129.4	180.0	.0000	.0
	2.137	1.997	125.5	- 11.8	.0035	48.8
	2.107	1.496	126.5	2.1	.0035	104.9
	1.983	.969	117.1	33.6	.0034	90.2
	1.810	.551	89.6	52.7	.0038	75.9
	1.581	.000	51.8	90.0	.0000	.0
	2.298	1.997	77.2	- 12.6	.0035	48.8
	2.282	1.531	71.9	- 3.0	.0035	104.9
	2.208	1.030	79.1	43.7	.0034	90.2
	2.117	.665	75.7	63.4	.0038	75.9
	1.986	.000	25.9	90.0	.0000	.0

Table D-IX. Front Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
513.74	1.911	2.034	157.2	- 22.3	.0046	139.9
	1.841	1.307	159.8	33.5	.0026	73.8
	1.287	.419	350.3	53.6	.0012	38.4
	.171	.683	434.6	-100.1	.0020	33.5
	.162	.000	135.4	180.0	.0000	.0
	2.017	2.025	124.8	- 24.1	.0035	42.6
	1.981	1.401	117.7	20.3	.0036	109.0
	1.731	.729	94.6	34.8	.0041	101.4
	1.155	.239	292.3	73.0	.0044	134.1
	.819	.000	239.0	180.0	.0000	.0
	2.188	2.028	95.2	- 17.5	.0034	68.5
	2.162	1.487	98.1	33.7	.0036	41.9
	2.023	.914	92.4	51.6	.0035	95.4
	1.819	.508	74.7	83.9	.0039	101.6
	1.551	.000	73.7	180.0	.0000	.0
	2.330	2.012	68.6	- 25.9	.0034	68.5
	2.317	1.535	85.3	10.8	.0036	41.9
	2.240	.995	73.0	10.8	.0035	95.4
	2.135	.628	60.6	35.3	.0039	101.6
	1.995	.000	31.9	90.0	.0000	.0
552.15	1.951	2.050	121.0	- 11.9	.0047	176.1
	1.883	1.289	105.4	22.3	.0018	76.1
	1.426	.461	1651.4	- 86.8	.0012	24.0
	.140	.835	220.1	12.0	.0022	35.6
	.121	.000	69.7	180.0	.0000	.0
	2.058	2.041	114.5	- 17.1	.0035	54.4
	2.008	1.384	96.2	22.0	.0036	121.9
	1.757	.720	77.8	40.0	.0043	126.7
	1.213	.242	251.0	79.9	.0038	86.6
	.714	.000	248.9	180.0	.0000	.0
	2.216	2.030	96.4	- 6.2	.0034	122.3
	2.181	1.458	99.8	25.3	.0037	88.3
	2.034	.901	75.4	63.7	.0036	112.4
	1.819	.483	62.7	105.5	.0039	78.4
	1.513	.000	123.5	180.0	.0000	.0
	2.355	2.025	89.8	- 18.2	.0034	122.3
	2.355	1.514	92.7	2.2	.0037	88.3
	2.258	1.004	58.6	- 8.6	.0036	112.4
	2.150	.626	22.4	39.3	.0039	78.4
	1.975	.000	39.8	180.0	.0000	.0

Table D-IX. Front Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
590.56	2.019	2.052	136.0	- 14.1	.0056	61.5
	1.931	1.270	113.8	14.4	.0003	6.9
	.162	1.004	READINGS	INVALID		
	.112	.797	READINGS	INVALID		
	.097	.000	READINGS	INVALID		
	2.118	2.054	130.1	- 23.3	.0037	84.9
	2.063	1.371	120.1	- 7.6	.0034	56.5
	1.779	.681	74.1	77.3	.0029	70.8
	1.048	.193	745.7	168.7	.0053	152.0
	.589	.000	256.9	180.0	.0000	.0
	2.276	2.039	113.0	- 27.7	.0036	162.8
	2.238	1.465	100.5	- 17.6	.0036	122.8
	2.045	.850	76.9	57.4	.0037	71.5
	1.803	.455	86.5	119.3	.0041	92.6
	1.437	.000	157.3	180.0	.0000	.0
	2.408	2.034	102.8	- 32.0	.0036	162.8
	2.394	1.531	70.4	2.7	.0036	122.8
	2.291	.999	64.5	27.2	.0037	71.5
	2.151	.620	30.9	73.8	.0041	92.6
	1.959	.000	39.8	180.0	.0000	.0
628.97	2.071	2.078	101.6	- 25.3	.0063	112.4
	1.984	1.263	104.3	6.4	.0001	3.3
	NO READING					
	NO READING					
	NO READING					
	2.166	2.087	102.5	- 37.8	.0037	108.9
	2.111	1.397	113.0	22.3	.0033	74.6
	1.777	.657	86.0	89.3	.0009	28.5
	.536	.140	715.2	2.9	.0054	125.8
	.477	.000	250.9	180.0	.0000	.0
	2.306	2.071	78.9	- 18.1	.0036	68.7
	2.269	1.481	94.4	17.3	.0037	105.9
	2.060	.839	81.7	64.4	.0037	85.3
	1.781	.413	114.9	115.8	.0047	166.7
	1.368	.000	117.5	180.0	.0000	.0
	2.432	2.067	76.3	- 30.6	.0036	68.7
	2.414	1.520	64.1	6.9	.0037	105.9
	2.309	.980	52.4	62.8	.0037	85.3
	2.157	.598	63.9	95.0	.0047	166.7
	1.939	.000	69.7	180.0	.0000	.0

Table D-IX. Front Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
667.38	2.104	2.093	112.1	- 39.5	.0061	148.5
	2.027	1.259	97.9	4.7	.0001	1.2
	NO READING					
	NO READING					
	NO READING					
	2.194	2.111	101.7	- 40.4	.0039	124.1
	2.126	1.349	104.9	30.9	.0034	100.6
	1.782	.602	115.9	85.1	.0007	10.1
	.395	.169	262.2	-158.2	.0032	35.5
	.358	.000	239.0	180.0	.0000	.0
	2.335	2.065	83.8	- 21.9	.0036	58.4
	2.293	1.436	127.0	5.3	.0036	102.2
	2.058	.782	91.9	49.7	.0038	96.1
	1.757	.360	76.6	115.4	.0054	104.6
	1.329	.000	121.5	180.0	.0000	.0
	2.462	2.071	74.9	- 34.7	.0036	58.4
	2.449	1.529	59.1	- 10.2	.0036	102.2
	2.313	.958	76.2	83.1	.0038	96.1
	2.142	.565	66.3	93.4	.0054	104.6
	1.894	.000	71.7	90.0	.0000	.0
705.79	2.142	2.148	144.7	- 37.2	.0059	179.3
	2.074	1.256	136.4	- 1.9	.0000	.9
	NO READING					
	NO READING					
	NO READING					
	2.238	2.148	124.0	- 30.3	.0046	47.5
	2.172	1.358	116.5	- 6.5	.0028	74.9
	1.786	.551	355.3	112.6	.0038	143.7
	.312	.220	1246.9	- 74.7	.0064	213.4
	.257	.000	856.3	90.0	.0000	.0
	2.363	2.104	125.5	- 45.4	.0039	89.2
	2.333	1.487	123.3	- 30.3	.0037	42.7
	2.085	.778	89.5	10.6	.0036	72.3
	1.751	.349	63.1	121.7	.0062	126.2
	1.256	.000	133.4	180.0	.0000	.0
	2.480	2.106	93.6	- 46.4	.0039	89.2
	2.467	1.531	88.1	- 21.8	.0037	42.7
	2.117	.911	129.8	26.6	.0036	72.3
	2.150	.542	72.1	58.9	.0062	126.2
	1.916	.000	47.8	90.0	.0000	.0

Table D-IX. Front Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
744.20	2.205	2.170	140.5	- 18.1	.0065	277.5
	2.151	1.267	140.7	7.4	.0000	1.2
	NO READING					
	NO READING					
	NO READING					
	2.291	2.168	132.3	- 18.6	.0062	83.1
	2.232	1.360	136.3	7.3	.0019	62.5
	1.577	.371	467.0	141.0	.0038	148.2
	1.364	.244	2391.6	- 87.1	.0059	198.5
	.945	.000	1559.2	90.0	.0000	.0
	2.418	2.144	124.0	- 29.9	.0039	82.7
	2.381	1.494	104.0	9.4	.0039	70.2
	2.139	.765	126.8	- 2.7	.0033	71.2
	1.724	.312	80.7	56.0	.0058	113.3
	1.206	.000	157.3	180.0	.0000	.0
	2.520	2.129	106.4	- 25.8	.0039	82.7
	2.517	1.570	118.1	- 7.2	.0039	70.2
	2.377	.949	136.7	14.6	.0033	71.2
	2.179	.512	65.1	64.6	.0058	113.3
	1.894	.000	27.9	180.0	.0000	.0
782.61	2.265	2.188	161.3	- 22.5	.0059	136.7
	2.199	1.246	126.2	9.0	.0000	.7
	NO READING					
	NO READING					
	NO READING					
	2.353	2.186	146.3	- 25.9	.0069	122.8
	2.295	1.342	139.2	- 6.6	.0022	22.5
	1.454	.277	524.9	58.6	.0003	5.9
	.220	.387	READINGS	INVALID		
	.196	.000	READINGS	INVALID		
	2.460	2.162	129.2	- 24.4	.0041	51.7
	2.423	1.472	146.7	- 2.7	.0037	69.1
	2.197	.786	104.1	- 15.7	.0030	33.3
	1.751	.319	93.1	62.6	.0043	17.2
	1.111	.000	175.2	180.0	.0000	.0
	2.568	2.148	111.7	- 22.0	.0041	51.7
	2.559	1.551	135.0	- 4.5	.0037	69.1
	2.403	.901	115.2	14.8	.0030	33.3
	2.181	.494	54.1	38.8	.0043	17.2
	1.891	.000	15.9	180.0	.0000	.0

Table D-IX. Front Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
821.02	2.341	2.229	142.5	- 15.3	.0040	6.1
	2.263	1.252	161.0	37.5	.0000	.4
	NO READING					
	NO READING					
	NO READING					
	2.410	2.227	133.4	- 17.7	.0053	93.9
	2.350	1.373	137.2	3.0	.0023	23.4
	1.751	.419	516.6	56.6	.0003	23.5
	NO READING					
	NO READING					
	2.526	2.194	125.3	- 15.1	.0042	41.8
	2.497	1.520	140.4	- 8.9	.0035	27.2
	2.230	.793	77.6	17.2	.0027	19.5
	1.707	.283	162.2	142.5	.0034	18.8
	1.045	.000	169.3	180.0	.0000	.0
	2.616	2.168	116.1	- 19.2	.0042	41.8
	2.625	1.593	135.0	- 14.0	.0035	27.2
	2.447	.929	110.0	21.5	.0027	19.5
	2.212	.497	58.1	39.3	.0034	18.8
	1.880	.000	33.9	180.0	.0000	.0
859.43	2.386	2.230	122.7	- 18.6	.0043	274.8
	2.278	1.169	255.5	20.9	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	2.464	2.227	103.7	- 8.8	.0053	87.2
	2.401	1.336	189.8	3.0	.0010	23.5
	1.641	.321	READINGS INVALID			
	.162	.565	READINGS INVALID			
	.121	.000	READINGS INVALID			
	2.568	2.197	99.9	- .4	.0041	39.6
	2.537	1.509	122.0	12.1	.0036	30.0
	2.256	.765	105.9	48.5	.0027	23.8
	1.632	.229	164.3	80.5	.0028	13.2
	.955	.000	248.9	180.0	.0000	.0
	2.669	2.183	121.7	- 15.2	.0041	39.6
	2.671	1.590	110.1	30.2	.0036	30.0
	2.460	.881	111.7	48.5	.0027	23.8
	2.214	.475	72.8	81.7	.0028	13.2
	1.860	.000	47.8	180.0	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance

Shot 123

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
83.16	1.756	1.985	41.1	58.3	.0024	1.7
	1.748	1.622	55.1	- 61.0	.0026	3.0
	1.741	1.264	72.0	- 41.9	.0022	5.0
	1.736	.882	58.8	100.8	.0023	.9
	1.726	.000	29.8	90.0	.0000	.0
	2.073	1.991	29.1	80.8	.0023	5.8
	2.084	1.616	47.3	- 69.8	.0024	.5
	2.090	1.264	60.4	- 43.1	.0024	5.0
	2.101	.922	36.7	69.7	.0024	1.5
	2.108	.000	21.8	90.0	.0000	.0
	2.511	1.958	77.6	50.3	.0023	4.1
	2.507	1.598	24.0	43.3	.0023	53.1
	2.500	1.232	53.7	73.6	.0025	2.0
	2.498	.854	234.1	10.3	.0024	3.5
	2.490	.000	19.8	90.0	.0000	.0
	2.869	1.994	44.6	71.8	.0023	4.1
	2.883	1.620	28.4	- 64.7	.0023	53.1
	2.869	1.359	59.8	94.7	.0025	2.0
	2.861	.915	153.1	17.4	.0024	3.5
	2.861	.004	26.7	- 75.5	.0000	.0
121.74	1.781	1.991	122.4	- 2.4	.0025	3.3
	1.781	1.601	129.4	22.3	.0029	2.7
	1.765	1.249	117.5	24.4	.0024	7.7
	1.763	.865	109.2	36.4	.0026	.4
	1.734	.000	61.5	.0	.0000	.0
	2.077	1.991	73.5	- 1.6	.0025	4.3
	2.103	1.605	65.2	11.4	.0026	37.2
	2.103	1.249	58.8	22.9	.0025	4.8
	2.110	.916	48.0	45.8	.0024	3.1
	2.116	.000	9.9	.0	.0000	.0
	2.531	1.987	79.0	56.6	.0022	1.9
	2.512	1.611	34.7	34.1	.0022	4.3
	2.512	1.240	30.3	47.0	.0027	8.7
	2.512	.962	172.1	12.4	.0023	4.0
	2.498	.000	13.9	90.0	.0000	.0
	2.883	2.004	28.8	34.7	.0022	1.9
	2.891	1.616	13.3	90.0	.0022	4.3
	2.891	1.355	40.5	87.7	.0027	8.7
	2.878	1.006	114.1	18.4	.0023	4.0
	2.871	.000	16.6	100.9	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
160.32	1.868	1.980	204.2	- .5	.0026	3.7
	1.860	1.583	184.8	5.4	.0030	5.6
	1.842	1.225	184.5	14.5	.0025	6.0
	1.815	.819	168.0	23.3	.0028	3.7
	1.783	.000	138.8	.0	.0000	.0
	2.141	1.994	178.7	- 2.7	.0027	4.1
	2.141	1.611	147.7	- 1.4	.0027	36.8
	2.138	1.251	141.2	4.6	.0025	1.7
	2.127	.887	126.2	33.5	.0027	3.0
	2.118	.000	85.3	.0	.0000	.0
	2.494	1.980	162.2	81.1	.0023	1.2
	2.500	1.598	126.8	67.0	.0025	3.0
	2.505	1.229	103.6	61.8	.0026	11.1
	2.498	.915	148.0	70.9	.0025	1.2
	2.492	.000	43.6	90.0	.0000	.0
	2.882	1.994	64.1	42.1	.0023	1.2
	2.887	1.614	27.7	66.7	.0025	3.0
	2.876	1.352	50.1	81.3	.0026	11.1
	2.872	.995	84.1	97.6	.0025	1.2
	2.865	.000	27.8	90.0	.0000	.0
198.90	1.969	1.994	179.7	- 5.0	.0026	2.7
	1.950	1.587	186.4	4.6	.0030	48.1
	1.930	1.207	1 0.9	8.6	.0025	2.4
	1.901	.812	175.7	6.6	.0029	4.4
	1.862	.000	160.7	.0	.0000	.0
	2.242	1.998	176.9	1.5	.0026	.4
	2.239	1.601	166.7	9.3	.0027	1.6
	2.231	1.230	175.2	13.3	.0025	27.5
	2.209	.878	182.1	17.3	.0029	1.6
	2.195	.000	170.6	.0	.0000	.0
	2.606	1.993	196.1	- 7.9	.0025	22.7
	2.599	1.600	166.8	1.4	.0027	21.0
	2.588	1.229	153.5	4.4	.0027	24.7
	2.569	.865	173.9	4.1	.0028	16.4
	2.527	.000	126.9	.0	.0000	.0
	2.929	2.009	103.6	- 7.4	.0025	22.7
	2.907	1.622	89.7	- 4.8	.0027	21.0
	2.907	1.354	91.6	1.3	.0027	24.7
	2.885	.931	144.4	53.0	.0028	16.4
	2.885	.000	71.4	.0	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
237.48	2.033	1.996	206.4	.4	.0027	8.5
	2.031	1.570	220.5	[illegible]	.0031	57.7
	2.007	1.199	215.0	.6	.0024	4.5
	1.976	.801	207.5	6.4	.0029	5.1
	1.932	.000	196.4	.0	.0000	.0
	2.305	1.993	182.9	1.0	.0026	3.6
	2.294	1.589	192.0	6.1	.0027	1.6
	2.296	1.214	197.6	10.9	.0028	31.1
	2.285	.837	219.2	13.7	.0029	1.5
	2.275	.000	208.3	.0	.0000	.0
	2.674	2.004	180.4	- .8	.0025	22.9
	2.654	1.596	180.0	6.2	.0028	29.0
	2.646	1.219	174.5	9.6	.0030	20.9
	2.635	.898	195.4	- 21.3	.0028	16.1
	2.610	.000	216.2	.0	.0000	.0
	2.975	2.007	148.8	1.7	.0025	22.9
	2.968	1.611	181.3	10.1	.0028	29.0
	2.961	1.348	164.8	8.3	.0030	20.9
	2.946	.900	192.5	- .3	.0028	16.1
	2.931	.000	170.6	.0	.0000	.0
276.06	2.160	1.991	244.1	1.2	.0026	7.9
	2.152	1.581	234.8	- 4.2	.0032	15.6
	2.129	1.208	225.8	- 7.0	.0025	4.8
	2.092	.792	218.3	- 3.3	.0029	4.2
	2.044	.000	216.2	.0	.0000	.0
	2.411	1.998	206.4	- 1.5	.0027	37.0
	2.415	1.590	220.2	- .4	.0028	26.5
	2.411	1.199	214.0	- 3.9	.0029	31.2
	2.402	.839	224.2	- 10.6	.0029	26.6
	2.388	.000	206.3	.0	.0000	.0
	2.771	1.991	189.3	3.8	.0027	21.3
	2.764	1.579	211.0	- 7.3	.0029	42.3
	2.747	1.205	202.6	- 3.2	.0031	34.1
	2.738	.927	204.0	1.9	.0029	30.5
	2.727	.000	210.2	.0	.0000	.0
	3.067	2.006	173.0	3.7	.0027	21.3
	3.073	1.592	172.5	- 3.0	.0028	42.3
	3.058	1.330	183.3	.9	.0031	34.1
	3.043	.951	204.3	- 15.3	.0028	30.5
	3.043	.000	204.3	.0	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
314.64	2.259	1.991	252.0	- 1.?	.0029	24.0
	2.248	1.587	246.2	- .5	.0033	24.0
	2.215	1.223	223.9	- 2.6	.0026	38.6
	2.176	.808	216.7	- 9.9	.0029	32.9
	2.132	.CCC	184.5	.0	.0C00	.0
	2.496	1.998	232.4	- 2.0	.0029	57.1
	2.498	1.590	227.3	- 3.7	.0029	53.1
	2.490	1.219	220.2	- 11.1	.0028	30.4
	2.487	.871	206.8	- 7.5	.0028	33.4
	2.466	.C00	186.4	.0	.0C00	.0
	2.848	1.991	197.0	- 3.0	.0030	22.5
	2.841	1.612	198.0	- 9.5	.0030	37.8
	2.830	1.227	211.5	- 8.9	.0033	51.8
	2.815	.900	235.9	- 2.1	.0031	31.8
	2.804	.C00	198.3	.0	.0C0C	.0
	3.135	1.998	155.2	2.4	.0030	22.5
	3.124	1.607	141.1	- 8.7	.0030	37.8
	3.128	1.341	154.6	- .1	.0033	51.8
	3.122	.955	195.1	19.0	.0031	31.8
	3.120	.C00	162.6	.0	.0C0C	.0
353.22	2.393	1.996	265.9	- 6.4	.0031	39.5
	2.380	1.581	258.4	- 1.3	.0034	50.4
	2.334	1.214	260.6	4.4	.0027	57.8
	2.290	.821	249.0	2.3	.0030	53.3
	2.215	.CCO	210.2	.0	.0C00	.0
	2.626	2.007	239.4	2.1	.0030	41.2
	2.624	1.607	235.2	- 3.1	.0031	41.3
	2.612	1.236	232.7	3.5	.0030	15.8
	2.588	.861	214.2	7.5	.0031	26.2
	2.560	.CCO	212.2	.0	.0C0C	.0
	2.953	2.002	203.1	- 1.1	.0032	30.6
	2.940	1.605	188.7	2.8	.0034	30.9
	2.940	1.232	178.8	- 3.3	.0036	38.4
	2.940	.955	212.2	19.4	.0033	13.5
	2.911	.C00	144.8	.0	.0C0C	.0
	3.210	2.CCO	142.4	- 7.3	.0032	30.6
	3.201	1.609	143.7	- 5.4	.0034	30.9
	3.199	1.330	124.7	- 5.6	.0036	38.4
	3.199	.889	185.6	- 14.8	.0033	13.5
	3.194	.C00	97.2	.0	.0C00	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
391.80	2.503	2.017	207.4	- .6	.0033	29.4
	2.487	1.590	177.6	5.9	.0036	50.7
	2.455	1.205	184.0	12.1	.0029	43.5
	2.404	.799	172.1	23.7	.0033	29.2
	2.327	.000	150.7	.0	.0000	.0
	2.716	1.994	160.8	- 1.4	.0032	32.3
	2.714	1.605	149.4	5.0	.0032	25.7
	2.702	1.212	134.3	9.1	.0032	29.9
	2.683	.845	126.6	7.5	.0034	26.4
	2.663	.000	128.9	90.0	.0000	.0
	3.036	1.996	117.0	- 13.2	.0034	91.6
	3.016	1.603	113.6	- 4.6	.0036	89.9
	2.995	1.236	88.9	12.2	.0038	87.6
	2.968	.902	105.7	11.8	.0034	64.9
	2.938	.000	41.7	.0	.0000	.0
	3.265	2.013	100.6	2.2	.0034	91.6
	3.256	1.618	83.5	10.8	.0036	89.9
	3.240	1.344	70.4	2.2	.0038	87.6
	3.223	.955	114.1	- 30.6	.0034	64.9
	3.210	.000	25.8	90.0	.0000	.0
430.38	2.582	2.004	94.6	87.6	.0035	66.5
	2.542	1.574	82.4	14.0	.0038	75.3
	2.501	1.188	81.3	26.7	.0031	79.6
	2.439	.773	63.9	45.4	.0035	63.7
	2.354	.000	33.7	.0	.0000	.0
	2.773	2.006	82.9	- 89.8	.0033	68.2
	2.762	1.598	65.5	62.7	.0034	61.5
	2.733	1.210	56.4	39.1	.0034	58.0
	2.703	.843	29.1	19.4	.0035	59.9
	2.646	.000	39.7	90.0	.0000	.0
	3.058	2.009	56.2	58.0	.0033	102.5
	3.045	1.609	65.9	62.2	.0036	110.0
	3.019	1.223	48.8	71.1	.0037	124.1
	2.997	.926	71.1	37.1	.0035	88.1
	2.949	.000	11.9	.0	.0000	.0
	3.300	2.002	77.4	- 78.2	.0033	102.6
	3.275	1.607	36.4	92.2	.0036	110.0
	3.260	1.335	29.6	79.7	.0037	124.1
	3.258	.949	148.8	56.8	.0035	88.1
	3.203	.000	31.7	90.0	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
468.96	2.575	2.002	20.1	83.0	.0034	95.8
	2.560	1.570	44.1	29.8	.0039	95.7
	2.523	1.174	41.3	42.5	.0031	96.6
	2.448	.760	46.5	37.1	.0034	104.5
	2.358	.000	17.9	.0	.0000	.0
	2.755	2.009	59.7	- 75.6	.0033	91.0
	2.757	1.587	38.7	84.0	.0034	87.2
	2.738	1.190	51.5	45.3	.0036	72.3
	2.709	.839	57.7	37.8	.0037	85.6
	2.667	.000	51.6	.0	.0000	.0
	3.036	1.994	52.5	70.8	.0033	69.8
	3.023	1.587	62.9	81.7	.0036	77.1
	3.012	1.207	49.0	78.1	.0041	94.2
	2.986	.900	60.0	58.5	.0035	61.3
	2.949	.000	7.9	.0	.0000	.0
	3.265	2.006	58.3	- 72.5	.0033	69.8
	3.264	1.601	40.9	106.6	.0036	77.1
	3.256	1.331	45.8	102.4	.0041	94.2
	3.232	.850	265.6	13.9	.0035	61.3
	3.225	.000	33.7	.0	.0000	.0
507.54	2.586	2.002	16.3	- 13.3	.0034	76.1
	2.575	1.554	35.4	84.7	.0039	72.0
	2.531	1.164	41.6	78.6	.0030	63.0
	2.474	.751	70.9	63.2	.0036	80.9
	2.371	.000	29.8	90.0	.0000	.0
	2.790	1.998	65.4	- 65.0	.0032	65.0
	2.771	1.568	36.1	- 53.4	.0034	62.5
	2.764	1.183	51.1	84.7	.0034	55.0
	2.744	.808	92.6	101.3	.0038	54.0
	2.694	.000	63.5	90.0	.0000	.0
	3.058	1.996	43.4	- 80.4	.0033	40.6
	3.047	1.574	46.3	- 58.1	.0035	49.9
	3.032	1.188	53.4	87.0	.0043	65.5
	3.014	.898	82.5	56.8	.0035	51.8
	2.957	.000	21.8	90.0	.0000	.0
	3.282	1.996	45.8	- 49.8	.0033	40.6
	3.276	1.579	47.8	- 20.8	.0035	49.9
	3.269	1.297	65.0	- 24.4	.0043	65.5
	3.265	.990	270.4	14.6	.0035	51.8
	3.234	.000	33.7	90.0	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
546.12	2.590	2.004	40.6	- 18.0	.0034	104.6
	2.569	1.545	52.0	54.8	.0038	105.2
	2.523	1.139	63.5	59.6	.0032	75.6
	2.463	.714	68.C	21.6	.0C37	86.4
	2.356	.C00	29.8	180.0	.0C00	.0
	2.770	2.011	59.8	- 77.1	.0033	54.0
	2.762	1.572	56.3	- 80.3	.0035	98.5
	2.746	1.174	54.0	78.5	.0034	89.3
	2.707	.795	67.9	82.6	.0038	86.8
	2.663	.000	37.7	180.0	.0C00	.0
	3.041	2.004	69.1	- 69.9	.0034	53.0
	3.034	1.583	39.5	- 49.7	.0036	58.0
	3.017	1.172	59.0	44.5	.0040	82.6
	2.997	.852	86.6	20.2	.0036	66.7
	2.944	.C00	19.8	180.0	.0C00	.0
	3.267	2.015	62.C	- 44.0	.0034	53.0
	3.273	1.598	27.4	- 33.8	.0036	58.0
	3.258	1.317	41.7	- 36.8	.0040	82.6
	3.236	.887	155.7	18.1	.0036	66.7
	3.212	.C00	27.8	180.0	.0C00	.0
584.70	2.623	2.009	71.3	- 12.9	.0036	124.8
	2.606	1.552	62.4	- 3.1	.0039	166.3
	2.555	1.131	48.7	- 15.9	.0032	94.7
	2.474	.736	63.1	24.5	.0036	78.9
	2.343	.000	37.7	180.0	.0C00	.0
	2.801	2.015	52.2	- 9.6	.0034	50.1
	2.804	1.574	47.6	- 46.1	.0036	94.2
	2.775	1.172	31.8	1.8	.0034	106.2
	2.731	.793	27.8	92.2	.0038	90.8
	2.659	.C00	17.9	180.0	.0C00	.0
	3.085	1.991	57.5	- 36.8	.0035	92.0
	3.049	1.568	50.8	- 10.1	.0037	86.7
	3.041	1.194	39.1	- 66.3	.0042	125.5
	3.008	.882	65.6	10.3	.0036	98.3
	2.938	.C00	23.8	180.0	.0C00	.0
	3.293	1.993	67.6	- 11.4	.0035	92.0
	3.278	1.594	24.2	- .9	.0037	86.7
	3.269	1.306	41.4	- 15.5	.0042	125.5
	3.249	.922	55.3	- 91.5	.0036	98.3
	3.208	.C00	9.9	180.0	.0C00	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
623.28	2.654	2.018	64.9	- 26.6	.0036	102.7
	2.626	1.550	59.8	- .4	.0040	127.3
	2.564	1.140	54.9	- 15.5	.0032	71.6
	2.461	.705	54.3	56.2	.0036	60.1
	2.321	.000	25.8	180.0	.0000	.0
	2.817	2.018	59.2	- 13.3	.0034	60.7
	2.804	1.576	49.6	- 44.8	.0036	66.9
	2.775	1.172	39.9	2.9	.0034	67.1
	2.729	.793	24.2	84.8	.0038	48.8
	2.646	.000	17.9	90.0	.0000	.0
	3.085	1.998	52.3	- 58.2	.0034	61.8
	3.060	1.592	62.2	- 30.9	.0037	64.9
	3.041	1.197	32.0	- 49.0	.0043	75.4
	3.008	.852	67.5	28.1	.0036	70.8
	2.922	.000	31.7	90.0	.0000	.0
	3.306	2.018	58.0	- 40.3	.0034	61.8
	3.291	1.603	48.8	- 17.8	.0037	64.9
	3.275	1.328	52.9	- 44.0	.0043	75.4
	3.243	.935	76.7	- 85.0	.0036	70.8
	3.203	.000	19.8	90.0	.0000	.0
661.86	2.676	2.035	53.7	- 6.2	.0035	62.6
	2.661	1.554	65.9	19.5	.0040	46.6
	2.601	1.131	70.9	48.2	.0031	47.5
	2.478	.705	87.7	48.3	.0037	37.4
	2.320	.000	31.7	180.0	.0000	.0
	2.854	2.028	56.4	- 26.9	.0033	61.8
	2.848	1.576	55.8	7.0	.0036	58.9
	2.812	1.168	55.4	22.8	.0032	36.1
	2.749	.797	69.8	38.7	.0038	33.1
	2.650	.000	13.9	90.0	.0000	.0
	3.122	2.017	54.3	- 84.8	.0033	15.0
	3.091	1.590	57.0	11.7	.0038	31.1
	3.067	1.201	55.0	22.9	.0041	14.0
	3.036	.871	103.7	24.8	.0037	17.8
	2.935	.000	17.9	90.0	.0000	.0
	3.330	2.026	54.6	- 43.0	.0033	15.0
	3.320	1.603	37.3	- 22.5	.0038	31.1
	3.300	1.333	50.3	- 8.6	.0041	14.0
	3.275	.983	186.6	15.7	.0037	17.8
	3.216	.000	21.8	.0	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
700.44	2.696	2.026	80.1	- 16.8	.0035	14.6
	2.680	1.535	61.7	- .0	.0040	9.9
	2.604	1.104	55.8	41.2	.0031	19.4
	2.470	.641	113.4	33.2	.0039	5.1
	2.292	.000	39.7	90.0	.0000	.0
	2.865	2.037	70.1	- 55.4	.0032	27.5
	2.856	1.574	27.7	- 5.0	.0034	19.0
	2.823	1.159	33.5	23.1	.0033	8.9
	2.751	.753	74.3	30.5	.0039	14.5
	2.641	.000	21.8	90.0	.0000	.0
	3.115	2.022	48.2	-105.9	.0017	2.9
	3.111	1.583	44.3	- 10.6	.0039	17.4
	3.082	1.181	41.4	35.0	.0041	16.5
	3.043	.808	128.6	2.3	.0037	4.5
	2.931	.000	19.8	90.0	.0000	.0
	3.339	2.050	READINGS	INVALID		
	3.324	1.607	12.8	- 39.3	.0039	17.4
	3.320	1.335	57.7	52.1	.0041	16.5
	3.278	.867	165.1	3.4	.0037	4.5
	3.223	.000	15.9	90.0	.0000	.0
739.02	2.724	2.070	73.0	- 51.5	.0036	1.9
	2.702	1.557	59.4	- 11.2	.0040	2.9
	2.628	1.104	43.5	13.3	.0032	5.1
	2.505	.661	62.4	- 5.6	.0039	5.1
	2.301	.000	21.8	.0	.0000	.0
	2.882	2.084	59.0	- 22.2	.0033	2.8
	2.872	1.581	42.2	- 30.9	.0035	7.1
	2.839	1.157	31.3	34.9	.0036	1.2
	2.773	.764	51.1	38.7	.0041	8.2
	2.652	.000	11.9	.0	.0000	.0
	3.128	2.055	48.4	16.3	.0017	.2
	3.126	1.596	28.2	- 82.4	.0039	4.1
	3.095	1.177	29.5	86.4	.0042	9.8
	3.054	.863	76.7	35.8	.0037	4.4
	2.946	.000	45.6	90.0	.0000	.0
	NO READING					
	3.330	1.611	23.1	43.0	.0039	4.1
	3.309	1.304	42.9	- 7.1	.0042	9.8
	3.284	.904	96.5	9.3	.0037	4.4
	3.216	.000	21.8	180.0	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
777.60	2.735	2.081	68.4	- 33.8	.0037	1.6
	2.724	1.548	85.3	- 3.7	.0042	5.6
	2.643	1.096	65.4	14.5	.0034	2.7
	2.522	.656	43.0	36.7	.0040	6.9
	2.312	.000	19.8	.0	.0000	.0
	2.885	2.083	66.5	- .0	.0035	.7
	2.889	1.594	52.6	- 15.1	.0035	1.6
	2.845	1.146	43.3	35.5	.0037	44.7
	2.768	.742	74.2	37.7	.0042	4.5
	2.652	.000	9.9	.0	.0000	.0
	3.126	2.046	59.1	34.8	.0017	.2
	3.122	1.601	24.9	- 75.1	.0039	4.1
	3.082	1.172	59.5	73.2	.0049	4.2
	3.041	.856	55.1	90.4	.0039	7.7
	2.918	.000	51.6	90.0	.0000	.0
	3.333	2.068	READINGS	INVALID		
	3.322	1.598	51.3	34.0	.0039	4.1
	3.306	1.309	21.5	- 45.0	.0049	4.2
	3.275	.852	167.5	5.6	.0039	7.7
	3.203	.000	41.7	90.0	.0000	.0
816.18	2.779	2.099	110.7	- 20.8	.0038	2.2
	2.771	1.576	115.2	- 17.0	.0043	10.5
	2.687	1.095	87.4	- .2	.0034	2.1
	2.534	.637	61.6	43.5	.0039	9.0
	2.320	.000	11.9	90.0	.0000	.0
	2.93[illegible]	2.108	111.8	1.0	.0036	10.0
	2.916	1.590	87.7	1.9	.0037	3.5
	2.872	1.142	80.2	- .7	.0036	46.1
	2.808	.764	84.8	7.0	.0042	6.1
	2.661	.000	43.6	.0	.0000	.0
	3.164	2.070	84.7	- 25.6	.0017	3.0
	3.137	1.609	72.6	- 19.5	.0041	6.1
	3.122	1.179	82.9	- 22.4	.0050	1.2
	3.073	.837	67.5	27.6	.0039	5.1
	2.938	.000	43.6	.0	.0000	.0
	NO READING					
	3.343	1.624	86.3	- 32.7	.0041	6.1
	3.317	1.302	83.2	- 7.4	.0050	1.2
	3.276	.955	205.9	- 18.2	.0039	5.1
	3.229	.000	49.6	.0	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
854.76	2.837	2.119	126.8	- 11.4	.0039	3.6
	2.823	1.579	118.0	- 6.6	.0041	13.2
	2.724	1.096	85.5	1.1	.0032	79.7
	2.564	.619	78.7	- 1.6	.0038	3.6
	2.316	.000	21.8	90.0	.0000	.0
	2.977	2.086	122.5	- .4	.0037	9.4
	2.970	1.594	132.4	- 12.9	.0040	3.9
	2.918	1.150	116.2	- 15.1	.0037	5.2
	2.832	.742	78.4	13.4	.0043	11.0
	2.692	.000	55.5	.0	.0000	.0
	3.196	2.081	97.3	- 17.2	.0017	3.0
	3.186	1.620	103.9	- 13.3	.0043	6.7
	3.152	1.199	71.8	- 8.6	.0045	.8
	3.096	.826	90.7	- 2.9	.0037	3.3
	2.959	.000	45.6	.0	.0000	.0
	3.383	2.118	READINGS INVALID			
	3.388	1.635	69.8	- 16.0	.0043	6.7
	3.359	1.350	110.9	- 20.2	.0045	.8
	3.330	.885	169.4	- 4.4	.0037	3.3
	3.249	.000	67.4	.0	.0000	.0
893.34	2.893	2.123	103.3	- 21.6	.0037	9.4
	2.880	1.589	108.8	15.3	.0044	11.9
	2.766	1.093	96.6	12.8	.0034	79.0
	2.595	.641	101.7	15.8	.0039	1.6
	2.332	.000	25.8	.0	.0000	.0
	3.036	2.119	117.4	- 25.1	.0040	2.5
	3.034	1.620	98.9	- 6.2	.0041	11.7
	2.975	1.172	95.7	16.0	.0037	3.9
	2.871	.753	71.9	9.9	.0042	9.9
	2.713	.000	21.8	.0	.0000	.0
	3.251	2.096	74.3	18.2	.0019	1.5
	3.230	1.631	69.0	- 4.2	.0044	5.7
	3.181	1.190	65.5	3.4	.0047	60.4
	3.146	.856	110.9	23.8	.0040	4.2
	2.981	.000	59.5	.0	.0000	.0
	NO READING					
	3.405	1.640	55.3	- 20.4	.0044	5.7
	3.398	1.344	63.5	- 12.8	.0047	60.4
	3.363	.946	163.8	14.9	.0040	4.2
	3.291	.000	65.5	90.0	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	G LB/SQFT
931.92	2.924	2.149	68.2	- 12.7	.0037	11.4
	2.913	1.561	69.7	9.9	.0045	12.3
	2.810	.076	82.8	40.4	.0036	5.6
	2.617	.590	98.1	33.4	.0042	4.2
	2.340	.000	19.8	90.0	.0000	.0
	3.074	2.134	55.8	- 32.9	.0039	3.1
	3.056	1.616	53.6	28.6	.0040	15.8
	2.992	1.150	65.1	45.6	.0037	8.8
	2.893	.738	66.2	52.6	.0042	6.9
	2.713	.000	2.0	90.0	.0000	.0
	3.258	2.086	59.2	5.8	.0019	1.5
	3.249	1.629	42.5	10.5	.0044	2.9
	3.210	1.196	60.5	20.0	.0048	72.3
	3.155	.812	76.8	19.5	.0042	4.5
	3.014	.000	49.6	.0	.0000	.0
	3.447	2.090	READINGS	INVALID		
	3.436	1.653	59.6	18.3	.0044	2.9
	3.414	1.355	66.2	21.8	.0048	72.3
	3.361	.863	121.3	15.5	.0042	4.5
	3.273	.000	55.5	90.0	.0000	.0
970.50	2.946	2.143	58.8	- 33.0	.0038	9.6
	2.933	1.568	39.1	- 10.0	.0043	12.0
	2.825	1.051	49.7	61.8	.0035	4.4
	2.652	.590	105.2	57.2	.0043	8.9
	2.329	.000	37.7	180.0	.0000	.0
	3.082	2.141	31.2	- 64.6	.0037	.9
	3.074	1.596	49.9	- 6.5	.0039	5.8
	3.017	1.129	55.2	66.9	.0039	14.3
	2.904	.705	48.9	58.3	.0045	4.3
	2.711	.000	6.0	90.0	.0000	.0
	3.291	2.114	62.0	- 84.8	.0018	4.4
	3.269	1.624	25.4	30.1	.0045	2.3
	3.227	1.175	47.0	61.1	.0050	13.4
	3.175	.828	67.2	32.7	.0040	7.2
	3.027	.000	61.5	90.0	.0000	.0
	NO READING					
	3.447	1.635	30.3	46.4	.0045	2.3
	3.423	1.315	54.7	12.0	.0050	13.4
	3.376	.889	77.6	13.6	.0040	7.2
	3.306	.000	45.6	90.0	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1009.08	2.951	2.174	72.5	- 74.4	.0038	6.9
	2.948	1.568	30.3	8.0	.0044	6.5
	2.832	1.036	38.4	85.1	.0035	.1
	2.626	.533	85.2	- 19.6	.0043	5.9
	2.305	.000	39.7	180.0	.0000	.0
	3.084	2.160	71.5	- 96.0	.0037	.2
	3.084	1.612	28.4	- 30.5	.0039	1.8
	3.016	1.111	27.1	64.7	.0038	6.4
	2.911	.698	32.3	88.1	.0048	4.0
	2.714	.000	19.8	90.0	.0000	.0
	3.282	2.125	49.4	-106.5	.0019	4.4
	3.271	1.622	7.2	54.2	.0044	6.5
	3.232	1.159	20.8	35.8	.0047	2.4
	3.166	.793	49.7	18.3	.0040	9.2
	2.983	.000	73.4	180.0	.0000	.0
	3.449	2.145	READINGS	INVALID		
	3.453	1.631	11.6	48.6	.0044	6.5
	3.429	1.322	24.4	- 18.6	.0047	2.4
	3.377	.847	78.9	97.4	.0040	9.2
	3.297	.000	59.5	180.0	.0000	.0
1047.66	2.964	2.208	69.4	-111.1	.0037	3.2
	2.961	1.565	34.0	- 70.0	.0042	3.9
	2.826	1.017	31.4	- 25.7	.0035	.8
	2.612	.540	54.2	-136.4	.0041	.1
	2.292	.000	125.0	.5	.0000	.0
	3.085	2.208	71.4	27.7	.0037	3.4
	3.091	1.612	18.6	79.1	.0039	6.3
	3.021	1.107	29.8	87.9	.0039	6.9
	2.898	.683	57.3	150.9	.0046	5.3
	2.700	.000	89.3	180.0	.0000	.0
	3.286	2.156	76.0	33.7	.0019	.0
	3.273	1.618	14.4	- 39.8	.0045	12.1
	3.234	1.159	20.8	80.3	.0050	13.4
	3.170	.803	47.3	49.6	.0041	10.5
	2.959	.000	45.6	180.0	.0000	.0
	NO READING					
	3.455	1.627	38.6	- 40.5	.0045	12.1
	3.442	1.319	38.6	- 77.3	.0050	13.4
	3.368	.817	104.5	2.2	.0041	10.5
	3.251	.000	69.4	180.0	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1096.24	2.938	2.220	80.8	- 79.0	.0038	3.0
	2.944	1.572	60.4	- 92.5	.0042	2.5
	2.817	1.021	23.2	- 88.3	.0035	7.7
	2.595	.569	70.3	- 4.4	.0040	4.8
	2.189	.002	133.3	-166.2	.0000	.0
	3.071	2.197	57.7	74.6	.0020	3.5
	3.082	1.609	54.4	53.8	.0040	10.7
	3.005	1.095	45.2	45.0	.0041	7.4
	2.865	.678	54.5	60.6	.0044	4.6
	2.632	.000	77.4	90.0	.0000	.0
	3.249	2.143	READINGS	INVALID		
	3.265	1.624	42.4	- 97.8	.0044	11.2
	3.218	1.153	38.8	32.9	.0051	30.4
	3.137	.795	76.7	55.2	.0039	7.2
	2.940	.000	23.8	180.0	.0000	.0
	3.429	2.108	READINGS	INVALID		
	3.429	1.646	80.4	- 95.6	.0044	11.2
	3.420	1.322	29.7	- 17.8	.0051	30.4
	3.354	.882	87.1	- 51.4	.0039	7.2
	3.232	.000	29.8	90.0	.0000	.0
1124.82	2.984	2.224	66.1	- 40.3	.0040	4.2
	2.977	1.590	52.4	15.0	.0043	3.5
	2.828	1.025	32.8	41.4	.0033	9.7
	2.584	.540	115.4	124.8	.0041	24.6
	2.171	.011	126.0	10.0	.0000	.0
	3.106	2.193	71.7	- 40.3	.0019	3.4
	3.107	1.640	53.6	1.3	.0039	6.1
	3.017	1.111	27.1	5.7	.0037	1.0
	2.676	.691	55.2	38.4	.0044	4.3
	2.635	.000	49.6	90.0	.0000	.0
	NO READING					
	3.284	1.647	45.1	- 35.4	.0048	3.9
	3.216	1.172	50.3	- 53.5	.0049	18.9
	3.157	.826	121.5	22.8	.0039	2.9
	2.937	.000	45.6	180.0	.0000	.0
	NO READING					
	3.458	1.677	70.2	19.3	.0048	3.9
	3.416	1.319	53.6	37.4	.0049	18.9
	3.368	.882	82.4	50.2	.0039	2.9
	3.242	.000	31.7	90.0	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1163.40	2.988	2.239	74.1	- 30.0	.0042	5.6
	2.983	1.581	30.4	20.3	.0043	23.5
	2.825	1.006	54.5	55.7	.0031	2.9
	2.527	.490	102.0	129.0	.0041	23.1
	2.075	.000	149.4	176.7	.0000	.0
	3.107	2.224	68.4	- 76.3	.0019	3.4
	3.113	1.633	35.7	15.3	.0038	2.7
	3.019	1.107	25.9	59.9	.0036	61.9
	2.856	.663	59.1	94.8	.0044	1.3
	2.593	.000	101.2	180.0	.0000	.0
	3.284	2.185	READINGS	INVALID		
	3.295	1.651	45.3	- 16.2	.0049	5.6
	3.243	1.177	40.3	57.8	.0046	3.3
	3.140	.753	126.6	14.0	.0040	9.7
	2.898	.000	57.5	180.0	.0000	.0
	3.477	2.140	READINGS	INVALID		
	3.460	1.655	54.7	20.1	.0049	5.6
	3.438	1.357	95.7	17.3	.0046	3.3
	3.357	.821	120.1	95.1	.0040	9.7
	3.221	.000	39.7	180.0	.0000	.0
1201.98	3.039	2.224	151.8	- 50.9	.0042	3.7
	2.999	1.587	22.8	- 9.2	.0041	31.6
	2.856	1.001	95.0	75.8	.0030	1.2
	2.518	.474	88.7	136.6	.0042	4.6
	2.033	.000	81.3	180.0	.0000	.0
	3.120	2.253	48.9	- 95.0	.0017	2.4
	3.135	1.642	58.8	50.1	.0038	2.4
	3.030	1.091	67.6	85.9	.0039	67.3
	2.865	.645	53.0	114.3	.0044	2.2
	2.542	.000	65.5	180.0	.0000	.0
	NO READING					
	3.324	1.658	54.6	- 94.4	.0048	23.9
	3.238	1.170	29.5	120.4	.0044	4.0
	3.152	.793	100.3	22.8	.0040	7.5
	2.883	.000	29.8	180.0	.0000	.0
	NO READING					
	3.480	1.675	58.9	63.4	.0048	23.9
	3.434	1.313	68.5	- 6.0	.0044	4.0
	3.357	.771	70.4	- 22.5	.0040	7.5
	3.205	.000	29.8	180.0	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1240.56	2.599	2.301	140.2	- 91.1	.0037	.6
	3.003	1.587	30.7	- 21.0	.0039	16.4
	2.812	.966	87.7	88.8	.0032	6.6
	2.461	.446	102.3	73.7	.0043	1.6
	2.000	.000	128.9	180.0	.0000	.0
	3.113	2.264	73.7	- 94.0	.0017	2.4
	3.118	1.616	64.4	33.7	.0037	3.0
	3.012	1.052	77.5	48.5	.0037	6.8
	2.837	.637	46.8	52.4	.0042	3.3
	2.533	.000	95.2	180.0	.0000	.0
	3.319	2.197	READINGS	INVALID		
	3.304	1.660	39.0	-114.6	.0051	19.0
	3.230	1.153	44.6	66.2	.0051	4.0
	3.126	.749	80.2	95.9	.0042	.8
	2.871	.000	27.8	180.0	.0000	.0
	3.469	2.184	READINGS	INVALID		
	3.455	1.671	67.7	67.5	.0051	19.0
	3.429	1.331	30.6	- 34.9	.0051	4.0
	3.346	.782	30.1	- 9.2	.0042	.8
	3.194	.000	31.7	180.0	.0000	.0
1279.14	3.017	2.340	88.2	- 99.8	.0036	2.3
	3.021	1.603	33.0	59.9	.0038	4.9
	2.832	.951	70.5	86.4	.0031	5.7
	2.492	.450	153.4	70.6	.0047	.5
	1.914	.000	216.2	180.0	.0000	.0
	3.137	2.314	85.2	-110.8	.0016	.7
	3.135	1.640	54.0	- 65.0	.0036	3.3
	3.039	1.062	52.1	72.4	.0034	3.9
	2.845	.650	95.0	34.3	.0040	1.4
	2.454	.000	89.3	180.0	.0000	.0
	NO READING					
	3.313	1.673	28.6	- 56.7	.0051	.4
	3.253	1.146	41.0	99.2	.0051	17.3
	3.133	.727	68.6	95.8	.0044	1.6
	2.858	.000	23.8	180.0	.0000	.0
	NO READING					
	3.484	1.693	54.1	63.6	.0051	.4
	3.436	1.326	20.6	- 15.7	.0051	17.3
	3.341	.771	37.4	108.0	.0044	1.6
	3.175	.000	37.7	180.0	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1317.72	2.990	2.367	97.4	- 60.2	.0018	2.2
	3.016	1.601	45.8	72.0	.0033	10.0
	2.803	.924	164.1	131.6	.0026	5.7
	2.399	.391	483.4	148.4	.0047	2.8
	1.800	.000	202.3	180.0	.0000	.0
	3.115	2.323	READINGS INVALID			
	3.140	1.660	61.6	- 30.0	.0038	16.6
	3.021	1.056	60.8	85.9	.0034	6.0
	2.799	.593	86.1	81.3	.0041	3.7
	2.450	.000	19.8	180.0	.0000	.0
	3.339	2.252	READINGS INVALID			
	3.319	1.682	43.5	- 33.1	.0046	.7
	3.238	1.146	26.5	79.1	.0046	25.9
	3.113	.692	80.0	37.5	.0044	2.2
	2.846	.000	17.9	180.0	.0000	.0
	NO READING					
	3.471	1.690	97.1	66.9	.0046	.7
	3.440	1.335	32.9	- 2.4	.0046	25.9
	3.337	.749	97.7	11.7	.0044	2.2
	3.159	.000	21.8	90.0	.0000	.0
1356.30	3.039	2.354	79.2	- 61.9	.0018	7.2
	3.051	1.612	52.1	- 18.0	.0033	15.8
	2.736	.834	221.0	48.4	.0024	6.5
	2.110	.217	529.1	60.1	.0022	2.5
	1.726	.000	READINGS INVALID			
	NO READING					
	3.175	1.651	44.9	- 37.6	.0038	16.4
	3.058	1.051	58.4	74.0	.0034	43.7
	2.804	.590	46.1	69.2	.0041	6.9
	2.435	.000	75.4	180.0	.0000	.0
	NO READING					
	3.348	1.686	47.9	- 48.5	.0048	17.6
	3.247	1.150	42.7	- 14.5	.0051	19.9
	3.137	.716	40.9	- 54.2	.0042	7.1
	2.841	.000	37.7	180.0	.0000	.0
	NO READING					
	3.537	1.728	131.0	65.3	.0048	17.6
	3.449	1.317	61.8	5.2	.0051	19.9
	3.354	.815	100.3	- 14.0	.0042	7.1
	3.163	.000	25.9	- 87.4	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1394.98	3.023	2.369	61.3	- 98.2	.0033	7.2
	3.062	1.616	27.7	2.4	.0036	14.2
	2.817	.880	129.0	13.4	.0023	9.0
	2.244	.290	464.4	63.7	.0017	8.4
	NO READING					
	3.144	2.334	54.7	- 41.7	.0017	4.2
	3.175	1.657	37.9	- 48.5	.0035	4.6
	3.045	1.039	54.5	74.4	.0034	45.1
	2.795	.555	78.6	33.9	.0040	14.8
	2.380	.000	99.2	180.0	.0000	.0
	3.354	2.263	READINGS	INVALID		
	3.348	1.701	62.2	- 40.0	.0061	22.5
	3.276	1.153	60.6	13.3	.0058	11.4
	3.139	.720	52.9	- 49.2	.0042	5.8
	2.814	.000	37.7	90.0	.0000	.0
	NO READING					
	3.495	1.713	86.5	94.4	.0061	22.5
	3.471	1.346	65.5	- 10.2	.0058	11.4
	3.370	.797	71.0	63.9	.0042	5.8
	3.142	.002	24.7	- 64.9	.0000	.0
1433.46	3.041	2.399	67.2	- 92.4	.0031	8.6
	3.074	1.611	35.8	3.2	.0035	25.0
	2.832	.858	87.2	85.1	.0012	9.0
	1.991	.178	READINGS	INVALID		
	1.495	.000	READINGS	INVALID		
	3.181	2.369	85.7	- 91.9	.0015	11.0
	3.205	1.660	50.3	- 42.3	.0034	17.3
	3.078	1.034	54.5	43.5	.0032	10.6
	2.825	.577	229.9	46.3	.0042	19.2
	2.343	.000	89.3	180.0	.0000	.0
	NO READING					
	3.390	1.693	68.9	- 59.0	.0065	39.3
	3.298	1.139	37.0	39.3	.0056	30.1
	3.175	.746	115.1	38.9	.0042	18.1
	2.821	.000	25.8	90.0	.0000	.0
	NO READING					
	3.526	1.697	76.5	- 41.7	.0065	39.3
	3.491	1.333	35.8	- 55.3	.0056	30.1
	3.377	.757	58.8	92.8	.0042	18.1
	3.144	.000	16.7	22.5	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1472.04	3.025	2.421	60.8	- 95.3	.0033	14.7
	3.093	1.616	35.1	- 61.3	.0030	17.7
	2.810	.808	339.3	125.6	.0007	5.7
	NO READING					
	NO READING					
	3.159	2.388	76.2	-107.5	.0015	11.0
	3.208	1.677	35.3	-101.5	.0033	25.3
	3.082	1.017	45.0	104.7	.0029	7.6
	2.713	.441	262.1	39.5	.0043	7.7
	2.298	.000	130.9	180.0	.0000	.0
	3.363	2.347	READINGS	INVALID		
	3.377	1.710	28.9	- 9.7	.0065	45.7
	3.304	1.133	37.3	75.5	.0047	52.7
	3.152	.689	100.6	104.7	.0043	27.5
	2.804	.000	31.7	180.0	.0000	.0
	NO READING					
	3.513	1.730	68.9	- 44.0	.0065	45.7
	3.484	1.339	27.0	- 53.5	.0047	52.7
	3.374	.744	80.6	102.3	.0043	27.5
	3.157	.000	41.7	90.0	.0000	.0
1510.62	3.038	2.446	102.1	-110.3	.0033	12.6
	3.089	1.629	34.3	37.0	.0012	1.2
	2.619	.632	READINGS	INVALID		
	1.800	.129	READINGS	INVALID		
	1.185	.000	READINGS	INVALID		
	3.170	2.428	132.9	-124.9	.0014	.2
	3.199	1.690	36.9	.7	.0031	18.2
	3.065	.599	102.1	128.7	.0030	3.4
	2.755	.492	209.1	46.0	.0020	.0
	2.222	.000	READINGS	INVALID		
	NO READING					
	3.376	1.704	28.4	139.1	.0060	11.7
	3.297	1.107	44.7	143.0	.0045	26.3
	3.148	.657	79.7	- 39.2	.0043	11.0
	2.792	.000	130.9	180.0	.0000	.0
	NO READING					
	3.539	1.719	68.4	97.1	.0060	11.7
	3.497	1.330	51.3	102.9	.0045	26.3
	3.365	.683	110.2	- 22.3	.0043	11.0
	3.131	.000	95.2	180.0	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1549.20	2.977	2.472	118.8	-101.0	.0032	9.6
	3.071	1.629	55.0	36.8	.0014	6.4
	NO READING					
	NO READING					
	NO READING					
	3.089	2.435	148.7	- 94.0	.0014	.2
	3.196	1.675	61.9	22.5	.0031	7.7
	3.025	.942	105.2	19.6	.0028	21.2
	2.654	.415	281.0	151.2	.0024	1.9
	NO READING					
	3.335	2.358	READINGS	INVALID		
	3.355	1.701	71.8	58.3	.0051	2.6
	3.282	1.107	36.3	30.5	.0045	5.4
	3.106	.661	55.9	- 93.2	.0042	7.9
	2.683	.000	123.0	90.0	.0000	.0
	NO READING					
	3.504	1.713	100.4	55.8	.0051	2.6
	3.466	1.324	86.3	48.9	.0045	5.4
	3.331	.707	114.8	-111.4	.0042	7.9
	3.069	.000	103.1	180.0	.0000	.0
1587.78	3.008	2.503	101.3	- 93.0	.0031	3.6
	3.062	1.660	55.0	- 71.6	.0014	6.4
	2.645	.630	READINGS	INVALID		
	1.857	.138	READINGS	INVALID		
	NO READING					
	3.144	2.448	132.6	- 74.6	.0014	4.0
	3.194	1.713	60.9	- 76.7	.0031	1.4
	3.027	.970	35.8	- 43.1	.0012	19.5
	2.529	.369	READINGS	INVALID		
	2.029	.000	READINGS	INVALID		
	NO READING					
	3.383	1.737	83.5	- 74.9	.0049	6.6
	3.273	1.124	40.0	- 92.5	.0044	5.5
	3.115	.663	74.0	66.3	.0043	6.2
	2.689	.000	9.9	90.0	.0000	.0
	NO READING					
	3.534	1.763	75.6	- 88.0	.0049	6.6
	3.480	1.370	54.0	53.9	.0044	5.5
	3.344	.771	91.2	- 69.8	.0043	6.2
	3.036	.000	39.7	180.0	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1626.36	2.970	2.534	95.3	-114.1	.0032	2.2
	3.076	1.671	58.3	- 46.2	.0013	5.3
	NO READING					
	NO READING					
	NO READING					
	3.096	2.494	119.3	- 65.7	.0014	4.0
	3.199	1.730	62.5	- 80.8	.0031	.8
	3.032	.970	44.1	- 19.3	.0012	.8
	NO READING					
	NO READING					
	3.337	2.397	READINGS INVALID			
	3.379	1.769	74.8	- 81.9	.0056	6.4
	3.280	1.140	42.8	- 68.0	.0042	2.5
	3.067	.628	73.6	135.4	.0044	1.8
	2.685	.000	25.8	180.0	.0000	.0
	NO READING					
	3.528	1.774	41.4	- 80.8	.0056	6.4
	3.478	1.370	35.6	67.5	.0042	2.5
	3.354	.788	66.6	27.3	.0044	1.8
	3.032	.000	45.6	180.0	.0000	.0
1664.94	2.972	2.573	117.6	-109.2	.0030	2.1
	3.096	1.701	70.8	- 67.4	.0013	5.3
	2.685	.685	READINGS INVALID			
	NO READING					
	NO READING					
	3.140	2.490	128.5	- 56.5	.0000	.0
	3.199	1.770	45.6	- 45.0	.0031	5.5
	3.060	.992	117.1	45.1	.0012	.8
	2.538	.338	READINGS INVALID			
	2.376	.000	READINGS INVALID			
	NO READING					
	3.394	1.803	54.9	52.4	.0054	2.9
	3.287	1.161	34.8	25.5	.0041	10.2
	3.062	.621	52.8	136.8	.0042	2.2
	2.665	.000	152.7	180.0	.0000	.0
	NO READING					
	3.546	1.792	63.8	- 69.1	.0054	2.9
	3.500	1.392	116.3	37.6	.0041	10.2
	3.335	.749	107.4	115.2	.0042	2.2
	2.994	.000	69.4	180.0	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1703.52	2.926	2.626	126.1	-101.2	.0026	4.0
	3.102	1.730	64.3	- 81.1	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	3.106	2.556	145.7	- 97.7	.0000	.0
	3.201	1.770	47.3	- 30.6	.0032	13.6
	3.014	.935	144.2	54.7	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	3.381	1.802	36.6	67.0	.0043	1.5
	3.282	1.152	32.3	68.8	.0037	12.3
	3.028	.599	61.2	97.9	.0044	.5
	2.544	.000	210.2	90.0	.0000	.0
	NO READING					
	3.545	1.826	58.9	- 76.1	.0043	1.5
	3.462	1.326	147.6	30.8	.0037	12.3
	3.311	.698	116.4	121.3	.0044	.5
	2.968	.000	27.8	90.0	.0000	.0
1742.10	2.940	2.670	115.4	-116.0	.0028	3.7
	3.106	1.759	48.9	- 31.2	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	3.118	2.615	198.7	-112.7	.0000	.0
	3.221	1.807	61.3	55.8	.0033	9.5
	3.071	.955	161.3	54.4	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	3.398	1.815	54.0	- 73.2	.0040	2.5
	3.300	1.146	31.9	75.8	.0032	4.1
	3.039	.586	55.7	85.7	.0046	6.0
	2.617	.000	226.1	90.0	.0000	.0
	NO READING					
	3.556	1.844	35.2	-114.8	.0040	2.5
	3.493	1.377	73.8	28.9	.0032	4.1
	3.280	.657	74.0	118.1	.0046	6.0
	2.968	.000	79.3	90.0	.0000	.0

Table D-X. Rear Smoke Grid Calculations - 2 In. Entrance (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1780.68	2.883	2.691	READINGS INVALID			
	3.120	1.754	50.7	- 14.6	.0018	.2
	NO READING					
	NO READING					
	NO READING					
	3.014	2.681	READINGS INVALID			
	3.207	1.805	65.7	53.2	.0017	.8
	3.016	.885	READINGS INVALID			
	NO READING					
	NO READING					
	NO READING					
	3.388	1.842	43.4	- 58.9	.0038	6.3
	3.293	1.139	31.9	104.2	.0035	1.8
	3.021	.556	133.2	126.0	.0047	5.9
	2.481	.000	188.4	90.0	.0000	.0
	NO READING					
	3.545	1.846	49.0	-103.4	.0038	6.3
	3.489	1.370	98.9	107.1	.0035	1.8
	3.275	.641	61.6	15.9	.0047	5.9
	2.894	.000	105.1	90.0	.0000	.0

Table D-XI. Front Smoke Grid Calculations - Two 1 In. Entrances

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TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1.00	.286	1.952	32.9	58.3	.0025	12.1
	.250	1.229	89.2	86.0	.0027	16.4
	.240	.853	89.5	- 67.1	.0024	.5
	.240	.451	45.7	79.2	.0025	1.5
	.231	.000	38.7	80.8	.0000	.0
	.631	1.947	20.6	10.9	.0023	1.8
	.606	1.226	27.0	93.9	.0025	18.6
	.602	.899	132.4	- 13.0	.0023	31.6
	.602	.514	115.9	- 11.9	.0023	8.3
	.602	.000	35.7	90.0	.0000	.0
	1.018	1.945	19.1	56.6	.0023	3.6
	.994	1.224	27.7	69.2	.0026	14.5
	.991	.914	159.4	- 9.7	.0024	14.7
	.991	.545	163.2	- 9.4	.0022	2.8
	.991	.000	19.8	180.0	.0000	.0
	1.336	1.945	40.1	77.2	.0023	3.6
	1.343	1.228	36.8	109.6	.0026	14.5
	1.343	.921	200.0	- 10.	.0024	14.7
	1.358	.556	242.8	- 4.3	.0022	2.8
	1.358	.000	31.7	90.0	.0000	.0
39.53	.299	1.950	81.6	2.4	.0027	12.3
	.319	1.217	210.0	- 2.1	.0030	16.3
	.310	.835	212.3	- .8	.0024	.5
	.264	.435	93.7	36.0	.0026	15.2
	.248	.006	35.8	1.1	.0000	.0
	.631	1.956	77.4	- 45.0	.0025	18.3
	.615	1.222	122.7	7.3	.0027	18.9
	.617	.833	174.6	23.4	.0025	31.2
	.604	.440	160.5	33.5	.0025	1.4
	.615	.000	23.8	.0	.0000	.0
	1.024	1.950	16.6	- 15.5	.0024	22.2
	1.006	1.228	47.7	- 1.0	.0027	37.3
	.996	.828	188.2	8.0	.0025	14.7
	.998	.464	174.8	3.3	.0022	3.1
	.982	.000	27.8	90.0	.0000	.0
	1.354	1.941	33.5	- 52.6	.0024	22.2
	1.354	1.217	35.7	- 31.7	.0027	37.3
	1.356	.820	219.2	- 2.6	.0025	14.7
	1.363	.439	276.0	- .6	.0022	3.1
	1.369	.000	13.9	90.0	.0000	.0

Table D-XI. Front Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
78.06	.361	1.954	141.4	- 4.8	.0028	1.8
	.439	1.248	274.4	- 8.9	.0033	41.6
	.429	.870	273.9	- .7	.0024	38.4
	.310	.400	168.4	53.2	.0028	14.6
	.262	.000	32.8	10.3	.0000	.0
	.694	1.956	166.7	.6	.0028	30.0
	.717	1.235	211.3	- 2.4	.0033	59.1
	.697	.881	211.2	- 9.0	.0026	47.7
	.673	.468	156.5	6.9	.0025	10.7
	.624	.000	81.4	.0	.0000	.0
	1.031	1.949	121.3	7.0	.0027	22.6
	1.037	1.218	120.9	5.5	.0032	39.1
	1.026	.910	174.2	- 33.6	.0026	33.6
	1.015	.543	163.5	- 25.1	.0021	24.4
	.998	.000	75.4	.0	.0000	.0
	1.349	1.952	69.4	- 54.2	.0027	22.6
	1.349	1.233	84.6	- 51.6	.0032	39.1
	1.360	.921	166.0	- 37.9	.0026	33.6
	1.367	.576	199.4	- 21.7	.0021	24.4
	1.367	.000	23.8	90.0	.0000	.0
116.59	.429	1.961	152.1	1.3	.0028	18.5
	.569	1.255	281.7	6.6	.0034	41.6
	.554	.837	285.1	21.2	.0024	38.2
	.345	.308	156.7	66.8	.0029	4.0
	.277	.000	33.7	.0	.0000	.0
	.785	1.954	210.3	.6	.0028	37.6
	.809	1.231	230.2	8.2	.0033	84.2
	.796	.859	235.3	15.5	.0027	48.4
	.730	.428	172.1	27.3	.0027	10.8
	.690	.000	134.9	.0	.0000	.0
	1.136	1.949	210.4	1.2	.0028	1.8
	1.116	1.226	199.3	5.5	.0034	55.9
	1.099	.906	192.6	12.2	.0027	96.1
	1.077	.510	169.7	20.1	.0023	23.6
	1.051	.000	142.9	.0	.0000	.0
	1.400	1.945	167.2	4.1	.0028	1.8
	1.409	1.228	171.8	6.4	.0034	55.9
	1.411	.910	142.2	6.7	.0027	96.1
	1.400	.543	135.0	27.2	.0023	23.6
	1.387	.000	107.1	.0	.0000	.0

Table D-XI. Front Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
155.12	.501	1.950	163.6	3.7	.0027	32.3
	.694	1.218	271.7	7.3	.0034	67.5
	.673	.774	271.9	24.9	.0024	45.5
	.365	.266	116.2	75.5	.0028	34.8
	.294	.000	33.7	90.0	.0000	.0
	.888	1.954	213.9	- 5.0	.0027	25.7
	.927	1.202	258.0	8.4	.0034	60.0
	.906	.822	250.6	8.3	.0028	28.1
	.815	.398	206.4	12.7	.0028	34.2
	.749	.000	154.8	.0	.0000	.0
	1.226	1.945	220.0	- 3.5	.0027	16.8
	1.217	1.196	236.9	6.3	.0034	58.6
	1.196	.868	232.3	9.4	.0029	100.8
	1.161	.492	208.8	8.1	.0024	17.5
	1.130	.000	180.6	.0	.0000	.0
	1.503	1.945	221.4	- 4.1	.0027	16.8
	1.506	1.215	215.3	4.9	.0034	58.6
	1.490	.908	201.8	5.1	.0029	100.8
	1.477	.530	197.4	- .3	.0024	17.5
	1.466	.000	188.5	.0	.0000	.0
193.65	.580	1.952	185.1	2.2	.0027	32.0
	.915	1.222	269.9	- .9	.0033	85.9
	.782	.730	247.6	21.6	.0024	53.3
	.369	.206	88.7	103.7	.0028	40.1
	.279	.000	31.7	90.0	.0000	.0
	.982	1.971	237.8	.1	.0028	12.9
	1.044	1.196	252.4	- .5	.0034	44.9
	1.022	.826	243.7	7.9	.0028	34.3
	.916	.387	194.2	17.9	.0028	35.1
	.833	.000	123.0	.0	.0000	.0
	1.338	.963	237.5	.3	.0028	33.4
	1.330	1.204	242.0	3.0	.0034	85.5
	1.306	.873	238.6	6.3	.0030	101.4
	1.268	.484	212.6	7.9	.0024	23.7
	1.218	.000	186.5	.0	.0000	.0
	1.604	1.960	216.6	.2	.0028	33.4
	1.607	1.211	220.4	2.1	.0034	85.5
	1.596	.892	226.2	7.5	.0030	101.4
	1.580	.549	220.3	.8	.0024	23.7
	1.561	.000	208.3	.0	.0000	.0

Table D-XI. Front Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
232.16	.672	1.943	182.2	7.7	.0028	18.3
	.943	1.222	267.9	7.1	.0033	60.9
	.886	.690	243.7	23.0	.0026	56.7
	.358	.187	86.3	129.6	.0028	53.3
	.294	.000	31.7	90.0	.0000	.0
	1.105	1.949	240.9	8.3	.0028	38.4
	1.160	1.204	241.7	5.1	.0033	23.9
	1.127	.793	227.4	16.2	.0027	32.7
	.983	.349	176.3	31.1	.0029	39.5
	.862	.000	117.1	.0	.0000	.0
	1.442	1.945	228.4	7.5	.0029	53.9
	1.439	1.185	225.0	6.4	.0035	98.8
	1.413	.844	232.6	8.7	.0030	85.9
	1.356	.466	200.9	5.6	.0024	36.8
	1.303	.000	185.5	.0	.0000	.0
	1.701	1.945	225.5	5.3	.0029	53.9
	1.710	1.207	217.9	5.8	.0035	98.8
	1.697	.881	212.2	7.6	.0030	85.9
	1.677	.528	203.2	8.9	.0024	36.8
	1.659	.000	193.4	.0	.0000	.0
270.71	.747	1.930	197.7	5.8	.0027	31.3
	1.059	1.193	264.4	12.6	.0033	65.8
	.989	.642	238.2	42.0	.0024	62.5
	.316	.147	146.9	- 19.1	.0026	62.4
	.279	.000	71.4	180.0	.0000	.0
	1.202	1.938	228.9	4.2	.0028	47.0
	1.264	1.178	237.8	8.9	.0034	73.2
	1.224	.767	224.4	13.3	.0028	70.6
	1.055	.303	169.9	20.0	.0030	50.9
	.941	.000	127.0	.0	.0000	.0
	1.547	1.936	232.6	3.0	.0029	37.1
	1.539	1.180	221.3	- 2.0	.0036	68.6
	1.517	.840	213.1	- 2.4	.0030	70.9
	1.451	.457	201.1	4.5	.0025	69.3
	1.391	.000	168.7	.0	.0000	.0
	1.811	1.941	228.7	3.4	.0029	37.1
	1.807	1.191	208.0	6.5	.0036	68.6
	1.791	.866	205.6	4.5	.0030	70.9
	1.765	.519	193.0	3.6	.0025	69.3
	1.745	.000	182.5	.0	.0000	.0

Table D-XI. Front Smoke Grid Calculations - Twc 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
309.24	.853	1.927	228.8	7.0	.0029	67.6
	1.182	1.169	277.4	1.9	.0034	53.2
	1.044	.550	283.4	10.1	.0010	14.6
	.239	.154	READINGS	INVALID		
	.228	.000	READINGS	INVALID		
	1.316	1.934	242.3	2.4	.0028	60.6
	1.376	1.171	252.3	1.0	.0034	104.3
	1.328	.745	233.1	3.5	.0029	71.4
	1.127	.294	218.1	- 2.5	.0029	47.9
	.980	.000	115.1	.0	.0000	.0
	1.657	1.934	256.0	.5	.0030	36.7
	1.642	1.193	243.7	- .5	.0036	87.1
	1.609	.851	230.4	1.0	.0031	88.4
	1.541	.451	202.6	1.8	.0024	64.0
	1.459	.000	182.5	.0	.0000	.0
	1.912	1.932	237.0	.4	.0030	36.7
	1.901	1.185	230.6	- .1	.0036	87.1
	1.886	.866	216.4	1.0	.0031	88.4
	1.855	.517	220.3	- .3	.0024	64.0
	1.828	.000	202.4	.0	.0000	.0
347.77	.956	1.905	222.8	6.0	.0029	63.2
	1.312	1.185	266.1	.1	.0034	93.1
	1.189	.606	297.6	17.4	.0010	30.6
	NO READING					
	NO READING					
	1.426	1.928	258.2	2.7	.0028	40.4
	1.497	1.174	253.3	5.7	.0033	105.5
	1.437	.754	239.2	9.6	.0028	67.8
	1.253	.321	259.3	37.4	.0031	80.9
	1.048	.000	144.8	.0	.0000	.0
	1.783	1.934	250.1	1.0	.0030	56.8
	1.763	1.180	249.8	6.9	.0036	52.9
	1.728	.833	243.4	9.4	.0031	80.3
	1.639	.451	219.7	7.0	.0025	61.1
	1.560	.000	204.4	.0	.0000	.0
	2.029	1.941	253.4	1.4	.0030	56.8
	2.020	1.193	249.3	2.0	.0036	52.9
	1.991	.862	235.8	5.7	.0031	80.3
	1.969	.521	229.1	7.8	.0025	61.1
	1.932	.000	222.2	.0	.0000	.0

Table D-XI. Front Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
386.30	1.057	1.905	229.8	4.7	.0027	66.6
	1.426	1.171	261.7	11.2	.0032	93.2
	1.257	.506	226.0	46.9	.0010	30.0
	.352	.073	READINGS	INVALID		
	.264	.000	READINGS	INVALID		
	1.554	1.923	270.5	3.6	.0029	87.3
	1.607	1.149	257.4	6.3	.0033	99.8
	1.539	.708	236.2	19.0	.0027	74.4
	1.259	.211	221.3	39.7	.0032	81.1
	1.114	.000	123.0	.0	.0000	.0
	1.888	1.930	230.3	.0	.0031	42.9
	1.872	1.165	243.2	4.3	.0038	70.6
	1.831	.815	236.2	10.6	.0033	93.7
	1.741	.426	221.7	7.0	.0025	45.9
	1.648	.000	193.4	.0	.0000	.0
	2.145	1.927	225.5	1.3	.0031	42.9
	2.130	1.179	203.5	3.1	.0038	70.6
	2.103	.844	212.3	2.1	.0033	93.7
	2.062	.492	202.6	4.3	.0025	45.9
	2.033	.000	206.4	.0	.0000	.0
424.83	1.167	1.896	256.6	1.4	.0028	41.3
	1.549	1.138	264.9	12.9	.0036	75.8
	1.327	.451	221.2	26.5	.0000	.8
	NO READING					
	NO READING					
	1.675	1.912	251.0	- 3.2	.0032	55.3
	1.732	1.141	220.6	3.0	.0035	66.5
	1.642	.683	205.0	14.6	.0031	75.8
	1.352	.224	182.2	20.1	.0036	82.0
	1.161	.000	138.9	.0	.0000	.0
	1.996	1.934	175.0	- 3.9	.0034	66.4
	1.987	1.163	174.6	8.6	.0041	111.5
	1.943	.793	163.5	15.7	.0037	88.2
	1.840	.426	150.8	1.3	.0028	52.3
	1.743	.000	148.8	.0	.0000	.0
	2.237	1.934	139.2	16.1	.0034	66.4
	2.207	1.180	131.1	20.1	.0041	111.5
	2.185	.851	134.9	23.5	.0037	88.2
	2.150	.506	127.9	31.1	.0028	52.3
	2.123	.000	101.2	90.0	.0000	.0

Table D-XI. Front Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
463.36	1.292	1.901	257.0	5.7	.0029	34.8
	1.664	1.116	151.4	10.1	.0040	86.4
	1.439	.422	218.0	62.3	.0000	.8
	NO READING					
	NO READING					
	1.783	1.934	140.0	15.4	.0034	73.2
	1.811	1.138	119.1	23.8	.0039	99.5
	1.723	.661	125.8	33.5	.0033	86.3
	1.402	.169	95.6	94.1	.0042	78.2
	1.242	.000	119.1	90.0	.0000	.0
	2.050	1.939	87.7	- 1.0	.0035	55.2
	2.031	1.150	77.8	33.5	.0043	110.9
	1.978	.780	66.9	31.1	.0038	91.0
	1.881	.424	87.0	38.3	.0030	83.7
	1.785	.000	49.6	.0	.0000	.0
	2.266	1.912	63.7	- 14.3	.0035	55.2
	2.240	1.150	63.7	20.8	.0043	110.9
	2.211	.818	64.0	10.1	.0038	91.0
	2.160	.479	49.7	42.0	.0030	83.7
	2.119	.000	17.9	90.0	.0000	.0
501.84	1.398	1.866	166.4	23.5	.0031	53.5
	1.686	1.112	57.8	27.2	.0040	47.5
	1.409	.341	195.9	41.2	.0000	.8
	NO READING					
	NO READING					
	1.804	1.916	40.2	55.2	.0034	78.0
	1.833	1.116	60.3	54.2	.0039	109.3
	1.743	.635	110.0	79.4	.0034	62.3
	1.391	.160	88.5	136.5	.0041	75.4
	1.213	.000	99.2	180.0	.0000	.0
	2.077	1.938	41.7	46.9	.0035	46.5
	2.048	1.130	49.6	59.5	.0043	111.6
	1.996	.763	39.2	56.8	.0037	90.2
	1.892	.385	69.8	88.5	.0032	67.3
	1.789	.000	19.8	90.0	.0000	.0
	2.275	1.932	44.2	6.6	.0035	46.5
	2.255	1.150	38.5	26.1	.0043	111.6
	2.226	.828	49.1	23.3	.0037	90.2
	2.176	.475	58.0	52.7	.0032	67.3
	2.132	.000	21.8	.0	.0000	.0

Table D-XI. Front Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
540.42	1.435	1.846	56.9	29.9	.0032	61.5
	1.705	1.090	88.6	29.8	.0037	70.1
	1.494	.385	304.0	51.9	.0000	1.3
	NO READING					
	NO READING					
	1.807	1.906	56.7	30.4	.0034	33.5
	1.844	1.094	74.6	43.9	.0041	98.9
	1.723	.569	106.6	63.9	.0037	87.4
	1.345	.110	128.3	55.9	.0034	87.5
	1.150	.000	125.0	180.0	.0000	.0
	2.077	1.927	52.8	52.0	.0035	106.5
	2.055	1.112	51.4	37.9	.0044	69.3
	2.000	.752	35.7	51.3	.0037	105.6
	1.886	.361	38.4	51.5	.0032	81.4
	1.774	.000	19.8	180.0	.0000	.0
	2.279	1.914	54.9	23.9	.0035	106.5
	2.268	1.134	45.8	16.1	.0044	69.3
	2.231	.800	50.2	20.9	.0037	105.6
	2.174	.439	63.6	22.2	.0032	81.4
	2.139	.000	15.9	90.0	.0000	.0
579.95	1.444	1.840	57.4	6.7	.0031	93.1
	1.758	1.079	74.4	18.2	.0035	105.6
	1.371	.246	378.0	47.1	.0000	1.3
	NO READING					
	NO READING					
	1.850	1.912	81.7	- 3.7	.0035	59.4
	1.884	1.075	69.3	1.3	.0041	110.7
	1.752	.558	112.1	73.1	.0045	144.3
	1.393	.128	174.7	71.9	.0038	100.5
	1.097	.000	172.6	90.0	.0000	.0
	2.114	1.917	73.2	- 14.2	.0037	115.0
	2.083	1.108	52.2	- 9.5	.0044	89.8
	2.018	.741	38.3	48.9	.0038	134.4
	1.897	.361	49.8	68.6	.0032	55.8
	1.771	.000	29.8	180.0	.0000	.0
	2.306	1.930	54.9	- 21.1	.0037	115.0
	2.286	1.141	37.5	- 26.8	.0044	89.8
	2.246	.811	38.7	17.3	.0038	134.4
	2.189	.455	43.4	32.8	.0032	55.8
	2.132	.000	17.9	180.0	.0000	.0

Table D-XI. Front Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
617.48	1.484	1.853	77.6	- 8.8	.0030	51.0
	1.774	1.072	60.8	29.6	.0038	113.2
	1.501	.345	265.7	46.6	.0000	.9
	NO READING					
	NO READING					
	1.883	1.912	63.9	- 19.6	.0035	108.2
	1.903	1.083	49.4	11.6	.0039	69.2
	1.710	.499	106.6	50.5	.0049	136.1
	1.286	.099	259.7	67.9	.0047	125.5
	1.204	.000	228.3	- 1.0	.0000	.0
	2.136	1.938	59.3	- 29.8	.0037	92.1
	2.101	1.117	44.4	- .0	.0044	123.8
	2.024	.728	37.7	70.8	.0038	98.2
	1.872	.338	53.0	125.2	.0033	53.2
	1.747	.000	47.6	180.0	.0000	.0
	2.325	1.934	38.5	- 26.0	.0037	92.1
	2.299	1.149	31.3	- 6.6	.0044	123.8
	2.251	.794	23.3	49.1	.0038	98.2
	2.182	.439	33.6	124.5	.0033	53.2
	2.123	.000	19.8	180.0	.0000	.0
656.01	1.514	1.853	93.3	- 10.4	.0029	41.8
	1.806	1.050	71.1	19.5	.0034	119.4
	1.448	.283	114.5	63.0	.0016	3.6
	NO READING					
	NO READING					
	1.903	1.928	78.0	- 21.9	.0035	99.3
	1.921	1.064	66.2	27.0	.0040	98.2
	1.734	.510	65.5	- 4.6	.0024	60.7
	1.400	.161	READINGS	INVALID		
	1.308	.004	READINGS	INVALID		
	2.160	1.945	72.3	- 20.2	.0037	48.1
	2.119	1.108	56.1	23.6	.0044	135.2
	2.029	.708	46.8	54.9	.0038	104.5
	1.866	.325	31.1	98.0	.0034	97.6
	1.727	.000	33.7	180.0	.0000	.0
	2.338	1.945	67.9	- 20.3	.0037	48.1
	2.314	1.143	42.8	26.5	.0044	135.2
	2.255	.793	34.2	39.8	.0038	104.5
	2.172	.429	42.6	95.7	.0034	97.6
	2.114	.000	19.8	90.0	.0000	.0

Table D-XI. Front Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
694.54	1.567	1.873	113.5	- 7.1	.0029	71.6
	1.833	1.048	104.3	22.8	.0035	58.7
	1.472	.284	113.2	- 2.2	.0033	8.3
	NO READING					
	NO READING					
	1.949	1.932	85.5	- 3.9	.0036	106.8
	1.956	1.059	101.4	25.1	.0043	129.1
	1.767	.501	101.7	43.9	.0000	.5
	NO READING					
	NO READING					
	2.198	1.961	69.9	- 4.6	.0037	25.5
	2.149	1.097	71.2	42.7	.0044	111.5
	2.048	.695	83.2	52.7	.0038	104.9
	1.868	.310	71.6	87.5	.0036	81.3
	1.716	.000	25.8	180.0	.0000	.0
	2.383	1.945	77.2	- 34.5	.0037	25.5
	2.334	1.130	54.5	33.1	.0044	111.5
	2.272	.771	76.2	61.6	.0038	104.9
	2.187	.407	80.5	69.9	.0036	81.3
	2.123	.000	23.8	.0	.0000	.0
733.07	1.615	1.868	129.5	1.1	.0029	84.1
	1.884	1.002	122.5	24.4	.0036	66.2
	1.552	.284	92.9	67.5	.0032	25.8
	NO READING					
	NO READING					
	1.982	1.934	110.3	- 14.2	.0037	56.3
	2.000	1.020	99.7	5.9	.0047	122.1
	1.785	.444	136.8	20.3	.0000	.4
	NO READING					
	NO READING					
	2.220	1.956	81.3	- 11.2	.0036	48.1
	2.163	1.066	75.0	30.9	.0044	68.4
	2.066	.644	106.7	12.7	.0038	48.3
	1.866	.259	70.7	12.6	.0037	45.5
	1.703	.000	13.9	90.0	.0000	.0
	2.393	1.969	83.8	- 38.5	.0036	48.1
	2.356	1.116	69.1	11.2	.0044	68.4
	2.286	.730	93.8	18.5	.0038	48.3
	2.193	.360	98.8	14.9	.0037	45.5
	2.136	.000	27.8	.0	.0000	.0

Table D-XI. Front Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
771.60	1.686	1.873	141.6	1.4	.0029	58.7
	1.928	.996	89.8	19.3	.0032	62.0
	1.549	.281	69.1	131.8	.0031	22.4
	NO READING					
	NO READING					
	2.044	1.963	133.3	- 18.4	.0036	8.0
	2.029	1.037	97.2	4.5	.0044	78.9
	1.842	.479	194.9	46.5	.0000	.2
	NO READING					
	NO READING					
	2.262	1.987	122.3	- 17.4	.0036	77.0
	2.198	1.068	99.8	2.2	.0045	36.6
	2.097	.675	108.2	10.9	.0037	44.3
	1.872	.272	76.0	21.1	.0038	8.6
	1.703	.000	.0	.0	.0000	.0
	2.444	1.976	105.9	- 6.4	.0036	77.0
	2.393	1.123	92.6	3.2	.0045	36.6
	2.323	.754	85.5	- 2.6	.0037	44.3
	2.218	.394	93.5	12.1	.0038	8.6
	2.149	.000	21.8	.0	.0000	.0
810.13	1.745	1.866	143.5	2.1	.0029	4.6
	1.961	.976	79.1	28.3	.0015	5.5
	1.512	.235	READINGS	INVALID		
	NO READING					
	NO READING					
	2.097	1.974	108.5	- 3.6	.0035	8.9
	2.073	1.002	88.8	23.2	.0040	12.0
	1.778	.385	189.4	47.0	.0000	.0
	NO READING					
	NO READING					
	2.323	1.985	111.2	- .4	.0038	57.2
	2.255	1.061	85.9	24.5	.0047	11.7
	2.119	.624	85.9	14.1	.0037	31.9
	1.853	.218	76.4	34.6	.0041	2.4
	1.703	.000	53.6	90.0	.0000	.0
	2.490	1.980	90.6	- 16.8	.0038	57.2
	2.439	1.108	69.0	- 1.4	.0047	11.7
	2.354	.738	44.4	23.2	.0037	31.9
	2.228	.352	53.0	48.1	.0041	2.4
	2.156	.000	7.9	.0	.0000	.0

Table D-XI. Front Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
648.66	1.818	1.870	123.5	16.5	.0031	.8
	1.993	.961	113.8	28.2	.0013	.9
	NO READING					
	NO READING					
	NO READING					
	2.143	1.971	96.9	9.6	.0035	8.1
	2.099	.998	80.9	21.2	.0040	8.4
	1.831	.417	152.8	44.3	.0000	.3
	NO READING					
	NO READING					
	2.365	1.987	100.2	4.0	.0039	2.8
	2.272	1.046	73.0	27.8	.0048	9.7
	2.138	.639	87.7	21.1	.0038	2.9
	1.864	.228	97.3	44.6	.0047	31.7
	1.653	.000	89.3	180.0	.0000	.0
	2.523	1.998	84.2	- 6.6	.0039	2.8
	2.453	1.114	66.0	5.6	.0048	9.7
	2.360	.736	39.3	25.6	.0038	2.9
	2.233	.350	16.2	35.8	.0047	31.7
	2.156	.000	4.0	90.0	.0000	.0
887.19	1.851	1.846	108.7	12.6	.0031	17.5
	2.053	.925	106.1	39.5	.0013	1.1
	1.466	.171	READINGS	INVALID		
	NO READING					
	NO READING					
	2.185	1.960	103.2	- 4.2	.0035	7.8
	2.139	.971	79.3	23.6	.0036	6.5
	1.793	.347	110.3	109.2	.0000	.3
	NO READING					
	NO READING					
	2.415	1.978	89.1	- 6.6	.0040	2.0
	2.316	1.035	80.1	20.3	.0047	4.8
	2.147	.582	87.2	26.1	.0039	9.0
	1.817	.169	110.2	31.9	.0051	29.6
	1.620	.000	61.5	180.0	.0000	.0
	2.561	1.987	78.5	16.2	.0040	2.0
	2.492	1.090	75.6	29.2	.0047	4.8
	2.385	.719	72.1	49.4	.0039	9.0
	2.239	.343	30.2	20.9	.0051	29.6
	2.152	.000	17.9	90.0	.0000	.0

Table D-XI. Front Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
925.72	1.910	1.857	133.0	- 13.7	.0031	17.2
	2.072	.905	69.2	50.4	.0014	8.4
	NO READING					
	NO READING					
	NO READING					
	2.233	1.980	88.9	1.0	.0037	.6
	2.163	.965	86.0	21.5	.0034	9.3
	1.789	.325	73.7	113.2	.0000	.1
	NO READING					
	NO READING					
	2.444	1.991	59.2	- 4.8	.0040	14.1
	2.341	1.022	63.1	47.4	.0046	19.9
	2.167	.593	95.0	34.6	.0043	14.1
	1.828	.193	102.8	35.4	.0045	4.0
	1.596	.000	71.4	180.0	.0000	.0
	2.593	1.978	65.4	- 7.6	.0040	14.1
	2.514	1.079	56.5	56.4	.0046	19.9
	2.400	.686	59.5	63.5	.0043	14.1
	2.257	.347	30.2	20.9	.0045	4.0
	2.165	.000	39.7	90.0	.0000	.0
964.25	1.971	1.875	102.7	41.6	.0032	2.2
	2.094	.875	65.6	55.3	.0014	8.1
	1.517	.165	READINGS INVALID			
	NO READING					
	NO READING					
	2.261	1.967	38.5	80.0	.0038	1.9
	2.211	.938	102.2	73.9	.0038	8.6
	1.761	.288	180.8	53.3	.0000	.1
	NO READING					
	NO READING					
	2.466	1.985	38.9	- 54.8	.0039	20.2
	2.352	.994	63.4	69.9	.0050	17.6
	2.158	.528	88.4	28.8	.0046	146.4
	1.778	.145	82.6	151.0	.0038	3.7
	1.554	.000	111.1	180.0	.0000	.0
	2.617	1.993	50.7	43.7	.0039	20.2
	2.516	1.051	54.1	70.6	.0050	17.6
	2.409	.670	33.1	94.8	.0046	146.4
	2.262	.339	48.0	97.2	.0038	3.7
	2.141	.000	53.6	180.0	.0000	.0

Table D-XI. Front Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1002.78	1.965	1.844	68.0	5.0	.0032	1.8
	2.106	.855	64.0	48.1	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	2.257	1.963	18.2	31.7	.0037	55.1
	2.193	.903	88.9	80.5	.0023	2.2
	1.875	.330	READINGS	INVALID		
	NO READING					
	NO READING					
	2.459	1.996	27.6	- 48.6	.0041	9.1
	2.361	.967	50.2	45.0	.0052	9.4
	2.171	.539	109.8	39.6	.0049	142.1
	1.771	.143	56.1	160.8	.0033	1.2
	1.494	.000	198.4	180.0	.0000	.0
	2.607	1.976	34.5	10.5	.0041	9.1
	2.528	1.033	27.0	- 40.0	.0052	9.4
	2.402	.661	33.4	117.7	.0049	142.1
	2.235	.317	101.6	135.0	.0033	1.2
	2.116	.000	59.5	180.0	.0000	.0
1041.31	1.965	1.875	75.6	- 47.7	.0030	.6
	2.134	.833	69.2	77.6	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	2.261	1.974	52.3	- 34.4	.0036	56.7
	2.224	.873	62.3	70.2	.0017	6.0
	NO READING					
	NO READING					
	NO READING					
	2.470	1.991	49.1	11.7	.0044	1.0
	2.378	.961	51.1	48.9	.0054	11.8
	2.128	.466	133.4	57.2	.0057	8.3
	1.730	.125	81.7	52.9	.0015	1.2
	1.371	.000	READINGS	INVALID		
	2.606	1.989	49.2	- 57.3	.0044	1.0
	2.527	1.035	22.3	- 55.5	.0054	11.8
	2.396	.642	50.5	99.3	.0057	8.3
	2.198	.272	81.3	141.0	.0015	1.2
	2.086	.000	63.6	1.8	.0000	.0

Table D-XI. Front Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1079.84	2.004	1.879	91.5	- 46.6	.0028	54.5
	2.121	.807	61.4	108.9	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	2.297	1.972	69.5	- 43.6	.0036	5.5
	2.222	.859	34.8	39.3	.0017	5.6
	1.789	.281	READINGS	INVALID		
	NO READING					
	NO READING					
	2.503	1.993	67.8	- 57.5	.0043	1.2
	2.383	.932	84.0	10.9	.0051	4.6
	2.167	.470	117.4	72.3	.0049	5.4
	1.750	.149	314.3	55.8	.0010	.2
	NO READING					
	2.637	1.998	52.1	- 63.5	.0043	1.2
	2.543	1.028	36.5	1.7	.0051	4.6
	2.396	.615	42.3	- 9.2	.0049	5.4
	2.183	.264	44.4	7.7	.0010	.2
	2.057	.002	83.4	.7	.0000	.0
1118.37	2.006	1.925	66.6	- 78.6	.0026	63.0
	2.116	.780	76.0	96.9	.0000	.0
	NO READING					
	NO READING					
	NO READING					
	2.297	2.000	57.3	- 29.9	.0036	1.9
	2.239	.864	78.4	34.8	.0000	.1
	NO READING					
	NO READING					
	NO READING					
	2.492	2.020	63.9	- 54.1	.0042	1.2
	2.409	.972	119.5	13.7	.0049	.1
	2.106	.435	107.6	85.9	.0019	.8
	1.505	.066	READINGS	INVALID		
	1.103	.000	READINGS	INVALID		
	2.631	2.013	57.9	- 66.7	.0042	1.2
	2.558	1.033	41.5	27.7	.0049	.1
	2.393	.626	53.0	- 14.9	.0019	.8
	2.165	.281	84.4	- 10.7	.0010	.2
	2.009	.000	91.3	178.9	.0000	.0

Table D-XII. Rear Smoke Grid Calculations - Two 1 In. Entrances

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TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
130.36	1.787	1.981	134.3	- 51.5	.0027	.6
	1.785	1.198	114.0	15.4	.0026	.1
	1.768	.922	96.8	- 9.6	.0025	1.1
	1.755	.579	98.9	- 56.4	.0025	1.1
	1.744	.000	108.6	85.9	.0000	.0
	2.089	1.984	120.4	74.1	.0024	.7
	2.109	1.200	58.6	73.8	.0024	2.1
	2.109	.923	80.7	- 91.1	.0024	.5
	2.109	.597	73.5	- 79.1	.0025	1.3
	2.109	.000	67.7	90.0	.0000	.0
	2.536	2.001	60.8	- 93.5	.0023	3.4
	2.514	1.198	45.4	80.8	.0022	2.9
	2.505	.942	54.2	- 53.8	.0022	.8
	2.492	.619	50.6	- 84.1	.0023	.8
	2.492	.000	23.9	90.0	.0000	.0
	2.836	2.006	36.7	- 86.7	.0023	3.4
	2.847	1.197	51.2	- 97.0	.0022	2.9
	2.847	.927	68.2	72.0	.0022	.8
	2.847	.645	107.0	-110.6	.0023	.8
	2.862	.000	51.8	90.0	.0000	.0
168.70	1.904	1.970	216.7	- 1.8	.0028	.3
	1.871	1.208	203.1	6.0	.0028	4.7
	1.852	.911	204.9	10.4	.0028	.5
	1.838	.592	208.1	3.0	.0027	1.4
	1.831	.013	189.2	- .0	.0000	.0
	2.175	2.010	199.1	1.5	.0026	.6
	2.153	1.215	166.9	.8	.0026	1.8
	2.166	.940	159.6	6.3	.0026	2.6
	2.157	.610	149.3	- 1.5	.0027	1.3
	2.157	.000	145.4	.0	.0000	.0
	2.562	2.014	121.2	- .9	.0024	2.5
	2.541	1.208	101.2	6.3	.0023	1.0
	2.530	.923	92.6	21.7	.0022	.6
	2.510	.623	93.4	9.0	.0024	.4
	2.501	.000	83.6	.0	.0000	.0
	2.857	2.014	61.6	4.0	.0024	2.5
	2.868	1.209	76.7	6.3	.0023	1.0
	2.873	.942	68.0	2.0	.0022	.6
	2.880	.685	149.2	10.2	.0024	.4
	2.879	.000	49.8	.0	.0000	.0

Table D-XII. Rear Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
207.04	1.984	1.983	181.7	.4	.0028	.7
	1.966	1.176	202.7	7.2	.0028	6.0
	1.953	.887	210.1	6.6	.0028	.2
	1.942	.564	215.7	18.1	.0029	1.4
	1.917	.000	198.2	4.2	.0000	.0
	2.263	1.979	191.4	7.2	.0027	1.5
	2.254	1.178	204.7	6.8	.0027	2.3
	2.243	.898	196.9	14.4	.0027	4.7
	2.243	.592	198.6	13.3	.0029	1.7
	2.243	.000	179.2	.0	.0000	.0
	2.637	1.979	176.0	5.7	.0026	1.2
	2.596	1.175	159.5	13.6	.0025	3.3
	2.584	.916	154.0	5.1	.0023	.5
	2.569	.590	177.3	18.0	.0028	.7
	2.569	.000	159.3	.0	.0000	.0
	2.888	1.997	115.6	8.0	.0026	1.2
	2.901	1.176	121.8	16.8	.0025	3.3
	2.901	.923	109.7	18.4	.0023	.5
	2.908	.605	160.2	28.8	.0028	.7
	2.908	.000	97.6	.0	.0000	.0
245.38	2.069	1.968	213.3	- 3.2	.0028	2.4
	2.052	1.182	202.0	- 5.0	.0028	5.2
	2.043	.887	204.6	- 4.8	.0027	7.2
	2.027	.531	208.6	.6	.0029	4.0
	2.012	.000	199.1	.0	.0000	.0
	2.345	1.986	195.1	- 7.4	.0027	45.2
	2.334	1.187	192.4	- 6.5	.0027	24.8
	2.336	.898	211.7	- 6.3	.0027	25.7
	2.334	.568	214.3	- 2.1	.0028	23.3
	2.322	.000	197.1	.0	.0000	.0
	2.714	1.997	192.0	- 9.4	.0027	25.2
	2.679	1.180	195.6	- 7.9	.0025	26.6
	2.672	.913	203.1	- 4.1	.0024	6.6
	2.664	.579	215.9	- 7.7	.0028	11.6
	2.648	.000	199.1	.0	.0000	.0
	2.957	2.012	181.1	- 7.6	.0027	25.2
	2.965	1.189	177.3	- 8.9	.0025	26.6
	2.968	.920	187.1	- 3.5	.0024	6.6
	2.968	.619	181.7	- 12.9	.0028	11.6
	2.968	.000	185.2	.0	.0000	.0

Table D-XII. Rear Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
283.72	2.175	1.999	243.1	- 4.9	.0029	10.2
	2.151	1.193	222.1	- 5.7	.0028	11.2
	2.140	.903	218.6	- 4.3	.0027	9.6
	2.122	.566	221.6	3.2	.0029	6.1
	2.100	.000	212.8	- 4.9	.0000	.0
	2.441	2.003	225.2	- 2.1	.0027	47.3
	2.430	1.198	217.8	- 4.3	.0028	25.3
	2.435	.920	217.8	- 5.2	.0028	23.7
	2.432	.601	221.0	- 9.4	.0027	24.2
	2.424	.000	221.0	.0	.0000	.0
	2.811	2.006	220.0	- 5.2	.0028	26.0
	2.774	1.200	219.4	- 6.5	.0027	27.2
	2.769	.931	212.5	- 10.3	.0012	6.2
	2.760	.617	234.8	- 22.4	.0013	11.1
	2.752	.000	223.0	.0	.0000	.0
	3.053	2.017	195.5	- 3.5	.0028	26.0
	3.062	1.200	204.1	- .9	.0027	27.2
	3.071	.938	201.0	- 6.4	.0012	6.2
	3.071	.641	READINGS INVALID			
	3.078	.000	READINGS INVALID			
322.06	2.287	1.983	242.3	3.7	.0029	31.4
	2.256	1.202	242.6	1.5	.0029	42.4
	2.243	.902	219.1	1.5	.0027	37.4
	2.213	.520	238.6	3.2	.0029	42.0
	2.206	.018	214.8	1.0	.0000	.0
	2.551	1.992	237.6	2.4	.0028	29.3
	2.534	1.202	235.1	- .1	.0029	31.2
	2.534	.916	215.2	- .0	.0028	37.5
	2.532	.601	214.3	4.4	.0029	29.0
	2.525	.000	213.1	.0	.0000	.0
	2.915	2.016	206.9	2.4	.0030	30.9
	2.879	1.202	211.8	3.0	.0030	31.1
	2.864	.947	209.6	- 1.1	.0000	.0
	2.864	.661	223.9	3.4	.0000	.0
	2.853	.000	173.2	.0	.0000	.0
	3.137	2.023	169.1	4.1	.0030	30.9
	3.152	1.193	159.7	9.8	.0030	31.1
	3.152	.942	150.7	7.9	.0000	.0
	NO READING					
	NO READING					

Table D-XII. Rear Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
360.40	2.397	1.984	219.1	- 1.6	.0032	34.6
	2.373	1.186	230.3	4.6	.0031	52.7
	2.342	.898	223.9	4.5	.0030	52.0
	2.323	.561	242.6	.6	.0032	44.2
	2.294	.000	225.1	5.9	.0000	.0
	2.659	1.994	175.8	3.4	.0031	34.4
	2.646	1.198	182.5	6.6	.0030	34.1
	2.633	.920	175.7	9.2	.0029	64.3
	2.628	.586	171.9	10.4	.0033	31.1
	2.620	.000	167.3	.0	.0000	.0
	3.000	2.001	118.9	4.9	.0032	56.7
	2.968	1.191	118.3	6.3	.0031	54.4
	2.959	.934	130.0	29.5	.0000	.0
	2.945	.616	136.2	40.7	.0000	.0
	2.912	.000	97.6	.0	.0000	.0
	3.207	2.008	97.3	3.1	.0032	56.7
	3.207	1.178	90.5	- 9.4	.0031	54.4
	3.207	.923	87.2	4.5	.0000	.0
	NO READING					
	NO READING					
398.74	2.488	1.988	131.1	8.1	.0035	50.0
	2.466	1.184	123.8	13.9	.0034	45.2
	2.448	.885	131.9	23.3	.0033	44.5
	2.422	.522	152.6	- 26.6	.0035	39.9
	2.411	.000	135.4	90.0	.0000	.0
	2.712	1.986	74.3	- 10.9	.0032	41.9
	2.701	1.187	68.9	5.7	.0032	27.1
	2.692	.898	79.3	32.8	.0033	51.8
	2.688	.574	77.3	- 33.4	.0035	31.1
	2.679	.000	65.7	.0	.0000	.0
	3.023	2.001	47.4	- 16.8	.0032	57.6
	2.987	1.189	26.3	12.1	.0030	59.3
	2.974	.916	37.4	25.7	.0000	.0
	2.965	.590	55.4	- 19.1	.0000	.0
	2.943	.000	41.8	.0	.0000	.0
	3.225	2.010	35.6	17.0	.0032	57.6
	3.229	1.193	34.7	28.1	.0030	59.3
	3.229	.927	40.2	40.2	.0000	.0
	NO READING					
	NO READING					

Table D-XII. Rear Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
437.08	2.516	1.979	61.4	11.1	.0036	57.2
	2.485	1.175	42.2	39.9	.0035	47.1
	2.459	.876	37.8	33.2	.0034	42.4
	2.432	.555	97.2	4.9	.0034	49.8
	2.404	.000	17.9	90.0	.0000	.0
	2.725	1.994	28.8	10.8	.0032	79.5
	2.708	1.187	32.9	30.7	.0032	60.2
	2.699	.891	23.2	22.5	.0033	63.2
	2.690	.583	30.9	- 31.0	.0034	69.0
	2.681	.000	23.9	.0	.0000	.0
	3.040	2.012	40.4	18.9	.0033	60.6
	2.992	1.187	26.0	31.7	.0015	33.1
	2.985	.916	39.7	34.5	.0000	.0
	2.965	.608	45.3	- 22.5	.0000	.0
	2.950	.000	41.8	.0	.0000	.0
	3.236	2.001	17.5	19.9	.0033	60.6
	3.229	1.187	25.9	89.9	.0015	33.1
	3.229	.913	READINGS INVALID			
	NO READING					
	NO READING					
475.42	2.543	1.977	39.9	20.3	.0036	63.1
	2.496	1.160	42.4	49.1	.0035	62.7
	2.477	.867	42.8	43.8	.0033	51.3
	2.437	.500	80.1	39.3	.0036	56.1
	2.413	.000	23.9	.0	.0000	.0
	2.732	1.984	34.7	23.1	.0032	82.7
	2.719	1.167	41.4	37.7	.0032	78.0
	2.710	.891	38.7	13.3	.0034	82.4
	2.708	.577	57.5	47.1	.0035	80.3
	2.701	.000	23.9	.0	.0000	.0
	3.045	1.995	26.9	35.8	.0033	67.8
	3.005	1.175	38.5	38.5	.0015	39.4
	2.994	.892	34.9	51.3	.0000	.0
	2.981	.592	37.0	7.0	.0000	.0
	2.981	.000	45.8	90.0	.0000	.0
	3.238	2.001	18.0	- 30.1	.0033	67.8
	3.229	1.169	44.5	38.0	.0015	39.4
	NO READING					
	NO READING					
	NO READING					

Table D-XII. Rear Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
513.76	2.551	1.972	15.6	- 4.1	.0035	95.2
	2.510	1.145	32.7	73.2	.0034	87.6
	2.486	.850	43.7	60.0	.0033	77.6
	2.455	.502	41.5	31.2	.0037	88.2
	2.426	.000	15.9	.0	.0000	.0
	2.752	1.986	37.2	9.0	.0032	81.4
	2.734	1.164	36.0	40.0	.0033	87.6
	2.732	.880	42.6	58.3	.0033	84.3
	2.716	.544	51.9	72.1	.0036	79.9
	2.703	.000	6.0	.0	.0000	.0
	3.053	1.995	19.6	15.5	.0033	77.1
	3.020	1.165	22.8	16.0	.0015	39.4
	3.000	.889	23.6	9.8	.0000	.0
	2.990	.597	42.0	.8	.0000	.0
	2.970	.000	19.9	90.0	.0000	.0
	3.245	2.014	32.1	- 26.6	.0033	77.1
	3.251	1.175	38.7	60.5	.0015	39.4
	3.251	.909	READINGS	INVALID		
	NO READING					
	NO READING					
552.10	2.554	1.975	27.5	- 22.5	.0035	90.6
	2.508	1.136	39.1	42.7	.0034	96.9
	2.497	.832	31.2	29.5	.0034	83.1
	2.463	.484	57.5	- 7.7	.0037	77.5
	2.428	.000	4.0	.0	.0000	.0
	2.765	1.981	19.6	- 1.7	.0033	76.1
	2.741	1.147	41.2	16.2	.0034	73.7
	2.732	.865	34.3	24.7	.0033	40.3
	2.721	.531	36.6	- .7	.0036	41.1
	2.706	.000	8.0	90.0	.0000	.0
	3.062	1.990	22.9	- 7.0	.0034	88.7
	3.023	1.165	9.6	- 22.5	.0015	51.0
	3.014	.892	29.8	- 83.7	.0000	.0
	3.014	.583	50.3	- 47.6	.0000	.0
	2.978	.000	11.9	90.0	.0000	.0
	3.260	2.012	40.7	55.6	.0034	88.7
	3.241	1.165	26.0	67.5	.0015	51.0
	NO READING					
	NO READING					
	NO READING					

Table D-XII. Rear Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
590.44	2.574	1.975	51.3	- 14.2	.0041	84.1
	2.534	1.143	62.8	- 22.0	.0034	99.7
	2.505	.832	46.2	- 19.3	.0034	92.1
	2.466	.517	53.0	- 19.3	.0036	71.7
	2.430	.000	21.9	.0	.0000	.0
	2.769	1.983	163.4	25.6	.0037	77.1
	2.758	1.158	57.4	- 26.6	.0035	63.6
	2.745	.876	40.3	- 20.2	.0034	29.4
	2.728	.550	46.9	- 53.4	.0036	35.8
	2.703	.000	25.9	90.0	.0000	.0
	3.069	1.997	37.2	- 24.7	.0033	82.8
	3.027	1.169	22.1	- 15.5	.0030	79.9
	3.003	.898	48.1	- 70.1	.0000	.0
	3.003	.597	51.4	- 27.7	.0000	.0
	2.974	.000	13.9	90.0	.0000	.0
	3.254	1.990	63.1	41.4	.0033	82.8
	3.252	1.165	59.8	- 8.5	.0030	79.9
	3.252	.891	58.8	- 12.0	.0000	.0
	NO READING					
	NO READING					
628.78	2.598	1.988	59.3	- 32.6	.0042	58.2
	2.562	1.158	46.6	5.3	.0036	62.3
	2.532	.854	44.2	- 19.3	.0034	50.4
	2.477	.506	21.3	- 54.2	.0036	41.3
	2.448	.000	31.9	90.0	.0000	.0
	2.800	1.840	338.7	- 3.9	.0037	78.1
	2.789	1.169	44.1	73.3	.0034	72.1
	2.765	.876	36.0	- 40.9	.0022	43.1
	2.747	.564	44.4	34.9	.0022	45.2
	2.723	.000	21.9	.0	.0000	.0
	3.093	1.999	55.4	- 33.0	.0024	61.7
	3.042	1.165	32.0	- 18.1	.0014	26.9
	3.034	.891	55.6	- 30.0	.0000	.0
	3.012	.570	651.2	81.8	.0000	.0
	2.983	.000	2242.2	- 40.6	.0000	.0
	3.287	2.003	920.6	34.3	.0024	61.7
	3.295	1.178	322.7	37.2	.0014	28.9
	3.302	.913	READINGS INVALID			
	NO READING					
	NO READING					

Table D-XII. Rear Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
667.12	2.620	2.005	60.2	60.0	.0036	29.9
	2.571	1.151	23.5	75.2	.0037	29.9
	2.538	.854	40.8	56.8	.0034	2.3
	2.474	.508	35.9	- 14.4	.0036	1.5
	2.437	.000	33.9	180.0	.0000	.0
	2.813	2.005	184.2	15.5	.0033	34.8
	2.781	1.167	30.9	146.9	.0034	39.6
	2.767	.889	45.6	21.4	.0022	17.5
	2.741	.548	36.7	130.9	.0021	10.8
	2.723	.000	19.9	90.0	.0000	.0
	3.106	2.023	42.2	-101.5	.0026	30.4
	3.051	1.176	25.5	- 88.5	.0000	.0
	3.040	.909	44.1	43.4	.0000	.0
	2.992	.000	1257.1	1.6	.0000	.0
	3.295	2.030	4460.9	8.4	.0000	.0
	3.289	1.191	1794.4	- .7	.0026	30.4
	3.289	.925	552.9	- 2.0	.0000	.0
	NO READING					
	NO READING					
	NO READING					
705.46	2.595	1.994	90.5	61.3	.0036	19.6
	2.567	1.142	36.9	51.5	.0037	16.9
	2.525	.825	62.4	41.7	.0035	3.2
	2.457	.484	58.1	55.9	.0036	6.3
	2.417	.000	39.8	180.0	.0000	.0
	2.811	2.001	37.8	22.0	.0032	2.3
	2.769	1.151	53.1	48.1	.0034	5.1
	2.750	.865	59.6	58.3	.0033	4.0
	2.727	.541	35.6	63.4	.0036	1.9
	2.705	.000	31.9	90.0	.0000	.0
	3.097	2.030	33.5	- 79.0	.0034	3.2
	3.045	1.184	34.0	- 30.7	.0015	.0
	3.020	.902	47.3	104.2	.0000	.0
	3.005	.586	666.8	- 13.5	.0000	.0
	3.005	.000	2284.5	139.1	.0000	.0
	3.271	2.030	934.5	- 59.9	.0034	3.2
	3.265	1.180	297.9	- 29.2	.0015	.0
	NO READING					
	NO READING					
	NO READING					

Table D-XII. Rear Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	C LB/SQFT
743.80	2.640	2.025	94.1	- 17.1	.0038	4.3
	2.591	1.145	68.2	11.3	.0038	3.4
	2.547	.837	72.4	1.0	.0037	1.1
	2.481	.489	70.4	- 6.5	.0037	5.8
	2.400	.000	81.6	90.0	.0000	.0
	2.820	2.030	63.8	- 42.0	.0033	.3
	2.792	1.165	51.9	1.0	.0034	1.7
	2.776	.869	49.3	16.5	.0017	.2
	2.741	.548	46.5	3.6	.0019	.5
	2.716	.000	37.8	.0	.0000	.0
	3.115	2.036	47.4	- 46.9	.0034	3.4
	3.055	1.164	39.2	21.2	.0032	1.3
	3.034	.885	38.1	20.1	.0000	.0
	3.018	.563	READINGS	INVALID		
	2.954	.000	READINGS	INVALID		
	3.289	2.039	50.4	- 62.3	.0034	3.4
	3.280	1.169	37.9	- 23.4	.0032	1.3
	3.280	.892	31.9	- 43.2	.0000	.0
	NO READING					
	NO READING					
782.14	2.672	2.025	89.4	- 7.3	.0039	.9
	2.624	1.125	81.7	7.0	.0038	2.2
	2.582	.815	75.1	27.7	.0039	2.7
	2.521	.489	57.7	.0	.0037	1.5
	2.459	.000	75.7	.0	.0000	.0
	2.847	2.036	78.4	- 3.3	.0034	1.6
	2.809	1.154	67.5	14.4	.0034	2.5
	2.791	.856	69.0	21.3	.0018	1.3
	2.763	.533	73.5	.7	.0019	1.5
	2.739	.000	55.8	.0	.0000	.0
	3.120	2.060	75.0	- 33.9	.0035	5.8
	3.067	1.169	54.8	- 20.4	.0033	3.4
	3.047	.887	53.9	- 4.1	.0000	.0
	NO READING					
	NO READING					
	3.285	2.065	80.0	- 48.0	.0035	5.8
	3.282	1.186	50.0	- 43.6	.0033	3.4
	3.282	.922	60.2	- 23.6	.0000	.0
	NO READING					
	NO READING					

Table D-XII. Rear Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
820.48	2.721	2.038	99.5	- 4.7	.0022	.6
	2.659	1.136	468.2	35.0	.0026	.6
	2.607	.804	396.6	- 25.5	.0042	2.4
	2.534	.489	375.4	- 36.2	.0052	.5
	2.470	.000	541.3	- 40.1	.0000	.0
	2.891	2.032	2305.0	53.3	.0024	1.6
	2.851	1.158	1031.8	- 44.3	.0023	2.2
	2.835	.854	385.0	- 39.0	.0038	3.0
	2.798	.555	379.4	- 55.7	.0051	4.1
	2.767	.000	593.8	- 42.4	.0000	.0
	3.164	2.052	2317.2	55.0	.0025	3.0
	3.102	1.180	1005.7	- 50.5	.0022	2.7
	3.084	.887	360.5	- 39.4	.0020	1.1
	3.064	.572	371.6	- 40.2	.0000	.0
	3.025	.000	632.5	- 42.1	.0000	.0
	3.333	2.063	2319.2	50.4	.0025	3.0
	3.311	1.187	980.4	- 44.7	.0022	2.7
	3.302	.905	342.6	- 21.0	.0020	1.1
	NO READING					
	NO READING					
858.82	2.761	2.034	READINGS INVALID			
	2.675	.742	1835.3	1.2	.0015	.0
	2.699	1.129	393.3	- 10.1	.0045	.3
	2.635	.806	391.1	- 15.0	.0068	2.4
	2.552	.480	565.3	- 4.8	.0000	.0
	2.463	.000	2286.9	51.0	.0015	.2
	2.952	2.060	1015.2	- 11.0	.0011	.7
	2.886	1.160	372.4	- 18.9	.0039	2.2
	2.857	.858	364.3	- 18.4	.0067	4.4
	2.814	.517	582.3	- 36.1	.0000	.0
	2.781	.000	2282.7	50.3	.0015	1.2
	3.203	2.063	994.4	- 22.1	.0012	.6
	3.141	1.176	348.4	- 28.9	.0038	1.1
	3.120	.909	411.9	- 5.3	.0000	.0
	3.084	.579	652.5	- 39.3	.0000	.0
	3.023	.000	2293.2	49.3	.0015	1.2
	3.375	2.058	962.5	- 65.4	.0012	.6
	3.346	1.191	343.3	- 48.6	.0039	1.1
	3.346	.934	51.9	28.8	.0000	.0
	NO READING					

Table D-XII. Rear Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
897.16	NO READING					
	2.783	2.032	1428.3	- 31.7	.0015	.2
	2.714	1.109	56.1	35.0	.0048	3.1
	2.655	.788	57.3	36.3	.0070	5.7
	2.563	.449	58.2	67.0	.0000	.0
	2.490	.000	31.9	.0	.0015	.1
	2.965	2.036	35.7	- 23.4	.0011	.4
	2.910	1.138	39.7	53.1	.0039	2.1
	2.877	.839	36.8	94.3	.0069	3.5
	2.831	.513	59.4	58.3	.0000	.0
	2.794	.000	17.9	90.0	.0015	1.3
	3.223	2.047	30.3	64.5	.0013	.0
	3.164	1.167	41.8	78.0	.0037	.5
	3.133	.874	42.3	- 10.0	.0000	.0
	3.102	.577	47.7	77.7	.0000	.0
	3.047	.000	37.8	90.0	.0015	1.3
	3.384	2.067	29.6	42.4	.0013	.0
	3.372	1.198	55.8	61.0	.0037	.5
	3.372	.894	73.4	- 50.3	.0000	.0
	NO READING					
935.50	NO READING					
	2.802	2.025	52.9	- 16.9	.0015	1.5
	2.739	1.101	48.6	65.0	.0049	3.1
	2.677	.775	42.8	71.7	.0073	5.2
	2.573	.431	32.2	31.7	.0000	.0
	2.492	.000	10.0	.0	.0015	.3
	2.963	2.041	28.6	- 67.5	.0011	.3
	2.912	1.134	25.0	62.2	.0041	1.5
	2.871	.836	33.1	106.3	.0067	1.7
	2.822	.476	49.5	29.5	.0000	.0
	2.791	.000	6.0	180.0	.0015	1.1
	3.223	2.045	14.6	9.1	.0013	1.1
	3.155	1.158	21.3	50.7	.0039	.8
	3.133	.876	11.9	18.6	.0000	.0
	3.080	.564	75.0	112.6	.0000	.0
	3.036	.000	19.9	90.0	.0015	1.1
	3.375	2.056	32.7	37.7	.0013	1.1
	3.353	1.182	31.2	55.7	.0039	.8
	3.353	.902	35.9	-116.1	.0000	.0
	NO READING					

Table D-XII. Rear Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
973.84	NO READING					
	2.818	2.049	46.7	28.9	.0010	1.3
	2.732	1.085	44.2	95.0	.0034	1.3
	2.672	.762	409.4	110.7	.0057	3.3
	2.582	.431	487.6	50.9	.0000	.0
	2.499	.000	2284.8	- 38.2	.0026	2.0
	2.981	2.050	1057.1	33.2	.0025	.1
	2.921	1.118	360.5	78.2	.0038	.4
	2.880	.814	392.3	82.9	.0033	.0
	2.827	.482	533.8	24.6	.0000	.0
	2.789	.000	2270.1	51.1	.0024	1.3
	3.227	2.056	1027.6	11.6	.0006	1.1
	3.161	1.162	352.1	29.6	.0019	.2
	3.128	.969	346.6	107.8	.0000	.0
	3.091	.522	READINGS	INVALID		
	3.044	.000	2265.9	- 40.2	.0024	1.3
	3.384	2.069	1004.9	18.1	.0006	1.1
	3.357	1.184	READINGS	INVALID		
	3.357	.914	READINGS	INVALID		
	NO READING					
1012.18	NO READING					
	2.813	2.036	1067.3	103.7	.0022	.0
	2.738	1.063	378.5	88.9	.0029	1.0
	2.558	.418	411.2	109.4	.0042	1.4
	2.494	.000	495.5	140.8	.0000	.0
	2.987	2.038	2285.0	- 90.3	.0036	4.8
	2.934	1.099	1047.4	- 7.8	.0038	4.4
	2.891	.806	354.4	109.5	.0036	5.8
	2.831	.480	386.0	106.2	.0023	1.3
	2.789	.000	527.4	137.3	.0000	.0
	3.232	2.039	2280.9	-109.5	.0035	2.0
	3.150	1.125	1023.0	47.4	.0017	87.9
	3.144	.845	362.1	- 16.3	.0000	.0
	3.135	.559	391.0	122.4	.0000	.0
	NO READING					
	3.390	2.049	2272.4	-122.2	.0035	2.0
	3.375	1.160	1007.7	108.7	.0017	87.9
	NO READING					
	NO READING					
	NO READING					

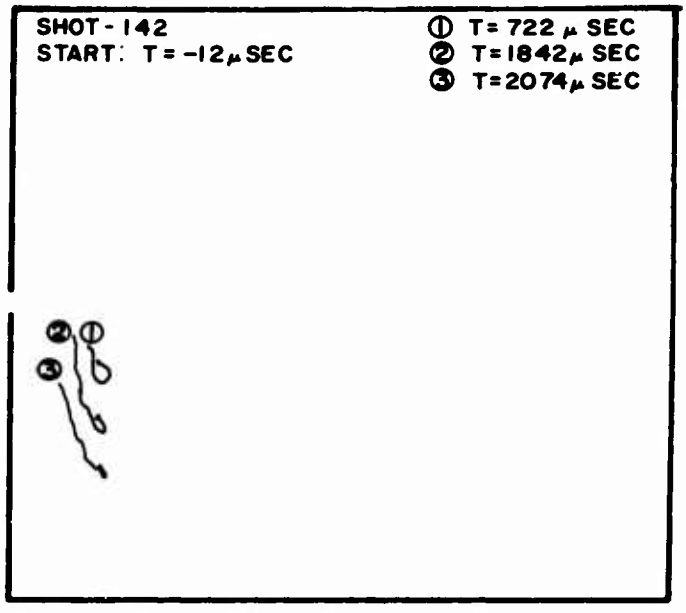
Table D-XII. Rear Smoke Grid Calculations - Two 1 In. Entrances (Continued)

TIME MICROSEC	X INCHES	Y INCHES	U FT/SEC	THETA DEGREES	DENSITY SLUGS/CUFT	Q LB/SQFT
1050.52	2.818	2.049	18.8	- 16.0	.0039	3.1
	2.743	1.070	1076.1	67.9	.0041	2.1
	2.672	.744	385.7	95.8	.0039	2.8
	2.552	.403	31.1	- 30.7	.0041	1.1
	2.477	.000	65.7	180.0	.0000	.0
	2.985	2.045	27.9	- 74.5	.0035	7.2
	2.930	1.110	18.2	13.3	.0036	7.7
	2.884	.795	23.3	30.1	.0036	5.8
	2.524	.464	34.8	.4	.0043	7.3
	2.787	.000	27.9	180.0	.0000	.0
	3.223	2.047	39.3	- 77.2	.0035	9.3
	3.157	1.125	26.3	- 20.3	.0017	57.9
	3.135	.858	47.5	- 29.4	.0000	.0
	3.089	.539	67.0	87.2	.0000	.0
	3.020	.000	19.9	.0	.0000	.0
	3.377	2.052	34.1	- 94.0	.0035	9.3
	3.364	1.145	55.5	50.2	.0017	57.9
	3.364	.881	READINGS	INVALID		
	NO READING					
	NO READING					
1088.86	2.835	2.058	27.7	60.7	.0039	5.9
	2.760	1.055	37.3	- 55.9	.0042	2.7
	2.672	.715	49.0	- 27.2	.0039	2.9
	2.540	.405	49.7	- 9.2	.0040	1.2
	2.433	.000	79.7	180.0	.0000	.0
	2.998	2.058	22.5	45.0	.0034	4.6
	2.926	1.107	11.3	45.0	.0035	117.8
	2.886	.803	17.8	45.0	.0037	.6
	2.818	.476	47.6	9.7	.0044	6.9
	2.763	.000	51.8	180.0	.0000	.0
	3.247	2.052	33.7	- 69.3	.0036	9.3
	3.170	1.136	20.4	- 65.1	.0017	.0
	3.145	.832	51.5	- 32.2	.0000	.0
	3.100	.535	52.7	- 67.5	.0000	.0
	3.038	.000	95.6	90.0	.0000	.0
	3.393	2.060	21.6	- 56.8	.0036	9.3
	3.393	1.160	73.5	75.2	.0017	.0
	NO READING					
	NO READING					
	NO READING					

APPENDIX D

II. PLOTS OF AIR FLOW VECTORS - MODEL XIV

PRECEDING
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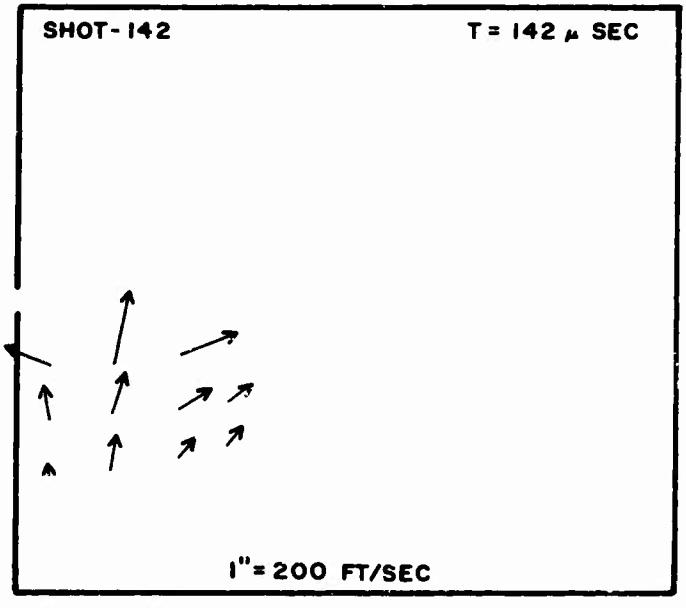
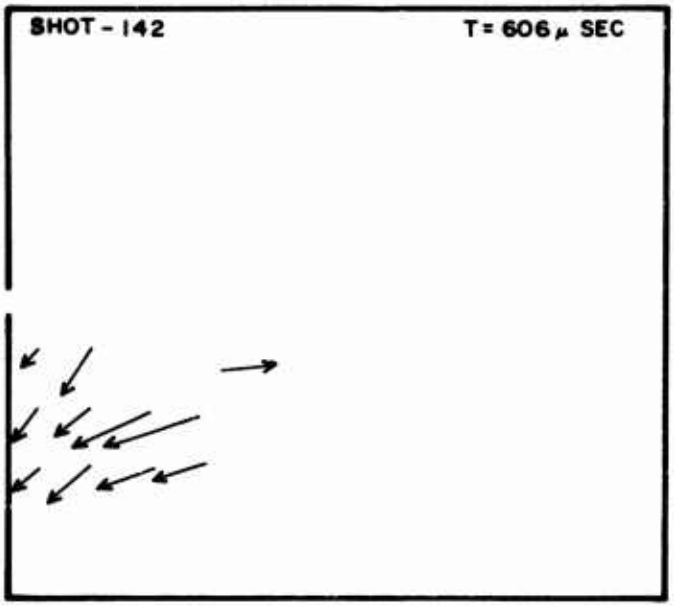


Figure D-1. Smoke paths and flow vectors from front grid - 1/8 in. entrance to model



1" = 200 FT/SEC

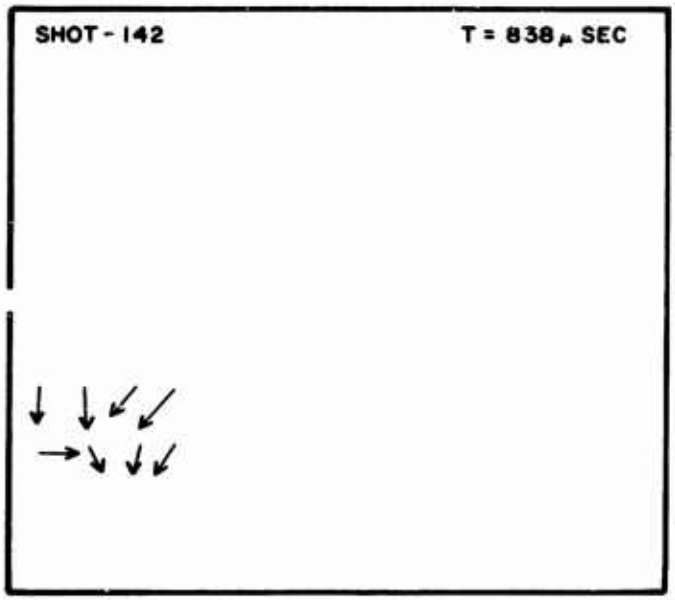
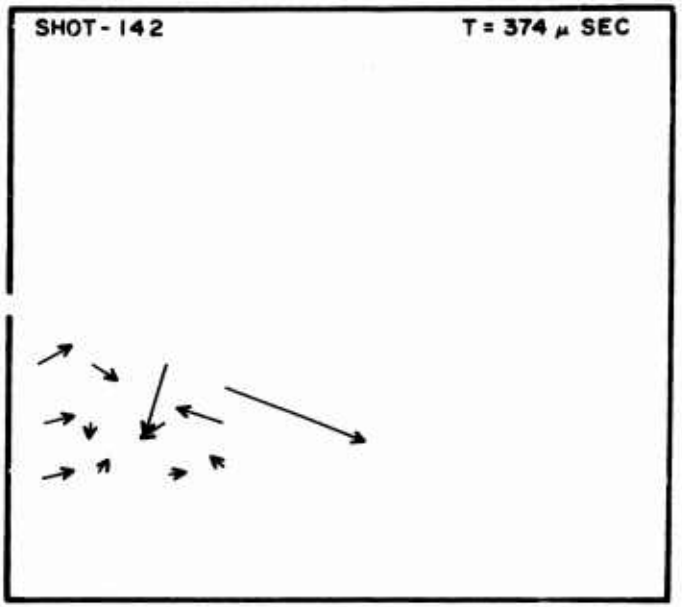


Figure D-1. Smoke paths and flow vectors from front grid - 1/8 in. entrance to model (Continued)



1"= 200 FT/SEC

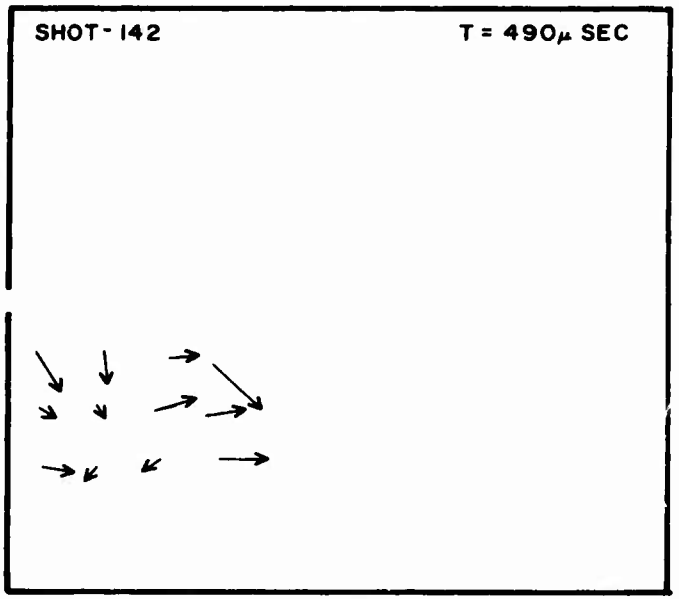
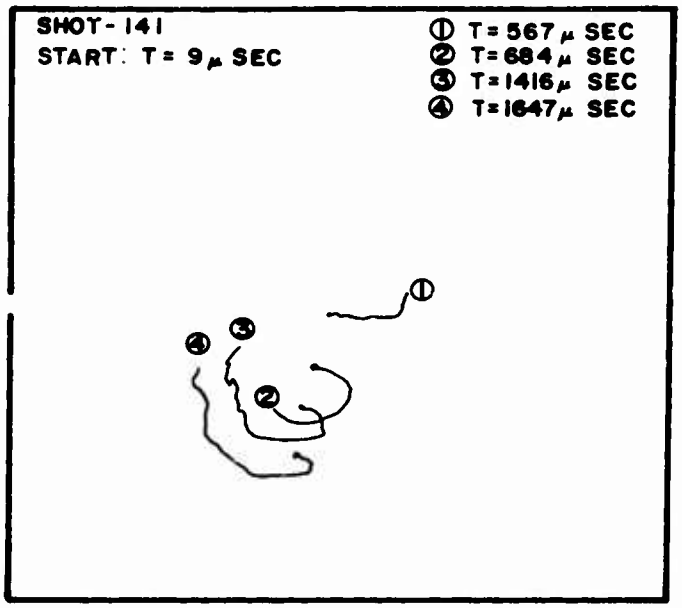


Figure D-1. Smoke paths and flow vectors from front grid - 1/8 in. entrance to model (Continued)



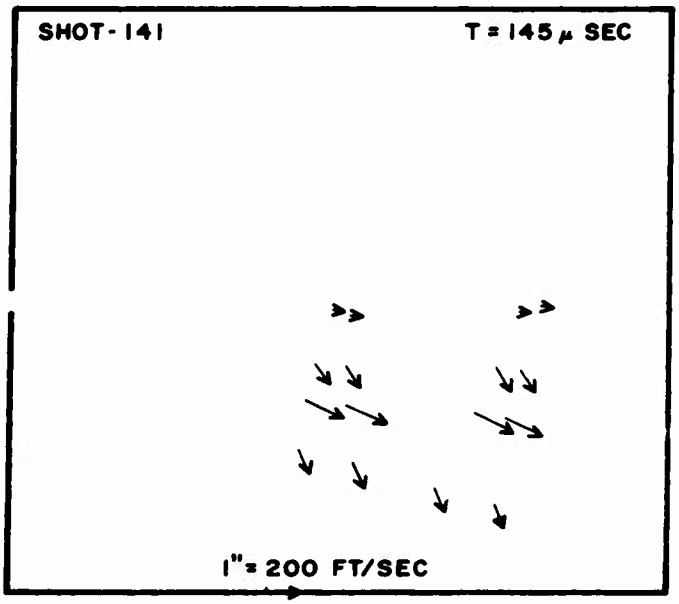
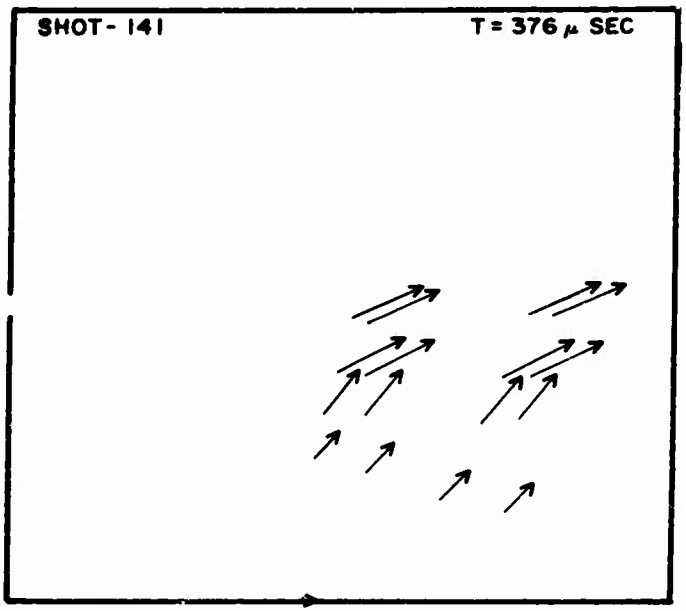


Figure D-2. Smoke paths and flow vectors from rear grid - 1/8 in. entrance to model



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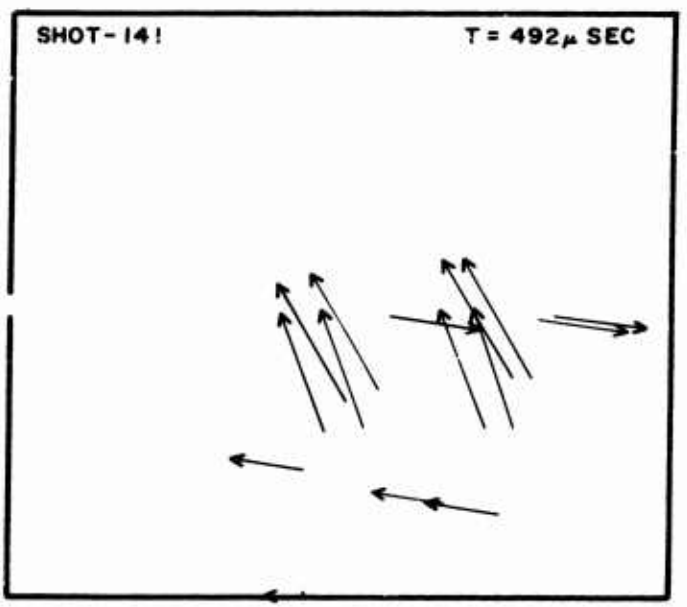


Figure D-2. Smoke paths and flow vectors from rear grid - 1/8 in. entrance to model (Continued)

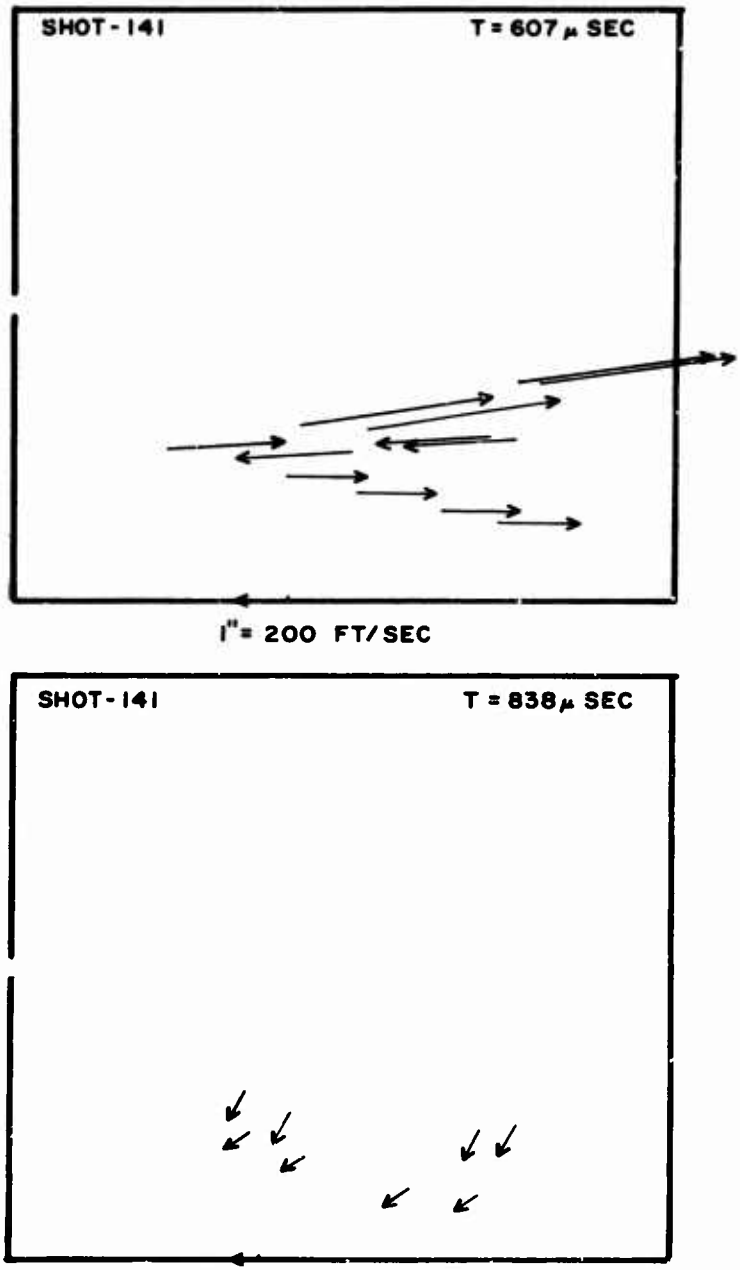


Figure D-2. Smoke paths and flow vectors from rear grid - 1/8 in. entrance to model (Continued)

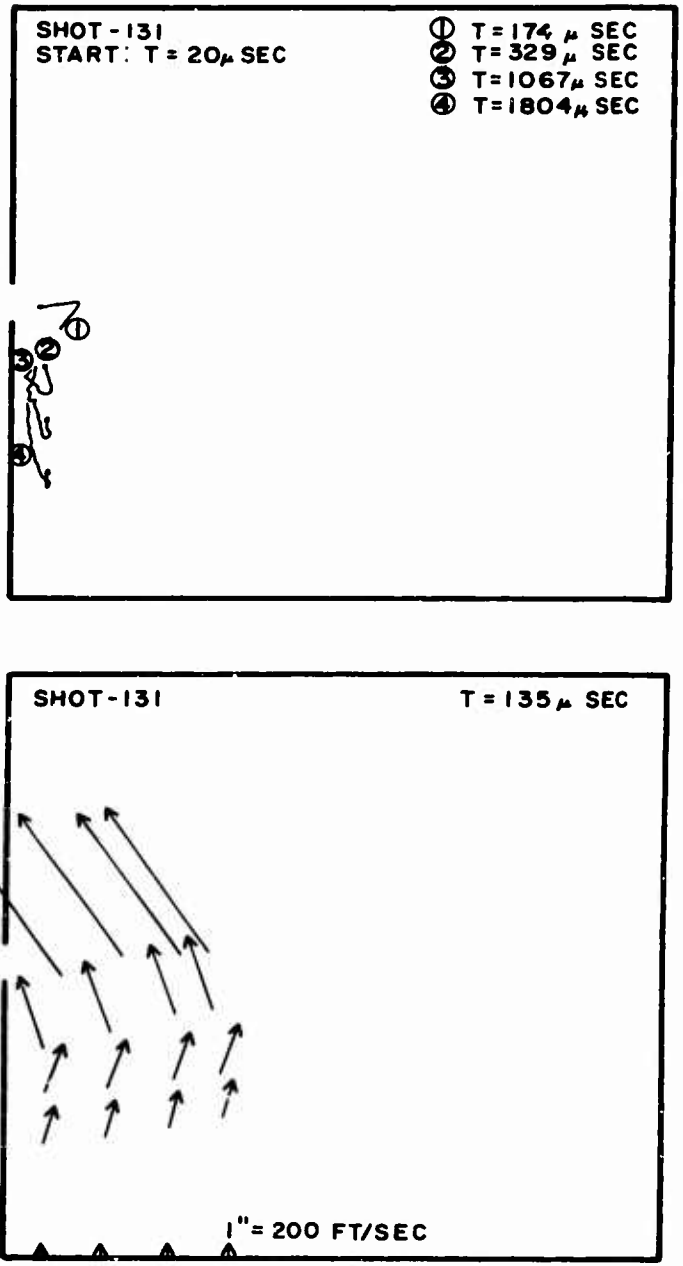


Figure D-3. Smoke paths and flow vectors from front grid - 1/4 in. entrance to model

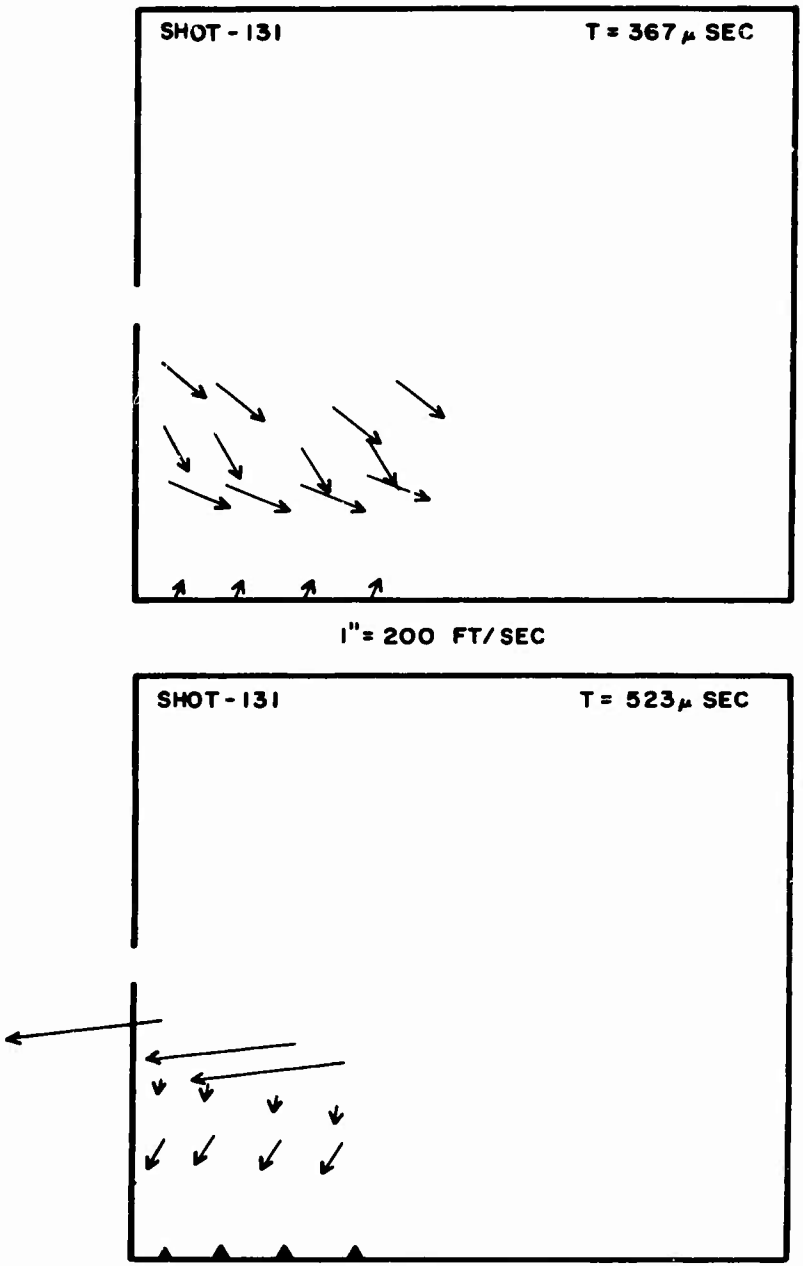
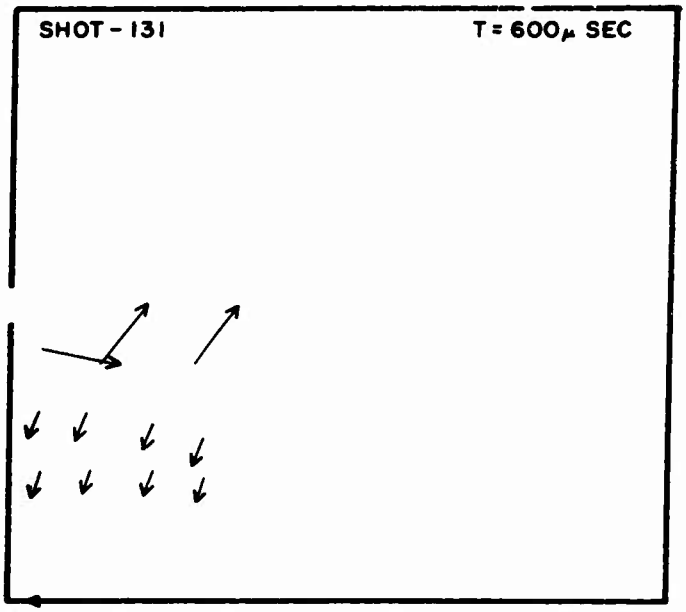


Figure D-3. Smoke paths and flow vectors from front grid - 1/4 in. entrance to model (Continued)



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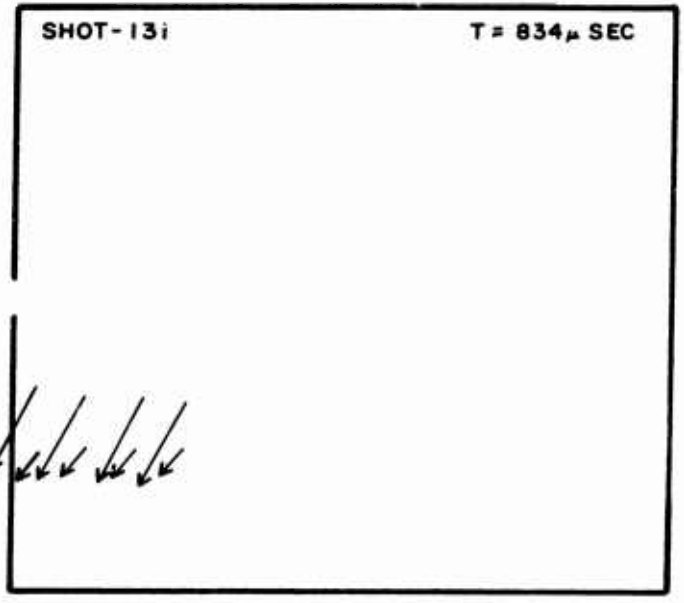


Figure D-3. Smoke paths and flow vectors from front grid - 1/4 in. entrance to model (Continued)

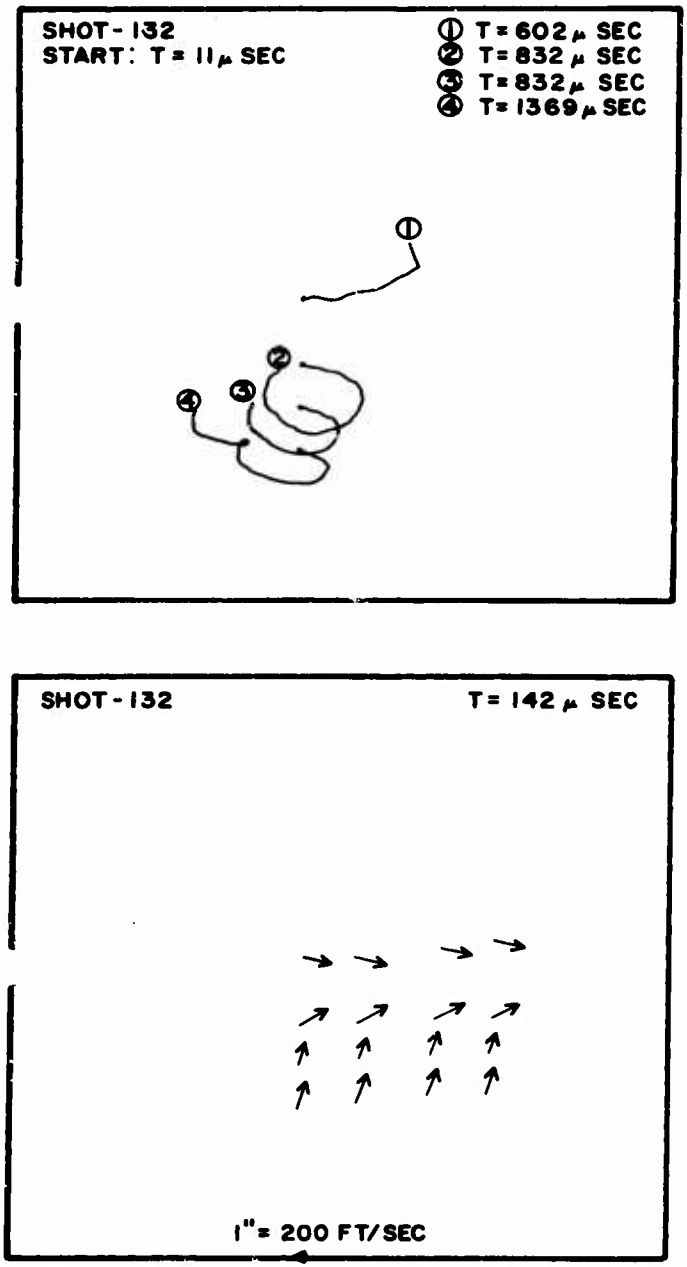
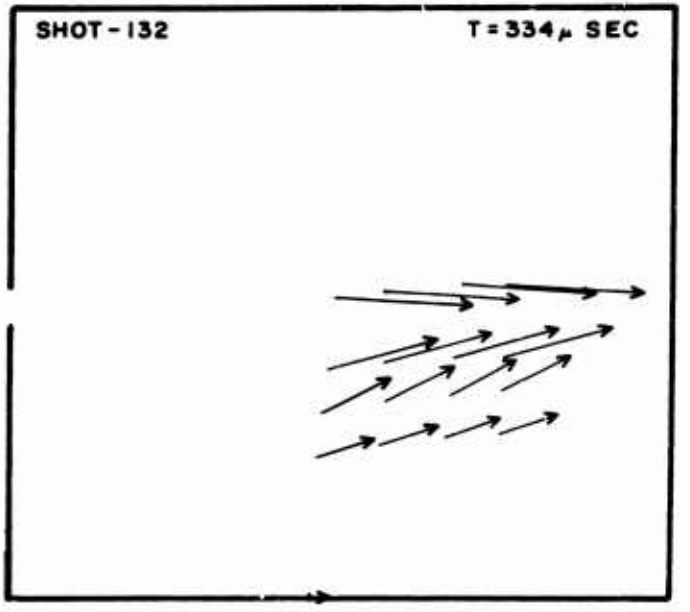


Figure D-4. Smoke paths and flow vectors from rear grid - 1/4 in. entrance to model



1" = 200 FT/SEC

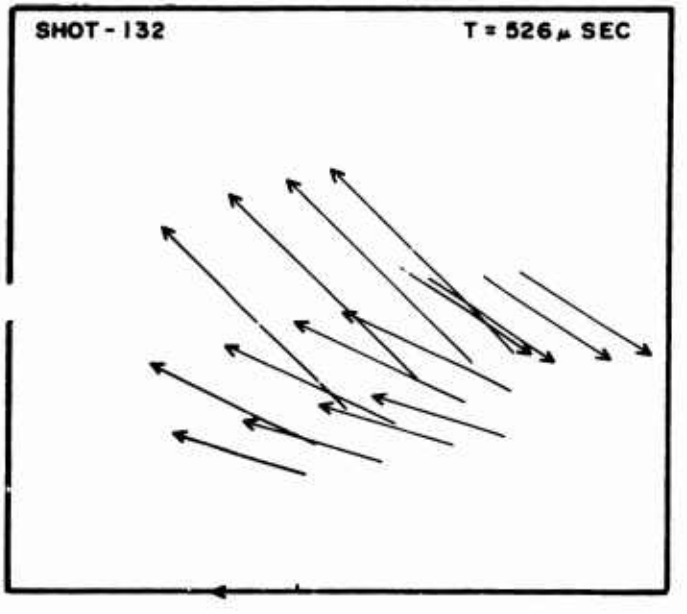


Figure D-4. Smoke paths and flow vectors from rear grid - 1/4 in. entrance to model (Continued)

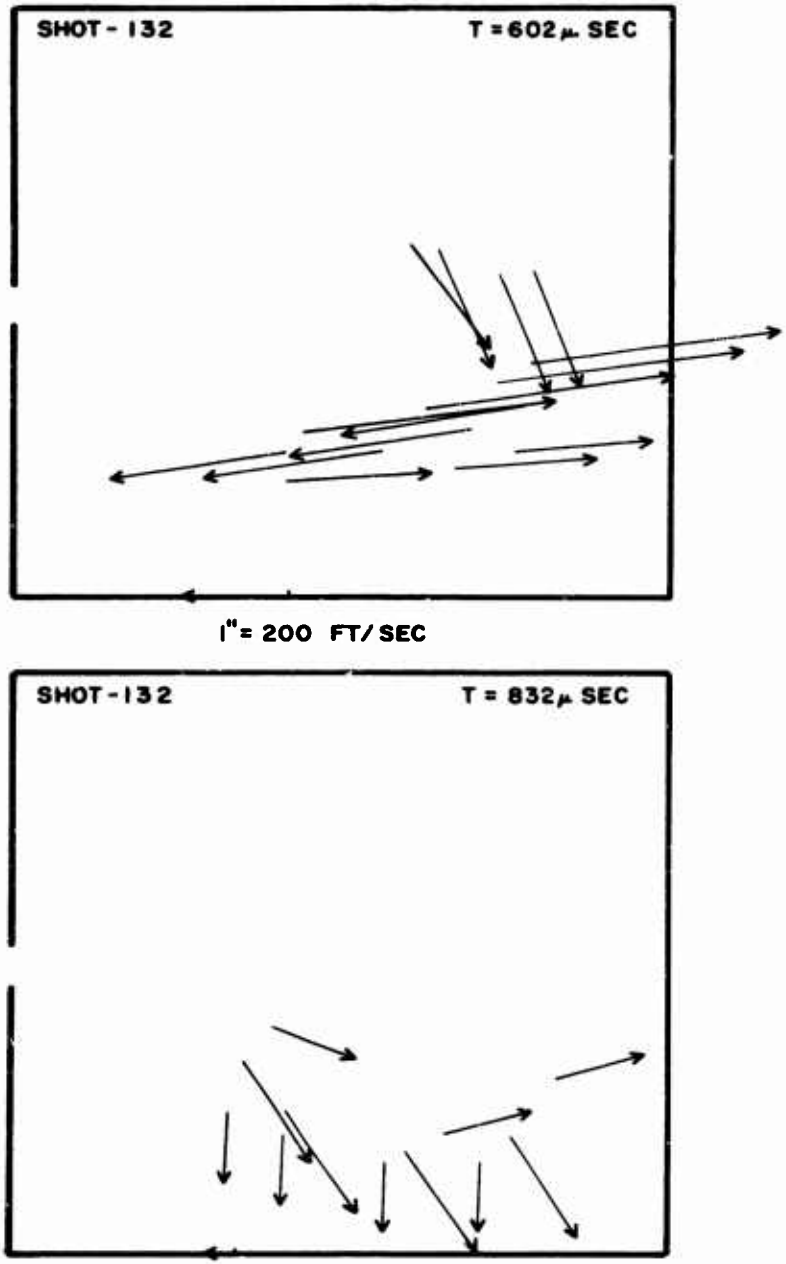


Figure D-4. Smoke paths and flow vectors from rear grid - 1/4 in. entrance to model (Continued)

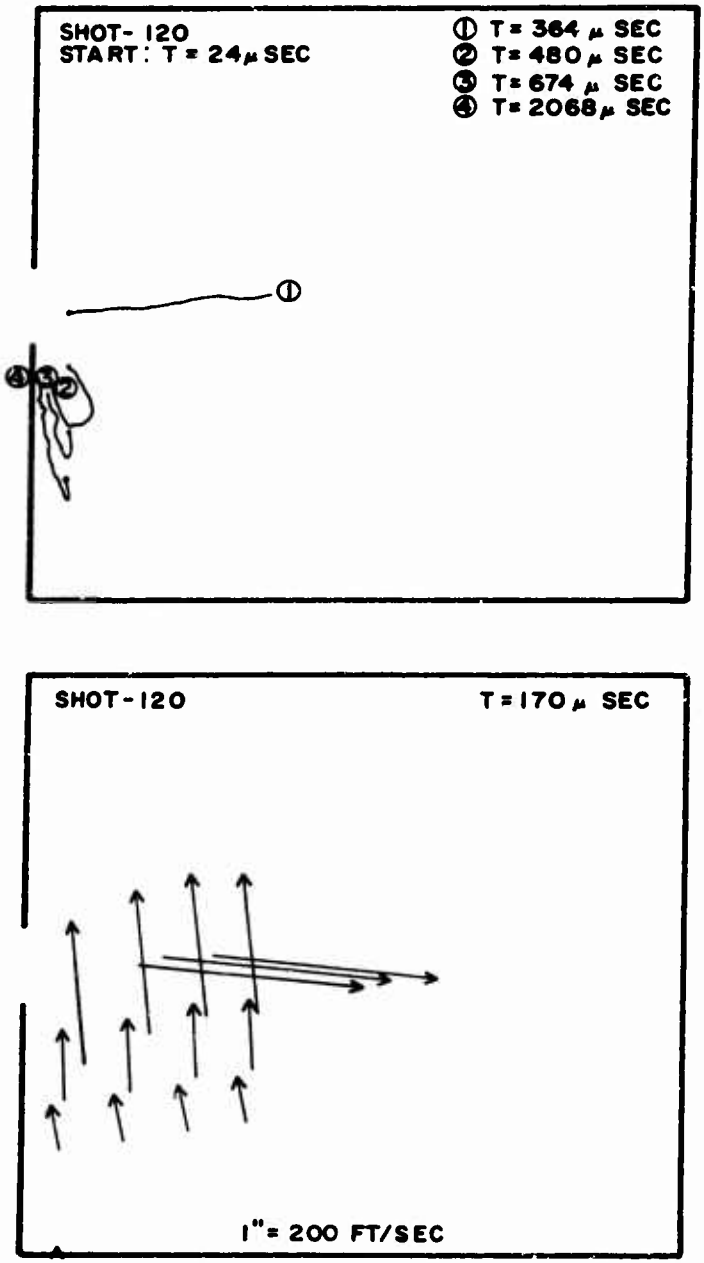


Figure D-5. Smoke paths and flow vectors from front grid - /2 in. entrance to model

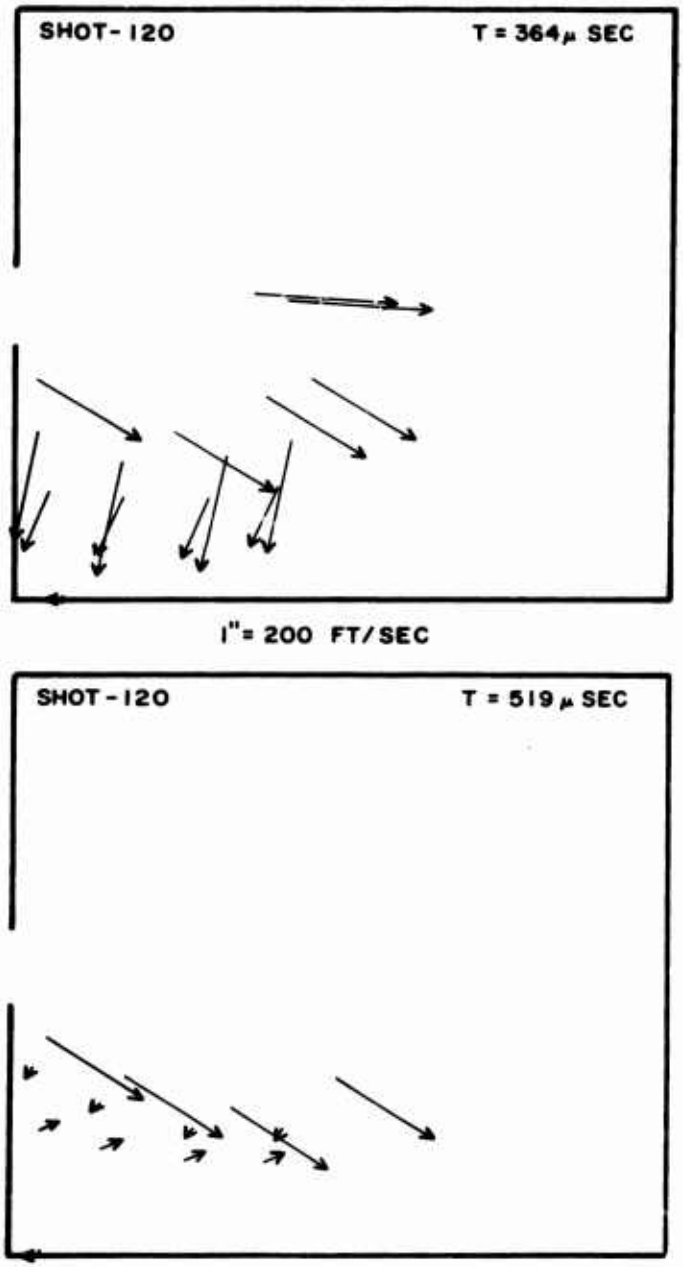


Figure D-5. Smoke paths and flow vectors from front grid - 1/2 in. entrance to model (Continued)

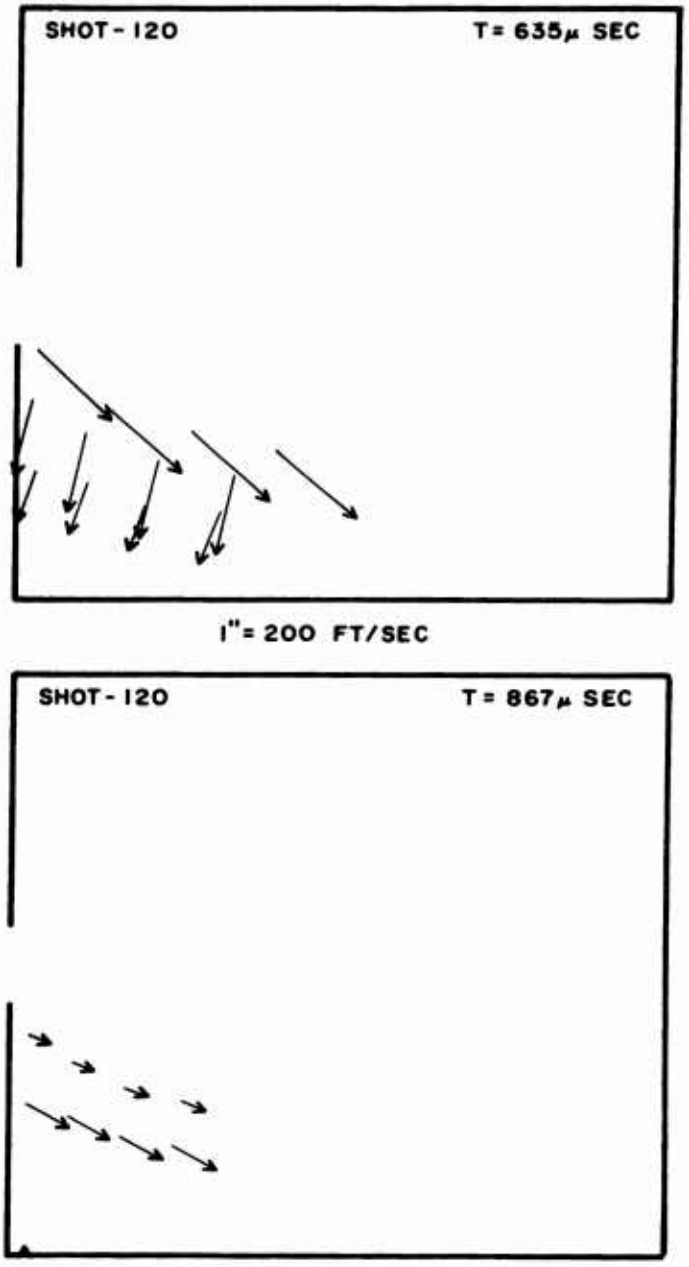
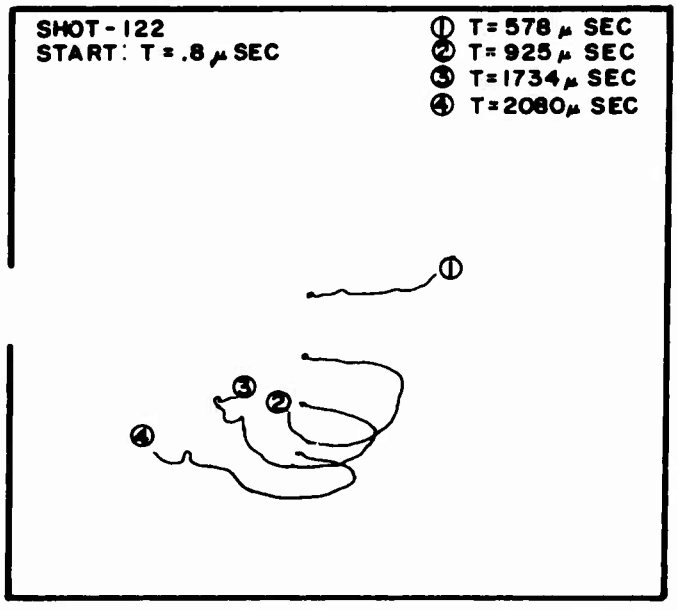


Figure D-5. Smoke paths and flow vectors from front grid - 1/2 in. entrance to model (Continued)



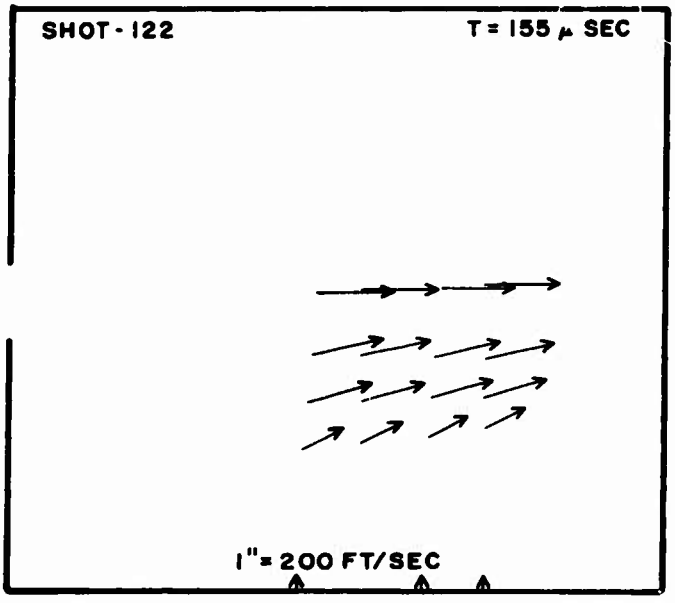
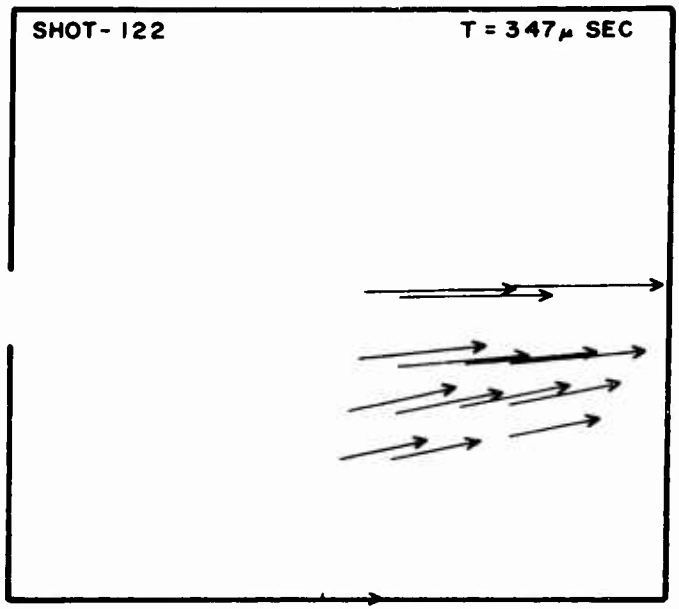


Figure D-6. Smoke paths and flow vectors from rear grid - 1/2 in. entrance to model



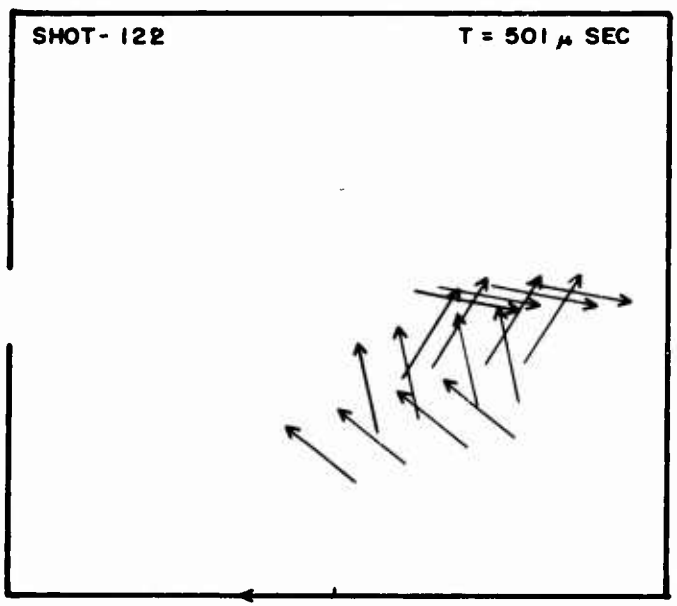


Figure D-6. Smoke paths and flow vectors from rear grid - 1/2 in. entrance to model (Continued)

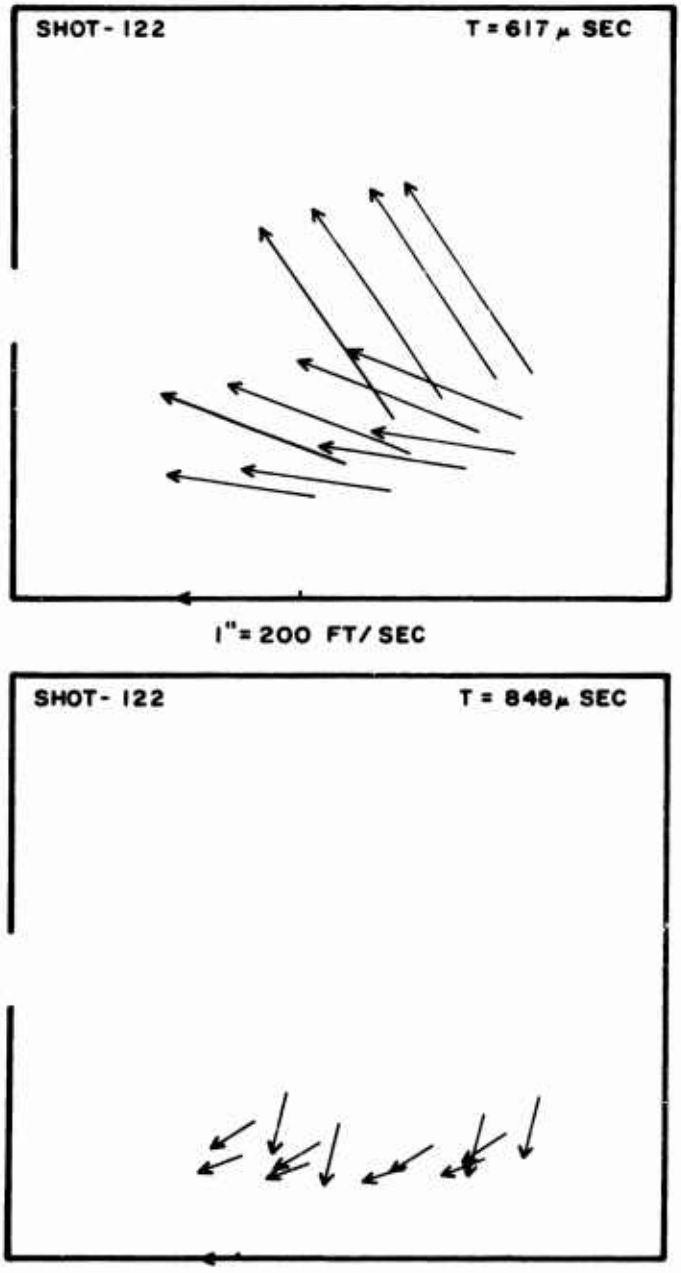
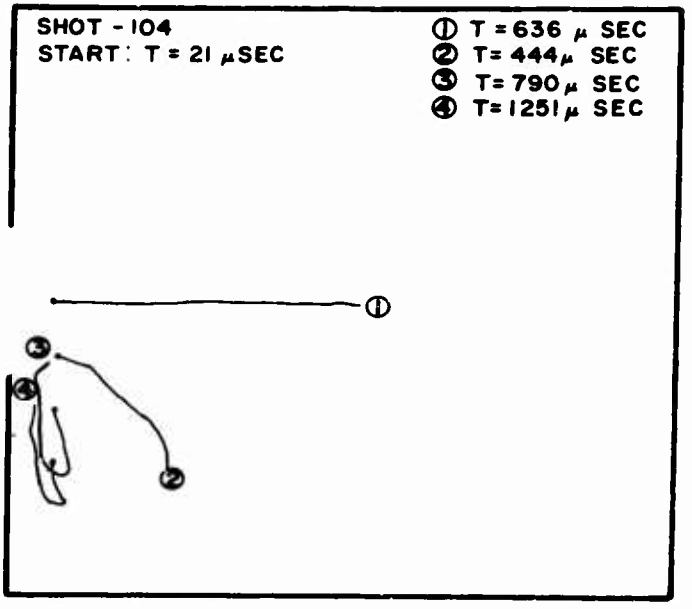


Figure D-6. Smoke paths and flow vectors from rear grid - 1/2 in. entrance to model (Continued)



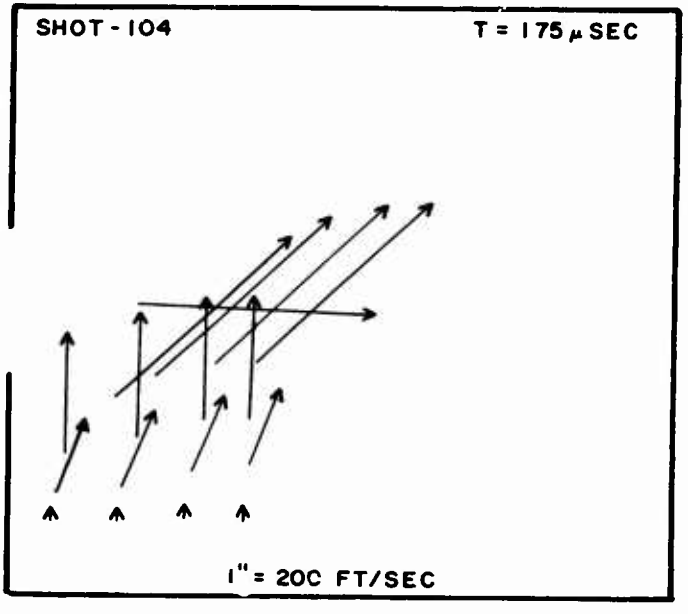
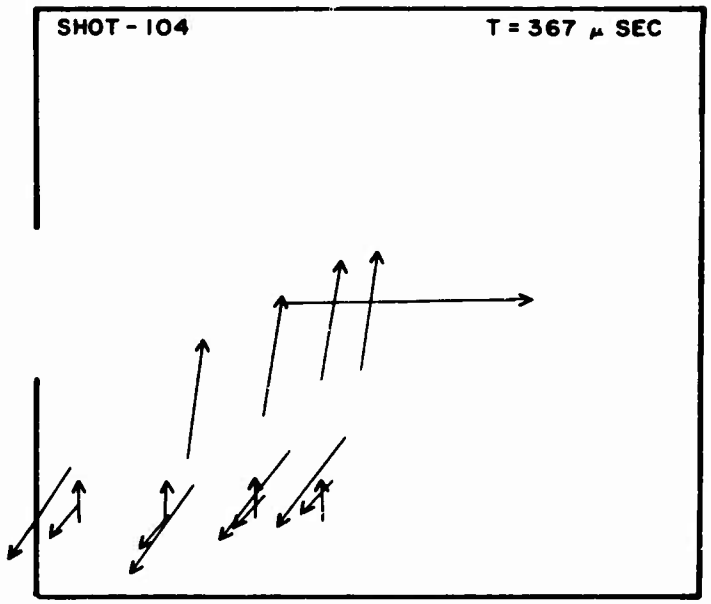


Figure D-7. Smoke paths and flow vectors from front grid - 1 in. entrance to model



1" = 200 FT/SEC

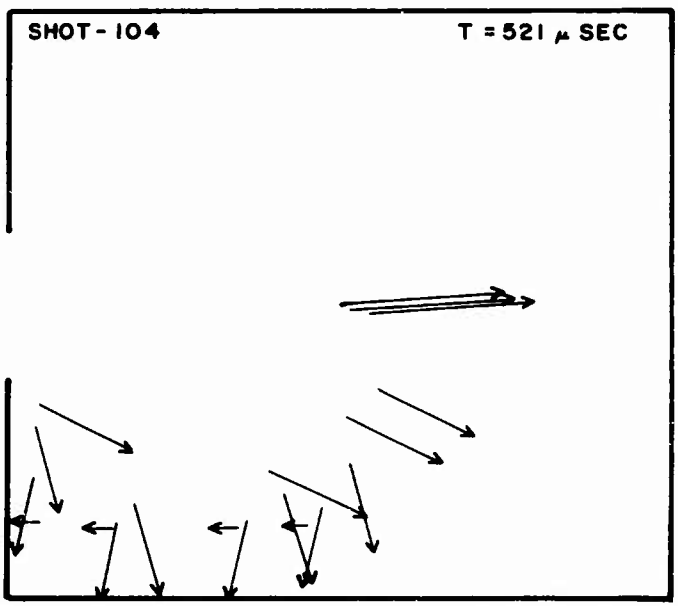


Figure D-7. Smoke paths and flow vectors from front grid - 1 in. entrance to model (Continued)

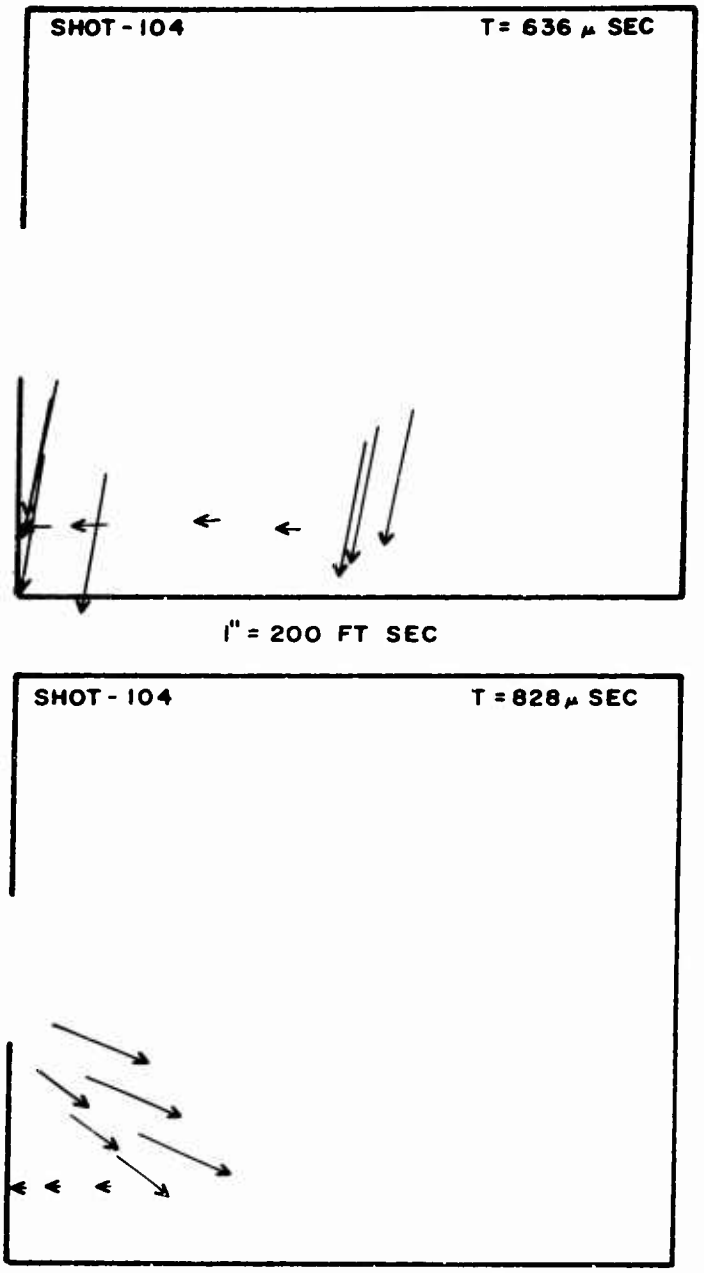
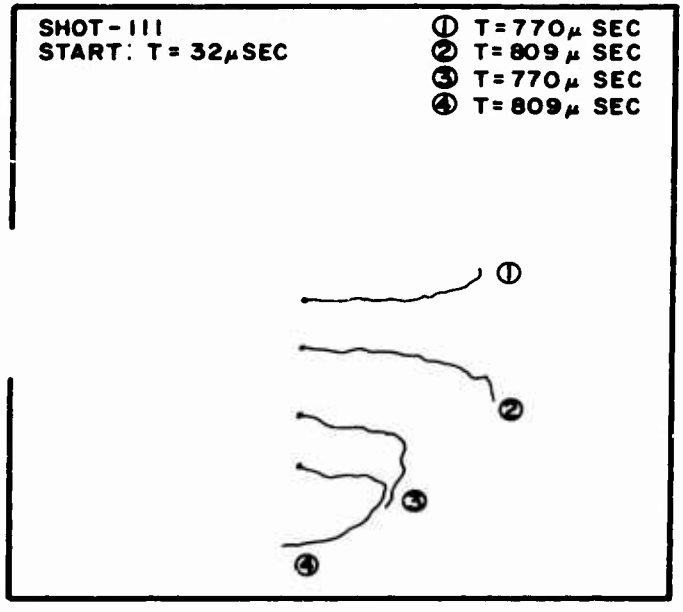


Figure D-7. Smoke paths and flow vectors from front grid - 1 in. entrance to model (Continued)



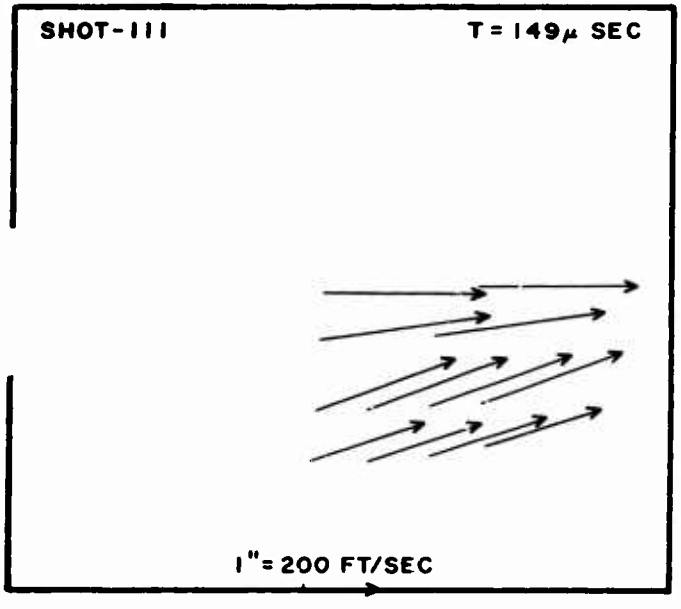
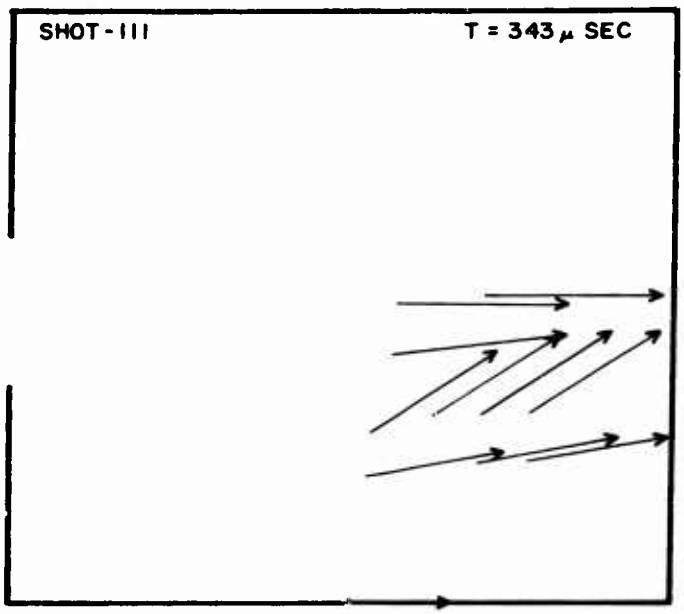


Figure D-8. Smoke paths and flow vectors from rear grid - 1 in. entrance to model



1"= 200 FT/SEC

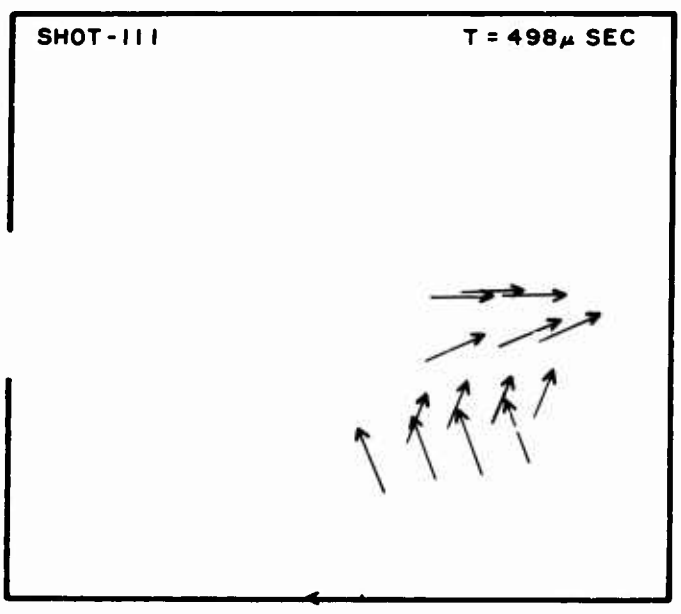


Figure D-8. Smoke paths and flow vectors from rear grid - 1 in. entrance to model (Continued)

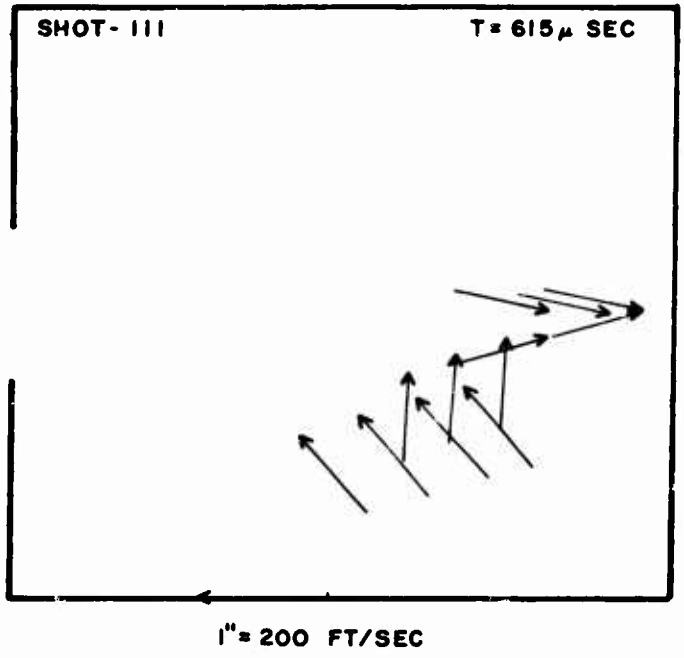
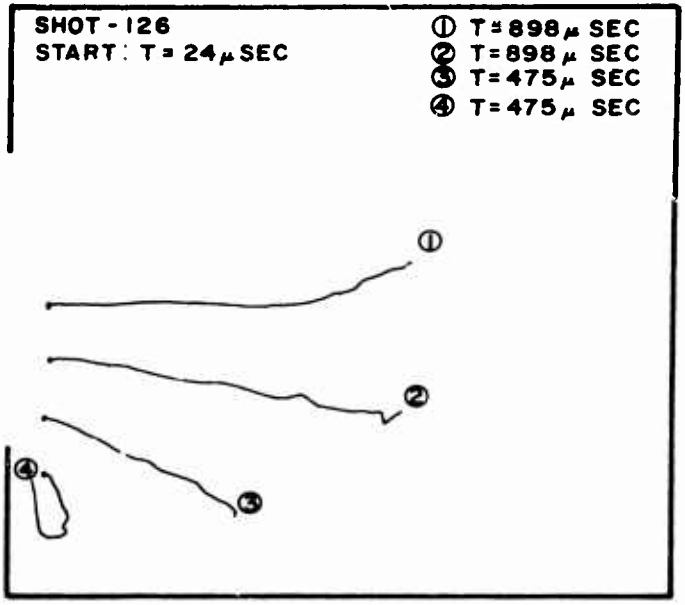


Figure D-8. Smoke paths and flow vectors from rear grid - 1 in. entrance to model (Continued)



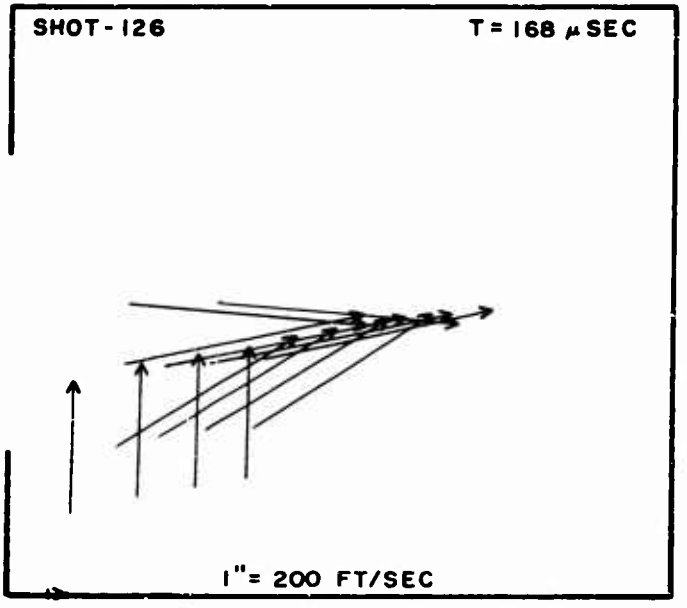
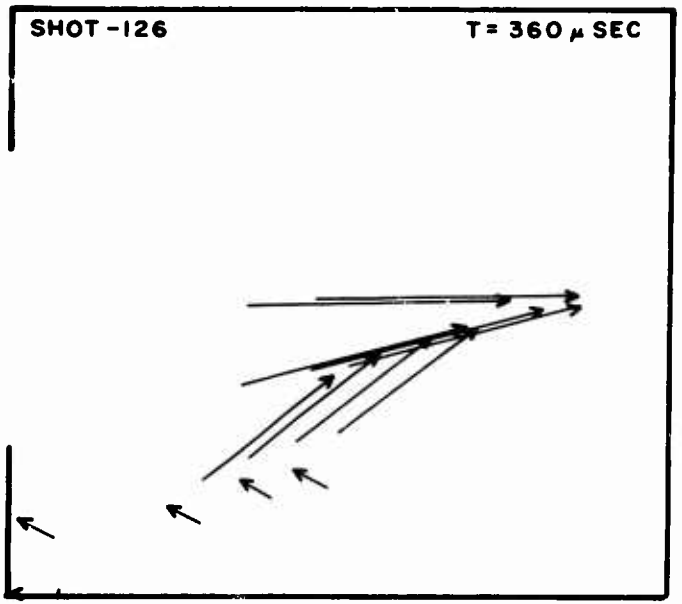


Figure D-9. Smoke paths and flow vectors from front grid - 2 in. entrance to model



1" = 200 FT/SEC

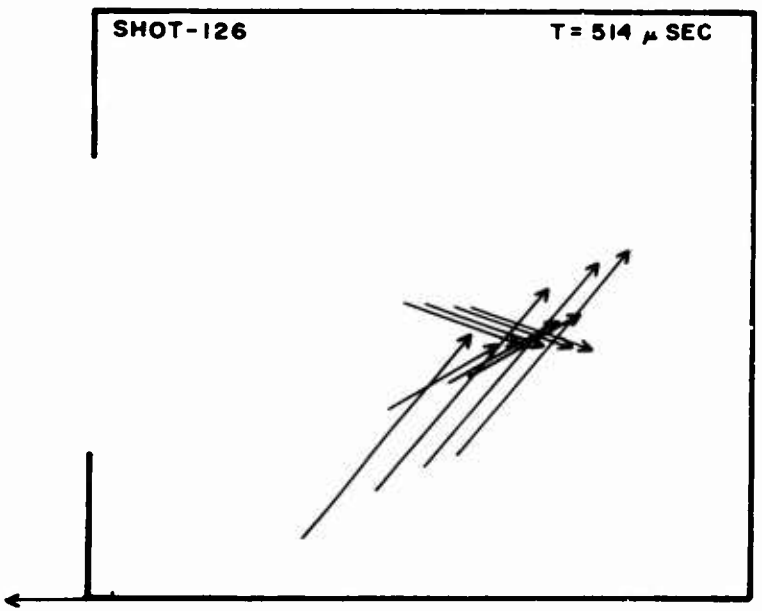
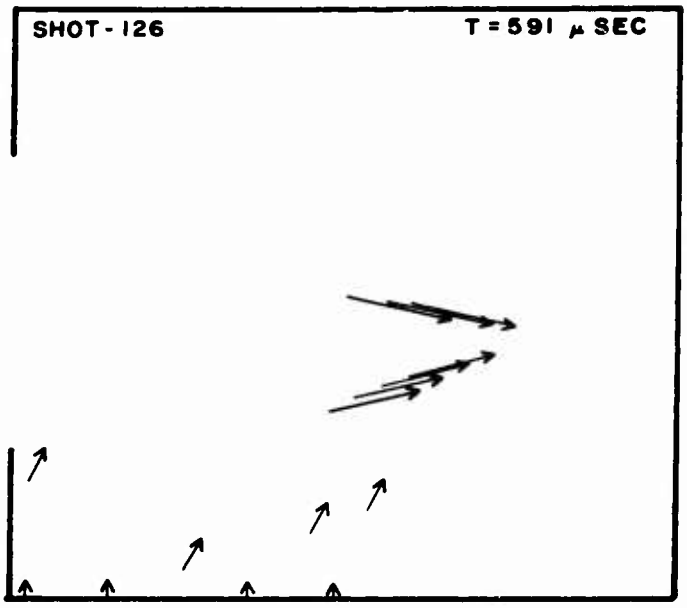


Figure D-9. Smoke paths and flow vectors from front grid - 2 in. entrance to model (Continued)



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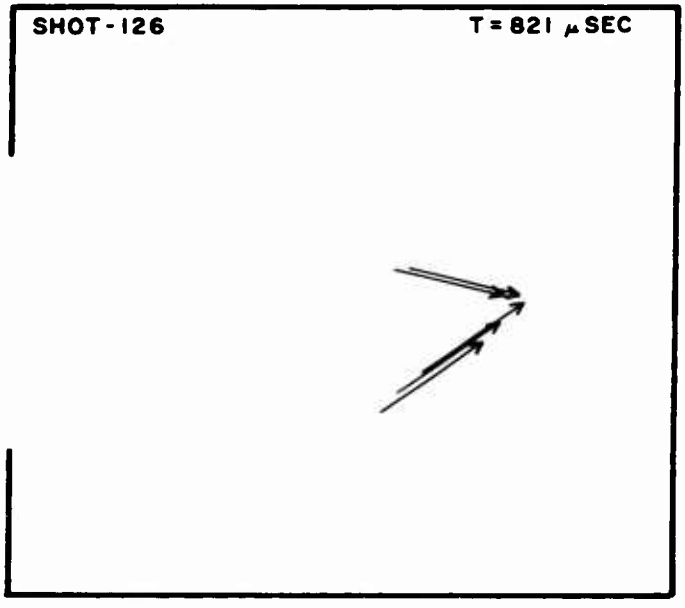


Figure D-9. Smoke paths and flow vectors from front grid - 2 in. entrance to model (Continued)

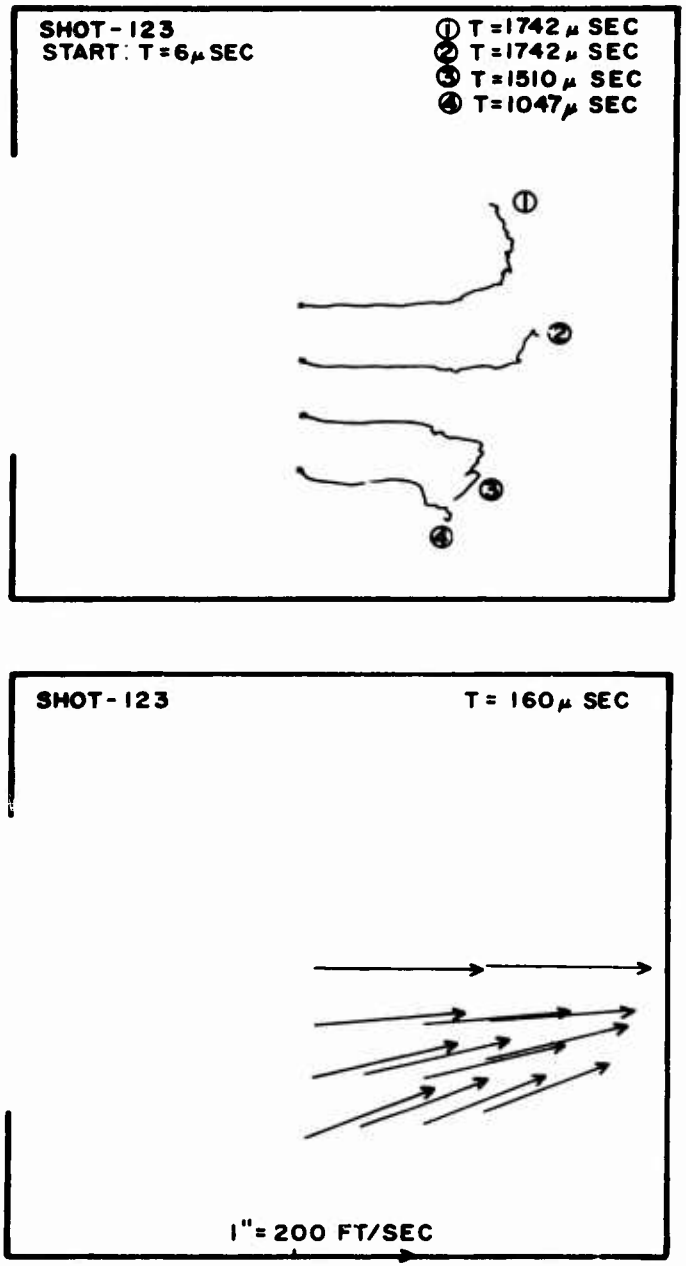


Figure D-10. Smoke paths and flow vectors from rear grid - 2 in. entrance to model

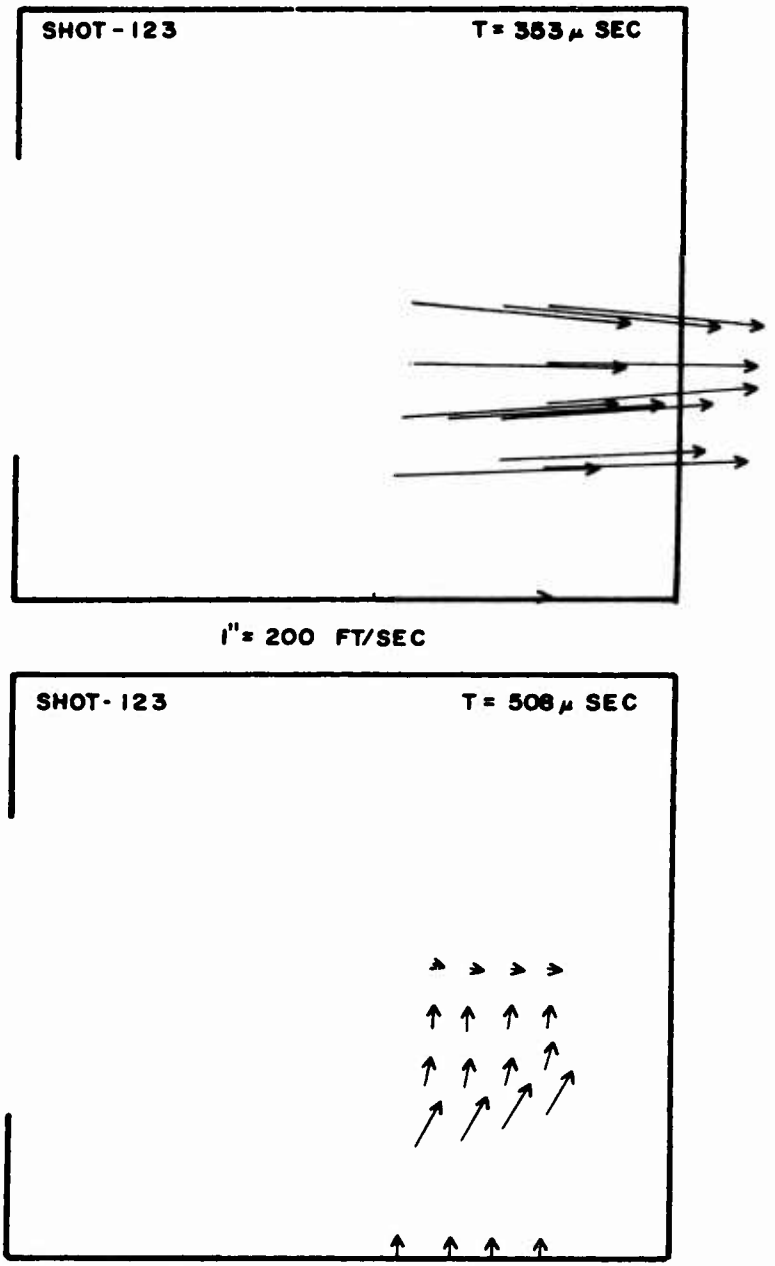


Figure D-10. Smoke paths and flow vectors from rear grid - 2 in. entrance to model (Continued)

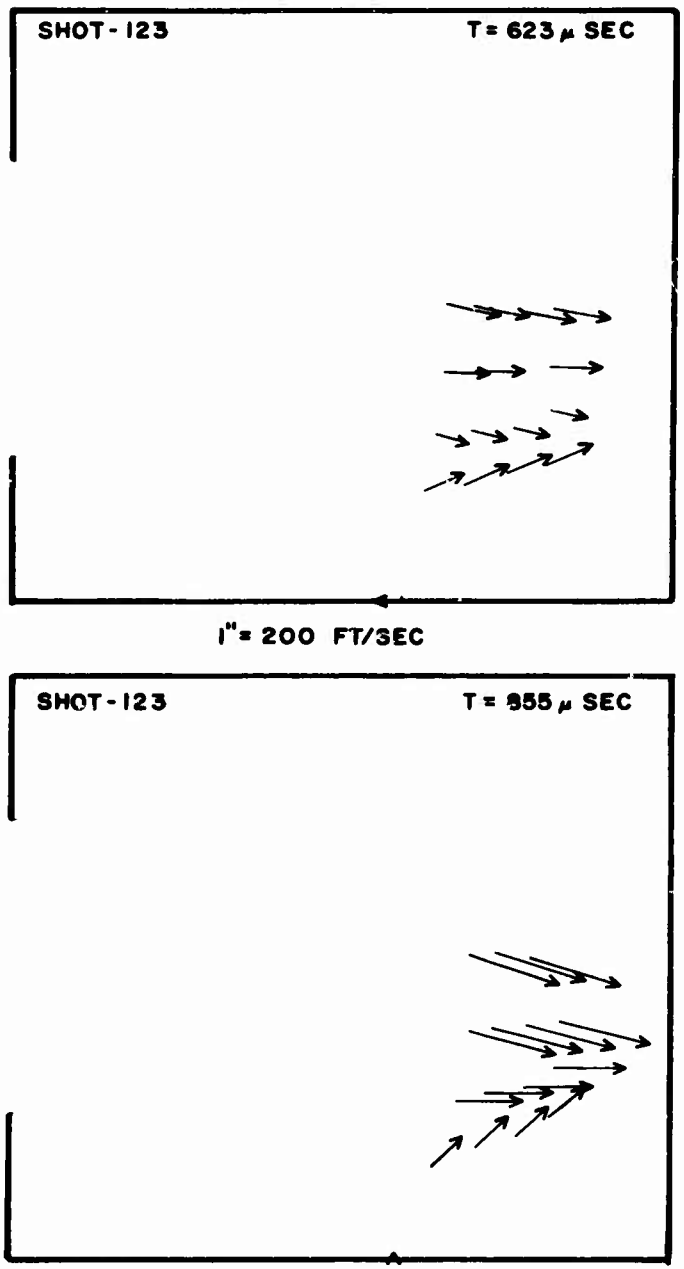


Figure D-10. Smoke paths and flow vectors from rear grid - 2 in. entrance to model (Continued)

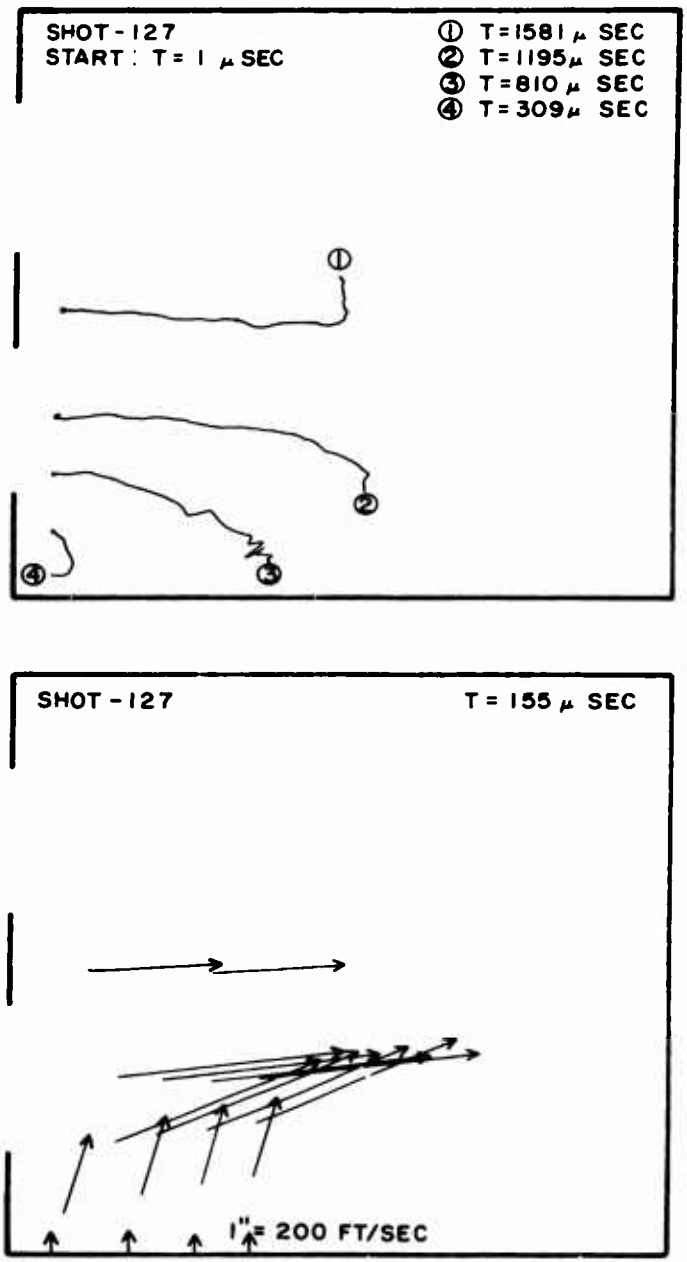


Figure D-11. Smoke paths and flow vectors from front grid - two 1 in. entrances to model

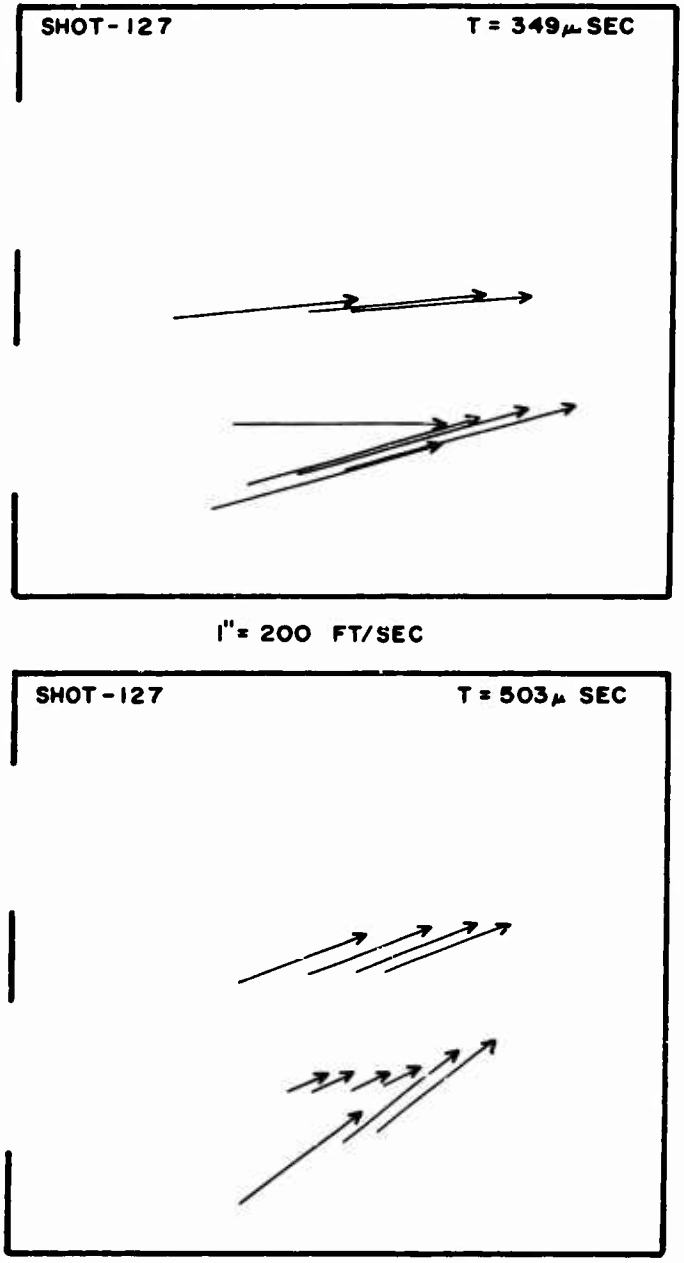
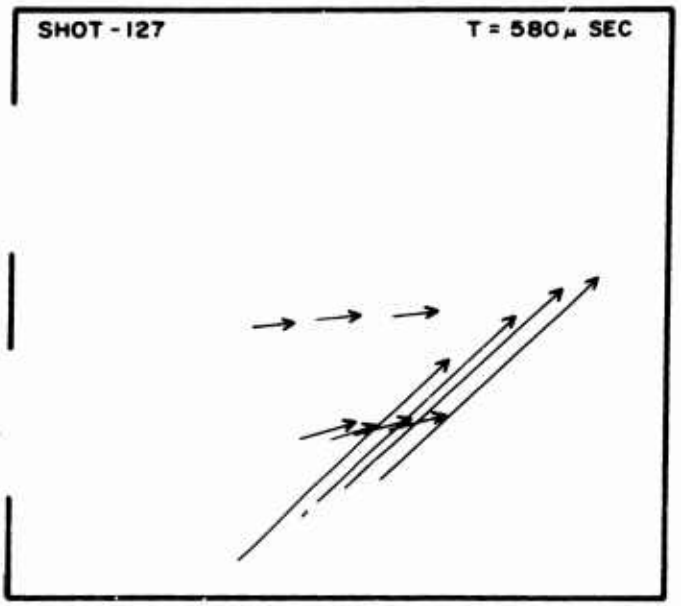


Figure D-11. Smoke paths and flow vectors from front grid - two 1 in. entrances to model (Continued)



1" = 200 FT/SEC

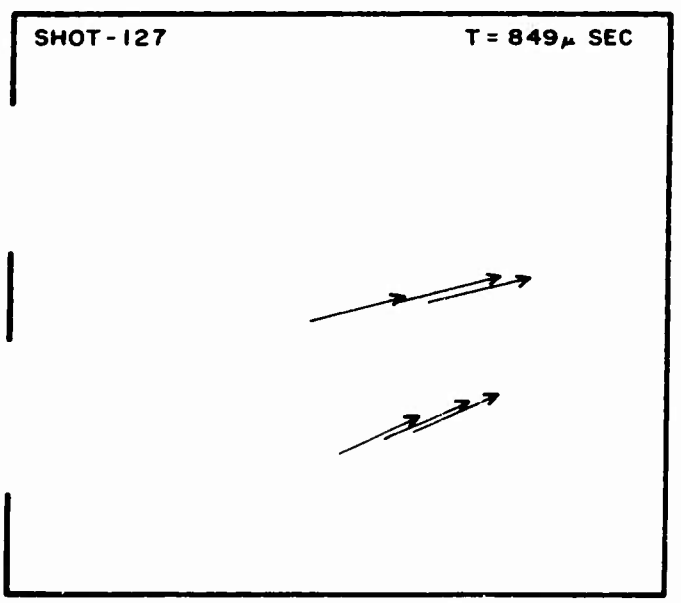


Figure D-11. Smoke paths and flow vectors from front grid - two 1 in. entrances to model. (Continued)

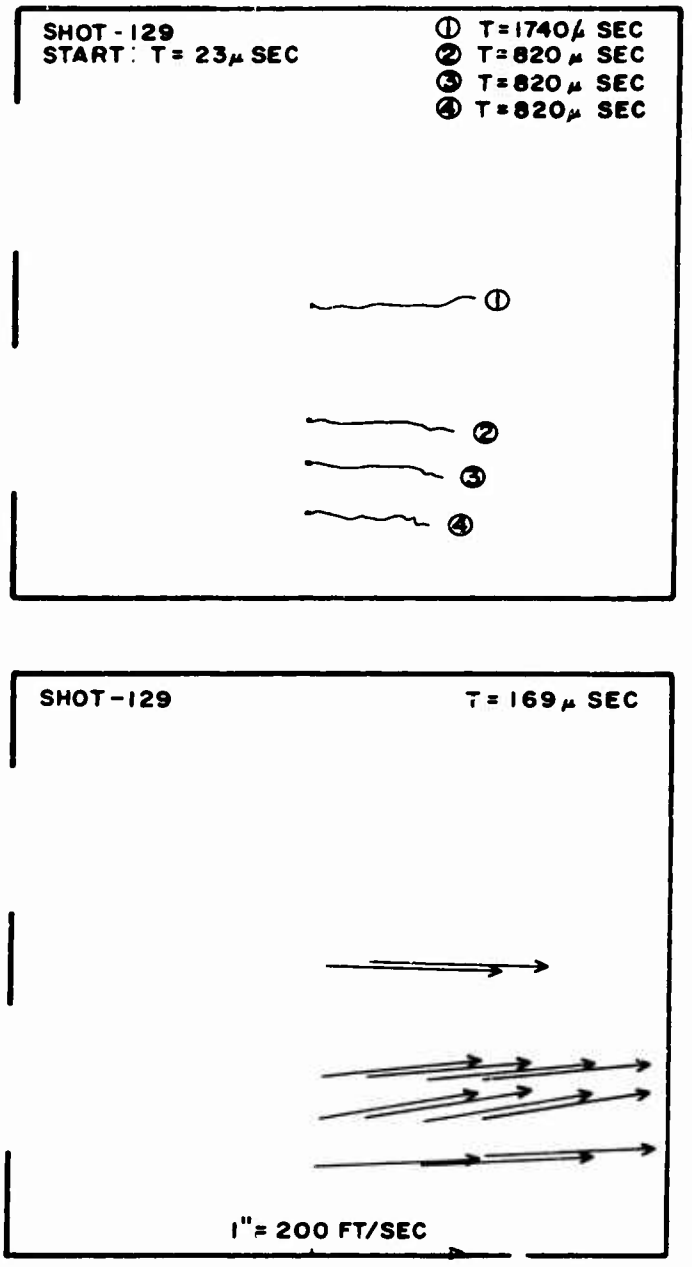


Figure D-12. Smoke paths and flow vectors from rear grid - two 1 in. entrances to model

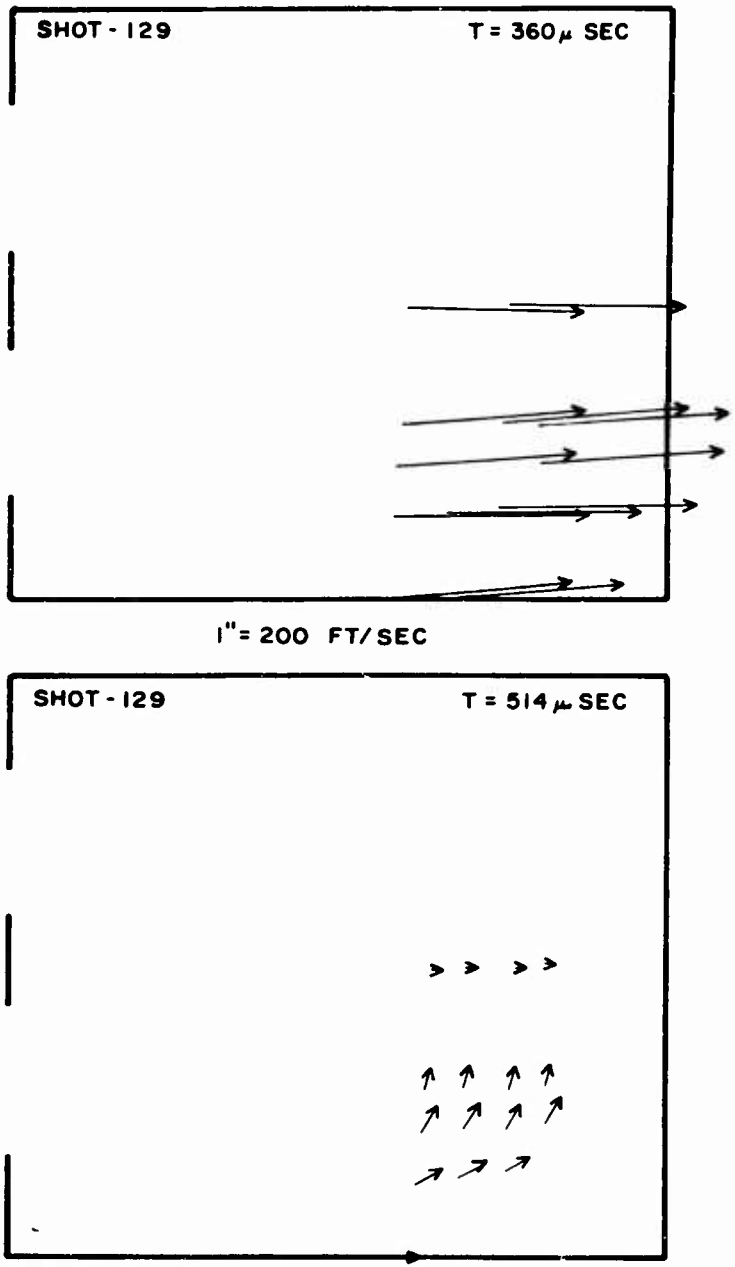


Figure D-12. Smoke paths and flow vectors from rear grid - two 1 in. entrances to model (Continued)

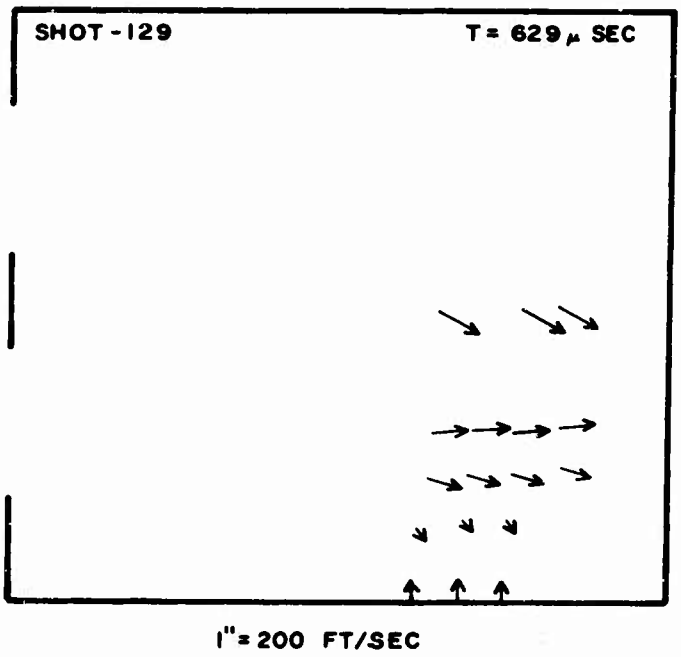


Figure D-12. Smoke paths and flow vectors from rear grid - two 1 in. entrances to model (Continued)

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13. ABSTRACT

The results of model room and chamber filling are given for two- and three-dimensional models exposed to shock waves 5-20 psi overpressure produced in the 4 x 15 in. and 24 in. shock tubes. Additional results are given for a field experiment in which a 3 ft cubic room was exposed to a 5 psi overpressure blast wave from the explosion of 100 tons of TNT. The results are presented on pressure-time filling records and on high speed photographs. A smoke grid technique was used to illustrate the shock filling process.

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