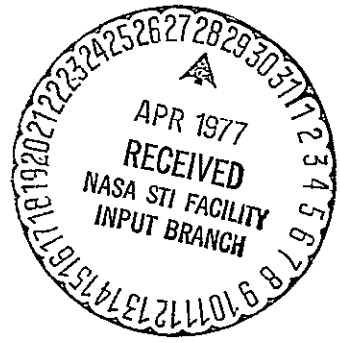
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT



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RESULTS OF PHASE CHANGE PAINT THERMAL MAPPING TEST OH46 USING THE 0.006-SCALE MODEL 90-O IN THE NASA LaRC VARIABLE DENSITY TUNNEL

by

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WIND TUNNEL TEST SPECIFICS:

Test Number:	NASA LaRC VDT 4502-4601
NASA Series Number:	OH46
Model Number:	90-0
Test Dates:	November 12 through 15 and December 4 through 7, 197
Occupancy Hours:	64

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RESULTS OF PHASE CHANGE PAINT THERMAL MAPPING TEST OH46 USING THE 0.006-SCALE MODEL 90-0 IN THE NASA LaRC VARIABLE DENSITY TUNNEL

J. W. Cummings and W. H. Dye, Rockwell International Space Division

ABSTRACT

Results of Test OH46 are presented in this document. This test was conducted in the NASA LaRC Mach 8 Variable Density Tunnel during November and December 1973 to obtain thermal contours on a 0.006-scale model (no. 90-0) of the configuration 140B Space Shuttle Orbiter using the phase change paint technique. The model was tested at 25°, 30°, and 35° angle of attack at unit Reynolds numbers ranging from 1.0 through 8.0 million per foot. The model was tested with and without a ventral fin mounted on its bottom centerline. Elevon deflections of 0° and 10° and bodyflap deflections of 0 and 13.75° were investigated.

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Thermal Control	4502			350	3.0	47
	4504			400		48
	4505			350		49
	4506			250		50
	4507			300		51
	4508			300		52
	4509			300	1.0	53
	4510			300		54
	4511			300		55
	4512			450	6.0	56
	4513			175	1.0	57
	4514			550	6.0	58
	4515			150	1.0	59
	4516			500	6.0	60
	4517			550	8.0	61
	4518			175	1.0	62
	4519			350	6.0	63
	4520			350	6.0	64
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	4523			300	1.0	66
	4524			400	8.0	67
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	4528			400		72
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	4530			300		74
	4531			300		75
	4532			450	6.0	76
	4533			300	1.0	77
	4534			550	6.0	78
	4535			500	6.0	79
	4536			250	1.0	80
	4537			300	1.0	81
	4538			300	6.0	82
	4539			175	1.0	83
	4540			550	8.0	84
	4541			350	6.0	85
	4542			150	1.0	86
	4543			350	6.0	87
	4544			175	1.0	88
	4545			400	8.0	89

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Type of Sketch	Run Number(s)	α (deg)	View	T_{pc} (°F)	RE/FT (million per ft.)	Page
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Thermal Contour	4546			400	3.0	91
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	4549			250		93
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	4551			450		95
	4552			300		96
Grid	4506-4522	30	Side	—	———	97
Thermal Contour	4506			250	3.0	98
	4513			175	1.0	99
	4519			350	6.0	100
	4522			150	3.0	101
Grid	4529	25		—	———	102
Thermal Contour	4529	25		250	3.0	103
Grid	4549-4552	35		—	———	104
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	4550			300	3.0	106
	4551			450	6.0	107
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Type of Sketch	Run Number(s)	α (deg)	View	T_{pc} (°F)	RE/FT (million per ft.)	Page
Grid	4556-4567	35	Bottom	——	——	109
Thermal Contour	4556			250	1.0	110
	4557			300	1.0	111
	4558			500	6.0	112
	4559			550	8.0	113
	4560			550	6.0	114
	4561			175	1.0	115
	4562			300	6.0	116
	4563			175	1.0	117
	4565			350	6.0	118
	4567			400	6.0	119
Grid	4568-4601	30		——	——	120
Thermal Contour	4568			550	8.0	121
	4569			550	3.5	122
	4570			400	8.0	123
	4571			400	3.5	124
	4572			400	4.0	125
	4573			300	1.0	126
	4574			300	4.0	127
	4575			200	1.0	128
	4577			350	1.0	129
	4579			200	1.0	130
	4581			500	3.0	131
	4582			300	3.0	132

INDEX OF DATA FIGURES (Continued)

Type of Sketch	Run number(s)	α (deg)	View	T_{pc} (°F)	RE/FT (million per ft.)	Page
Thermal Contour	4583	30	Bottom	550	6.0	133
	4584			350	6.0	134
	4586			450	3.0	135
	4588			250	3.0	136
	4590			550	6.0	137
	4591			400	6.0	138
	4592			550	8.0	139
	4593			400	8.0	140
	4594			300	1.0	141
	4595			400	3.0	142
	4596			550	6.0	143
	4597			200	1.0	144
	4598			300	1.0	145
	4599			450	3.0	146
	4600			200	1.0	147
	4601			300	3.0	148
Grid	4556-4593	30&35	Side	—	———	149
Thermal Contour	4556	35		250	1.0	150
	4557			300	1.0	151
	4558			500	6.0	152
	4561			175	1.0	153
	4562			300	6.0	154
	4564			175	3.0	155
	4565			350	6.0	156
	4569	30		350	3.5	157

INDEX OF DATA FIGURES (Concluded)

Type of Sketch	Run number(s)	α (deg)	View	T_{pc} (°F)	RE/FT (million per ft.)	Page
Thermal Contour	4570	30	Side	400	8.0	158
	4573			300	1.0	159
	4574			300	4.0	160
	4584			350	6.0	161
	4586			450	3.0	162
	4588			250	3.0	163
	4593			400	8.0	164

NOMENCLATURE

SYMBOL	Mnemonic	Definition
C_p		specific heat at constant pressure of model material, BTU/lb.-°F
$C_{P_{air}}$		specific heat at constant pressure of air, BTU/lb.-°F
g		acceleration due to gravity, ft./sec^2
h	H	thin film heat transfer coefficient at a given paint melt line on the model, BTU/ft^2-sec-°F
h_s, h_{ref}	HS	stagnation thin film heat transfer coefficient on a scaled foot radius sphere, reference value, BTU/ft^2-sec-°F
K		thermal conductivity of model material, BTU/ft-sec-°F
K_{air}		thermal conductivity of air, BTU/ft-sec-°F
M_∞	MINF	freestream Mach number
N_R		nose radius, ft.
OML		outer mold line
P_o, P_{Total}	PT	stagnation pressure, psf
P_1		pressure upstream of normal shock, psf
P_2		pressure behind normal shock, psf
P_r		Prandtl number
$\dot{q}$		heat transfer rate, BTU/ft^2-sec
$\dot{q}_s$		stagnation heat transfer rate on scaled 1 foot radius sphere, reference value, BTU/ft^2-sec
R		gas constant for air, $\frac{\text{ft-lb}_F}{\text{lbm-°R}}$

NOMENCLATURE (Continued)

Symbol	Mnemonic	Definition
R_∞/ft, R_e/ft	R/FT, RE/FT	freestream unit Reynolds number, million per foot
	SQROCK	square root of ρ C_p K, BTU/ft^2-°F-sec$^{.5}$
t	T	time, sec
T_{aw}	TAW	adiabatic wall temperature, °F
T_{IN}, T_I	TIN	initial model wall temperature, °F
T_o, T_{Total}	TO	freestream stagnation temperature, °F
T_{PC}	TPC	temperature at which paint changes phase, °F
$\overline{T}$	T-BAR	nondimensional temperature parameter defined in context
V_e		velocity at edge of boundary layer, ft/sec
X		longitudinal streamwise coordinate, ft.
X_o		Orbiter longitudinal coordinate, in.
Y_o		Orbiteral lateral coordinate, in.
Z_o		Orbiter vertical coordinate, in.
α	ALPHA	angle of attack, deg.
β	BETA	temperature parameter or sideslip angle in degrees as defined in context
δ		local model surface deflection angle to freesteam flow, deg.
δ_{BF}		body flap deflection angle, deg.
δ_e		elevon deflection angle, deg.

NOMENCLATURE (Concluded)

Symbol	Mnemonic	Definition
δ_V		ventral fin deflection angle, deg.
γ		ratio of specific heats of air
Θ		local surface angle with respect to fuselage reference line (axis), deg.
ϕ	PHI	model roll angle, deg.
ρ		density of model material, lb/ft^3
ρ_{air}		freestream density of air, lb/ft^3
ρ_S		stagnation air density lb/ft^3
ρ_W		air density along model wall, lb/ft^3
μ_{air}		freestream air viscosity, lbm/ft.-sec
μ_S		air stagnation viscosity, lbm/ft.-sec
μ_W		air viscosity along model wall, lbm/ft.-sec

CONFIGURATIONS INVESTIGATED

The models were 0.006-scale representations of the VL70-000140B Space Shuttle Orbiter Configuration. They were cast in a single piece around an aluminum and fiber glass sleeve using Grumman Aerospace Material G. , A metal cap was put on the nose of each test model to protect it in the high Reynolds number environment in the tunnel. Three (3) test models and one (1) grid model were used. They were identified as follow:

Designation	Type	δ_e	δ_{BF}
-22	Test	0°	0°
-31	Test	+10°	0°
-41	Test	+10°	+13°
Grid or -21	Grid	0°	0°

Each test model had two ventrals which were mounted on its body flap bottom centerline. The ventrals were at either 0° or 30° incidence to freestream flow. Ventrals are designated as:

Designation	δ_V
VEN0	0°
VEN30	30°

The models were tested both with and without ventrals.

The model components correspond to the following Orbiter component nomenclature:

Component Nomenclature	Description
B_{26}	fuselage

CONFIGURATIONS INVESTIGATED (Concluded)

Component Nomenclature	Description
C_9	canopy
F_8	body flap
L_6	ventral fin
M_7	OMS pod
R_5	rudder
V_8	vertical tail
W_{116}	wing

Table III provides dimensional data for each model component. Figure 2 presents sketches of the model. Figure 3 presents photographs of the model.

TEST FACILITY DESCRIPTION

The Langley Mach 8 Variable-Density Hypersonic Tunnel is located in Building 1247D and is under the direction of the Aero-Physics Division. This tunnel is used for fundamental aerodynamic and fluid dynamic investigations over large Reynolds number ranges using pressure and heat transfer measurements. The test medium is air and is heated by a combination of Dowtherm and electrical resistance. Model mounting consists of sting mount with injection mechanism. The tunnel has an axially symmetric contoured nozzle. The test section diameter is 18 inches with a core of 4 to 14 inches depending on pressure. It exhausts into a vacuum tank or the atmosphere.

Examples of operating conditions are as follows:

Stagnation pressure (psia) .....15 to 2930

Stagnation temperature (°R).....1160 to 1510

Mach Number .....7.5 to 8.0

Reynolds number per foot(1/ft).....0.1×10^6 to 12.0×10^6

Running time (SEC) for

Exhausting into vacuum tank—90

Exhausting into atmosphere — 600

TEST PROCEDURE

The general test procedures used during the test were as follows:

1) Prior to each run, the models were cleaned with solvent, dried and spray painted with predetermined paint, and installed inverted in the injection chamber.
2) The initial model temperature was measured and recorded by a contact thermometer placed against the test model.
3) After flow was established, two 35mm cameras were activated. The model was then injected into the flow stream. This process enabled the film reader to determine the exact time the model reached tunnel centerline. Continuous pictures were taken at a constant frame rate of 10 frames per second. Time duration for each run was determined by tunnel operating conditions and paint melt temperatures but usually averaged about 10 to 12 seconds. The model was retracted from the flow stream at the end of this time period.
4) The model was then removed from the injection chamber and more detailed photographs were taken of areas of interest which were not clearly defined on the 35mm cameras.
5) After each model attitude change, the paint stripe model was installed in the tunnel and photographed with the 35mm cameras. The paint stripe model clearly locates various X/L (body) locations as well as particular water planes and chord wise and span wise locations of the wing which would normally be difficult to locate with attitude changes by tracings made using

an overhead projector. These tracings are presented in the data figures.

6) This procedure was repeated for each configuration, test condition, and paint temperature.

7) Resulting photographs of both melt lines and grid models were traced onto paper using an overhead projector table. Resulting tracings are presented in the data figures.

Table II describes the test program.

DATA REDUCTION

Thin film coefficients were calculated for each melt line. Adiabatic wall temperature was calculated as:

$$T_{aw} = T_o \left(\frac{T_{aw}}{T_o}\right)$$

$$= T_o \left[0.876 + 0.133(\sin\delta)^{1.55}\right]$$

where:

$$\delta = \alpha + \Theta$$

= local surface angle to freestream flow, deg.

The temperature parameter, β, was then calculated by an solution of the following equation:

$$1 - \bar{T} = e^{\beta^2} (1 - \text{erf}\ \beta)$$

where:

$$\bar{T} = \frac{T_{PC} - T_{IN}}{T_{aw} - T_{IN}}$$

Thin film coefficients were then calculated:

$$h = \frac{\beta\sqrt{K\rho C_p}}{\sqrt{t}}$$

and heat transfer rates were calculated as:

$$\dot{q} = h\ (T_{aw} - T_{PC})$$

Reference thin film coefficients were calculated for a scaled 1 foot full scale radius sphere using the Faye-Riddell method:

$$h_s = \frac{.768\ C_p}{(P_r)^{.6}} (\rho_w\ \mu_w)^{.1} (\rho_s\ \mu_s)^{.4} \sqrt{\frac{dV_e}{dx}}$$

where:

$$P_r = \frac{\mu_{air} C_{P_{air}}}{K_{air}}$$

$$\frac{dV_e}{dx} = \frac{1}{N_R} \sqrt{2Rg\ T_o \left[1 - \frac{1}{P_1 P_2}\right]}$$

$$P_1 = \left[\frac{\gamma+1}{2} M_\infty^2\right]^{\frac{\gamma}{\gamma-1}}$$

$$P_2 = \left[\frac{\gamma+1}{2\gamma M_\infty^2 - (\gamma-1)}\right]^{\frac{1}{\gamma-1}}$$

$$g = 32.2 \frac{lbm\ ft}{lb_f\ Sec^2}$$

$$N_R = 0.006\ ft$$

$$R = 53.35 \frac{ft - lb_F}{lb_M - {}^oR}$$

Stagnation heat transfer rate was then calculated as:

$$\dot{q}_s = h_s (T_{aw} - T_{PC})$$

Resulting values of h, h/h_s, $\bar{T}$, β, and T_{aw}/T_o are tabulated in the appendix as a function of model time on tunnel centerline. Each time for which these values are given is indexed by a sequential number called

"Contour." Tracings given in the data figures are identified by a frame number which is not necessarily consecutive. The lowest valued frame number corresponds to data given for Contour 1. The highest valued frame number corresponds to the largest contour number. Intermediate frame and contour numbers are similarly matched in order of increasing numbers. The first data figure presents 60th frame and contour numbers as an example of how they are matched.

REFERENCE

1. Cummings, J. W., "Pretest Report For Phase Change Paint Test On 0.006-Scale Models of the Rockwell International Space Shuttle Orbiter in the NASA-LRC Variable Density Wind Tunnel-(OH46)", Rockwell International Report No. SD73-SH-0265, September 27, 1973.

TABLE I.

TEST : OH46 DATE : Post-test

TEST CONDITIONS

MACH NUMBER	REYNOLDS NUMBER (million per foot)	Stagnation Pressure (pounds/sq. inch)	STAGNATION TEMPERATURE (degrees Fahrenheit)
8.0	1.0	155	785
↓	3.0	625	875
↓	6.0	1390	950
↓	8.0	1930	925

BALANCE UTILIZED: _____

	CAPACITY:	ACCURACY:	COEFFICIENT TOLERANCE:
NF			
SF			
AF			
PM			
RM			
YM			

COMMENTS:

Phase change paint test

Paint temperature utilized:
150, 175, 250, 300, 350, 400, 450, 500, 550

TABLE II. - TEST PROGRAM

Run No.	VDT Run No.	Config.	α	RE/FT $\times 10^{-6}$	T_{pc} °F	T_i °F	T_o °F	P_o Psig	Run Time	Remarks
Grid Model		21-Smooth	30							
1	4502	22-Smooth	↓	3.0	350	72	915	620	13.7	
2	4503	31-Elevon	↓	↓	400	72	865	650	13.7	No cameras
3	4504	41-BodyFlap	↓	↓	400	76	850	625	13.6	
4	4505	-31	↓	↓	350	82	875	630	13.5	
5	4506	-22	↓	↓	250	80	905	645	13.5	Upper surface indicates Possible Yaw
6	4507	-31	↓	↓	300	82	880	625	14.2	
7	4508	-41	↓	↓	300	80	885	625	13.0	
8	4509	-22	↓	1.0	300	80	785	163	14.6	No side cameras
9	4510	-31	↓	↓	300	76	800	155	13.6	No side cameras
10	4511	-41	↓	↓	300	76	770	150	13.7	Replace side cameras
11	4512	-22	↓	6.0	450	79	955	1380	10.4	No Schlieren
12	4513	-31	↓	1.0	175	81	770	157	13.6	
13	4514	-41	↓	6.0	550	80	905	1380	10.4	
14	4515	-22	↓	1.0	150	79	795	164	14.4	
15	4516	-31	↓	6.0	500	79	950	1405	10.3	
16	4517	-22	↓	8.0	550	81	925	1920	10.8	
17	4518	-41	↓	1.0	175	81	760	165	13.6	
18	4519	-31	↓	6.0	350	80	930	1400	10.7	
Grid Model				←	→					Check focus

TABLE II. - TEST PROGRAM (Continued)

Run No.	VDT Tun No.	Config.	α	RE/FT $\times 10^{-6}$	T_{pc} °F	T_i °F	T_o °F	P_o psig	Run Time	Remarks
19	4520	-22	30	6.0	350	82	940	1405	10.5	Check focus
20	4521	-41	↓	↓	350	81	925	1390	10.3	
21	4522	-22		3.0	150	81	850	625	15.2	Side painted only
22	4523	-31		1.0	300	82	775	165	16.7	Repeat of 4510
23	4524	-22		8.0	400	83	925	1935	10.5	
24	4525	-41	30	1.0	300	82	770	163	16.3	Repeat 4510
Grid Model		-21	25	←					→	Reset cameras
25	4526	-22		3.0	350	77	890	625	13.6	
26	4527	-31			400	81	880	625	13.9	
27	4528	-41			400	82	880	635	13.6	
28	4529	-22			250	81	875	635	13.5	
29	4530	-31			300	83	885	630	13.2	
30	4531	-41			300	82	865	625	13.1	
31	4532	-22		6.0	450	83	955	1400	10.4	
32	4533	-31		1.0	300	83	760	164	13.9	No side camera
33	4534	-41		6.0	550	83	950	1400	10.5	
34	4535	-31		↓	500	84	940	1400	10.4	
35	4536	-22		1.0	250	83	745	160	13.7	
36	4537	-41		↓	350	82	735	156	13.6	
37	4538	-22		6.0	300	82	940	1405	10.5	
38	4539	-31	↓	1.0	175	82	770	150	13.5	

TABLE II. - TEST PROGRAM (Continued)

Run No.	VDT Run No.	Config.	α	RE/FT x10^{-6}	T_{pc} °F	T_i °F	T_o °F	P_o psig	Run Time	Remarks
39	4540	-22	25	8.0	550	82	935	1935	10.3	
40	4541	-41	↓	6.0	350	84	950	1400	10.5	
41	4542	-22	↓	1.0	150	85	780	152	13.7	
42	4543	-31	↓	6.0	350	85	980	1390	10.6	
43	4544	-41	↓	1.0	175	82	820	160	13.5	
44	4545	-22	↓	8.0	400	82	940	1930	10.4	
Grid Model		-21	35	←	→					
45	4546	-31	↓	3.0	400	83	850	625	10.6	
46	4547	-22	↓	↓	350	82	860	620	10.4	
47	4548	-41	35	3.0	400	82	865	655	13.8	
48	4549	-22	↓	↓	250	84	875	635	17.1	
49	4550	-31	↓	↓	300	82	885	630	17.7	
50	4551	-22	↓	6.0	450	82	950	1375	12.4	
51	4552	-41	↓	3.0	300	81	865	660	16.6	
52	4553	-31	↓	1.0	175					
53	4556	22	35	1	250	76	840	157	*	
54	4557	41	↓	1	300	73	815	157	↓	
55	4558	31	↓	6	500	74	955	1435		
56	4559	22	↓	8	550	76	965	1960		
57	4560	41	↓	6	550	74	970	1410		
58	4561	31	↓	1	175	78	815	146		

* Run times for run numbers 53 through 98 are unavailable.

TABLE II. - TEST PROGRAM (Continued)

Run No.	VDT Run No.	Config.	α	RE/FT x10^{-6}	T_{pc} °F	T_i °F	T_o °F	P_o psig	Run Time	Remarks
59	4562	22	35	6	300	81	965	1380		
60	4563	41		1	175	76	785	151		
61	4564	22		3	175	79	930	645		
62	4565	31		6	350	78	975	1455		
63	4566	22		1	150	77	825	161		
64	4567	41		6	400	77	965	1450		
65	4568	31	30	8	550	80	980	1915		
66	4569	22		3.5	350	79	930	780		
67	4570	31		8	400	82	990	1870		
68	4571	22		3.5	400	88	825	775		
69	4572	22		4	400	83	880	900		
70	4573	31 ven 0		1	300	84	750	153		
71	4574	22		4	300	79	915	855		
72	4575	31 ven 0		1	200	76	825	172		
73	4576	22		3	oil	oil	875	610		
74	4577	31 ven 30		1	350	76	795	150		
75	4578	22		6	Oil	oil	935	1400		
76	4579	31 ven 30		1	200	76	765	156		
77	4580	22		6	oil	oil	965	1470		
78	4581	31 ven 30	30	3	500	80	895	625		
79	4582	31 ven 30		3	300	79	880	620		

TABLE II. - TEST PROGRAM (Concluded)

Run No.	VDT Run No.	Config.	α	RE/FT x10^{-6}	T_{pc} °F	T_i °F	T_o °F	P_o psig	Run Time	Remarks
80	4583	31 ven 30	30	6	550	80	970	1430		
81	4584	31 ven 30		6	350	82	985	1405		
82	4585	22		3	oil	oil	950	1400		
83	4586	31 ven 0		3	450	82	900	630		
84	4587	22		6	oil	oil	945	1435		
85	4588	31 ven 0		3	250	82	905	635		
86	4589	22		3	oil	oil	920	635		
87	4590	31 ven 0		6	550	76	960	1385		
88	4591	31 ven 0		6	400	79	950	1390		
89	4592	31 ven 0		8	550	79	965	1895		
90	4593	31 ven 0		8	400	79	955	1895		
91	4594	41		1	300	76	755	152		
92	4595	41		3	400	76	880	630		
93	4596	41		6	550	74	940	1380		
94	4597	41		1	200	77	765	163		
95	4598	41 ven 30		1	300	76	780	145		
96	4599	41 ven 30		3	450	75	900	635		
97	4600	41 ven 30		1	200	76	805	163		
98	4601	41 ven 30		3	300	76	920	650		

TABLE III. - MODEL DIMENSIONAL DATA

MODEL COMPONENT: BODY - $^{B}26$

GENERAL DESCRIPTION: Orbiter Fuselage Configuration 140A/B

NOTE: $^{B}26$ identical to $^{B}24$ except underside of fuselage refaired to accept $^{W}116$.

Model Scale = 0.006

DRAWING NUMBER: VL70-000193
VL70-000140A

DIMENSIONS:	FULL-SCALE	MODEL SCALE
Length (Body Fwd Sta X_o=235) - in	1293.3	7.759
Max. Width (at X_o-1520) - in	262.0	1.572
Max. Depth (at X_o = 1464) - in.	250.0	1.500
Fineness Ratio	0.26357	0.26357
Area - ft^2		
Max. Cross-Sectional	340.88462	.01227

TABLE III. - Continued

MODEL COMPONENT: Canopy (C9)

GENERAL DESCRIPTION: Configuration 140B

Model Scale = 0.006

DRAWING NUMBER: VL70-000140B
VL70-000143A

DIMENSIONS:	FULL-SCALE	MODEL-SCALE
Length (X_o=434.643 to 670.0)	235.357	1.412
Max Width @X_o = 513.127)	152.412	.914
Max Depth @X_o = 485.0)	25.00	.150

TABLE III. - Continued

MODEL COMPONENT: Body Flap - F8

GENERAL DESCRIPTION: Configuration 4 body flap

Model Scale = 0.006

DRAWING NUMBER: VL70-000140B
VL70-000200

DIMENSION:	FULL-SCALE	MODEL SCALE
Length in.	84.7	.508
Max Width in.	262.308	1.574
Max Depth in.	23.000	.138
Area - ft^2		
Planform	158.85350	.0057
Wetted		
Base	41.89642	.00151

TABLE III. - Continued

MODEL COMPONENT: Ventral Fin - L_6

GENERAL DESCRIPTION: Single ventral fin located on lower surface of body flap at model centerline.

Model Scale = 0.006

DIMENSIONS:	FULL-SCALE	MODEL SCALE
Span, in.	52.3	0.314
Chords, in		
root	80.5	0.483
tip	50.5	0.303
m.a.c.	74.35	
Taper ratio	0.627	0.627
Aspect Ratio	0.79	0.79
Planform area, ft^2	23.8	0.0008569
Airfoil		
Leading edge radius, in.	6.0	0.036
Max thickness, in.	25.33	0.152
Sweep Angle, deg.		
Leading edge	30	30
Trailing edge	0	0

TABLE III. - Continued.

MODEL COMPONENT: OMS Pod - M_7

GENERAL DESCRIPTION: Configuration 140B Orbiter OMS Pod

Model Scale = 0.006

DRAWING NUMBER:

DIMENSIONS	FULL-SCALE	MODEL SCALE
Length (Fwd Sta X_0=1233.0 in)	327.000	1.962
Max Width (@X_0=1450.0) - in.	94.50	.567
Max Depth (@X_0=1493.0) - in.	109.000	.654

MODEL DIMENSIONAL DATA- Continued.

MODEL COMPONENT : RUDDER - R_5

GENERAL DESCRIPTION : 2A, 3 and 3A Configuration per Rockwell Lines VL70-000095

Model Scale = 0.006

DRAWING NUMBER : VL70-000095

DIMENSIONS :	FULL-SCALE	MODEL SCALE
Area - FT^2	106.38	.0038
Span (equivalent)	201.0	1.206
Inb'd equivalent chord	91.585	.549
Outb'd equivalent chord	50.833	.304
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	0.400	0.400
At Outb'd equiv. chord	0.400	0.400
Sweep Back Angles, degrees		
Leading Edge	34.83	34.83
Trailing Edge	26.25	26.25
Hingeline	34.83	34.83
Area Moment (Normal to hinge line)-FT^3 Product of Area and Mean Chord	526.13	0.189

TABLE III. - Continued.

MODEL COMPONENT: Vertical Tail - V_8

GENERAL DESCRIPTION: Configuration 140B Orbiter Vertical Tail

NOTE: Similar to V5 with radius of T.E. upper corner and L.E. corner where vertical meets fuselage.

Model Scale = 0.006

DRAWING NUMBER: VL70-000140B

DIMENSIONS:	FULL-SCALE	MODEL SCALE
TOTAL DATA		
Area (Theo) Ft^2	413.253	.0148
Planform		
Span (Theo) In	315.72	1.894
Aspect Ratio	1.675	1.675
Rate of Taper	0.507	0.507
Taper Ratio	0.404	0.404
Sweep Back Angles, Degrees		
Leading Edge	45.00	45.00
Trailing Edge	25.947	25.947
0.25 Element Line	41.130	41.130
Chords:		
Root (Theo) WP	268.500	1.611
Tip (Theo) WP	108.470	0.651
MAC	199.807	1.198
Fus. Sta. of .25 MAC	1463.50	8.781
W. P. of .25 MAC	635.52	3.813
B. L. of .25 MAC	0.00	0.00
Airfoil Section		
Leading Wedge Angle Deg	10.00	10.00
Trailing Wedge Angle Deg	14.920	14.92
Leading Edge Radius	2.00	2.00
Void Area	13.17	13.17
Blanketed Area	0.0	0.00

TABLE III. - Continued

MODEL COMPONENT: WING W_{116}

GENERAL DESCRIPTION: Configuration 4

NOTE: Identical to W_{114} except airfoil thickness. Dihedral angle is along trailing edge of wing.

Model Scale = 0.006

DRAWING NUMBER: VL70-000140B
VL70-000200

DIMENSIONS:	FULL-SCALE	MODEL SCALE
Total Data		
Area (Theo.) Ft^2		
Planform	2690.00	.09684
Span (Theo In)	936.6816	5.620'
Aspect Ratio	2.265	2.265
Rate of Taper	1.177	1.177
Taper Ratio	0.200	0.200
Dihedral Angle, degrees (at X_o=1506.623,Y_o	3.500	3.500
Incidence Angle, degrees 105,^oZ_o=282.75)	0.500	0.500
Aerodynamic Twist, degrees	+3.000	+3.000
Sweep Back Angles, degrees		
Leading Edge	45.00	45.00
Trailing Edge	-10.056	-10.056
0.25 Element Line	35.209	35.209
Chords:		
Root (Theo) B.P. = zero	689.2429	4.135
Tip, (Theo) B.P.	137.8486	.827
MAC	474.8117	2.849
Fus. Sta. of .25 MAC	1126.721	6.760
W.P. of .25 MAC	291.00	1.746
B.L. of .25 MAC	187.33491	1.124
Exposed Data		
Area, (Theo) Ft^2	1812.2205	.0652
Span, (Theo) In. BP108	736.6816	4.420
Aspect Ratio	2.058	2.058
Taper Ratio	0.2451	0.2451
Chords		
Root BP108	570.6230	3.424
Tip 1.00 $\frac{b}{2}$	137.8512	.827
MAC	354.2376	2.1254
Fus. Sta. of .25 MAC	1164.237	6.985
W.P. of .25 MAC	292.00	1.752
B.L. of .25 MAC	239.67786	1.438
Airfoil Section (Rockwell Mod NASA) XXXX-64		
Root $\frac{b}{2}$ = 0.425	0.113	0.113
Tip $\frac{b}{2}$ =1.00	0.12	0.12

TABLE III. - Concluded.

MODEL COMPONENT: W_{116}

	FULL-SCALE	MODEL SCALE
Data for (1) of (2) Sies		
Planform Area Ft^2	118.33	.00426
Leading Edge Intersect Fus M. L. @ Sta	505.0	3.030
Leading Edge Intersects Wing @ Sta	1003.5	6.021

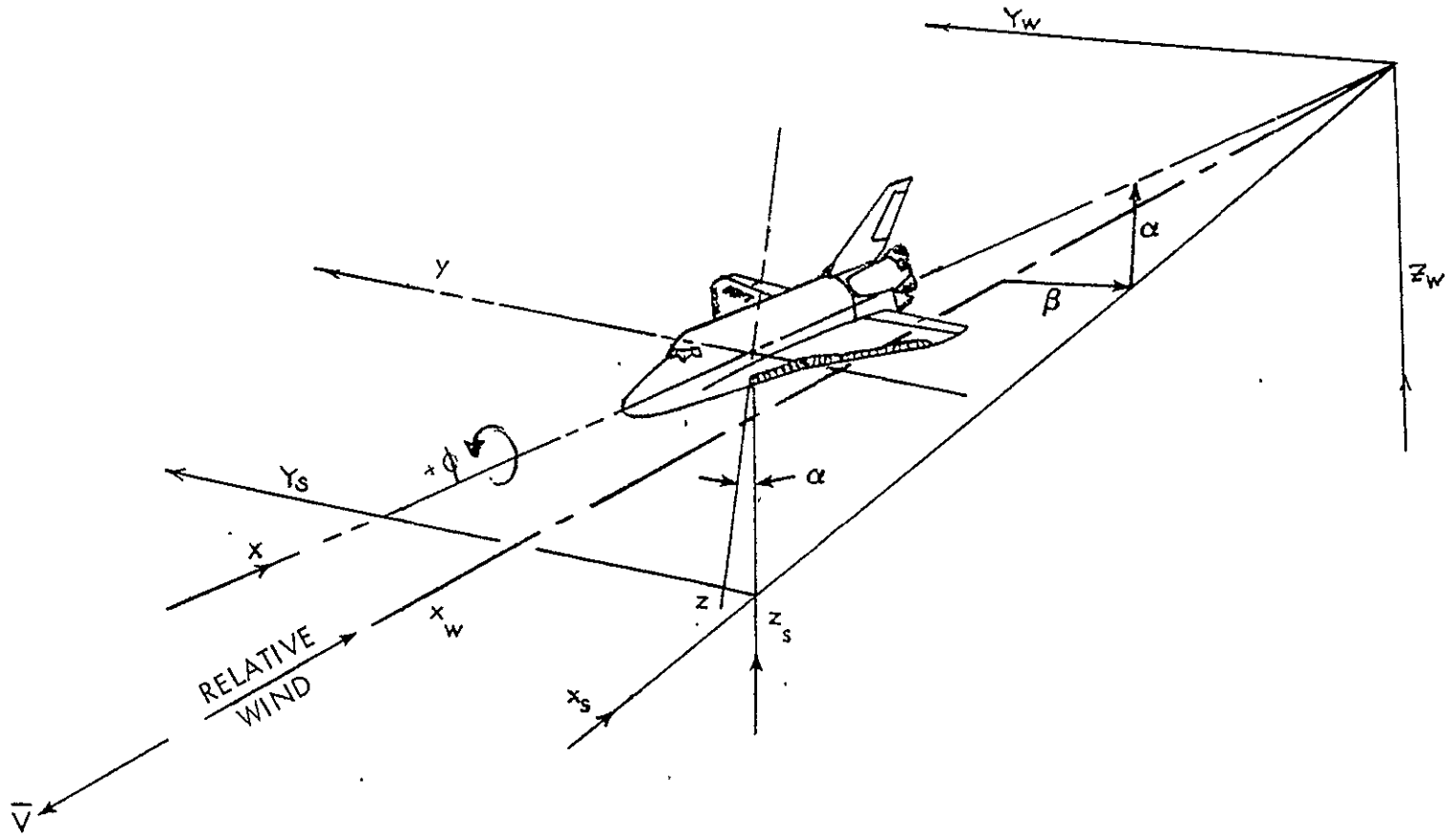
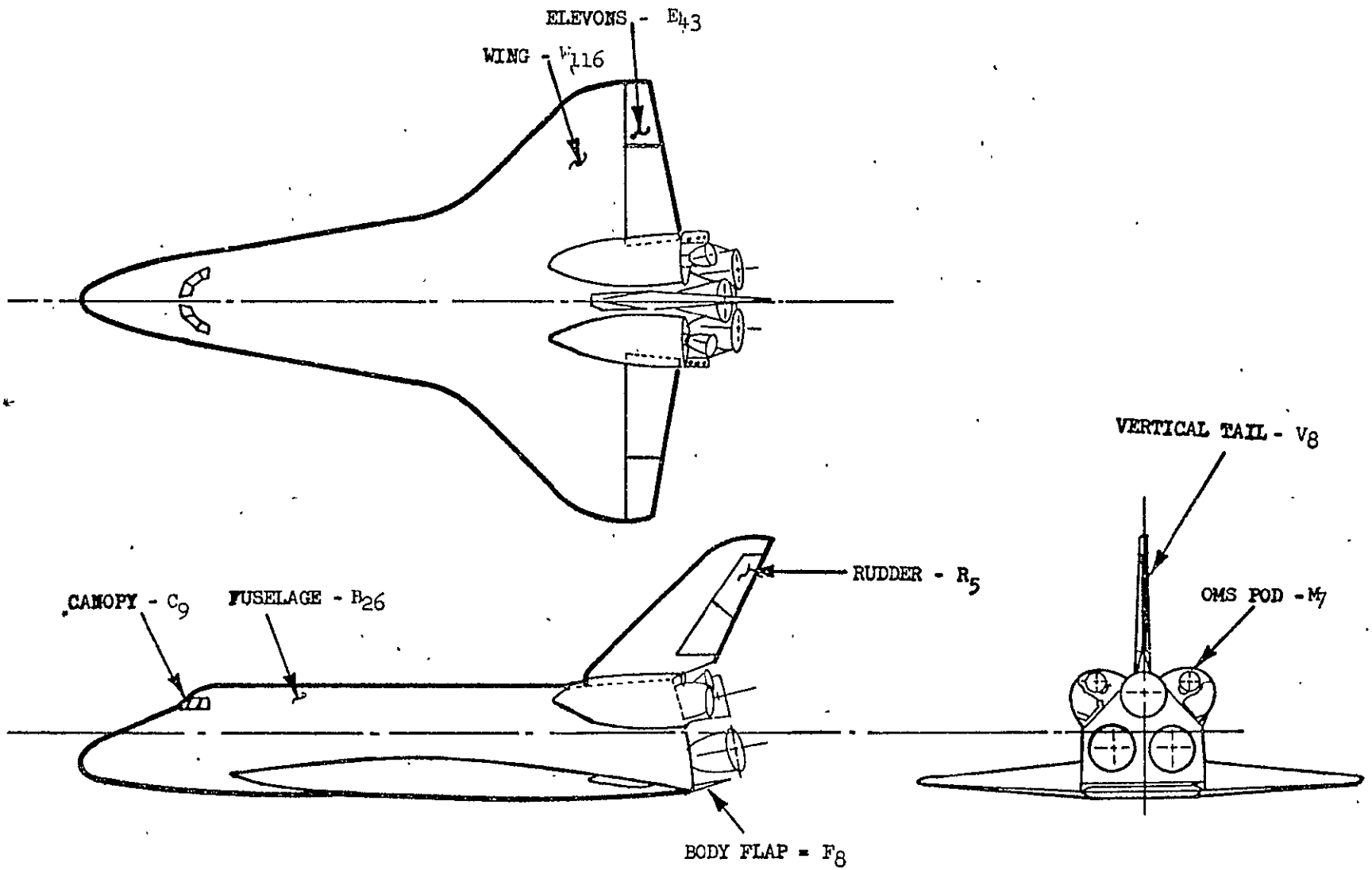
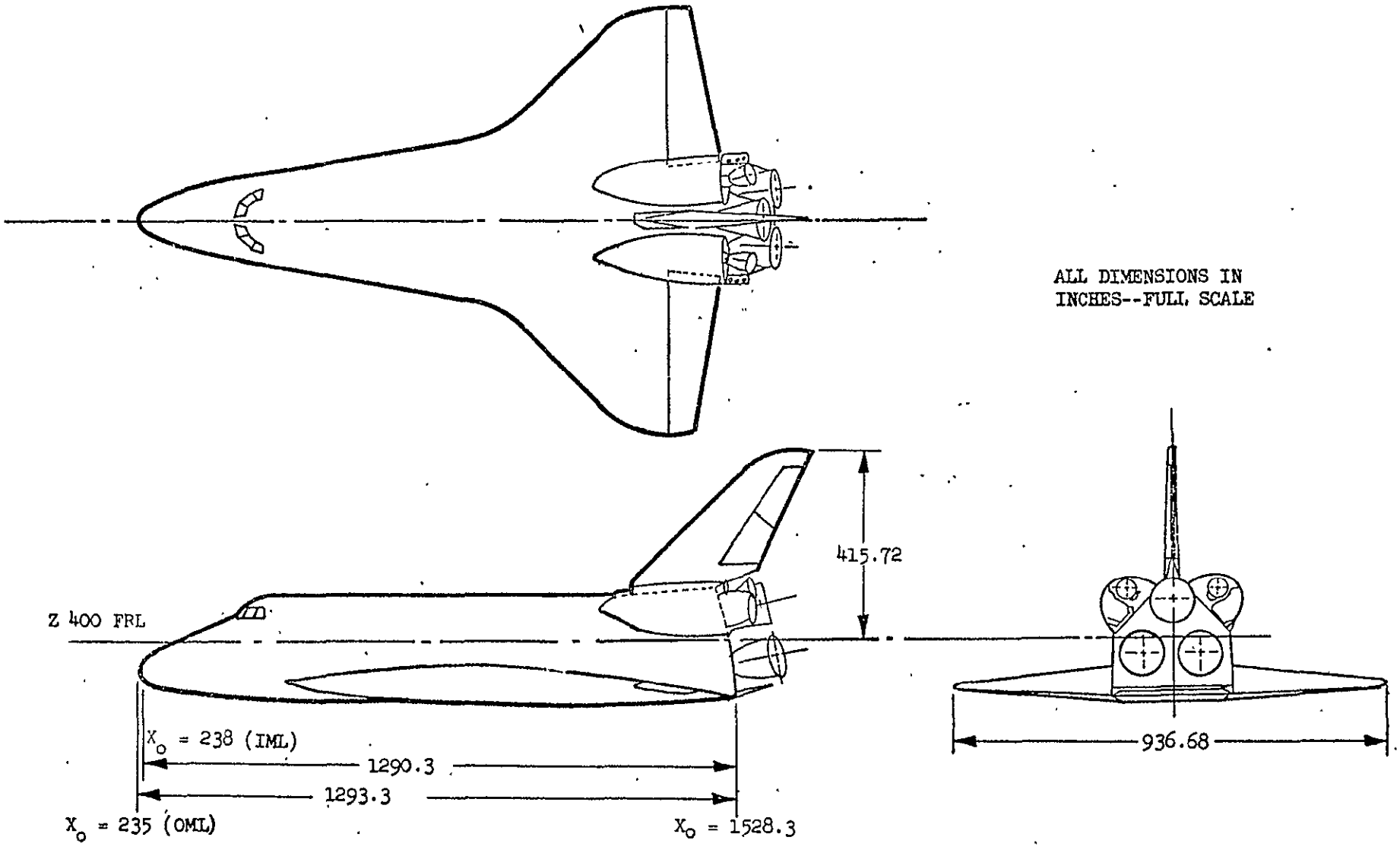


Figure 1. - Axes System.



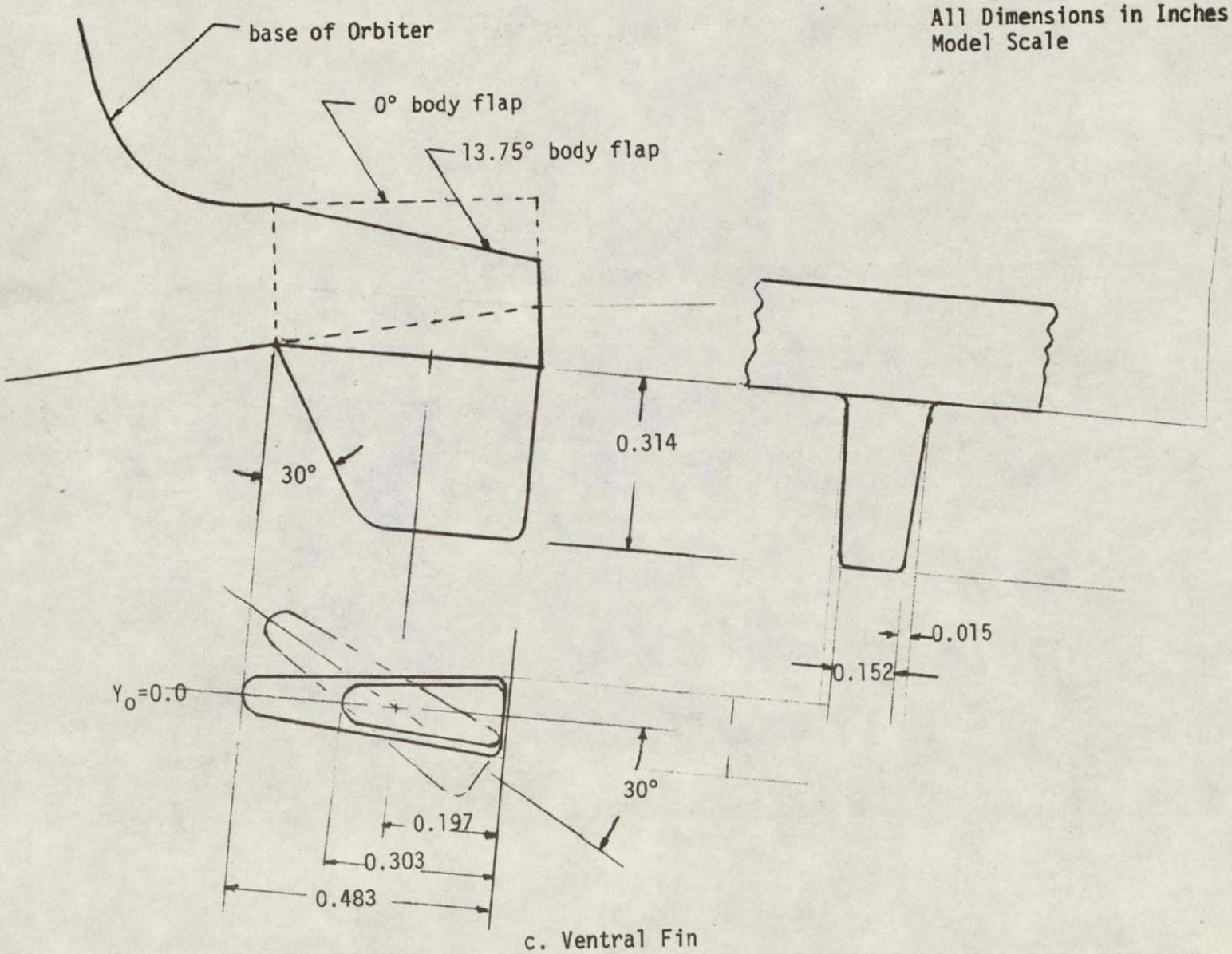
a. Configuration Designations

Figure 2. - Model Sketches.



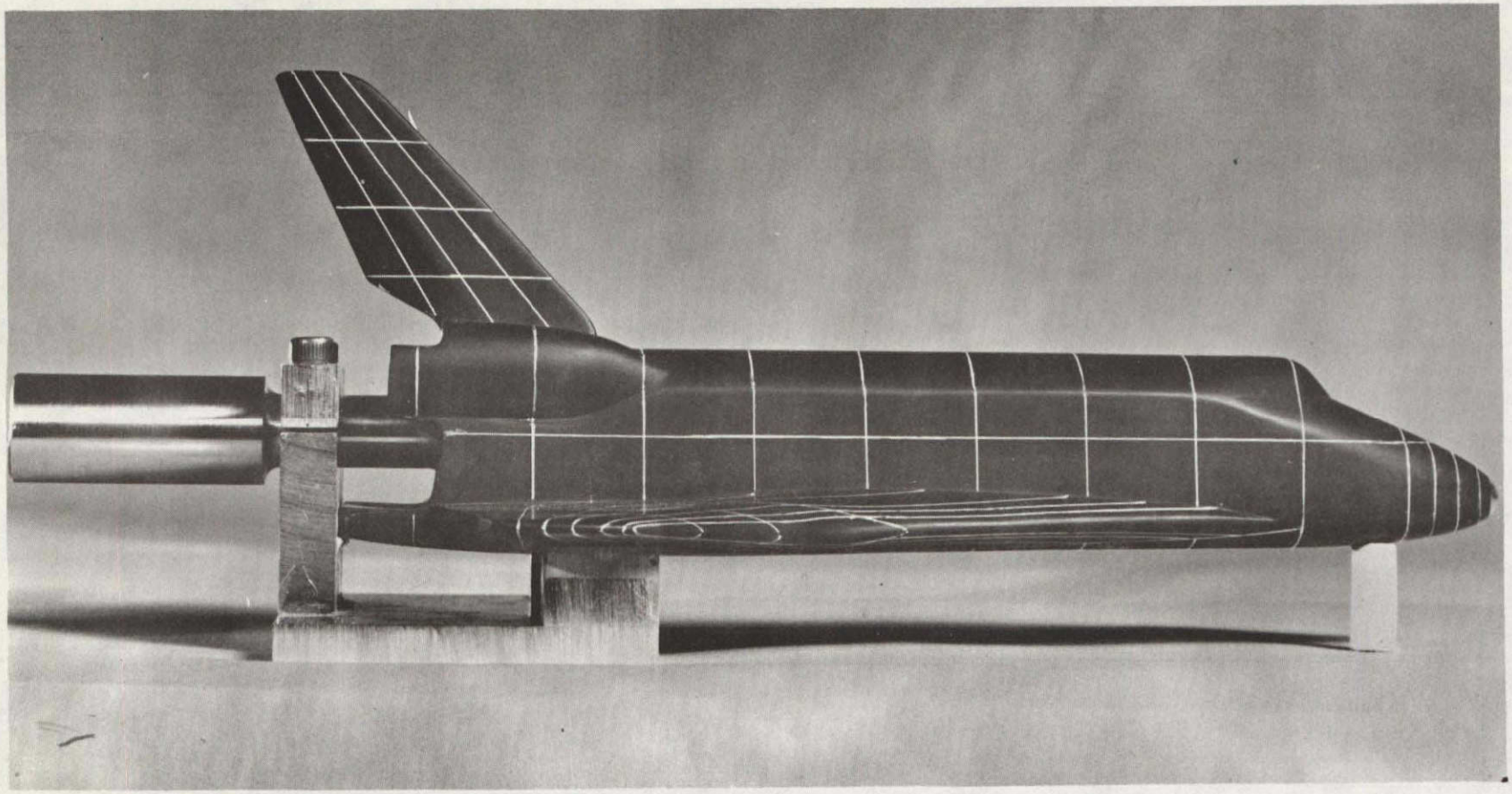
b. Orbiter General Arrangement

Figure 2. - Continued.



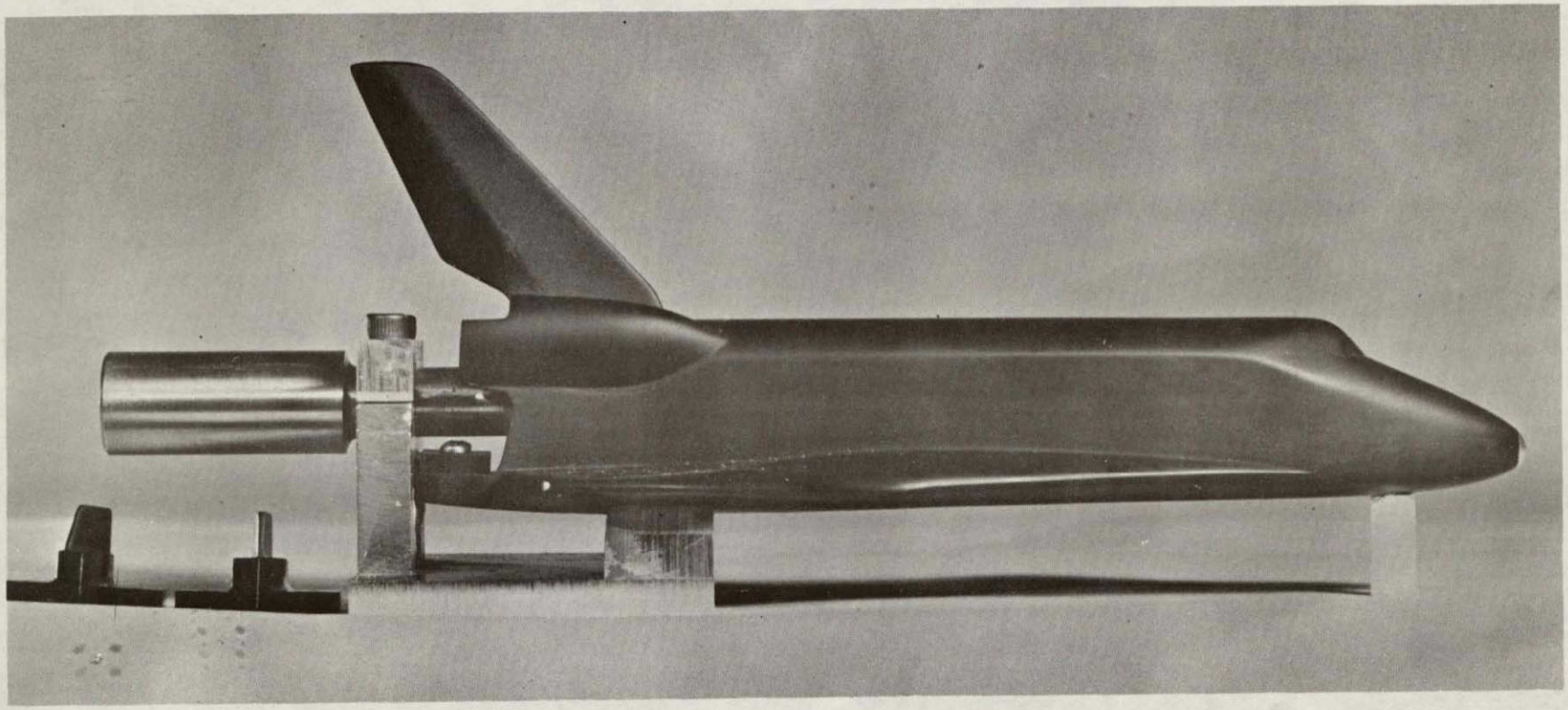
c. Ventral Fin

Figure 2. - Concluded.



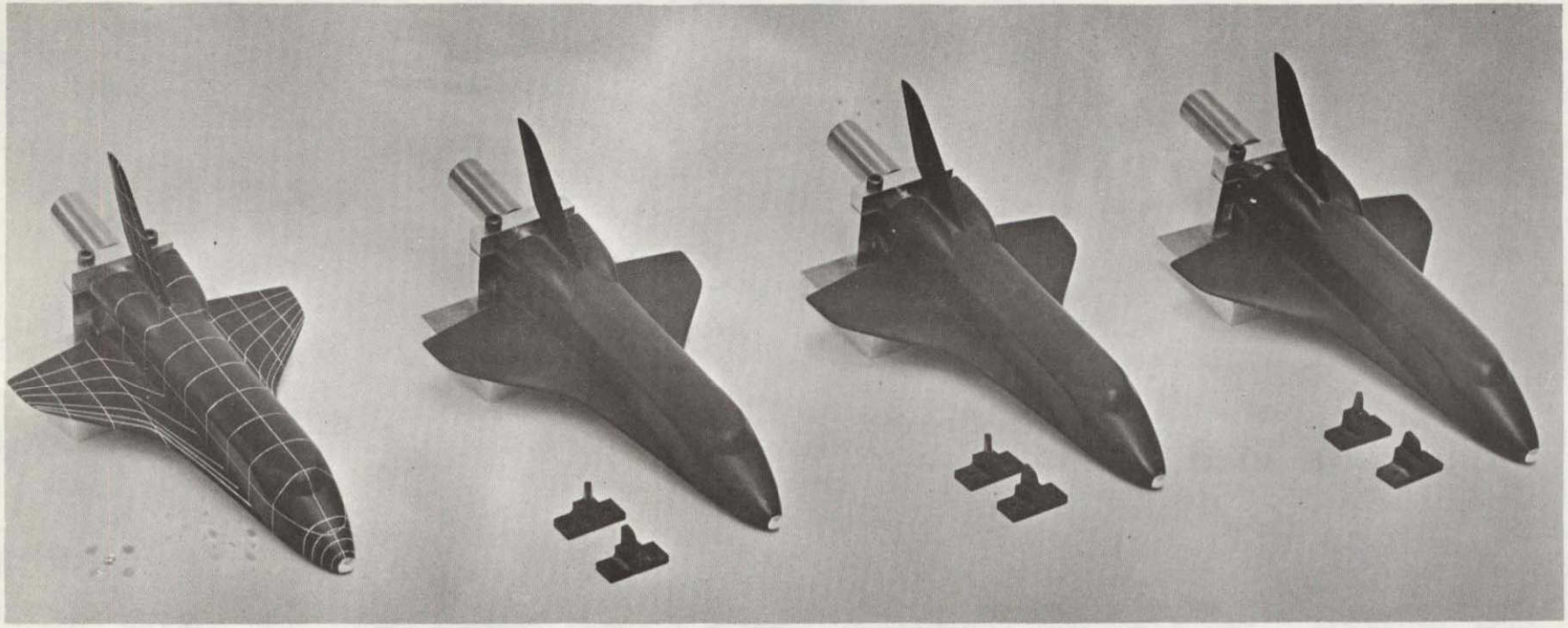
a. Grid Model

Figure 3. - Model Photographs.



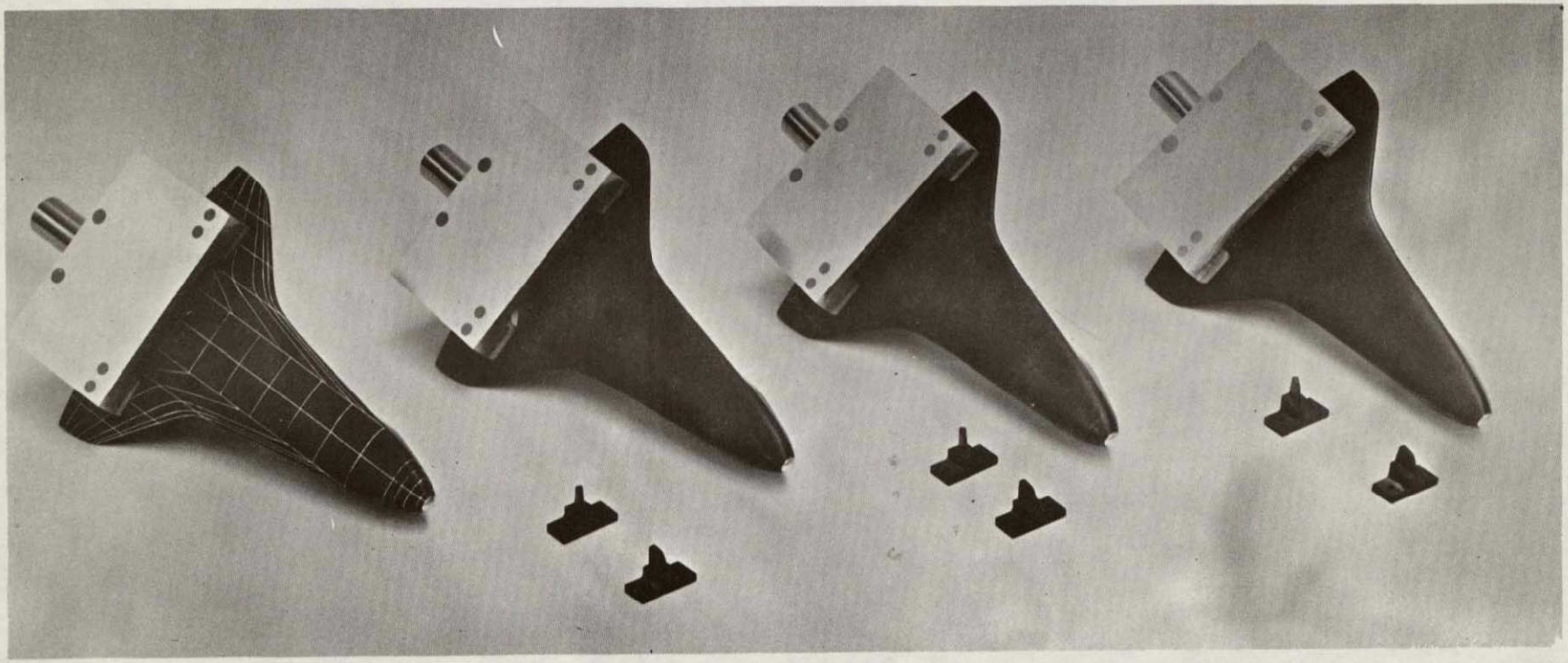
b. Test Model

Figure 3. - Continued.



c. Top View of All Models

Figure 3. - Continued.



d. Bottom View of All Models With Leveling Blocks Installed

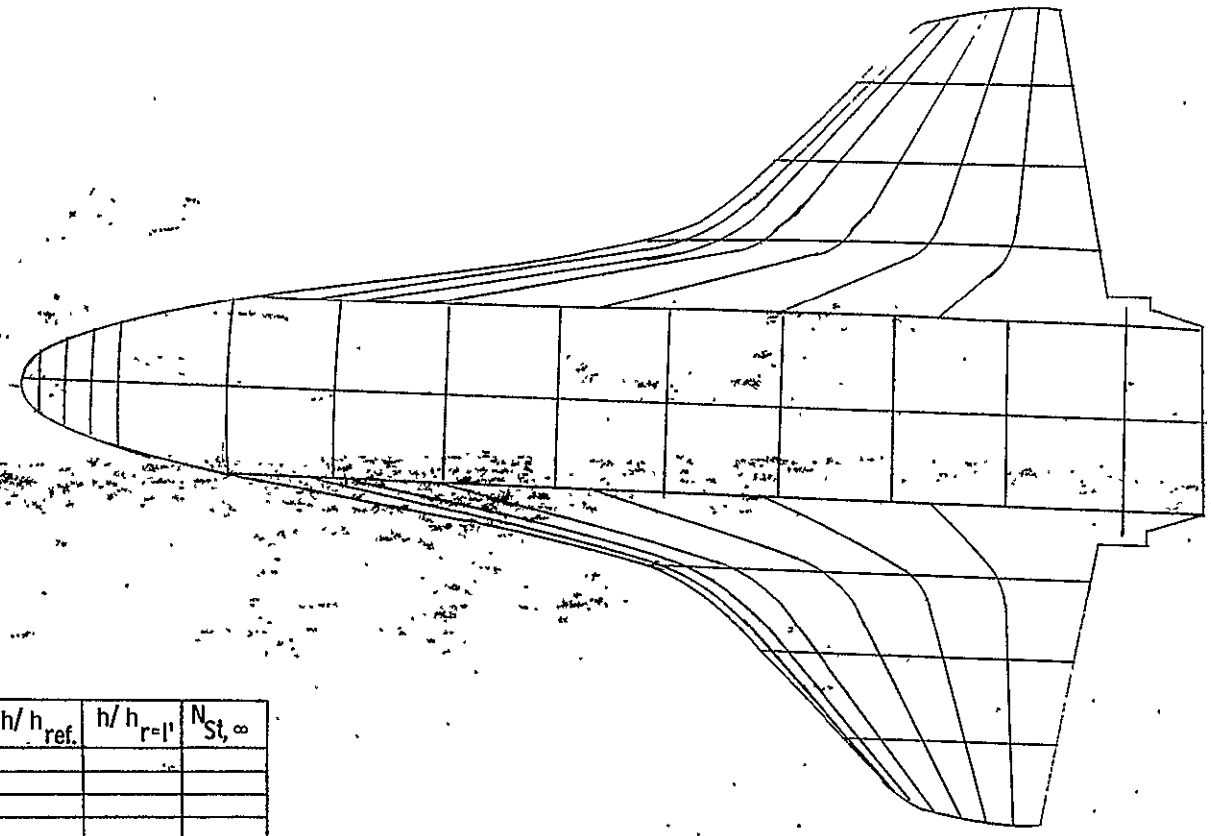
Figure 3. - Concluded.

DATA FIGURES

Notes: On data figures, P_{total} value is given as psig and T_{total} value as °F. These values agree with those in Table II and with those in the appendix, which are given as psia and °R.

Data figures are tracings of thermal contours made from frames of photographs taken during the test. Thermal characteristics associated with each tracing are given in the appendix. See Data Reduction section for relationship between index number on each tracing and contour number in the appendix.

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION GRID

FACILITY LaRC/VDT

TEST OH46

RUNS 4502 thru 4525

LENGTH

NOSE RADIUS

SCALE

M_∞

P_{total} (psia) =

T_{total} (°R) =

R_∞ / ft =

T_{aw}/T_{total} =

T_{aw} (°R) =

T_i (°F) =

T_{pc} (°F) =

$h_{r=1'}$ =

$\bar{T}$ =

$(\rho C_p k)^{1/2}$ =

α = 30

β =

ϕ =

CAMERA POSITION

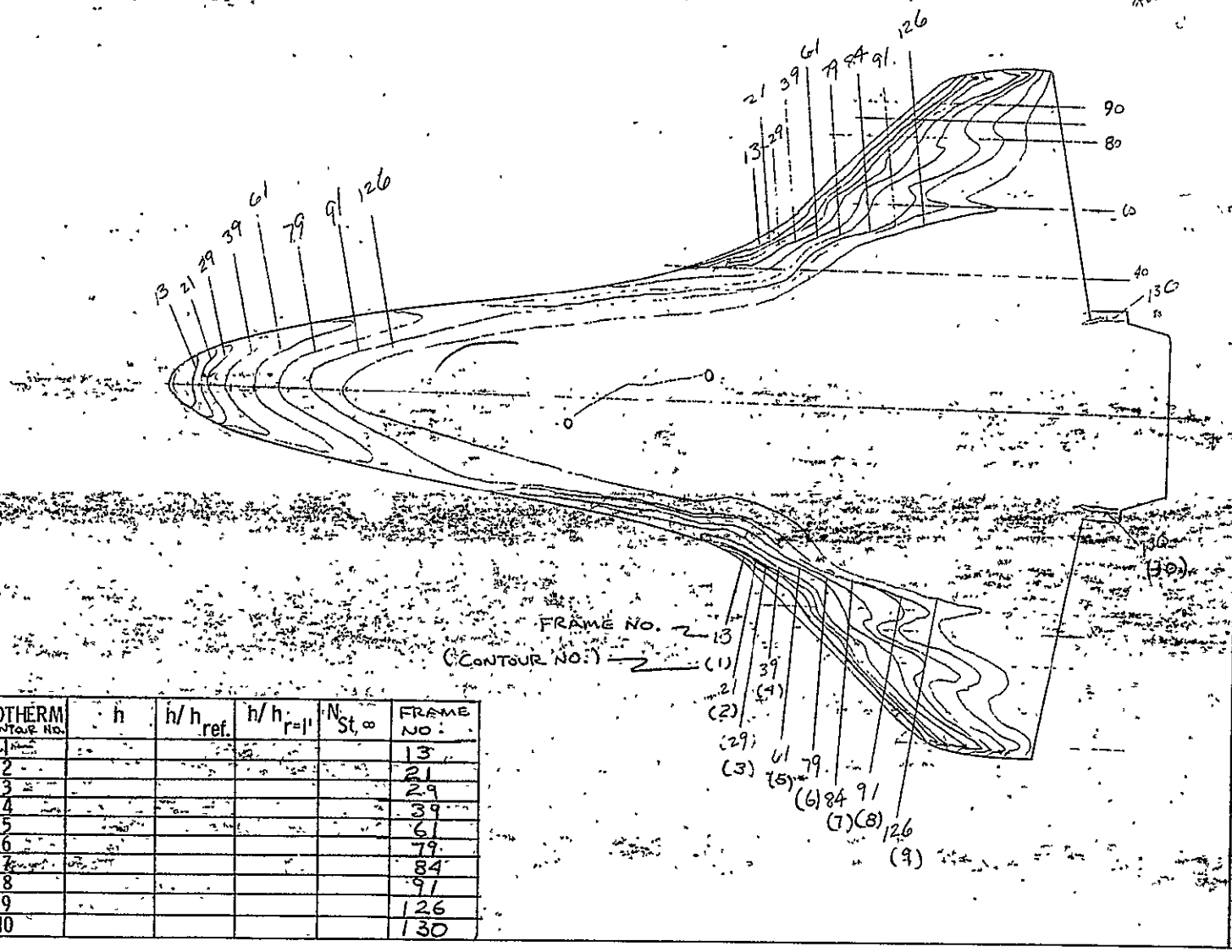
BOTTOM VIEW

Engineer

CFFS-HVD

PHASE CHANGE PAINT TEST

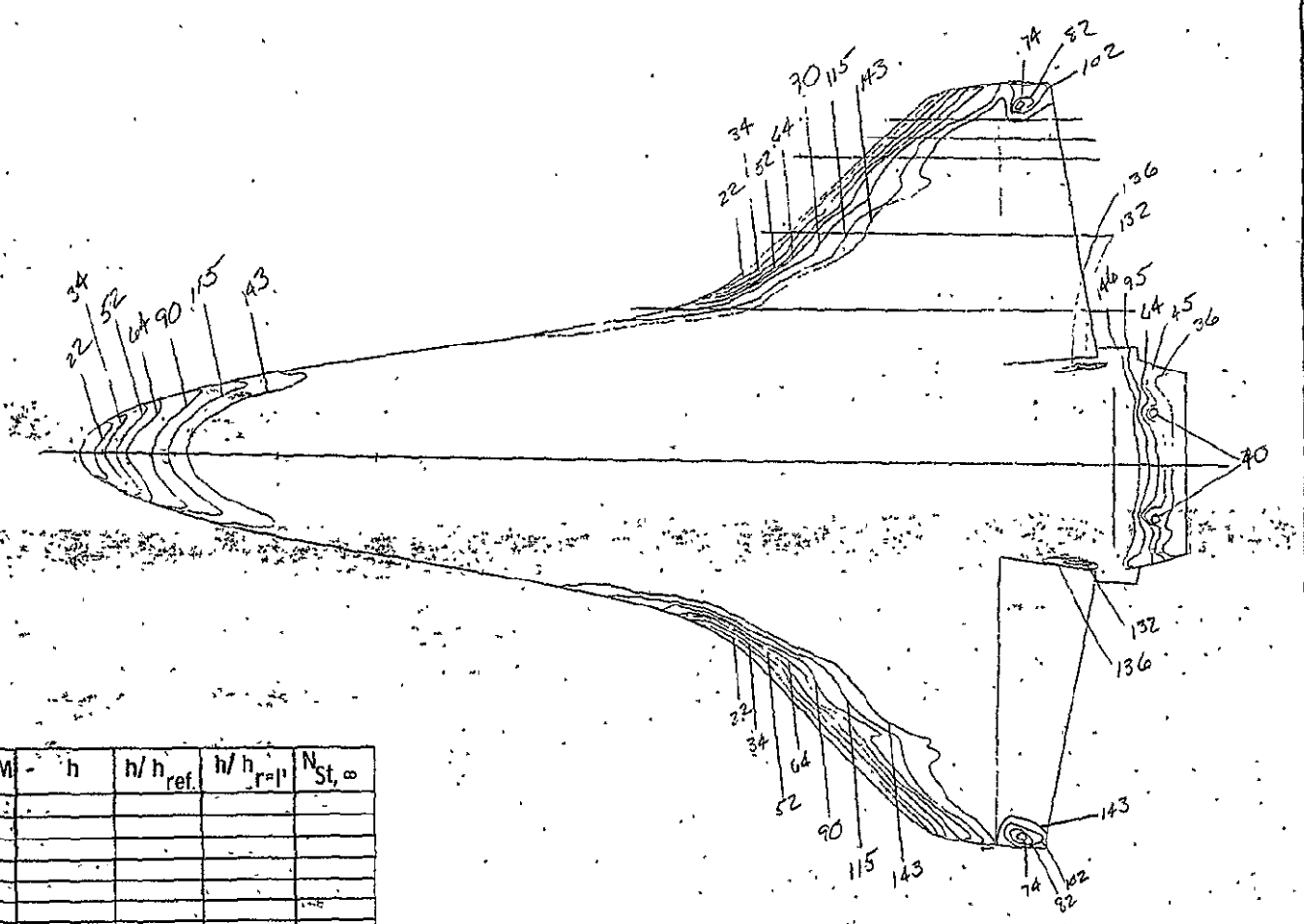
RUN 4502



ISOTHERM CONTOUR NO.	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$	FRAME NO:
1					13
2					21
3					29
4					39
5					61
6					79
7					84
8					91
9					126
10					130

CONFIGURATION	140B N
FACILITY	LRC/VOT
TEST	OH46
RUN	4502
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	= 8
P_{total} (psia)	= 620
T_{total} (°R)	= 915 °F
R_∞ / ft	= 3.0(10⁶)
T_{aw} / T_{total}	=
T_{aw} (°R)	=
T_i (°F)	= 72
T_{pc} (°F)	= 350
$h_{r=1'}$	=
$\bar{T}$	=
$(\rho C_p k)^{1/2}$	=
π	= 30°
β	=
Φ	=
CAMERA POSITION	Bottom
Engineer	
	CFFS-HVD

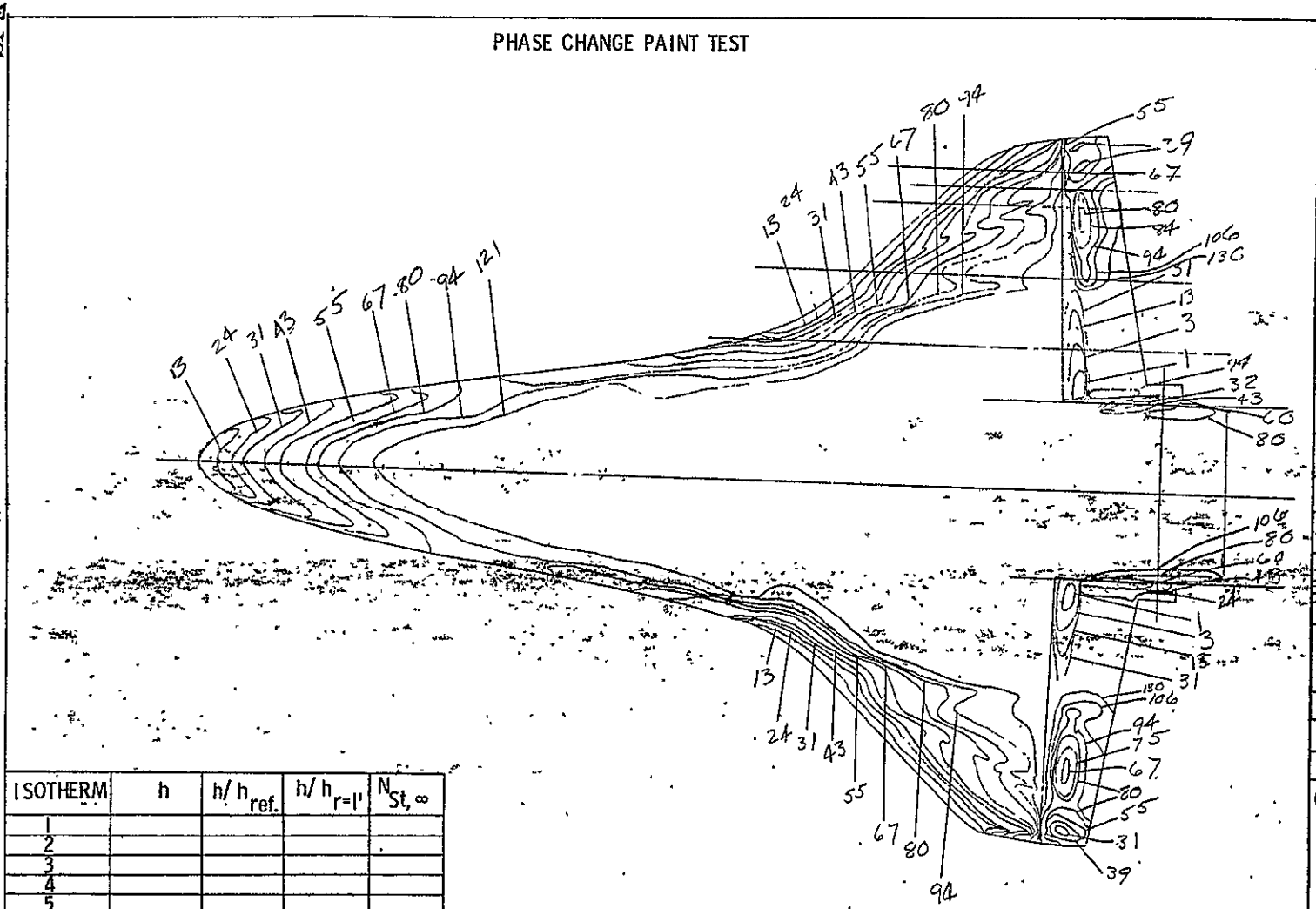
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	41
FACILITY	LRC/VOT
TEST	OH-46
RUN	4504
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	625
T_{total} (°R) =	850
R_∞ / ft =	$3(10^6)$
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	76
T_{pc} (°F) =	400
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	30
β =	
Φ =	
CAMERA POSITION	Bottom
Engineer	
	CFFS-HVD

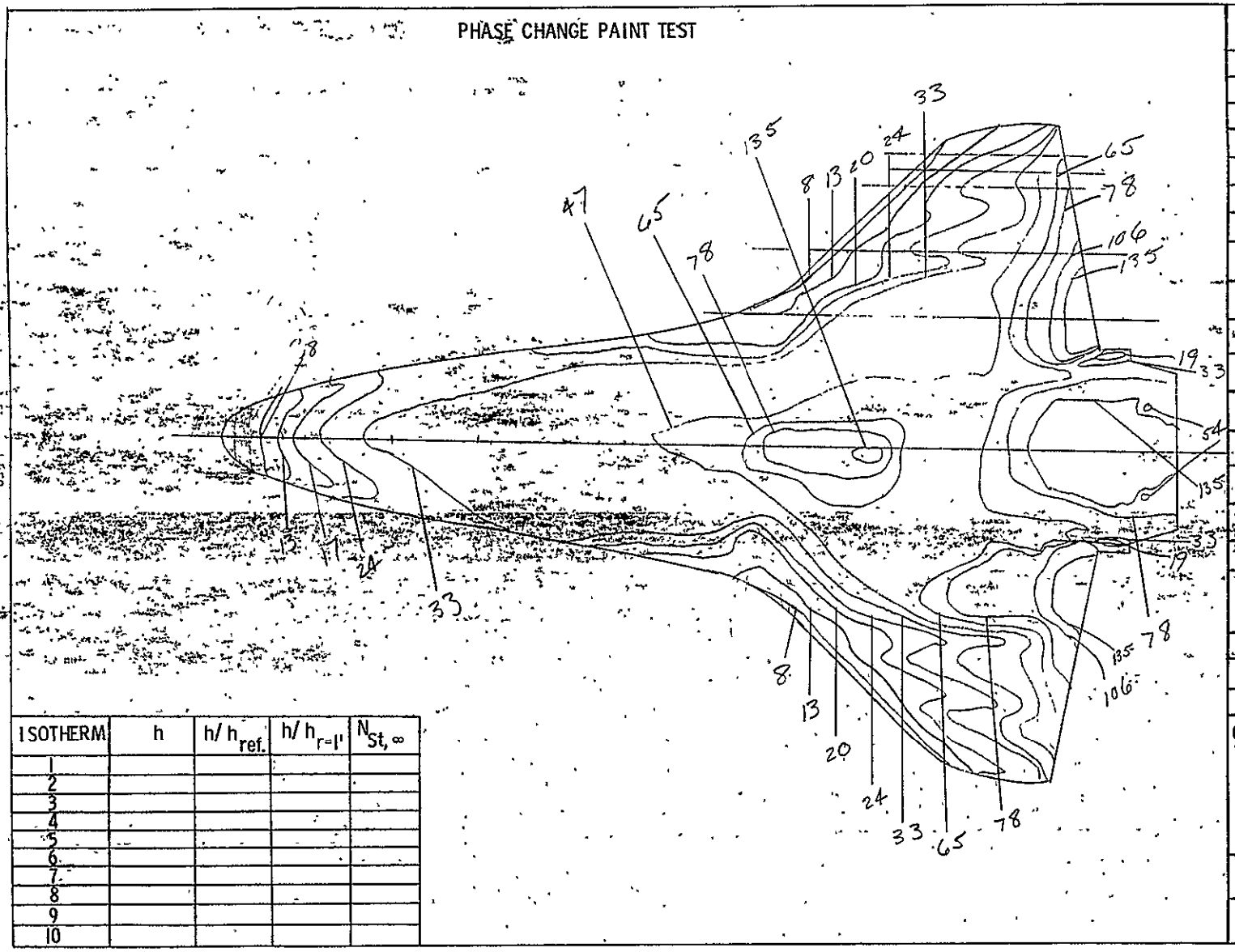
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	-31
FACILITY	LRC/VDT
TEST	OH-46
RUN	4505
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	630
T_{total} (°R) =	875
R_∞ / ft =	$3(10^6)$
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	82
T_{pc} (°F) =	350
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	30
β =	
Φ =	
CAMERA POSITION	Bottom
Engineer	
	CFFS-HVD

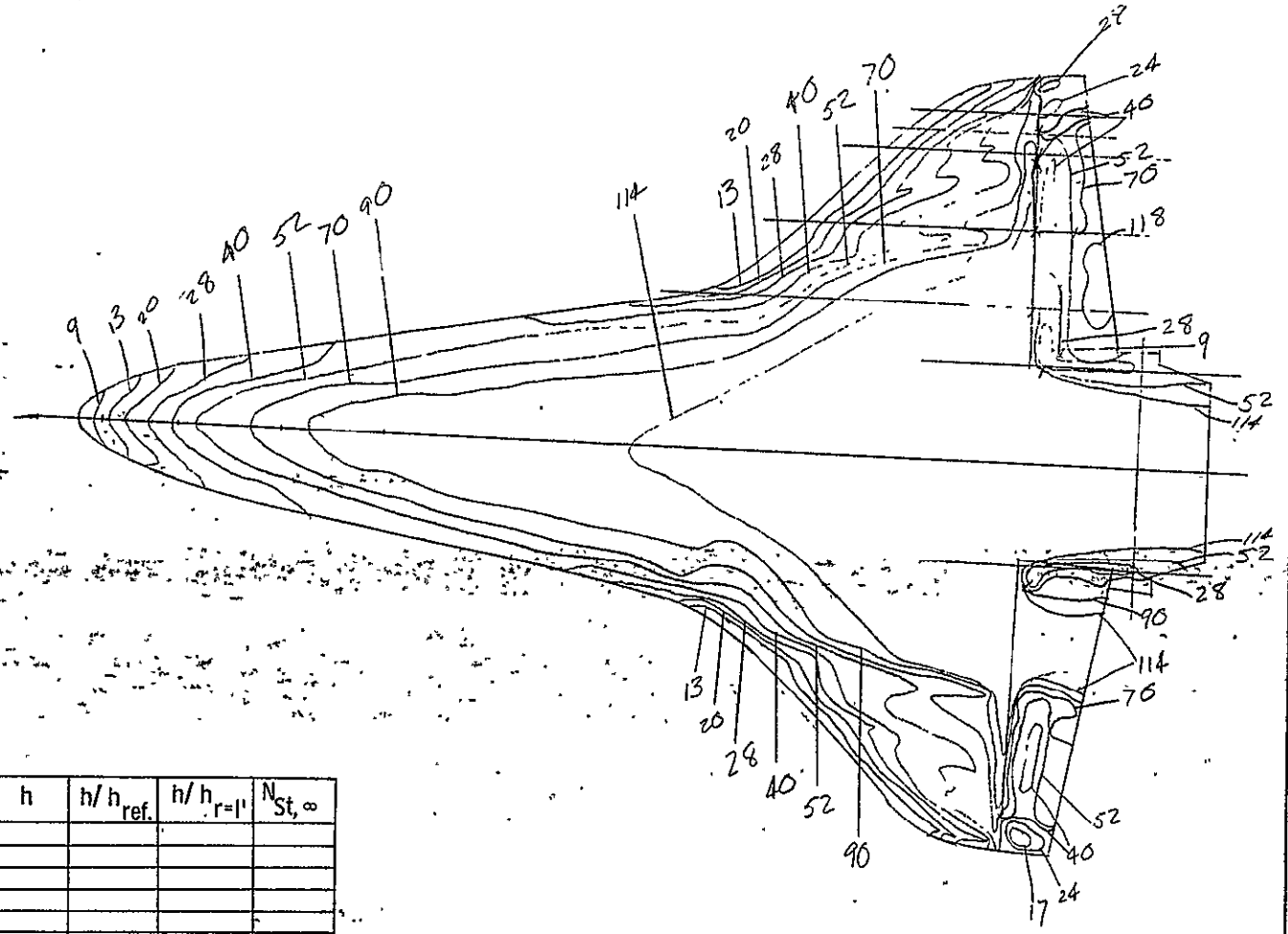
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	-22
FACILITY	LRC/VDT
TEST	OH-46
RUN	4506
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞ =	8
P_{total} (psia) =	645
T_{total} (°R) =	905
R_∞ / ft =	
T_{aw}/T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	80
T_{pc} (°F) =	250
$T_{r=1'}$ =	
$\bar{T}$ =	
$(\rho\zeta_p k)^{1/2}$ =	
α =	30
β =	
Φ =	
CAMERA POSITION	Bottom
Engineer	
	CFFS-HVD

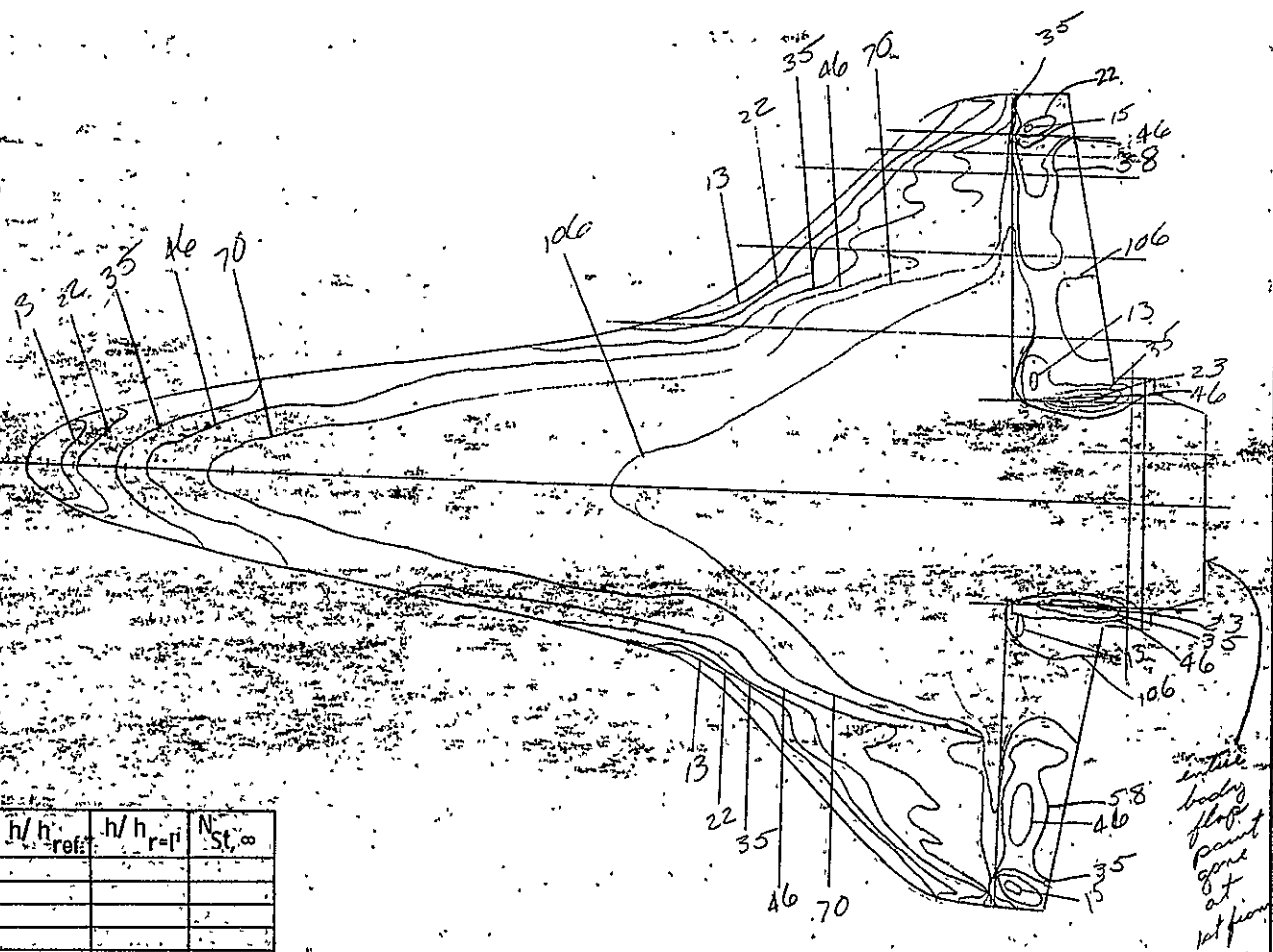
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	-31
FACILITY	-K- IVAT
TEST	OH-46
RUN	4507
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	625
T_{total} (°R) =	880
R_∞ / ft =	3.0 (10⁶)
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	82
T_{pc} (°F) =	300
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	30
β =	
Φ =	
CAMERA POSITION	Bottom
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST

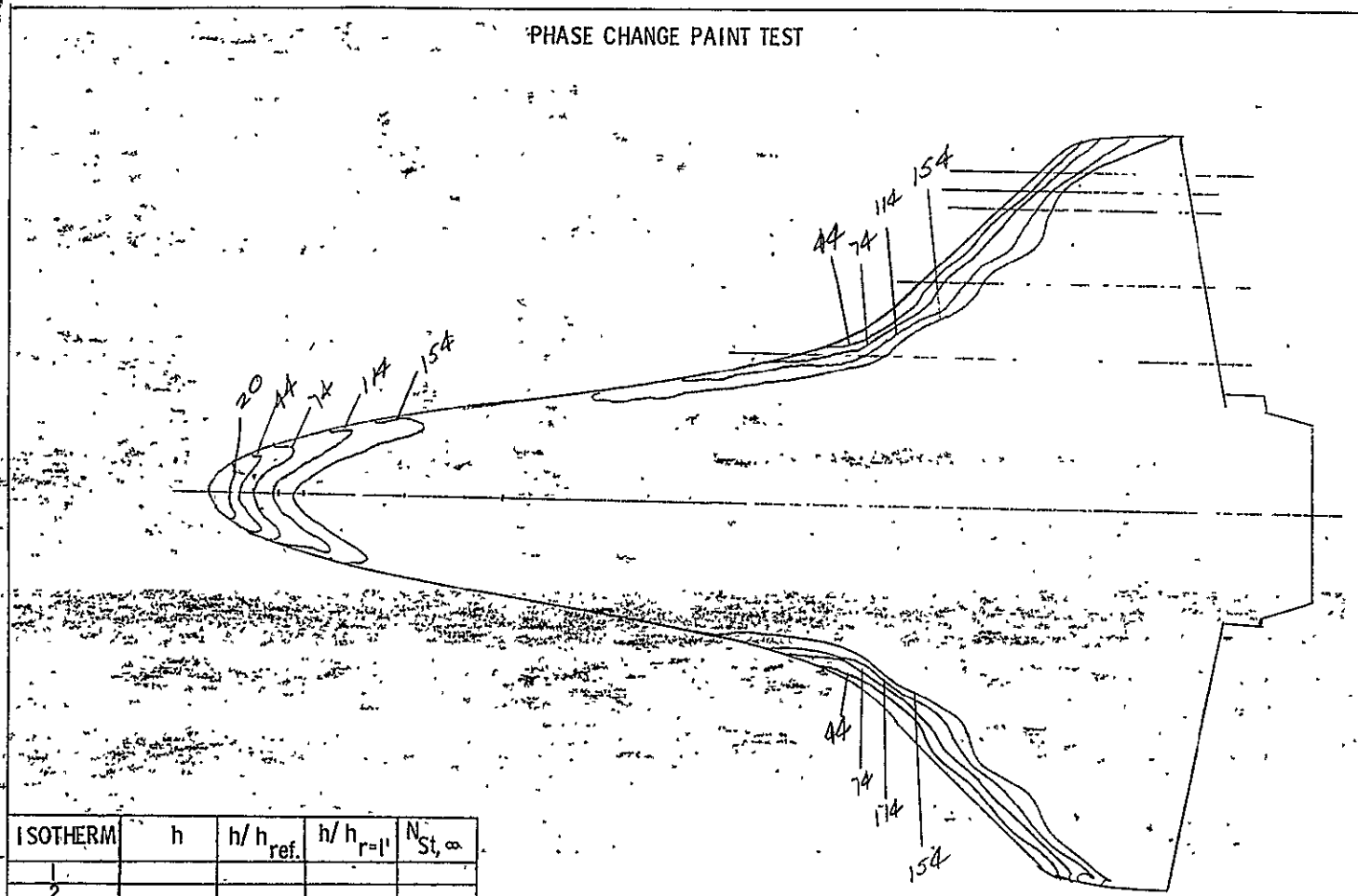


ISOTHERM	h	h/h_{ref}	$h/h_{r=r'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	41
FACILITY	LRC/VDT
TEST	OH-46
RUN	4508
LENGTH	
NOSE RADIUS	
SCALE	
M_∞	= 8
P_{total} (psia) =	625
T_{total} (°F) =	855
R_∞ / ft =	$3.0 (10^6)$
T_{aw}/T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	80
T_{pc} (°F) =	300
h_{ref} =	
$\bar{T}$ =	
$(\rho c_p k)^{1/2}$ =	
α =	30
β =	
Φ =	
CAMERA POSITION	Bottom
Engineer	

CFFS-HVD

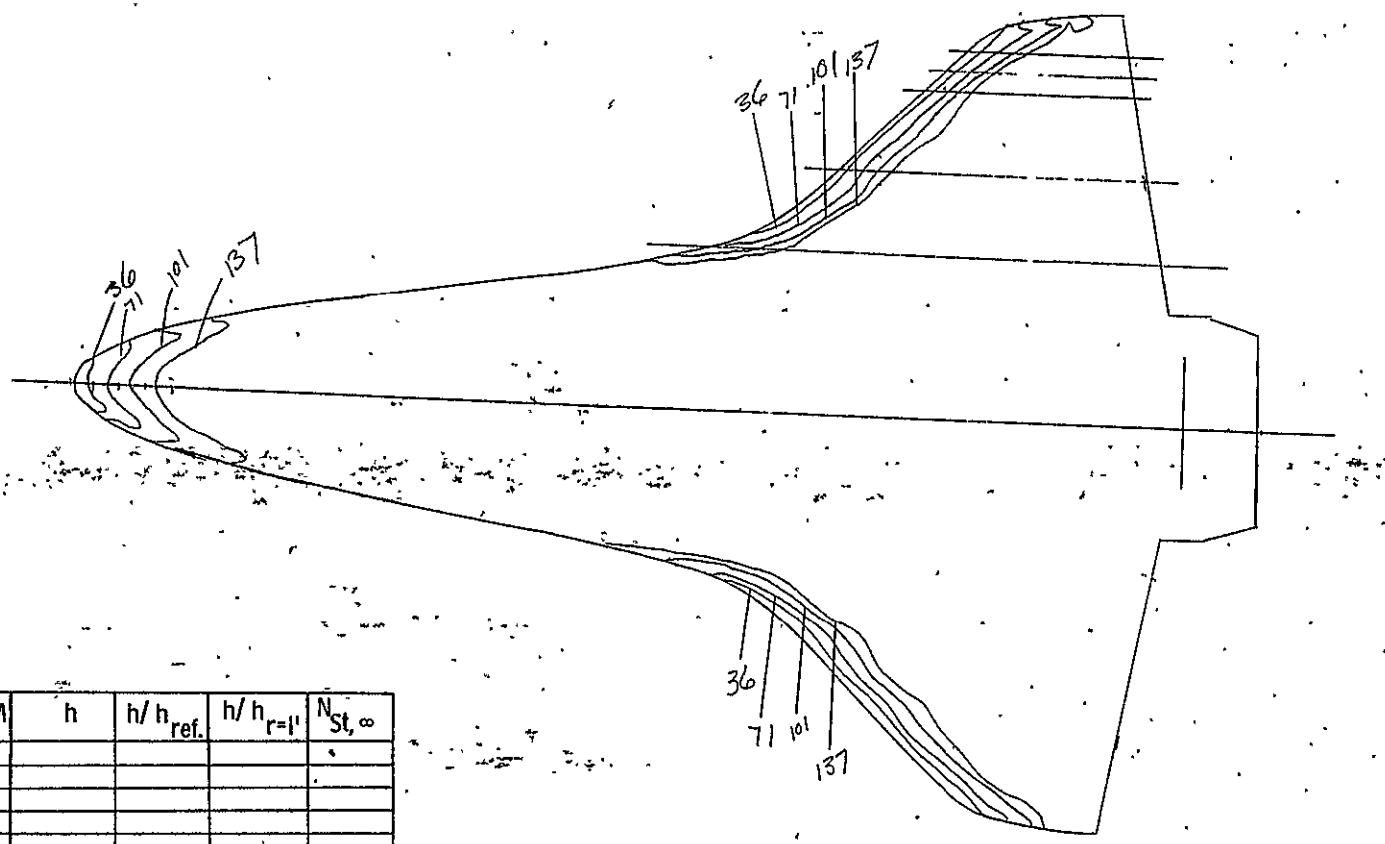
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	-22
FACILITY	LRC/VDT
TEST	OH-46
RUN	4509
LENGTH	
NOSE RADIUS	
SCALE	
M_∞	
P_{total} (psia) =	163
T_{total} (°R) =	785
R_∞ / ft =	$1.0(10^6)$
T_{aw}/T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	80
T_{pc} (°F) =	300
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	30
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION 31

FACILITY LRC/VDT

TEST OH-46

RUN 4510

LENGTH

NOSE RADIUS

SCALE .006

$M_\infty = 8$

P_{total} (psia) = 155

T_{total} (°R) = 800

R_∞ / ft = 1.0(10⁶)

T_{aw} / T_{total} =

T_{aw} (°R) =

T_i (°F) = 76

T_{pc} (°F) = 306

$h_{r=1'}$ =

$\bar{T}$ =

$(\rho C_p k)^{1/2}$ =

α = 30

β =

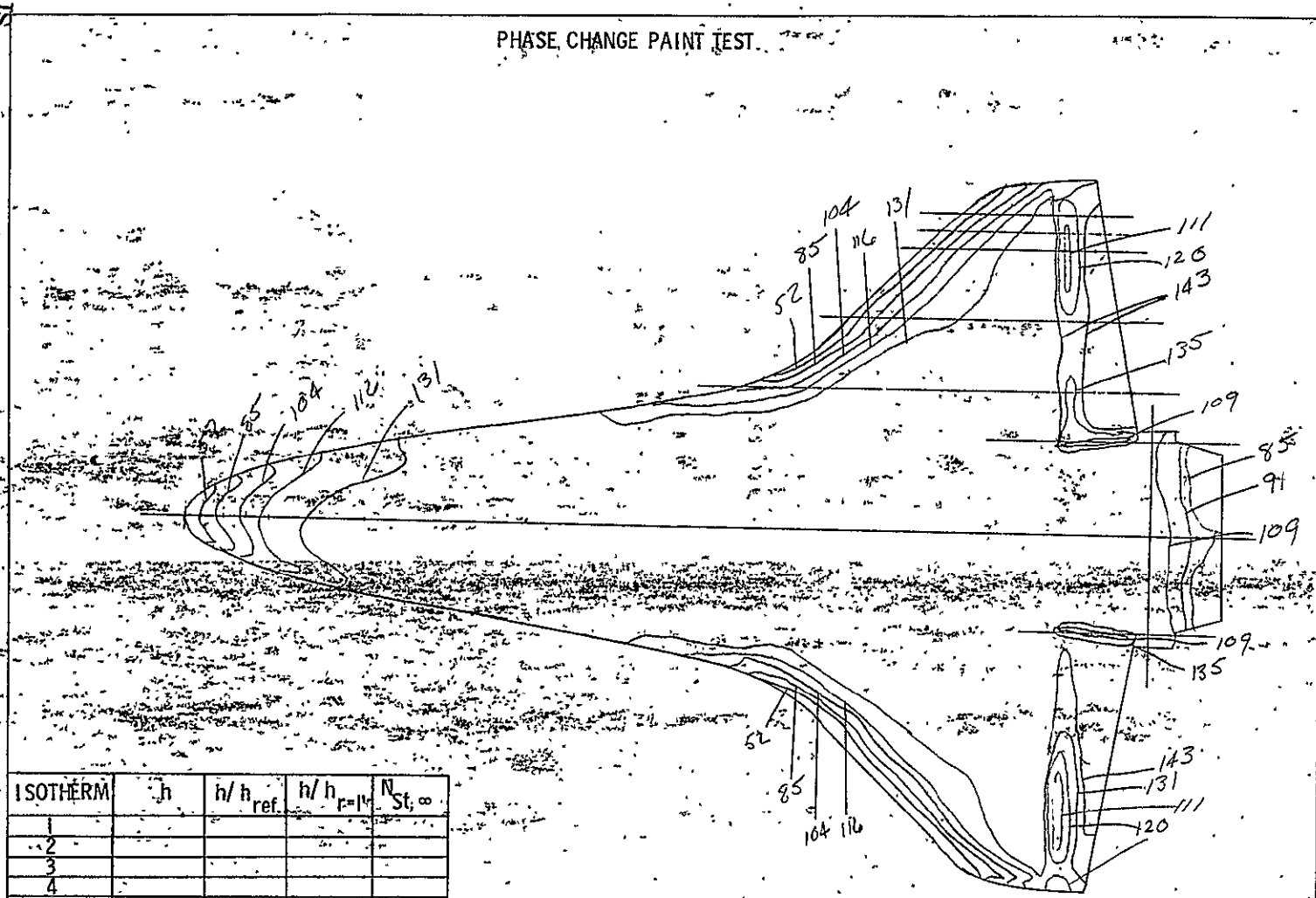
ϕ =

CAMERA POSITION

Engineer

CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1"}$	$N_{St,\infty}$
1				
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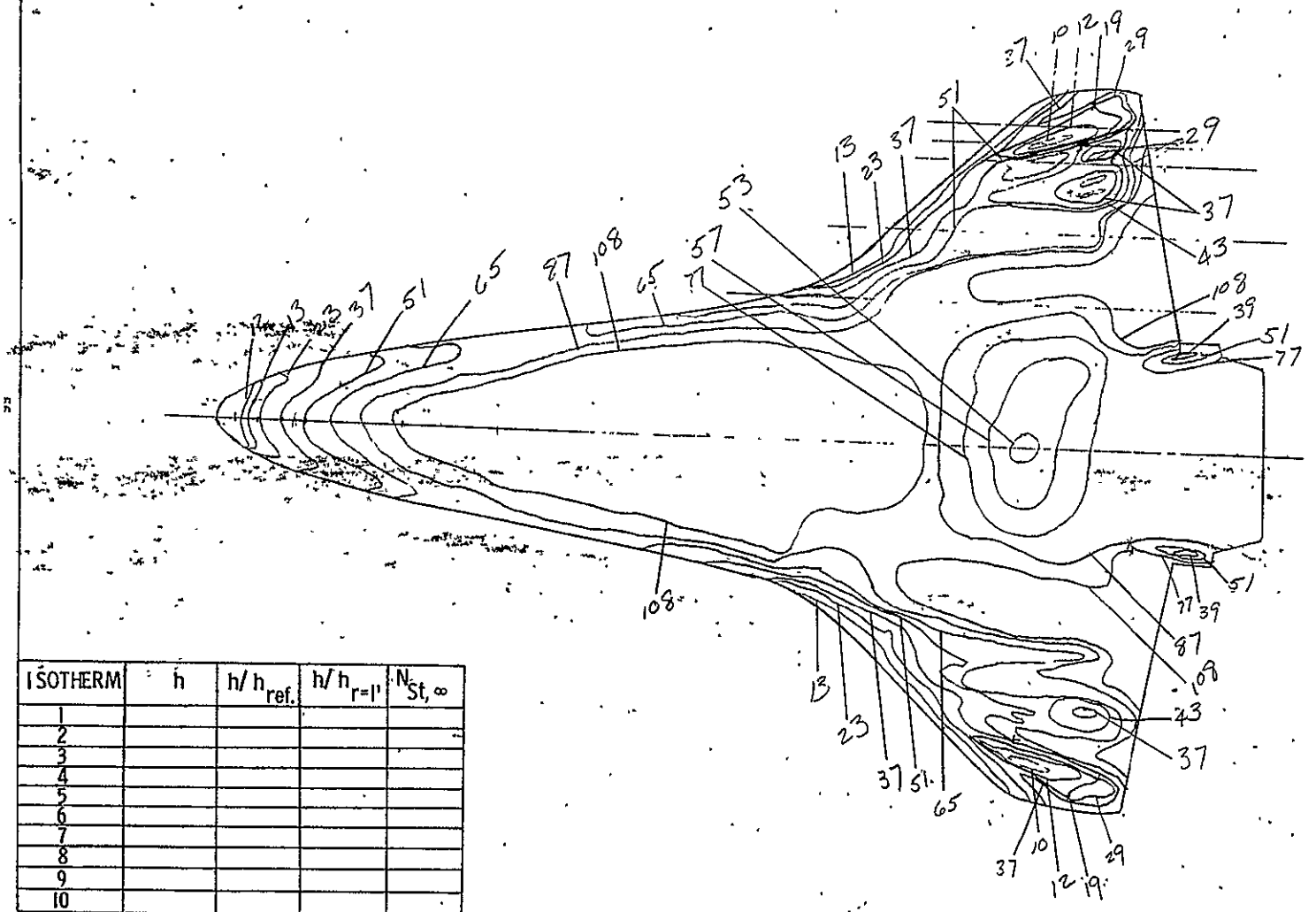
9				
10				

CONFIGURATION	41
FACILITY	LRC/VDT
TEST	OH-46
RUN	4511
LENGTH	
NOSE RADIUS	
SCALE	
M_∞	
P_{total} (psia) =	156
T_{total} (°R) =	770
R_∞ / ft =	$1.0(10^6)$
T_{aw}/T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	76
T_{pc} (°F) =	360
$h_{r=1"}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	30
β =	
ϕ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=l'}$	$N_{St,\infty}$
1				
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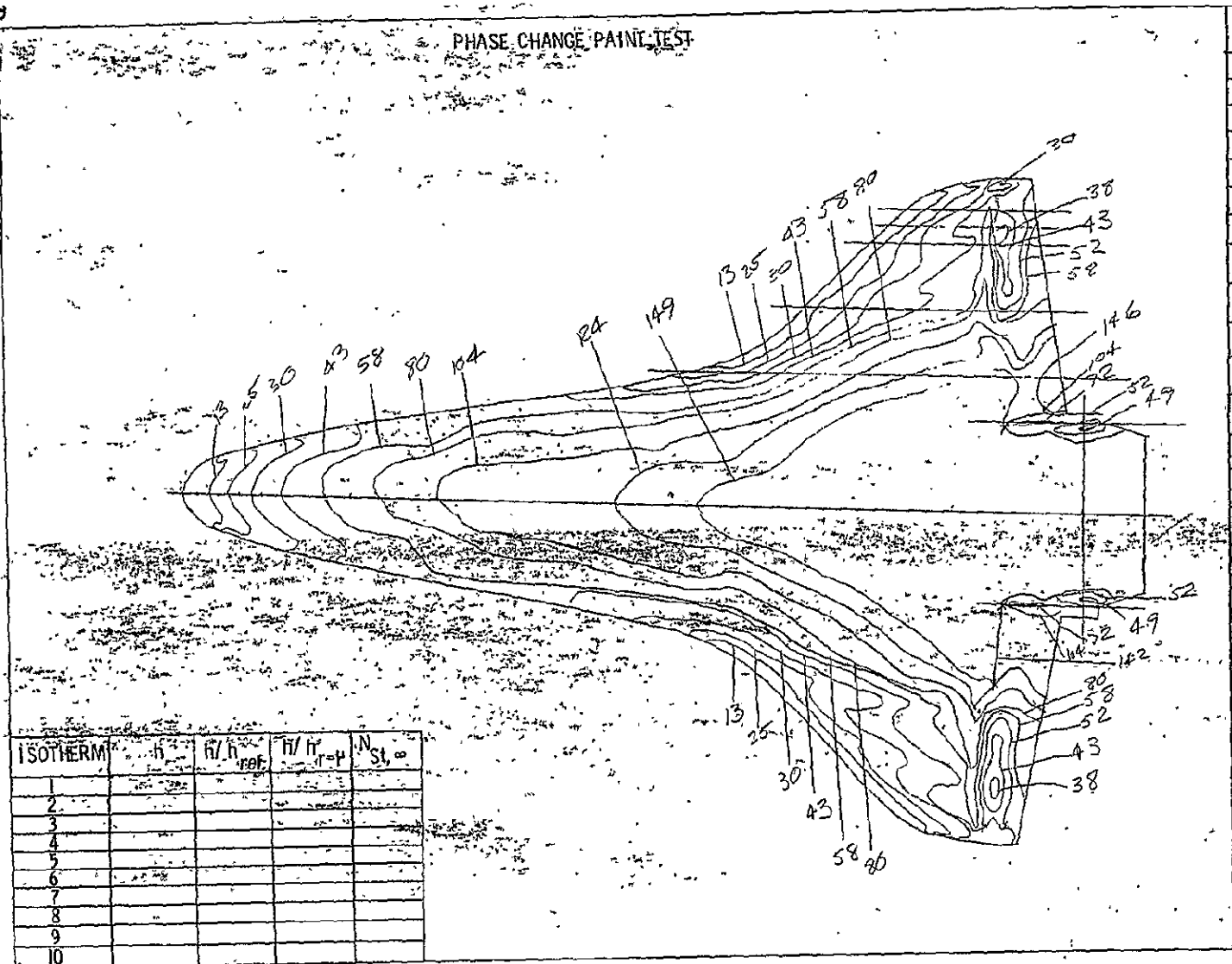
8				
9				
10				

CONFIGURATION	22
FACILITY	LRC/VDT
TEST	OH-46
RUN	4512
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	= 8
P_{total} (psia) =	1386
T_{total} (°R) =	955
R_∞ / ft =	6.0(10⁶)
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	79
T_{pc} (°F) =	450
$h_{r=l'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	30
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	h/h_{ref}	$h/h_{r=1}$	$N_{St,\infty}$
1				
2				
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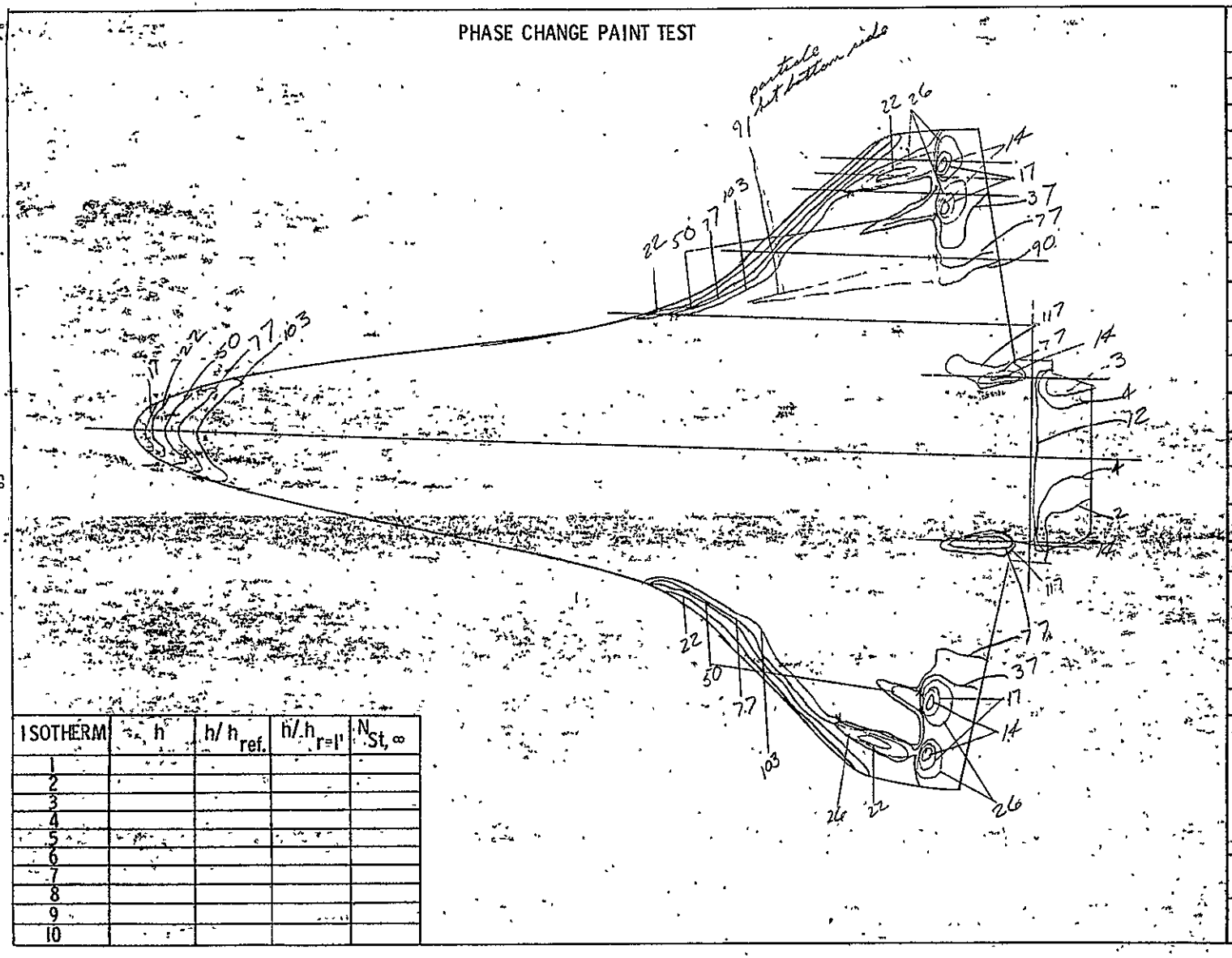
8				
9				
10				

CONFIGURATION	37
FACILITY	ARC/VAT
TEST	OH-46
RUN	4513
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	157
T_{total} (°R) =	770
R_∞ / ft =	$1.0(10^6)$
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	81
T_{pc} (°F) =	175
$h_{T=1}$ =	
T =	
$(\rho C_p k)^{1/2}$ =	
α =	30
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1}$	$N_{St,\infty}$
1				
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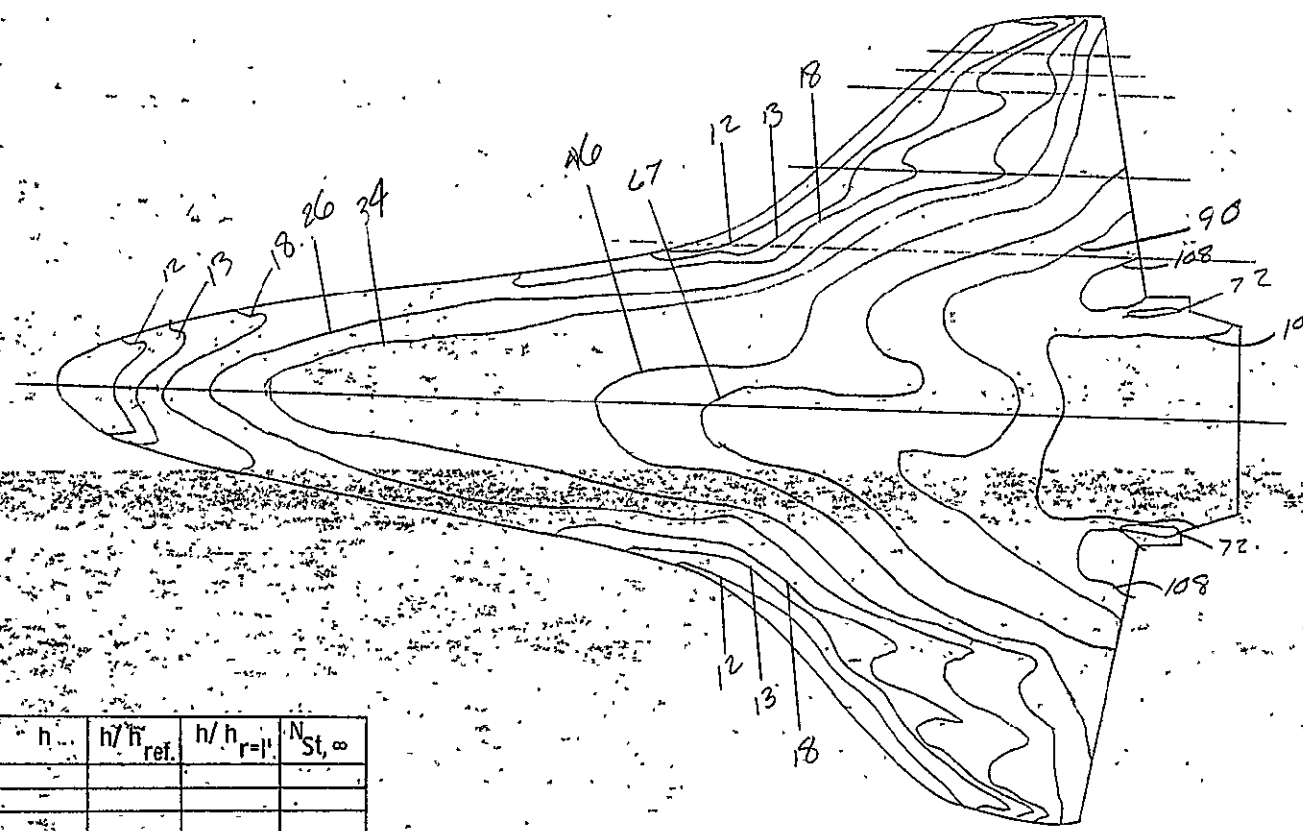
8				
9				
10				

CONFIGURATION 140-B	4/
FACILITY	LRC/VPT
TEST	OH-46
RUN	4514
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	1380
T_{total} (°R) =	905
R_∞ / ft =	6.0 (10⁶)
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_j (°F) =	80
T_{pc} (°F) =	550
$h_{r=1}$	
$\bar{T}$	
$(\rho C_p k)^{1/2}$	
α =	30
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h_{∞}	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
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5				
6				
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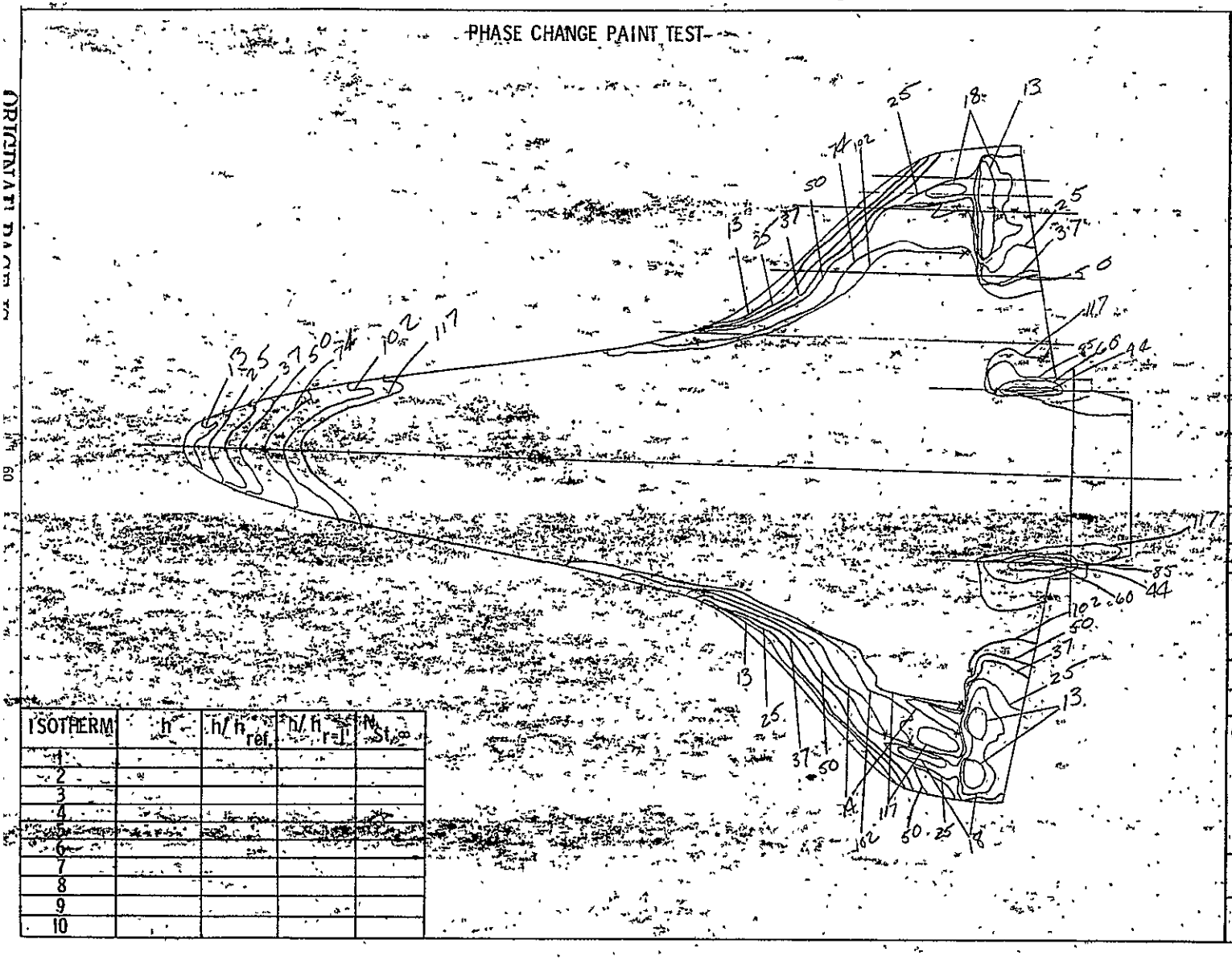
8				
9				
10				

CONFIGURATION	22
FACILITY	LRC / VAT
TEST	OH-46
RUN	4515
LENGTH	
NOSE RADIUS	
SCALE	.006
M_{∞}	8
P_{total} (psia) =	164
T_{total} (°R) =	795
R_{∞} / ft =	1.0 (10 6)
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	79
T_{pc} (°F) =	150
$h_{r=1'}$ =	
T_{∞} =	
$(\rho C_p k)^{1/2}$ =	
α =	30
β =	
ϕ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	h/ h ref.	h/ h r=1	St ∞
1				
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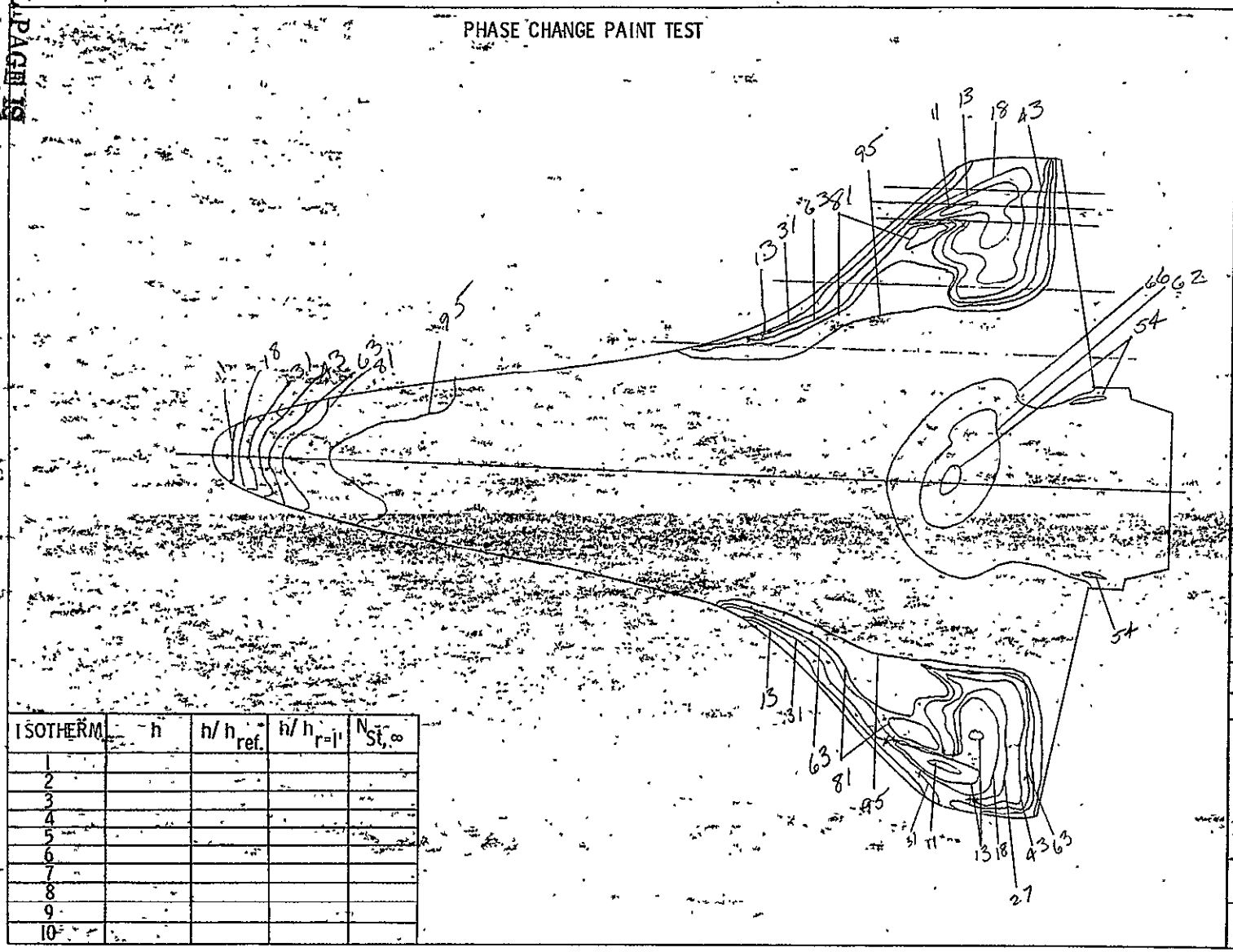
8				
9				
10				

CONFIGURATION	-31
FACILITY	IRC/VPT
TEST	OH-46
RUN	4516
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	1405
T_{total} (°R) =	950
R_∞ / ft =	$6.0(10^6)$
T_{aw}/T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	79
T_{pc} (°F) =	500
$h_{r=1}$ =	
T	
$(\rho C_p K)^{1/2}$	
α =	30
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1}$	$N_{St,\infty}$
1				
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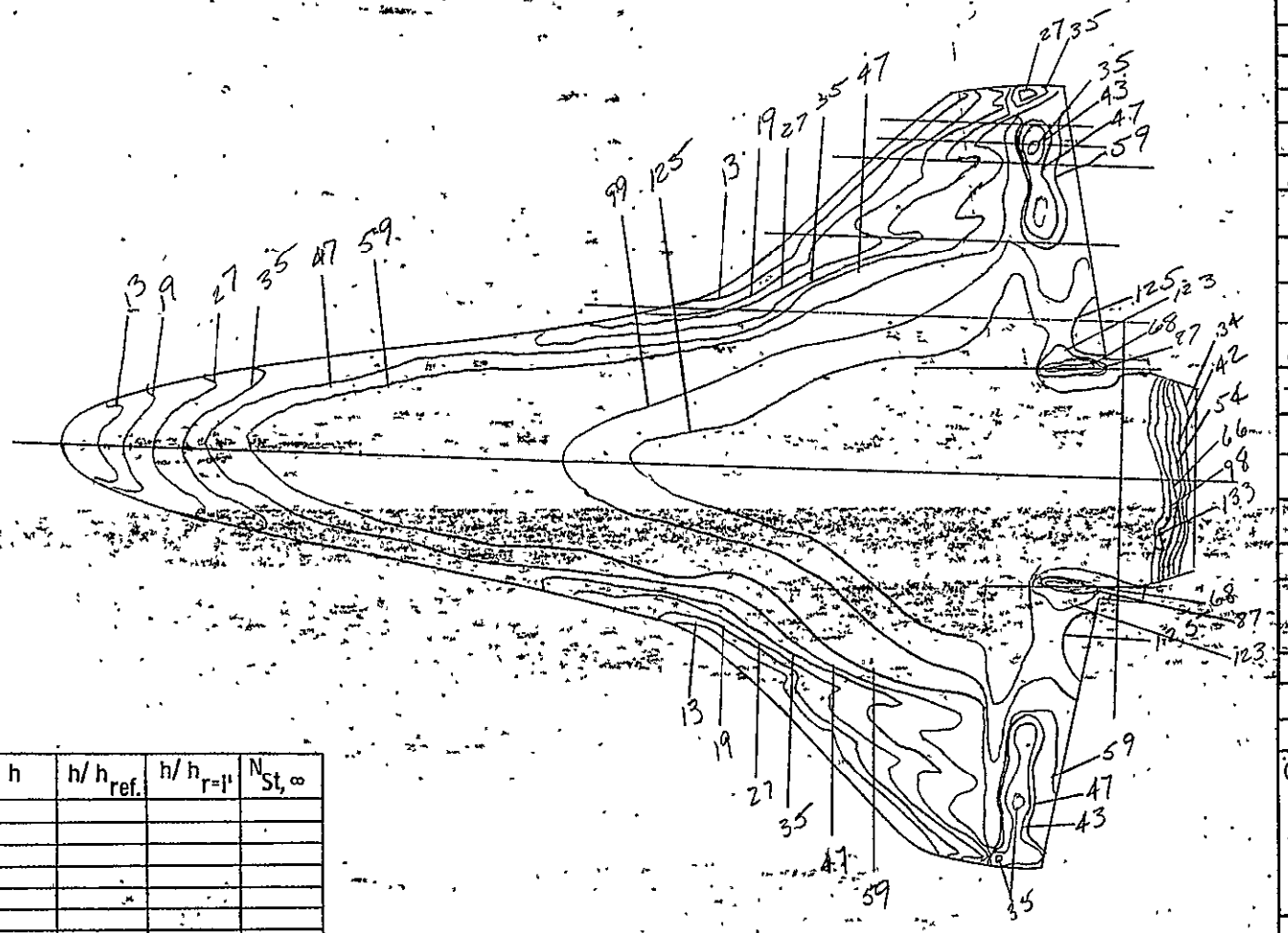
9				
10				

CONFIGURATION	22
FACILITY	2RC/VOT
TEST	OH-46
RUN	4517
LENGTH	
NOSE RADIUS	
SCALE	.0066
M_∞	8
P_{total} (psia) =	1920
T_{total} (°R) =	925
R_∞ / ft =	8.0(10⁶)
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	98.1
T_{pc} (°F) =	550
$h_{r=1}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	30
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
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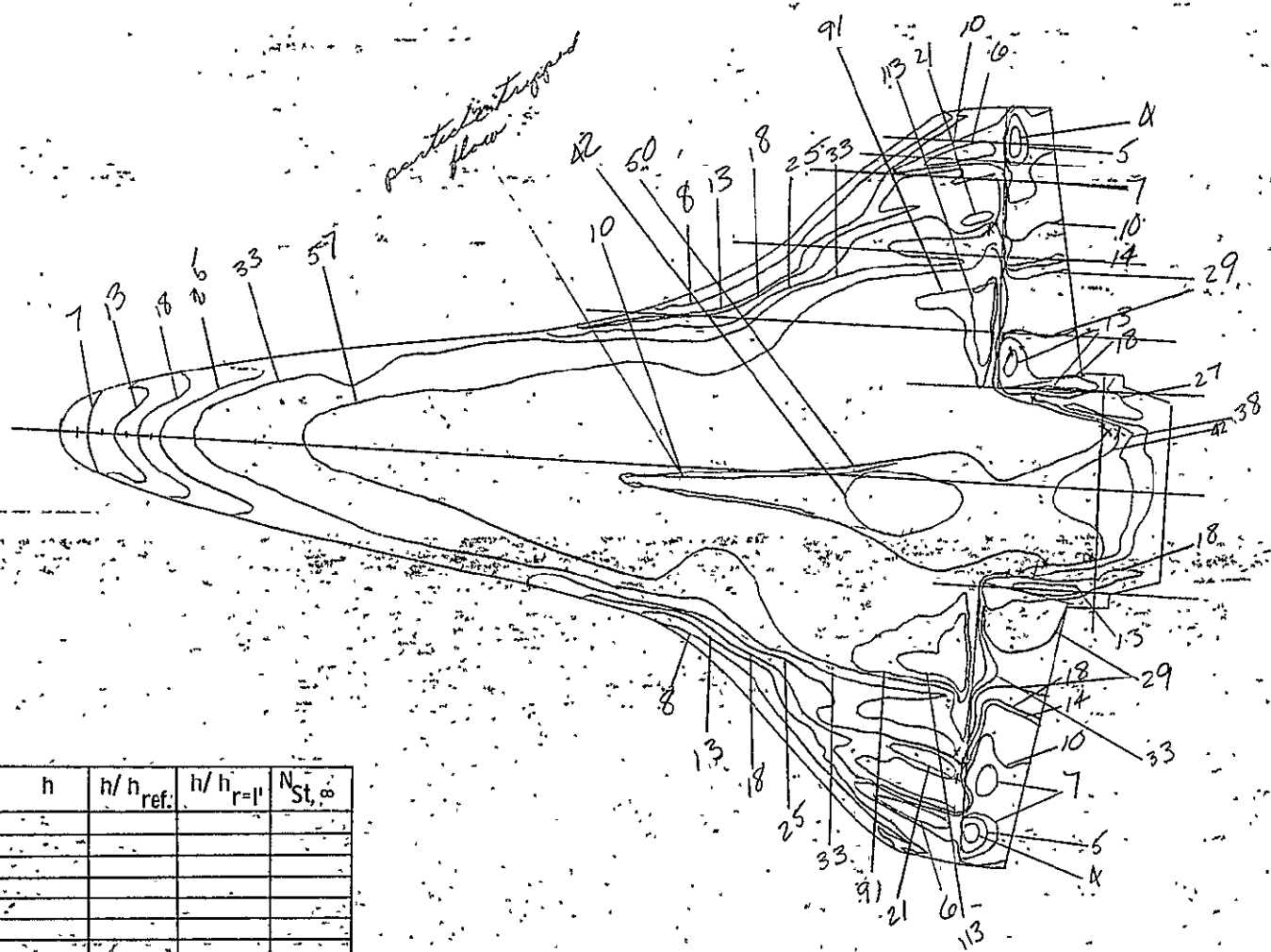
10				

CONFIGURATION	41
FACILITY	ARC-VDT
TEST	OH-46
RUN	#518
LENGTH	
NOSE RADIUS	
SCALE	1006
M_∞	8
P_{total} (psia) =	165
T_{total} (°R) =	760
R_∞ / ft =	$1.0(10^6)$
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	
T_{pc} (°F) =	175
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	30
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE-CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
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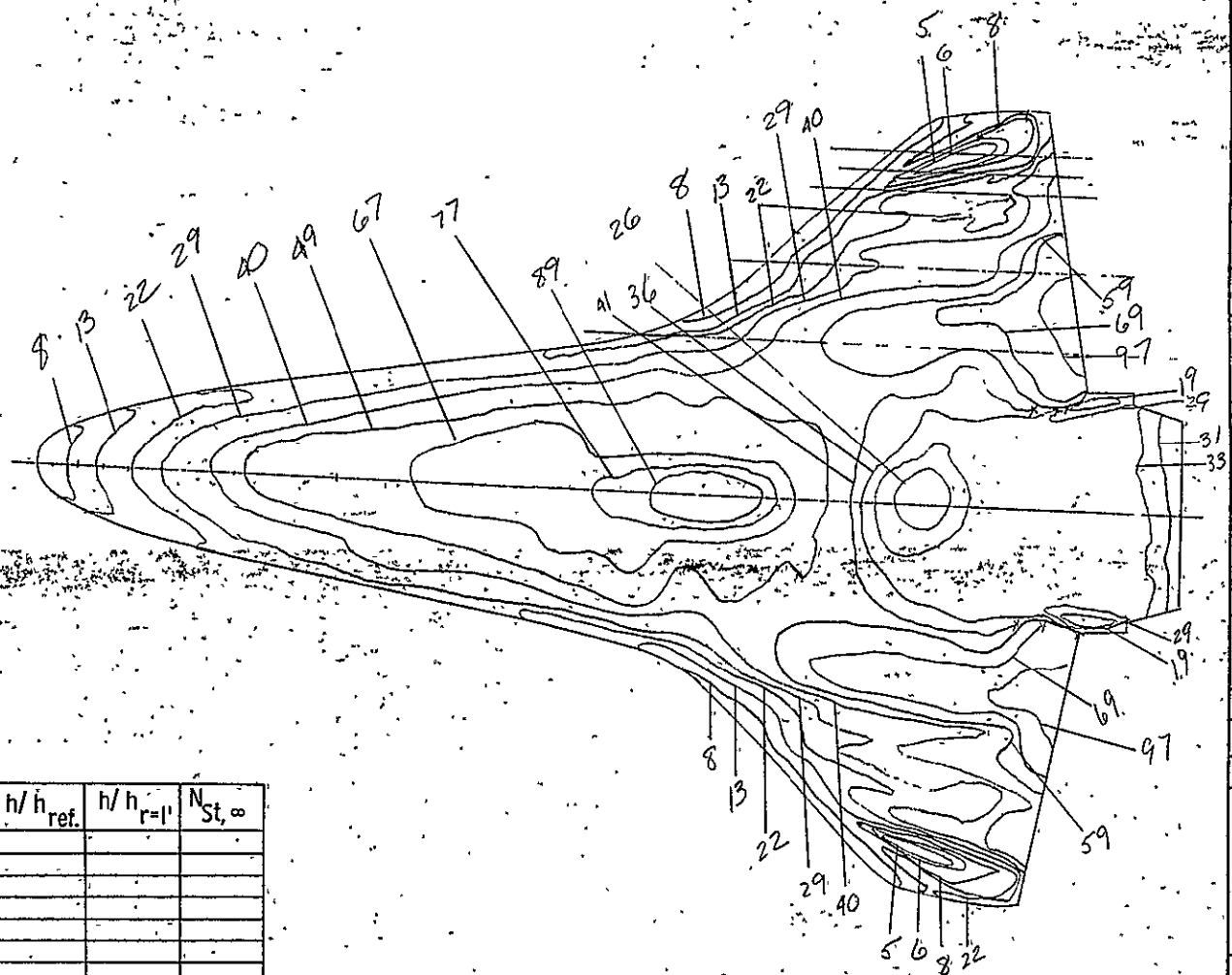
7				
8				
9				
10				

CONFIGURATION	-31
FACILITY	ARC/VDT
TEST	OH-46
RUN	4519
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	1400
T_{total} (°R) =	930
R_∞ / ft =	$6.0(10^6)$
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	80
T_{pc} (°F) =	350
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	30
β =	
ϕ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
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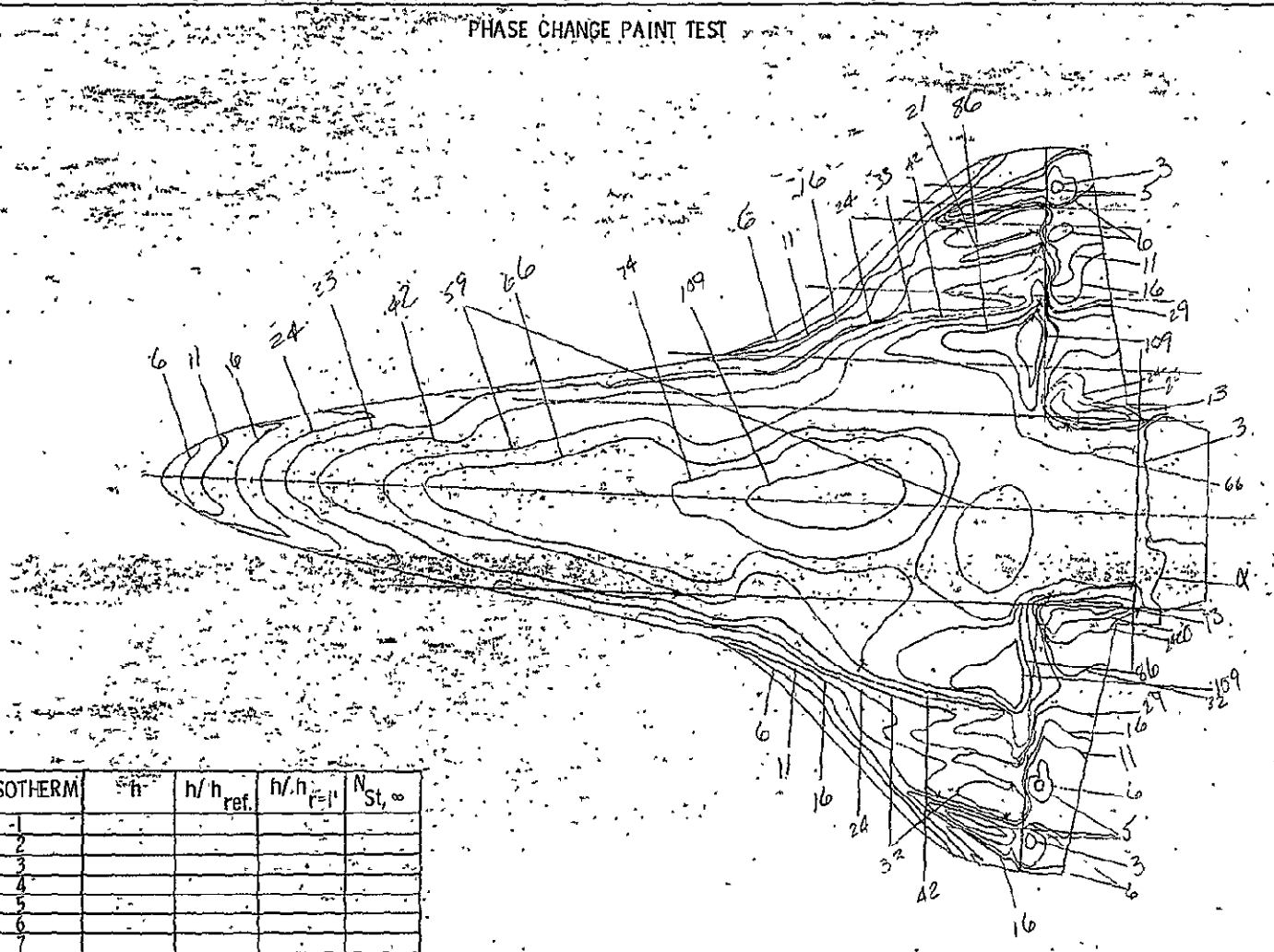
7				
8				
9				
10				

CONFIGURATION	-22
FACILITY	2000 KVAT
TEST	OH-46
RUN	4520
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	1405
T_{total} (°R) =	940
R_∞ / ft =	6.0 (10⁶)
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	82
T_{pc} (°F) =	350
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	30
β =	
ϕ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	$\bar{h}$	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
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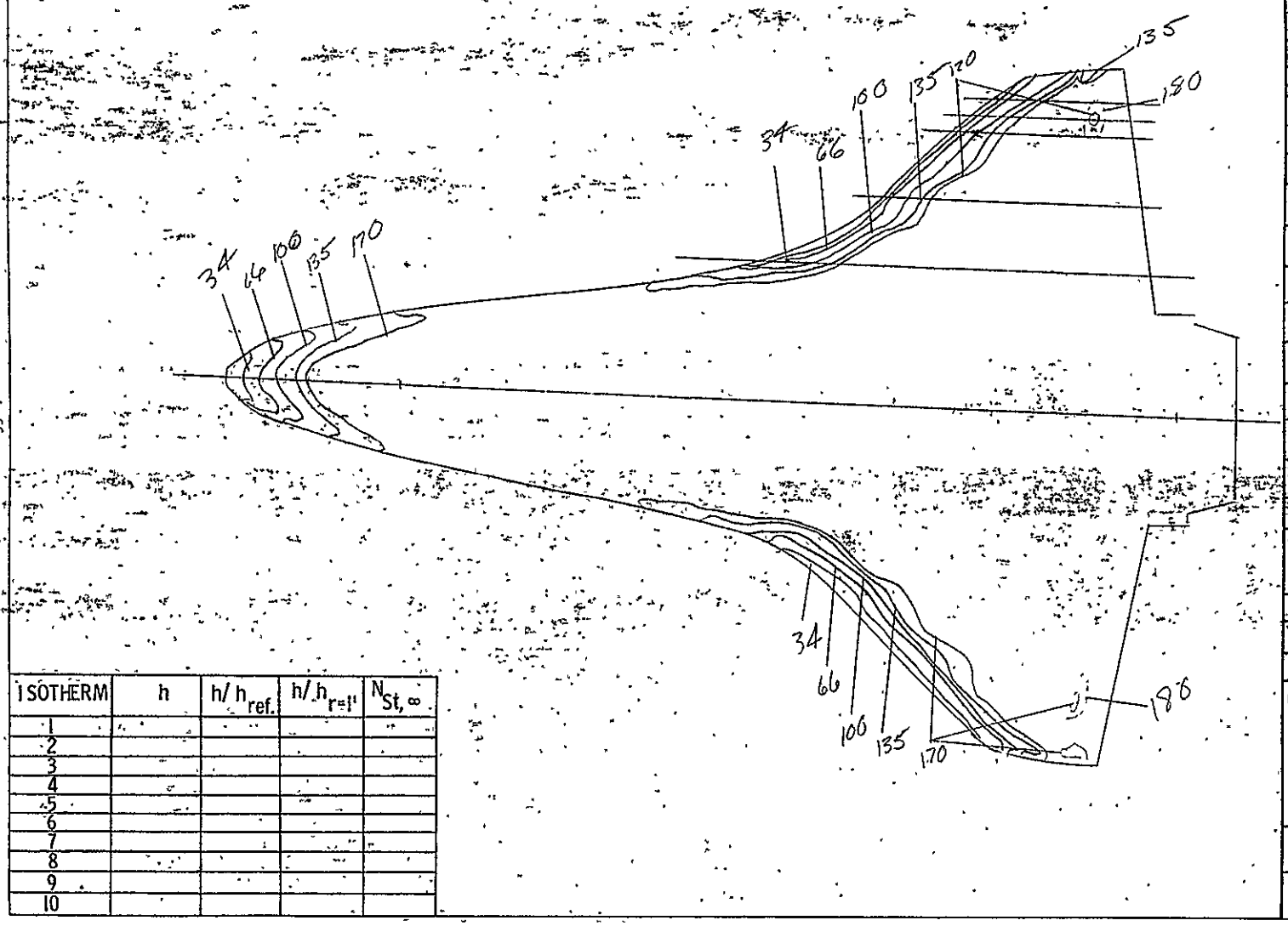
8				
9				
10				

CONFIGURATION	4T
FACILITY	LRC/VKT
TEST	OH-46
RUN	4521
LENGTH	
NOSE RADIUS	
SCALE	
M_∞	
P_{total} (psia) =	1405
T_{total} (°R) =	940
R_∞ / ft =	$6.0(10^6)$
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	82
T_{pc} (°F) =	350
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	30
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
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5				
6				
7				
8				
9				
10				

CONFIGURATION [redacted] 31

FACILITY ARC/VDT

TEST OH-46

RUN 4523

LENGTH

NOSE RADIUS

SCALE .006

M_∞ 8

P_{total} (psia) = 165

T_{total} (°R) = 775

R_∞ / ft = 1.0 (10^6)

T_{aw} / T_{total} =

T_{aw} (°R) =

T_i (°F) = 82

T_{pc} (°F) = 300

$h_{r=1'}$ =

T =

$(\rho C_p k)^{1/2}$ =

α = 30

β =

ϕ =

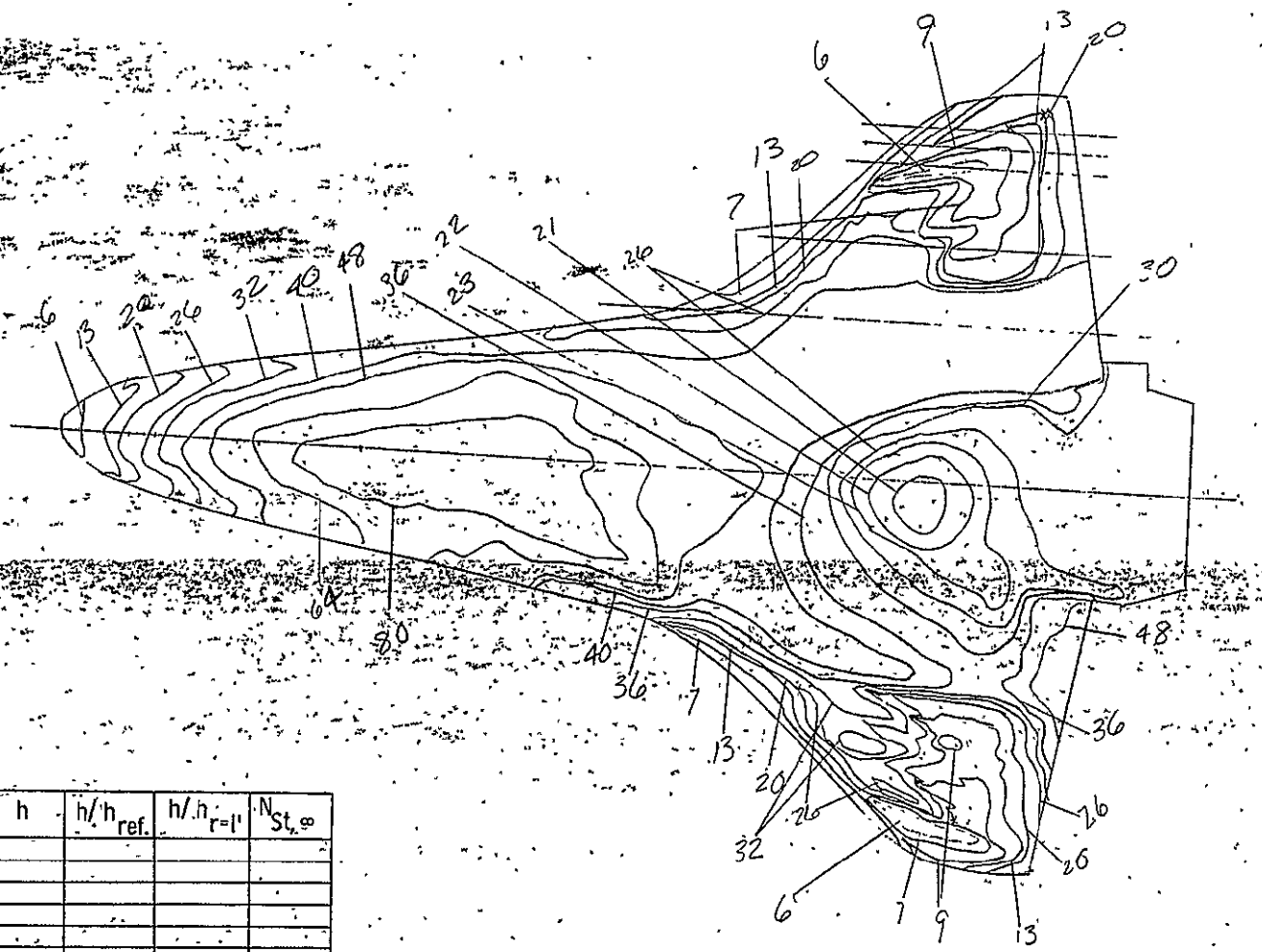
CAMERA POSITION

Engineer

CFFS-HVD

PHASE CHANGE PAINT TEST

MODEL HAS BEEN ROLLED



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
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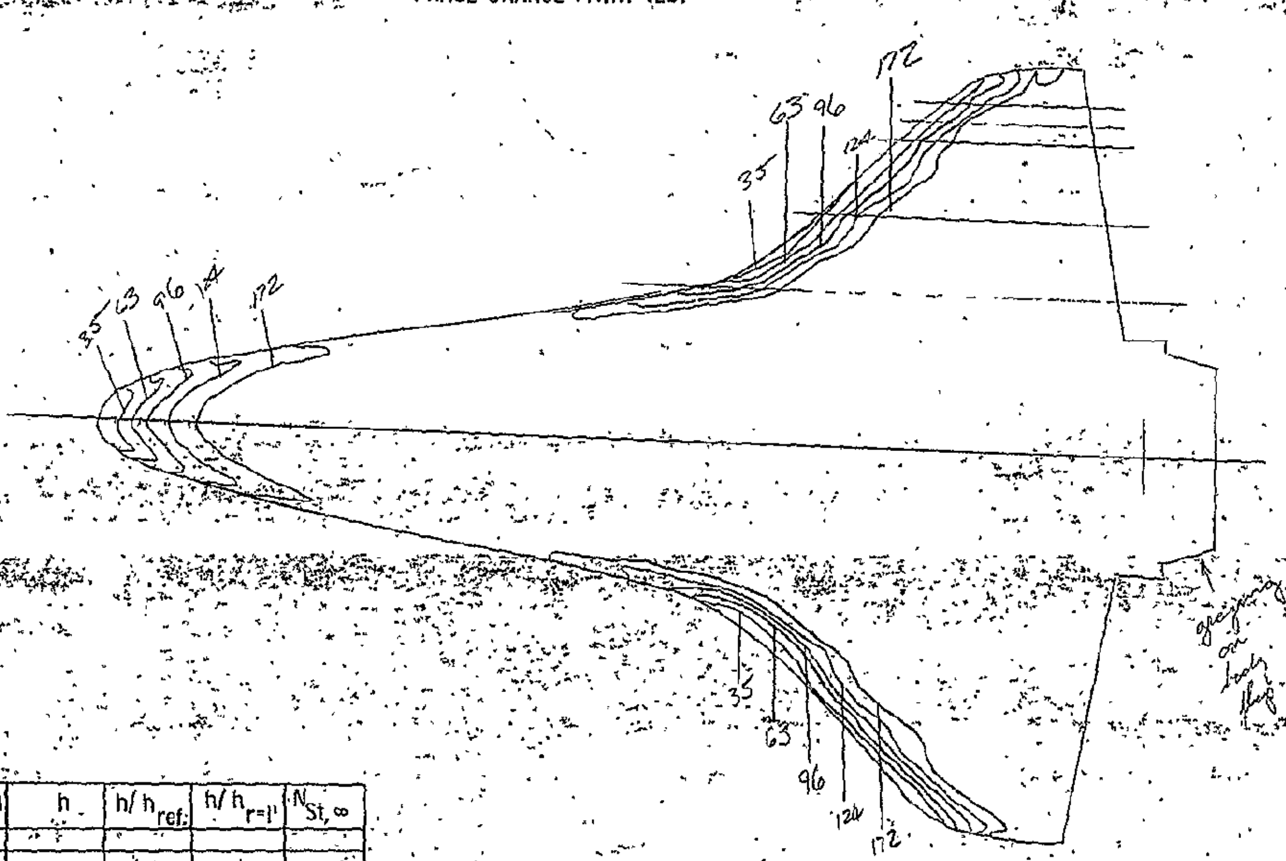
7				
8				
9				
10				

CONFIGURATION 22
FACILITY 2.4m/VDT
TEST OH-4C
RUN 4324
LENGTH
NOSE RADIUS
SCALE 1006
M_∞ 6
P_{total} (psia) = 1935
T_{total} (°R) = 925
R_∞ / ft = 8.0 (10^6)
T_{aw} / T_{total} =
T_{aw} (°R) =
T_i (°F) = 83
T_{pc} (°F) = 400
$h_{r=1'}$ =
$\bar{T}$ =
$(\rho c_p k)^{1/2}$ =
α = 30
β =
ϕ =
CAMERA POSITION

Engineer

CFFS-HVD

PHASE CHANGE PAINT TEST



CONFIGURATION	-41
FACILITY	LRC/VDT
TEST	OH 46
RUN	4525
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	163
T_{total} (°R) =	770
R_∞ / ft =	1.0(10⁶)
T_{aw}/T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	82
T_{pc} (°F) =	300
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	30
β =	
ϕ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

ISOTHERM	h	h/h_{ref}	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
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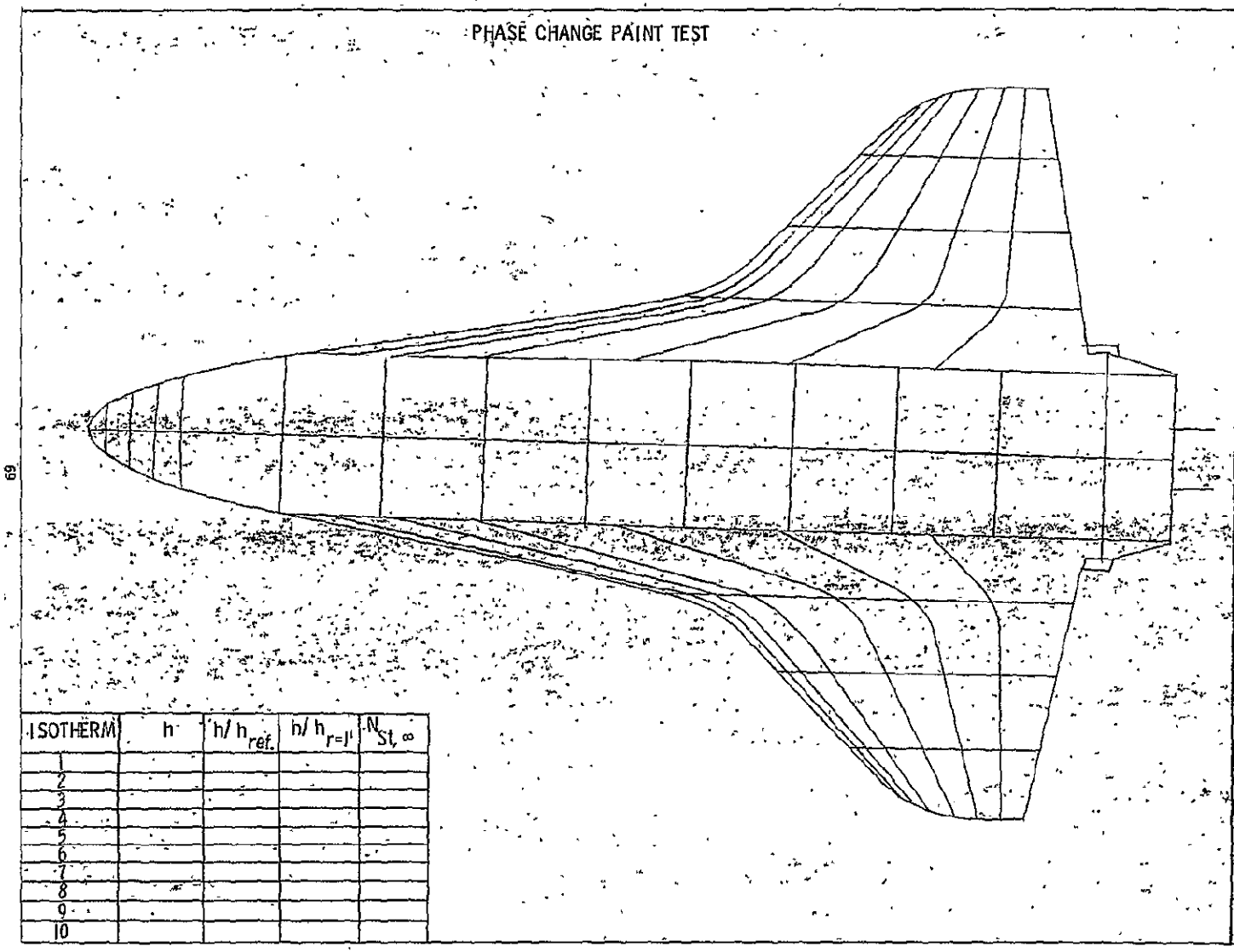
8				
9				
10				



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
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8				
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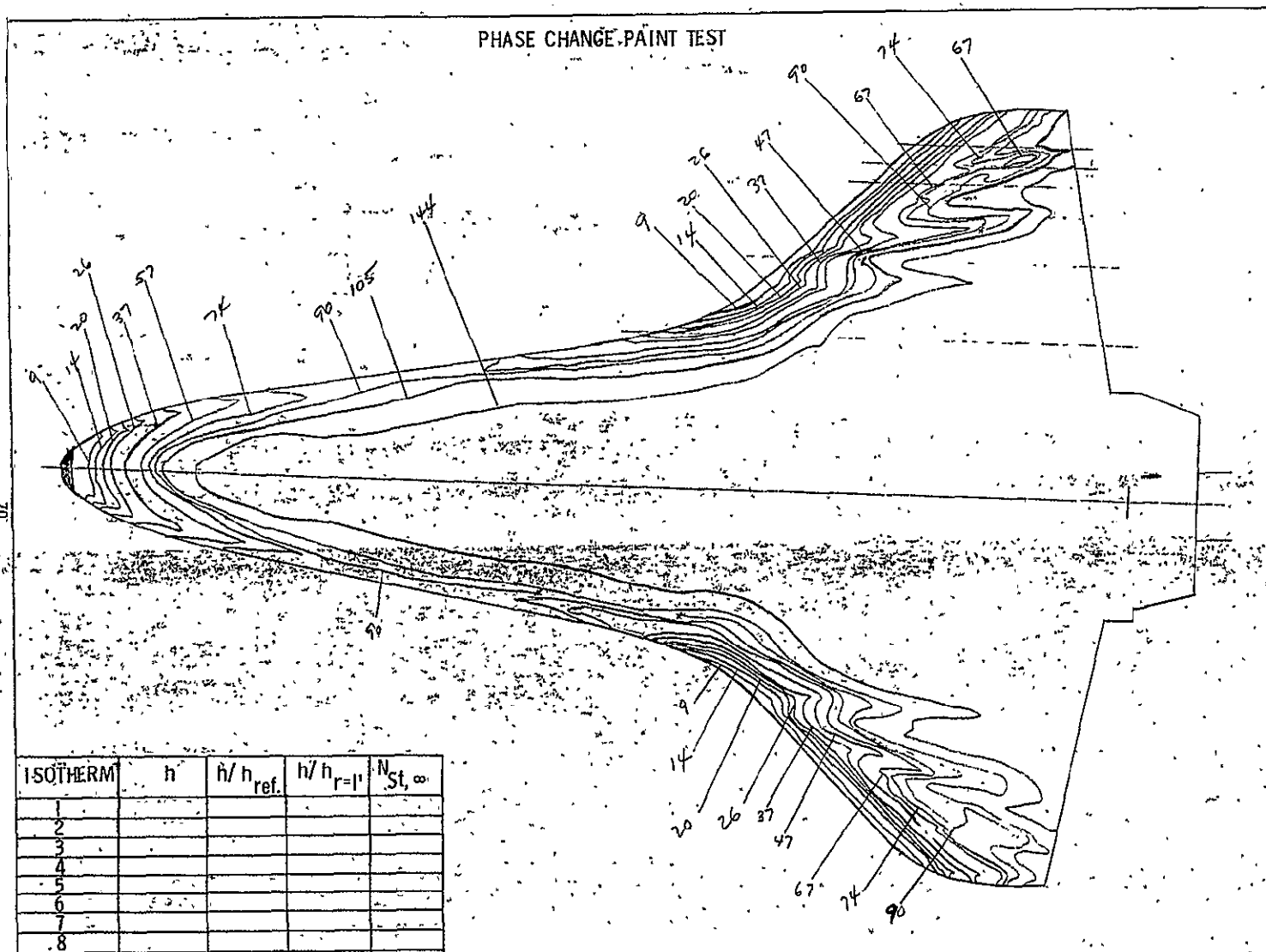
CONFIGURATION	GRID -21
FACILITY	LRC/VDT
TEST	OH-46
RUNS	4526 THRU 4545
LENGTH	
NOSE RADIUS	
SCALE	
M_∞	
P_{total} (psia) =	
T_{total} (°R) =	
R_∞ / ft =	
T_{aw}/T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	
T_{pc} (°F) =	
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	0
ϕ =	0
CAMERA POSITION	bottom VIEW
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
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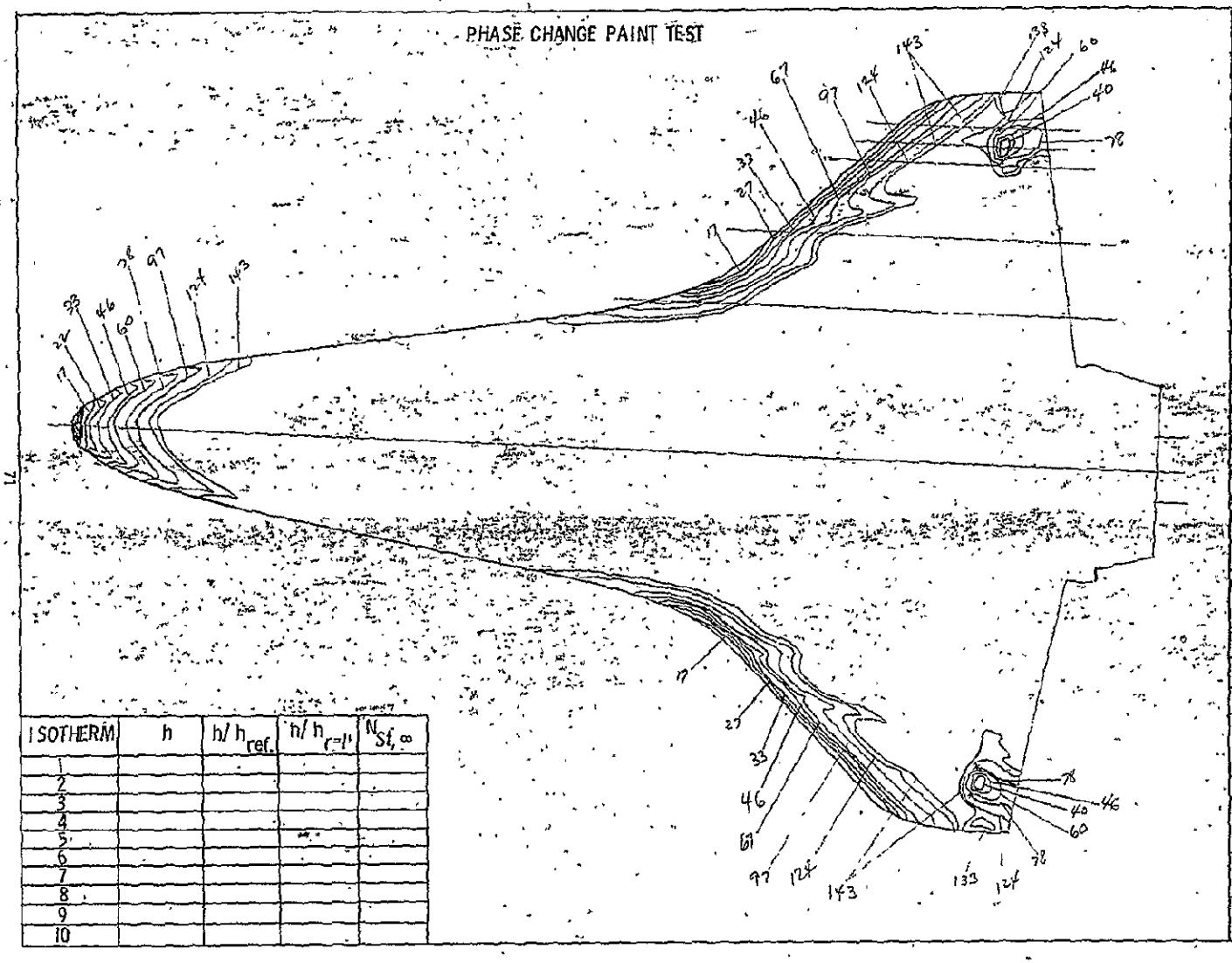
6				
7				
8				
9				
10				

CONFIGURATION	-22
FACILITY	LRC/VDT
TEST	OH-46
RUN	4526
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8.
P_{total} (psia) =	625
T_{total} (°R) =	1350
R_∞ / ft =	3×10^6
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	77
T_{pc} (°F) =	350
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	
Φ =	
CAMERA POSITION	
	℄ MT 13
Engineer	
	CFFS-HVD



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1"}$	$N_{St,\infty}$
1				
2				
3				
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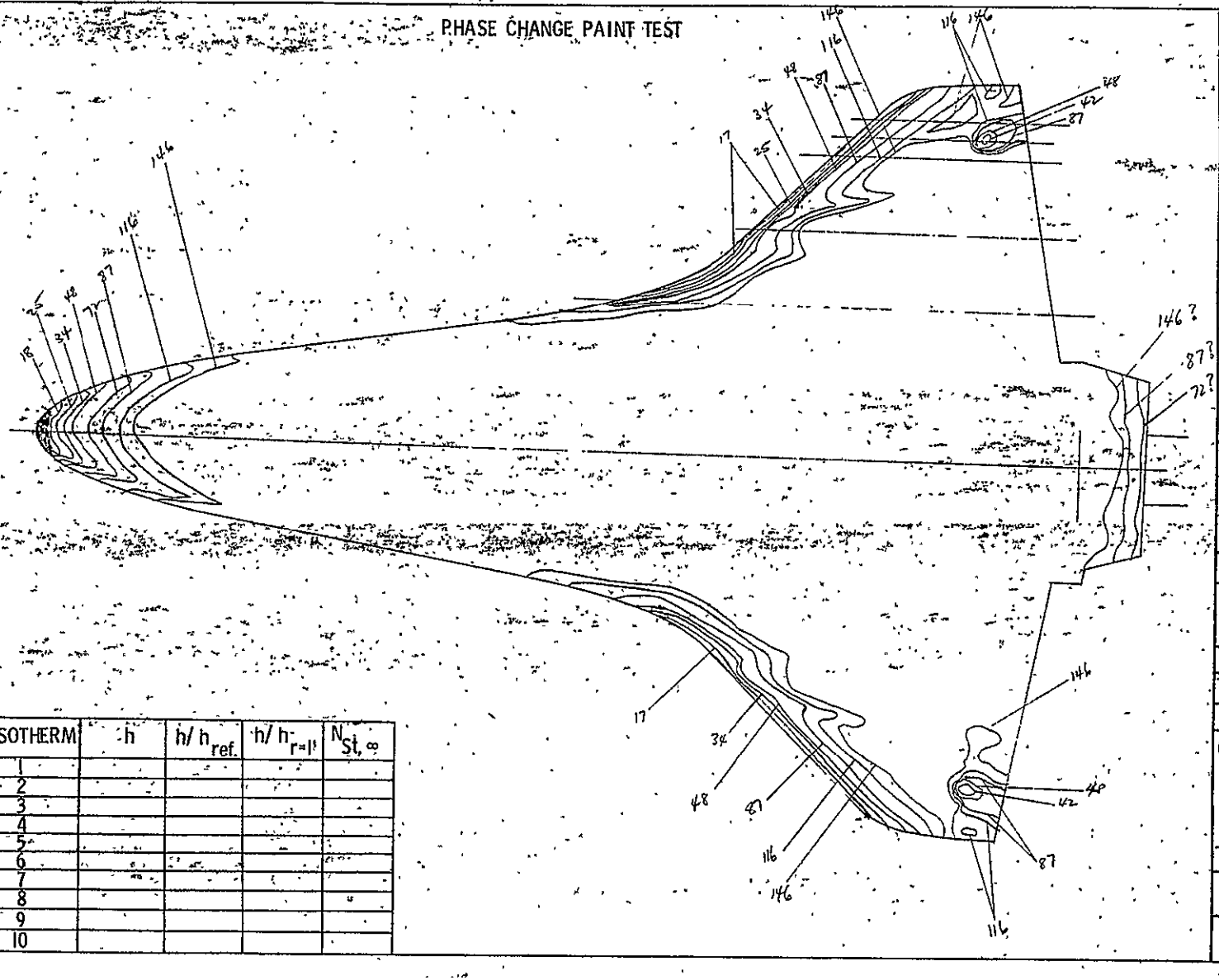
5				
6				
7				
8				
9				
10				

CONFIGURATION	-31
FACILITY	LRC/NDT
TEST	OH-46
RUN	4527
LENGTH	
NOSE RADIUS	
SCALE	
M_∞	8
P_{total} (psia) =	625
T_{total} (°R) =	1340
R_∞ / ft =	3×10^6
T_{aw}/T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	81
T_{pc} (°F) =	400
$h_{r=1}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	
ϕ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1}$	$N_{St,\infty}$
1				
2				
3				
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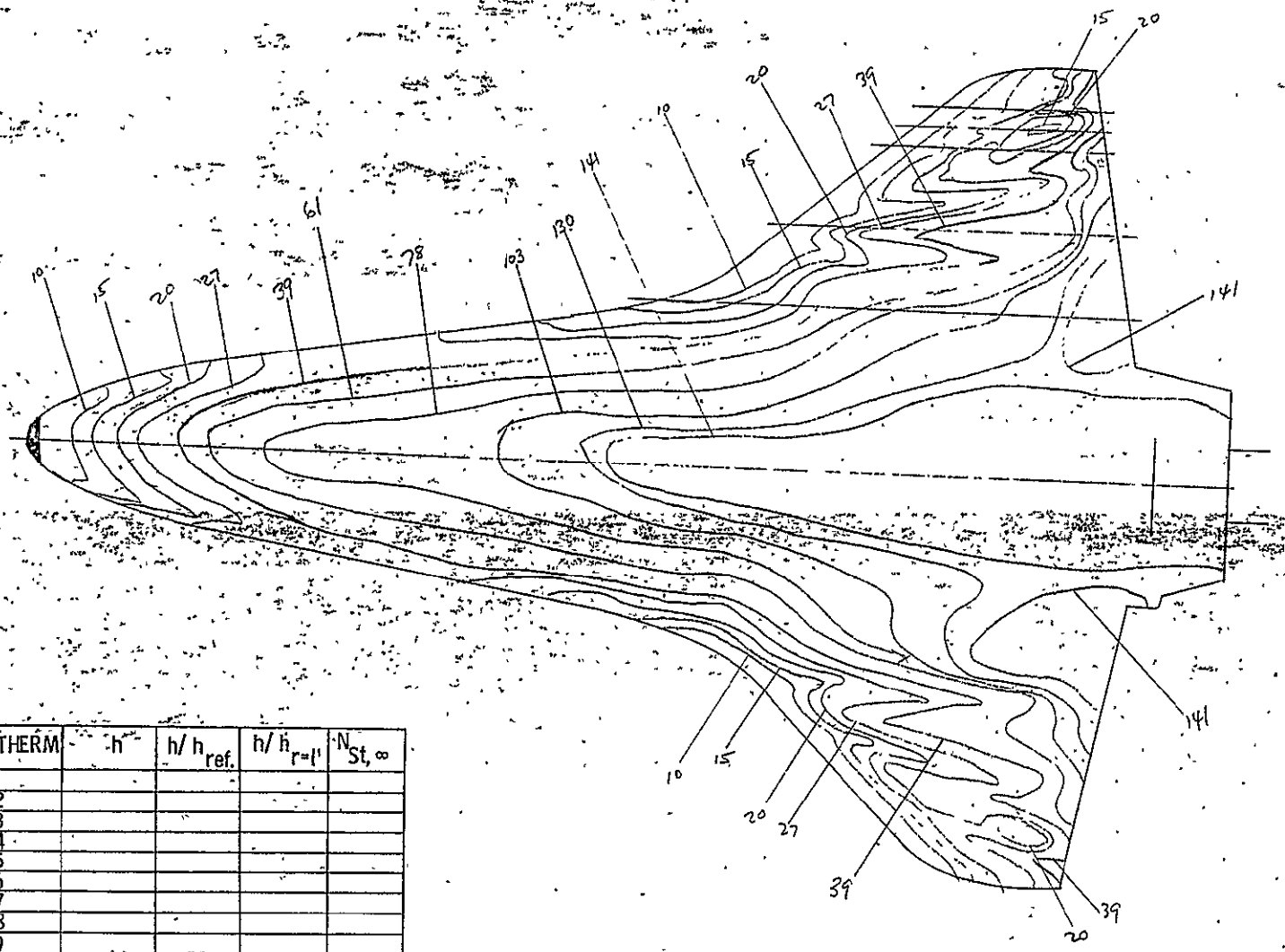
5				
6				
7				
8				
9				
10				

CONFIGURATION	44
FACILITY	LRC/HYDT
TEST	014-46
RUN	1528
LENGTH	
NOSE RADIUS	
SCALE	~ 006
M_∞	8
P_{total} (psia) =	635
T_{total} (°R) =	1340
R_∞ / ft =	3×10^6
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	
T_{pc} (°F) =	400
$h_{r=1}$	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
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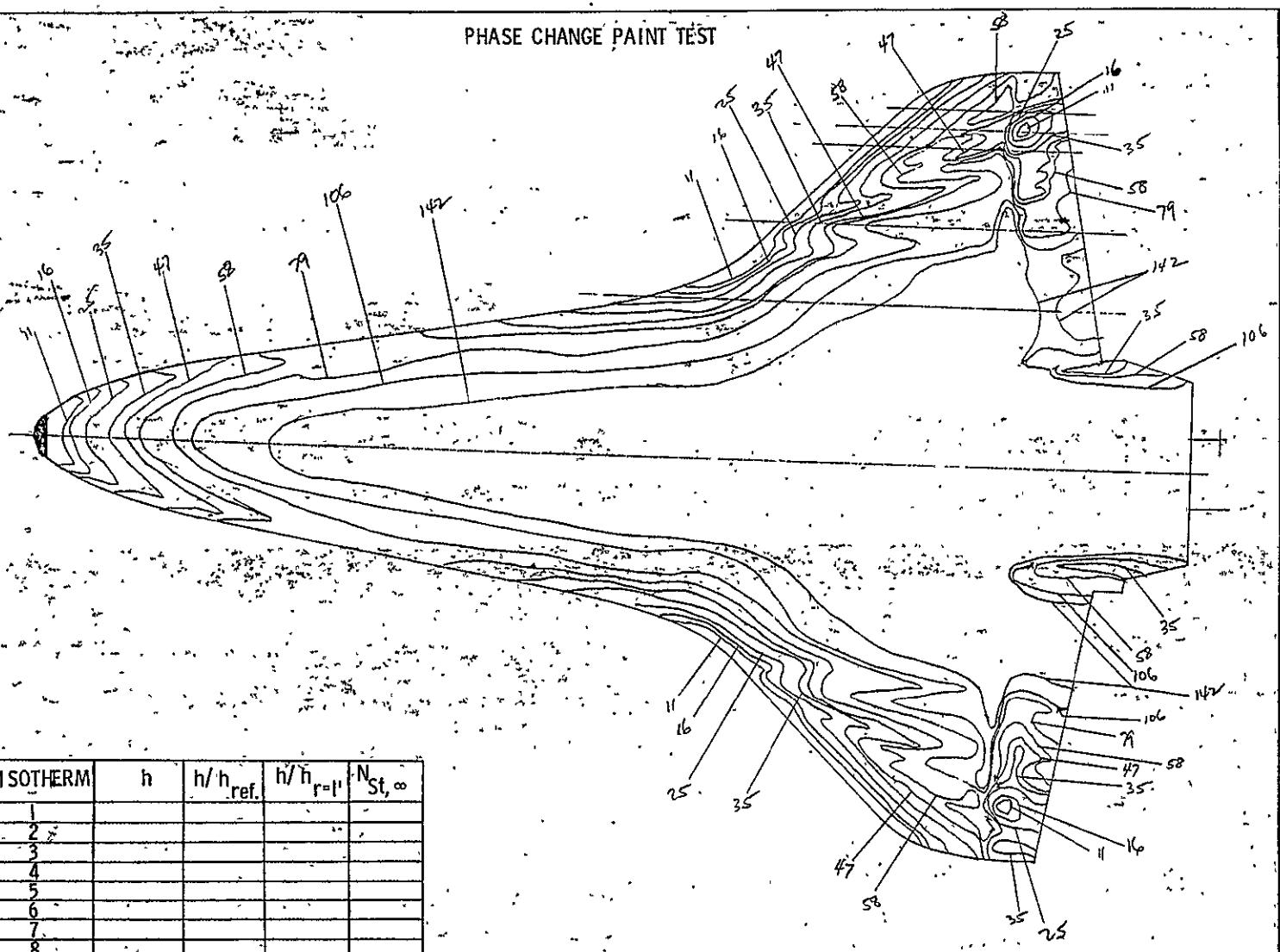
CONFIGURATION	22
FACILITY	LRC/VDT
TEST	OH-46
RUN	4529
LENGTH	
NOSE RADIUS	
SCALE	606
M_∞	8
P_{total} (psia) =	635
T_{total} (°R) =	875
R_∞ / ft =	3x10⁶
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	
T_{pc} (°F) =	250
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
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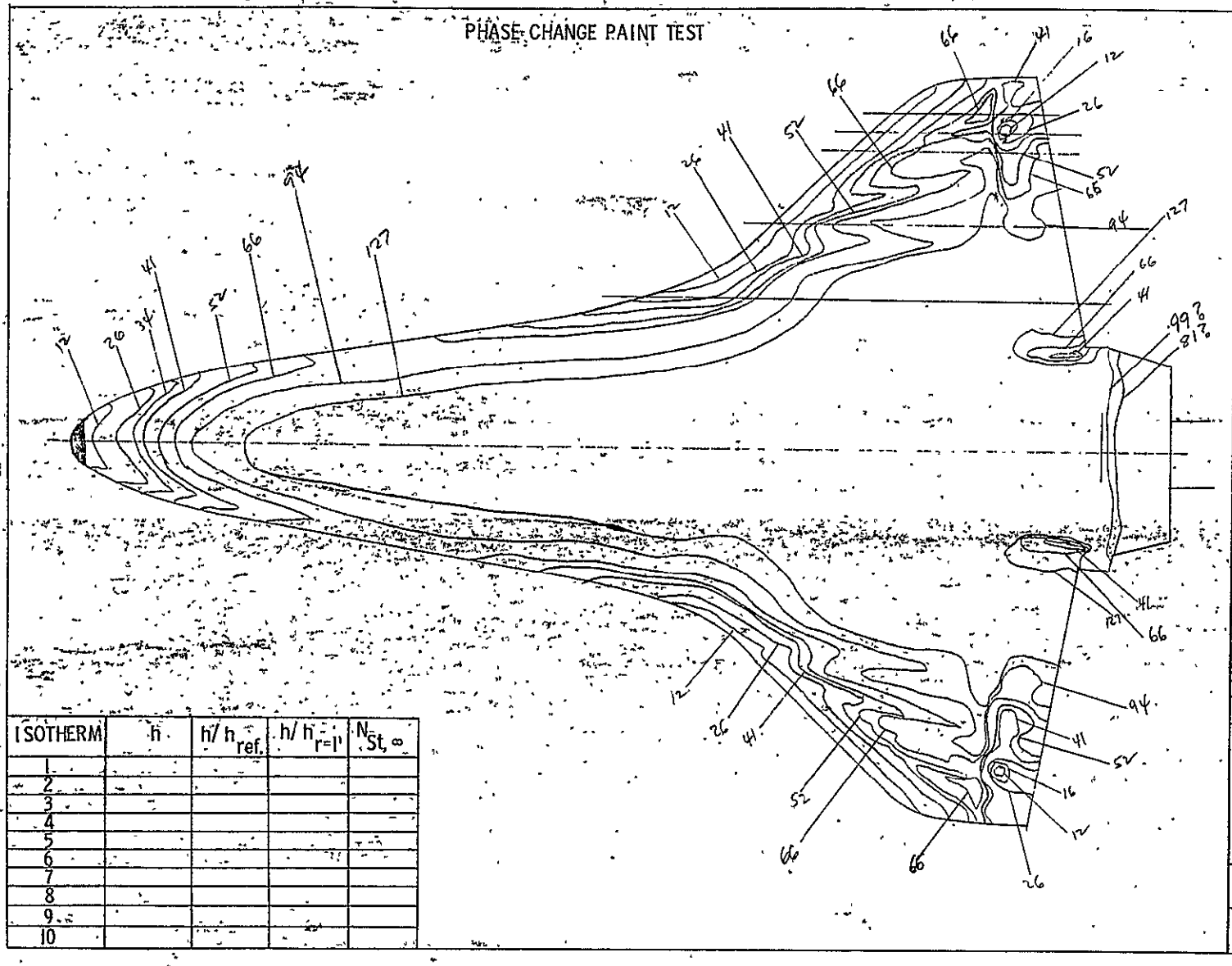
CONFIGURATION	31
FACILITY	LRC/VDT
TEST	OH-46
RUN	4530
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	630
T_{total} (°R) =	885
R_∞ / ft =	3×10^6
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	
T_{pc} (°F) =	300
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	$\bar{h}$	$\bar{h}/h_{ref.}$	$\bar{h}/\bar{h}_{r=1}$	$N_{St,\infty}$
1				
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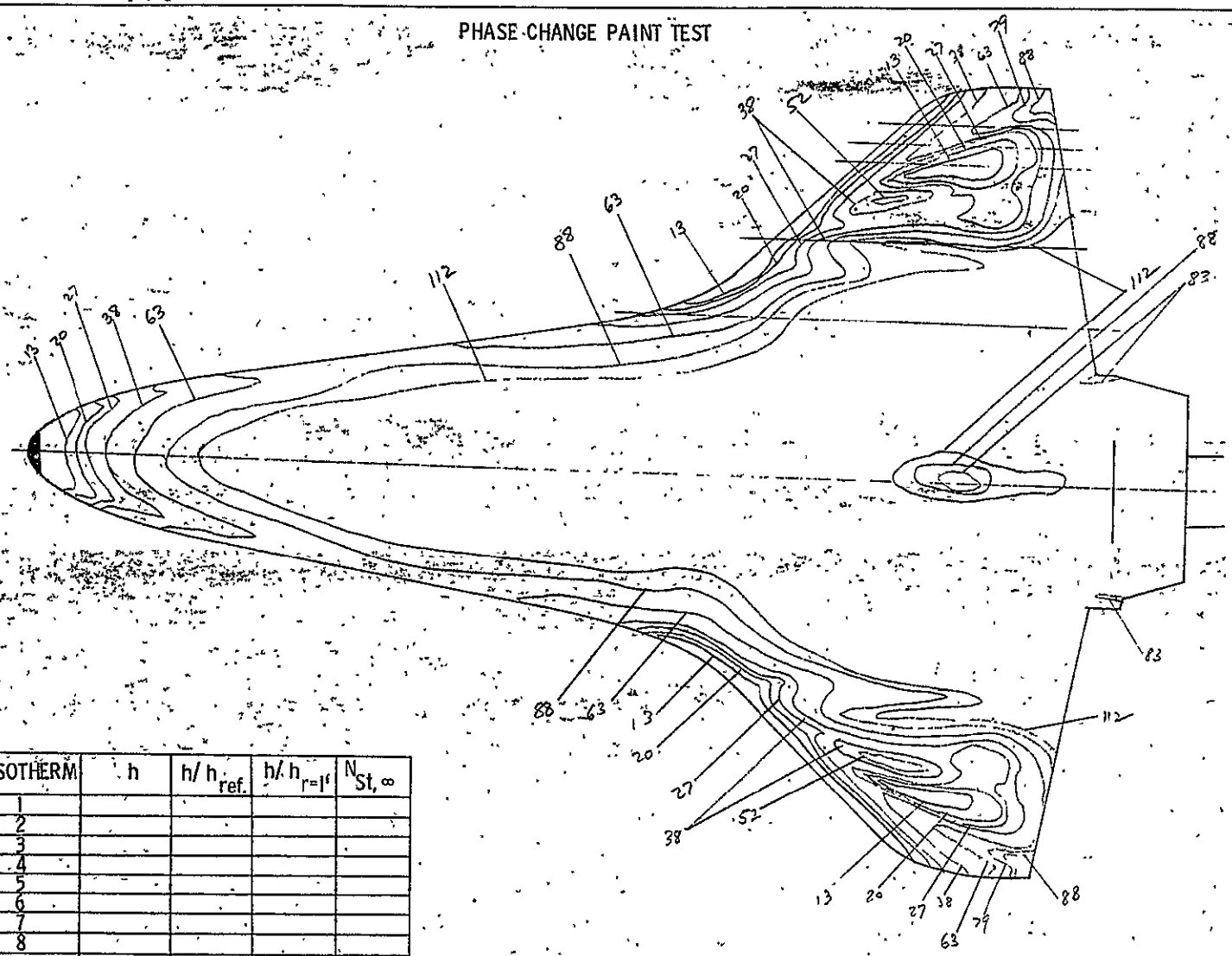
CONFIGURATION	41
FACILITY	LRC/VDT
TEST	OH-46
RUN	45 31
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	625
T_{total} (°R) =	865
R_∞ / ft =	3x10⁶
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	
T_{pc} (°F) =	300
$h_{r=1}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE-CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
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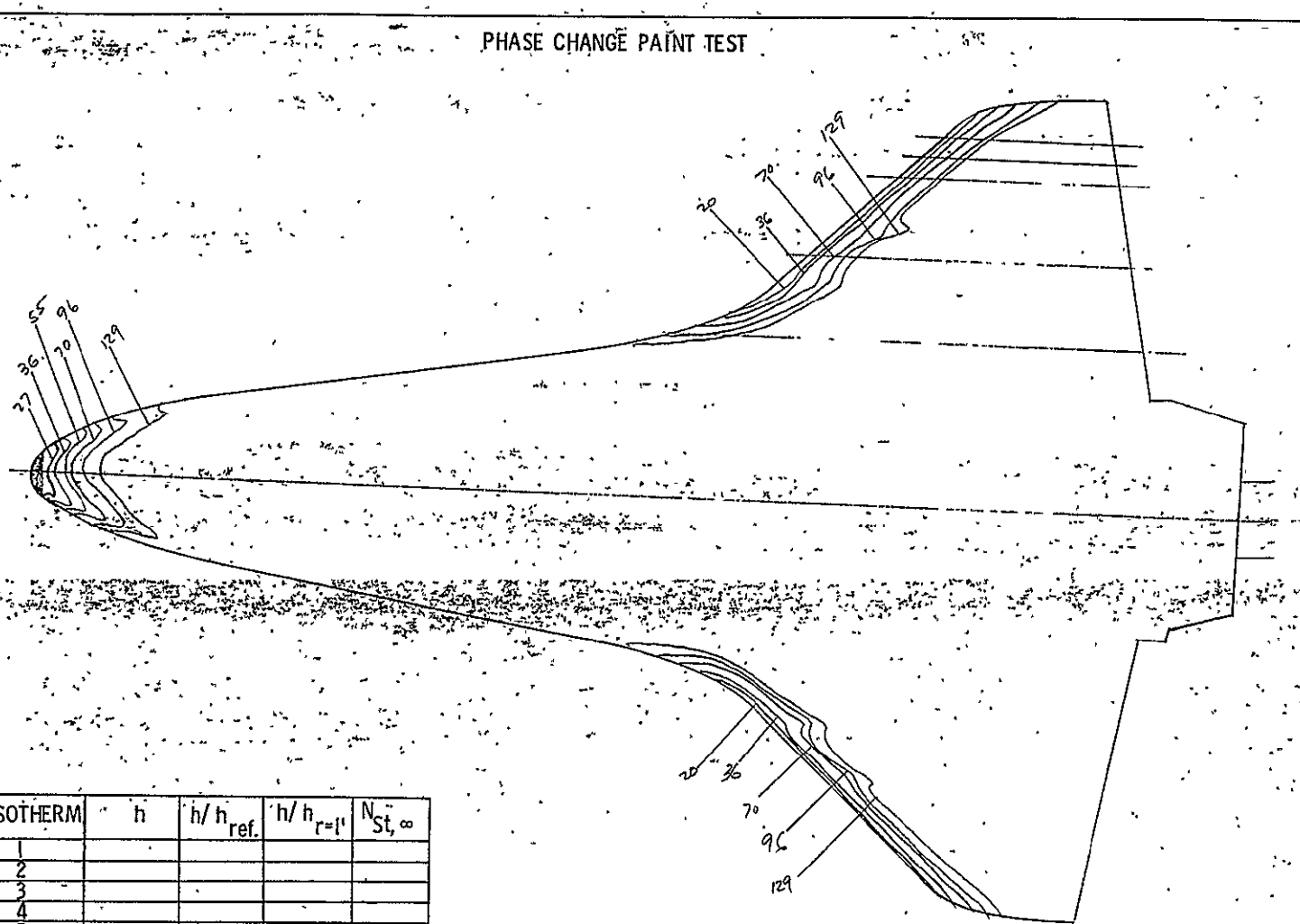
CONFIGURATION	22
FACILITY	LRC/VDT
TEST	OH-46
RUN	453.2
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	1400
T_{total} (°R) =	955
R_∞ / ft =	6X06
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	
T_{pc} (°F) =	450
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	
ϕ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
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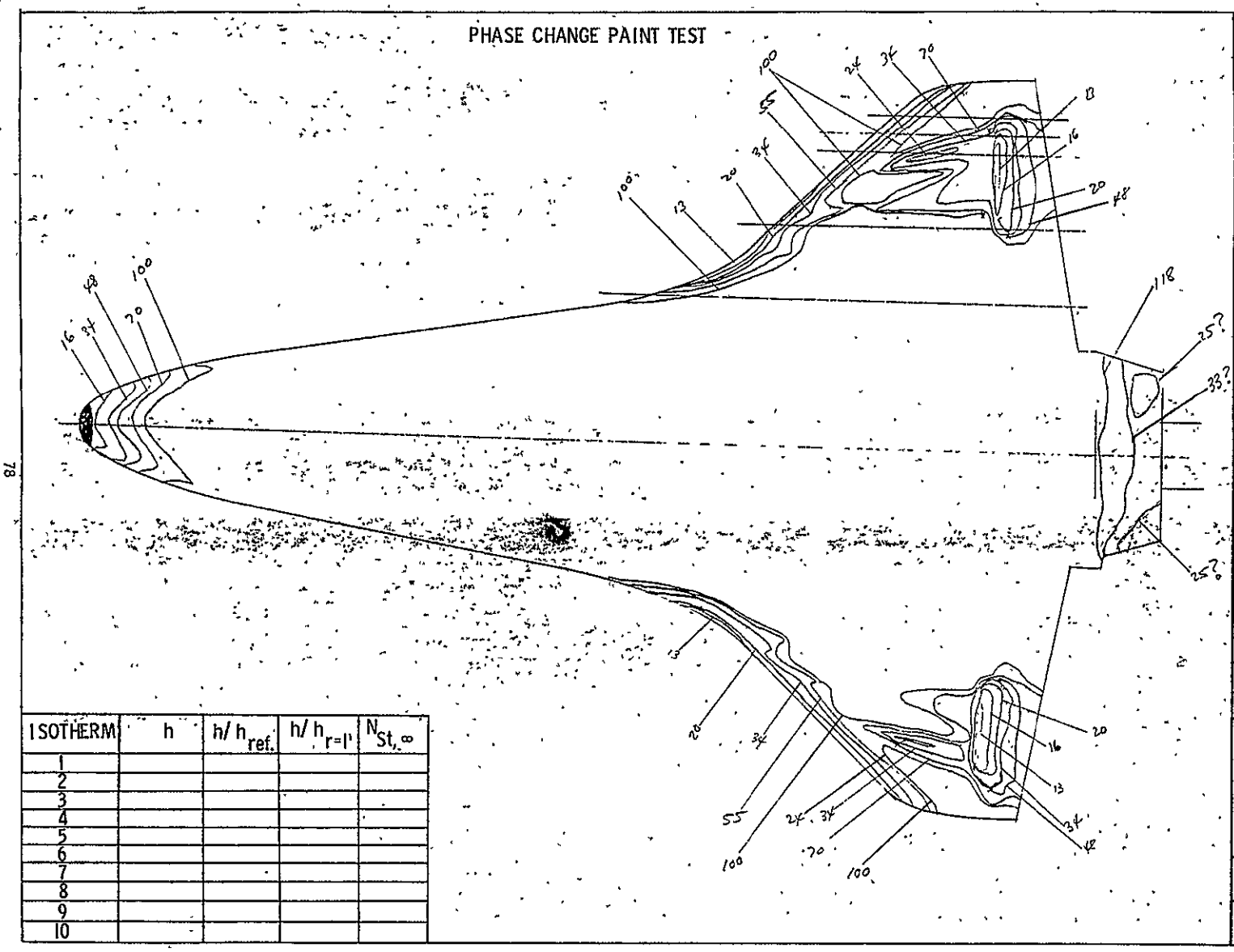
CONFIGURATION	31
FACILITY	LRC/VDT
TEST	0H-46
RUN	4533
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	164
T_{total} (°R) =	1220
R_∞ / ft =	1×10^6
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	
T_{pc} (°F) =	300
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
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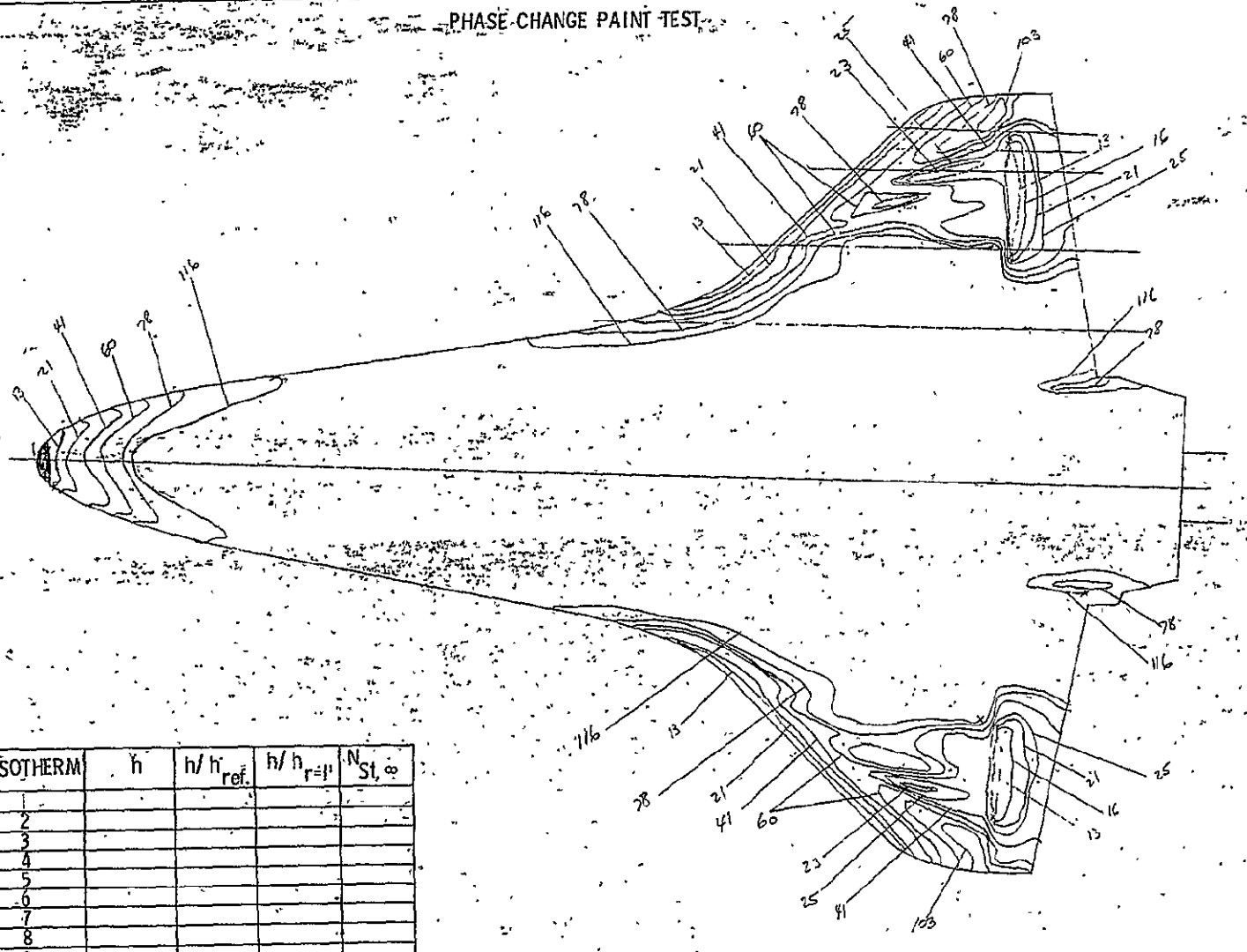
CONFIGURATION	41
FACILITY	LRC/VDT
TEST	OH-46
RUN	4534
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	1400
T_{total} (°R) =	950
R_∞ / ft =	6x10⁶
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	
T_{pc} (°F) =	550
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE-CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1}$	$N_{St,\infty}$
1				
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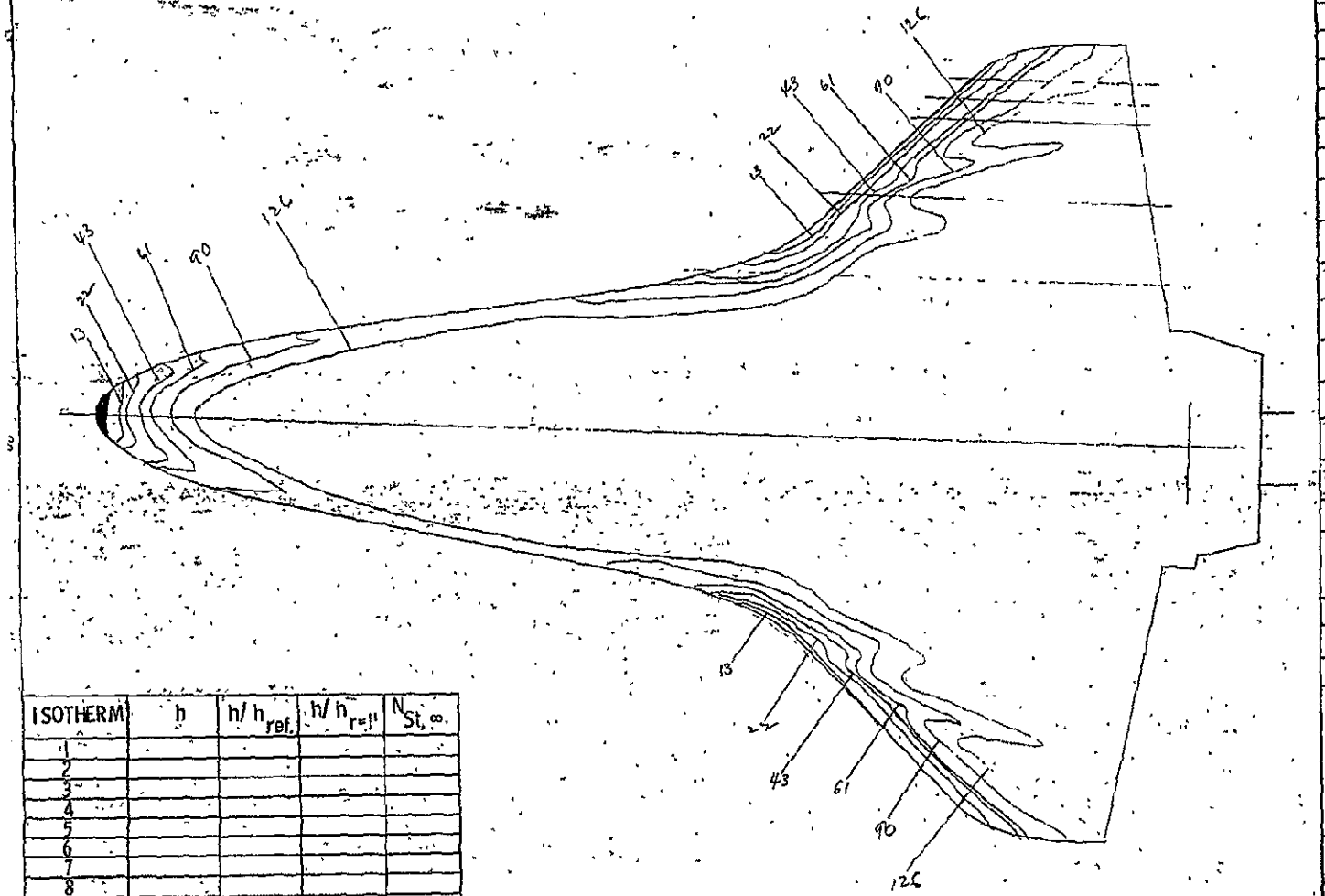
CONFIGURATION	31
FACILITY	LRC/VDT
TEST	CH-46
RUN	1535
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	1400
T_{total} (°R) =	940
R_∞ / ft =	6×10^6
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_j (°F) =	
T_{pc} (°F) =	500
$h_{r=1}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1}$	$N_{St,\infty}$
1				
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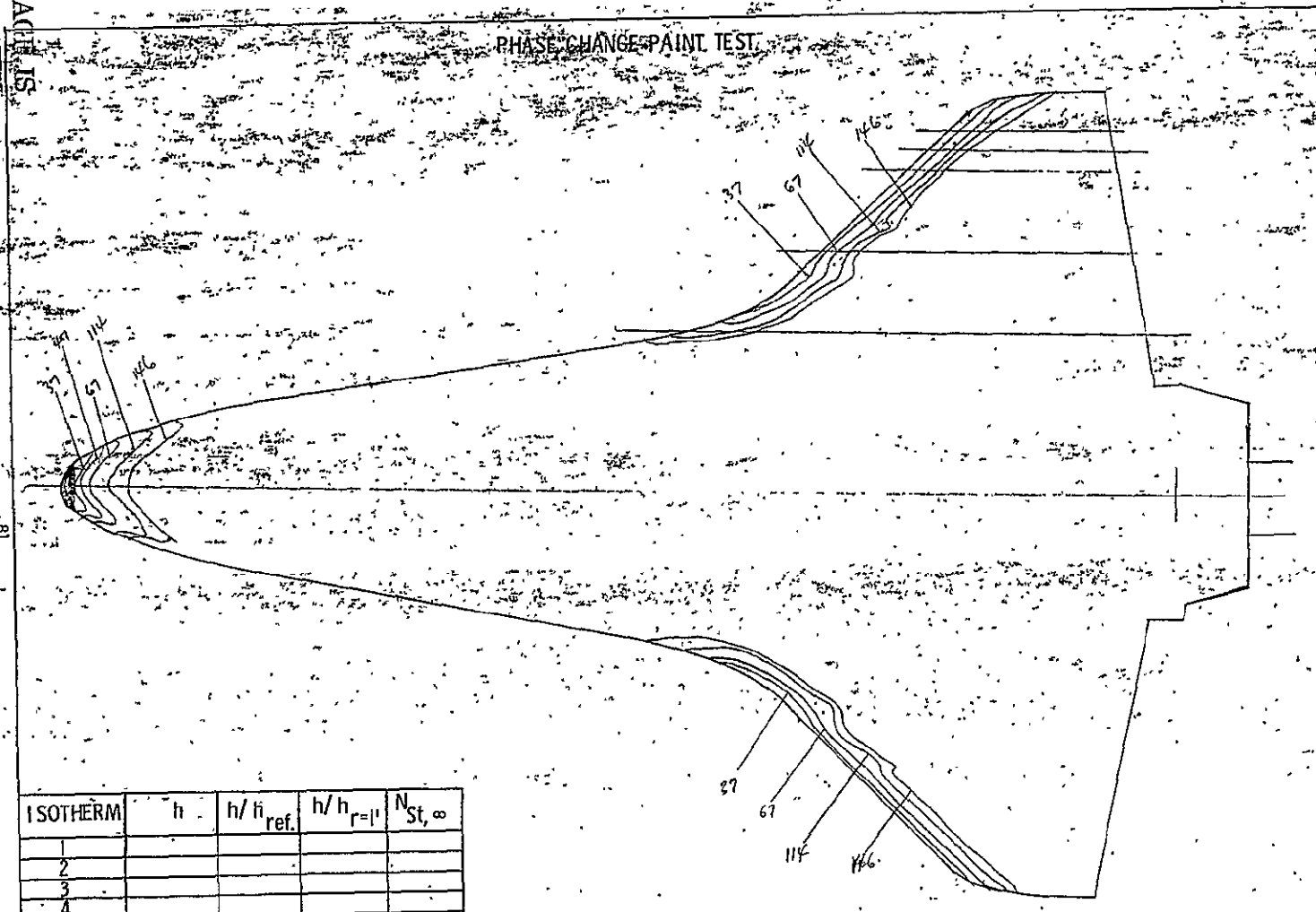
CONFIGURATION	22
FACILITY	LRC/VPT
TEST	OH-46
RUN	4536
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	160
T_{total} (°R) =	745
R_∞ / ft =	1×10^6
T_{aw}/T_{total} =	
T_{aw} (°R) =	
T_j (°F) =	
T_{pc} (°F) =	250
$h_{r=1}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
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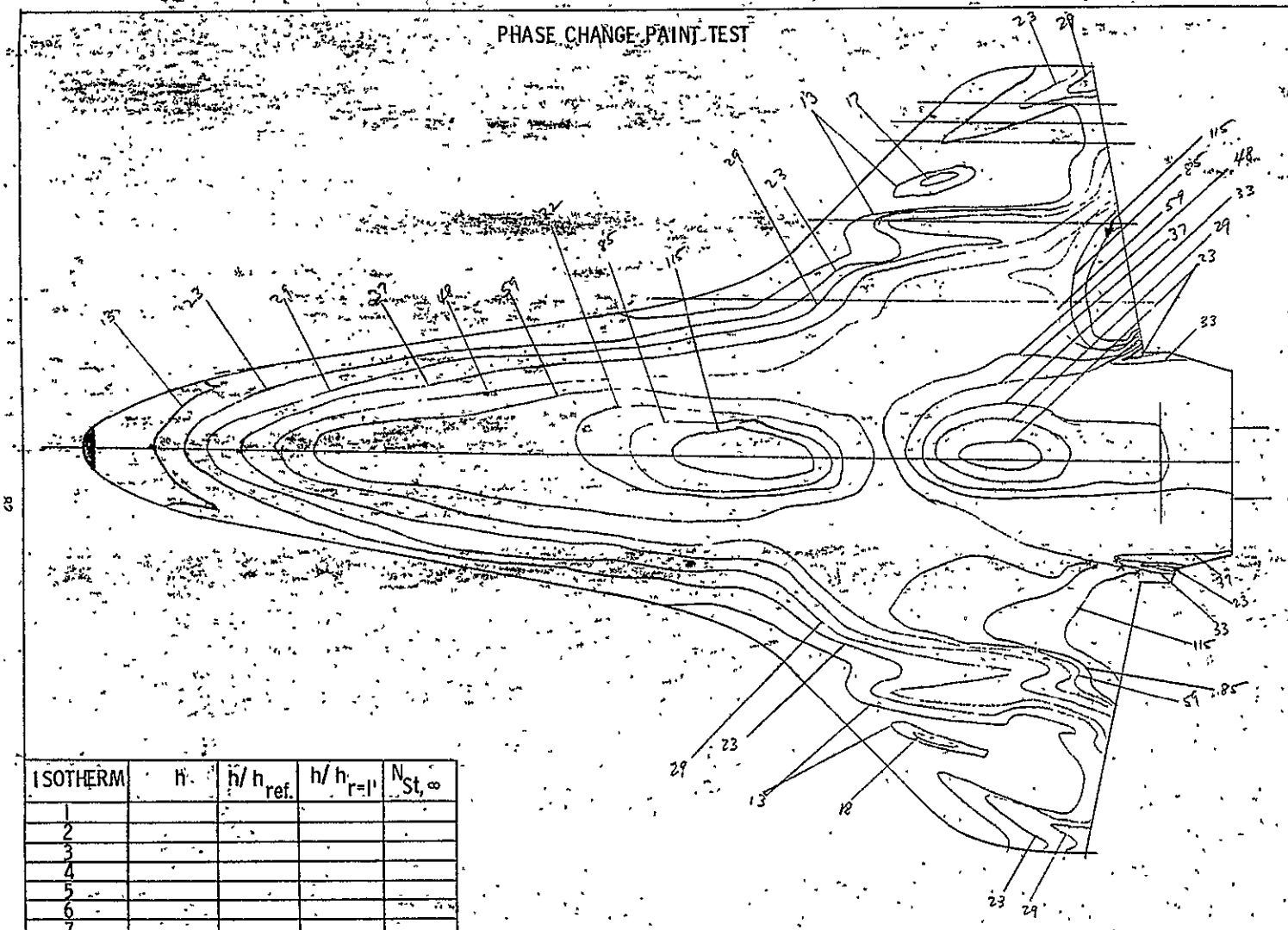
CONFIGURATION	4
FACILITY	LRC/VDT
TEST	OH-46
RUN	4537
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	156
T_{total} (°R) =	735
R_∞ / ft =	1×10^6
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	
T_{pc} (°F) =	300
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho c_p k)^{1/2}$ =	
α =	25
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1}$	$N_{St,\infty}$
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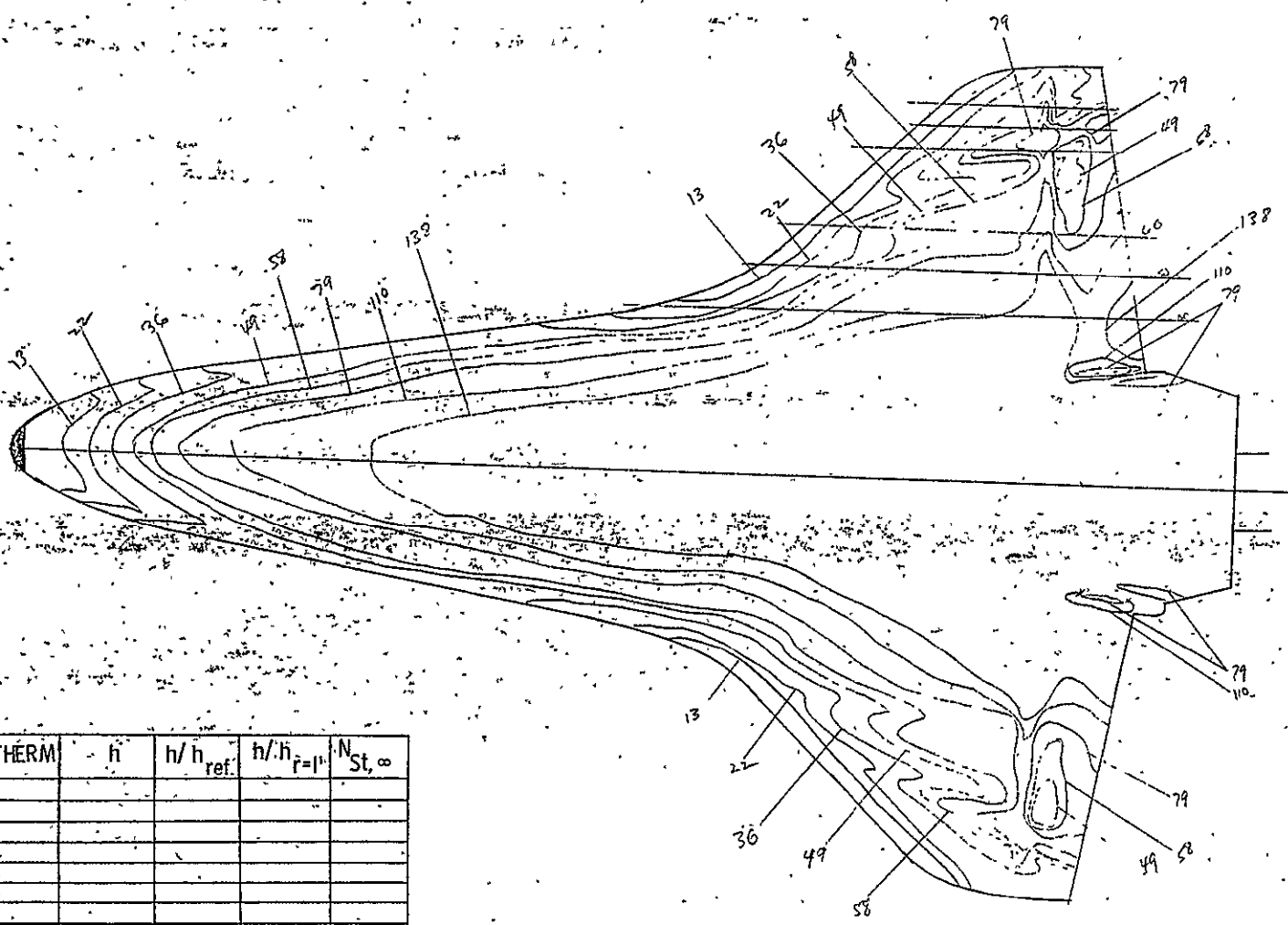
CONFIGURATION	22
FACILITY	LRC 11"DT
TEST	84-46
RUN	4538
LENGTH	
NOSE RADIUS	
SCALE	006
M_∞	8
P_{total} (psia) =	1405
T_{total} (°R) =	940
R_∞ / ft =	6×10^6
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	
T_{pc} (°F) =	360
$h_{r=1}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	
ϕ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{\bar{r}=1'}$	$N_{St,\infty}$
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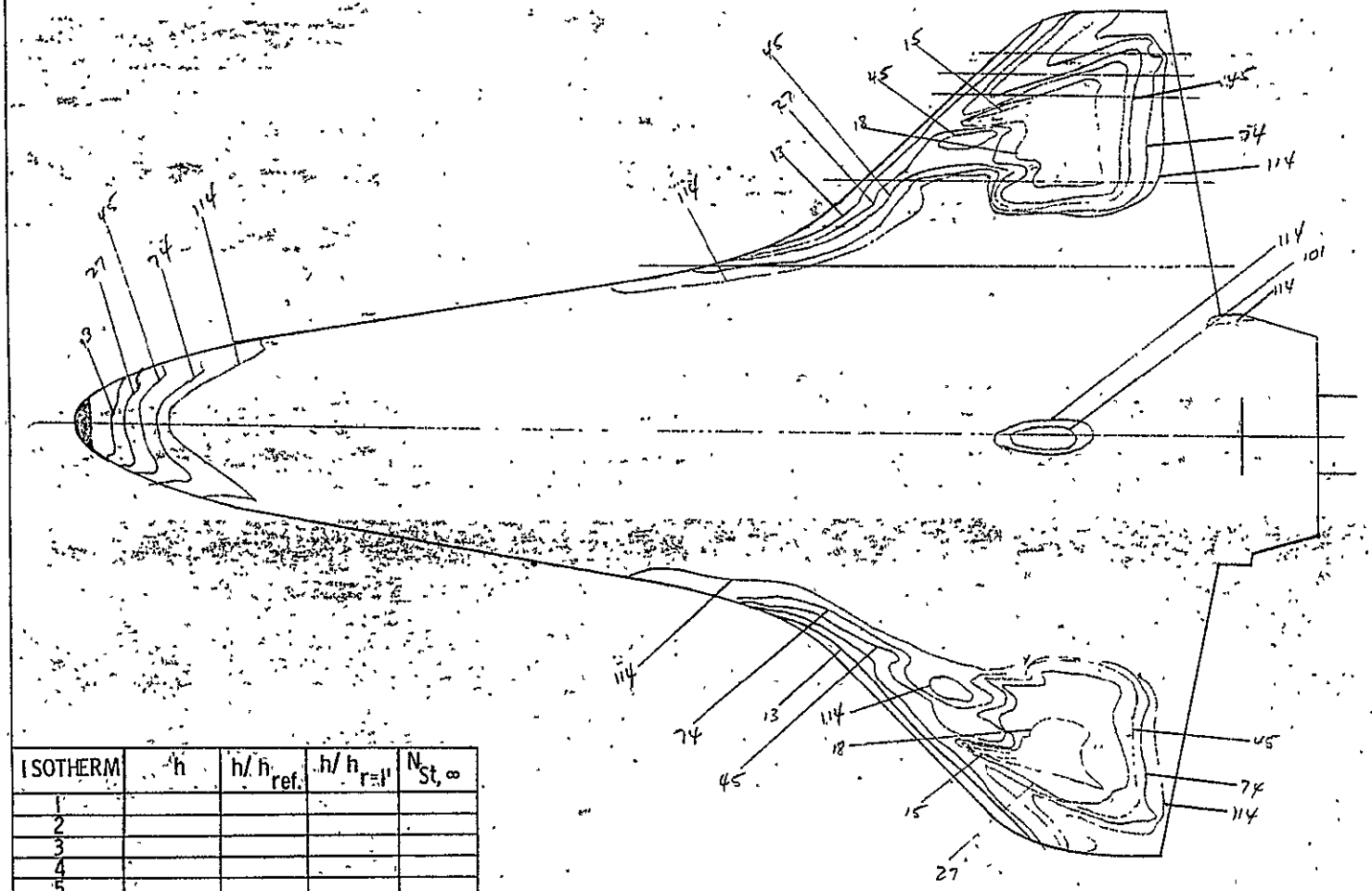
CONFIGURATION	31
FACILITY	LRC/VDT
TEST	6H-46
RUN	4539
LENGTH	
NOSE RADIUS	
SCALE	006
M_∞	8
P_{total} (psia) =	150
T_{total} (°R) =	770
R_∞ / ft =	1X10⁶
T_{aw}/T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	
T_{pc} (°F) =	175
$h_{\bar{r}=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1}$	$N_{St,\infty}$
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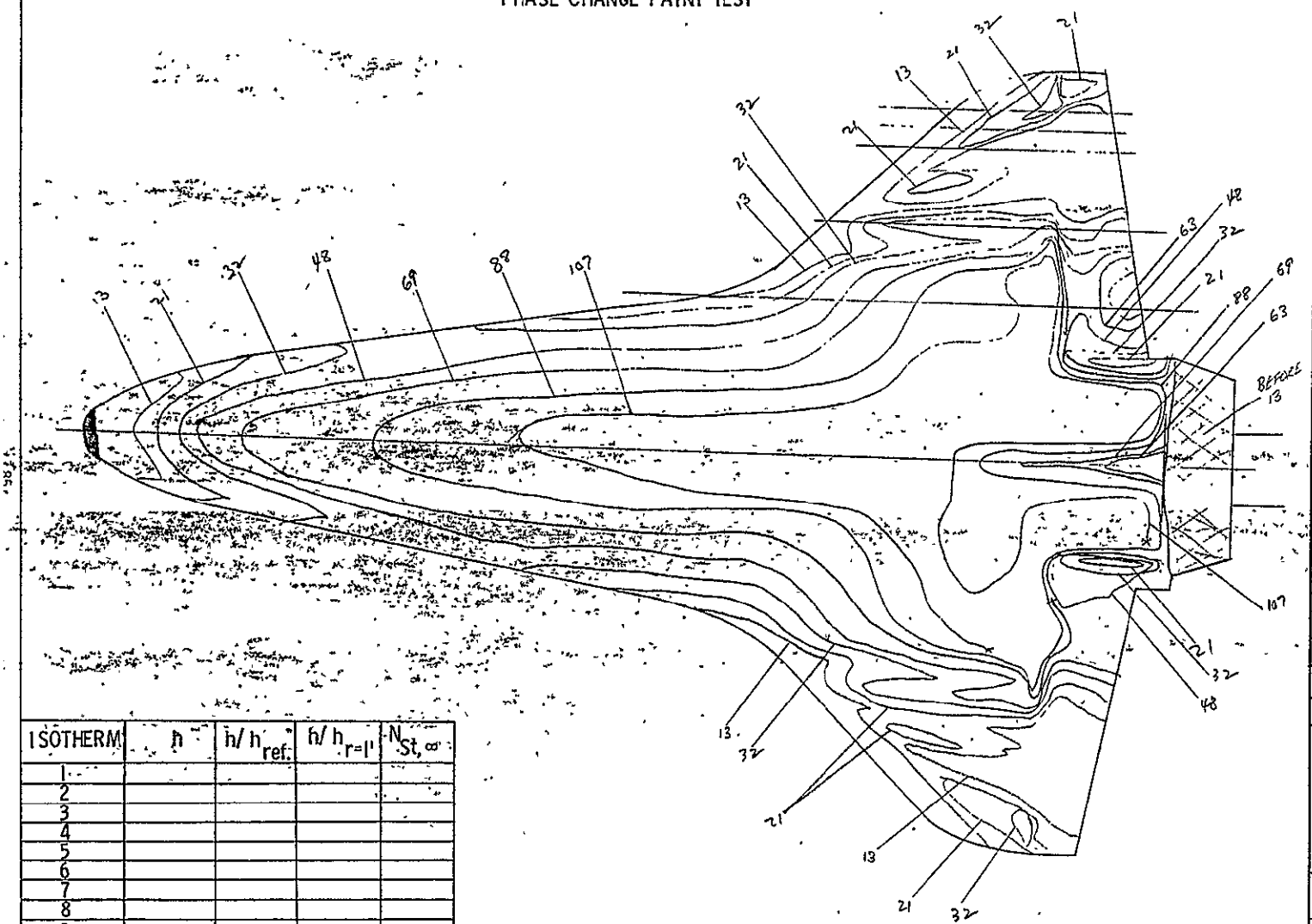
CONFIGURATION	22
FACILITY	LRC/VDT
TEST	OH-46
RUN	4540
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	1935
T_{total} (°R) =	935
R_∞ / ft =	8×10^6
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	
T_{pc} (°F) =	550
$h_{r=1}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
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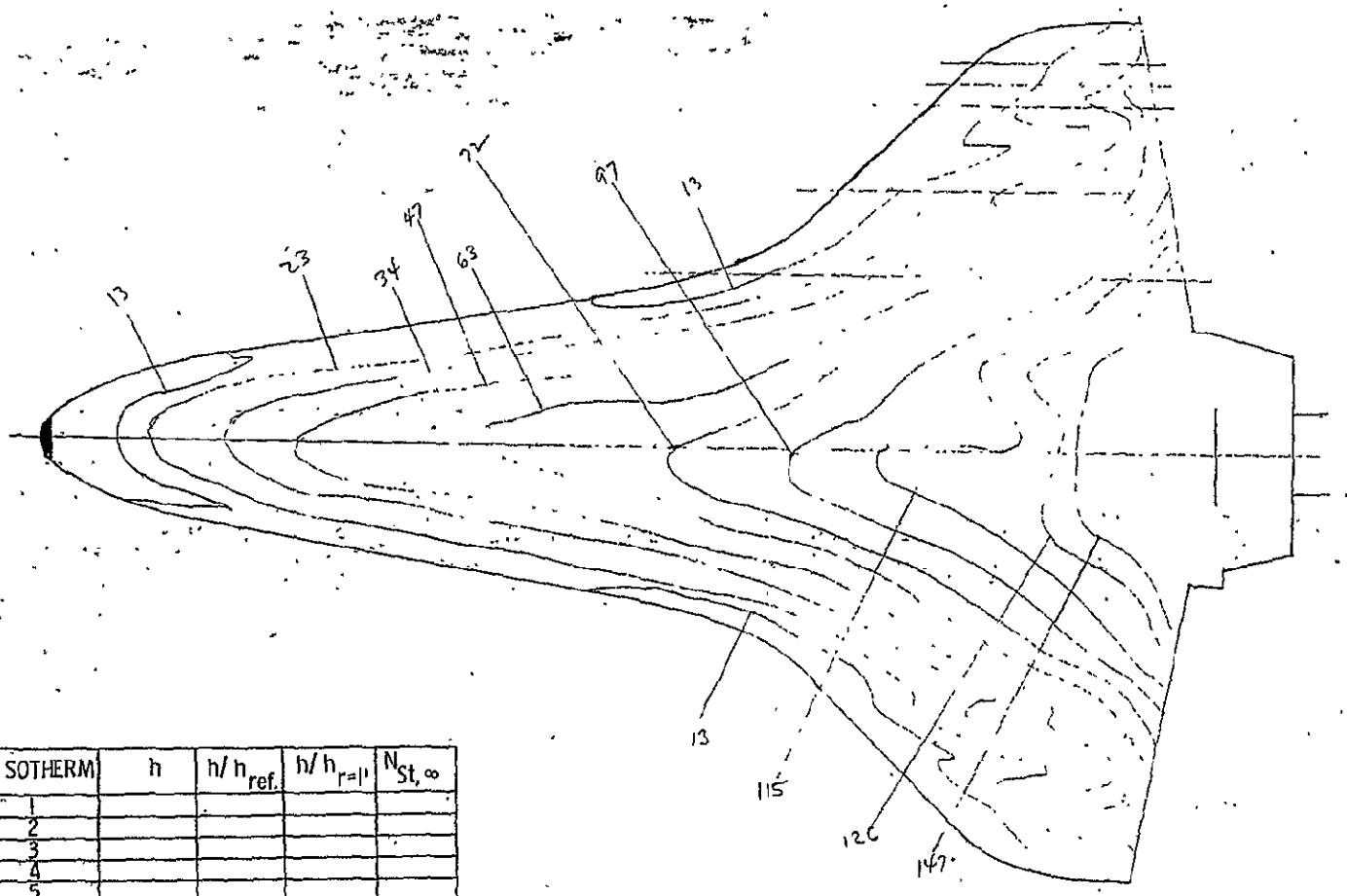
CONFIGURATION	4
FACILITY	LRC/VDT
TEST	OH-46
RUN	4541
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	1400
T_{total} (°R) =	950
R_∞ / ft =	6×10^6
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	
T_{pc} (°F) =	350
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
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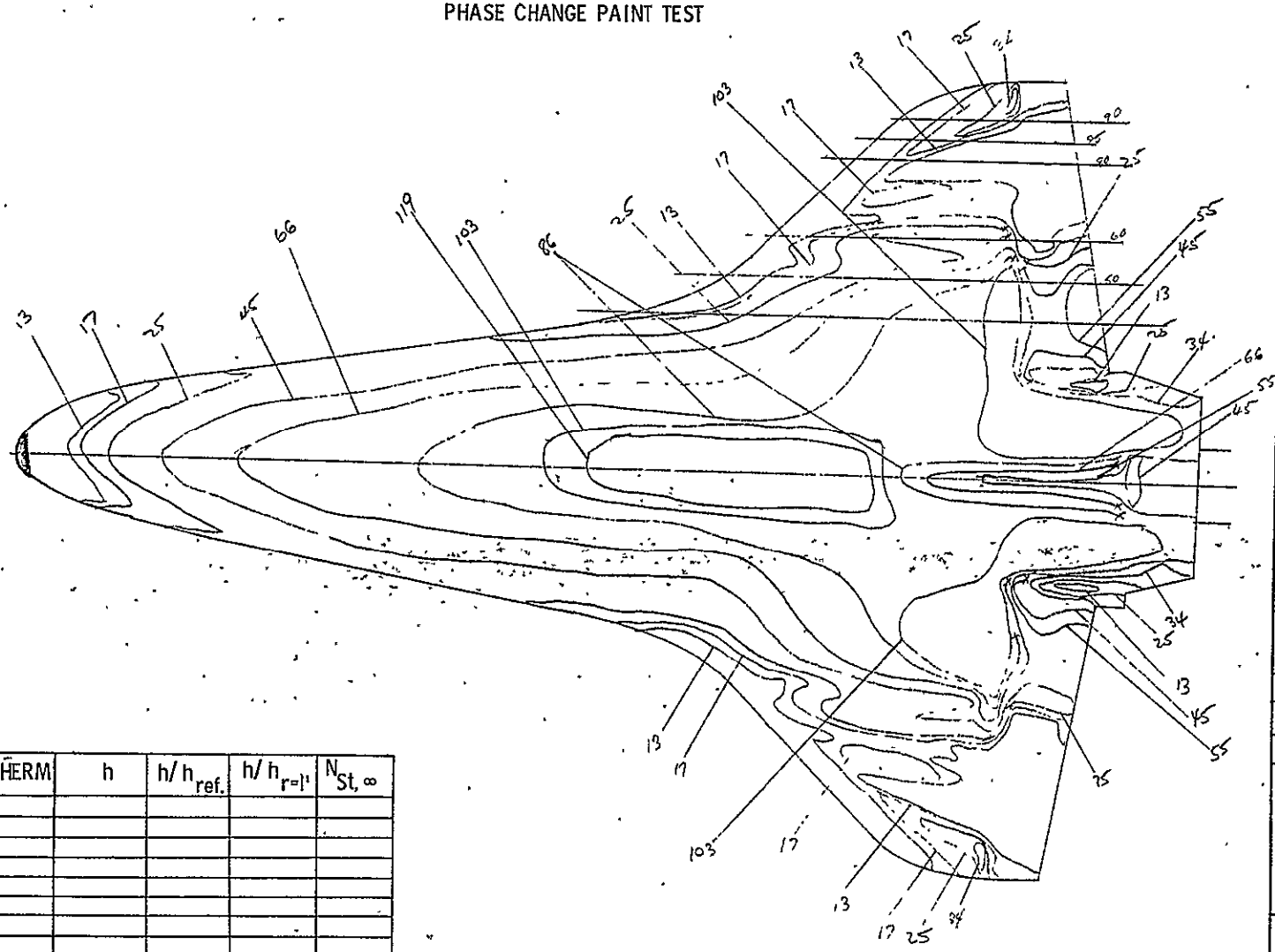
10				

CONFIGURATION	22
FACILITY	LRC/VDT
TEST	OH-46
RUN	4542
LENGTH	
NOSE RADIUS	
SCALE	006
M_∞	8
P_{total} (psia) =	152
T_{total} (°R) =	780
R_∞ / ft =	1X10⁶
T_{aw}/T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	
T_{pc} (°F) =	150
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	
φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
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10				

CONFIGURATION	31
FACILITY	LRC/VDT
TEST	OH-46
RUN	4543
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	1390
T_{total} (°R) =	980
R_∞ / ft =	6×10^6
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	
T_{pc} (°F) =	350
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

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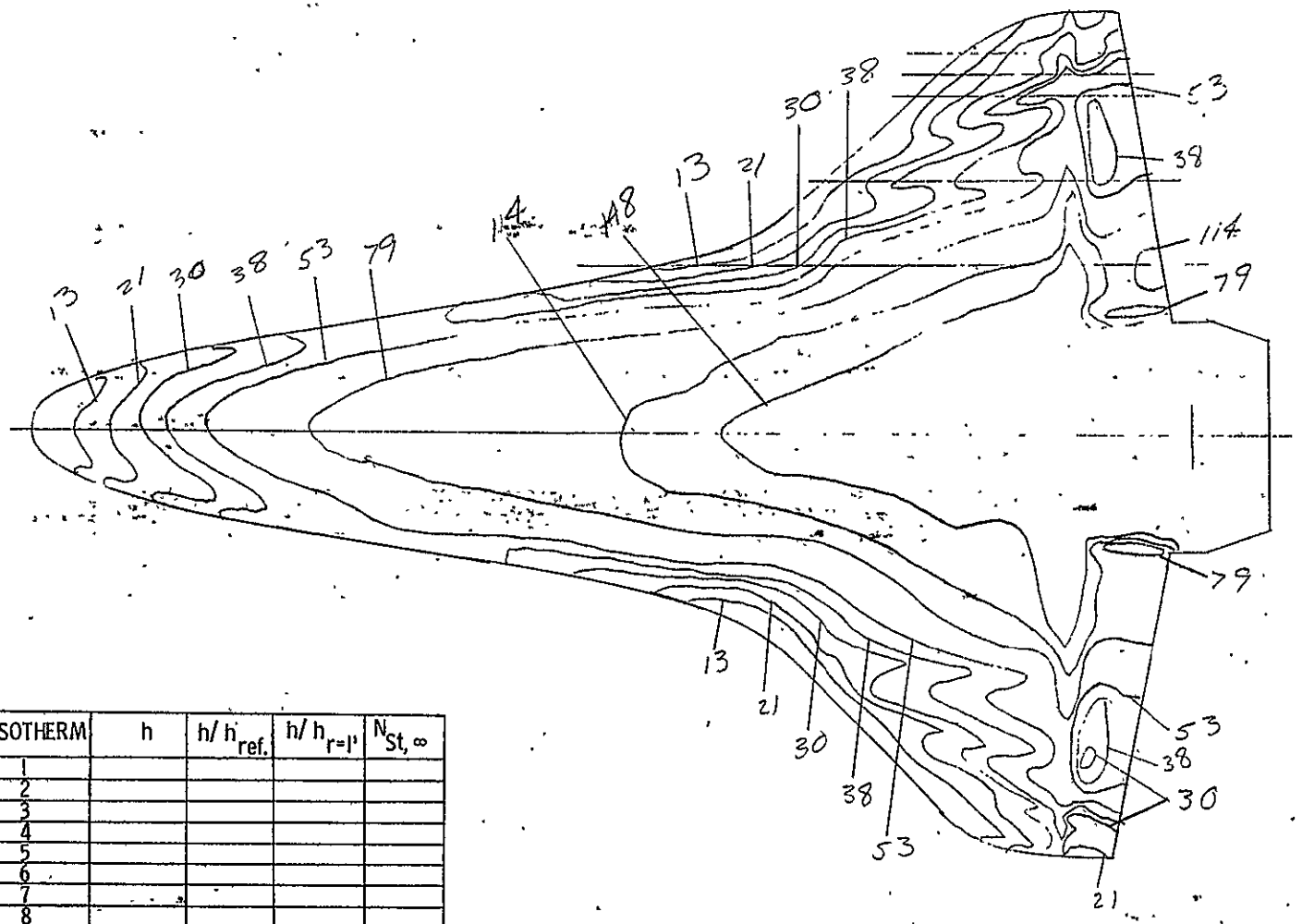
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
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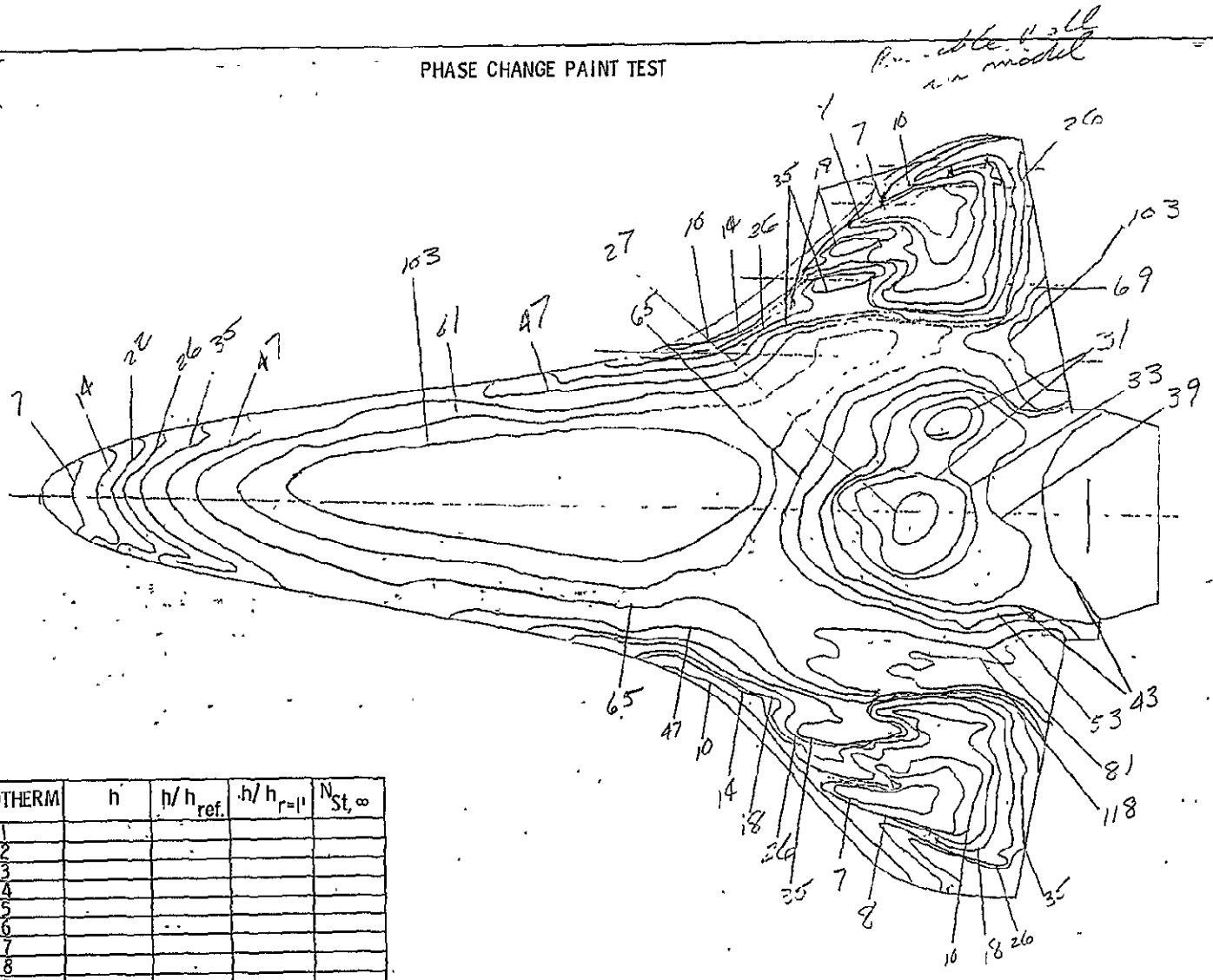
8				
9				
10				

CONFIGURATION	4
FACILITY	LRC/VDT
TEST	OH. 46
RUN	544
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	160
T_{total} (°R) =	820
R_∞ / ft =	1×10^6
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_l (°F) =	
T_{pc} (°F) =	175
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	
ϕ =	
CAMERA POSITION	
Engineer	
–	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
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7				
8				
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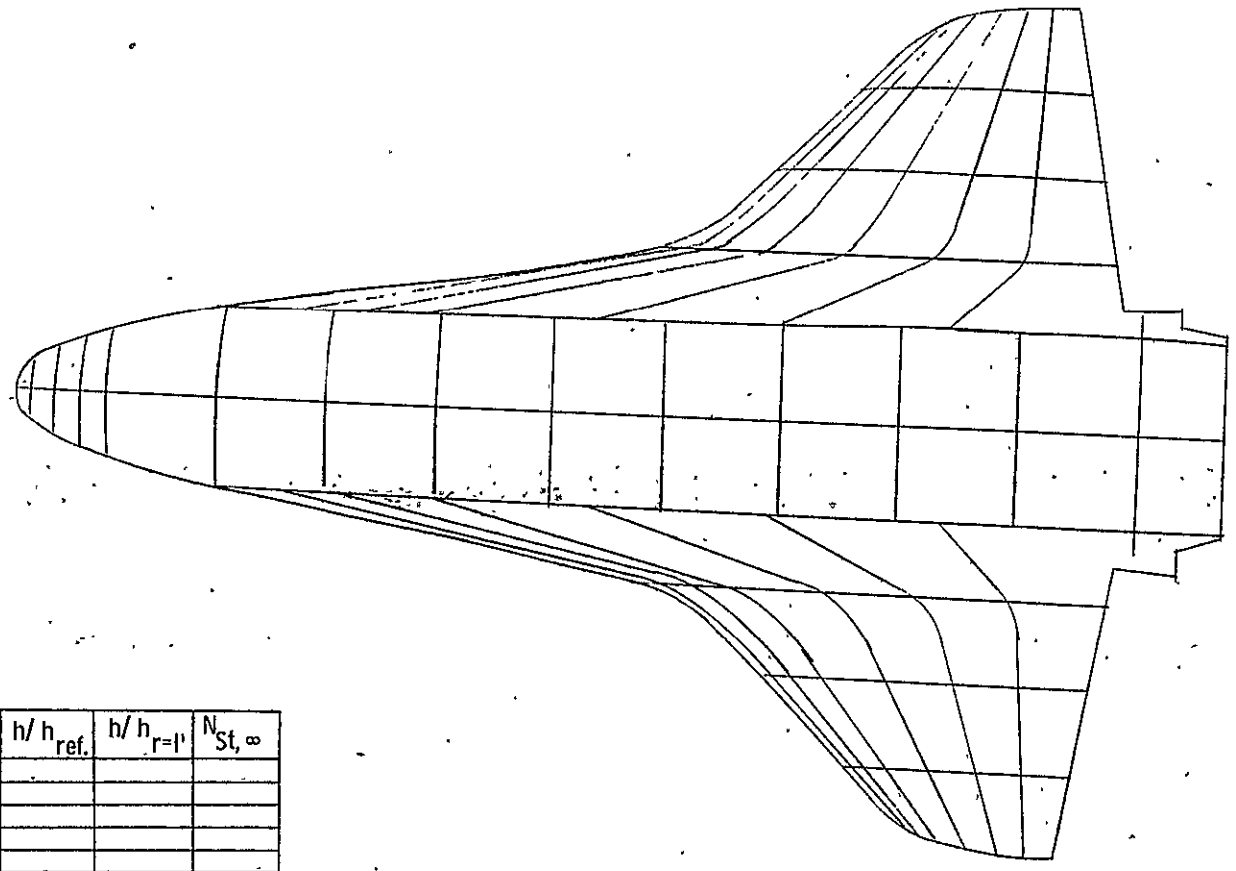
10				

CONFIGURATION	-22
FACILITY	LRC/VOT
TEST	OH-46
RUN	4545
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	1930
T_{total} (°R) =	940
R_∞ / ft =	$8.0(10^6)$
T_{aw}/T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	82
T_{pc} (°F) =	400
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
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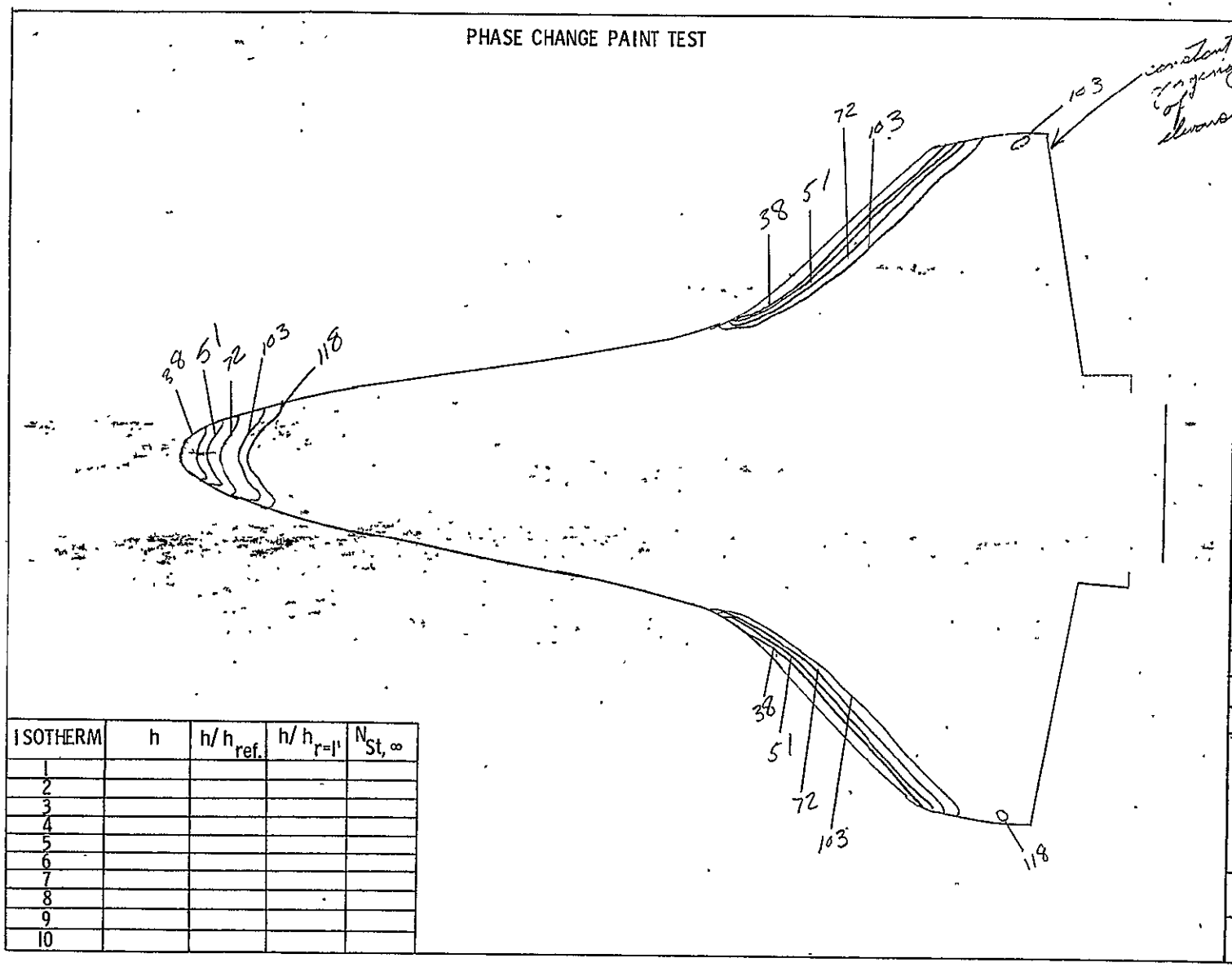
7				
8				
9				
10				

CONFIGURATION	GRID
FACILITY	LRC/VDT
TEST	OH-46
RUNS	4546 THRU 4552
LENGTH	
NOSE RADIUS	
SCALE	
M_∞	
P_{total} (psia) =	
T_{total} (°R) =	
R_∞ / ft =	
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	
T_{pc} (°F) =	
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	35°
β =	
ϕ =	
CAMERA POSITION	BOTTOM VIEW
Engineer	
	CFFS-HVD

06

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
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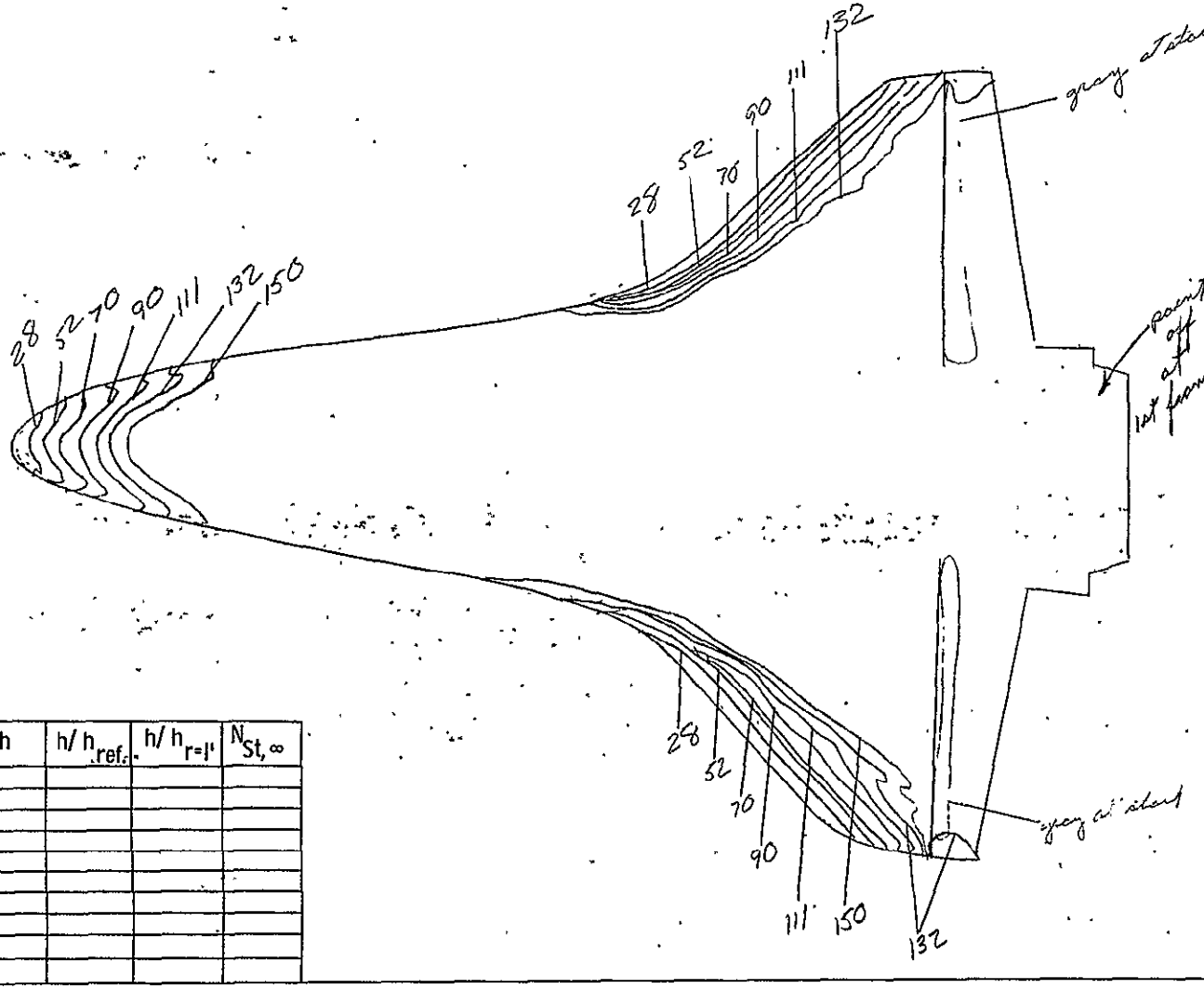
7				
8				
9				
10				

CONFIGURATION	-31
FACILITY	LRC/VDT
TEST	OH-46
RUN	4546
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	635
T_{total} (°R) =	850
R_∞ / ft =	3.0(10⁶)
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	83
$T_{pc.}$ (°F) =	400
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	35
β =	
Φ =	
CAMERA POSITION	
Engineer .	
	CFFS-HVD

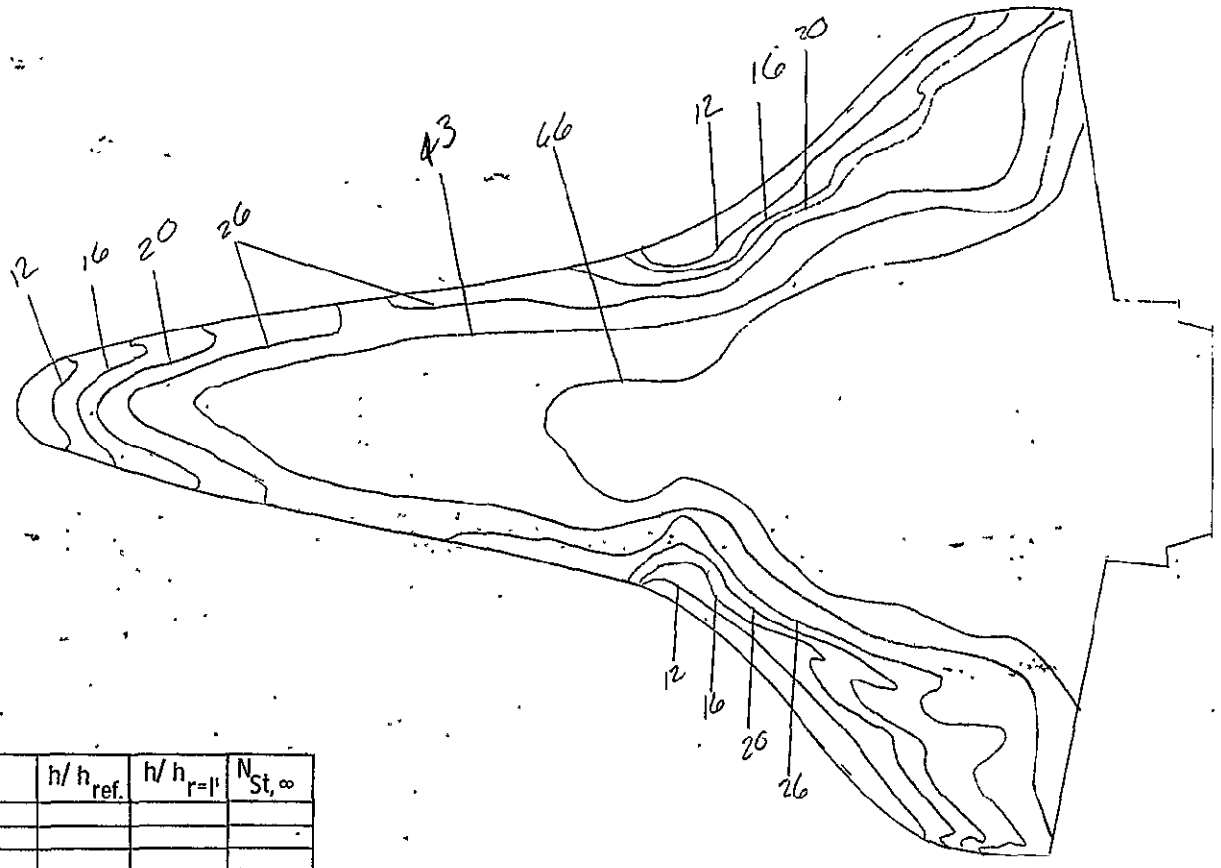
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	41
FACILITY	LAC/VHT
TEST	
RUN	4548
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	655
T_{total} (°R) =	865
R_∞ / ft =	3.0×10^6
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	82
T_{pc} (°F) =	400
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	35
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

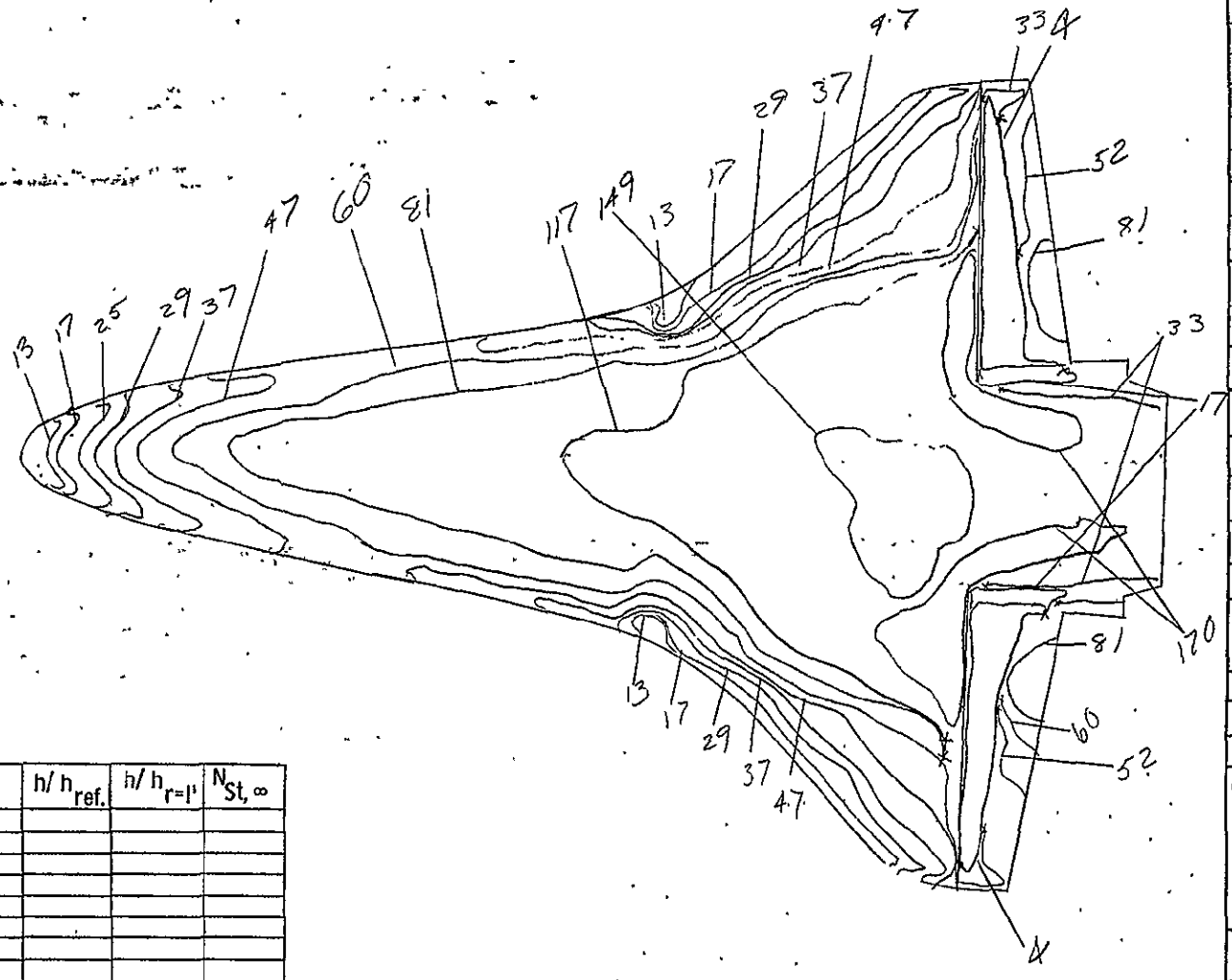
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	-22
FACILITY	LRC/IVDT
TEST	OH-46
RUN	4549
LENGTH	
NOSE RADIUS	
SCALE	.1006
M_∞	8
P_{total} (psia) =	635
T_{total} (°R) =	875
R_∞ / ft =	3.0×10^6
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	84
T_{pc} (°F) =	250
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	35
β =	
ϕ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

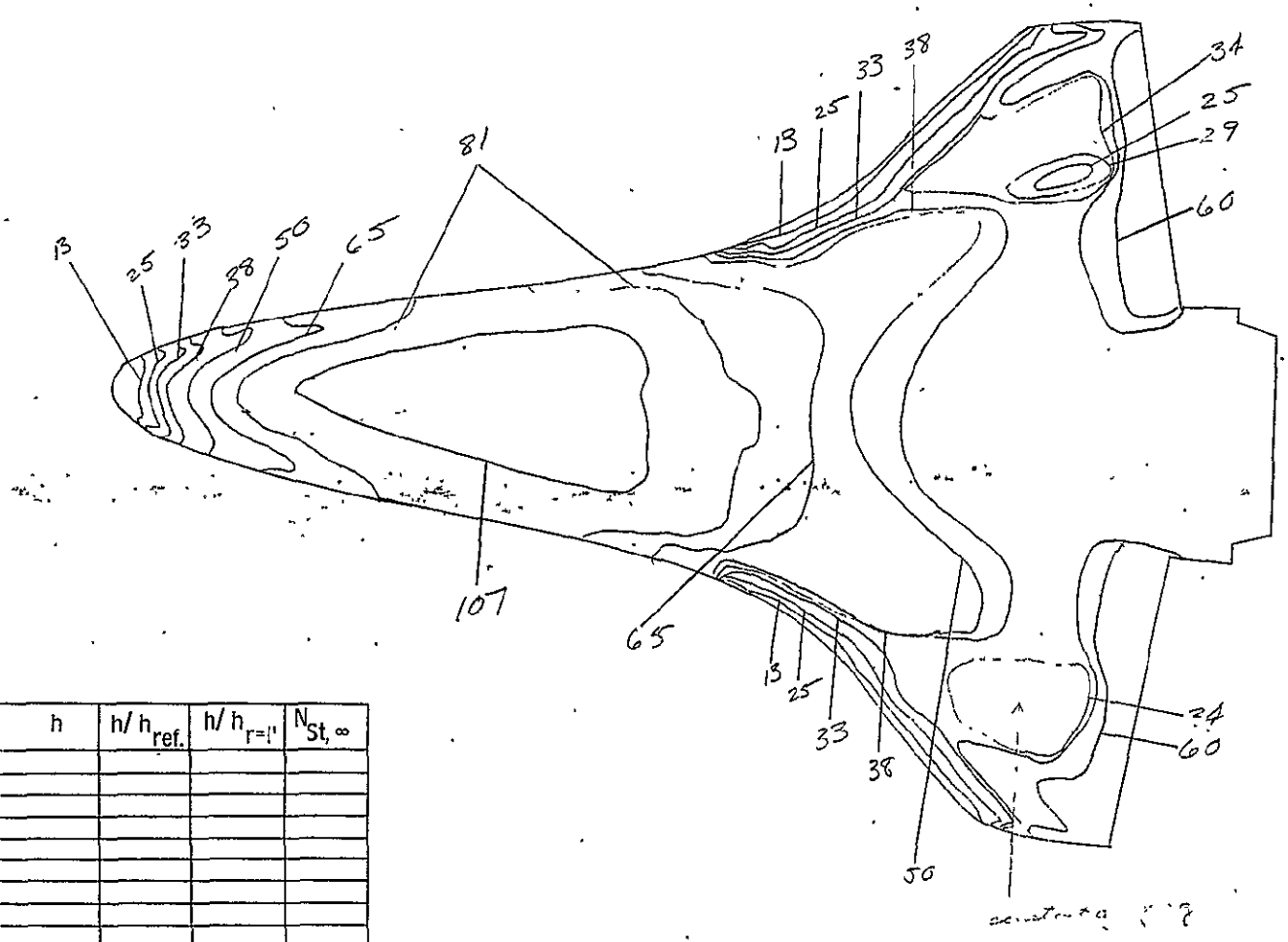
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	31
FACILITY	LRC/UPT
TEST	OH-46
RUN	455C
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	636
T_{total} (°R) =	855
R_∞ / ft =	3×10^6
T_{aw}/T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	82
T_{pc} (°F) =	300
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	35
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

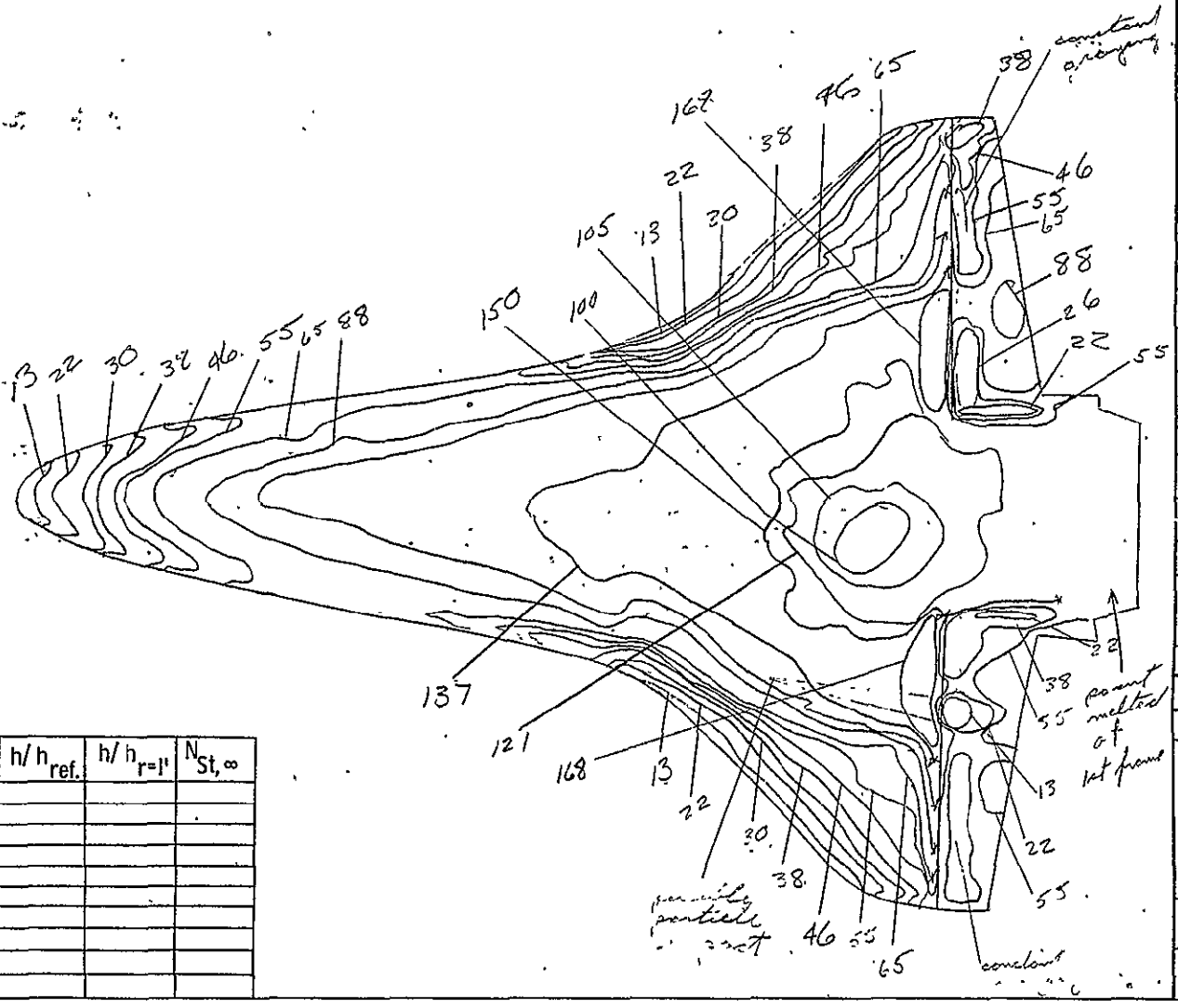
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	22
FACILITY	LRC/UNOT
TEST	OH-46
RUN	4551
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8.
P_{total} (psia) =	1375
T_{total} (°R) =	950
R_∞ / ft =	$6.0(10^6)$
T_{aw}/T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	82
T_{pc} (°F) =	450
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	35
β =	
ϕ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

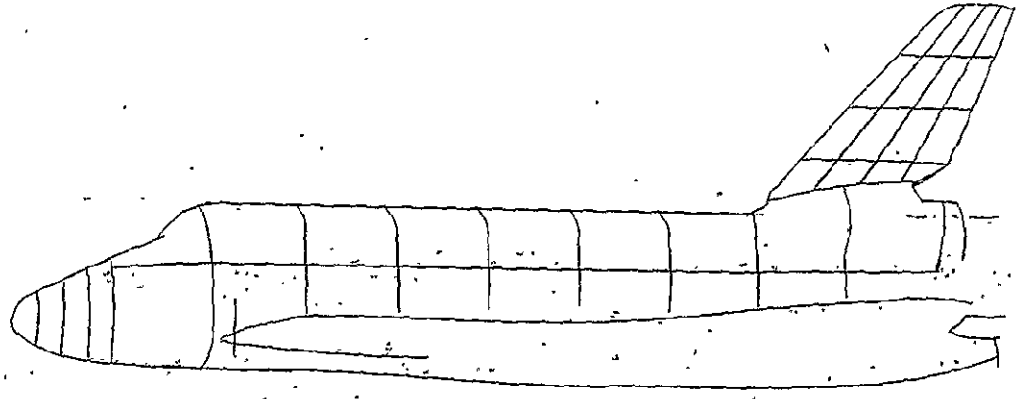
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	41
FACILITY	LRC/VDT
TEST	OH-A6
RUN	4552
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	660
T_{total} (°R) =	865
R_∞ / ft =	3.0×10^6
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	81
T_{pc} (°F) =	300
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	35
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION GRID

FACILITY LRC/VDT

TEST 22-46

RUNS 4506 THRU 4522

LENGTH

NOSE RADIUS

SCALE

M_∞

P_{total} (psia) =

T_{total} (°R) =

R_∞ / ft =

T_{aw} / T_{total} =

T_{aw} (°R) =

T_i (°F) =

$T_{pc.}$ (°F) =

$h_{r=1'}$ =

$\bar{T}$ =

$(\rho C_p k)^{1/2}$ =

α = 30

β =

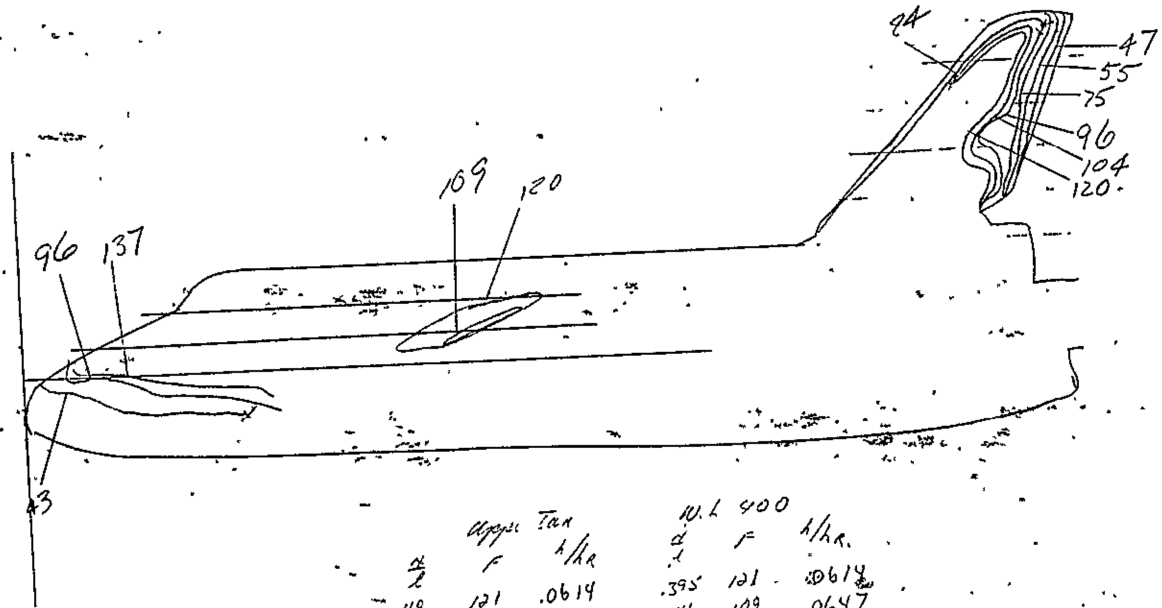
ϕ =

CAMERA POSITION SIDE

Engineer

CFFS-HVD

PHASE CHANGE PAINT TEST



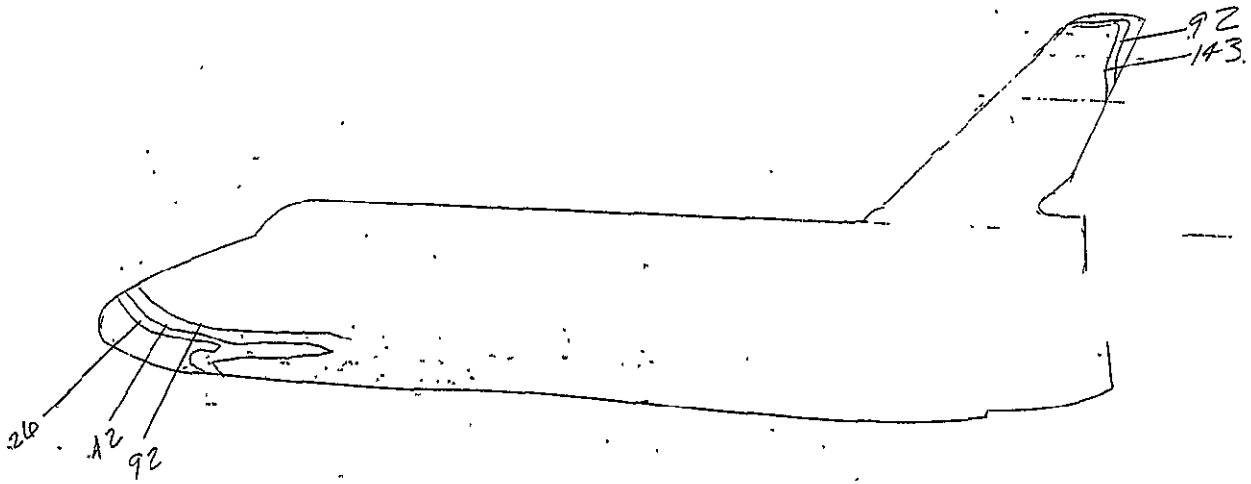
Upper Tan			W.L 400		
x/l	F	h/hR	x/l	F	h/hR
.49	121	.0614	.395	121	.0614
.52	121	.0614	.44	109	.0647
			.459	109	.0647
			.461	121	.0614

ISOTHERM	h	h/ $h_{ref.}$	h/ $h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	22
FACILITY	LRC-VDT
TEST	OH 46
RUN	4506
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	645
T_{total} (°F) =	905
R_∞ / ft =	3.0(10^6)
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	80
T_{pc} (°F) =	250
$h_{r=1'}$ =	
$\overline{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	30
β =	
Φ =	
CAMERA POSITION	
Engineer	

CFFS-HVD

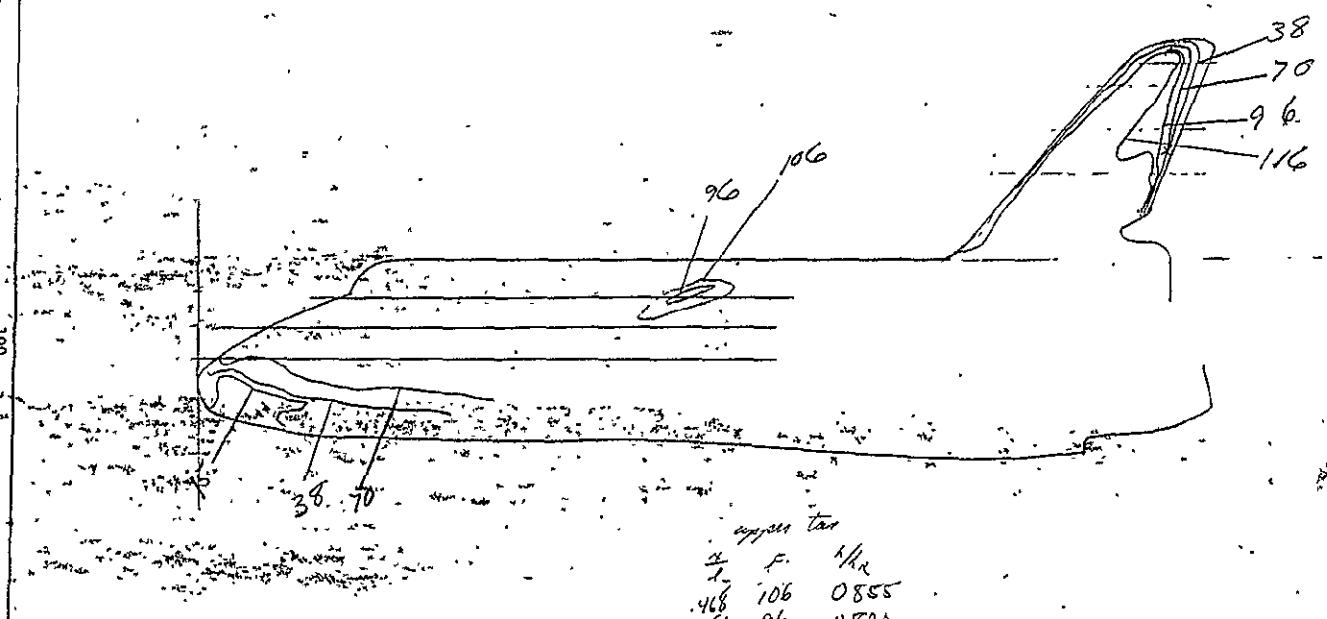
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	31
FACILITY	LRC-VPT
TEST	04-46
RUN	4513
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	157
T_{total} (°R) =	770
R_∞ / ft =	1.0(10⁶)
T_{aw}/T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	81
T_{pc} (°F) =	175
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	30
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



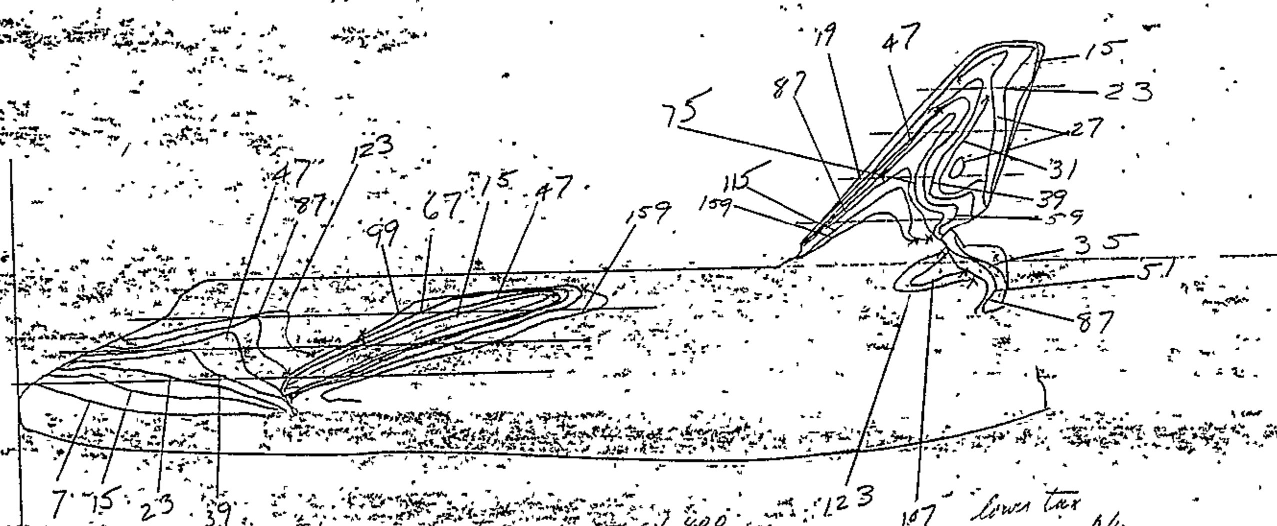
upper tan

α	F.	t/hr
.468	106	0855
.481	96	0894
.5	96	0899
.53	106	0855

ISOTHERM	$\bar{h}$	$\bar{h}/\bar{h}_{ref.}$	$\bar{h}/\bar{h}_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	31
FACILITY	LRC/VHT
TEST	OH-46
RUN	4519
LENGTH	
NOSE RADIUS	
SCALE	1006
M_∞	9
P_{total} (psia) =	1400
T_{total} (°R) =	930
R_∞ / ft =	6.0(10⁶)
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	80
T_{pc} (°F) =	350
$\bar{h}_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	30
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



upper tax

x/l	F	h/h_R
.381	99	0245
.405	67	0298
.43	47	0356
.45	15	0629
.497	15	0629
.52	47	0356
.541	99	0245
.582	159	0193

WL 400

x/l	F	h/h_R
.329	67	0298
.341	47	0356
.355	15	0629
.39	15	0629
.4	47	0356
.41	67	0298
.44	99	0245
.48	159	0193

lower tax

x/l	F	h/h_R
.268	67	0098
.274	47	0356
.288	15	0629
.309	15	0629
.3[illegible]	47	0356
.325	67	0298
.34	99	0245
.352	159	0193

ISOTHERM	h	h/h_ref.	h/h_r=1"	N_St,∞
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION -22

FACILITY LRC/VDT

TEST OH-46

RUN 4522

LENGTH

NOSE RADIUS

SCALE .006

M_∞ 8.

P_{total} (psia) = 625

T_{total} (°R) = 850

R_∞ / ft = 3.0(10^6)

T_{aw} / T_{total} =

T_{aw} (°R) =

T_i (°F) = 81

T_{pc} (°F) = 150

$h_{r=1"}$ =

$\bar{T}$ =

$(\rho c_p k)^{1/2}$ =

α = 30

β =

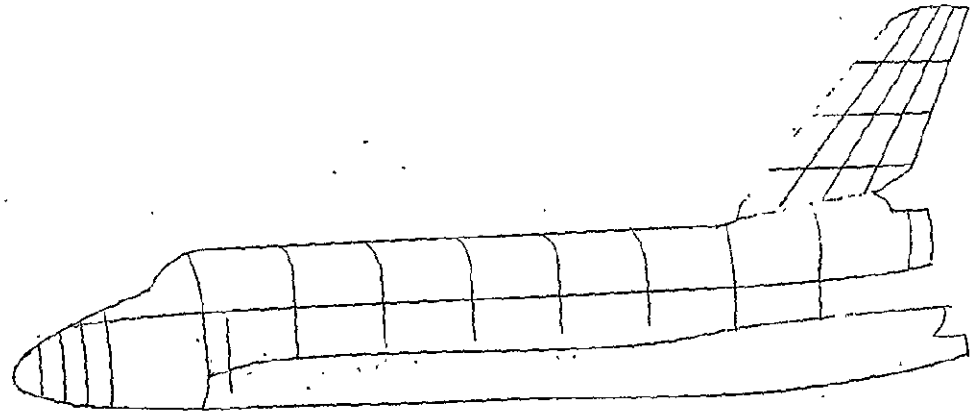
Φ =

CAMERA POSITION

Engineer

CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	GRID
FACILITY	LRC/UDT
TEST	OH-46
RUN.	4529
LENGTH	
NOSE RADIUS	
SCALE	
M_∞	
P_{total} (psia) =	
T_{total} (°R) =	
R_∞ / ft =	
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	
T_{pc} (°F) =	
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25°
β =	
ϕ =	
CAMERA POSITION	SIDE
Engineer	
	CFFS-HVD

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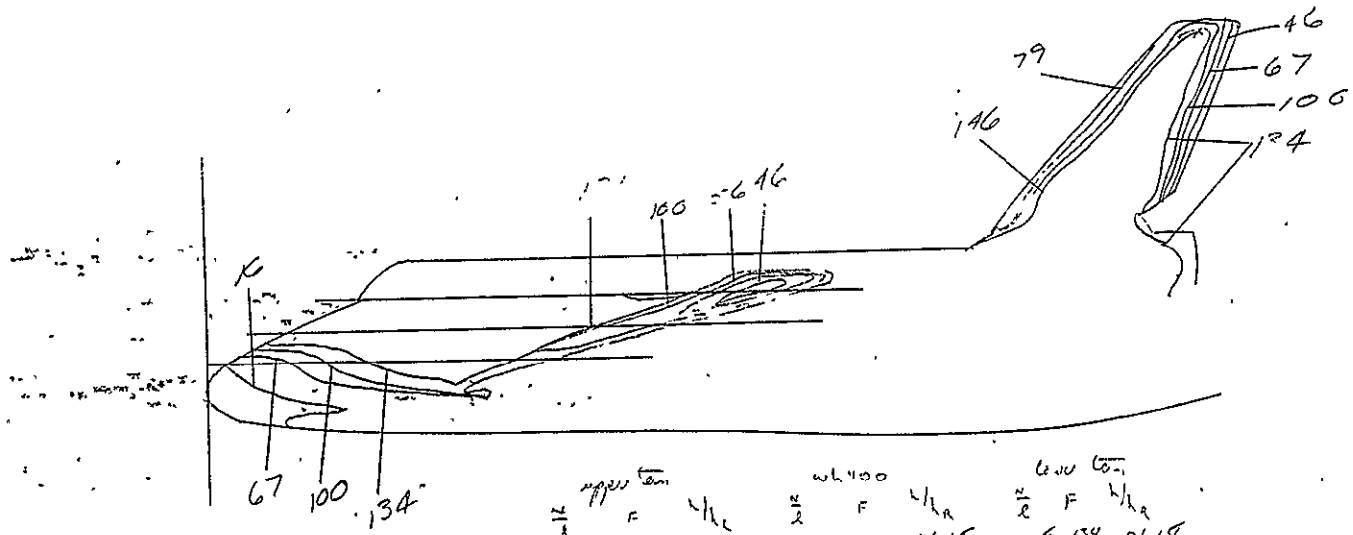
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

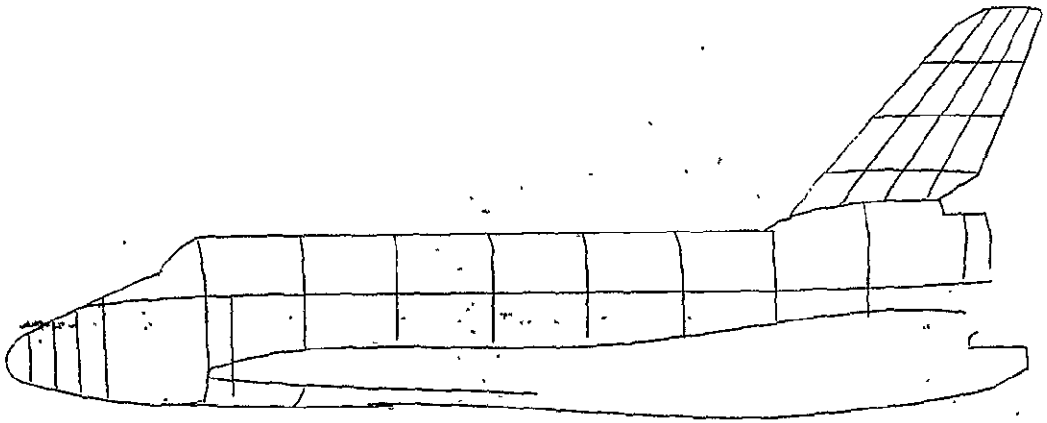
$\frac{x}{\ell}$	F	h/h_R
471	134	0618
.489	100	0715
.500	51	0956
.515	46	.105
545	46	.105
.56	56	0956
.565	100	0715
.58	134	0618

$\frac{x}{\ell}$	F	h/h_R
.375	134	0618
.381	100	0715
.435	100	0715
.452	134	0618

$\frac{x}{\ell}$	F	h/h_R
298	134	.0618
.34	134	0618

CONFIGURATION	-22
FACILITY	LRC/VOT
TEST	04-46
RUN	4529
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	635
T_{total} (°R) =	875
R_∞ / ft =	3.0(10^6)
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	81
T_{pc} (°F) =	250
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	25
β =	
Φ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION
GRID

FACILITY LRC/VDT

TEST OH-46

RUNS 4549 THRU 4552

LENGTH

NOSE RADIUS

SCALE .006

M_∞

P_{total} (psia) =

T_{total} (°R) =

R_∞ / ft =

T_{aw} / T_{total} =

T_{aw} (°R) =

T_j (°F) =

T_{pc} (°F) =

$h_{r=1'}$ =

$\bar{T}$ =

$(\rho C_p k)^{1/2}$ =

α = 35

β =

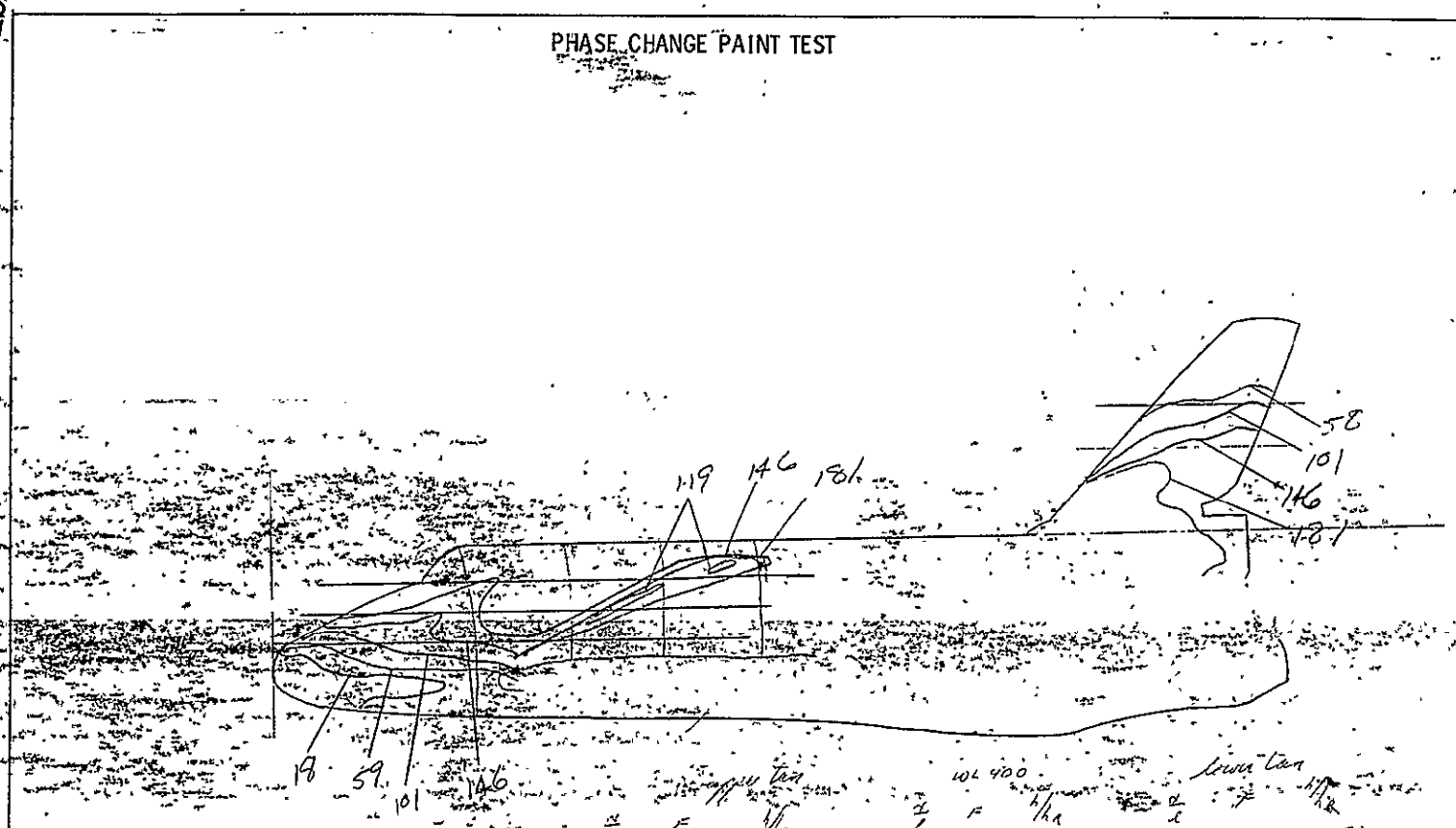
Φ =

CAMERA POSITION
SIDE

Engineer

CFFS-HVD

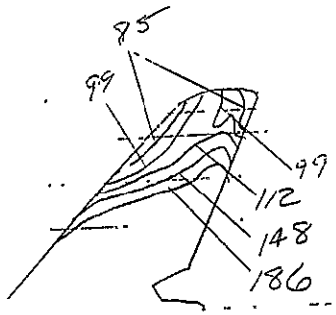
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	22
FACILITY	LRC/NOT
TEST	OH-46
RUN	4549
LENGTH	
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	635
T_{total} (°R) =	875
R_∞ / ft =	3×10^6
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_j (°F) =	84
T_{pc} (°F) =	250
$h_{r=1'}$ =	
$\bar{T}$	
$(\rho C_p k)^{1/2}$	
α =	35
β =	
ϕ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION 31

FACILITY LRC/VOT

TEST OH-16

RUN 4550

LENGTH

NOSE RADIUS

SCALE .006

M_∞ 8

P_{total} (psia) = 630

T_{total} (°R) = 825

R_∞ / ft = 3.0 (10⁶)

T_{aw} / T_{total} =

T_{aw} (°R) =

T_i (°F) = 82

T_{pc} (°F) = 300

$h_{r=1'}$ =

$\bar{T}$ =

$(\rho C_p k)^{1/2}$ =

α = .35

β =

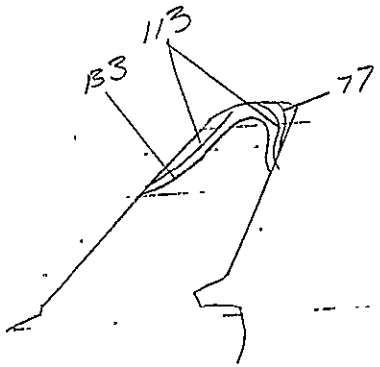
ϕ =

CAMERA POSITION

Engineer

CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION = 2

FACILITY LRC/VDT

TEST OH-46

RUN 455/

LENGTH

NOSE RADIUS

SCALE .006

M_∞ 8

P_{total} (psia) = 1375

T_{total} (°R) = 950

R_∞ / ft = 6×10^6

T_{aw} / T_{total} =

T_{aw} (°R) =

T_i (°F) = 82

T_{pc} (°F) = 450

$h_{r=1'}$ =

$\bar{T}$ =

$(\rho C_p k)^{1/2}$ =

α = 35°

β =

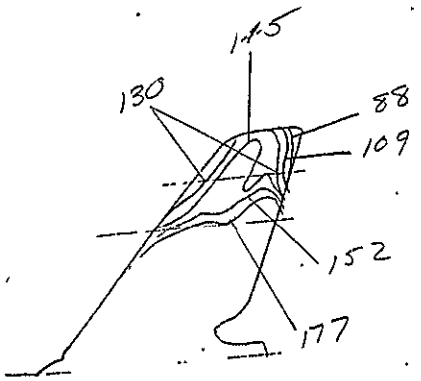
ϕ =

CAMERA POSITION

Engineer

CFFS-HVD

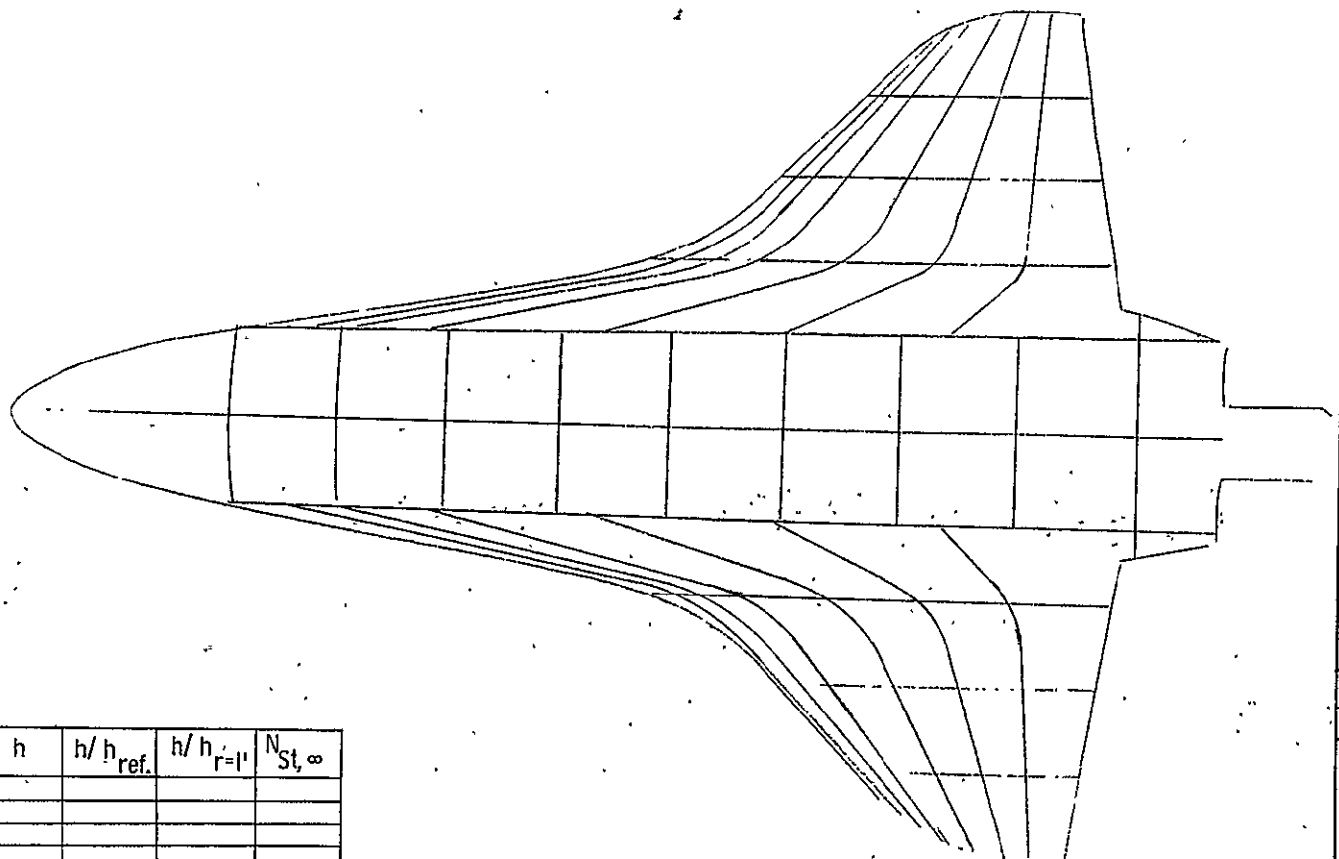
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	41
FACILITY	LRC/VDT
TEST	OH-46
RUN	4552
LENGTH	~~4552~~
NOSE RADIUS	
SCALE	.006
M_∞	8
P_{total} (psia) =	166
T_{total} (°R) =	845
R_∞ / ft =	3×10^6
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	81
T_{pc} (°F) =	300
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	35
β =	
ϕ =	
CAMERA POSITION	
Engineer	
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION GRID

FACILITY LRC/VDT

TEST ØH-46B

RUNS 4556 THRU 4567

LENGTH

NOSE RADIUS

SCALE .006

M_∞

P_{total} (psia) =

T_{total} (°R) =

R_∞ / ft =

T_{aw} / T_{total} =

T_{aw} (°R) =

T_i (°F) =

T_{pc} (°F) =

$h_{r=1'}$ =

$\bar{T}$ =

$(\rho C_p k)^{1/2}$ =

α = 35°

β = 0

Φ = 0

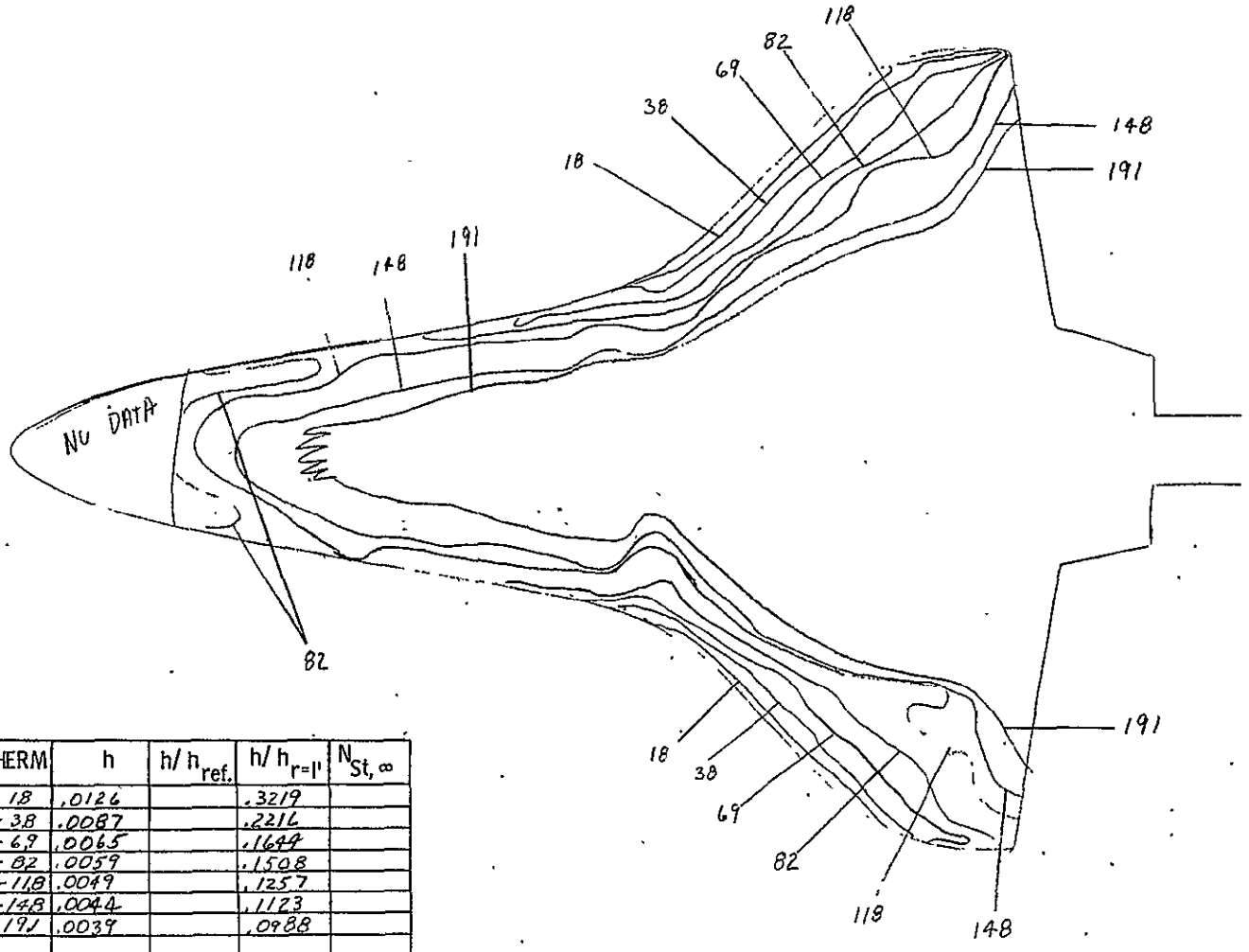
CAMERA POSITION

BOTTOM VIEW

Engineer

CFFS-HVD

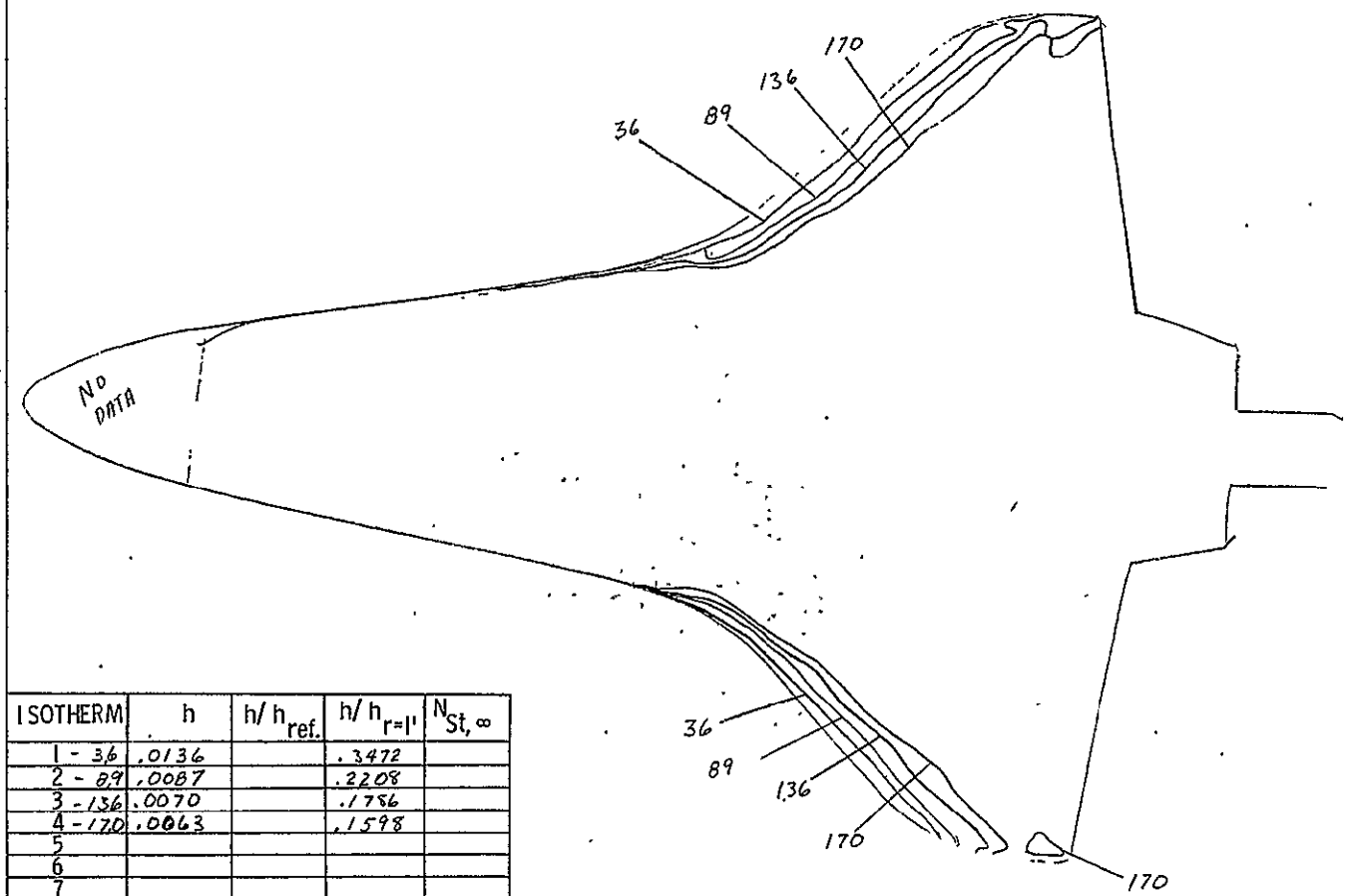
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 18	.0126		.3219	
2 - 38	.0087		.2216	
3 - 69	.0065		.1649	
4 - 82	.0059		.1508	
5 - 118	.0049		.1257	
6 - 148	.0044		.1123	
7 - 191	.0039		.0988	
8				
9				
10				

CONFIGURATION	22
FACILITY	LRC/VDT
TEST	ϕH-46B
RUN	1 (4556)
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	157
T_{total} (°R) =	840
R_∞ / ft =	1×10^6
T_{aw} / T_{total} =	.923
T_{aw} (°R) =	
T_i (°F) =	76
T_{pc} (°F) =	250
$h_{r=1'}$ =	.0392
$\bar{T}$ =	.2621
$(\rho C_p k)^{1/2}$ =	.0574
α =	35°
β =	0
ϕ =	0
CAMERA POSITION	TOP
	BOTTOM VIEW
Engineer	W. DYE, P. LAWING
	CFFS-HVD

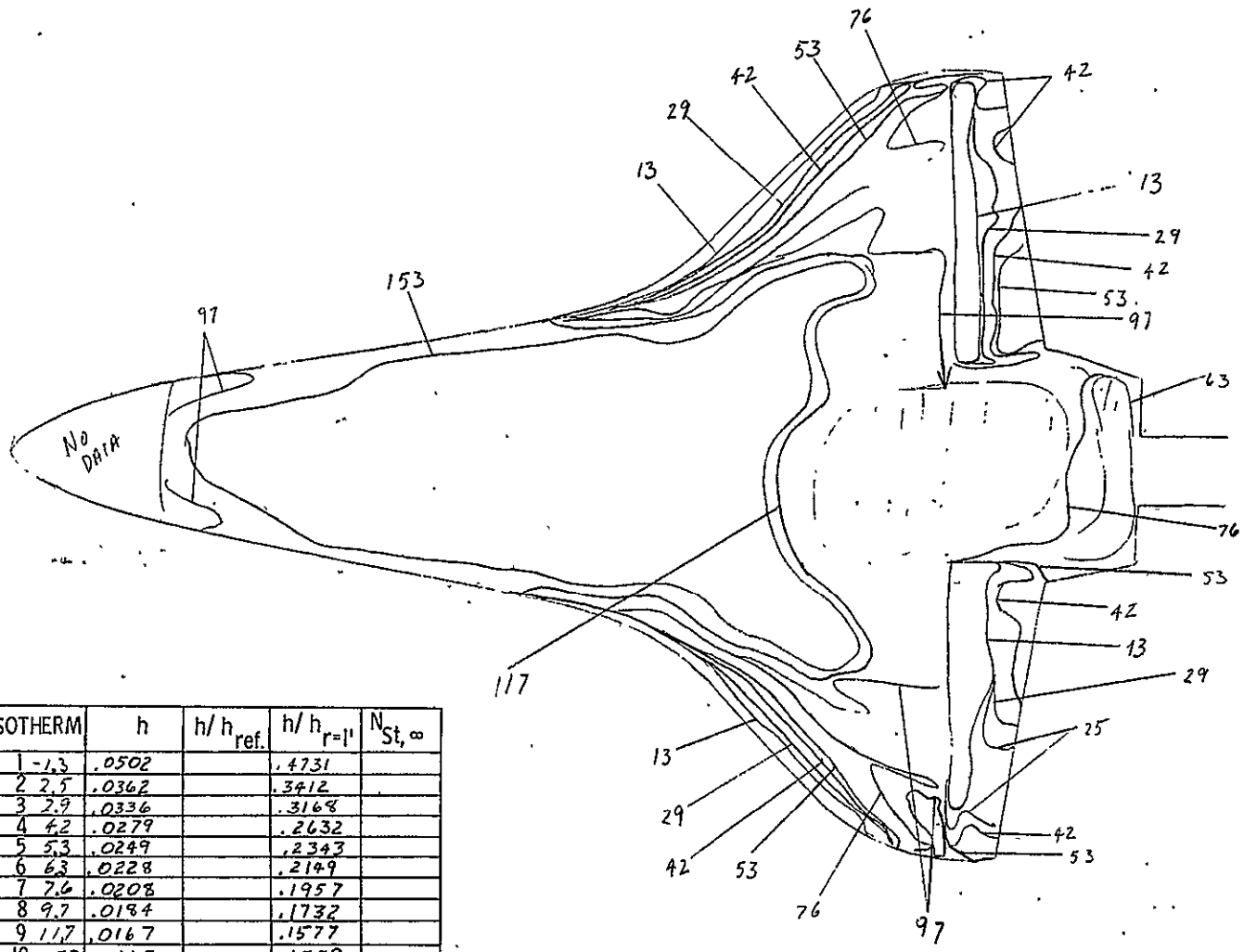
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 36	.0136		.3472	
2 - 89	.0087		.2208	
3 - 136	.0070		.1786	
4 - 170	.0063		.1598	
5				
6				
7				
8				
9				
10				

CONFIGURATION	41
FACILITY	LRC/YDT
TEST	ØH-46B
RUN	2 (4557)
LENGTH	7.741Bin. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	157
T_{total} (°R) =	815
R_∞ / ft =	1×10^6
T_{aw} / T_{total} =	.923
T_{aw} (°R) =	
T_i (°F) =	73
T_{pc} (°F) =	300
$h_{r=1'}$ =	.0392
$\bar{T}$ =	.3525
$(\rho C_p k)^{1/2}$ =	.0586
α =	35
β =	0
Φ =	0
CAMERA POSITION	T.P
Engineer	
	CFFS-HVD

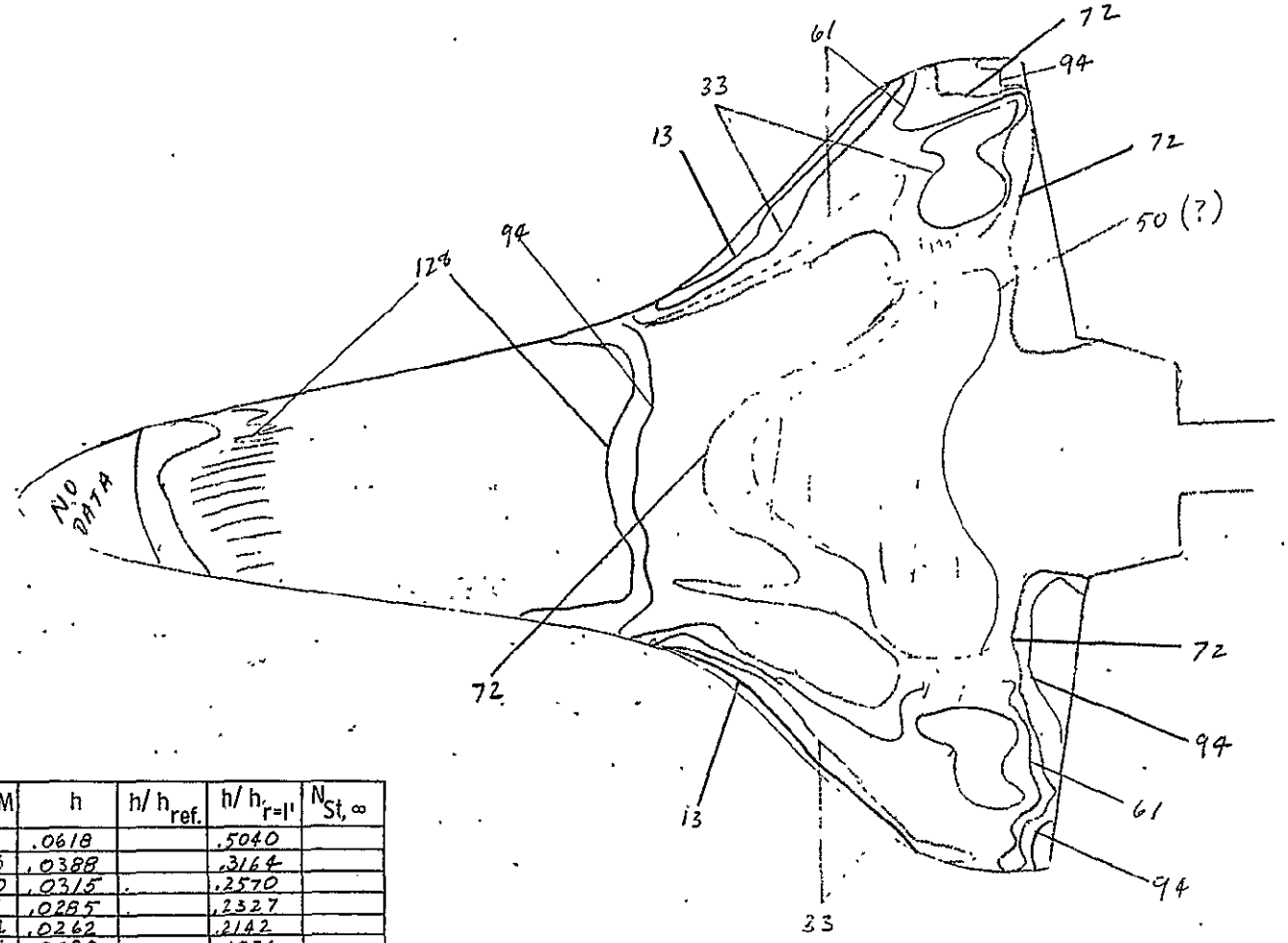
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 -1.3	.0502		.4731	
2 2.5	.0362		.3412	
3 2.9	.0336		.3168	
4 4.2	.0279		.2632	
5 5.3	.0249		.2343	
6 6.3	.0228		.2149	
7 7.6	.0208		.1957	
8 9.7	.0184		.1732	
9 11.7	.0167		.1577	
10 15.3	.0143		.1379	

CONFIGURATION	31
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	3 (4555?)
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	1435
T_{total} (°R) =	955
R_∞ / ft =	6×10^6
T_{aw} / T_{total} =	.923
T_{aw} (°R) =	
T_i (°F) =	74
T_{pc} (°F) =	500
$h_{r=1'}$ =	.1061
$\bar{T}$ =	.5518
$(\rho C_p k)^{1/2}$ =	.0617
α =	35
β =	0
ϕ =	0
CAMERA POSITION	TOP
Engineer	W. Dye, D. Lawing
	CFFS-HVD

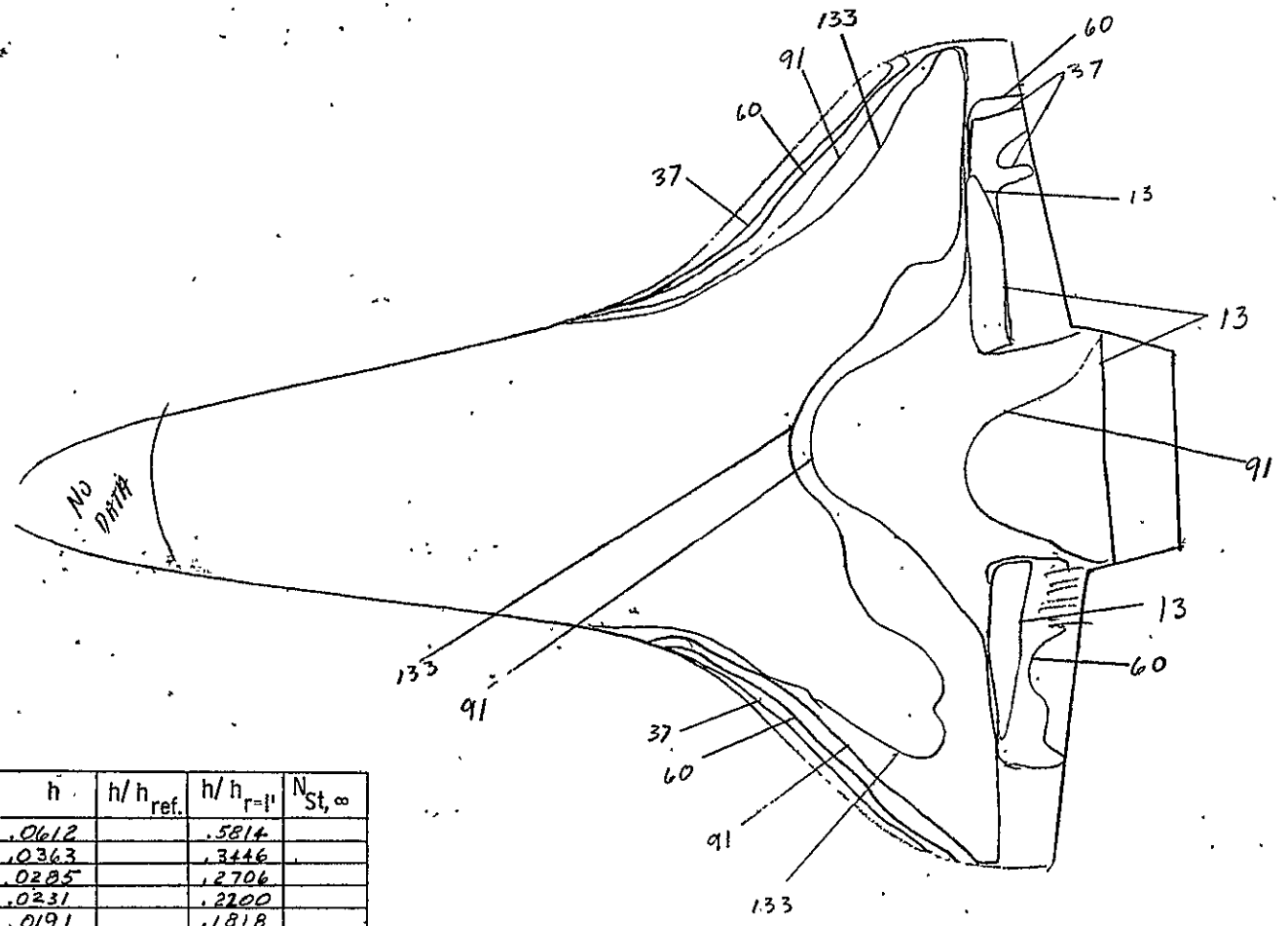
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 13	.0618		.5040	
2 - 33	.0388		.3164	
3 - 50	.0315		.2570	
4 - 61	.0285		.2327	
5 - 72	.0262		.2142	
6 - 94	.0298		.1874	
7				
8				
9				
10				

CONFIGURATION	22
FACILITY	LRC/VDT
TEST	0H-46B
RUN	4559
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.005
SCALE =	.006
M_∞ =	8.
P_{total} (psia) =	1960
T_{total} (°R) =	965
R_∞ / ft =	8×10^6
T_{aw}/T_{total} =	.923
T_{aw} (°R) =	
T_i (°F) =	76
T_{pc} (°F) =	550
$h_{r=1'}$ =	.1226
$\bar{T}$ =	.6083
$(\rho C_p k)^{1/2}$ =	.0617
α =	35°
β =	0
ϕ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

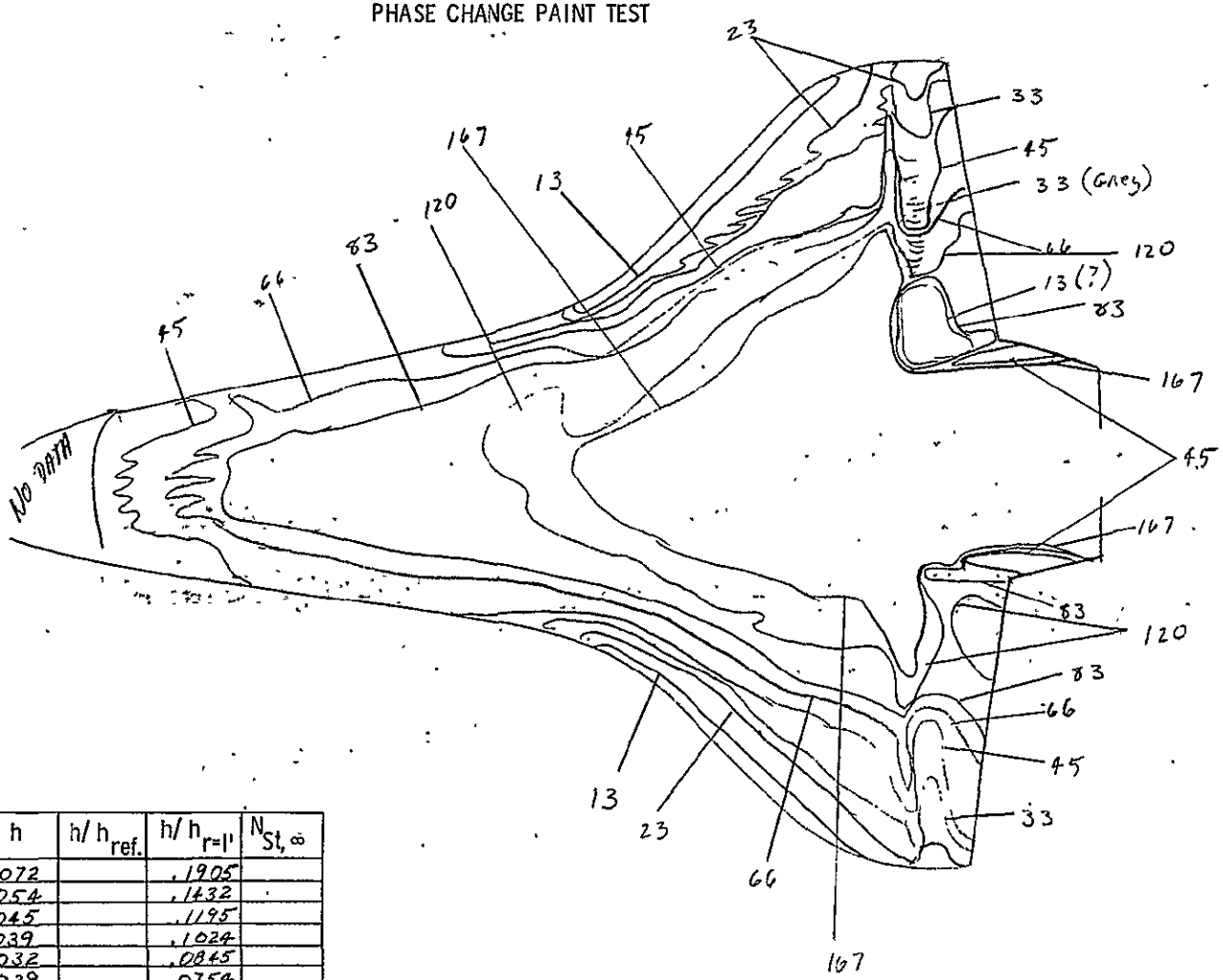
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 1.3	.0612		.5814	
2 - 3.7	.0363		.3446	
3 - 6.0	.0285		.2706	
4 - 9.1	.0231		.2200	
5 - 133	.0191		.1818	
6				
7				
8				
9				
10				

CONFIGURATION	41
FACILITY	LRC/VDT
TEST	ØH-46 B
RUN	4560
LENGTH	7.7418 in. m.s
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	1410
T_{total} (°R) =	970
R_∞ / ft =	6
T_{aw} / T_{total} =	.923
T_{aw} (°R) =	
T_i (°F) =	74
T_{pc} (°F) =	550
$h_{r=1'}$ =	.1052
$\bar{T}$ =	.6057
$(\rho C_p k)^{1/2}$ =	.0617
α =	35
β =	0
ϕ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

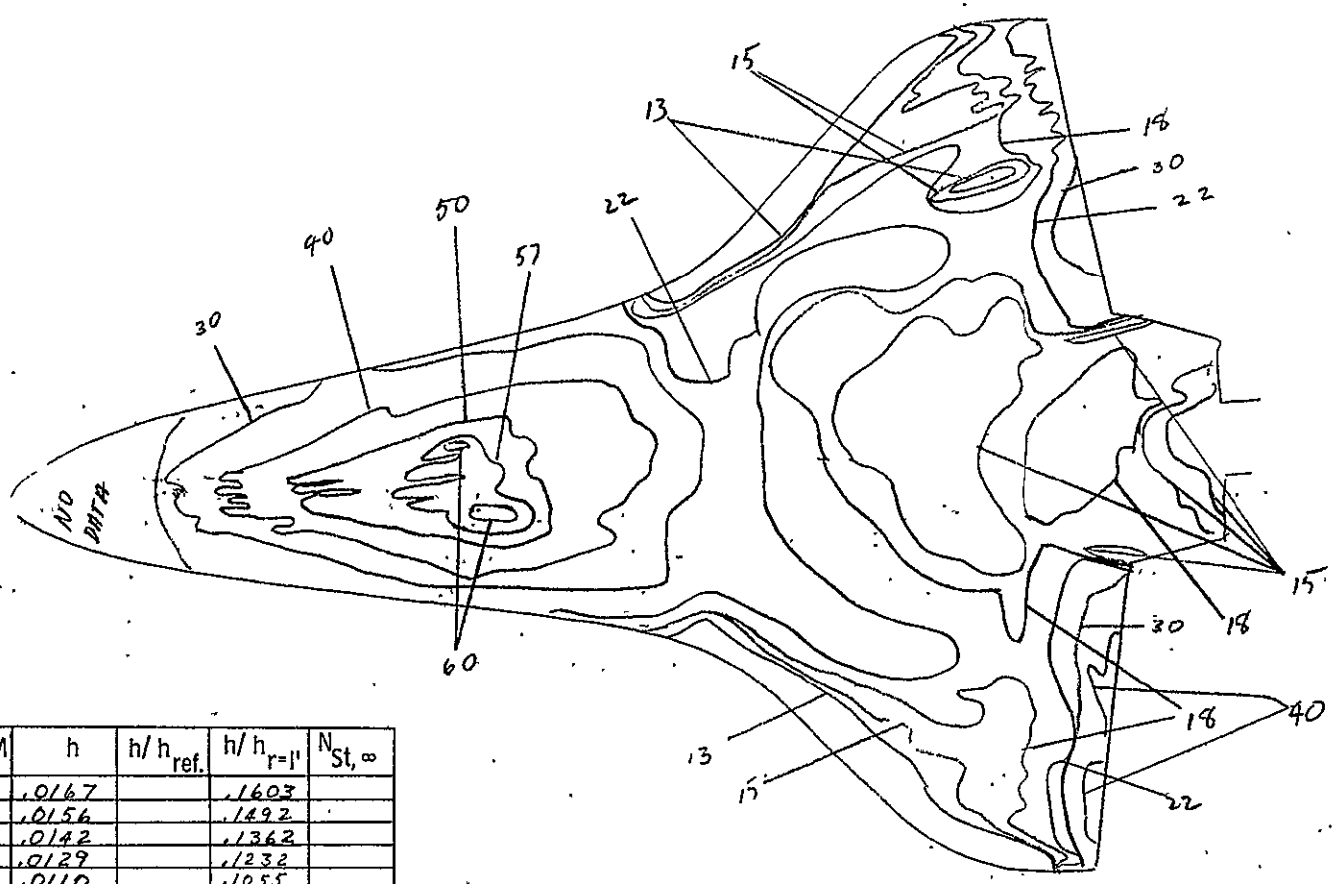
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 13	.0072		.1905	
2 - 23	.0054		.1432	
3 - 33	.0045		.1195	
4 - 45	.0039		.1024	
5 - 66	.0032		.0845	
6 - 83	.0029		.0754	
7 - 120	.0024		.0627	
8 - 167	.0020		.0531	
9				
10				

CONFIGURATION	31
FACILITY	LRC/VDT
TEST	OH-46B
RUN	4561
LENGTH	7.7418 in m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	146
T_{total} (°R) =	815
R_∞ / ft =	1×10^6
T_{aw} / T_{total} =	.923
T_{aw} (°R) =	
T_i (°F) =	78
T_{pc} (°F) =	175
$h_{r=1'}$ =	.0379
$\bar{T}$ =	.1518
$(\rho C_p k)^{1/2}$ =	.0537
α =	35
β =	0
Φ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

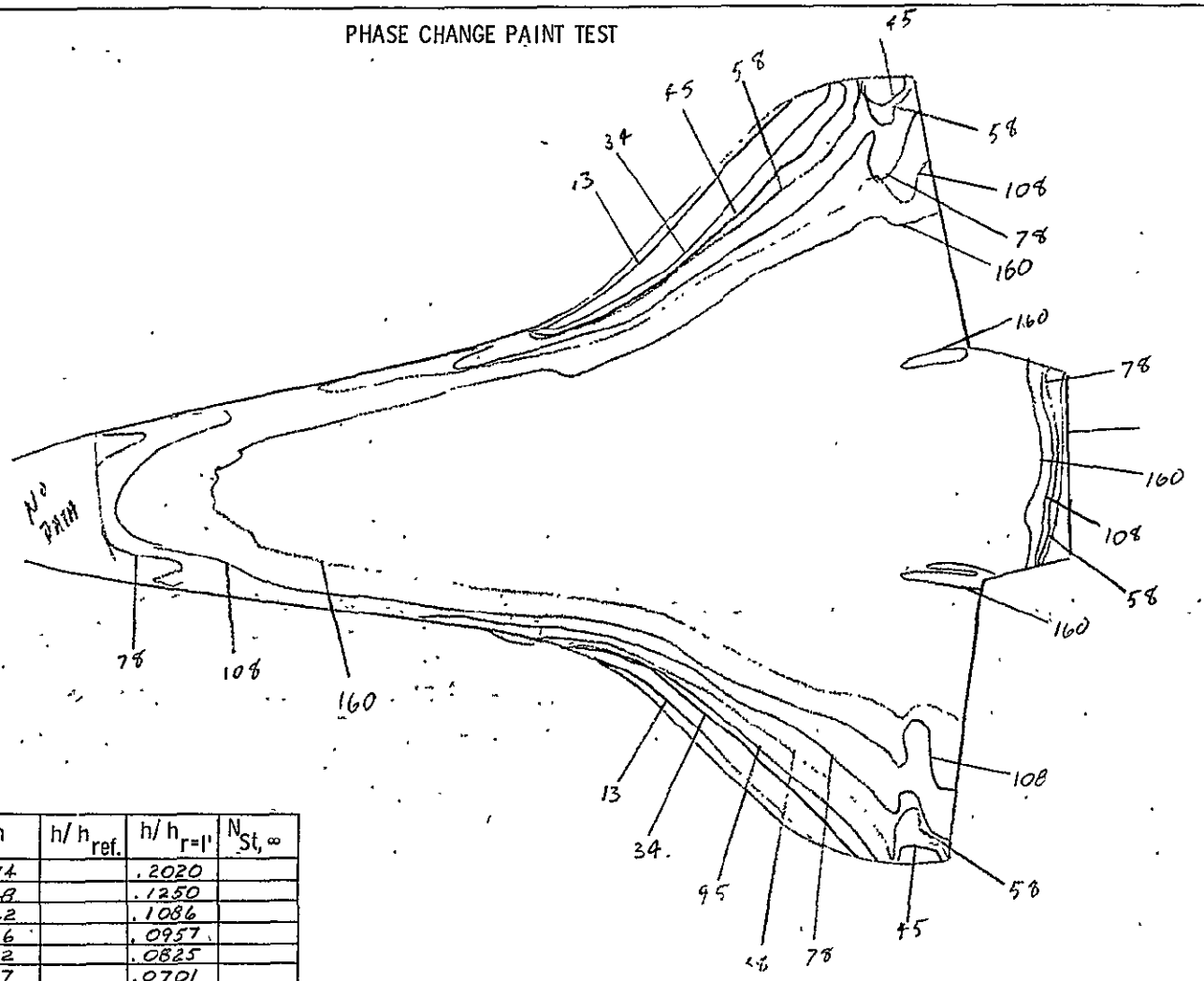
PHASE CHANGE PAINT TEST



ISOTHERM SEC	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 1.3	.0167		.1603	
2 - 1.5	.0156		.1492	
3 - 1.8	.0142		.1362	
4 - 2.2	.0129		.1232	
5 - 2.5	.0110		.1055	
6 - 4.0	.0095		.0914	
7 - 5.0	.0085		.0817	
8 - 5.7	.0080		.0765	
9 - 6.0	.0078		.0746	
10				

CONFIGURATION	22
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	456 2
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	1380
T_{total} (°R) =	965
R_∞ / ft =	6×10^6
T_{aw}/T_{total} =	.923
T_{aw} (°R) =	
T_i (°F) =	81
T_{pc} (°F) =	300
$h_{r=1'}$ =	.1045
$\bar{T}$ =	.2828
$(\rho C_p k)^{1/2}$ =	.0586
α =	35
β =	0
Φ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

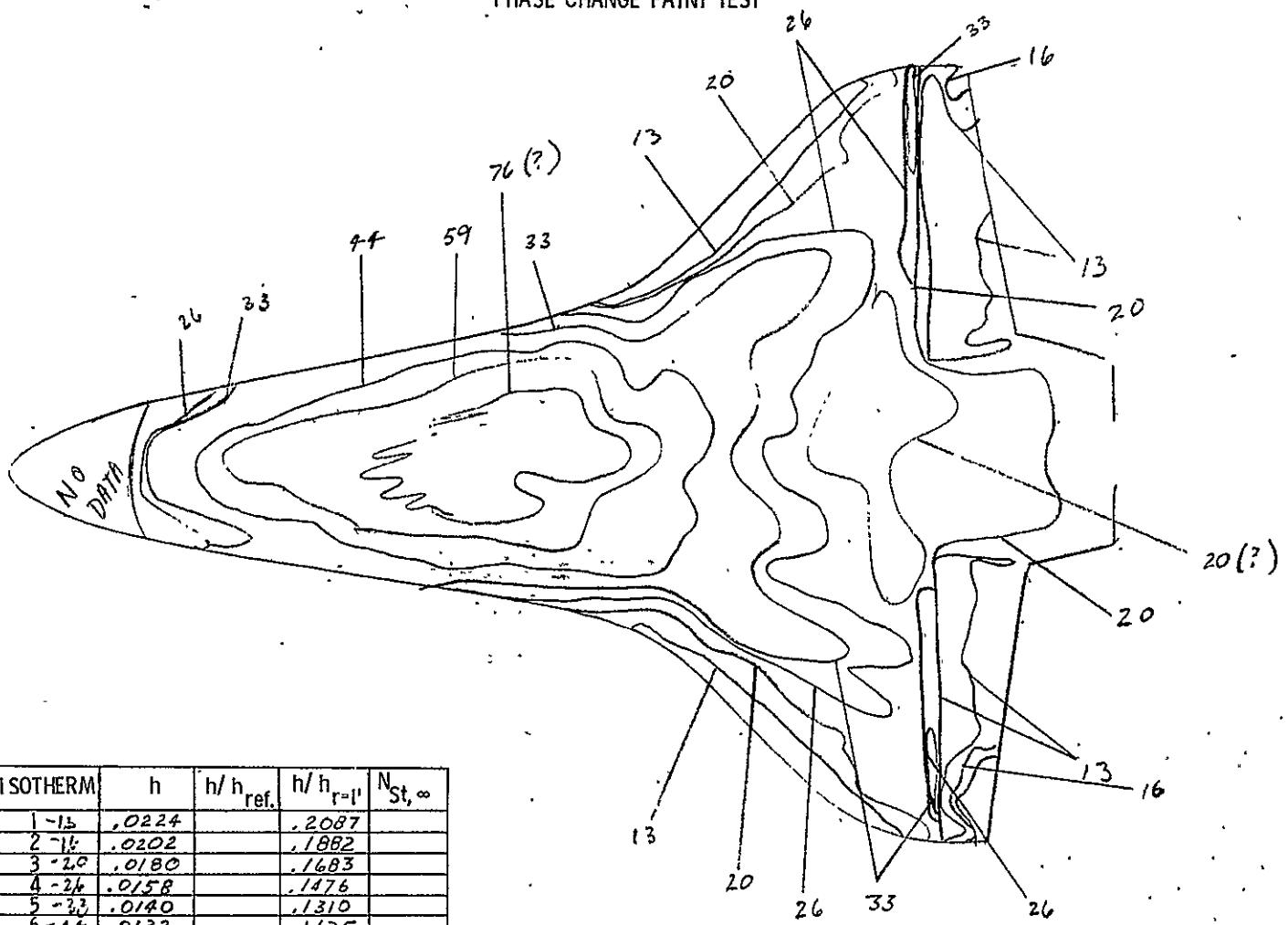
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 13	.0074		.2020	
2 - 34	.0048		.1250	
3 - 45	.0042		.1086	
4 - 58	.0036		.0957	
5 - 78	.0032		.0825	
6 - 108	.0027		.0701	
7 - 160	.0022		.0576	
8				
9				
10				

CONFIGURATION	41
FACILITY	LRC/VDT
TEST	OH-46B
RUN	4563
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	151
T_{total} (°R) =	785
R_∞ / ft =	1×10^6
T_{aw}/T_{total} =	.923
T_{aw} (°R) =	
T_i (°F) =	76
T_{pc} (°F) =	175
$h_{r=1'}$ =	.0383
$\bar{T}$ =	.1615
$(\rho C_p k)^{1/2}$ =	.0537
α =	35°
β =	0
ϕ =	0
CAMERA POSITION	TOP
Engineer	W. DYE
	CFFS-HVD

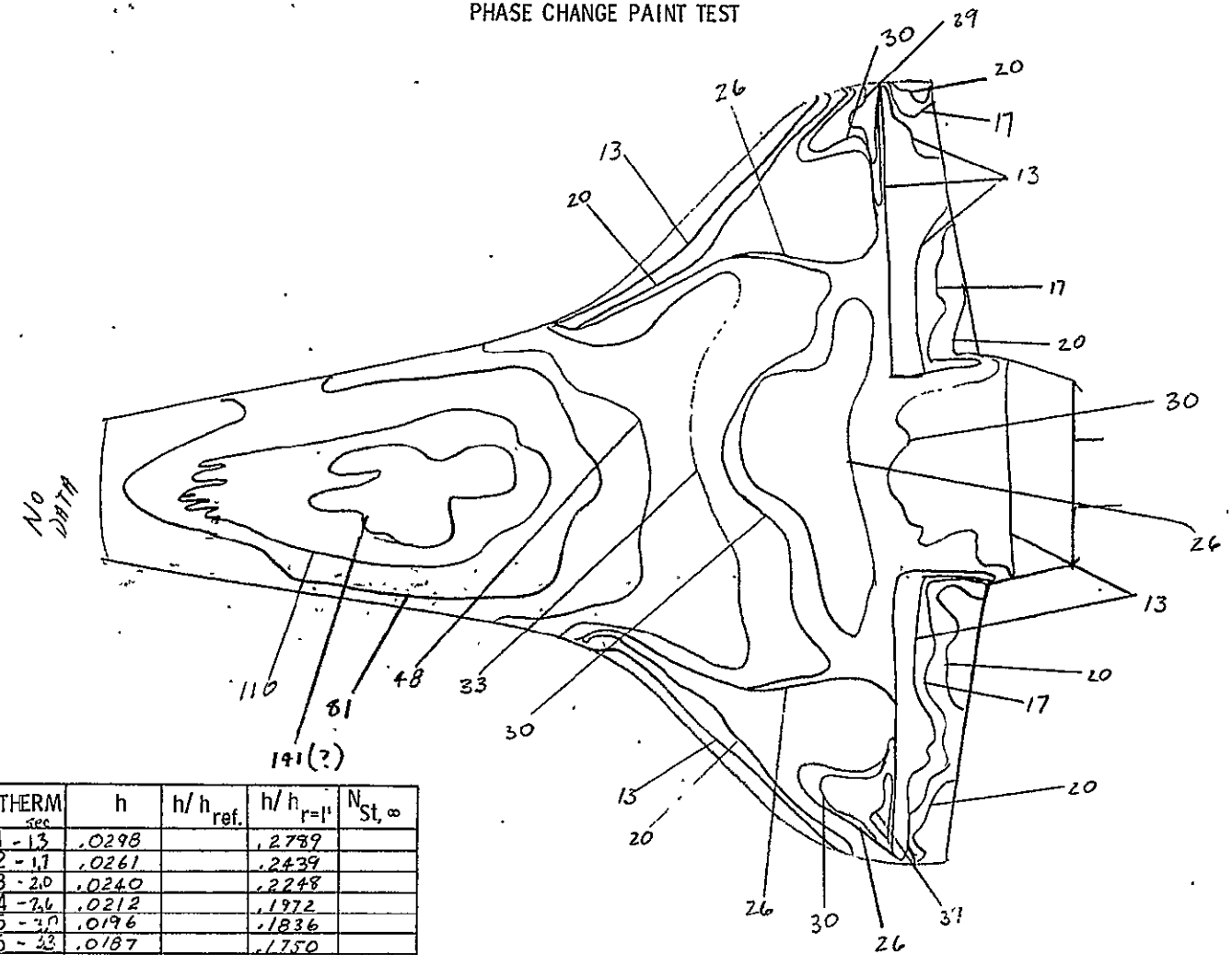
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 13	.0224		.2087	
2 - 16	.0202		.1882	
3 - 20	.0180		.1683	
4 - 26	.0158		.1476	
5 - 33	.0140		.1310	
6 - 44	.0122		.1135	
7 - 59	.0105		.0980	
8 - 76	.0092		.0863	
9				
10				

CONFIGURATION	31
FACILITY	LRC/VDT
TEST	OH-46B
RUN	4565
LENGTH	7.7418 in m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	1455
T_{total} (°R) =	975
R_∞ / ft =	6×10^6
T_{aw}/T_{total} =	.923
T_{aw} (°R) =	
T_i (°F) =	78
T_{pc} (°F) =	350
$h'_{r=1'}$ =	.1072
$\bar{T}$ =	.3458
$(\rho C_p k)^{1/2}$ =	.0595
α =	35
β =	0
ϕ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM sec	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 1.3	.0298		.2789	
2 - 1.1	.0261		.2439	
3 - 2.0	.0240		.2248	
4 - 7.6	.0212		.1972	
5 - 7.0	.0196		.1836	
6 - 2.3	.0187		.1750	
7 - 7.1	.0172		.1610	
8 - 4.0	.0155		.1451	
9 - 8.1	.0119		.1117	
10 - 11.0	.0102		.0959	
11 - 14.1	.0090		.0847	

CONFIGURATION	41
FACILITY	LRC/VDT
TEST	OH-46B
RUN	4567
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	1450
T_{total} (°R) =	965
R_∞ / ft =	6×10^6
T_{aw}/T_{total} =	.923
T_{aw} (°R) =	
T_i (°F) =	77
T_{pc} (°F) =	400
$h_{r=1'}$ =	.1069
$\bar{T}$ =	.4150
$(\rho C_p k)^{1/2}$ =	.0604
α =	35
β =	0
Φ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

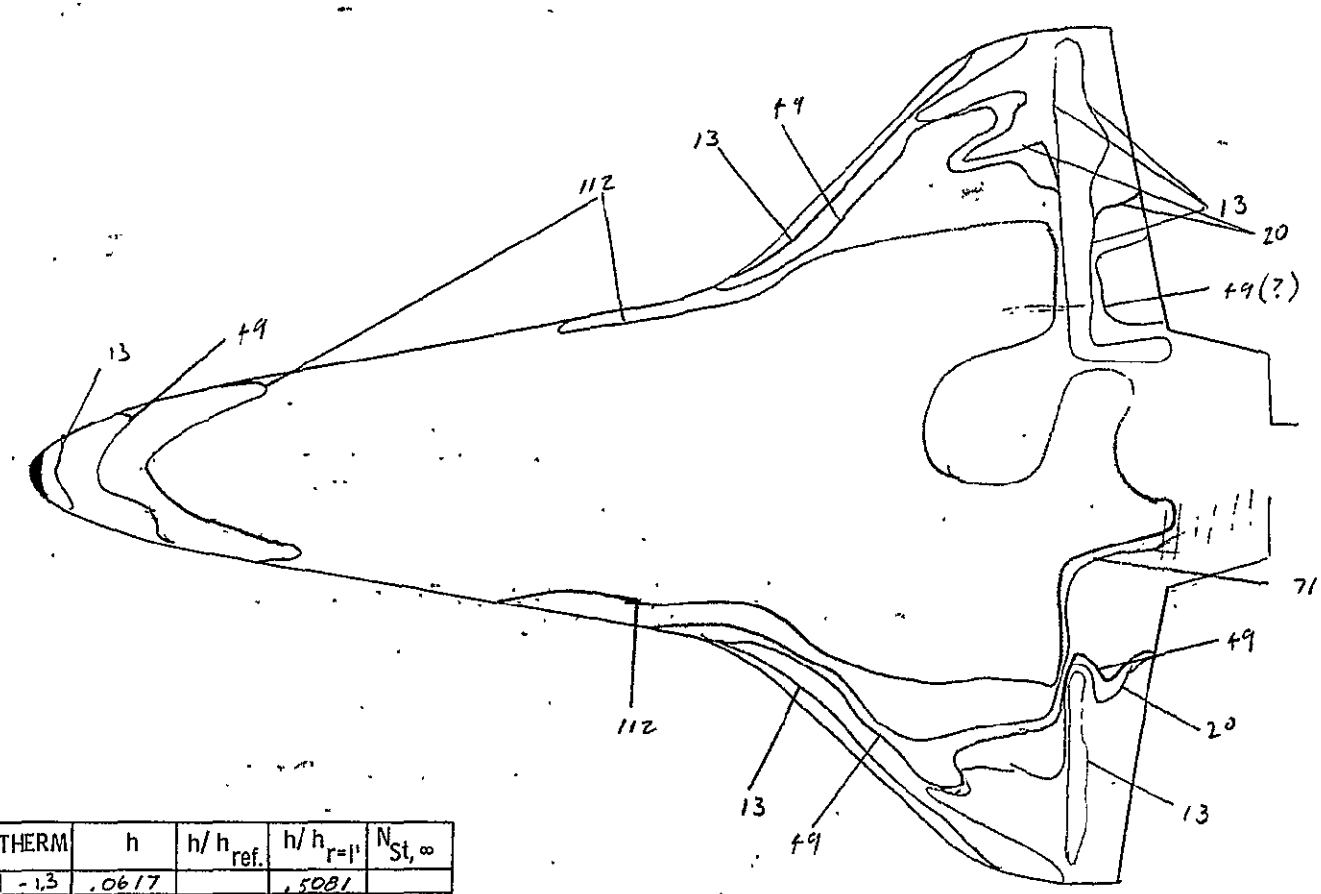
PHASE CHANGE PAINT TEST

MISSING

ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION GRID
FACILITY
TEST
RUNS 4568 thru 4601
LENGTH
NOSE RADIUS
SCALE
M_∞
P_{total} (psia) =
T_{total} (°R) =
R_∞ / ft =
T_{aw} / T_{total} =
T_{aw} (°R) =
T_i (°F) =
T_{pc} (°F) =
$h_{r=1'}$ =
$\bar{T}$ =
$(\rho C_p k)^{1/2}$ =
α = 30
β = 0
ϕ = 0
CAMERA POSITION
Engineer
CFFS-HVD

PHASE CHANGE PAINT TEST

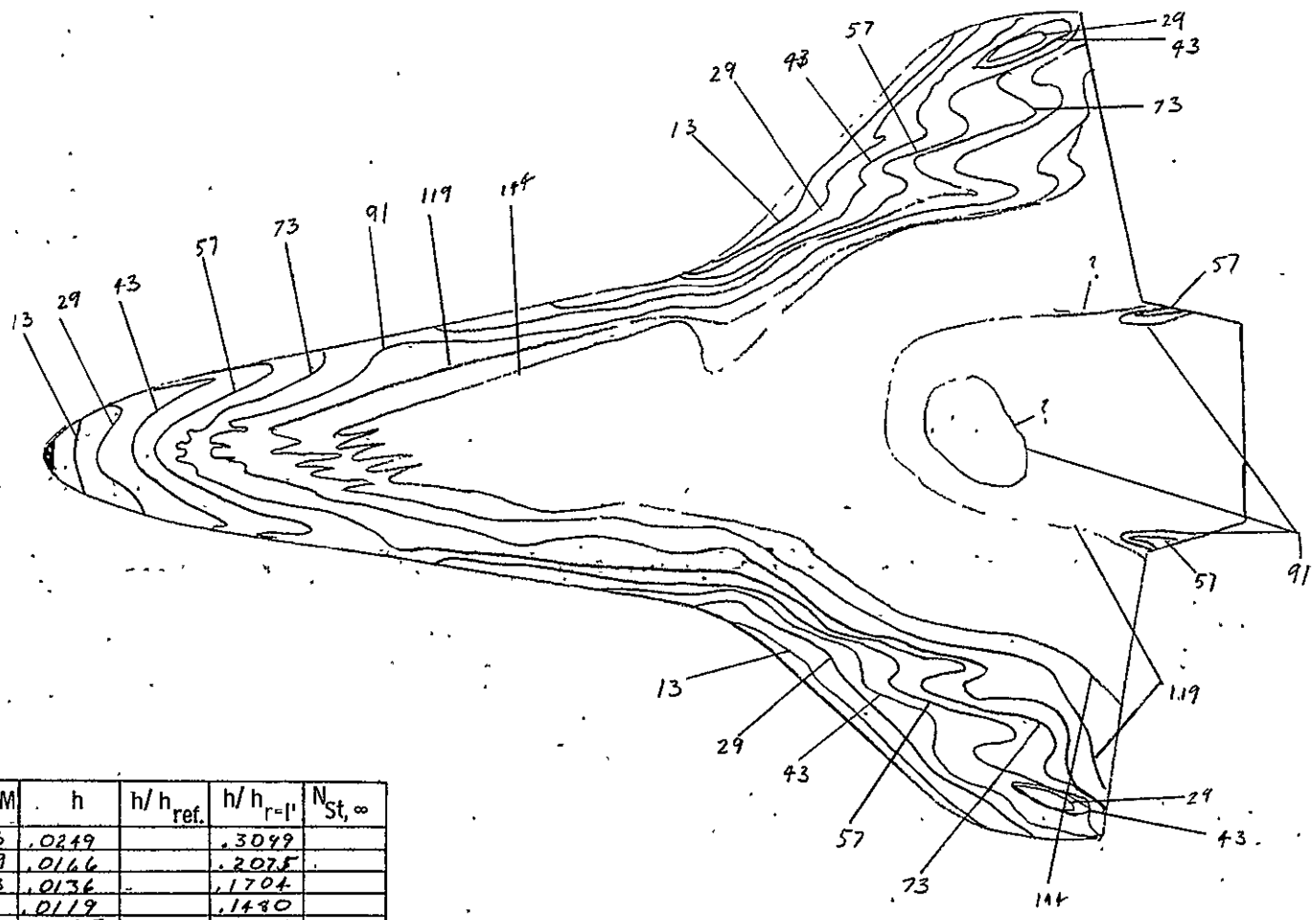


ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 1.3	.0617		.5081	
2 - 2.0	.0497		.4097	
3 - 4.9	.0318		.2617	
4 - 7.1	.0264		.2174	
5 - 11.2	.0210		.1731	
6				
7				
8				
9				
10				

CONFIGURATION	31
FACILITY	LRC/VDT
TEST	OH46-B
RUN	456B
LENGTH	7.7418 in. m.c.
NOSE RADIUS	006
SCALE	.006
M_∞	8
P_{total} (psia) =	1915
T_{total} (°R) =	980
R_∞ / ft =	8×10^6
T_{aw}/T_{total} =	.912
T_{aw} (°R) =	
T_j (°F) =	80
T_{pc} (°F) =	550
$h_{r=1'}$ =	.1214
$\bar{T}$ =	.6078
$(\rho C_p k)^{1/2}$ =	.0617
α =	30
β =	0
ϕ =	0
CAMERA POSITION	TOP
Engineer	W. Dye

CFFS-HVD

PHASE CHANGE PAINT TEST

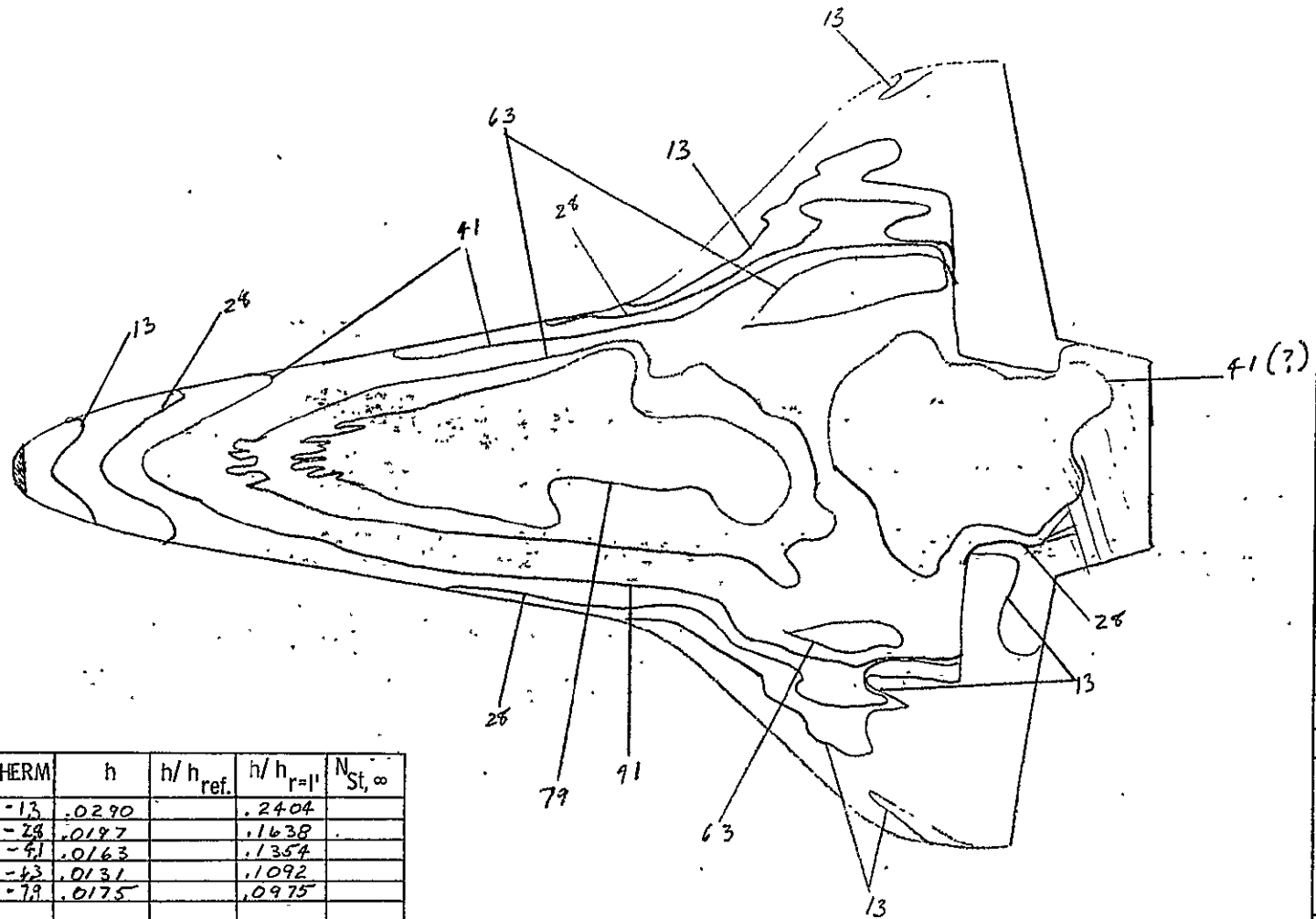


ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 -13	.0249		.3049	
2 -29	.0166		.2075	
3 -93	.0136		.1704	
4 -57	.0119		.1480	
5 -73	.0105		.1308	
6 -91	.0094		.1171	
7 114	.0084		.1046	
8 144			.0954	
9				
10				

CONFIGURATION	22
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	4569
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	1915
T_{total} (°R) =	980
R_∞ / ft =	3.5
T_{aw}/T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	90
T_{pc} (°F) =	550
$h_{r=1'}$ =	.0802
$\bar{T}$ =	.3719
$(\rho C_p k)^{1/2}$ =	.0595
α =	30
β =	0
Φ =	0
CAMERA POSITION	TOP
Engineer	W. Boyd

CFFS-HVD

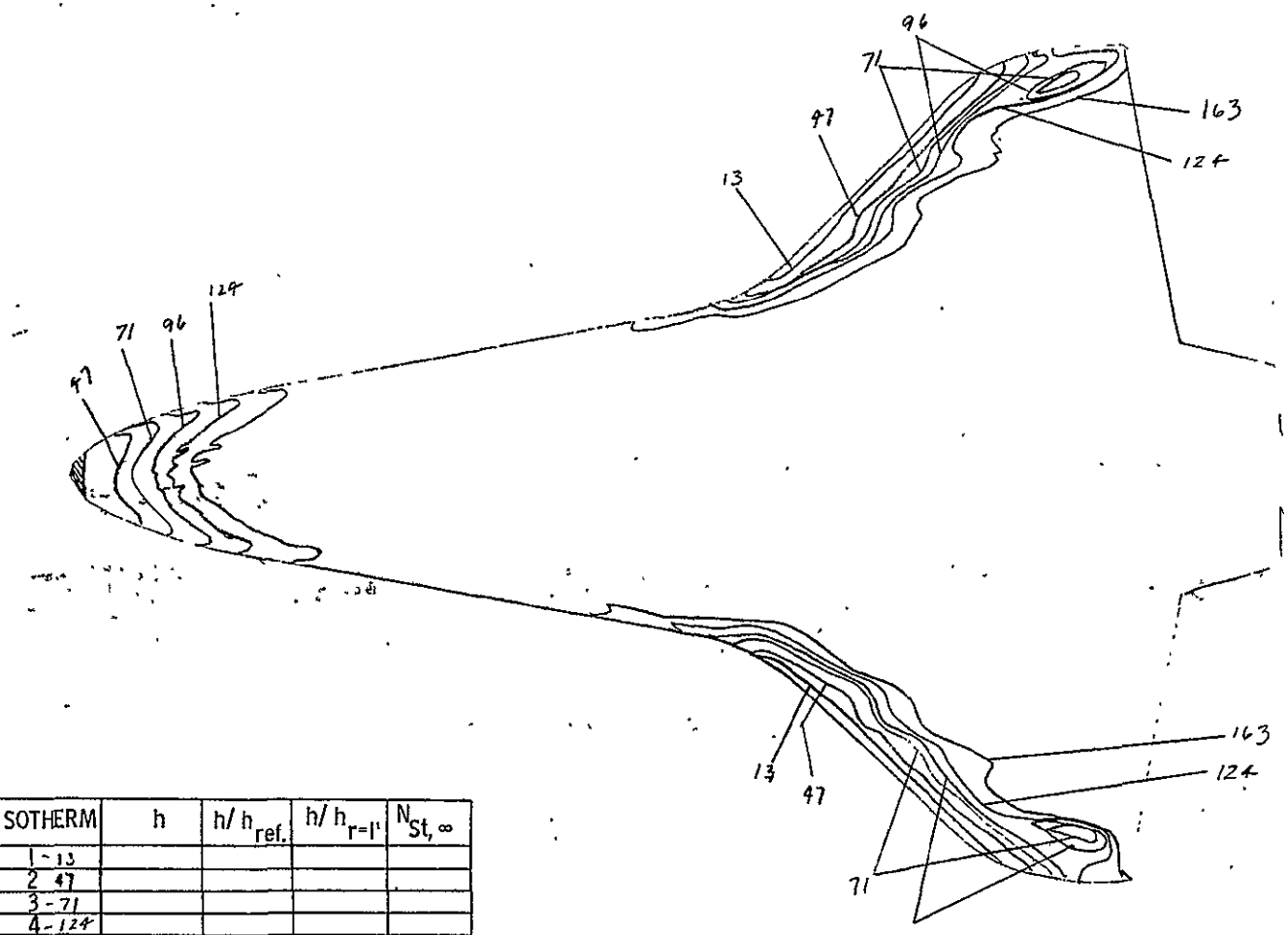
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 13	.0290		.2404	
2 - 28	.0197		.1638	
3 - 41	.0163		.1354	
4 - 63	.0131		.1092	
5 - 79	.0175		.0975	
6				
7				
8				
9				
10				

CONFIGURATION	31
FACILITY	LRC/VDT
TEST	OH46B
RUN	4570
LENGTH	7.7418 m.m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	1870
T_{total} (°R) =	990
R_∞ / ft =	8×10^6
T_{aw} / T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	82
T_{pc} (°F) =	400
$h_{r=1'}$ =	.1204
$\bar{T}$ =	.4075
$(\rho C_p k)^{1/2}$ =	.0604
α =	30
β =	0
Φ =	0
CAMERA POSITION	TOP
Engineer	W Dye
	CFFS-HVD

PHASE CHANGE PAINT TEST

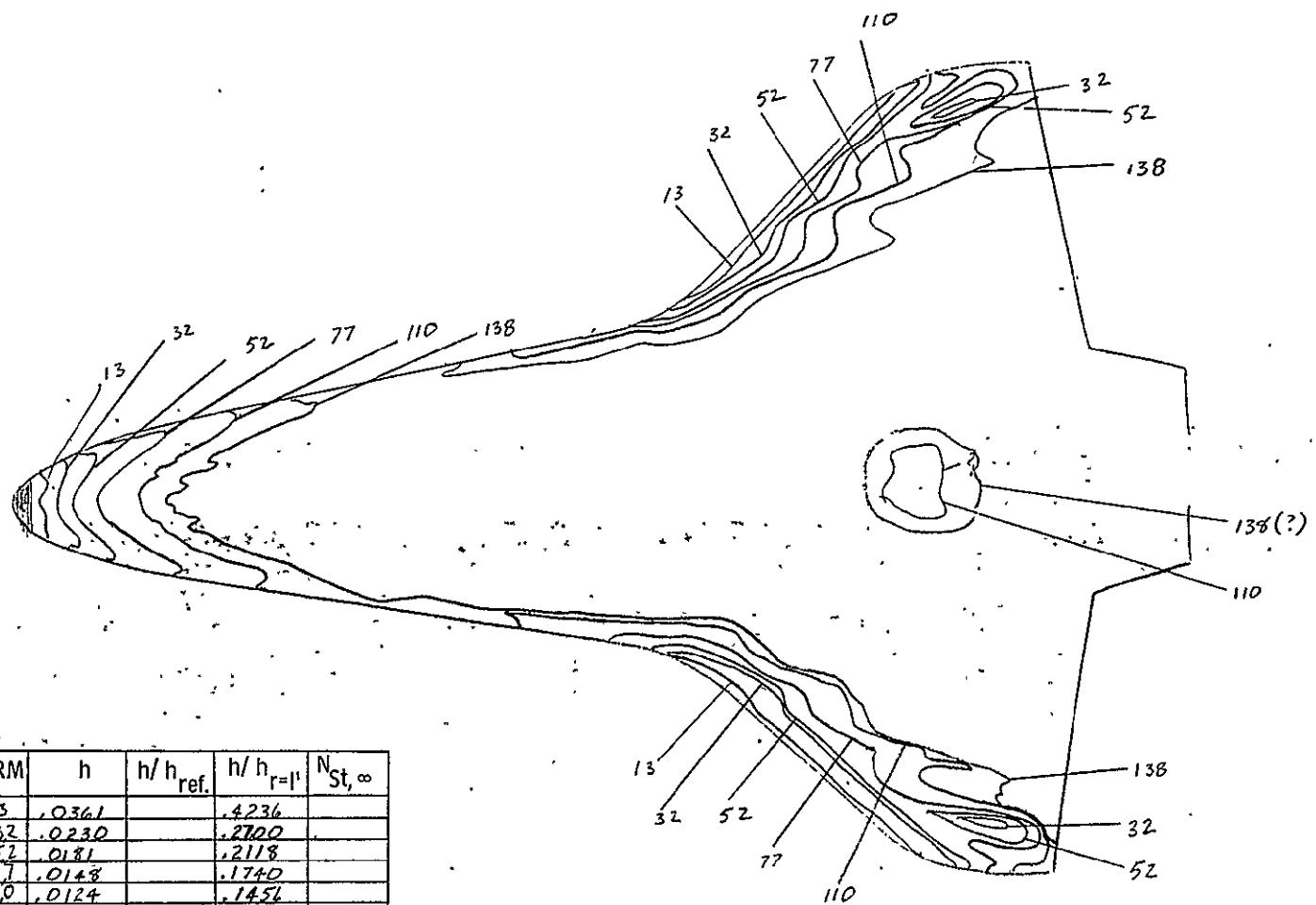


ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 13				
2 - 47				
3 - 71				
4 - 124				
5 - 163				
6				
7				
8				
9				
10				

CONFIGURATION	22
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	4571
LENGTH	7.7418 IN, M.S.
NOSE RADIUS	.006 M.S.
SCALE	.006
M_∞ =	
P_{total} (psia) =	775
T_{total} (°R) =	825
R_∞ / ft =	3.5
T_{aw}/T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	88
T_{pc} (°F) =	400
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	30
β =	0
Φ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

124

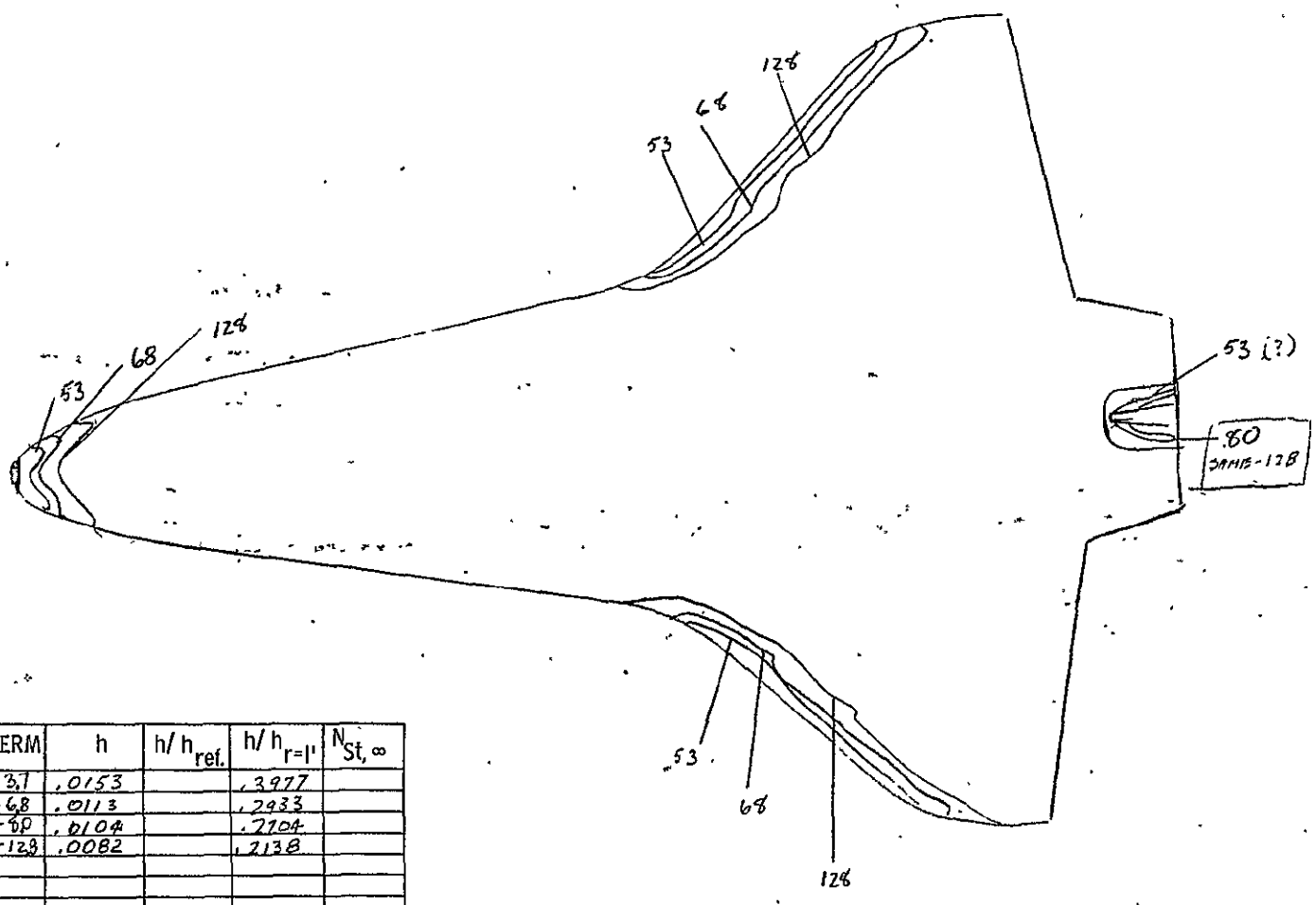
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 13	.0361		.4236	
2 - 32	.0230		.2700	
3 - 52	.0181		.2118	
4 - 77	.0148		.1740	
5 - 110	.0124		.1456	
6 - 138	.0111		.1300	
7				
8				
9				
10				

CONFIGURATION	22
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	4572
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006 m.s.
SCALE	.006
M_∞	8
P_{total} (psia) =	900
T_{total} (°R) =	880
R_∞ / ft =	4.0
T_{aw} / T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	83
T_{pc} (°F) =	400
$h_{r=1'}$ =	.0853
$\bar{T}$ =	.4668
$(\rho C_p k)^{1/2}$ =	.0604
α =	30
β =	0
Φ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 53	.0153		.3977	
2 - 68	.0113		.2933	
3 - 80	.0104		.2704	
4 - 128	.0082		.2138	
5				
6				
7				
8				
9				
10				

CONFIGURATION	31 Ven 0
FACILITY	LRC/VDT
TEST	ØH46B
RUN	573
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	153
T_{total} (°R) =	750
R_∞ / ft =	1×10^6
T_{aw} / T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	84
T_{pc} (°F) =	300
$h_{r=1'}$ =	.0386
$\bar{T}$ =	.3860
$(\rho C_p k)^{1/2}$ =	.0586
α =	30
β =	0
ϕ =	0
CAMERA POSITION	Top
Engineer	W. Dye
	CFFS-HVD

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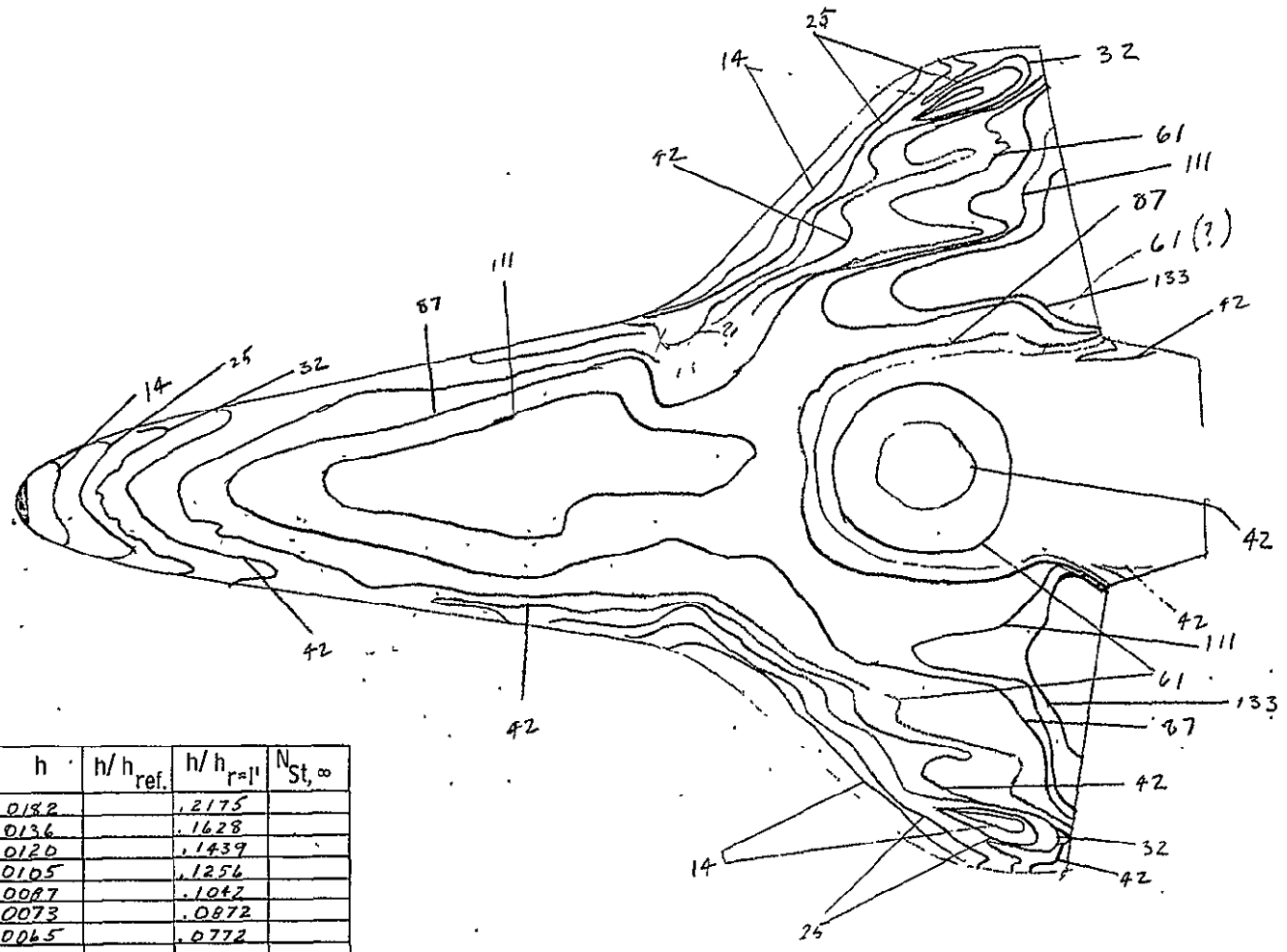
PHASE CHANGE PAINT TEST

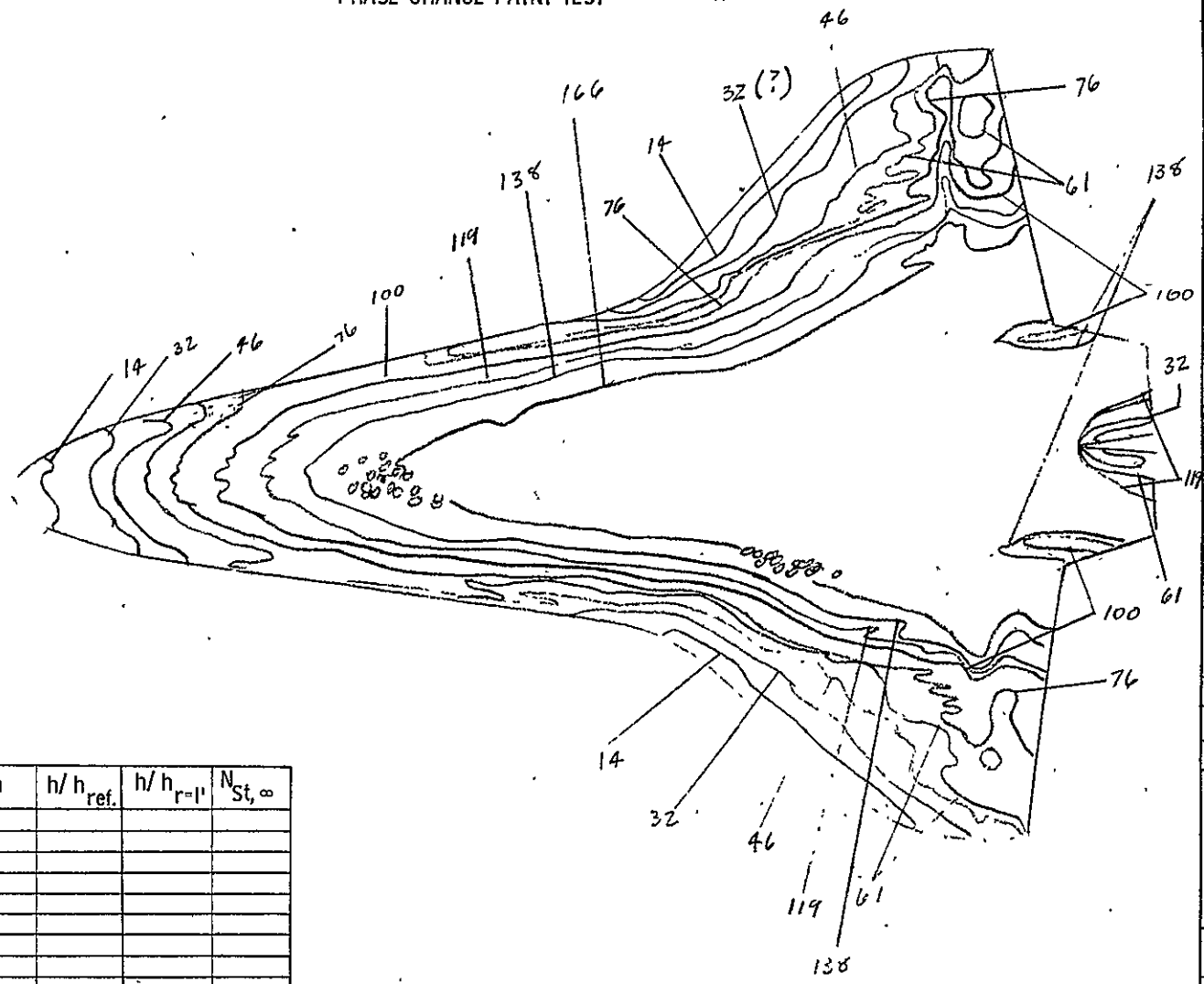


ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 14	.0182		.2175	
2 - 25	.0136		.1628	
3 - 32	.0120		.1439	
4 - 42	.0105		.1256	
5 - 61	.0087		.1042	
6 - 87	.0073		.0872	
7 - 111	.0065		.0772	
8				
9				
10				

CONFIGURATION	22
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	4574
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	855
T_{total} (°R) =	915
R_∞ / ft =	4.0
T_{aw} / T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	79
T_{pc} (°F) =	300
$h_{r=1'}$ =	.0835
$\bar{T}$ =	.3090
$(\rho C_p k)^{1/2}$ =	.0586
α =	30
β =	0
Φ =	0
CAMERA POSITION	TOP
Engineer	W. Dye

CFFS-HVD

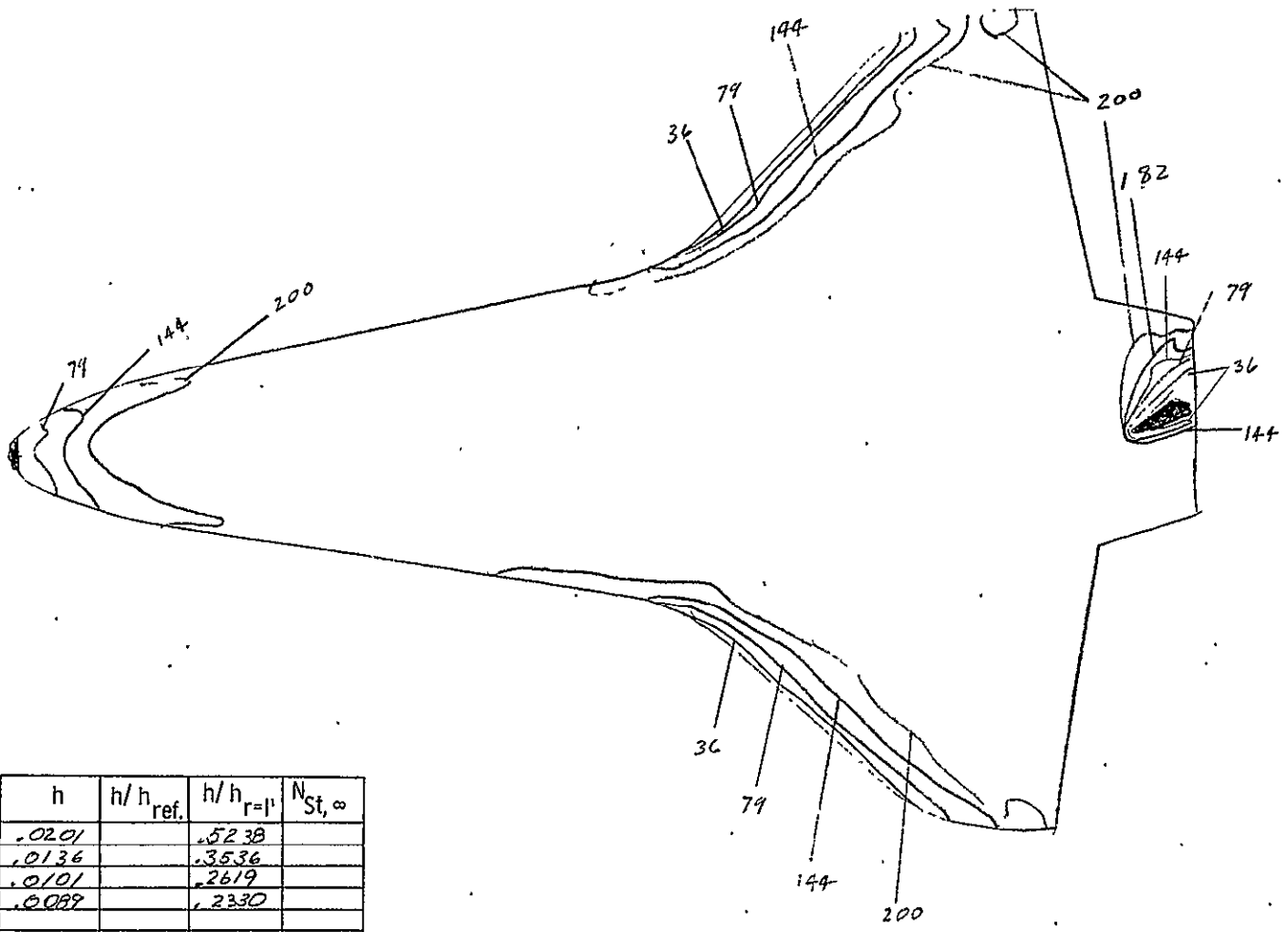
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 14				
2 32				
3 46				
4 61				
5 76				
6 100				
7 119				
8 138				
9 166				
10				

CONFIGURATION	31 ven. 0
FACILITY	LRC/VDT
TEST	OH-46B
RUN	4575
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	
P_{total} (psia) =	172
T_{total} (°R) =	825
R_∞ / ft =	1×10^6
$T_{aw.} / T_{total}$ =	
T_{aw} (°R) =	
T_i (°F) =	76
T_{pc} (°F) =	200
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	30
β =	0
Φ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

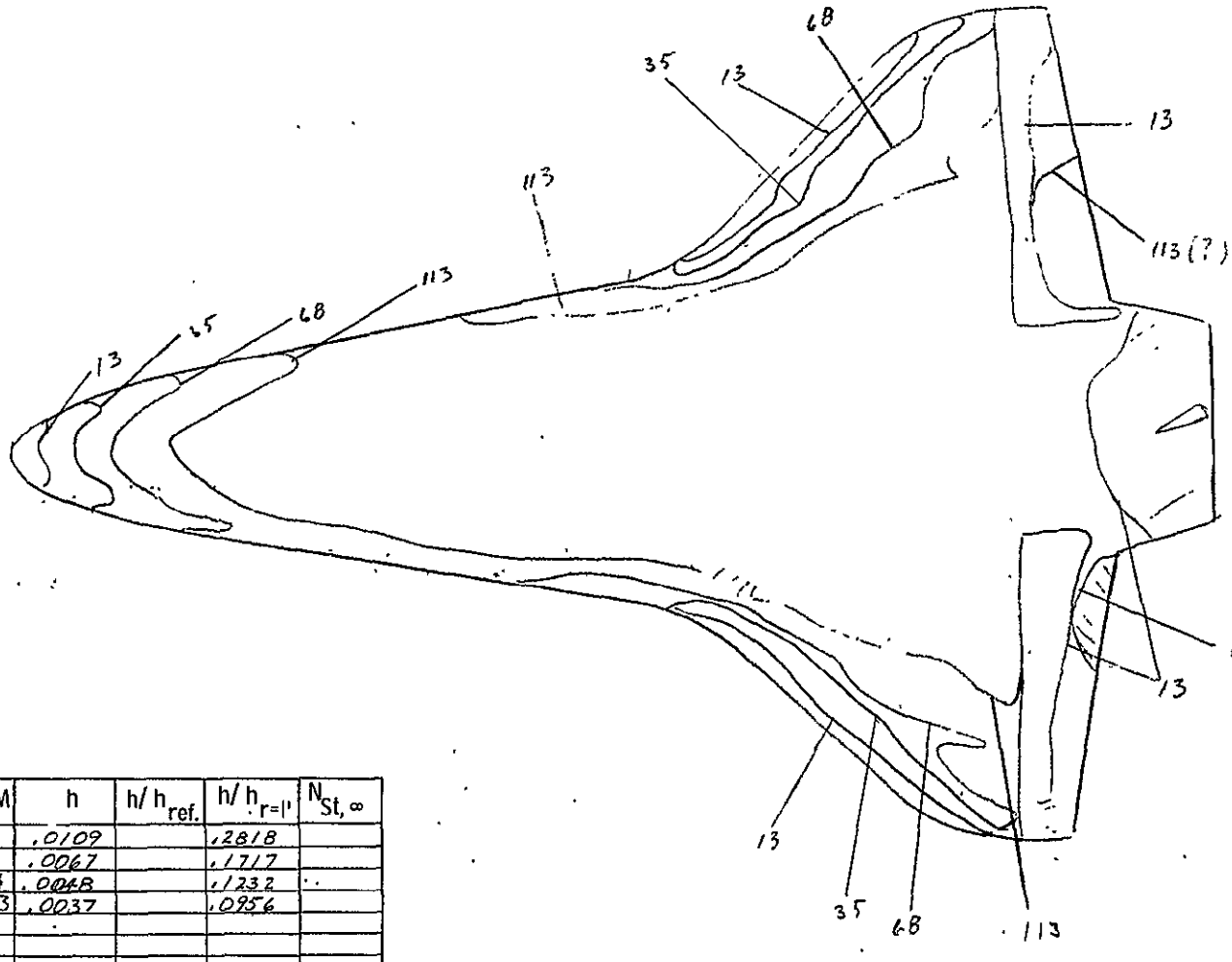
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 36	.0201		.5238	
2 79	.0136		.3536	
3 144	.0101		.2619	
4 182	.0089		.2330	
5				
6				
7				
8				
9				
10				

CONFIGURATION	31 VEN. 30
FACILITY	LRC/VDT
TEST	OH46B
RUN	4577
LENGTH	1.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	150
T_{total} (°R) =	795
R_∞ / ft =	1×10^6
T_{aw} / T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	76
T_{pc} (°F) =	350
$h_{r=1'}$ =	.0384
$\bar{T}$ =	.4302
$(\rho C_p k)^{1/2}$ =	.0595
α =	30
β =	0
ϕ =	0
CAMERA POSITION	TOP
Engineer	M. Dye
	CFFS-HVD

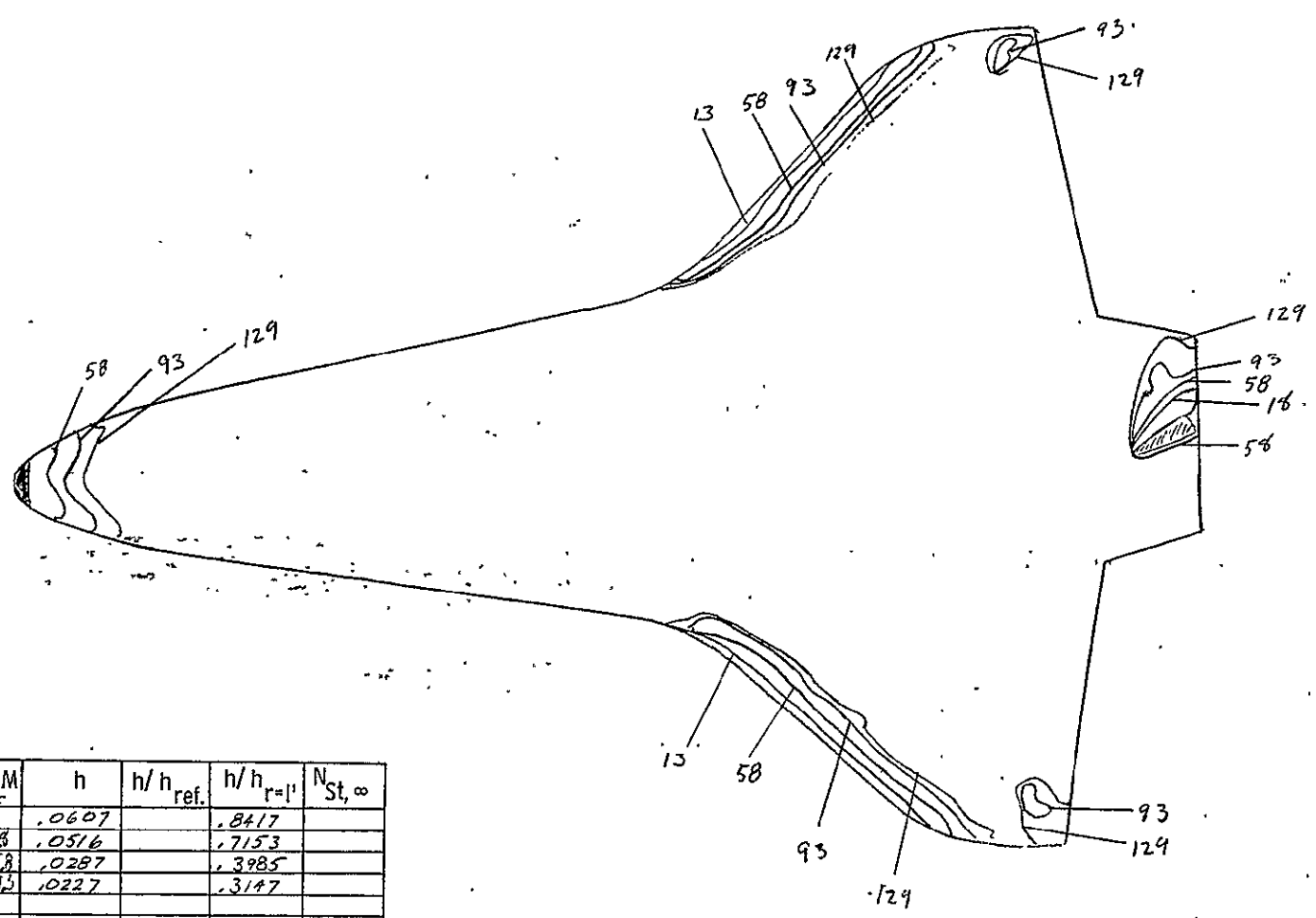
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 13	.0109		.2818	
2 - 35	.0067		.1717	
3 - 68	.0048		.1232	
4 - 113	.0037		.0956	
5				
6				
7				
8				
9				
10				

CONFIGURATION	31 ven. 30
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	4579
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	156
T_{total} (°R) =	765
R_∞ / ft =	1×10^6
T_{aw} / T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	76
T_{pc} (°F) =	200
$h_{r=1'}$ =	.0388
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	.0596
α =	30
β =	0
ϕ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

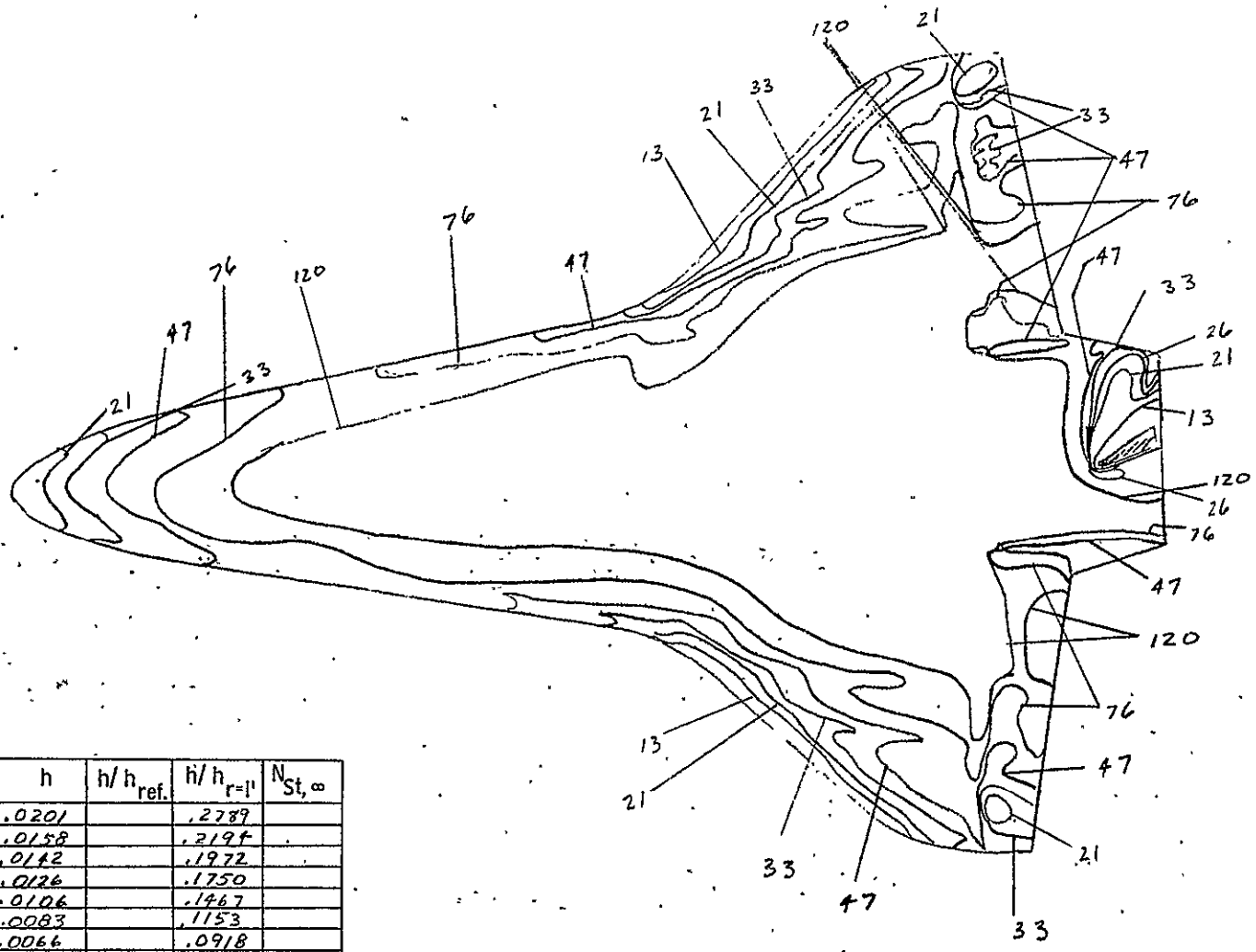
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 -13	.0607		.8417	
2 -18	.0516		.7153	
3 -58	.0287		.3985	
4 -93	.0227		.3147	
5				
6				
7				
8				
9				
10				

CONFIGURATION	31 ven 30
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	4581
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	625
T_{total} (°R) =	895
R_∞ / ft =	3.0×10^6
T_{aw}/T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	80
T_{pc} (°F) =	500
$h_{r=1'}$ =	.07215
$\bar{T}$ =	.6037
$(\rho C_p k)^{1/2}$ =	.0617
α =	30
β =	0
Φ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

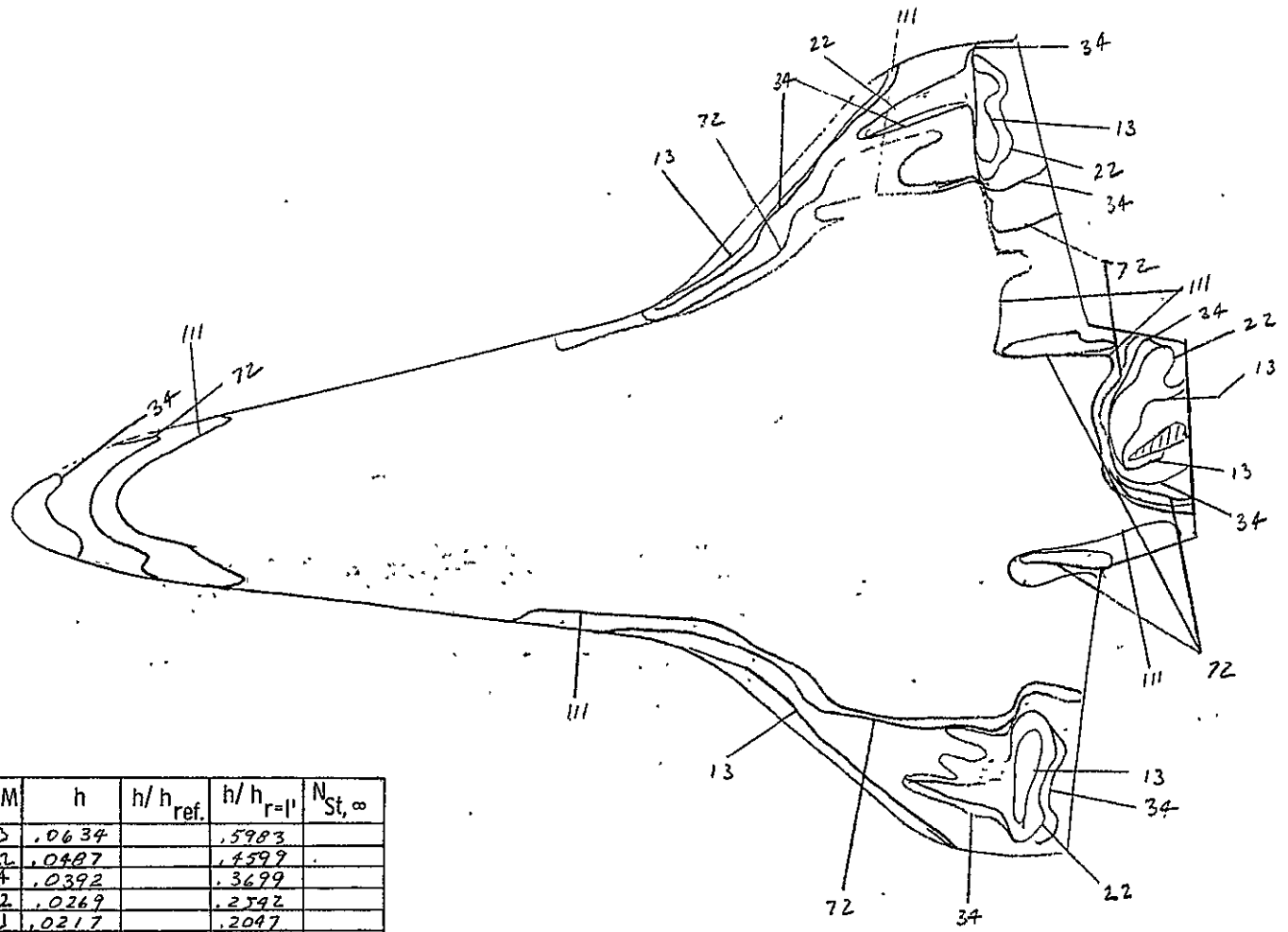
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 -13	.0201		.2789	
2 -21	.0158		.2194	
3 -26	.0142		.1972	
4 -33	.0126		.1750	
5 -47	.0106		.1467	
6 -76	.0083		.1153	
7 -120	.0066		.0918	
8				
9				
10				

CONFIGURATION	31 ven30
FACILITY	LRC/VDT
TEST	OH-46B
RUN	4582
LENGTH	7.7418
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	620
T_{total} (°R) =	880
R_∞ / ft =	3×10^6
T_{aw} / T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	79
T_{pc} (°F) =	300
$h_{r=1'}$ =	.0719
$\bar{T}$ =	.3235
$(\rho C_p k)^{1/2}$ =	.0586
α =	30
β =	0
ϕ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

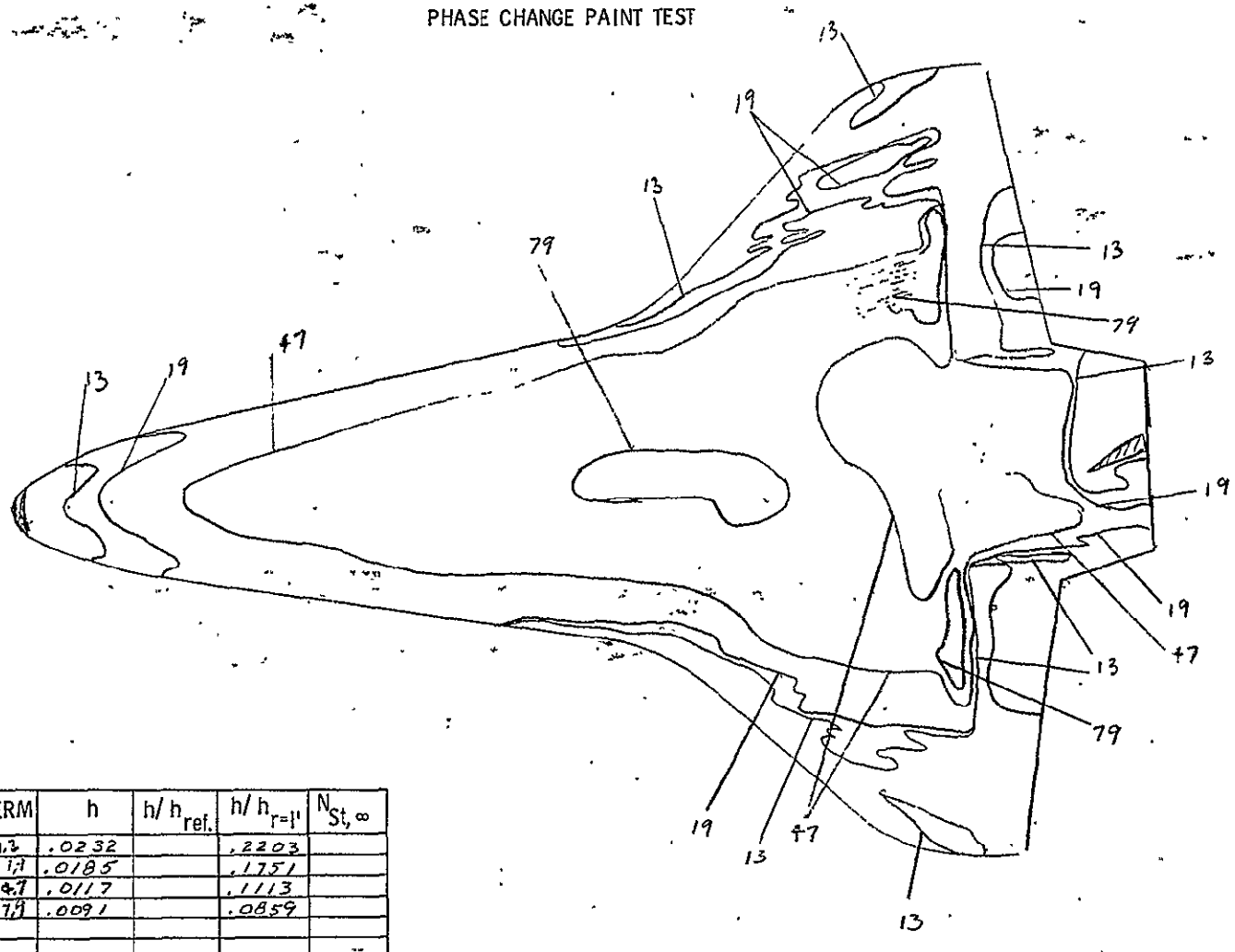
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 -13	.0634		.5983	
2 -22	.0487		.4599	
3 -34	.0392		.3699	
4 -72	.0269		.2592	
5 -111	.0217		.2047	
6				
7				
8				
9				
10				

CONFIGURATION	31 VEN. 30
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	4583
LENGTH	7.7418 in. M.S.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	1430
T_{total} (°R) =	970
R_∞ / ft =	6×10^6
T_{aw} / T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	80
T_{pc} (°F) =	550
$h_{r=1'}$ =	.1059
$\bar{T}$ =	.6150
$(\rho c_p k)^{1/2}$ =	.0617
α =	30
β =	0
ϕ =	0
CAMERA POSITION	TOP
Engineer	W. DYE
	CFFS-HVD

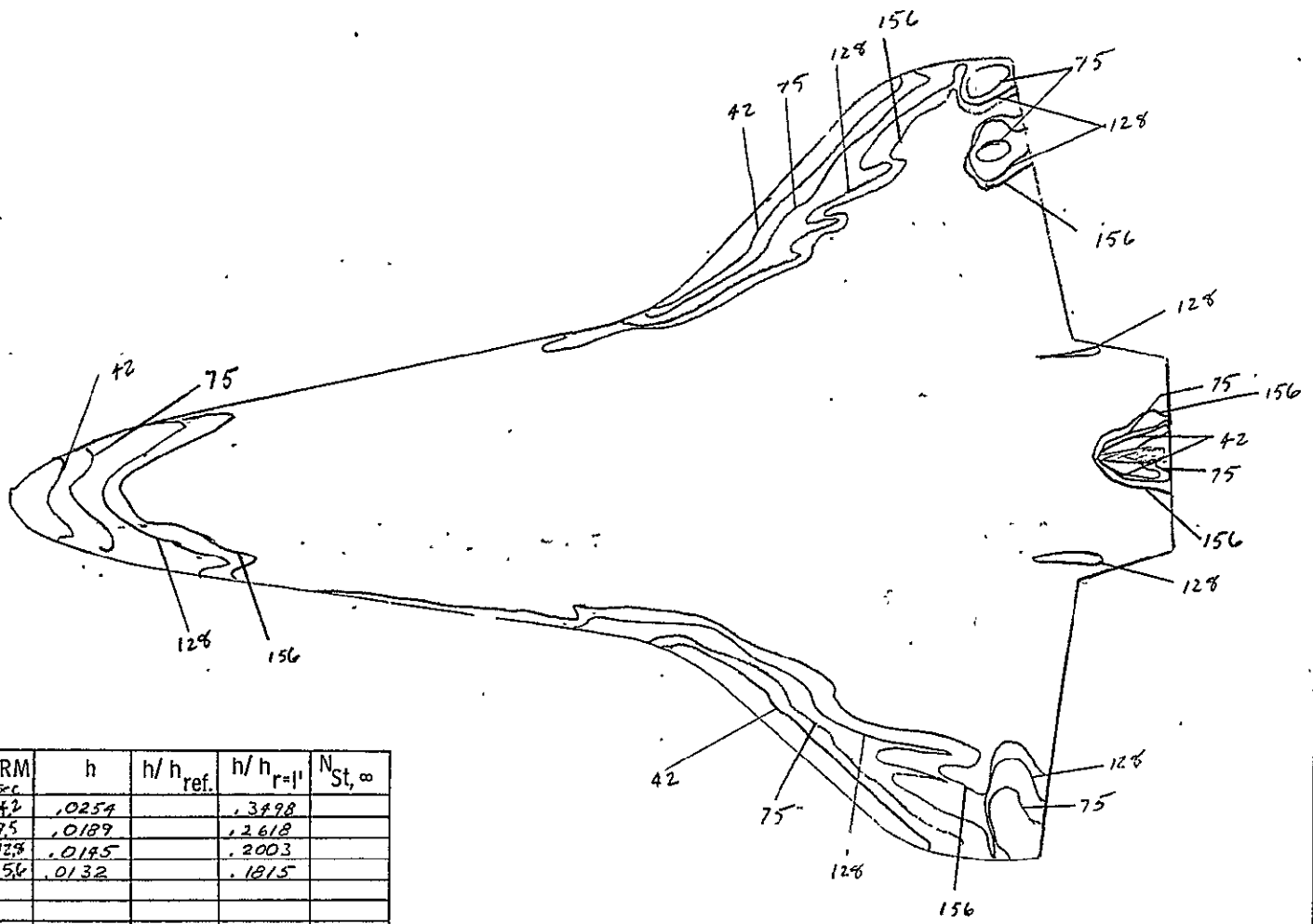
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 -1.3	.0232		.2203	
2 -1.9	.0185		.1751	
3 -4.7	.0117		.1113	
4 -7.9	.0091		.0859	
5				
6				
7				
8				
9				
10				

CONFIGURATION	31 VEN. 30
FACILITY	LRC/VDT
TEST	OH-46B
RUN	4584
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	1405
T_{total} (°R) =	985.
R_∞ / ft =	6×10^6
T_{aw} / T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	82
T_{pc} (°F) =	350
$h_{r=1'}$ =	.1055
$\bar{T}$ =	.3454
$(\rho C_p k)^{1/2}$ =	.0595
α =	30
β =	0
ϕ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

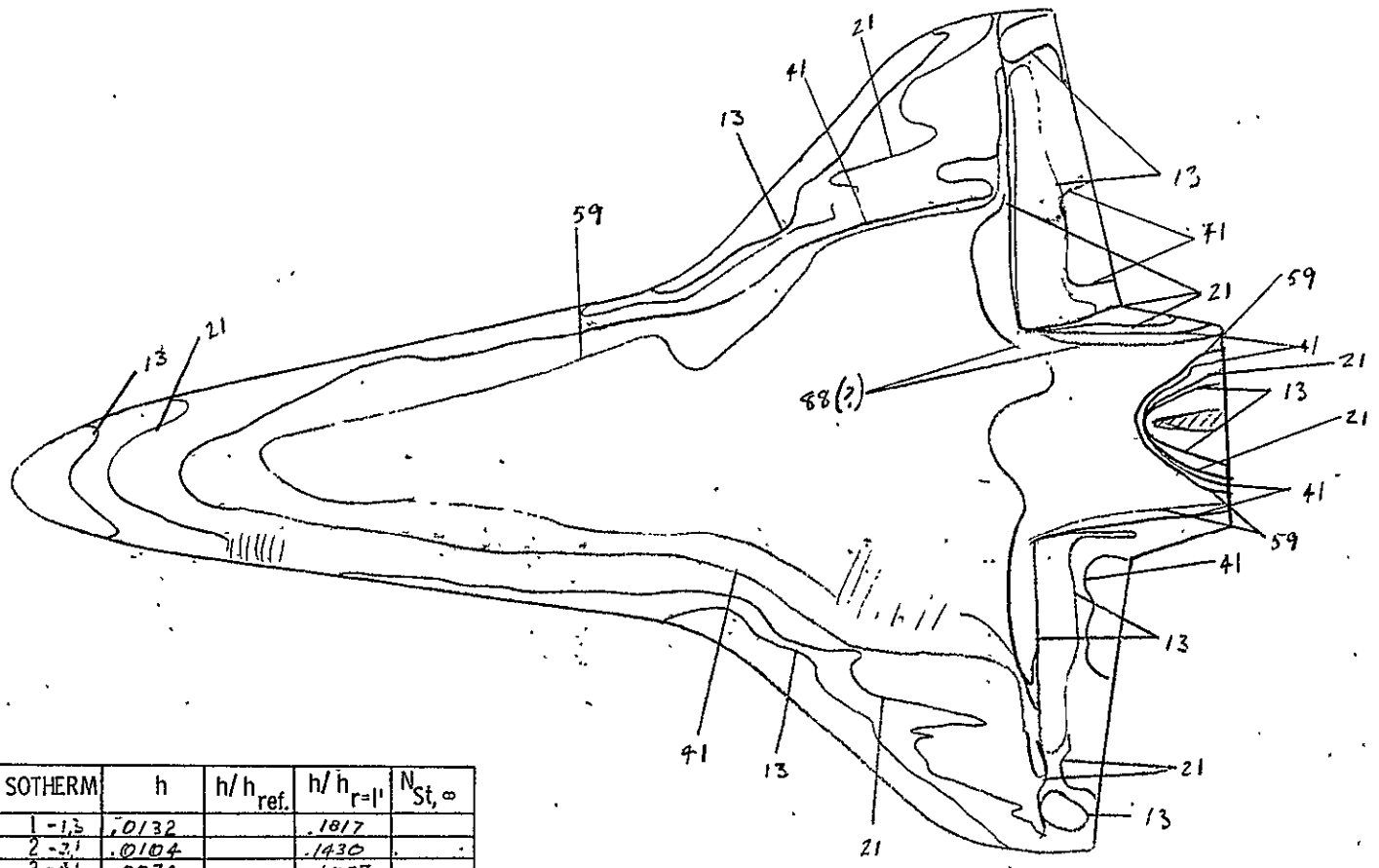
PHASE CHANGE PAINT TEST



ISOTHERM sec	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 42	.0254		.3498	
2 - 75	.0189		.2618	
3 - 128	.0195		.2003	
4 - 156	.0132		.1815	
5				
6				
7				
8				
9				
10				

CONFIGURATION	31 VENO
FACILITY	LRC/VDT
TEST	OH-46B
RUN	4586
LENGTH	7.7418
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	630
T_{total} (°R) =	900
R_∞ / ft =	3×10^6
T_{aw}/T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	82
T_{pc} (°F) =	450
$h_{r=1'}$ =	.0725
$\bar{T}$ =	.5270
$(\rho C_p k)^{1/2}$ =	.0613
α =	30
β =	0
Φ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

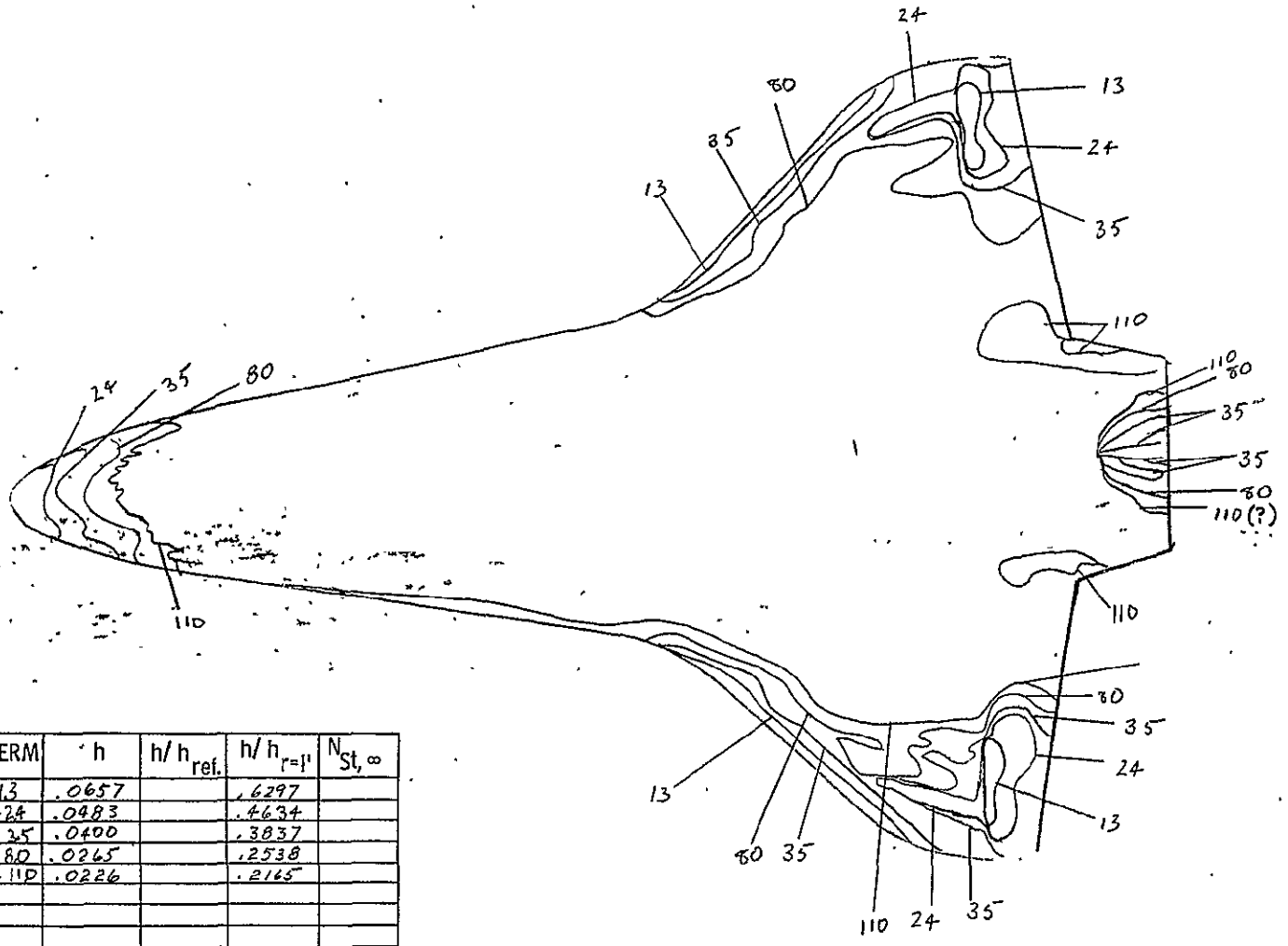
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 1,3	.0132		.1817	
2 - 2,1	.0104		.1430	
3 - 4,1	.0074		.1023	
4 - 59	.0062		.0853	
5 - 6,2	.0051		.0698	
6				
7				
8				
9				
10				

CONFIGURATION	31 Vtn. 0
FACILITY	LRC/VDT
TEST	OH-46B
RUN	4588
LENGTH	7.7418 in. m.s
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	635
T_{total} (°R) =	905
R_∞ / ft =	3×10^6
T_{aw} / T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	82
T_{pc} (°F) =	250
$h_{r=1'}$ =	.0728
$\bar{T}$ =	.239
$(\rho C_p k)^{1/2}$ =	.0574
α =	30
β =	0
Φ =	0
CAMERA POSITION	TOP
Engineer	W. Py o
	CFFS-HVD

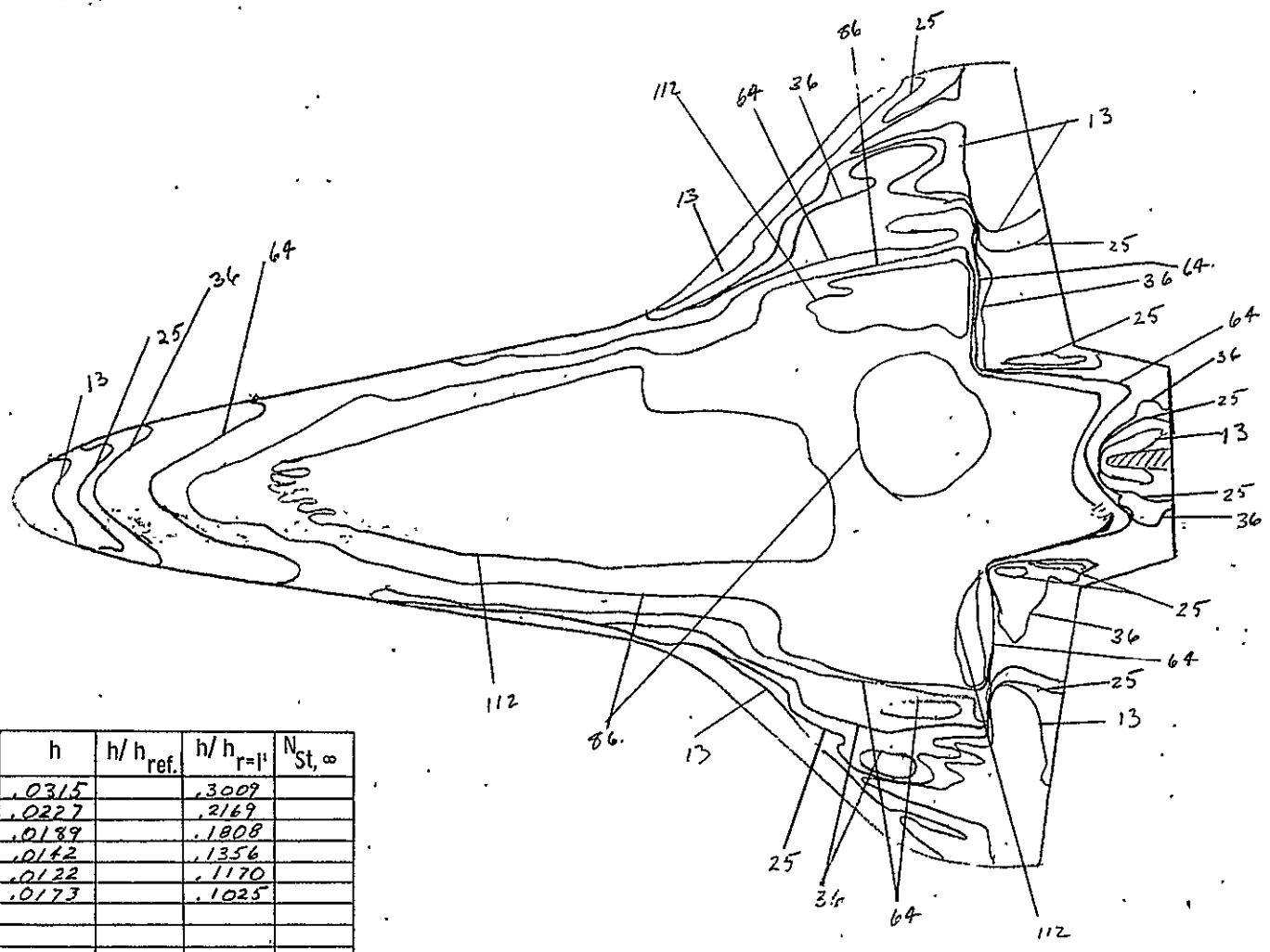
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 ~ 13	.0657		.6297	
2 ~ 24	.0483		.4634	
3 ~ 35	.0400		.3837	
4 ~ 80	.0265		.2538	
5 ~ 110	.0226		.2165	
6				
7				
8				
9				
10				

CONFIGURATION	31 VEN. 0
FACILITY	LRC / VDT
TEST	OH46-B
RUN	4590
LENGTH	7.7418 in.m.s
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	1385
T_{total} (°R) =	960
R_∞ / ft =	6×10^6
T_{aw} / T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	76
T_{pc} (°F) =	550
$h_{r=1'}$ =	.1043
$\bar{T}$ =	.6245
$(\rho C_p k)^{1/2}$ =	.0617
α =	30
β =	0
Φ =	0
CAMERA POSITION	TOP
Engineer	L. Dye
	CFFS-HVD

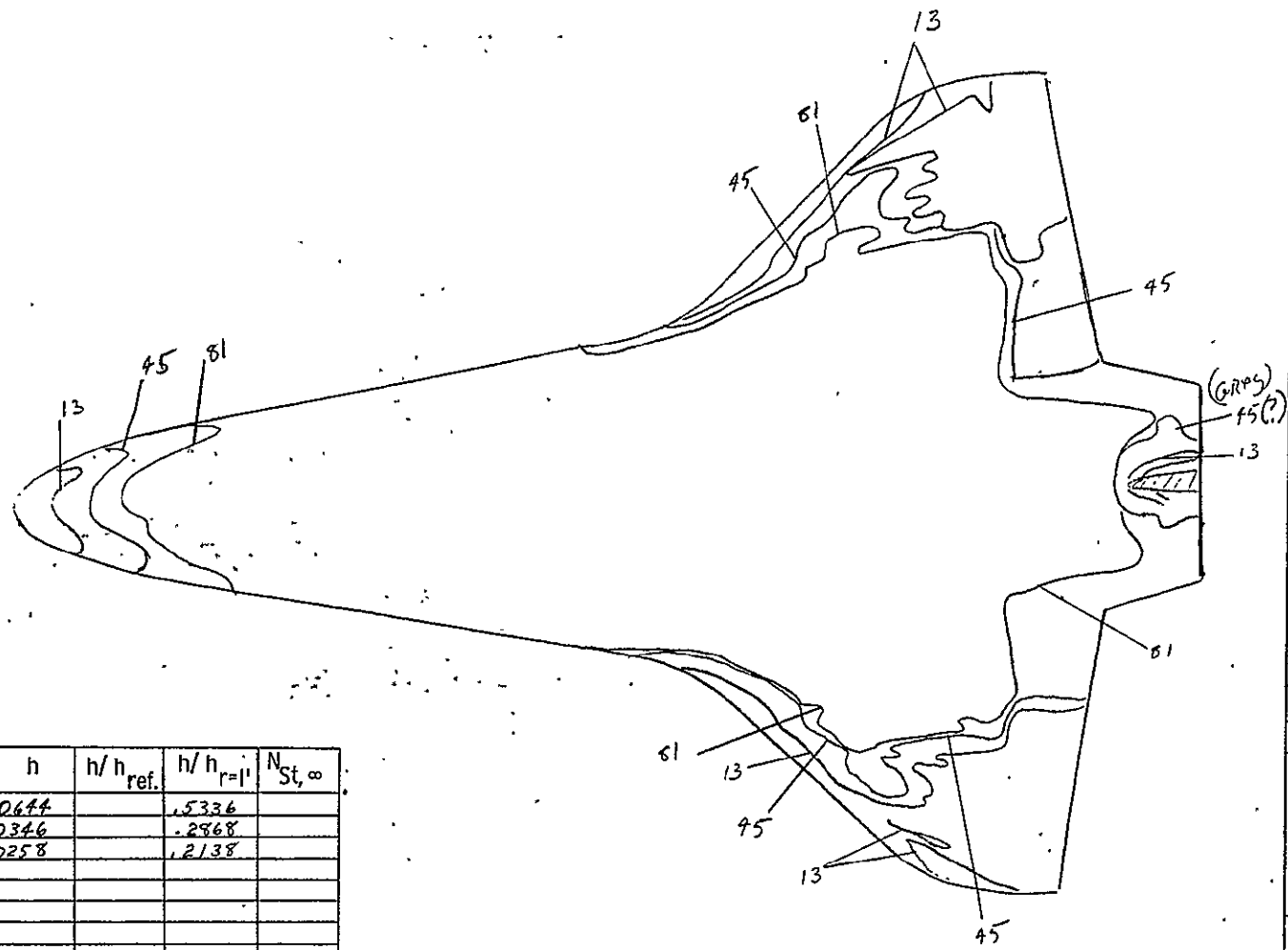
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 13	.0315		.3009	
2 - 25	.0227		.2169	
3 - 36	.0189		.1808	
4 - 64	.0142		.1356	
5 - 86	.0122		.1170	
6 - 112	.0173		.1025	
7				
8				
9				
10				

CONFIGURATION	31 VEN. 0
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	4591
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	1390
T_{total} (°R) =	950
R_∞ / ft =	6×10^6
T_{aw} / T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	79
T_{pc} (°F) =	400
$h_{r=1'}$ =	.1047
$\bar{T}$ =	.4298
$(\rho C_p k)^{1/2}$ =	.0604
α =	30
β =	0
Φ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

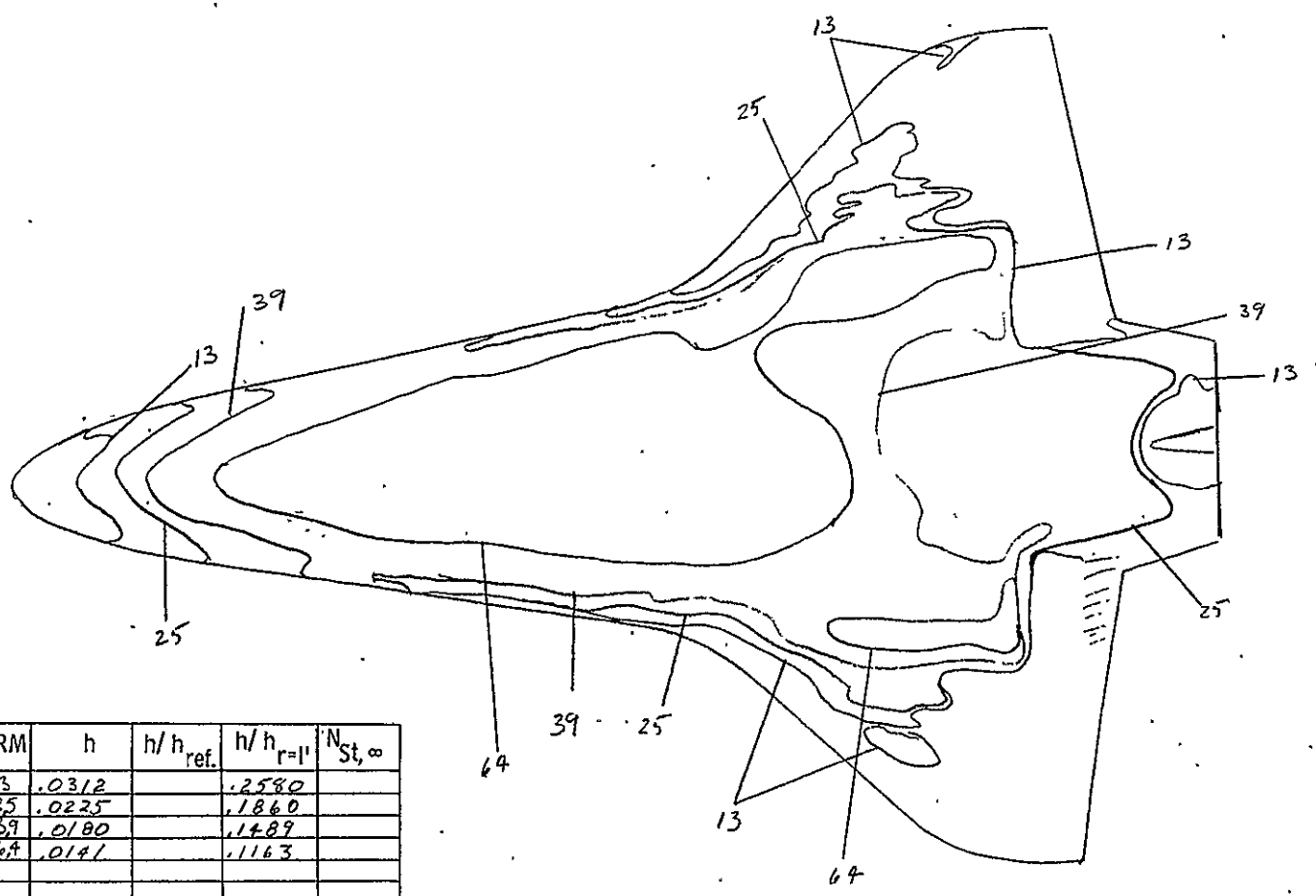
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 13	.0644		.5336	
2 - 45	.0346		.2868	
3 - 81	.0258		.2138	
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	31 ven. 0
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	4592
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	1895
T_{total} (°R) =	965
R_∞ / ft =	8×10^6
T_{aw}/T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	79
T_{pc} (°F) =	550
$h_{r=1'}$ =	.1207
$\bar{T}$ =	.6192
$(\rho C_p k)^{1/2}$ =	.0617
α =	30
β =	0
ϕ =	0
CAMERA POSITION	TOP
Engineer	W Dye
	CFFS-HVD

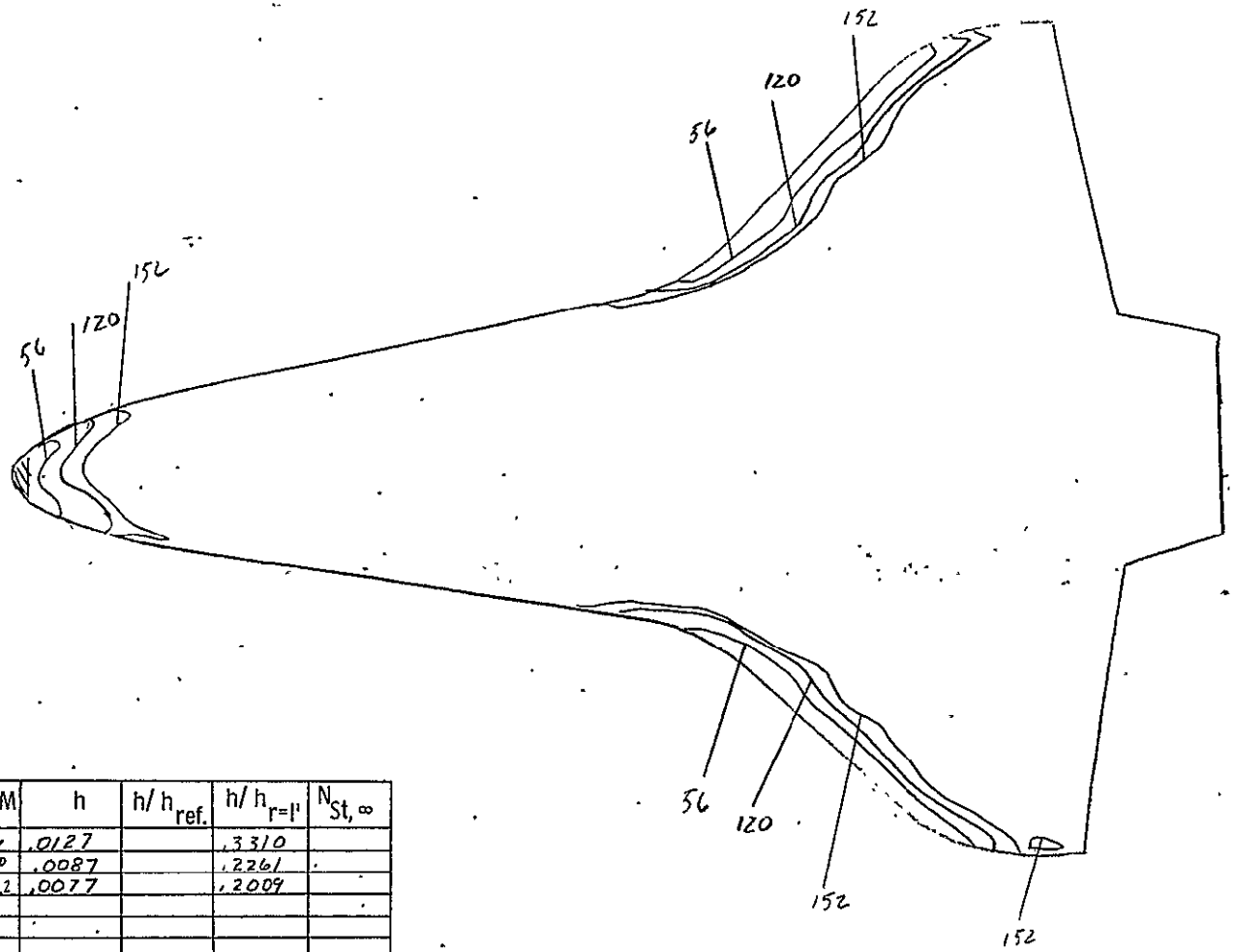
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 1,3	.0312		.2580	
2 - 25	.0225		.1860	
3 - 39	.0180		.1489	
4 - 64	.0141		.1163	
5				
6				
7				
8				
9				
10				

CONFIGURATION	31 ven. 0
FACILITY	LRC/VDT
TEST	ØH46B
RUN	4593
LENGTH	7.7418 in. m.s
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	1895
T_{total} (°R) =	955
R_∞ / ft =	8×10^6
T_{aw} / T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	79
T_{pc} (°F) =	400
$h_{r=1'}$ =	.1209
$\bar{T}$ =	.4272
$(\rho C_p k)^{1/2}$ =	.0604
α =	30
β =	0
Φ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

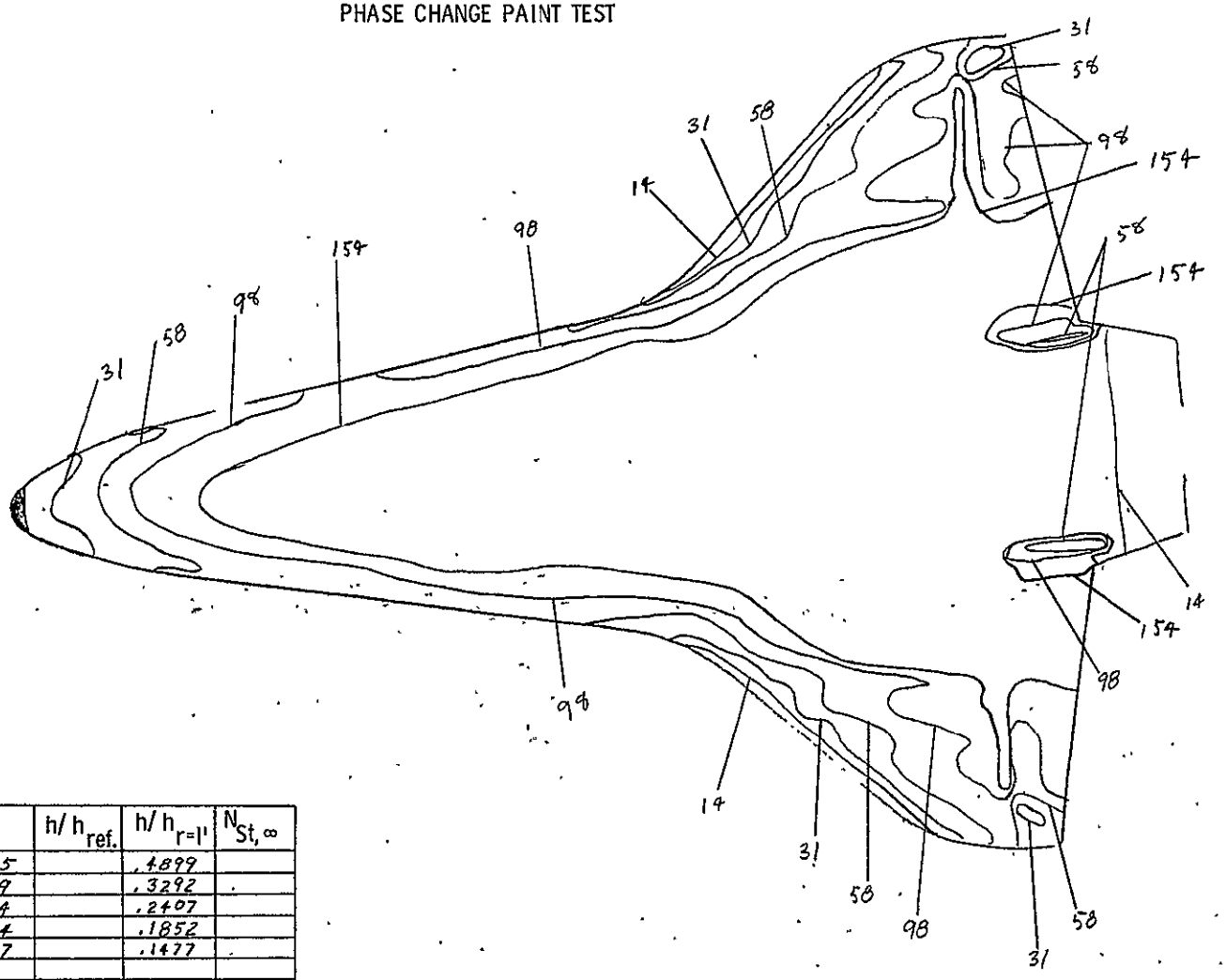
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 56	.0127		.3310	
2 - 120	.0087		.2261	
3 - 152	.0077		.2009	
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	41
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	4594
LENGTH	7.7418in.m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	152
T_{total} (°R) =	755
R_∞ / ft =	1×10^6
T_{aw} / T_{total} =	.912
T_{aw} (°R) =	
T_j (°F) =	76
T_{pc} (°F) =	300
$h_{r=1'}$ =	.0385
$\bar{T}$ =	.3916
$(\rho C_p k)^{1/2}$ =	.0586
α =	30
β =	0
φ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 14	.0355		.4899	
2 - 31	.0239		.3292	
3 - 58	.0174		.2407	
4 - 98	.0134		.1852	
5 - 154	.0107		.1477	
6				
7				
8				
9				
10				

CONFIGURATION 41

FACILITY LRC/VDT

TEST ØH-46B

RUN 4595

LENGTH 7.7418 in. m.s.

NOSE RADIUS .006

SCALE .006

M_∞ 8

P_{total} (psia) = 630

T_{total} (°R) = 880

R_∞ / ft = 3×10^6

T_{aw} / T_{total} = .912

T_{aw} (°R) =

T_i (°F) = 76

T_{pc} (°F) = 400

$h_{r=1'}$ = .0725

$\bar{T}$ = .4722

$(\rho C_p k)^{1/2}$ = .0604

α = 30°

β = 0

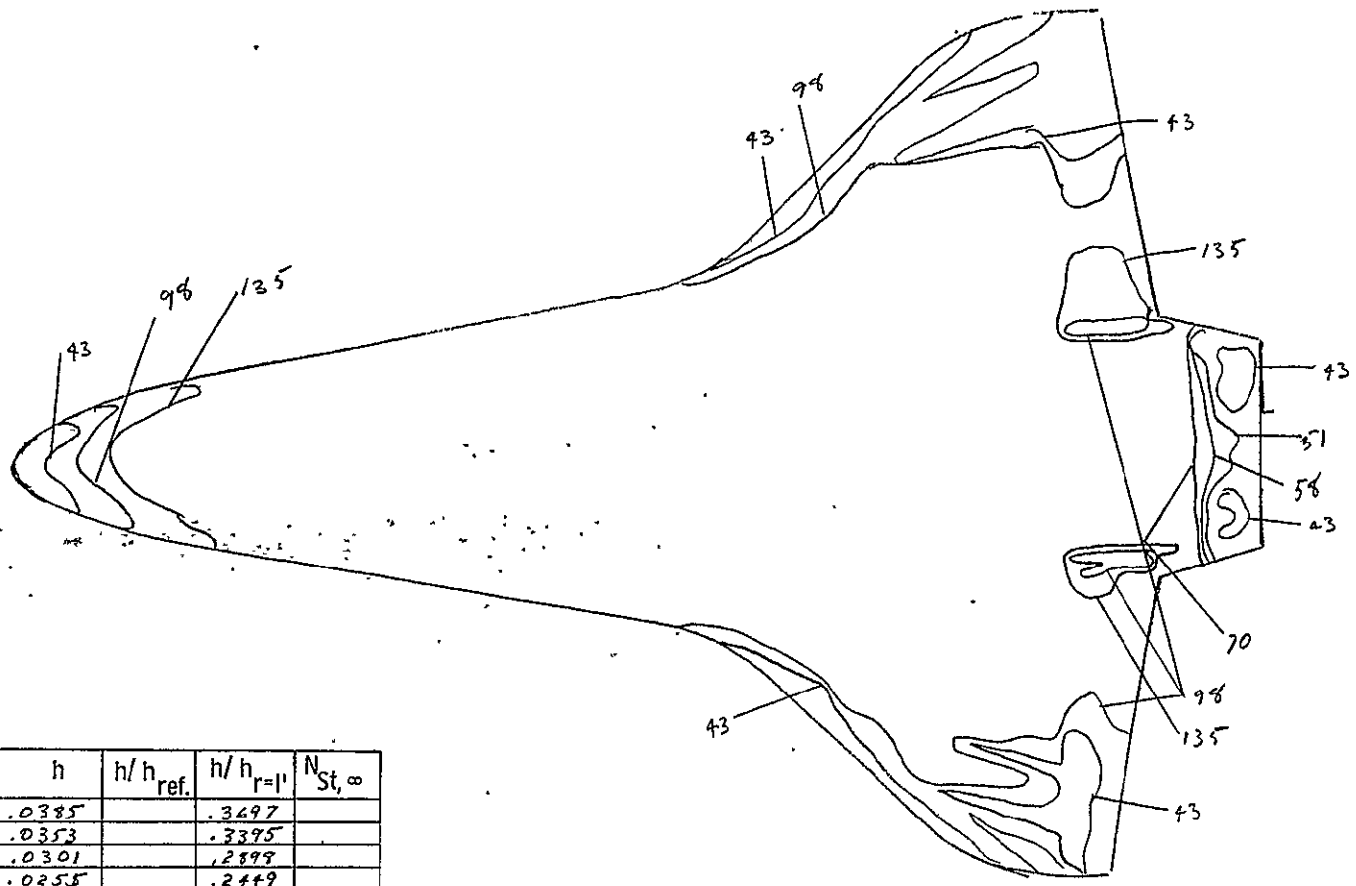
ϕ = 0

CAMERA POSITION TOP

Engineer W. Dye

CFFS-HVD

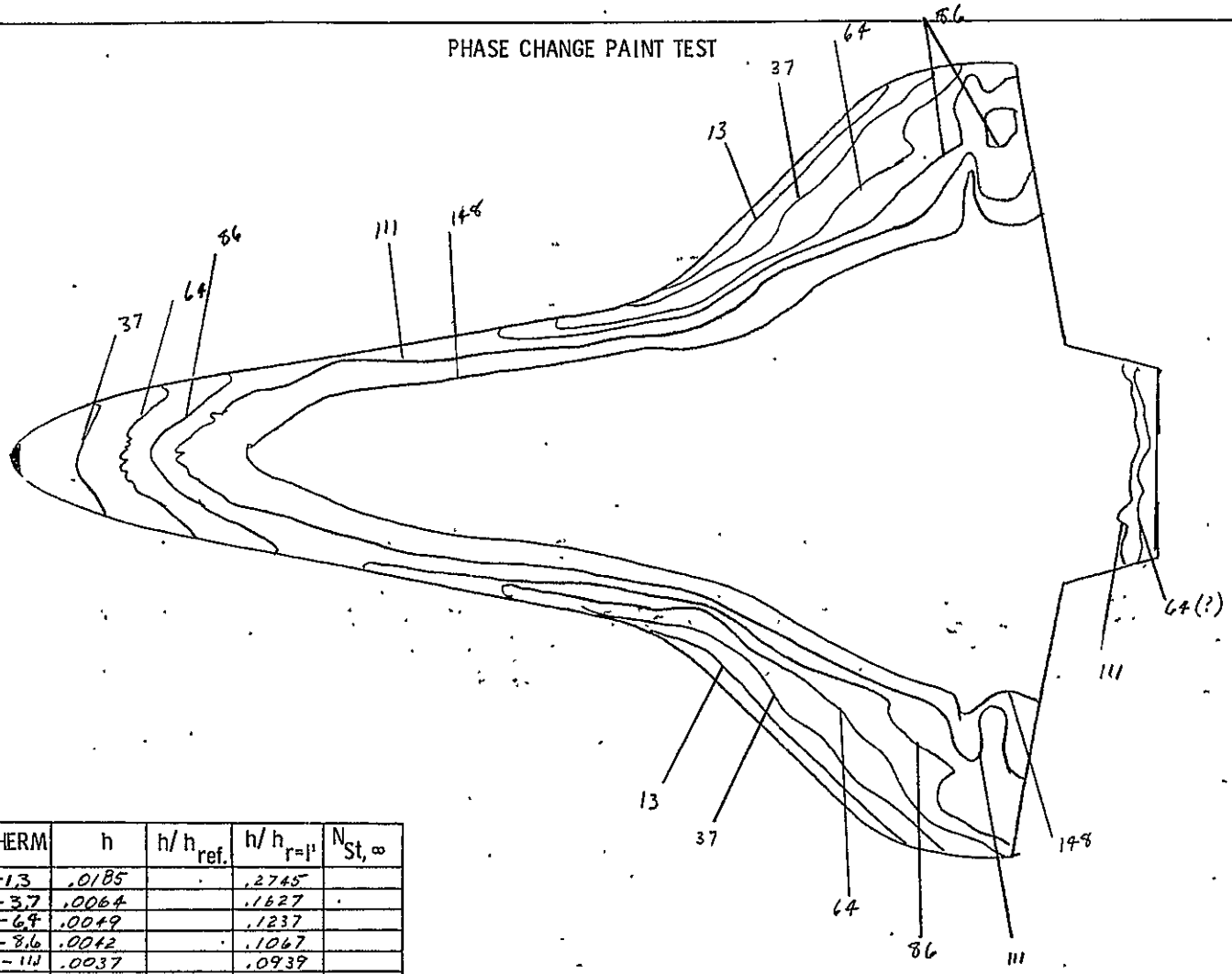
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 – 43	.0385		.3497	
2 – 51	.0353		.3395	
3 – 70	.0301		.2898	
4 – 98	.0255		.2449	
5 – 135	.0217		.2087	
6				
7				
8				
9				
10				

CONFIGURATION	41
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	4596
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	1380
T_{total} (°R) =	940
R_∞ / ft =	6×10^6
T_{aw}/T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	74
T_{pc} (°F) =	550
$h_{r=1'}$ =	.10399
$\bar{T}$ =	.6408
$(\rho C_p k)^{1/2}$ =	.0617
α =	30
β =	0
Φ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

PHASE CHANGE PAINT TEST

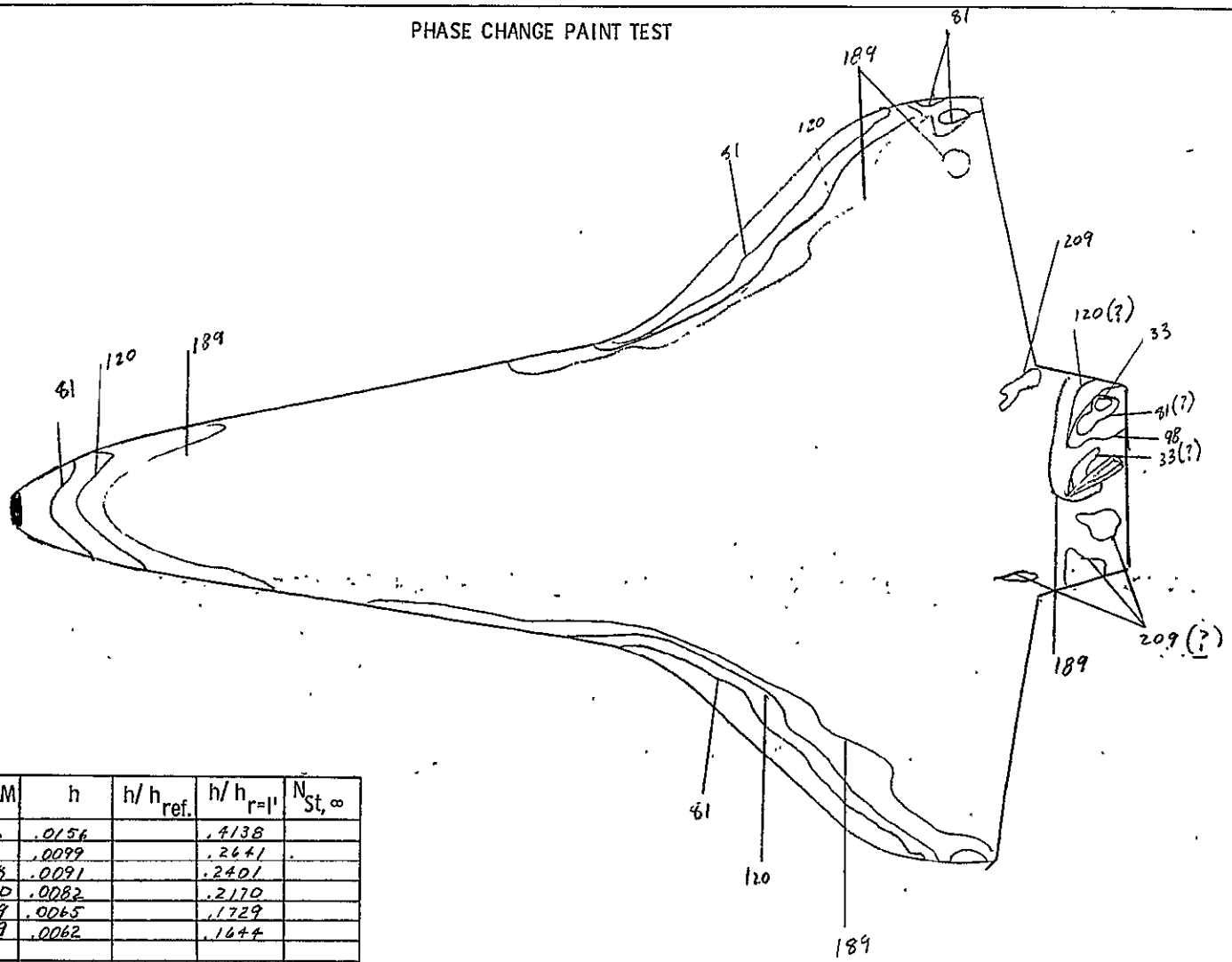


ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1-13	.0185		.2745	
2-37	.0064		.1627	
3-64	.0049		.1237	
4-86	.0042		.1067	
5-111	.0037		.0939	
6-148	.0032		.0814	
7				
8				
9				
10				

CONFIGURATION	41
FACILITY	LRC/VDT
TEST	OH46B
RUN	1597
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	163
T_{total} (°R) =	765
R_∞ / ft =	1×10^6
T_{aw}/T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	77
T_{pc} (°F) =	200
$h_{r=1'}$ =	.0395
$\bar{T}$ =	.2120
$(\rho C_p k)^{1/2}$ =	.0546
α =	30
β =	0
Φ =	0
CAMERA POSITION	TOP
Engineer	W. Dye

CFFS-HVD

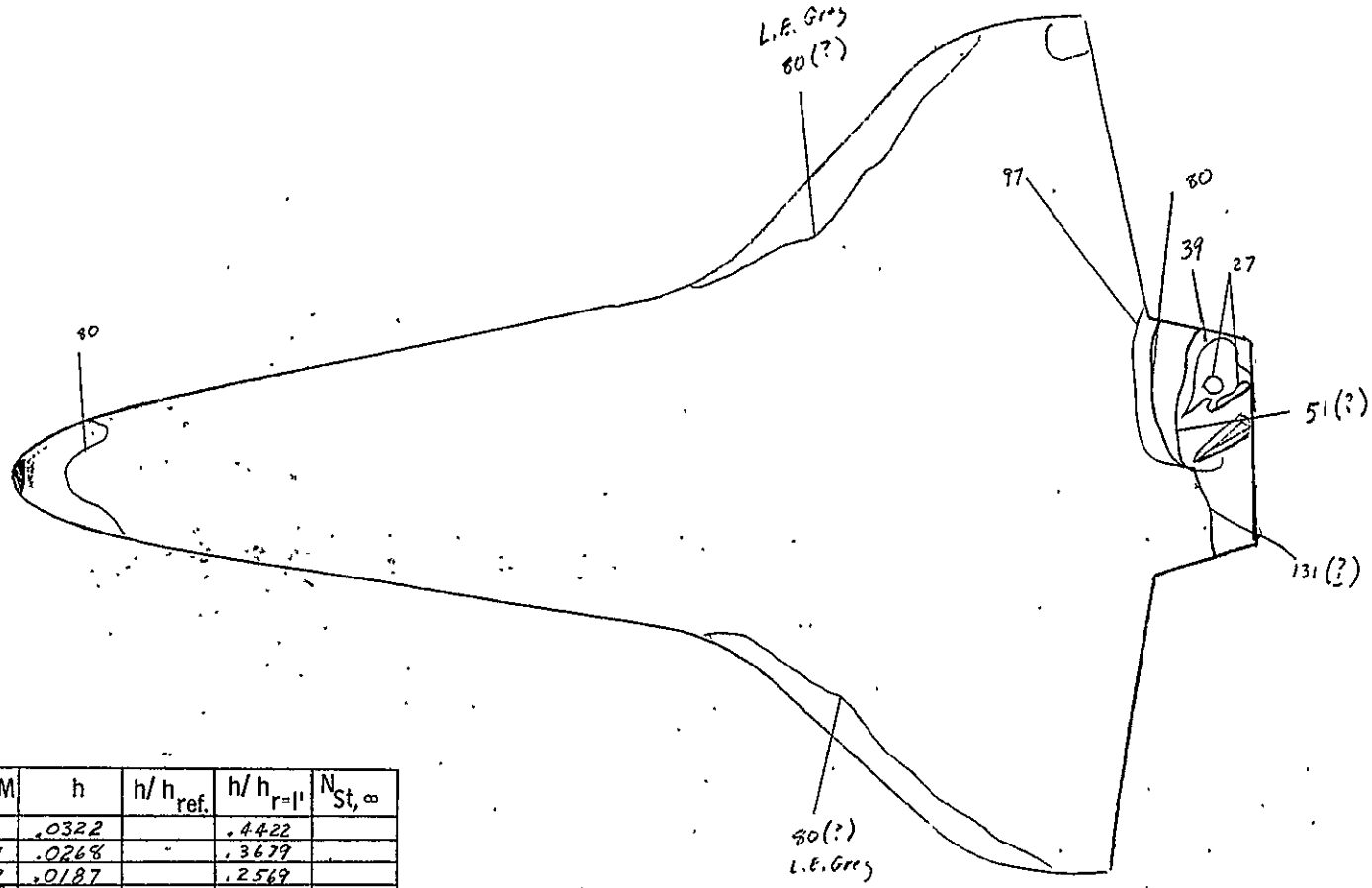
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 3.3	.0156		.4138	
2 - 8.1	.0099		.2641	
3 - 9.8	.0091		.2401	
4 - 12.0	.0082		.2170	
5 - 15.9	.0065		.1729	
6 - 20.9	.0062		.1644	
7				
8				
9				
10				

CONFIGURATION	A1VEN30
FACILITY	LRC/VDT
TEST	OH-46B
RUN	4598
LENGTH	7.7418 in. m s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	145
T_{total} (°R) =	780
R_∞ / ft =	1×10^6
T_{aw} / T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	76
T_{pc} (°F) =	300
$h_{r=1'}$ =	.0378
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	.0586
α =	30
β =	0
Φ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

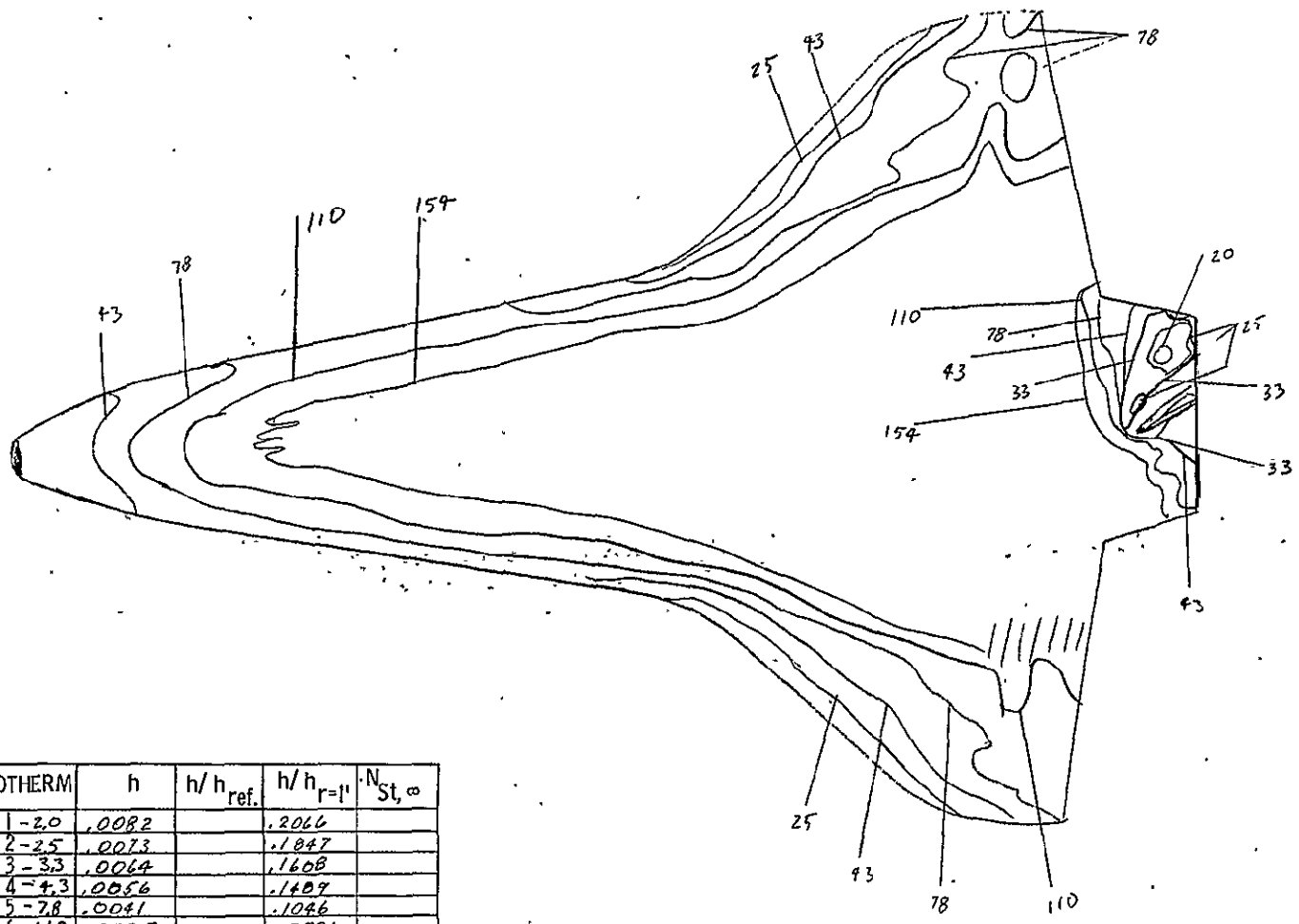
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 -27	.0322		.4422	
2 -39	.0268		.3679	
3 -80	.0187		.2569	
4 -97	.0170		.2333	
5 -131	.0146		.2007	
6				
7				
8				
9				
10				

CONFIGURATION	41ven 30
FACILITY	LRC/VDT
TEST	
RUN	4599
LENGTH	7.7418 in m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	635
T_{total} (°R) =	900
R_∞ / ft =	3×10^6
T_{aw} / T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	75
T_{pc} (°F) =	450
$h_{r=1'}$ =	.0728
$\bar{T}$ =	.5317
$(\rho C_p k)^{1/2}$ =	.0613
α =	30
β =	0
ϕ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

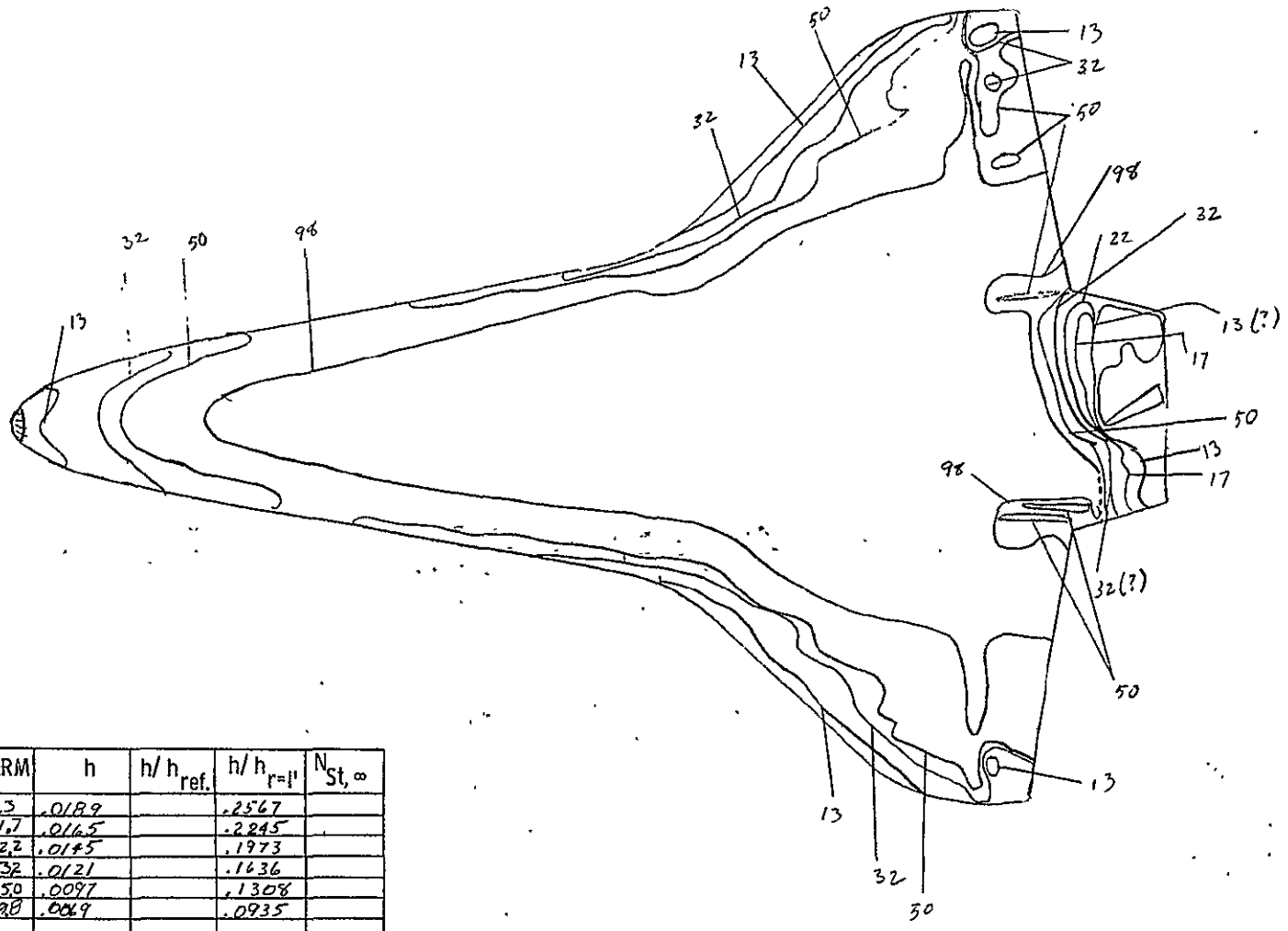
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 2.0	.0082		.2066	
2 - 2.5	.0073		.1847	
3 - 3.3	.0064		.1608	
4 - 4.3	.0056		.1409	
5 - 7.8	.0041		.1046	
6 - 110	.0035		.0881	
7 - 154	.0029		.0744	
8				
9				
10				

CONFIGURATION	41 ven 30
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	4600
LENGTH	7.7418 in m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	163
T_{total} (°R) =	805
R_∞ / ft =	1×10^6
T_{aw}/T_{total} =	.912
T_{aw} (°R) =	7
T_i (°F) =	76
T_{pc} (°F) =	200
$h_{r=1'}$ =	.0397
$\bar{T}$ =	.2007
$(\rho C_p k)^{1/2}$ =	.0546
α =	30
β =	0
Φ =	0
CAMERA POSITION	TOP
Engineer	W. Dye
	CFFS-HVD

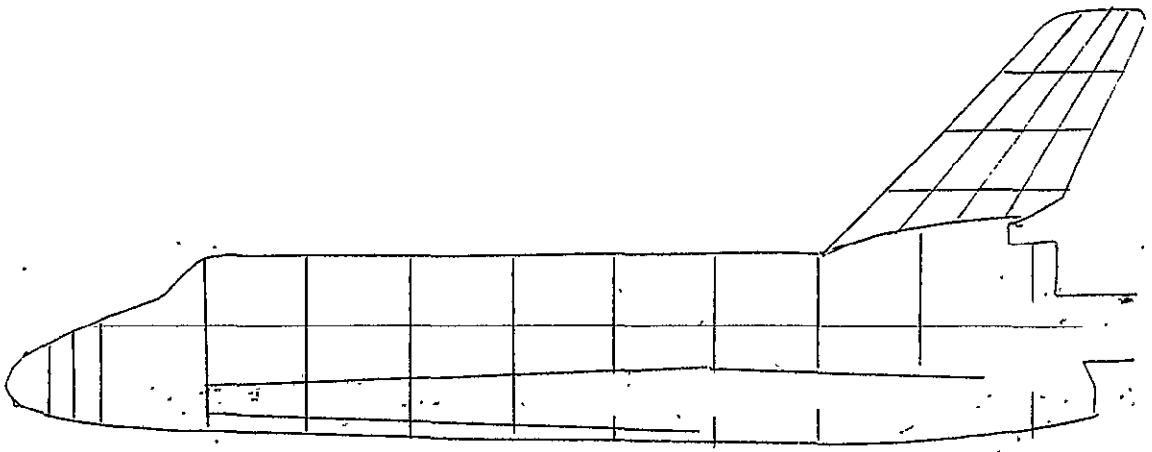
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 13	.0189		.2567	
2 - 17	.0165		.2245	
3 - 22	.0145		.1973	
4 - 32	.0121		.1636	
5 - 50	.0097		.1308	
6 - 98	.0069		.0935	
7				
8				
9				
10				

CONFIGURATION	41 ven 30
FACILITY	LRC / VDT
TEST	ØH-46B
RUN	4601
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	650
T_{total} (°R) =	920
R_∞ / ft =	3×10^6
T_{aw} / T_{total} =	.912
T_{aw} (°R) =	
T_i (°F) =	76
T_{pc} (°F) =	300
$h_{r=1'}$ =	.0737
$\bar{T}$ =	.3100
$(\rho C_p k)^{1/2}$ =	.0586
α =	30
β =	0
φ =	0
CAMERA POSITION	TOP
Engineer	W. Nye
	CFFS-HVD

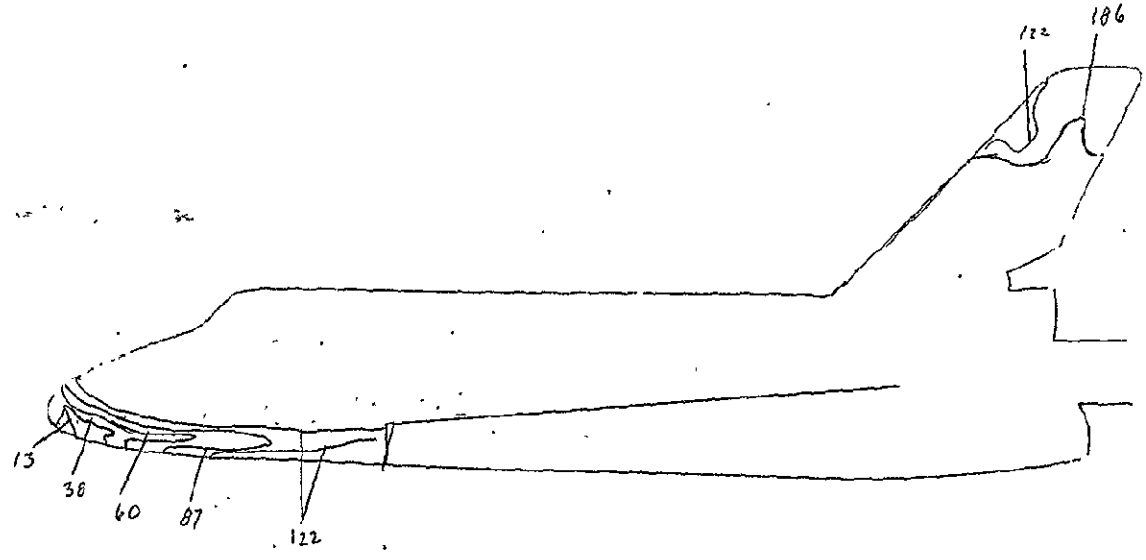
PHASE. CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION GRID	22, 31, 41
FACILITY	LRC/VDT
TEST	ØH-46B
RUNS	4556 thru 4593
LENGTH	7.7418 in m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	
P_{total} (psia)	=
T_{total} (°R)	=
R_∞ / ft	=
T_{aw} / T_{total}	=
T_{aw} (°R)	=
T_i (°F)	=
T_{pc} (°F)	=
$h_{r=1'}$	=
$\bar{T}$	=
$(\rho C_p k)^{1/2}$	=
α	= 30°35
β	=
Φ	=
CAMERA POSITION	SIDE
Engineer	W. Dye
	CFFS-HVD

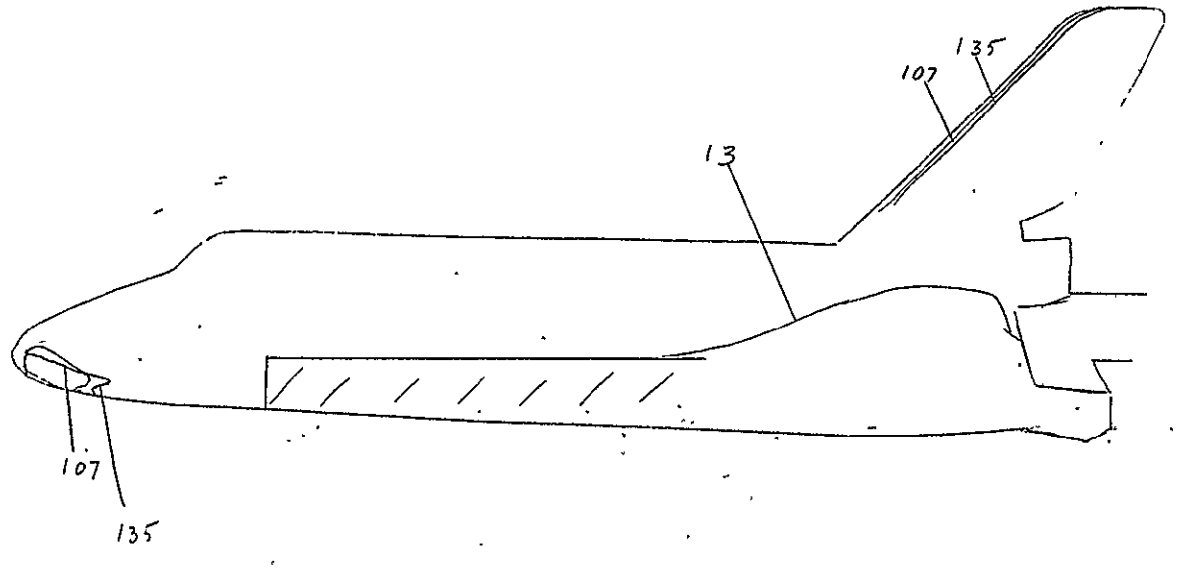
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 13	.0158		.4021	
2 - 38	.0092		.2352	
3 - 60	.0073		.1871	
4 - 87	.0061		.1554	
5 - 122	.0051		.1312	
6 - 186	.0042		.1063	
7				
8				
9				
10				

CONFIGURATION	22
FACILITY	LRC/VDT
TEST	OH-46B
RUN	556
LENGTH	7.7418 in m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	157
T_{total} (°R) =	840
R_∞ / ft =	1×10^6
T_{aw}/T_{total} =	.90
T_{aw} (°R) =	
T_j (°F) =	76
T_{pc} (°F) =	250
$h_{r=1'}$ =	.0392
$\bar{T}$ =	.2744
$(\rho C_p k)^{1/2}$ =	.0574
α =	35
β =	0
ϕ =	0
CAMERA POSITION	SIDE
Engineer	W. Page T. Lanning
	CFFS-HVD

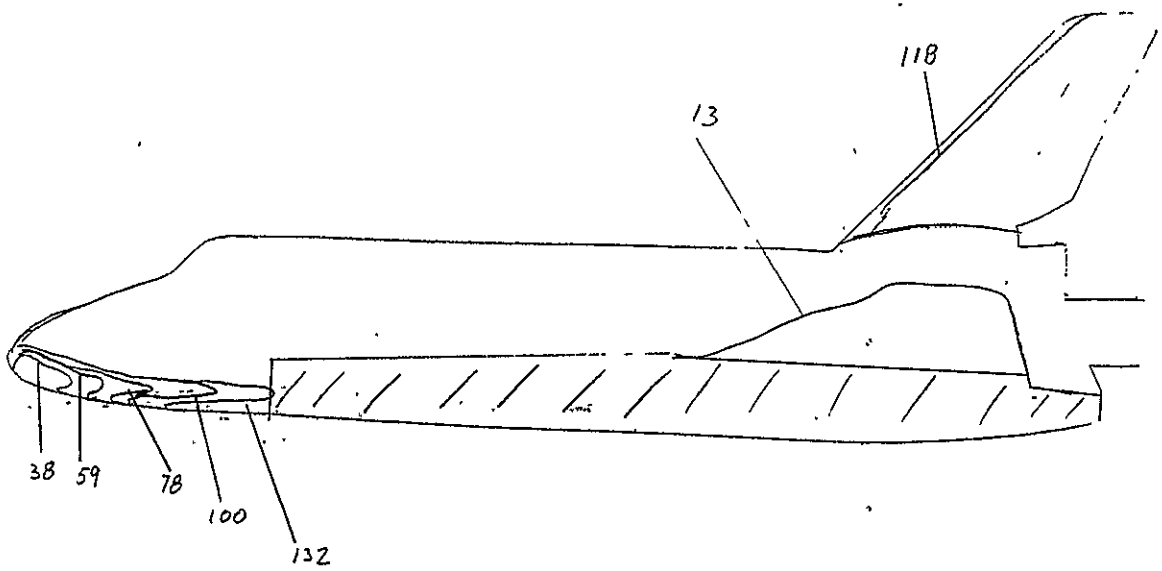
PHASE CHANGE PAINT TEST



ISOTHERM	h	h/ $h_{ref.}$	h/ $h_{r=1'}$	$N_{St,\infty}$
1 - 13	.0242		.6182	
2 - 10.7	.0084		.2155	
3 - 135	.0075		.1918	
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	41
FACILITY	LRC/VDT
TEST	ØH-463
RUN	4557
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	157
T_{total} (°R) =	815
R_∞ / ft =	1×10^6
T_{aw} / T_{total} =	.90
T_{aw} (°R) =	
T_i (°F) =	73
T_{pc} (°F) =	300
$h_{r=1'}$ =	.0392
$\bar{T}$ =	.3694
$(\rho C_p k)^{1/2}$ =	.0586
α =	35
β =	0
φ =	0
CAMERA POSITION	SIDE
Engineer	W Dye
	CFFS-HVD

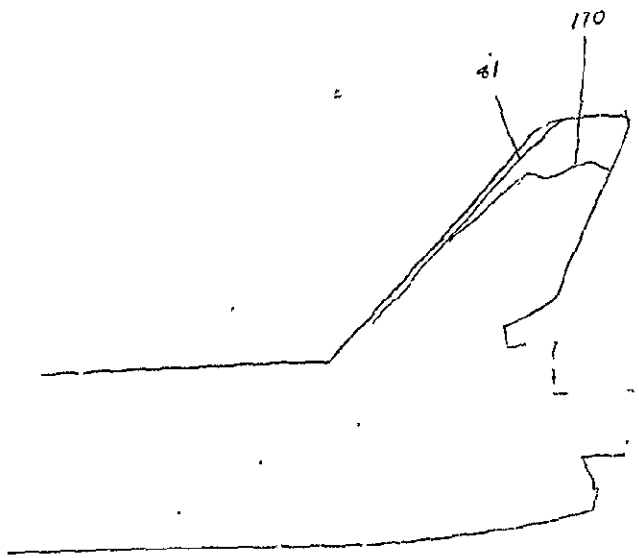
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=l'}$	$N_{St,\infty}$
1-13	.0548		.5169	
2-38	.0321		.3023	
3-59	.0257		.2427	
4-78	.0224		.2110	
5-100	.0198		.1864	
6-118	.0182		.1716	
7-132	.0172		.1622	
8				
9				
10				

CONFIGURATION	31
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	3 (455B)
LENGTH	7.7418 in m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	1435
T_{total} (°R) =	955
R_∞ / ft =	6×10^6
T_{aw} / T_{total} =	.9
T_{aw} (°R) =	
T_i (°F) =	74
T_{pc} (°F) =	500
$h_{r=l'}$ =	.1061
$\bar{T}$ =	.5761
$(\rho C_p k)^{1/2}$ =	.0617
α =	35°
β =	0
ϕ =	0
CAMERA POSITION	SIDE
Engineer	W Dye
	CFFS-HVD

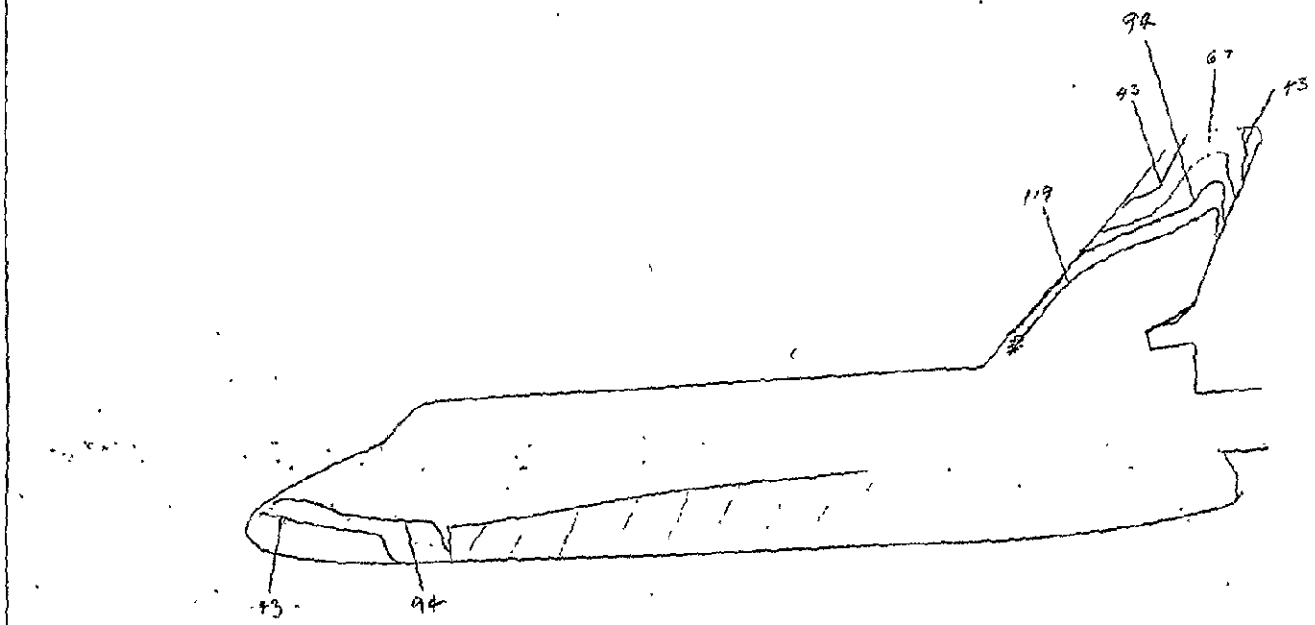
PHASE CHANGE PAINT TEST



ISOTHERM	h	h/ $h_{ref.}$	h/ $h_{r=1'}$	$N_{St,\infty}$
1 -61	.00305		.0805	
2 -170	.0021		.0556	
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	31
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	4561
LENGTH	7.7418 in m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	146
T_{total} (°R) =	815
R_∞ / ft =	1×10^6
T_{aw} / T_{total} =	.9
T_{aw} (°R) =	
T_i (°F) =	78
T_{pc} (°F) =	175
$h_{r=1'}$ =	.0379
$\bar{T}$ =	.0379
$(\rho C_p k)^{1/2}$ =	.0537
α =	35
β =	0
Φ =	0
CAMERA POSITION	SIDE
Engineer	W Dye
	CFFS-HVD

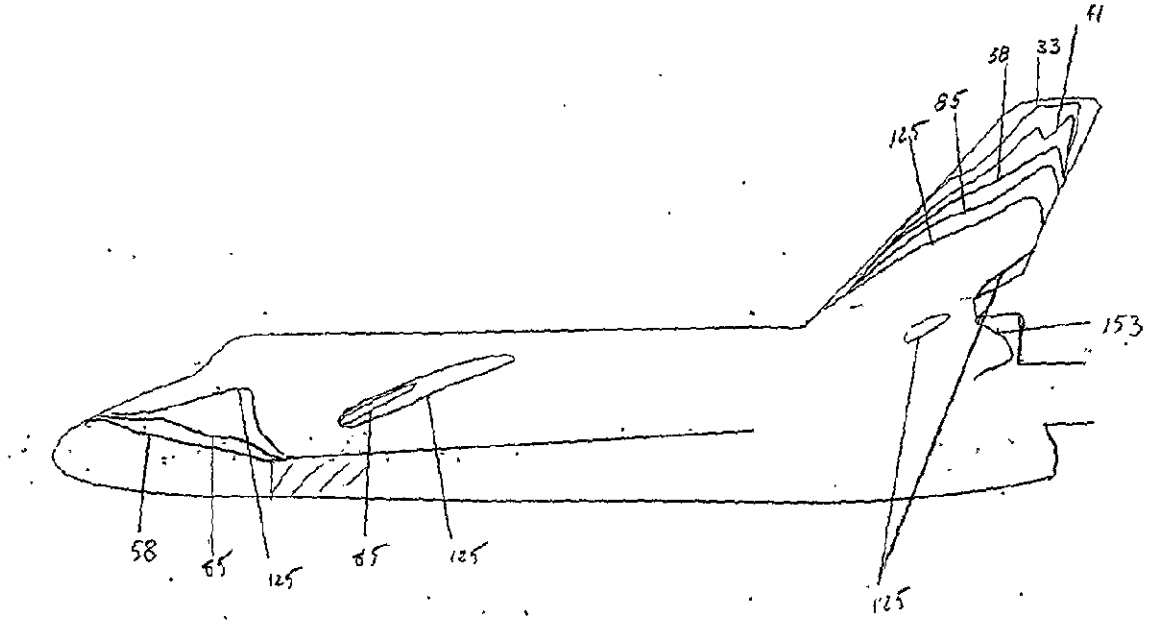
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 4.3	.0098		.0933	
2 - 6.7	.0078		.0748	
3 - 9.4	.0066		.0631	
4 - 11.9	.0059		.0561	
5				
6				
7				
8				
9				
10				

CONFIGURATION	22
FACILITY	LRC/VDT
TEST	0H46B
RUN	4562
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	1380
T_{total} (°R) =	965
R_∞ / ft =	6×10^6
T_{aw}/T_{total} =	.90
T_{aw} (°R) =	
T_i (°F) =	81.
T_{pc} (°F) =	300
$h_{r=1'}$ =	.1045
$\bar{T}$ =	.2953
$(\rho C_p k)^{1/2}$ =	.0586
α =	35
β =	0
ϕ =	0
CAMERA POSITION	SIDE
Engineer	W. Dye
	CFFS-HVD

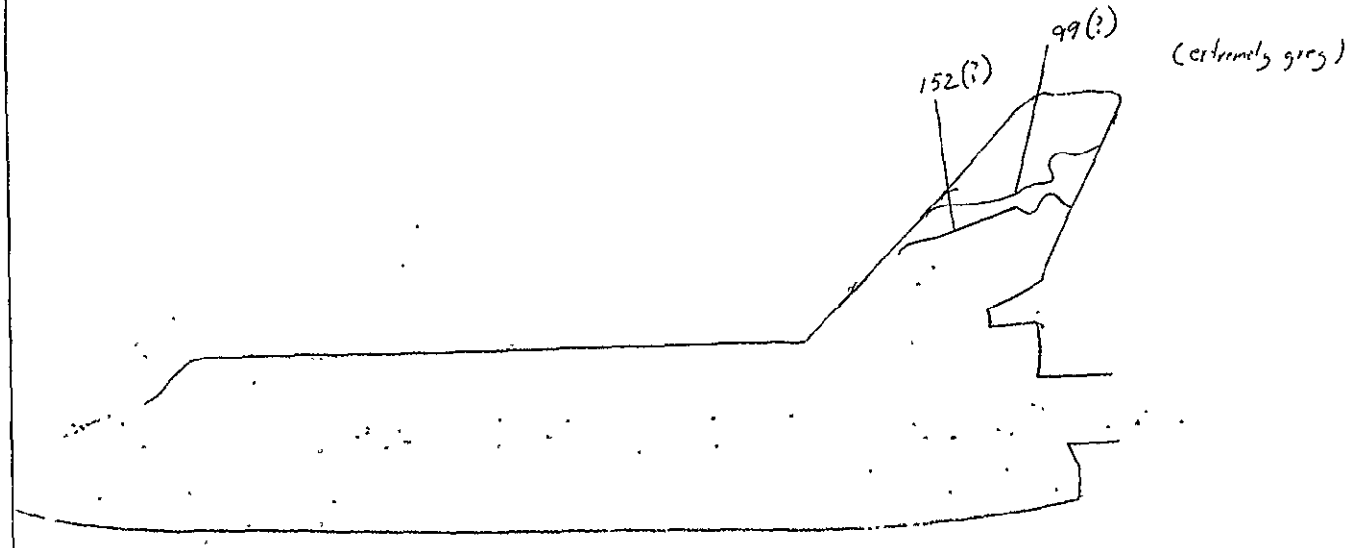
PHASE CHANGE PAINT TEST



ISOTHERM	h	h/ $h_{ref.}$	h/ $h_{r=1'}$	$N_{St,\infty}$
1 -33	.00376		.0540	
2 -41	.00355		.0485	
3 -58	.00299		.0408	
4 -85	.00247		.0337	
5 -125	.00204		.0278	
6 -153	.00184		.0251	
7				
8				
9				
10				

CONFIGURATION	22
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	4564
LENGTH	7.7418 m.m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	645
T_{total} (°R) =	930
R_∞ / ft =	3×10^6
T_{aw} / T_{total} =	.90
T_{aw} (°R) =	
T_i (°F) =	79
T_{pc} (°F) =	175
$h_{r=1'}$ =	.0732
$\bar{T}$ =	.1348
$(\rho C_p k)^{1/2}$ =	.0537
α =	35
β =	0
Φ =	0
CAMERA POSITION	SIDE
Engineer	W Dye
	CFFS-HVD

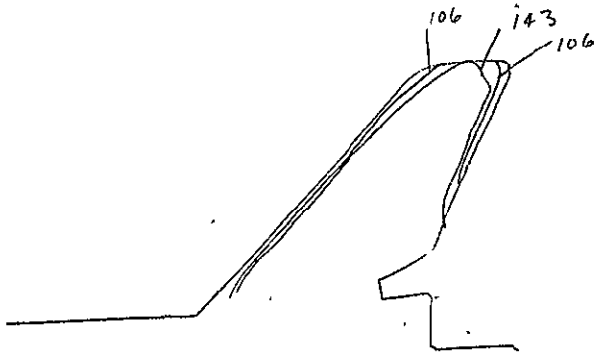
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 ~99	.00862		.0804	
2 ~152	.00696		.0649	
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	31
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	4565
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	1455
T_{total} (°R) =	975
R_∞ / ft =	6×10^6
T_{aw}/T_{total} =	.9
T_{aw} (°R) =	
T_i (°F) =	78
T_{pc} (°F) =	350
$h_{r=1'}$ =	.1071
$\bar{T}$ =	.3609
$(\rho C_p k)^{1/2}$ =	.0595
α =	35
β =	0
φ =	0
CAMERA POSITION	SIDE
Engineer	W. Dye
	CFFS-HVD

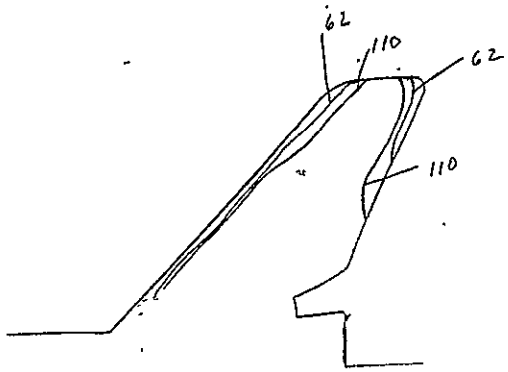
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 106	.0090		.1123	
2 - 143	.00775		.0967	
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	22
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	4569
LENGTH	7.7418inim.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	780
T_{total} (°R) =	930
R_∞ / ft =	3.5×10^6
T_{aw} / T_{total} =	.90
T_{aw} (°R) =	
T_i (°F) =	79
T_{pc} (°F) =	350
$h_{r=1'}$ =	.0802
$\bar{T}$ =	.3806
$(\rho C_p k)^{1/2}$ =	.0595
α =	30
β =	0
Φ =	0
CAMERA POSITION	SIDE
Engineer	W. Dye
	CFFS-HVD

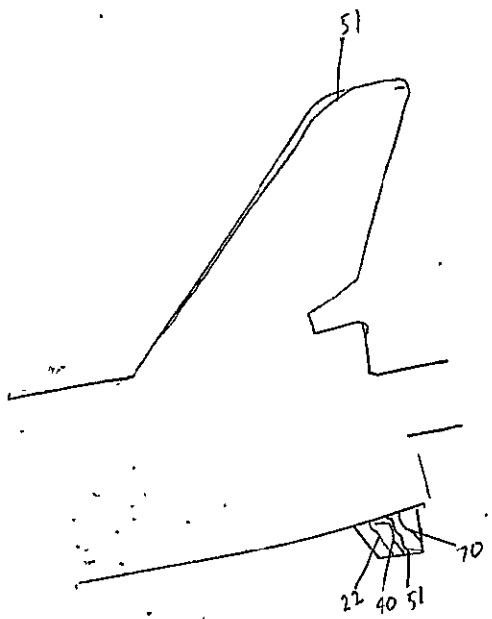
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1!}$	$N_{St,\infty}$
1 -62	.0137		.1140	
2 -110	.0103		.0856	
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	31
FACILITY	LRC/VDT
TEST	OH-
RUN	4570
LENGTH	7.7418 in.m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	1870
T_{total} (°R) =	990
R_∞ / ft =	8×10^6
T_{aw} / T_{total} =	.90
T_{aw} (°R) =	
T_i (°F) =	82
T_{pc} (°F) =	400
$h_{r=1!}$ =	.1204
$\bar{I}$ =	.4168
$(\rho C_p k)^{1/2}$ =	.0604
α =	30
β =	0
ϕ =	0
CAMERA POSITION	SIDE
Engineer	W. Dye
	CFFS-HVD

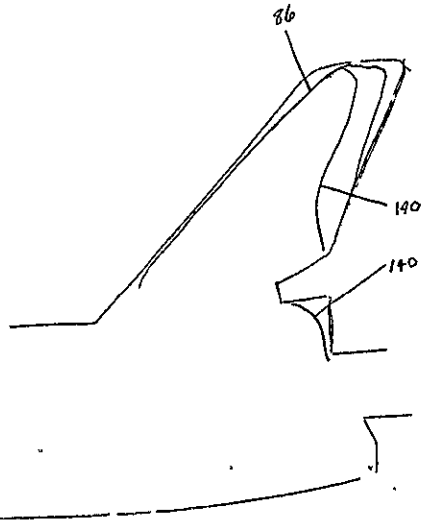
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 2.2	.0207		.5367	
2 - 4.0	.0153		.3980	
3 - 5.1	.0136		.3525	
4 - 7.0	.0116		.3009	
5				
6				
7				
8				
9				
10				

CONFIGURATION	31 ven 0
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	4573
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	153
T_{total} (°R) =	750
R_∞ / ft =	1×10^6
T_{aw} / T_{total} =	.9
T_{aw} (°R) =	
T_i (°F) =	84
T_{pc} (°F) =	300
$h_{r=1'}$ =	.0386
$\bar{T}$ =	.3963
$(\rho C_p k)^{1/2}$ =	.0586
α =	30
β =	0
Φ =	0
CAMERA POSITION	SIDE
Engineer	W. Dye
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 ~86				
2 - 140				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	22
FACILITY	LRC / VDT
TEST	OH-46B
RUN	4574
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	
P_{total} (psia) =	855
T_{total} (°R) =	915
R_∞ / ft =	4×10^6
T_{aw} / T_{total} =	
T_{aw} (°R) =	
T_i (°F) =	79
T_{pc} (°F) =	300
$h_{r=1'}$ =	
$\bar{T}$ =	
$(\rho C_p k)^{1/2}$ =	
α =	30°
β =	0
Φ =	0
CAMERA POSITION	SIDE
Engineer	W. Dye
	CFFS-HVD

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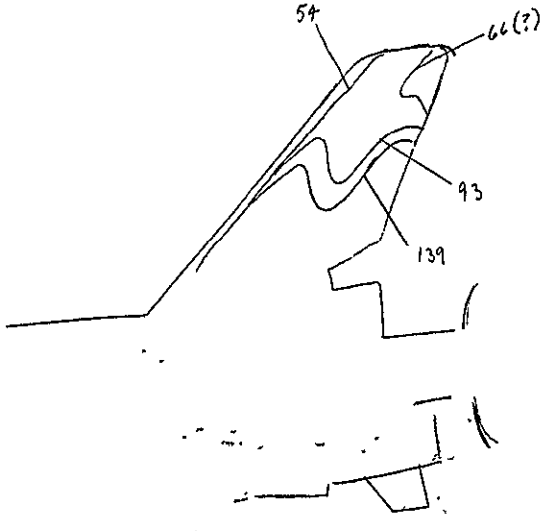
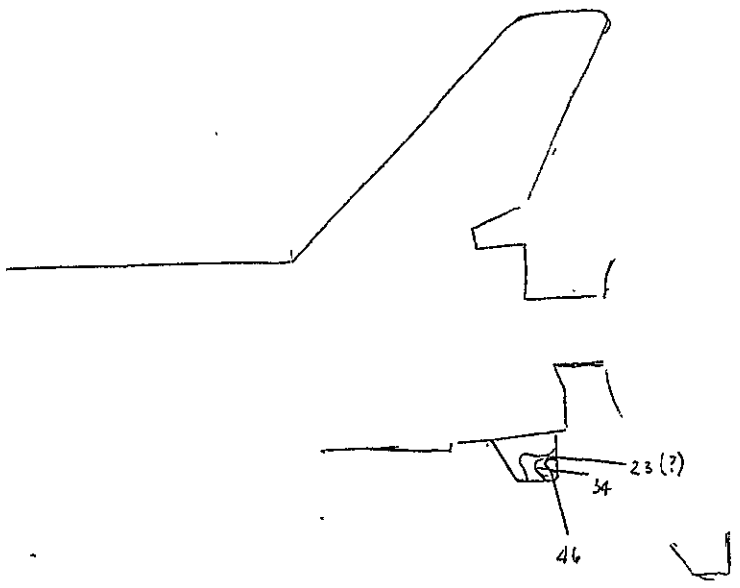
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1-54	.0113		.1073	
2-66	.0102		.0970	
3-93	.0086		.0817	
4-139	.0071		.0669	
5				
6				
7				
8				
9				
10				

CONFIGURATION	31 ven 30
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	4584
LENGTH	7.741Bin.m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	1405
T_{total} (°R) =	985
R_∞ / ft =	6×10^6
T_{aw}/T_{total} =	.90
T_{aw} (°R) =	
T_i (°F) =	82
T_{pc} (°F) =	350
$h_{r=1'}$ =	.1055
$\bar{T}$ =	.4420
$(\rho C_p k)^{1/2}$ =	.0595
α =	30
β =	0
ϕ =	0
CAMERA POSITION	SIDE
Engineer	W. Dye
	CFFS-HVD

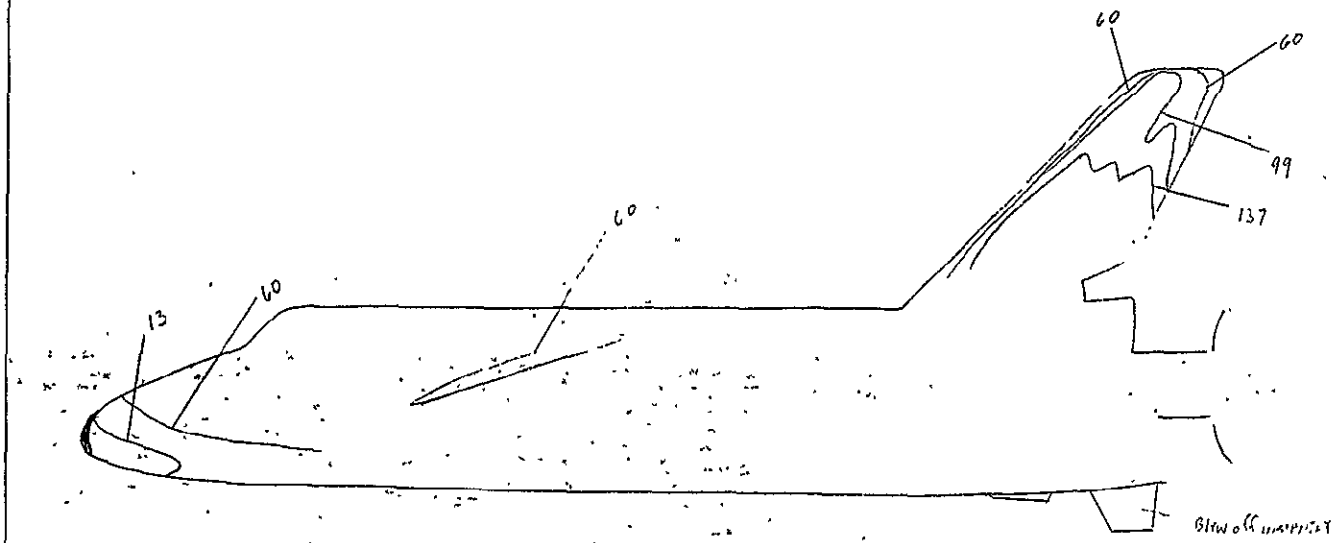
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1-23	.0359		.4948	
2-34	.0295		.4069	
3-46	.0254		.3498	
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	31 ven 0
FACILITY	LRC/VDT
TEST	ØH-46B
RUN	4586
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	630
T_{total} (°R) =	900
R_∞ / ft =	3×10^6
T_{aw} / T_{total} =	.90
T_{aw} (°R) =	
T_i (°F) =	82
T_{pc} (°F) =	450
$h_{r=1'}$ =	.0725
$\bar{T}$ =	.5396
$(\rho C_p k)^{1/2}$ =	.0613
α =	30
β =	0
ϕ =	0
CAMERA POSITION	SIDE
Engineer	W. Dye
	CFFS-HVD

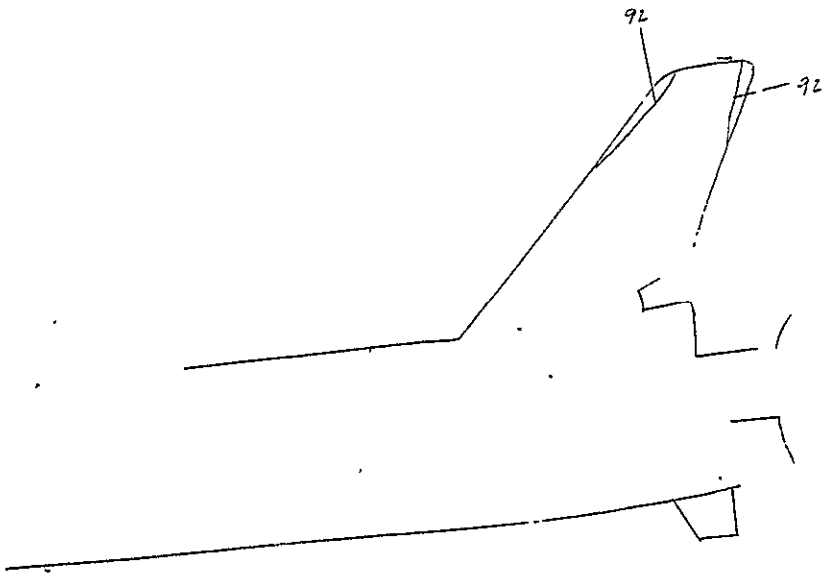
PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1}$	$N_{St,\infty}$
1-13	.0136		.1871	
2-60	.0063		.0871	
3-99	.0049		.0678	
4-137	.0042		.0576	
5				
6				
7				
8				
9				
10				

CONFIGURATION	31 VRN 0
FACILITY	LRC/VDT
TEST	OH 46B
RUN	4588
LENGTH	7.7418 in. m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	.8
P_{total} (psia) =	635
T_{total} (°R) =	905
R_∞ / ft =	3×10^6
T_{aw} / T_{total} =	.90
T_{aw} (°R) =	
T_i (°F) =	82
T_{pc} (°F) =	250
$h_{r=1}$ =	.0728
$\bar{T}$ =	.2447
$(\rho C_p k)^{1/2}$ =	.0574
α =	30
β =	0
ϕ =	0
CAMERA POSITION	SIDE
Engineer	W. Dye
	CFFS-HVD

PHASE CHANGE PAINT TEST



ISOTHERM	h	$h/h_{ref.}$	$h/h_{r=1'}$	$N_{St,\infty}$
1 - 92	.0122		.1006	
2				
3				
4				
5				
6				
7				
8				
9				
10				

CONFIGURATION	31 VAN O
FACILITY	LRC/VDT
TEST	04-46B
RUN	4593
LENGTH	7.7418 in m.s.
NOSE RADIUS	.006
SCALE	.006
M_∞	8
P_{total} (psia) =	illegible
T_{total} (°R) =	455
R_∞ / ft =	8×10^6
T_{aw}/T_{total} =	.90
T_{aw} (°R) =	
T_i (°F) =	79
T_{pc} (°F) =	400
$h_{r=1'}$ =	.1208
$\bar{T}$ =	.4370
$(\rho C_p k)^{1/2}$ =	.060f
α =	30°
β =	0
ϕ =	0
CAMERA POSITION	11
Engineer	illegible
	CFFS-HVD

APPENDIX

TABULATED THERMAL DATA FOR EACH TRACING CONTOUR

Note: See Data Reduction Section for definition of contour number and number given on tracings. Also, data are arranged by the same sequential run number as data figures.

RUN=4502 TOP AIR P1 = 634.70
TPC = 610.00 DEG-R MINF = 7.936
TI = 532.30 DEG-R R/FT = 2.905534E+06
TW =1375.00 DEG-R
SQROCK= .0596 ALPHA=30.000
MODEL=22 PHI= 0.000
HS= 7.21644E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	2.61671E-02	3.62003E-01	3.85042E-01	5.01429E-01	9.12000E-01
2	2.10	2.05881E-02	2.85295E-01	3.85042E-01	5.01429E-01	9.12000E-01
3	2.90	1.75197E-02	2.42775E-01	3.85042E-01	5.01429E-01	9.12000E-01
4	3.90	1.51076E-02	2.09349E-01	3.85042E-01	5.01429E-01	9.12000E-01
5	6.10	1.20798E-02	1.67393E-01	3.85042E-01	5.01429E-01	9.12000E-01
6	7.90	1.06140E-02	1.47092E-01	3.85042E-01	5.01429E-01	9.12000E-01
7	8.40	1.02941E-02	1.42647E-01	3.85042E-01	5.01429E-01	9.12000E-01
8	9.10	9.89022E-03	1.37051E-01	3.85042E-01	5.01429E-01	9.12000E-01
9	12.60	8.40507E-03	1.16471E-01	3.85042E-01	5.01429E-01	9.12000E-01
10	13.00	8.27475E-03	1.14665E-01	3.85042E-01	5.01429E-01	9.12000E-01

RUN=4504 TOP AIR PT = 659.70
TPC = 800.00 DEG-K MINF = 7.937
TI = 536.00 DEG-K R/FT = 3.17441E+06
TW =1310.00 DEG-K
SWROCK= .0504 ALPHA=30.000
MODEL=41 PHI= 0.000
HS= 7.20267E-02 BTU/FT.SW-SEC-DEG-K

CONTOUR	T,SEC	H,BTU/FT.SW-SEC-DEG-K	H/HS	T-BAR	BETA	TAW/TO
1	2.20	3.04068E-02	4.22188E-01	4.91863E-01	7.46747E-01	9.12000E-01
2	3.40	2.44608E-02	3.39608E-01	4.91863E-01	7.46747E-01	9.12000E-01
3	3.60	2.37717E-02	3.30039E-01	4.91863E-01	7.46747E-01	9.12000E-01
4	4.00	2.25518E-02	3.13103E-01	4.91863E-01	7.46747E-01	9.12000E-01
5	4.50	2.12620E-02	2.95196E-01	4.91863E-01	7.46747E-01	9.12000E-01
6	5.20	1.97794E-02	2.74009E-01	4.91863E-01	7.46747E-01	9.12000E-01
7	6.40	1.78287E-02	2.47529E-01	4.91863E-01	7.46747E-01	9.12000E-01
8	7.40	1.65804E-02	2.30198E-01	4.91863E-01	7.46747E-01	9.12000E-01
9	8.20	1.57508E-02	2.18680E-01	4.91863E-01	7.46747E-01	9.12000E-01
10	9.00	1.50345E-02	2.08735E-01	4.91863E-01	7.46747E-01	9.12000E-01
11	9.50	1.46335E-02	2.03168E-01	4.91863E-01	7.46747E-01	9.12000E-01
12	10.20	1.41225E-02	1.96073E-01	4.91863E-01	7.46747E-01	9.12000E-01
13	11.50	1.33003E-02	1.84658E-01	4.91863E-01	7.46747E-01	9.12000E-01
14	13.20	1.24143E-02	1.72357E-01	4.91863E-01	7.46747E-01	9.12000E-01
15	13.90	1.22304E-02	1.69804E-01	4.91863E-01	7.46747E-01	9.12000E-01
16	14.30	1.19273E-02	1.65596E-01	4.91863E-01	7.46747E-01	9.12000E-01
17	14.60	1.18041E-02	1.63885E-01	4.91863E-01	7.46747E-01	9.12000E-01

RUN=4505 TOP AIR PI = 544.70
TPC = 810.00 DEG-R MINF = 7.938
TI = 542.00 DEG-R R/FT = 3.09858E+06
TW =1335.00 DEG-R
SQROCK= .0595 ALPHA=30.000
MODEL=31 PHI= 0.000
HS= 7.24717E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	.10	9.87154E-02	1.36212E+00	3.96731E-01	5.24648E-01	9.12000E-01
2	.30	5.69934E-02	7.86423E-01	3.96731E-01	5.24648E-01	9.12000E-01
3	1.30	2.73787E-02	3.77785E-01	3.96731E-01	5.24648E-01	9.12000E-01
4	2.40	2.01502E-02	2.78042E-01	3.96731E-01	5.24648E-01	9.12000E-01
5	3.10	1.77298E-02	2.44045E-01	3.96731E-01	5.24648E-01	9.12000E-01
6	3.90	1.58071E-02	2.18114E-01	3.96731E-01	5.24648E-01	9.12000E-01
7	4.30	1.50540E-02	2.07722E-01	3.96731E-01	5.24648E-01	9.12000E-01
8	5.50	1.33108E-02	1.83069E-01	3.96731E-01	5.24648E-01	9.12000E-01
9	6.00	1.27441E-02	1.75849E-01	3.96731E-01	5.24648E-01	9.12000E-01
10	6.70	1.20060E-02	1.66410E-01	3.96731E-01	5.24648E-01	9.12000E-01
11	7.50	1.13987E-02	1.57285E-01	3.96731E-01	5.24648E-01	9.12000E-01
12	8.00	1.10367E-02	1.52290E-01	3.96731E-01	5.24648E-01	9.12000E-01
13	8.40	1.07707E-02	1.48620E-01	3.96731E-01	5.24648E-01	9.12000E-01
14	9.40	1.01817E-02	1.40492E-01	3.96731E-01	5.24648E-01	9.12000E-01
15	10.60	9.58699E-03	1.32301E-01	3.96731E-01	5.24648E-01	9.12000E-01
16	12.10	8.97413E-03	1.23829E-01	3.96731E-01	5.24648E-01	9.12000E-01
17	13.00	8.65792E-03	1.19466E-01	3.96731E-01	5.24648E-01	9.12000E-01

RUN=4506 TOP AIR PT = 659.70
TPC = 710.00 DEG-R MINF = 7.941
TI = 540.00 DEG-R R/FT = 3.05244E+06
T0 =1365.00 DEG-R
SQROCK= .0574 ALPHA=30.000
MODEL=22 PHI= 0.000
HS= 7.33111E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	I,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/T0
1	.00	1.70210E-02	2.32585E-01	2.41176E-01	2.65695E-01	9.12000E-01
2	1.30	1.33759E-02	1.82454E-01	2.41176E-01	2.65695E-01	9.12000E-01
3	1.70	1.16907E-02	1.59552E-01	2.41176E-01	2.65695E-01	9.12000E-01
4	1.90	1.10042E-02	1.50921E-01	2.41176E-01	2.65695E-01	9.12000E-01
5	2.00	1.07840E-02	1.47099E-01	2.41176E-01	2.65695E-01	9.12000E-01
6	2.40	9.84442E-03	1.34283E-01	2.41176E-01	2.65695E-01	9.12000E-01
7	3.30	8.39533E-03	1.14517E-01	2.41176E-01	2.65695E-01	9.12000E-01
8	4.70	7.03472E-03	9.59571E-02	2.41176E-01	2.65695E-01	9.12000E-01
9	5.40	6.56295E-03	8.95219E-02	2.41176E-01	2.65695E-01	9.12000E-01
10	6.50	5.98190E-03	8.15961E-02	2.41176E-01	2.65695E-01	9.12000E-01
11	7.80	5.46070E-03	7.44867E-02	2.41176E-01	2.65695E-01	9.12000E-01
12	10.60	4.68428E-03	6.38959E-02	2.41176E-01	2.65695E-01	9.12000E-01
13	13.50	4.15077E-03	5.66186E-02	2.41176E-01	2.65695E-01	9.12000E-01

RUN=4507 TOP AIR PT = 639.70

TPC = 760.00 DEG-R MINF = 7.937

TI = 542.00 DEG-R R/FT = 3.05629E+06

TO =1340.00 DEG-R

SQRQCK=0.0586 ALPHA=30.000

MODEL=31 PHI= 0.000

HS= 7.22281E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	.90	2.38134E-02	3.29697E-01	3.20551E-01	3.85518E-01	9.12000E-01
2	1.30	1.98139E-02	2.74324E-01	3.20551E-01	3.85518E-01	9.12000E-01
3	1.70	1.73268E-02	2.39890E-01	3.20551E-01	3.85518E-01	9.12000E-01
4	2.00	1.59745E-02	2.21167E-01	3.20551E-01	3.85518E-01	9.12000E-01
5	2.40	1.45827E-02	2.01897E-01	3.20551E-01	3.85518E-01	9.12000E-01
6	2.80	1.35009E-02	1.86920E-01	3.20551E-01	3.85518E-01	9.12000E-01
7	4.00	1.12957E-02	1.56389E-01	3.20551E-01	3.85518E-01	9.12000E-01
8	5.20	9.90696E-03	1.37162E-01	3.20551E-01	3.85518E-01	9.12000E-01
9	7.00	8.53873E-03	1.18219E-01	3.20551E-01	3.85518E-01	9.12000E-01
10	9.00	7.53045E-03	1.04259E-01	3.20551E-01	3.85518E-01	9.12000E-01
11	11.40	6.69098E-03	9.26368E-02	3.20551E-01	3.85518E-01	9.12000E-01
12	11.80	6.57660E-03	9.10531E-02	3.20551E-01	3.85518E-01	9.12000E-01

RUN=4508 TOP AIR PT = 639.70
TPC = 700.00 DEG-R MINF = 7.937
TI = 540.00 DEG-R R/FT = 3.15419E+06
TO =1315.00 DEG-R
SQROCK= .0586 ALPHA=30.000
MODEL=41 PHI= 0.000
HS= 7.20884E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	2.09500E-02	2.90615E-01	3.33697E-01	4.07622E-01	9.12000E-01
2	1.50	1.95034E-02	2.70548E-01	3.33697E-01	4.07622E-01	9.12000E-01
3	2.20	1.61044E-02	2.23398E-01	3.33697E-01	4.07622E-01	9.12000E-01
4	2.30	1.57504E-02	2.18487E-01	3.33697E-01	4.07622E-01	9.12000E-01
5	3.50	1.27679E-02	1.77115E-01	3.33697E-01	4.07622E-01	9.12000E-01
6	4.60	1.11372E-02	1.54494E-01	3.33697E-01	4.07622E-01	9.12000E-01
7	5.80	9.91839E-03	1.37587E-01	3.33697E-01	4.07622E-01	9.12000E-01
8	7.10	9.02830E-03	1.25239E-01	3.33697E-01	4.07622E-01	9.12000E-01
9	10.00	7.33672E-03	1.01774E-01	3.33697E-01	4.07622E-01	9.12000E-01

RUN=4509 TOP AIR PT = 177.70
TPC = 760.00 DEG-R MINF = 7.761
TI = 540.00 DEG-R R/FT = 1.01280E+06
TO = 1245.00 DEG-R
SQROCK= .0586 ALPHA=30.000
MODEL=22 PHI= 0.000
HS= 3.97190E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	2.00	1.95430E-02	4.92031E-01	3.69475E-01	4.71638E-01	9.12000E-01
2	4.40	1.31759E-02	3.31727E-01	3.69475E-01	4.71638E-01	9.12000E-01
3	7.40	1.01599E-02	2.55795E-01	3.69475E-01	4.71638E-01	9.12000E-01
4	11.40	8.18567E-03	2.06089E-01	3.69475E-01	4.71638E-01	9.12000E-01
5	15.40	7.04281E-03	1.77316E-01	3.69475E-01	4.71638E-01	9.12000E-01

RUN=4510 TOP AIR PT = 169.70
TPC = 700.00 DEG-R MINF = 7.754
TI = 536.00 DEG-R R/FT = 9.49967E+05
T0 =1200.00 DEG-R
SQROCK= .0586 ALPHA=30.000
MODEL=31 PHI= 0.000
HS= 3.89412E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/T0
1	3.60	1.43288E-02	3.67959E-01	3.65344E-01	4.63941E-01	9.12000E-01
2	7.10	1.02031E-02	2.62012E-01	3.65344E-01	4.63941E-01	9.12000E-01
3	10.10	8.55459E-03	2.19680E-01	3.65344E-01	4.63941E-01	9.12000E-01
4	13.70	7.34513E-03	1.88621E-01	3.65344E-01	4.63941E-01	9.12000E-01

RUN=4511 . TOP AIR PT = 164.70
TPC = 760.00 DEG-R MINF = 7.750
TI = 530.00 DEG-R R/FT = 9.61362E+05
TO =1230.00 DEG-R
SQROCK= .0586 ALPHA=30.000
MODEL=41 PHI= 0.000
HS= 3.83153E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	5.20	1.27539E-02	3.32867E-01	3.82409E-01	4.96303E-01	9.12000E-01
2	8.50	9.97550E-03	2.60353E-01	3.82409E-01	4.96303E-01	9.12000E-01
3	9.10	9.64103E-03	2.51623E-01	3.82409E-01	4.96303E-01	9.12000E-01
4	10.40	9.01830E-03	2.35372E-01	3.82409E-01	4.96303E-01	9.12000E-01
5	10.90	8.80909E-03	2.29910E-01	3.82409E-01	4.96303E-01	9.12000E-01
6	11.10	8.72937E-03	2.27830E-01	3.82409E-01	4.96303E-01	9.12000E-01
7	11.60	8.53910E-03	2.22866E-01	3.82409E-01	4.96303E-01	9.12000E-01
8	12.00	8.39564E-03	2.19120E-01	3.82409E-01	4.96303E-01	9.12000E-01
9	13.10	8.03542E-03	2.09718E-01	3.82409E-01	4.96303E-01	9.12000E-01
10	13.50	7.91548E-03	2.06588E-01	3.82409E-01	4.96303E-01	9.12000E-01
11	14.30	7.69088E-03	2.00726E-01	3.82409E-01	4.96303E-01	9.12000E-01

RUN=4512 TOP AIR PT = 1394.70
TPC = 910.00 DEG-R MINF = 8.032
TI = 539.00 DEG-R R/FT = 5.91383E+06
TS =1415.00 DEG-R
SQROCK= .0613 *ALPHA=30.000
MODEL=22 PHI= 0.000
HS= 1.04275E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.00	4.60801E-02	4.41911E-01	4.93692E-01	7.51714E-01	9.12000E-01
2	1.20	4.20652E-02	4.03408E-01	4.93692E-01	7.51714E-01	9.12000E-01
3	1.30	4.04149E-02	3.87582E-01	4.93692E-01	7.51714E-01	9.12000E-01
4	1.90	3.34300E-02	3.20596E-01	4.93692E-01	7.51714E-01	9.12000E-01
5	2.30	3.03843E-02	2.91388E-01	4.93692E-01	7.51714E-01	9.12000E-01
6	2.90	2.70592E-02	2.59499E-01	4.93692E-01	7.51714E-01	9.12000E-01
7	3.70	2.39559E-02	2.29739E-01	4.93692E-01	7.51714E-01	9.12000E-01
8	3.90	2.33330E-02	2.23770E-01	4.93692E-01	7.51714E-01	9.12000E-01
9	4.30	2.22218E-02	2.13108E-01	4.93692E-01	7.51714E-01	9.12000E-01
10	5.10	2.04040E-02	1.95682E-01	4.93692E-01	7.51714E-01	9.12000E-01
11	5.30	2.00159E-02	1.91954E-01	4.93692E-01	7.51714E-01	9.12000E-01
12	5.70	1.93008E-02	1.85096E-01	4.93692E-01	7.51714E-01	9.12000E-01
13	6.50	1.80741E-02	1.73332E-01	4.93692E-01	7.51714E-01	9.12000E-01
14	7.70	1.66061E-02	1.59254E-01	4.93692E-01	7.51714E-01	9.12000E-01
15	8.70	1.56220E-02	1.49822E-01	4.93692E-01	7.51714E-01	9.12000E-01
16	10.80	1.40217E-02	1.34469E-01	4.93692E-01	7.51714E-01	9.12000E-01

RUN=4513 TOP AIR PT = 171.70
TPC = 635.00 DEG-R MINF = 7.756
TI = 541.00 DEG-R R/FT = 1.00031E+06
TS =1230.00 DEG-R
SQROCK= .3537 ALPHA=30.000
MODEL=31 PHI= 0.000
HS= 3.88940E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	7.76327E-03	1.99601E-01	1.61857E-01	1.64832E-01	9.12000E-01
2	2.50	5.59817E-03	1.43934E-01	1.61857E-01	1.64832E-01	9.12000E-01
3	3.00	5.11041E-03	1.31393E-01	1.61857E-01	1.64832E-01	9.12000E-01
4	3.80	4.54072E-03	1.16746E-01	1.61857E-01	1.64832E-01	9.12000E-01
5	4.30	4.20857E-03	1.09749E-01	1.61857E-01	1.64832E-01	9.12000E-01
6	4.90	3.99869E-03	1.02810E-01	1.61857E-01	1.64832E-01	9.12000E-01
7	5.20	3.88163E-03	9.98004E-02	1.61857E-01	1.64832E-01	9.12000E-01
8	5.80	3.67538E-03	9.44974E-02	1.61857E-01	1.64832E-01	9.12000E-01
9	7.20	3.29875E-03	8.48140E-02	1.61857E-01	1.64832E-01	9.12000E-01
10	8.00	3.12947E-03	8.04617E-02	1.61857E-01	1.64832E-01	9.12000E-01
11	10.40	2.74473E-03	7.05695E-02	1.61857E-01	1.64832E-01	9.12000E-01
12	12.40	2.51305E-03	6.46284E-02	1.61857E-01	1.64832E-01	9.12000E-01
13	14.20	2.34894E-03	6.03934E-02	1.61857E-01	1.64832E-01	9.12000E-01
14	14.60	2.31654E-03	5.95604E-02	1.61857E-01	1.64832E-01	9.12000E-01
15	14.90	2.29310E-03	5.89577E-02	1.61857E-01	1.64832E-01	9.12000E-01

RUN=4514 TOP AIR PT = 1394.70
TPC =1010.00 DEG-R MINF = 8.032
TI = 540.00 DEG-R R/FT = 6.27978E+06
TU =1363.06 DEG-R
SQROCK= .0617 ALPHA=30.000
MODEL=41 PHI= 0.000
HS= 1.03728E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	.30	1.61219E-01	1.55425E+00	6.66780E-01	1.43117E+00	9.12000E-01
2	.90	1.39619E-01	1.34602E+00	6.66780E-01	1.43117E+00	9.12000E-01
3	1.20	8.06093E-02	7.77124E-01	6.66780E-01	1.43117E+00	9.12000E-01
4	1.40	7.46297E-02	7.19477E-01	6.66780E-01	1.43117E+00	9.12000E-01
5	1.70	6.77253E-02	6.52915E-01	6.66780E-01	1.43117E+00	9.12000E-01
6	2.20	5.95339E-02	5.73944E-01	6.66780E-01	1.43117E+00	9.12000E-01
7	2.60	5.47632E-02	5.27952E-01	6.66780E-01	1.43117E+00	9.12000E-01
8	3.70	4.59066E-02	4.42568E-01	6.66780E-01	1.43117E+00	9.12000E-01
9	5.00	3.94903E-02	3.80711E-01	6.66780E-01	1.43117E+00	9.12000E-01
10	7.70	3.18222E-02	3.06780E-01	6.66780E-01	1.43117E+00	9.12000E-01
11	9.60	2.94343E-02	2.83765E-01	6.66780E-01	1.43117E+00	9.12000E-01
12	10.30	2.75142E-02	2.65254E-01	6.66780E-01	1.43117E+00	9.12000E-01
13	11.70	2.58156E-02	2.48879E-01	6.66780E-01	1.43117E+00	9.12000E-01

RUN=4515 TOP AIR PT = 178.70
TPC = 610.00 DEG-R MINF = 7.762
TI = 539.00 DEG-R R/FT = 1.004600E+06
TO =1255.00 DEG-R

SQROOK= .0527 ALPHA=30.000
MODEL=22 PHI= 0.000
HS= 3.96335E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.20	5.51405E-03	1.39127E-01	1.17247E-01	1.14618E-01	9.12000E-01
2	1.30	5.29773E-03	1.33669E-01	1.17247E-01	1.14618E-01	9.12000E-01
3	1.80	4.50221E-03	1.13597E-01	1.17247E-01	1.14618E-01	9.12000E-01
4	2.60	3.74606E-03	9.45181E-02	1.17247E-01	1.14618E-01	9.12000E-01
5	3.40	3.27584E-03	8.26537E-02	1.17247E-01	1.14618E-01	9.12000E-01
6	4.60	2.81632E-03	7.10596E-02	1.17247E-01	1.14618E-01	9.12000E-01
7	6.70	2.33359E-03	5.88795E-02	1.17247E-01	1.14618E-01	9.12000E-01
8	7.20	2.25110E-03	5.67983E-02	1.17247E-01	1.14618E-01	9.12000E-01
9	9.00	2.01345E-03	5.08019E-02	1.17247E-01	1.14618E-01	9.12000E-01
10	10.80	1.83802E-03	4.63756E-02	1.17247E-01	1.14618E-01	9.12000E-01

RUN=4516 TOP AIR PT = 1419.70
TPC = 900.00 DEG-R MINF = 5.034
TI = 539.00 DEG-R R/FT = 6.05167E+06
TW =1410.00 DEG-R
SQROCK= .0617 ALPHA=30.000
MODEL=31 PHI= 0.000

HS= 1.05018E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TW
1	1.30	5.24080E-02	4.99044E-01	5.63648E-01	9.68477E-01	9.12000E-01
2	1.80	4.45388E-02	4.24106E-01	5.63648E-01	9.68477E-01	9.12000E-01
3	2.50	3.77924E-02	3.59806E-01	5.63648E-01	9.68477E-01	9.12000E-01
4	3.70	3.10652E-02	2.95808E-01	5.63648E-01	9.68477E-01	9.12000E-01
5	4.40	2.84871E-02	2.71259E-01	5.63648E-01	9.68477E-01	9.12000E-01
6	5.00	2.67233E-02	2.54463E-01	5.63648E-01	9.68477E-01	9.12000E-01
7	6.60	2.43949E-02	2.32292E-01	5.63648E-01	9.68477E-01	9.12000E-01
8	7.40	2.19064E-02	2.09168E-01	5.63648E-01	9.68477E-01	9.12000E-01
9	8.50	2.04956E-02	1.95164E-01	5.63648E-01	9.68477E-01	9.12000E-01
10	10.20	1.87100E-02	1.78160E-01	5.63648E-01	9.68477E-01	9.12000E-01
11	11.70	1.74695E-02	1.66348E-01	5.63648E-01	9.68477E-01	9.12000E-01

RUN=4517 TOP AIR PT = 1934.70
TPC =1010.00 DEG-R MINF = 6.070
TI = 541.00 DEG-R R/FT = 6.40699E+06
TW =1385.00 DEG-R
SQROCK= .0617 ALPHA=30.000
MODEL=22 PHI= 0.000
HS= 1.21066E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.10	7.86258E-02	6.49445E-01	6.49477E-01	1.33652E+00	9.12000E-01
2	1.30	7.23252E-02	5.97402E-01	6.49477E-01	1.33652E+00	9.12000E-01
3	1.80	6.14040E-02	5.07694E-01	6.49477E-01	1.33652E+00	9.12000E-01
4	2.70	5.01856E-02	4.14531E-01	6.49477E-01	1.33652E+00	9.12000E-01
5	3.10	4.68301E-02	3.86863E-01	6.49477E-01	1.33652E+00	9.12000E-01
6	4.30	3.97674E-02	3.28470E-01	6.49477E-01	1.33652E+00	9.12000E-01
7	5.40	3.54866E-02	2.93117E-01	6.49477E-01	1.33652E+00	9.12000E-01
8	6.20	3.31181E-02	2.73554E-01	6.49477E-01	1.33652E+00	9.12000E-01
9	6.30	3.28542E-02	2.71374E-01	6.49477E-01	1.33652E+00	9.12000E-01
10	6.60	3.20988E-02	2.65135E-01	6.49477E-01	1.33652E+00	9.12000E-01
11	8.10	2.89747E-02	2.39329E-01	6.49477E-01	1.33652E+00	9.12000E-01
12	9.50	2.67547E-02	2.20992E-01	6.49477E-01	1.33652E+00	9.12000E-01

RUN=4518 TOP AIR PT = 179.70
TPC = 535.00 DEG-R MINF = 7.763
TI = 541.00 DEG-R R/FT = 1.059419E+06
TW =1220.00 DEG-R
SQROCK= .0537 ALPHA=30.000
MODEL=41 PHI= 0.000
HS= 3.967711E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	7.90630E-03	1.99267E-01	1.64439E-01	1.67870E-01	9.12000E-01
2	1.50	6.53990E-03	1.64828E-01	1.64439E-01	1.67870E-01	9.12000E-01
3	2.70	5.48613E-03	1.38269E-01	1.64439E-01	1.67870E-01	9.12000E-01
4	3.40	4.88887E-03	1.23216E-01	1.64439E-01	1.67870E-01	9.12000E-01
5	3.50	4.81852E-03	1.21443E-01	1.64439E-01	1.67870E-01	9.12000E-01
6	4.20	4.39869E-03	1.10862E-01	1.64439E-01	1.67870E-01	9.12000E-01
7	4.30	4.34724E-03	1.09565E-01	1.64439E-01	1.67870E-01	9.12000E-01
8	4.70	4.15814E-03	1.04799E-01	1.64439E-01	1.67870E-01	9.12000E-01
9	5.40	3.87928E-03	9.77712E-02	1.64439E-01	1.67870E-01	9.12000E-01
10	5.50	3.71127E-03	9.35367E-02	1.64439E-01	1.67870E-01	9.12000E-01
11	6.00	3.50894E-03	8.84374E-02	1.64439E-01	1.67870E-01	9.12000E-01
12	6.80	3.45695E-03	8.71271E-02	1.64439E-01	1.67870E-01	9.12000E-01
13	8.70	3.05625E-03	7.70279E-02	1.64439E-01	1.67870E-01	9.12000E-01
14	9.80	2.87962E-03	7.25763E-02	1.64439E-01	1.67870E-01	9.12000E-01
15	9.90	2.86504E-03	7.22088E-02	1.64439E-01	1.67870E-01	9.12000E-01
16	12.30	2.57037E-03	6.47821E-02	1.64439E-01	1.67870E-01	9.12000E-01
17	12.50	2.54972E-03	6.42618E-02	1.64439E-01	1.67870E-01	9.12000E-01
18	13.30	2.47185E-03	6.22991E-02	1.64439E-01	1.67870E-01	9.12000E-01

RUN=4519 TOP AIR PT = 1414.70
TPC = 810.00 DEG-R MINF = 8.034
TI = 540.00 DEG-R R/FT = 8.17649E+00
TU =1390.00 DEG-R
SQROCK= .0595 ALPHA=30.000
MODEL=31 PHI= 0.000
HS= 1.04939E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	.40	4.46476E-02	4.25461E-01	3.71042E-01	4.74582E-01	9.12000E-01
2	.50	3.99340E-02	3.80544E-01	3.71042E-01	4.74582E-01	9.12000E-01
3	.60	3.64546E-02	3.47388E-01	3.71042E-01	4.74582E-01	9.12000E-01
4	.70	3.37504E-02	3.21618E-01	3.71042E-01	4.74582E-01	9.12000E-01
5	.80	3.15700E-02	3.00846E-01	3.71042E-01	4.74582E-01	9.12000E-01
6	1.00	2.82376E-02	2.69085E-01	3.71042E-01	4.74582E-01	9.12000E-01
7	1.30	2.47660E-02	2.36003E-01	3.71042E-01	4.74582E-01	9.12000E-01
8	1.40	2.38651E-02	2.27419E-01	3.71042E-01	4.74582E-01	9.12000E-01
9	1.80	2.10471E-02	2.00564E-01	3.71042E-01	4.74582E-01	9.12000E-01
10	2.10	1.94858E-02	1.85686E-01	3.71042E-01	4.74582E-01	9.12000E-01
11	2.50	1.78590E-02	1.70184E-01	3.71042E-01	4.74582E-01	9.12000E-01
12	2.70	1.71849E-02	1.63760E-01	3.71042E-01	4.74582E-01	9.12000E-01
13	2.90	1.65817E-02	1.58012E-01	3.71042E-01	4.74582E-01	9.12000E-01
14	3.30	1.55443E-02	1.48127E-01	3.71042E-01	4.74582E-01	9.12000E-01
15	3.80	1.44856E-02	1.38038E-01	3.71042E-01	4.74582E-01	9.12000E-01
16	4.20	1.37785E-02	1.31300E-01	3.71042E-01	4.74582E-01	9.12000E-01
17	5.00	1.26282E-02	1.20339E-01	3.71042E-01	4.74582E-01	9.12000E-01
18	5.70	1.18274E-02	1.12707E-01	3.71042E-01	4.74582E-01	9.12000E-01
19	9.10	9.36068E-03	8.92009E-02	3.71042E-01	4.74582E-01	9.12000E-01
20	11.30	8.40019E-03	8.00480E-02	3.71042E-01	4.74582E-01	9.12000E-01

k/k0

9.6 1.0896

16.6 .0853

RUN=4520 TOP AIR PT = 1419.70
TPC = 810.00 DEG-R MINF = 8.034
TI = 542.00 DEG-R R/FT = 6.12388E+06
TG =1400.00 DEG-R
SQROOK= .0595 ALPHA=30.000
MODEL=22 PHI= 0.000
HS= 1.05188E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	.50	3.89421E-02	3.70213E-01	3.64725E-01	4.62793E-01	9.12000E-01
2	.60	3.55491E-02	3.37957E-01	3.64725E-01	4.62793E-01	9.12000E-01
3	.80	3.07864E-02	2.92679E-01	3.64725E-01	4.62793E-01	9.12000E-01
4	1.30	2.41509E-02	2.29596E-01	3.64725E-01	4.62793E-01	9.12000E-01
5	1.90	1.99769E-02	1.89915E-01	3.64725E-01	4.62793E-01	9.12000E-01
6	2.20	1.85649E-02	1.76492E-01	3.64725E-01	4.62793E-01	9.12000E-01
7	2.60	1.70772E-02	1.62349E-01	3.64725E-01	4.62793E-01	9.12000E-01
8	2.90	1.61698E-02	1.53723E-01	3.64725E-01	4.62793E-01	9.12000E-01
9	3.10	1.56395E-02	1.48681E-01	3.64725E-01	4.62793E-01	9.12000E-01
10	3.30	1.51582E-02	1.44105E-01	3.64725E-01	4.62793E-01	9.12000E-01
11	3.60	1.45129E-02	1.37970E-01	3.64725E-01	4.62793E-01	9.12000E-01
12	4.00	1.37681E-02	1.30890E-01	3.64725E-01	4.62793E-01	9.12000E-01
13	4.10	1.35992E-02	1.29284E-01	3.64725E-01	4.62793E-01	9.12000E-01
14	4.90	1.24396E-02	1.18260E-01	3.64725E-01	4.62793E-01	9.12000E-01
15	5.90	1.13365E-02	1.07773E-01	3.64725E-01	4.62793E-01	9.12000E-01
16	6.70	1.06382E-02	1.01134E-01	3.64725E-01	4.62793E-01	9.12000E-01
17	6.90	1.04829E-02	9.96580E-02	3.64725E-01	4.62793E-01	9.12000E-01
18	7.70	9.92336E-03	9.43390E-02	3.64725E-01	4.62793E-01	9.12000E-01
19	8.90	9.23016E-03	8.77489E-02	3.64725E-01	4.62793E-01	9.12000E-01
20	9.70	8.84134E-03	8.40525E-02	3.64725E-01	4.62793E-01	9.12000E-01

RUN= 4521 TOP AIR PT = 1404.70
TPC = 810.00 DEG-R MINF = 8.033
TI = 541.00 DEG-R R/FT = 6.17136E+06
T_w =1385.00 DEG-R
SQROOK= .0595 ALPHA=30.000
MODEE=41 PHI= 0.000
HS= 1.04554E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	.30	5.18561E-02	4.95974E-01	3.72514E-01	4.77358E-01	9.12000E-01
2	.40	4.49087E-02	4.29526E-01	3.72514E-01	4.77358E-01	9.12000E-01
3	.50	4.01676E-02	3.84180E-01	3.72514E-01	4.77358E-01	9.12000E-01
4	.80	3.66678E-02	3.50707E-01	3.72514E-01	4.77358E-01	9.12000E-01
5	1.10	2.70810E-02	2.59014E-01	3.72514E-01	4.77358E-01	9.12000E-01
6	1.30	2.49109E-02	2.38258E-01	3.72514E-01	4.77358E-01	9.12000E-01
7	1.60	2.24544E-02	2.14763E-01	3.72514E-01	4.77358E-01	9.12000E-01
8	2.00	2.00838E-02	1.92090E-01	3.72514E-01	4.77358E-01	9.12000E-01
9	2.10	1.95998E-02	1.87461E-01	3.72514E-01	4.77358E-01	9.12000E-01
10	2.40	1.83339E-02	1.75353E-01	3.72514E-01	4.77358E-01	9.12000E-01
11	2.90	1.66787E-02	1.59522E-01	3.72514E-01	4.77358E-01	9.12000E-01
12	3.20	1.58776E-02	1.51860E-01	3.72514E-01	4.77358E-01	9.12000E-01
13	3.30	1.56352E-02	1.49542E-01	3.72514E-01	4.77358E-01	9.12000E-01
14	4.20	1.38591E-02	1.32555E-01	3.72514E-01	4.77358E-01	9.12000E-01
15	5.90	1.16932E-02	1.11839E-01	3.72514E-01	4.77358E-01	9.12000E-01
16	6.60	1.10558E-02	1.05742E-01	3.72514E-01	4.77358E-01	9.12000E-01
17	7.40	1.04411E-02	9.98628E-02	3.72514E-01	4.77358E-01	9.12000E-01
18	8.60	9.68527E-03	9.26340E-02	3.72514E-01	4.77358E-01	9.12000E-01
19	10.90	8.60295E-03	8.22823E-02	3.72514E-01	4.77358E-01	9.12000E-01

RUN=4523 TOP AIR PT = 179.70
TPC = 760.00 DEG-R MINF = 7.763
TI = 542.00 DEG-R R/FT = 1.03764E+06
TO =1235.00 DEG-R
SQROCK=.0586 ALPHA=30.000
MODEL=31 PHI= 0.000
HS= 3.98886E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	I,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	3.40	1.52048E-02	3.81181E-01	3.73083E-01	4.78433E-01	9.12000E-01
2	6.60	1.09131E-02	2.73589E-01	3.73083E-01	4.78433E-01	9.12000E-01
3	10.00	8.86582E-03	2.22265E-01	3.73083E-01	4.78433E-01	9.12000E-01
4	13.50	7.63048E-03	1.91295E-01	3.73083E-01	4.78433E-01	9.12000E-01
5	17.00	6.79977E-03	1.70469E-01	3.73083E-01	4.78433E-01	9.12000E-01
6	18.00	6.60819E-03	1.65666E-01	3.73083E-01	4.78433E-01	9.12000E-01

RUN=4524 TOP AIR PT = 1949.70
TPC = 860.00 DEG-R MINF = 8.071
T1 = 543.00 DEG-R R/FT = 8.46996E+06
TU =1385.00 DEG-R
SQROCK= .0604 ALPHA=30.000
MODEL=22 PHI= 0.000
HS= 1.21812E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS.	T-BAR	BETA	TAW/TO
1	.60	4.81997E-02	3.95689E-01	4.40204E-01	6.18135E-01	9.12000E-01
2	.70	4.46243E-02	3.66336E-01	4.40204E-01	6.18135E-01	9.12000E-01
3	.90	3.93549E-02	3.23078E-01	4.40204E-01	6.18135E-01	9.12000E-01
4	1.30	3.27453E-02	2.68817E-01	4.40204E-01	6.18135E-01	9.12000E-01
5	2.00	2.64001E-02	2.16728E-01	4.40204E-01	6.18135E-01	9.12000E-01
6	2.10	2.57638E-02	2.11504E-01	4.40204E-01	6.18135E-01	9.12000E-01
7	2.20	2.51715E-02	2.06642E-01	4.40204E-01	6.18135E-01	9.12000E-01
8	2.30	2.46182E-02	2.02100E-01	4.40204E-01	6.18135E-01	9.12000E-01
9	2.60	2.31544E-02	1.90083E-01	4.40204E-01	6.18135E-01	9.12000E-01
10	3.00	2.15550E-02	1.76957E-01	4.40204E-01	6.18135E-01	9.12000E-01
11	3.20	2.08711E-02	1.71338E-01	4.40204E-01	6.18135E-01	9.12000E-01
12	3.60	1.96775E-02	1.61539E-01	4.40204E-01	6.18135E-01	9.12000E-01
13	4.00	1.86077E-02	1.53250E-01	4.40204E-01	6.18135E-01	9.12000E-01
14	4.80	1.70412E-02	1.39897E-01	4.40204E-01	6.18135E-01	9.12000E-01
15	6.40	1.47581E-02	1.21154E-01	4.40204E-01	6.18135E-01	9.12000E-01
16	8.00	1.32000E-02	1.08364E-01	4.40204E-01	6.18135E-01	9.12000E-01

RUN=4525 TOP AIR PT = 177.70
TPC = 760.00 DEG-R MINF = 7.761
TI = 542.00 DEG-R R/FT = 1.03364E+06
TO =1230.00 DEG-R
SQROOK= .0086 ALPHA=30.000
MODEL=41 PHI= 0.000
HS= 3.96680E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	3.50	1.51606E-02	3.82187E-01	3.76018E-01	4.84008E-01	9.12000E-01
2	6.30	1.13000E-02	2.84865E-01	3.76018E-01	4.84008E-01	9.12000E-01
3	9.60	9.15407E-03	2.30767E-01	3.76018E-01	4.84008E-01	9.12000E-01
4	12.40	8.05451E-03	2.03048E-01	3.76018E-01	4.84008E-01	9.12000E-01
5	17.20	6.83889E-03	1.72403E-01	3.76018E-01	4.84008E-01	9.12000E-01

RUN=4526 TOP AIR PT = 639.70
TPC = 810.00 DEG-R MINF = 7.937
TI = 537.00 DEG-R R/FT = 3.01855E+06
TO =1350.00 DEG-R
SQROCK= .0595 ALPHA=25.000
MODEL=22 PHI= 0.000
HS= 7.22928E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	.90	3.34562E-02	4.62788E-01	4.01058E-01	5.33435E-01	9.02000E-01
2	1.40	2.68247E-02	3.71056E-01	4.01058E-01	5.33435E-01	9.02000E-01
3	2.00	2.24431E-02	3.10448E-01	4.01058E-01	5.33435E-01	9.02000E-01
4	2.60	1.96839E-02	2.72281E-01	4.01058E-01	5.33435E-01	9.02000E-01
5	3.70	1.65005E-02	2.28246E-01	4.01058E-01	5.33435E-01	9.02000E-01
6	4.70	1.46403E-02	2.02514E-01	4.01058E-01	5.33435E-01	9.02000E-01
7	5.70	1.32942E-02	1.83893E-01	4.01058E-01	5.33435E-01	9.02000E-01
8	6.70	1.22620E-02	1.69616E-01	4.01058E-01	5.33435E-01	9.02000E-01
9	7.40	1.16676E-02	1.61394E-01	4.01058E-01	5.33435E-01	9.02000E-01
10	9.00	1.05798E-02	1.46346E-01	4.01058E-01	5.33435E-01	9.02000E-01
11	10.50	9.79498E-03	1.35490E-01	4.01058E-01	5.33435E-01	9.02000E-01
12	14.40	8.36406E-03	1.15697E-01	4.01058E-01	5.33435E-01	9.02000E-01

RUN=4527 TOP AIR PT = 639.70
TPC = 860.00 DEG-R MINF = 7.937
TI = 541.00 DEG-R R/FT = 3.05629E+06
TO =1340.00 DEG-R
SQROCK= .0604 ALPHA=25.000
MODEL=31 PHI= 0.000
HS= 7.21948E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.70	3.28676E-02	4.55263E-01	4.77774E-01	7.09505E-01	9.02000E-01
2	2.20	2.88922E-02	4.00198E-01	4.77774E-01	7.09505E-01	9.02000E-01
3	2.70	2.60802E-02	3.61247E-01	4.77774E-01	7.09505E-01	9.02000E-01
4	3.30	2.35904E-02	3.26761E-01	4.77774E-01	7.09505E-01	9.02000E-01
5	4.00	2.14271E-02	2.96795E-01	4.77774E-01	7.09505E-01	9.02000E-01
6	4.60	1.99808E-02	2.76763E-01	4.77774E-01	7.09505E-01	9.02000E-01
7	6.00	1.74951E-02	2.42332E-01	4.77774E-01	7.09505E-01	9.02000E-01
8	6.70	1.65560E-02	2.29324E-01	4.77774E-01	7.09505E-01	9.02000E-01
9	7.80	1.53442E-02	2.12539E-01	4.77774E-01	7.09505E-01	9.02000E-01
10	9.70	1.37596E-02	1.90590E-01	4.77774E-01	7.09505E-01	9.02000E-01
11	12.40	1.21697E-02	1.68568E-01	4.77774E-01	7.09505E-01	9.02000E-01
12	13.30	1.17508E-02	1.62765E-01	4.77774E-01	7.09505E-01	9.02000E-01
13	14.30	1.13325E-02	1.56971E-01	4.77774E-01	7.09505E-01	9.02000E-01

RUN=4528 TOP AIR PT = 649.70
TPC = 860.00 DEG-R MINF = 7.939
TI = 542.00 DEG-R R/FT = 3.10224E+06
TO =1340.00 DEG-R
SQROCK= .0604 ALPHA=25.000
MODEL=41 PHI= 0.000
HS= 7.27165E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.70	3.27740E-02	4.50710E-01	4.76990E-01	7.07485E-01	9.02000E-01
2	1.80	3.18506E-02	4.38011E-01	4.76990E-01	7.07485E-01	9.02000E-01
3	2.50	2.70262E-02	3.71665E-01	4.76990E-01	7.07485E-01	9.02000E-01
4	3.40	2.31747E-02	3.18700E-01	4.76990E-01	7.07485E-01	9.02000E-01
5	4.20	2.08511E-02	2.86746E-01	4.76990E-01	7.07485E-01	9.02000E-01
6	4.80	1.95045E-02	2.68226E-01	4.76990E-01	7.07485E-01	9.02000E-01
7	7.20	1.59253E-02	2.19006E-01	4.76990E-01	7.07485E-01	9.02000E-01
8	8.70	1.44875E-02	1.99233E-01	4.76990E-01	7.07485E-01	9.02000E-01
9	11.60	1.25466E-02	1.72541E-01	4.76990E-01	7.07485E-01	9.02000E-01
10	14.60	1.11835E-02	1.53796E-01	4.76990E-01	7.07485E-01	9.02000E-01

RUN=4529 TOP AIR PT = 649.70
TPC = 710.00 DEG-R MINF = 7.939
TI = 541.00 DEG-R R/FT = 3.12170E+06
TO = 1335.00 DEG-R
SQROCK= .0574 ALPHA=25.000
MODEL=22 PHI= 0.000
HS= 7.26281E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.00	1.63484E-02	2.25098E-01	2.54837E-01	2.84816E-01	9.02000E-01
2	1.50	1.33484E-02	1.83792E-01	2.54837E-01	2.84816E-01	9.02000E-01
3	2.00	1.15601E-02	1.59168E-01	2.54837E-01	2.84816E-01	9.02000E-01
4	2.70	9.94933E-03	1.36990E-01	2.54837E-01	2.84816E-01	9.02000E-01
5	3.90	8.27835E-03	1.13983E-01	2.54837E-01	2.84816E-01	9.02000E-01
6	6.10	6.61928E-03	9.11394E-02	2.54837E-01	2.84816E-01	9.02000E-01
7	7.80	5.85368E-03	8.05979E-02	2.54837E-01	2.84816E-01	9.02000E-01
8	10.30	5.09398E-03	7.01379E-02	2.54837E-01	2.84816E-01	9.02000E-01
9	13.00	4.53424E-03	6.24309E-02	2.54837E-01	2.84816E-01	9.02000E-01
10	14.10	4.35378E-03	5.99462E-02	2.54837E-01	2.84816E-01	9.02000E-01

RUN=4530 TOP AIR PT = 644.70
TPC = 760.00 DEG-R MINF = 7.938
TI = 543.00 DEG-R R/FT = 3.06015E+06
TO =1345.00 DEG-R
SQROCK= .0586 ALPHA=25.000
MODEL=31 PHI= 0.000
HS= 7.25173E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T, SEC	H, BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.10	2.18405E-02	3.01177E-01	3.23789E-01	3.90896E-01	9.02000E-01
2	1.60	1.81092E-02	2.49722E-01	3.23789E-01	3.90896E-01	9.02000E-01
3	2.50	1.44873E-02	1.99778E-01	3.23789E-01	3.90896E-01	9.02000E-01
4	3.50	1.22440E-02	1.68843E-01	3.23789E-01	3.90896E-01	9.02000E-01
5	4.70	1.05660E-02	1.45703E-01	3.23789E-01	3.90896E-01	9.02000E-01
6	5.80	9.51141E-03	1.31161E-01	3.23789E-01	3.90896E-01	9.02000E-01
7	7.90	8.14977E-03	1.12384E-01	3.23789E-01	3.90896E-01	9.02000E-01
8	10.60	7.03568E-03	9.70207E-02	3.23789E-01	3.90896E-01	9.02000E-01
9	14.20	6.07876E-03	8.38250E-02	3.23789E-01	3.90896E-01	9.02000E-01

RUN=4531 TOP AIR PT = 639.70
TPC = 760.00 DEG-R MINF = 7.937
TI = 542.00 DEG-R R/FT = 3.11441E+06
TO =1325.00 DEG-R
SQROCK= .0586 ALPHA=25.000
MODEL=41 PHI= 0.000
HS= 7.21447E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.20	2.18118E-02	3.02334E-01	3.33767E-01	4.07741E-01	9.02000E-01
2	1.60	1.88896E-02	2.61829E-01	3.33767E-01	4.07741E-01	9.02000E-01
3	2.60	1.48182E-02	2.05396E-01	3.33767E-01	4.07741E-01	9.02000E-01
4	3.40	1.29581E-02	1.79613E-01	3.33767E-01	4.07741E-01	9.02000E-01
5	4.10	1.18002E-02	1.63563E-01	3.33767E-01	4.07741E-01	9.02000E-01
6	5.20	1.04780E-02	1.45237E-01	3.33767E-01	4.07741E-01	9.02000E-01
7	6.60	9.30058E-03	1.28916E-01	3.33767E-01	4.07741E-01	9.02000E-01
8	8.10	8.39537E-03	1.16368E-01	3.33767E-01	4.07741E-01	9.02000E-01
9	9.40	7.79324E-03	1.08022E-01	3.33767E-01	4.07741E-01	9.02000E-01
10	9.90	7.59389E-03	1.05259E-01	3.33767E-01	4.07741E-01	9.02000E-01
11	12.70	6.70471E-03	9.29343E-02	3.33767E-01	4.07741E-01	9.02000E-01

RUN=4532 TOP AIR PT = 1414.70
TPC = 910.00 DEG-R MINF = 8.034
TI = 543.00 DEG-R R/FT = 5.99565E+06
TO =1415.00 DEG-R
SQROCK= .0613 ALPHA=25.000
MODEL=22 PHI= 0.000
HS= 1.04971E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	4.14170E-02	3.94558E-01	5.00457E-01	7.70352E-01	9.02000E-01
2	2.00	3.33914E-02	3.18103E-01	5.00457E-01	7.70352E-01	9.02000E-01
3	2.70	2.87388E-02	2.73779E-01	5.00457E-01	7.70352E-01	9.02000E-01
4	3.80	2.42247E-02	2.30776E-01	5.00457E-01	7.70352E-01	9.02000E-01
5	5.20	2.07085E-02	1.97279E-01	5.00457E-01	7.70352E-01	9.02000E-01
6	6.30	1.88139E-02	1.79230E-01	5.00457E-01	7.70352E-01	9.02000E-01
7	7.90	1.68010E-02	1.60055E-01	5.00457E-01	7.70352E-01	9.02000E-01
8	8.30	1.63912E-02	1.56150E-01	5.00457E-01	7.70352E-01	9.02000E-01
9	8.80	1.59187E-02	1.51649E-01	5.00457E-01	7.70352E-01	9.02000E-01
10	11.20	1.41104E-02	1.34423E-01	5.00457E-01	7.70352E-01	9.02000E-01

RUN=4533 TOP AIR PT = 178.70
TPC = 760.00 DEG-R MINF = 7.762
TI = 543.00 DEG-R R/FT = 1.05357E+06
TO =1220.00 DEG-R
SQROCK= .0586 ALPHA=25.000
MODEL=31 PHI= 0.000
HS= 3.97352E-02 BTU/FT.SQ-SEC-DEG-R

COLLOQUIUM	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	2.70	1.81795E-02	4.57515E-01	3.89280E-01	5.09760E-01	9.02000E-01
2	3.60	1.57439E-02	3.96220E-01	3.89280E-01	5.09760E-01	9.02000E-01
3	5.50	1.27374E-02	3.20558E-01	3.89280E-01	5.09760E-01	9.02000E-01
4	7.00	1.12905E-02	2.84144E-01	3.89280E-01	5.09760E-01	9.02000E-01
5	9.60	9.64113E-03	2.42634E-01	3.89280E-01	5.09760E-01	9.02000E-01
6	12.90	8.31704E-03	2.09311E-01	3.89280E-01	5.09760E-01	9.02000E-01

RUN=4534 TOP AIR PT = 1414.70
TPC =1010.00 DEG-R MINF = 8.034
TI = 543.00 DEG-R R/FT = 6.03110E+06
TO =1410.00 DEG-R
SQROCK= .0617 ALPHA=25.000
MODEL=41 PHI= 0.000
HS= 1.04762E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	6.99156E-02	6.67374E-01	6.40762E-01	1.29199E+00	9.02000E-01
2	1.60	6.30211E-02	6.01563E-01	6.40762E-01	1.29199E+00	9.02000E-01
3	2.00	5.63678E-02	5.38054E-01	6.40762E-01	1.29199E+00	9.02000E-01
4	2.40	5.14565E-02	4.91174E-01	6.40762E-01	1.29199E+00	9.02000E-01
5	2.50	5.04169E-02	4.81250E-01	6.40762E-01	1.29199E+00	9.02000E-01
6	3.30	4.38822E-02	4.18875E-01	6.40762E-01	1.29199E+00	9.02000E-01
7	3.40	4.32321E-02	4.12669E-01	6.40762E-01	1.29199E+00	9.02000E-01
8	4.80	3.63852E-02	3.47313E-01	6.40762E-01	1.29199E+00	9.02000E-01
9	5.50	3.39910E-02	3.24459E-01	6.40762E-01	1.29199E+00	9.02000E-01
10	7.00	3.01298E-02	2.87602E-01	6.40762E-01	1.29199E+00	9.02000E-01
11	10.00	2.52084E-02	2.40625E-01	6.40762E-01	1.29199E+00	9.02000E-01
12	11.80	2.32062E-02	2.21513E-01	6.40762E-01	1.29199E+00	9.02000E-01

RUN=4535 TOP AIR PT = 1414.70
TPC = 960.00 DEG-R MINF = 8.034
TI = 544.00 DEG-R R/FT = 6.10306E+06
TO =1400.00 DEG-R
SQROCK= .0617 ALPHA=25.000
MODEL=31 PHI= 0.000
HS= 1.04770E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	5.53841E-02	5.28624E-01	5.78742E-01	1.02346E+00	9.02000E-01
2	1.60	4.99225E-02	4.76495E-01	5.78742E-01	1.02346E+00	9.02000E-01
3	2.10	4.35760E-02	4.15919E-01	5.78742E-01	1.02346E+00	9.02000E-01
4	2.30	4.16383E-02	3.97424E-01	5.78742E-01	1.02346E+00	9.02000E-01
5	2.50	3.99380E-02	3.81196E-01	5.78742E-01	1.02346E+00	9.02000E-01
6	4.10	3.11864E-02	2.97664E-01	5.78742E-01	1.02346E+00	9.02000E-01
7	6.00	2.57799E-02	2.46061E-01	5.78742E-01	1.02346E+00	9.02000E-01
8	7.80	2.26105E-02	2.15810E-01	5.78742E-01	1.02346E+00	9.02000E-01
9	10.30	1.96761E-02	1.87802E-01	5.78742E-01	1.02346E+00	9.02000E-01
10	11.60	1.85408E-02	1.76966E-01	5.78742E-01	1.02346E+00	9.02000E-01

RUN=4536 TOP AIR PT = 174.70
TPC = 710.00 DEG-R MINF = 7.759
TJ = 543.00 DEG-R R/FT = 1.05276E+06
TO =1205.00 DEG-R
SQROCK= .0574 ALPHA=25.000
MODEL=22 PHI= 0.000
HS= 3.92234E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	1.83009E-02	4.66581E-01	3.07036E-01	3.63524E-01	9.02000E-01
2	2.20	1.40680E-02	3.58664E-01	3.07036E-01	3.63524E-01	9.02000E-01
3	4.30	1.00626E-02	2.56546E-01	3.07036E-01	3.63524E-01	9.02000E-01
4	6.10	8.44850E-03	2.15394E-01	3.07036E-01	3.63524E-01	9.02000E-01
5	9.00	6.95542E-03	1.77328E-01	3.07036E-01	3.63524E-01	9.02000E-01
6	12.60	5.87840E-03	1.49870E-01	3.07036E-01	3.63524E-01	9.02000E-01

RUN=4537 TOP AIR PT = 170.70
TPC = 760.00 DEG-R MINF = 7.755
TI = 542.00 DEG-R R/FT = 1.04432E+06
TO =1195.00 DEG-R
SQROCK= .0586 ALPHA=25.000
MODEL=41 PHI= 0.000
HS= 3.88261E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	3.70	1.66113E-02	4.27838E-01	4.06800E-01	5.45264E-01	9.02000E-01
2	4.70	1.47386E-02	3.79605E-01	4.06800E-01	5.45264E-01	9.02000E-01
3	6.70	1.23443E-02	3.17939E-01	4.06800E-01	5.45264E-01	9.02000E-01
4	11.40	9.46351E-03	2.43741E-01	4.06800E-01	5.45264E-01	9.02000E-01
5	14.60	8.36235E-03	2.15379E-01	4.06800E-01	5.45264E-01	9.02000E-01

RUN=4538 TOP AIR PT = 1419.70
TPC = 760.00 DEG-R MINF = 8.034
TI = 542.00 DEG-R R/FT = 6.12388E+06
TO =1400.00 DEG-R
SQROCK= .0586 ALPHA=25.000
MODEL=22 PHI= 0.000
HS= 1.05174E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T, SEC	H, BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	1.83075E-02	1.74069E-01	3.02442E-01	3.56208E-01	9.02000E-01
2	1.70	1.60095E-02	1.52219E-01	3.02442E-01	3.56208E-01	9.02000E-01
3	1.80	1.55584E-02	1.47930E-01	3.02442E-01	3.56208E-01	9.02000E-01
4	2.30	1.37638E-02	1.30866E-01	3.02442E-01	3.56208E-01	9.02000E-01
5	2.90	1.22575E-02	1.16545E-01	3.02442E-01	3.56208E-01	9.02000E-01
6	3.30	1.14906E-02	1.09253E-01	3.02442E-01	3.56208E-01	9.02000E-01
7	3.70	1.08518E-02	1.03179E-01	3.02442E-01	3.56208E-01	9.02000E-01
8	4.80	9.52753E-03	9.05882E-02	3.02442E-01	3.56208E-01	9.02000E-01
9	5.90	8.59360E-03	8.17083E-02	3.02442E-01	3.56208E-01	9.02000E-01
10	7.20	7.77920E-03	7.39650E-02	3.02442E-01	3.56208E-01	9.02000E-01
11	8.50	7.15965E-03	6.80742E-02	3.02442E-01	3.56208E-01	9.02000E-01
12	11.50	6.15534E-03	5.85253E-02	3.02442E-01	3.56208E-01	9.02000E-01

RUN=4539 TOP AIR PT = 164.70
TPC = 635.00 DEG-R MINF = 7.750
TI = 542.00 DEG-R R/FT = 9.61362E+05
TO =1230.00 DEG-R
SQROCK= .0537 ALPHA=25.000
MODEL=31 PHI= 0.000
HS= 3.81618E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	7.87577E-03	2.06378E-01	1.63888E-01	1.67221E-01	9.02000E-01
2	2.20	6.05415E-03	1.58644E-01	1.63888E-01	1.67221E-01	9.02000E-01
3	3.60	4.73275E-03	1.24018E-01	1.63888E-01	1.67221E-01	9.02000E-01
4	4.90	4.05664E-03	1.06301E-01	1.63888E-01	1.67221E-01	9.02000E-01
5	5.80	3.72864E-03	9.77060E-02	1.63888E-01	1.67221E-01	9.02000E-01
6	7.90	3.19485E-03	8.37186E-02	1.63888E-01	1.67221E-01	9.02000E-01
7	11.00	2.70750E-03	7.09478E-02	1.63888E-01	1.67221E-01	9.02000E-01
8	13.80	2.41727E-03	6.33426E-02	1.63888E-01	1.67221E-01	9.02000E-01

RUN=4540 TOP AIR PT = 1949.70
TPC =1010.00 DEG-R MINF = 8.071
TI = 542.00 DEG-R R/FT = 8.36876E+06
TO =1395.00 DEG-R
SQROCK= .0617 ALPHA=25.000
MODEL=22 PHI= 0.000
HS= 1.21593E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	7.34361E-02	6.03950E-01	6.53367E-01	1.35705E+00	9.02000E-01
2	1.50	6.83653E-02	5.62247E-01	6.53367E-01	1.35705E+00	9.02000E-01
3	1.80	6.24087E-02	5.13259E-01	6.53367E-01	1.35705E+00	9.02000E-01
4	2.70	5.09565E-02	4.19074E-01	6.53367E-01	1.35705E+00	9.02000E-01
5	4.50	3.94707E-02	3.24614E-01	6.53367E-01	1.35705E+00	9.02000E-01
6	7.40	3.07798E-02	2.53138E-01	6.53367E-01	1.35705E+00	9.02000E-01
7	10.10	2.63464E-02	2.16677E-01	6.53367E-01	1.35705E+00	9.02000E-01
8	11.40	2.47987E-02	2.03949E-01	6.53367E-01	1.35705E+00	9.02000E-01

RUN=4541 TOP AIR PT = 1414.70
TPC = 810.00 DEG-R MINF = 8.034
TI = 544.00 DEG-R R/FT = 6.03110E+06
TO =1410.00 DEG-R
SQROCK= .0595 --- ALPHA=25.000
MODEL=41 PHI= 0.000
HS= 1.05090E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	2.42233E-02	2.30501E-01	3.65475E-01	4.64182E-01	9.02000E-01
2	2.10	1.90588E-02	1.81357E-01	3.65475E-01	4.64182E-01	9.02000E-01
3	3.20	1.54394E-02	1.46916E-01	3.65475E-01	4.64182E-01	9.02000E-01
4	4.80	1.26062E-02	1.19956E-01	3.65475E-01	4.64182E-01	9.02000E-01
5	6.30	1.10036E-02	1.04707E-01	3.65475E-01	4.64182E-01	9.02000E-01
6	6.90	1.05143E-02	1.00051E-01	3.65475E-01	4.64182E-01	9.02000E-01
7	8.80	9.31031E-03	8.85937E-02	3.65475E-01	4.64182E-01	9.02000E-01
8	10.70	8.44333E-03	8.03438E-02	3.65475E-01	4.64182E-01	9.02000E-01

RUN=4542 TOP AIR PT = 166.70
TPC = 610.00 DEG-R MINF = 7.752
TI = 545.00 DEG-R R/FT = 9.59352E+05
TO =1240.00 DEG-R
SQROCK= .0527 ALPHA=25.000
MODEL=22 PHI= 0.000
HS= 3.83459E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T, SEC	H, BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	5.10357E-03	1.33093E-01	1.13343E-01	1.10417E-01	9.02000E-01
2	2.30	3.83691E-03	1.00060E-01	1.13343E-01	1.10417E-01	9.02000E-01
3	3.40	3.15578E-03	8.22976E-02	1.13343E-01	1.10417E-01	9.02000E-01
4	4.70	2.68409E-03	6.99967E-02	1.13343E-01	1.10417E-01	9.02000E-01
5	6.30	2.31833E-03	6.04583E-02	1.13343E-01	1.10417E-01	9.02000E-01
6	7.20	2.16860E-03	5.65536E-02	1.13343E-01	1.10417E-01	9.02000E-01
7	9.70	1.86836E-03	4.87237E-02	1.13343E-01	1.10417E-01	9.02000E-01
8	11.50	1.71592E-03	4.47484E-02	1.13343E-01	1.10417E-01	9.02000E-01
9	12.60	1.63931E-03	4.27505E-02	1.13343E-01	1.10417E-01	9.02000E-01
10	14.70	1.51770E-03	3.95793E-02	1.13343E-01	1.10417E-01	9.02000E-01

RUN=4543 TOP AIR PT = 1404.70
TPC = 810.00 DEG-R MINF = 8.033
TI = 545.00 DEG-R R/FT = 5.78381E+06
TO =1440.00 DEG-R
SQROCK= .0595 ALPHA=25.000
MODEL=31 PHI= 0.000
HS= 1.04962E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	2.28969E-02	2.18144E-01	3.51515E-01	4.38765E-01	9.02000E-01
2	1.70	2.00228E-02	1.90762E-01	3.51515E-01	4.38765E-01	9.02000E-01
3	2.50	1.65112E-02	1.57306E-01	3.51515E-01	4.38765E-01	9.02000E-01
4	3.40	1.41582E-02	1.34889E-01	3.51515E-01	4.38765E-01	9.02000E-01
5	4.50	1.23067E-02	1.17249E-01	3.51515E-01	4.38765E-01	9.02000E-01
6	5.50	1.11319E-02	1.06056E-01	3.51515E-01	4.38765E-01	9.02000E-01
7	6.60	1.01619E-02	9.68152E-02	3.51515E-01	4.38765E-01	9.02000E-01
8	7.50	9.53275E-03	9.08207E-02	3.51515E-01	4.38765E-01	9.02000E-01
9	8.60	8.90225E-03	8.48138E-02	3.51515E-01	4.38765E-01	9.02000E-01
10	10.30	8.13449E-03	7.74992E-02	3.51515E-01	4.38765E-01	9.02000E-01
11	11.90	7.56790E-03	7.21011E-02	3.51515E-01	4.38765E-01	9.02000E-01

RUN=4544 TOP AIR PT = 174.70
TPC = 635.00 DEG-R MINF = 7.759
TI = 542.00 DEG-R R/FT = 9.51232E+05
TO =1280.00 DEG-R
SOROCK= .0537 ALPHA=25.000
MODEL=41 PHI= 0.000
HS= 3.93680E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	7.21388E-03	1.83242E-01	1.51822E-01	1.53167E-01	9.02000E-01
2	2.10	5.67585E-03	1.44174E-01	1.51822E-01	1.53167E-01	9.02000E-01
3	3.00	4.74875E-03	1.20625E-01	1.51822E-01	1.53167E-01	9.02000E-01
4	3.80	4.21938E-03	1.07178E-01	1.51822E-01	1.53167E-01	9.02000E-01
5	5.30	3.57275E-03	9.07526E-02	1.51822E-01	1.53167E-01	9.02000E-01
6	7.90	2.92635E-03	7.43333E-02	1.51822E-01	1.53167E-01	9.02000E-01
7	11.40	2.43606E-03	6.18792E-02	1.51822E-01	1.53167E-01	9.02000E-01
8	14.80	2.13801E-03	5.43083E-02	1.51822E-01	1.53167E-01	9.02000E-01

RUN=4545 TOP AIR PT = 1944.70
TPC = 860.00 DEG-R MINF = 8.070
TI = 542.00 DEG-R R/FT = 8.29830E+06
TO =1400.00 DEG-R
SQROCK= .0604 ALPHA=25.000
MODEL=22 PHI= 0.000
HS= 1.21798E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	.70	4.47854E-02	3.67702E-01	4.41176E-01	6.20366E-01	9.02000E-01
2	.80	4.18929E-02	3.43954E-01	4.41176E-01	6.20366E-01	9.02000E-01
3	1.00	3.74701E-02	3.07642E-01	4.41176E-01	6.20366E-01	9.02000E-01
4	1.40	3.16680E-02	2.60005E-01	4.41176E-01	6.20366E-01	9.02000E-01
5	1.80	2.79286E-02	2.29303E-01	4.41176E-01	6.20366E-01	9.02000E-01
6	2.20	2.52624E-02	2.07412E-01	4.41176E-01	6.20366E-01	9.02000E-01
7	2.60	2.32380E-02	1.90791E-01	4.41176E-01	6.20366E-01	9.02000E-01
8	2.70	2.28036E-02	1.87225E-01	4.41176E-01	6.20366E-01	9.02000E-01
9	3.10	2.12816E-02	1.74729E-01	4.41176E-01	6.20366E-01	9.02000E-01
10	3.30	2.06266E-02	1.69351E-01	4.41176E-01	6.20366E-01	9.02000E-01
11	3.50	2.00286E-02	1.64441E-01	4.41176E-01	6.20366E-01	9.02000E-01
12	3.90	1.89737E-02	1.55780E-01	4.41176E-01	6.20366E-01	9.02000E-01
13	4.30	1.80697E-02	1.48358E-01	4.41176E-01	6.20366E-01	9.02000E-01
14	4.70	1.72837E-02	1.41905E-01	4.41176E-01	6.20366E-01	9.02000E-01
15	5.30	1.62760E-02	1.33631E-01	4.41176E-01	6.20366E-01	9.02000E-01
16	6.50	1.46970E-02	1.20667E-01	4.41176E-01	6.20366E-01	9.02000E-01
17	6.90	1.42646E-02	1.17117E-01	4.41176E-01	6.20366E-01	9.02000E-01
18	8.10	1.31657E-02	1.08094E-01	4.41176E-01	6.20366E-01	9.02000E-01
19	10.30	1.16753E-02	9.58576E-02	4.41176E-01	6.20366E-01	9.02000E-01
20	11.80	1.09080E-02	8.95580E-02	4.41176E-01	6.20366E-01	9.02000E-01

RUN=4546 TOP AIR PT = 639.70
TPC = 860.00 DEG-R MINF = 7.937
TI = 543.00 DEG-R R/FT = 3.17441E+06
TO =1310.00 DEG-R
SQROCK= .0604 ALPHA=35.000
MODEL=31 PHI= 0.000
HS= 7.20267E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	3.80	2.18329E-02	3.03122E-01	4.75883E-01	7.04639E-01	9.23000E-01
2	5.10	1.88460E-02	2.61652E-01	4.75883E-01	7.04639E-01	9.23000E-01
3	7.20	1.58612E-02	2.20213E-01	4.75883E-01	7.04639E-01	9.23000E-01
4	10.30	1.32613E-02	1.84116E-01	4.75883E-01	7.04639E-01	9.23000E-01
5	11.80	1.23898E-02	1.72016E-01	4.75883E-01	7.04639E-01	9.23000E-01

RUN=4548 TOP AIR PT = 669.70
TPC = 860.00 DEG-R MINF = 7.943
TI = 542.00 DEG-R R/FT = 3.25480E+06
TO =1325.00 DEG-R
SQROCK= .0604 ALPHA=35.000
MODEL=41 PHI= 0.000
HS= 7.36623E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	2.80	2.46217E-02	3.34251E-01	4.66977E-01	6.82118E-01	9.23000E-01
2	5.20	1.80674E-02	2.45273E-01	4.66977E-01	6.82118E-01	9.23000E-01
3	7.00	1.55721E-02	2.11399E-01	4.66977E-01	6.82118E-01	9.23000E-01
4	9.00	1.37333E-02	1.86436E-01	4.66977E-01	6.82118E-01	9.23000E-01
5	11.10	1.23662E-02	1.67877E-01	4.66977E-01	6.82118E-01	9.23000E-01
6	13.20	1.13399E-02	1.53945E-01	4.66977E-01	6.82118E-01	9.23000E-01
7	15.00	1.06378E-02	1.44413E-01	4.66977E-01	6.82118E-01	9.23000E-01

RUN=4549 TOP AIR PT = 649.70
TPC = 710.00 DEG-R MINF = 7.939
TI = 544.00 DEG-R R/FT = 3.12170E+06
TO =1335.00 DEG-R
SQROCK= .0574 ALPHA=35.000
MODEL=22 PHI= 0.000
HS= 7.26281E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.20	1.39244E-02	1.91722E-01	2.41207E-01	2.65739E-01	9.23000E-01
2	1.60	1.20589E-02	1.66036E-01	2.41207E-01	2.65739E-01	9.23000E-01
3	2.00	1.07858E-02	1.48507E-01	2.41207E-01	2.65739E-01	9.23000E-01
4	2.60	9.45975E-03	1.30249E-01	2.41207E-01	2.65739E-01	9.23000E-01
5	4.30	7.35584E-03	1.01281E-01	2.41207E-01	2.65739E-01	9.23000E-01
6	6.60	5.93738E-03	8.17504E-02	2.41207E-01	2.65739E-01	9.23000E-01

RUN=4550 TOP AIR PT = 644.70
TPC = 760.00 DEG-R MINF = 7.938
TI = 542.00 DEG-R R/FT = 3.06015E+06
TO =1345.00 DEG-R
SQROCK= .0586 ALPHA=35.000
MODEL=31 PHI= 0.000
HS= 7.25173E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	.40	3.43750E-02	4.74025E-01	3.11680E-01	3.71001E-01	9.23000E-01
2	1.30	1.90678E-02	2.62942E-01	3.11680E-01	3.71001E-01	9.23000E-01
3	1.70	1.66743E-02	2.29936E-01	3.11680E-01	3.71001E-01	9.23000E-01
4	2.50	1.37500E-02	1.89610E-01	3.11680E-01	3.71001E-01	9.23000E-01
5	2.90	1.27666E-02	1.76049E-01	3.11680E-01	3.71001E-01	9.23000E-01
6	3.30	1.19678E-02	1.65034E-01	3.11680E-01	3.71001E-01	9.23000E-01
7	3.70	1.13024E-02	1.55859E-01	3.11680E-01	3.71001E-01	9.23000E-01
8	4.70	1.00282E-02	1.38287E-01	3.11680E-01	3.71001E-01	9.23000E-01
9	5.20	9.53391E-03	1.31471E-01	3.11680E-01	3.71001E-01	9.23000E-01
10	6.00	8.87559E-03	1.22393E-01	3.11680E-01	3.71001E-01	9.23000E-01
11	8.10	7.63889E-03	1.05339E-01	3.11680E-01	3.71001E-01	9.23000E-01
12	11.70	6.35594E-03	8.76473E-02	3.11680E-01	3.71001E-01	9.23000E-01
13	14.90	5.63222E-03	7.76673E-02	3.11680E-01	3.71001E-01	9.23000E-01
14	17.00	5.27288E-03	7.27121E-02	3.11680E-01	3.71001E-01	9.23000E-01

RUN=4551 TOP AIR PT = 1389.70
TPC = 910.00 DEG-R MINF = 8.032
TI = 542.00 DEG-R R/FT = 5.92822E+06
TO =1410.00 DEG-R
SQROCK= .0613 ALPHA=35.000
MODEL=22 PHI= 0.000
HS=1.04063E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	3.91002E-02	3.75736E-01	4.84574E-01	7.27261E-01	9.23000E-01
2	2.50	2.81956E-02	2.70947E-01	4.84574E-01	7.27261E-01	9.23000E-01
3	2.90	2.61789E-02	2.51568E-01	4.84574E-01	7.27261E-01	9.23000E-01
4	3.30	2.45411E-02	2.35829E-01	4.84574E-01	7.27261E-01	9.23000E-01
5	3.40	2.41775E-02	2.32335E-01	4.84574E-01	7.27261E-01	9.23000E-01
6	3.80	2.28696E-02	2.19767E-01	4.84574E-01	7.27261E-01	9.23000E-01
7	5.00	1.99373E-02	1.91589E-01	4.84574E-01	7.27261E-01	9.23000E-01
8	6.00	1.82002E-02	1.74896E-01	4.84574E-01	7.27261E-01	9.23000E-01
9	6.50	1.74861E-02	1.68034E-01	4.84574E-01	7.27261E-01	9.23000E-01
10	8.10	1.56642E-02	1.50526E-01	4.84574E-01	7.27261E-01	9.23000E-01
11	10.70	1.36288E-02	1.30967E-01	4.84574E-01	7.27261E-01	9.23000E-01

RUN=4552 TOP AIR PT = 674.70
TPC = 760.00 DEG-R MINF = 7.944
TI = 541.00 DEG-R R/FT = 3.27818E+06
TO =1325.00 DEG-R
SQROCK= .0586 ALPHA=35.000
MODEL=41 PHI= 0.000
HS= 7.39513E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	1.98629E-02	2.68594E-01	3.21126E-01	3.86471E-01	9.23000E-01
2	2.20	1.52687E-02	2.06470E-01	3.21126E-01	3.86471E-01	9.23000E-01
3	2.60	1.40452E-02	1.89925E-01	3.21126E-01	3.86471E-01	9.23000E-01
4	3.00	1.30754E-02	1.76810E-01	3.21126E-01	3.86471E-01	9.23000E-01
5	3.80	1.16178E-02	1.57100E-01	3.21126E-01	3.86471E-01	9.23000E-01
6	4.60	1.05593E-02	1.42787E-01	3.21126E-01	3.86471E-01	9.23000E-01
7	5.50	9.65679E-03	1.30583E-01	3.21126E-01	3.86471E-01	9.23000E-01
8	6.50	8.88296E-03	1.20119E-01	3.21126E-01	3.86471E-01	9.23000E-01
9	8.80	7.63436E-03	1.03235E-01	3.21126E-01	3.86471E-01	9.23000E-01
10	10.00	7.16167E-03	9.68430E-02	3.21126E-01	3.86471E-01	9.23000E-01
11	10.50	6.98907E-03	9.45091E-02	3.21126E-01	3.86471E-01	9.23000E-01
12	12.10	6.51061E-03	8.80391E-02	3.21126E-01	3.86471E-01	9.23000E-01
13	13.70	6.11863E-03	8.27386E-02	3.21126E-01	3.86471E-01	9.23000E-01
14	15.00	5.84748E-03	7.90720E-02	3.21126E-01	3.86471E-01	9.23000E-01
15	16.80	5.52535E-03	7.47160E-02	3.21126E-01	3.86471E-01	9.23000E-01

RUN=4506 SIDE AIR PT = 659.70
TPC = 710.00 DEG-R MINF = 7.941
TI = 540.00 DEG-R R/FT = 3.05244E+06
TO =1365.00 DEG-R
SQROCK= .0574 ALPHA=30.000
MODEL=22 PHI= 0.000
HS= 7.33111E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	4.30	7.57503E-03	1.03327E-01	2.46914E-01	2.73657E-01	9.00000E-01
2	4.70	7.24552E-03	9.88325E-02	2.46914E-01	2.73657E-01	9.00000E-01
3	5.50	6.69788E-03	9.13624E-02	2.46914E-01	2.73657E-01	9.00000E-01
4	7.50	5.73572E-03	7.82381E-02	2.46914E-01	2.73657E-01	9.00000E-01
5	8.40	5.41975E-03	7.39280E-02	2.46914E-01	2.73657E-01	9.00000E-01
6	9.60	5.06971E-03	6.91533E-02	2.46914E-01	2.73657E-01	9.00000E-01
7	10.40	4.87082E-03	6.64404E-02	2.46914E-01	2.73657E-01	9.00000E-01
8	12.00	4.53448E-03	6.18526E-02	2.46914E-01	2.73657E-01	9.00000E-01
9	13.70	4.24383E-03	5.78880E-02	2.46914E-01	2.73657E-01	9.00000E-01

RUN=4513 SIDE AIR PT = 171.70
TPC = 635.00 DEG-R MINF = 7.756
TI = 541.00 DEG-R R/FT = 1.00031E+06
TO =1230.00 DEG-R
SQROCK= .0537 ALPHA=30.000
MODEL=31 PHI= 0.000
HS= 3.88940E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	2.60	5.65510E-03	1.45398E-01	1.66078E-01	1.69806E-01	9.00000E-01
2	4.20	4.44941E-03	1.14399E-01	1.66078E-01	1.69806E-01	9.00000E-01
3	9.20	3.00631E-03	7.72949E-02	1.66078E-01	1.69806E-01	9.00000E-01
4	14.30	2.41134E-03	6.19979E-02	1.66078E-01	1.69806E-01	9.00000E-01

RUN=4519 SIDE AIR PT = 1414.70
TPC = 810.00 DEG-R MINF = 8.034
TF = 540.00 DEG-R R/FT = 6.17649E+06
TO =1390.00 DEG-R
SQROCK= .0595 ALPHA=30.000
MODEL=31 PHI= 0.000
HS= 1.04939E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.50	2.38611E-02	2.27380E-01	3.79747E-01	4.91155E-01	9.00000E-01
2	3.80	1.49915E-02	1.42858E-01	3.79747E-01	4.91155E-01	9.00000E-01
3	7.00	1.10455E-02	1.05256E-01	3.79747E-01	4.91155E-01	9.00000E-01
4	9.60	9.43192E-03	8.98798E-02	3.79747E-01	4.91155E-01	9.00000E-01
5	10.60	8.97600E-03	8.55352E-02	3.79747E-01	4.91155E-01	9.00000E-01
6	11.60	8.58039E-03	8.17652E-02	3.79747E-01	4.91155E-01	9.00000E-01

RUN=4522 SIDE AIR PT = 639.70
TPC = 610.00 DEG-R MINF = 7.937
TI = 541.00 DEG-R R/FT = 3.17441E+06
TO =1310.00 DEG-R
SQRQCK= .0527 ALPHA=30.000
MODEL=22 PHI= 0.000
HS= 7.16596E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T, SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	.70	6.60590E-03	9.21844E-02	1.08150E-01	1.04875E-01	9.00000E-01
2	1.50	4.51269E-03	6.29739E-02	1.08150E-01	1.04875E-01	9.00000E-01
3	1.90	4.00963E-03	5.59538E-02	1.08150E-01	1.04875E-01	9.00000E-01
4	2.30	3.64432E-03	5.08560E-02	1.08150E-01	1.04875E-01	9.00000E-01
5	2.70	3.36356E-03	4.69380E-02	1.08150E-01	1.04875E-01	9.00000E-01
6	3.10	3.13906E-03	4.38052E-02	1.08150E-01	1.04875E-01	9.00000E-01
7	3.50	2.95425E-03	4.12261E-02	1.08150E-01	1.04875E-01	9.00000E-01
8	3.90	2.79865E-03	3.90548E-02	1.08150E-01	1.04875E-01	9.00000E-01
9	4.70	2.54937E-03	3.55760E-02	1.08150E-01	1.04875E-01	9.00000E-01
10	5.10	2.44735E-03	3.41524E-02	1.08150E-01	1.04875E-01	9.00000E-01
11	5.90	2.27539E-03	3.17527E-02	1.08150E-01	1.04875E-01	9.00000E-01
12	6.70	2.13522E-03	2.97968E-02	1.08150E-01	1.04875E-01	9.00000E-01
13	7.50	2.01814E-03	2.81628E-02	1.08150E-01	1.04875E-01	9.00000E-01
14	8.70	1.87379E-03	2.61485E-02	1.08150E-01	1.04875E-01	9.00000E-01
15	9.90	1.75656E-03	2.45126E-02	1.08150E-01	1.04875E-01	9.00000E-01
16	10.70	1.68962E-03	2.35784E-02	1.08150E-01	1.04875E-01	9.00000E-01
17	11.50	1.62979E-03	2.27435E-02	1.08150E-01	1.04875E-01	9.00000E-01
18	12.30	1.57590E-03	2.19914E-02	1.08150E-01	1.04875E-01	9.00000E-01
19	15.90	1.38606E-03	1.93423E-02	1.08150E-01	1.04875E-01	9.00000E-01

RUN=4529 SIDE AIR PT = 649.70
TPC = 710.00 DEG-R MINF = 7.939
TI = 541.00 DEG-R R/FT = 3.12170E+06
TO =1335.00 DEG-R
SQROCK= .0574 ALPHA=25.000
MODEL=22 PHI= 0.000
HS= 7.26281E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.60	1.29910E-02	1.78871E-01	2.55867E-01	2.86281E-01	9.00000E-01
2	4.60	7.66170E-03	1.05492E-01	2.55867E-01	2.86281E-01	9.00000E-01
3	5.60	6.94401E-03	9.56105E-02	2.55867E-01	2.86281E-01	9.00000E-01
4	6.70	6.34844E-03	8.74102E-02	2.55867E-01	2.86281E-01	9.00000E-01
5	7.90	5.84643E-03	8.04982E-02	2.55867E-01	2.86281E-01	9.00000E-01
6	10.00	5.19642E-03	7.15483E-02	2.55867E-01	2.86281E-01	9.00000E-01
7	13.40	4.48902E-03	6.18083E-02	2.55867E-01	2.86281E-01	9.00000E-01
8	14.60	4.30059E-03	5.92138E-02	2.55867E-01	2.86281E-01	9.00000E-01

RUN=4549 SIDE AIR PT = 649.70
TPC = 710.00 DEG-R MINF = 7.939
TI = 544.00 DEG-R R/FT = 3.12170E+06
TO =1335.00 DEG-R
SQROCK= .0574 ALPHA=35.000
MODEL=22 PHI= 0.000
HS= 7.26281E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.80	1.20420E-02	1.65804E-01	2.52471E-01	2.81464E-01	9.00000E-01
2	5.90	6.65134E-03	9.15809E-02	2.52471E-01	2.81464E-01	9.00000E-01
3	10.10	5.08364E-03	6.99955E-02	2.52471E-01	2.81464E-01	9.00000E-01
4	14.90	4.68341E-03	6.44848E-02	2.52471E-01	2.81464E-01	9.00000E-01
5	14.60	4.22823E-03	5.82176E-02	2.52471E-01	2.81464E-01	9.00000E-01
6	18.10	3.79749E-03	5.22867E-02	2.52471E-01	2.81464E-01	9.00000E-01

RUN=4550 SIDE AIR PT = 644.70
TPC = 760.00 DEG-R MINF = 7.938
TI = 542.00 DEG-R R/FT = 3.06015E+06
TO =1345.00 DEG-R
SQROCK= .0586 ALPHA=35.000
MODEL=31 PHI= 0.000
HS= 7.25173E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	8.50	7.93466E-03	1.09418E-01	3.26103E-01	3.94766E-01	9.00000E-01
2	9.90	7.35225E-03	1.01386E-01	3.26103E-01	3.94766E-01	9.00000E-01
3	11.20	6.91240E-03	9.53207E-02	3.26103E-01	3.94766E-01	9.00000E-01
4	14.80	6.01322E-03	8.29212E-02	3.26103E-01	3.94766E-01	9.00000E-01
5	18.60	5.36391E-03	7.39673E-02	3.26103E-01	3.94766E-01	9.00000E-01

RUN=4551 SIDE AIR PT = 1389.70
TPC = 910.00 DEG-R MINF = 8.032
TI = 542.00 DEG-R R/FT = 5.92822E+06
TO =1410.00 DEG-R
SQROCK= .0613 ALPHA=35.000
MODEL=22 PHI= 0.000
HS= 1.04063E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	7.70	1.73744E-02	1.66961E-01	5.06190E-01	7.86494E-01	9.00000E-01
2	11.30	1.43422E-02	1.37823E-01	5.06190E-01	7.86494E-01	9.00000E-01
3	13.30	1.32200E-02	1.27038E-01	5.06190E-01	7.86494E-01	9.00000E-01

RUN=4552 SIDE AIR PT = 674.70 PSIA
TPC = 760.00 DEG-R MINF = 7.944
TI = 541.00 DEG-R R/FT = 3.27818E+06
TO =1325.00 DEG-R
SQROCK= .0586 ALPHA=35.000
MODEL=41 PHI= 0.000
HS= 7.39513E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	8.80	8.13514E-03	1.10007E-01	3.36147E-01	4.11821E-01	9.00000E-01
2	10.90	7.30960E-03	9.88434E-02	3.36147E-01	4.11821E-01	9.00000E-01
3	13.00	6.69322E-03	9.05084E-02	3.36147E-01	4.11821E-01	9.00000E-01
4	14.50	6.33757E-03	8.56992E-02	3.36147E-01	4.11821E-01	9.00000E-01
5	15.20	6.18992E-03	8.37026E-02	3.36147E-01	4.11821E-01	9.00000E-01
6	17.70	5.73614E-03	7.75665E-02	3.36147E-01	4.11821E-01	9.00000E-01

RUN=4556 TOP AIR PT = 171.70
TPC = 710.00 DEG-R MINF = 7.756
TI = 536.00 DEG-R R/FT = 9.11711E+05
TO =1300.00 DEG-R
SQROCK= .0574 ALPHA=35.000
MODEL=22 PHI= 0.000
HS= 3.92274E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.80	1.26297E-02	3.21960E-01	2.62088E-01	2.95200E-01	9.23000E-01
2	3.80	8.69233E-03	2.21588E-01	2.62088E-01	2.95200E-01	9.23000E-01
3	6.90	6.45065E-03	1.64442E-01	2.62088E-01	2.95200E-01	9.23000E-01
4	8.20	5.91726E-03	1.50845E-01	2.62088E-01	2.95200E-01	9.23000E-01
5	11.80	4.93272E-03	1.25747E-01	2.62088E-01	2.95200E-01	9.23000E-01
6	14.80	4.40450E-03	1.12281E-01	2.62088E-01	2.95200E-01	9.23000E-01
7	19.10	3.87714E-03	9.88375E-02	2.62088E-01	2.95200E-01	9.23000E-01

RUN=4557 TOP AIR PT = 171.70
TPC = 760.00 DEG-R MINF = 7.756
TI = 533.00 DEG-R R/FT = 9.41790E+05
TO =1275.00 DEG-R
SQROCK= .0586 ALPHA=35.000
MODEL=41 PHI= 0.000
HS= 3.91988E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	3.60	1.36101E-02	3.47208E-01	3.52580E-01	4.40672E-01	9.23000E-01
2	8.90	8.65602E-03	2.20824E-01	3.52580E-01	4.40672E-01	9.23000E-01
3	13.60	7.00235E-03	1.78637E-01	3.52580E-01	4.40672E-01	9.23000E-01
4	17.00	6.26309E-03	1.59778E-01	3.52580E-01	4.40672E-01	9.23000E-01

(,$,OR = EXPECTED, MISSING
ERROR NUMBER 0066 DETECTED BY INPUTN AT ADDRESS 011716
CALLED FROM HEATS AT 000134

ERROR SUMMARY

ERROR	TIMES
0066	0001

RUN=4558 TOP AIR PT = 1449.70
TPC = 960.00 DEG-R MINF = 8.037
TT = 534.00 DEG-R R/FT = 6.13873E+06
TO =1415.00 DEG-R
SOROCK= .0617 ALPHA=35.000
MODEL=31 PHI= 0.000
HS= 1.06087E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	5.01940E-02	4.73140E-01	5.51781E-01	9.27552E-01	9.23000E-01
2	2.50	3.61954E-02	3.41186E-01	5.51781E-01	9.27552E-01	9.23000E-01
3	2.90	3.36066E-02	3.16783E-01	5.51781E-01	9.27552E-01	9.23000E-01
4	4.20	2.79254E-02	2.63231E-01	5.51781E-01	9.27552E-01	9.23000E-01
5	5.30	2.48591E-02	2.34328E-01	5.51781E-01	9.27552E-01	9.23000E-01
6	6.30	2.28010E-02	2.14927E-01	5.51781E-01	9.27552E-01	9.23000E-01
7	7.60	2.07595E-02	1.95684E-01	5.51781E-01	9.27552E-01	9.23000E-01
8	9.40	1.83754E-02	1.73211E-01	5.51781E-01	9.27552E-01	9.23000E-01
9	11.70	1.67313E-02	1.57713E-01	5.51781E-01	9.27552E-01	9.23000E-01
10	15.30	1.46311E-02	1.37916E-01	5.51781E-01	9.27552E-01	9.23000E-01

RUN=4559 TOR AIR PT = 1974.70
TPC =1010.00 DEG-R MINF = 8.072
TI =536.00 DEG-R R/FT = 8.17704E+06
TO =1425.00 DEG-R
SQROCK= .0617 ALPHA=35.000
MODEL=22 PHI= 0.000
HS= 1.22582E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	6.17861E-02	5.04041E-01	6.08258E-01	1.14177E+00	9.23000E-01
2	3.30	3.87798E-02	3.16359E-01	6.08258E-01	1.14177E+00	9.23000E-01
3	5.00	3.15049E-02	2.57011E-01	6.08258E-01	1.14177E+00	9.23000E-01
4	6.10	2.85232E-02	2.32687E-01	6.08258E-01	1.14177E+00	9.23000E-01
5	7.20	2.62540E-02	2.14176E-01	6.08258E-01	1.14177E+00	9.23000E-01
6	9.40	2.29773E-02	1.87445E-01	6.08258E-01	1.14177E+00	9.23000E-01

RUN=4560 TOP AIR PT = 1424.70
TPC =1010.00 DEG-R MINF = 8.035
TI = 534.00 DEG-R R/FT = 5.93155E+06
TO =1430.00 DEG-R
SQROCK= .0617 ALPHA=35.000
MODEL=41 PHI= 0.000
HS= 1.05255E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	6.11937E-02	5.81382E-01	6.05683E-01	1.13082E+00	9.23000E-01
2	3.70	3.62725E-02	3.44614E-01	6.05683E-01	1.13082E+00	9.23000E-01
3	6.00	2.84841E-02	2.70619E-01	6.05683E-01	1.13082E+00	9.23000E-01
4	9.10	2.31290E-02	2.19742E-01	6.05683E-01	1.13082E+00	9.23000E-01
5	13.30	1.91316E-02	1.81764E-01	6.05683E-01	1.13082E+00	9.23000E-01

RUN=4561 TOP AIR PT = 160.70
TPC = 635.00 DEG-R MINF = 7.746
TI = 538.00 DEG-R R/FT = 8.84160E+05
TO =1275.00 DEG-R
SQROCK= .0537 ALPHA=35.000
MODEL=31 PHI= 0.000
HS= 3.78795E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	7.21493E-03	1.90471E-01	1.51841E-01	1.53190E-01	9.23000E-01
2	2.30	5.42425E-03	1.43198E-01	1.51841E-01	1.53190E-01	9.23000E-01
3	3.30	4.52842E-03	1.19548E-01	1.51841E-01	1.53190E-01	9.23000E-01
4	4.50	3.87791E-03	1.02375E-01	1.51841E-01	1.53190E-01	9.23000E-01
5	6.60	3.20208E-03	8.45333E-02	1.51841E-01	1.53190E-01	9.23000E-01
6	8.30	2.85539E-03	7.53808E-02	1.51841E-01	1.53190E-01	9.23000E-01
7	12.00	2.37472E-03	6.26915E-02	1.51841E-01	1.53190E-01	9.23000E-01
8	16.70	2.01301E-03	5.31424E-02	1.51841E-01	1.53190E-01	9.23000E-01

RUN=4562 TOP AIR PT = 1394.70
TPC = 760.00 DEG-R MINF = 8.032
TI = 541.00 DEG-R R/FT = 5.84493E+06
TO =1425.00 DEG-R
SQROCK= .0586 ALPHA=35.000
MODEL=22 PHI= 0.000
HS= 1.04489E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	1.67485E-02	1.60289E-01	2.82845E-01	3.25875E-01	9.23000E-01
2	1.50	1.55921E-02	1.49221E-01	2.82845E-01	3.25875E-01	9.23000E-01
3	1.80	1.42335E-02	1.36220E-01	2.82845E-01	3.25875E-01	9.23000E-01
4	2.20	1.28747E-02	1.23215E-01	2.82845E-01	3.25875E-01	9.23000E-01
5	3.00	1.10252E-02	1.05515E-01	2.82845E-01	3.25875E-01	9.23000E-01
6	4.00	9.54814E-03	9.13790E-02	2.82845E-01	3.25875E-01	9.23000E-01
7	5.00	8.54012E-03	8.17319E-02	2.82845E-01	3.25875E-01	9.23000E-01
8	5.70	7.99855E-03	7.65489E-02	2.82845E-01	3.25875E-01	9.23000E-01
9	6.00	7.79603E-03	7.46107E-02	2.82845E-01	3.25875E-01	9.23000E-01

RUN=4563 TOP AIR PT = 165.70
TPC = 635.00 DEG-R MINF = 7.751
TI = 536.00 DEG-R R/FT = 9.47438E+05
TO =1245.00 DEG-R
SQROCK= .0537 ALPHA=35.000
MODEL=41 PHI= 0.000
HS= 3.83167E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	7.74163E-03	2.02043E-01	1.61465E-01	1.64373E-01	9.23000E-01
2	3.40	4.78701E-03	1.24933E-01	1.61465E-01	1.64373E-01	9.23000E-01
3	4.50	4.16100E-03	1.08595E-01	1.61465E-01	1.64373E-01	9.23000E-01
4	5.80	3.66514E-03	9.56538E-02	1.61465E-01	1.64373E-01	9.23000E-01
5	7.80	3.16051E-03	8.24839E-02	1.61465E-01	1.64373E-01	9.23000E-01
6	10.80	2.68591E-03	7.00978E-02	1.61465E-01	1.64373E-01	9.23000E-01
7	16.00	2.20670E-03	5.75912E-02	1.61465E-01	1.64373E-01	9.23000E-01

RUN=4565 TOP AIR PT = 1469.70
TPC = 810.00 DEG-R MINF = 8.038
TI = 538.00 DEG-R R/FT = 6.07688E+06
TO =1435.00 DEG-R
SQROCK= .0595 ALPHA=35.000
MODEL=31 PHI= 0.000
HS= 1.07168E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	2.23707E-02	2.08745E-01	3.45834E-01	4.28681E-01	9.23000E-01
2	1.60	2.01647E-02	1.88160E-01	3.45834E-01	4.28681E-01	9.23000E-01
3	2.00	1.80358E-02	1.68295E-01	3.45834E-01	4.28681E-01	9.23000E-01
4	2.60	1.58185E-02	1.47605E-01	3.45834E-01	4.28681E-01	9.23000E-01
5	3.30	1.40409E-02	1.31018E-01	3.45834E-01	4.28681E-01	9.23000E-01
6	4.40	1.21598E-02	1.13465E-01	3.45834E-01	4.28681E-01	9.23000E-01
7	5.90	1.05009E-02	9.79854E-02	3.45834E-01	4.28681E-01	9.23000E-01
8	7.60	9.25220E-03	8.63338E-02	3.45834E-01	4.28681E-01	9.23000E-01

RUN=4567 TOP AIR PT = 1464.70
TPC = 860.00 DEG-R MINF = 8.038
TI = 537.00 DEG-R R/FT = 6.12777E+06
TO =1425.00 DEG-R
SQROCK= .0604 ALPHA=35.000
MODEL=41 PHI= 0.000
HS= 1.06859E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	2.98002E-02	2.78874E-01	4.15020E-01	5.62540E-01	9.23000E-01
2	1.70	2.60595E-02	2.43868E-01	4.15020E-01	5.62540E-01	9.23000E-01
3	2.00	2.40257E-02	2.24835E-01	4.15020E-01	5.62540E-01	9.23000E-01
4	2.60	2.10719E-02	1.97194E-01	4.15020E-01	5.62540E-01	9.23000E-01
5	3.00	1.96169E-02	1.83577E-01	4.15020E-01	5.62540E-01	9.23000E-01
6	3.30	1.87040E-02	1.75034E-01	4.15020E-01	5.62540E-01	9.23000E-01
7	3.90	1.72051E-02	1.61008E-01	4.15020E-01	5.62540E-01	9.23000E-01
8	4.80	1.55085E-02	1.45131E-01	4.15020E-01	5.62540E-01	9.23000E-01
9	8.10	1.19385E-02	1.11722E-01	4.15020E-01	5.62540E-01	9.23000E-01
10	11.00	1.02446E-02	9.58702E-02	4.15020E-01	5.62540E-01	9.23000E-01
11	14.10	9.04860E-03	8.46779E-02	4.15020E-01	5.62540E-01	9.23000E-01

RUN=4568 TOP AIR PT = 1929.70
TPC =1010.00 DEG-R MINF = 8.070
TI = 540.00 DEG-R R/FT = 7.85879E+06
TO =1440.00 DEG-R
SQROCK= .0617 ALPHA=30.000
MODEL=31 PHI= 0.000
HS= 1.21392E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	6.16804E-02	5.08111E-01	6.07801E-01	1.13981E+00	9.12000E-01
2	2.00	4.97283E-02	4.09652E-01	6.07801E-01	1.13981E+00	9.12000E-01
3	4.90	3.17703E-02	2.61717E-01	6.07801E-01	1.13981E+00	9.12000E-01
4	7.10	2.63931E-02	2.17421E-01	6.07801E-01	1.13981E+00	9.12000E-01
5	11.20	2.10141E-02	1.73110E-01	6.07801E-01	1.13981E+00	9.12000E-01

RUN=4569 TOP AIR PT = 794.70
TPC = 810.00 DEG-R MINF = 7.964
TI = 539.00 DEG-R R/FT = 3.54256E+06
TO =1390.00 DEG-R
SOROCK= .0595 ALPHA=30.000
MODEL= 22 PHI= 0.000
HS= 8.01982E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	2.48509E-02	3.09868E-01	3.71905E-01	4.76208E-01	9.12000E-01
2	2.90	1.66385E-02	2.07468E-01	3.71905E-01	4.76208E-01	9.12000E-01
3	4.30	1.36641E-02	1.70379E-01	3.71905E-01	4.76208E-01	9.12000E-01
4	5.70	1.18680E-02	1.47983E-01	3.71905E-01	4.76208E-01	9.12000E-01
5	7.30	1.04870E-02	1.30764E-01	3.71905E-01	4.76208E-01	9.12000E-01
6	9.10	9.39276E-03	1.17119E-01	3.71905E-01	4.76208E-01	9.12000E-01
7	11.40	8.39192E-03	1.04640E-01	3.71905E-01	4.76208E-01	9.12000E-01
8	144		9.54 E-02			

RUN=4570 TOP AIR PT = 1884.70
TPC = 860.00 DEG-R MINF = 8.067
TI = 542.00 DEG-R R/FT = 7.59384E+06
TO =1450.00 DEG-R
SQROCK= .0604 ALPHA=30.000
MODEL=31 PHI= 0.000
HS= 1.20444E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	2.89603E-02	2.40446E-01	4.07483E-01	5.46685E-01	9.12000E-01
2	2.80	1.97331E-02	1.63836E-01	4.07483E-01	5.46685E-01	9.12000E-01
3	4.10	1.63073E-02	1.35393E-01	4.07483E-01	5.46685E-01	9.12000E-01
4	6.30	1.31554E-02	1.09224E-01	4.07483E-01	5.46685E-01	9.12000E-01
5	7.90	1.17479E-02	9.75383E-02	4.07483E-01	5.46685E-01	9.12000E-01

RUN=4571 TOP AIR PT = 789.70
TPC = 860.00 DEG-R MINF = 7.964
TI = 548.00 DEG-R R/FT = 4.01591E+06
TO =1285.00 DEG-R
SQROCK= .0604 ALPHA=30.000
MODEL=22 PHI= 0.000
HS= 7.92744E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	4.07509E-02	5.14049E-01	5.00064E-01	7.69258E-01	9.12000E-01
2	4.70	2.14319E-02	2.70350E-01	5.00064E-01	7.69258E-01	9.12000E-01
3	7.10	1.74373E-02	2.19962E-01	5.00064E-01	7.69258E-01	9.12000E-01
4	12.40	1.31947E-02	1.66443E-01	5.00064E-01	7.69258E-01	9.12000E-01
5	16.30	1.15084E-02	1.45172E-01	5.00064E-01	7.69258E-01	9.12000E-01

RUN=4572 TOP AIR PT = 914.70
TPC = 860.00 DEG-R MINF = 7.982
TI = 543.00 DEG-R R/FT = 4.31229E+06
TO =1340.00 DEG-R
SQROCK= .0604 ALPHA=30.000
MODEL=22 PHI= 0.000
HS= 8.52539E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	3.61124E-02	4.23586E-01	4.66808E-01	6.81696E-01	9.12000E-01
2	3.20	2.30172E-02	2.69984E-01	4.66808E-01	6.81696E-01	9.12000E-01
3	5.20	1.80562E-02	2.11793E-01	4.66808E-01	6.81696E-01	9.12000E-01
4	7.70	1.48382E-02	1.74048E-01	4.66808E-01	6.81696E-01	9.12000E-01
5	11.00	1.24146E-02	1.45619E-01	4.66808E-01	6.81696E-01	9.12000E-01
6	13.80	1.10838E-02	1.30009E-01	4.66808E-01	6.81696E-01	9.12000E-01

RUN=4573 TOP AIR PT = 167.70
TPC = 760.00 DEG-R MINF = 7.753
TI = 544.00 DEG-R R/FT = 1.00542E+06
TO =1210.00 DEG-R
SQROCK= .0586. ALPHA=30.000
MODEL=31VO PHI= 0.000
HS= 3.85647E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	3.70	1.53357E-02	3.97662E-01	3.86045E-01	5.03393E-01	9.12000E-01
2	6.80	1.13123E-02	2.93333E-01	3.86045E-01	5.03393E-01	9.12000E-01
3	8.00	1.04294E-02	2.70439E-01	3.86045E-01	5.03393E-01	9.12000E-01
4	12.80	8.24518E-03	2.13801E-01	3.86045E-01	5.03393E-01	9.12000E-01

RUN=4574 TOP AIR PT = 869.70
TPC = 760.00 DEG-R MINF = 7.976
TI = 539.00 DEG-R R/FT = 3.93447E+06
TO =1375.00 DEG-R
SQROCK= .0586 ALPHA=30.000
MODEL=22 PHI= 0.000
HS= 8.35322E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.40	1.81672E-02	2.17488E-01	3.09091E-01	3.66822E-01	9.12000E-01
2	2.50	1.35951E-02	1.62753E-01	3.09091E-01	3.66822E-01	9.12000E-01
3	3.20	1.20165E-02	1.43855E-01	3.09091E-01	3.66822E-01	9.12000E-01
4	4.20	1.04889E-02	1.25567E-01	3.09091E-01	3.66822E-01	9.12000E-01
5	6.10	8.70338E-03	1.04192E-01	3.09091E-01	3.66822E-01	9.12000E-01
6	8.70	7.28775E-03	8.72447E-02	3.09091E-01	3.66822E-01	9.12000E-01
7	11.10	6.45196E-03	7.72391E-02	3.09091E-01	3.66822E-01	9.12000E-01

11.4

RUN=4577 TOP AIR PT = 164.70
TPC = 810.00 DEG-R MINF = 7.750
TI = 536.00 DEG-R R/FT = 9.29425E+05
TO =1255.00 DEG-R
SQROCK= .0595 ALPHA=30.000
MODEL=31V30 PHI= 0.000
HS= 3.84023E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	3.60	2.01170E-02	5.23849E-01	4.50243E-01	6.41501E-01	9.12000E-01
2	7.90	1.35800E-02	3.53626E-01	4.50243E-01	6.41501E-01	9.12000E-01
3	14.40	1.00585E-02	2.61924E-01	4.50243E-01	6.41501E-01	9.12000E-01
4	18.20	8.94702E-03	2.32982E-01	4.50243E-01	6.41501E-01	9.12000E-01

RUN=4579 TOP AIR PT = 170.70
TPC = 660.00 DEG-R MINF = 7.755
TI = 536.00 DEG-R R/FT = 1.00159E+06
TO =1225.00 DEG-R
SQROCK= .0546 ALPHA=30.000
MODEL=31V30 PHI= 0.000
HS= 3.88214E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	1.09392E-02	2.81784E-01	2.13352E-01	2.28437E-01	9.12000E-01
2	3.50	6.66691E-03	1.71733E-01	2.13352E-01	2.28437E-01	9.12000E-01
3	6.80	4.78304E-03	1.23206E-01	2.13352E-01	2.28437E-01	9.12000E-01
4	11.30	3.71039E-03	9.55759E-02	2.13352E-01	2.28437E-01	9.12000E-01

RUN=4581 TOP AIR PT = 639.70
TPC = 960.00 DEG-R MINF = 7.937
TI = 540.00 DEG-R R/FT = 2.99997E+06
TO =1355.00 DEG-R
SQROCK= .0617 ALPHA=30.000
MODEL=31V30 PHI= 0.000
HS= 7.21515E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	6.07323E-02	8.41732E-01	6.03656E-01	1.12229E+00	9.12000E-01
2	1.80	5.16125E-02	7.15335E-01	6.03656E-01	1.12229E+00	9.12000E-01
3	5.80	2.87526E-02	3.98503E-01	6.03656E-01	1.12229E+00	9.12000E-01
4	9.30	2.27065E-02	3.14705E-01	6.03656E-01	1.12229E+00	9.12000E-01

RUN=4582 TOP AIR PT = 634.70
TPC = 760.00 DEG-R MINF = 7.936
TI = 539.00 DEG-R R/FT = 3.03331E+06
TO =1340.00 DEG-R
SQROCK= .0586 ALPHA=30.000
MODEL=31V30 PHI= 0.000
HS= 7.19655E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	2.00686E-02	2.78864E-01	3.23535E-01	3.90472E-01	9.12000E-01
2	2.10	1.57899E-02	2.19409E-01	3.23535E-01	3.90472E-01	9.12000E-01
3	2.60	1.41906E-02	1.97186E-01	3.23535E-01	3.90472E-01	9.12000E-01
4	3.30	1.25959E-02	1.75028E-01	3.23535E-01	3.90472E-01	9.12000E-01
5	4.70	1.05545E-02	1.46661E-01	3.23535E-01	3.90472E-01	9.12000E-01
6	7.60	8.30006E-03	1.15334E-01	3.23535E-01	3.90472E-01	9.12000E-01
7	12.00	6.60537E-03	9.17853E-02	3.23535E-01	3.90472E-01	9.12000E-01

RUN=4583 TOP AIR PT = 1444.70
TPC =1010.00 DEG-R MINF = 8.036
TI = 540.00 DEG-R R/FT = 6.01188E+06
TO =1430.00 DEG-R
SQROCK= .0617 ALPHA=30.000
MODEL=31V30 PHI= 0.000
HS= 1.05943E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	6.33839E-02	5.98281E-01	6.15054E-01	1.17129E+00	9.12000E-01
2	2.20	4.87236E-02	4.59902E-01	6.15054E-01	1.17129E+00	9.12000E-01
3	3.40	3.91933E-02	3.69945E-01	6.15054E-01	1.17129E+00	9.12000E-01
4	7.20	2.69330E-02	2.54220E-01	6.15054E-01	1.17129E+00	9.12000E-01
5	11.10	2.16915E-02	2.04746E-01	6.15054E-01	1.17129E+00	9.12000E-01

RUN=4584 TOP AIR PT = 1419.70
TPC = 810.00 DEG-R MINF = 8.034
TI = 542.00 DEG-R R/FT = 5.80985E+06
TO =1445.00 DEG-R
SQROCK= .0595 ALPHA=30.000
MODEL=31V30 PHI= 0.000
HS= 1.05521E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.20	2.32458E-02	2.20295E-01	3.45432E-01	4.27974E-01	9.12000E-01
2	1.90	1.84739E-02	1.75073E-01	3.45432E-01	4.27974E-01	9.12000E-01
3	4.70	1.17459E-02	1.11313E-01	3.45432E-01	4.27974E-01	9.12000E-01
4	7.90	9.05984E-03	8.58584E-02	3.45432E-01	4.27974E-01	9.12000E-01

RUN=4586 TOP AIR PT = 644.70
TPC = 910.00 DEG-R MINF = 7.938
TI = 542.00 DEG-R R/FT = 3.00399E+06
TO =1360.00 DEG-R
SQROCK= .0613 ALPHA=30.000
MODEL=31V0 PHI= 0.000
HS= 7.25010E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	4.20	2.53609E-02	3.49801E-01	5.26979E-01	8.47869E-01	9.12000E-01
2	7.50	1.89783E-02	2.61767E-01	5.26979E-01	8.47869E-01	9.12000E-01
3	12.80	1.45273E-02	2.00374E-01	5.26979E-01	8.47869E-01	9.12000E-01
4	15.60	1.31591E-02	1.81503E-01	5.26979E-01	8.47869E-01	9.12000E-01

RUN=4588 TOP AIR PT = 649.70
TPC = 710.00 DEG-R MINF = 7.939
TI = 542.00 DEG-R R/FT = 3.00792E+06
TO =1365.00 DEG-R
SQROCK= .0574 ALPHA=30.000
MODEL=31V0 PHI= 0.000
HS= 7.27930E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	1.32264E-02	1.81698E-01	2.39017E-01	2.62725E-01	9.12000E-01
2	2.10	1.04065E-02	1.42960E-01	2.39017E-01	2.62725E-01	9.12000E-01
3	4.10	7.44768E-03	1.02313E-01	2.39017E-01	2.62725E-01	9.12000E-01
4	5.90	6.20850E-03	8.52898E-02	2.39017E-01	2.62725E-01	9.12000E-01
5	8.80	5.08360E-03	6.98364E-02	2.39017E-01	2.62725E-01	9.12000E-01

RUN=4590 TOP AIR PT = 1399.70
TPC =1010.00 DEG-R MINF = 8.033
TI = 536.00 DEG-R R/FT = 5.89955E+06
TO =1420.00 DEG-R
SQROCK= .0617 ALPHA=30.000
MODEL=31V0 PHI= 0.000
HS= 1.04315E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	6.56836E-02	6.29663E-01	6.24473E-01	1.21379E+00	9.12000E-01
2	2.40	4.83418E-02	4.63420E-01	6.24473E-01	1.21379E+00	9.12000E-01
3	3.50	4.00308E-02	3.83748E-01	6.24473E-01	1.21379E+00	9.12000E-01
4	8.00	2.64779E-02	2.53825E-01	6.24473E-01	1.21379E+00	9.12000E-01
5	11.00	2.25804E-02	2.16463E-01	6.24473E-01	1.21379E+00	9.12000E-01

RUN=4591 TOP AIR PT = 1404.70
TPC = 860.00 DEG-R MINF = 8.033
TI = 539.00 DEG-R R/FT = 5.98995E+06
TO =1410.00 DEG-R
SQROCK= .0604 ALPHA=30.000
MODEL=31V0 PHI= 0.000
HS= 1.04680E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	3.14976E-02	3.00895E-01	4.29765E-01	5.94583E-01	9.12000E-01
2	2.50	2.27132E-02	2.16978E-01	4.29765E-01	5.94583E-01	9.12000E-01
3	3.60	1.89277E-02	1.80815E-01	4.29765E-01	5.94583E-01	9.12000E-01
4	6.40	1.41958E-02	1.35612E-01	4.29765E-01	5.94583E-01	9.12000E-01
5	8.60	1.22462E-02	1.16987E-01	4.29765E-01	5.94583E-01	9.12000E-01
6	11.20	1.07310E-02	1.02513E-01	4.29765E-01	5.94583E-01	9.12000E-01

RUN=4592 TDP AIR PT = 1909.70
TPC =1010.00 DEG-R MINF = 8.068
TI = 539.00 DEG-R R/FT = 7.91685E+06
TO =1425.00 DEG-R
SQROCK= .0617 ALPHA=30.000
MODEL=31V0 PHI= 0.000
HS= 1.20675E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	6.43952E-02	5.33625E-01	6.19248E-01	1.18998E+00	9.12000E-01
2	4.50	3.46114E-02	2.86815E-01	6.19248E-01	1.18998E+00	9.12000E-01
3	8.10	2.57978E-02	2.13779E-01	6.19248E-01	1.18998E+00	9.12000E-01

RUN=4593 TOP AIR PT = 1909.70
TPC = 860.00 DEG-R MINF = 8.068
TI = 539.00 DEG-R R/FT = 8.01028E+06
TO =1415.00 DEG-R
SQROCK= .0604 ALPHA=30.000
MODEL=31V0 PHI= 0.000
HS= 1.20895E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	3.11920E-02	2.58008E-01	4.27157E-01	5.88814E-01	9.12000E-01
2	2.50	2.24929E-02	1.86052E-01	4.27157E-01	5.88814E-01	9.12000E-01
3	3.90	1.80087E-02	1.48961E-01	4.27157E-01	5.88814E-01	9.12000E-01
4	6.40	1.40580E-02	1.16283E-01	4.27157E-01	5.88814E-01	9.12000E-01

RUN=4594 TOP AIR PT = 166.70
TPC = 760.00 DEG-R MINF = 7.752
TI = 536.00 DEG-R R/FT = 9.92782E+05
TO =1215.00 DEG-R
SQROCK= .0586 ALPHA=30.000
MODEL=41 PHI= 0.000
HS= 3.84766E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	5.60	1.27349E-02	3.30978E-01	3.91554E-01	5.14271E-01	9.12000E-01
2	12.00	8.69959E-03	2.26101E-01	3.91554E-01	5.14271E-01	9.12000E-01
3	15.20	7.72979E-03	2.00896E-01	3.91554E-01	5.14271E-01	9.12000E-01

RUN=4595 TOP AIR PT = 644.70
TPC = 860.00 DEG-R MINF = 7.938
TI = 536.00 DEG-R R/FT = 3.07927E+06
TO =1340.00 DEG-R
SQROCK= .0604 ALPHA=30.000
MODEL=41 PHI= 0.000
HS= 7.24562E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.40	3.54967E-02	4.89905E-01	4.72248E-01	6.95368E-01	9.12000E-01
2	3.10	2.38545E-02	3.29227E-01	4.72248E-01	6.95368E-01	9.12000E-01
3	5.80	1.74396E-02	2.40692E-01	4.72248E-01	6.95368E-01	9.12000E-01
4	9.80	1.34165E-02	1.85167E-01	4.72248E-01	6.95368E-01	9.12000E-01
5	15.40	1.07026E-02	1.47712E-01	4.72248E-01	6.95368E-01	9.12000E-01

RUN=4596 TOP AIR PT = 1394.70
TPC =1010.00 DEG-R MINF = 8.032
TI = 534.00 DEG-R R/FT = 6.01978E+06
TO =1400.00 DEG-R
SQROCK= .0617 ALPHA=30.000
MODEL=41 PHI= 0.000
HS= 1.03993E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	4.30	3.84509E-02	3.69744E-01	6.40819E-01	1.29228E+00	9.12000E-01
2	5.10	3.53066E-02	3.39509E-01	6.40819E-01	1.29228E+00	9.12000E-01
3	7.00	3.01365E-02	2.89792E-01	6.40819E-01	1.29228E+00	9.12000E-01
4	9.80	2.54700E-02	2.44919E-01	6.40819E-01	1.29228E+00	9.12000E-01
5	13.50	2.17007E-02	2.08674E-01	6.40819E-01	1.29228E+00	9.12000E-01

RUN=4597 TOP AIR PT = 177.70
TPC = 660.00 DEG-R MINF = 7.761
TI = 537.00 DEG-R R/FT = 1.04075E+06
TO =1225.00 DEG-R
SQROCK= .0546 ALPHA=30.000
MODEL=41 PHI= 0.000
HS= 3.95407E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	1.08549E-02	2.74525E-01	2.11996E-01	2.26676E-01	9.12000E-01
2	3.70	6.43424E-03	1.62725E-01	2.11996E-01	2.26676E-01	9.12000E-01
3	6.40	4.89225E-03	1.23727E-01	2.11996E-01	2.26676E-01	9.12000E-01
4	8.60	4.22036E-03	1.06735E-01	2.11996E-01	2.26676E-01	9.12000E-01
5	11.10	3.71481E-03	9.39491E-02	2.11996E-01	2.26676E-01	9.12000E-01
6	14.80	3.21712E-03	8.13623E-02	2.11996E-01	2.26676E-01	9.12000E-01

RUN=4598 TOP AIR PT = 159.70
TPC = 760.00 DEG-R MINF = 7.745
TI = 536.00 DEG-R R/FT = 9.20892E+05
TO =1240.00 DEG-R
SQROCK= .0586 ALPHA=30.000
MODEL=41V30 PHI= 0.000
HS= 3.78126E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	3.30	1.56458E-02	4.13771E-01	3.76547E-01	4.85017E-01	9.12000E-01
2	8.10	9.98647E-03	2.64104E-01	3.76547E-01	4.85017E-01	9.12000E-01
3	9.80	9.07907E-03	2.40107E-01	3.76547E-01	4.85017E-01	9.12000E-01
4	12.00	8.20472E-03	2.16984E-01	3.76547E-01	4.85017E-01	9.12000E-01
5	18.90	6.53768E-03	1.72897E-01	3.76547E-01	4.85017E-01	9.12000E-01
6	20.90	6.21701E-03	1.64416E-01	3.76547E-01	4.85017E-01	9.12000E-01

RUN=4599 TOP AIR PT = 649.70
TPC = 910.00 DEG-R MINF = 7.939
TI = 535.00 DEG-R R/FT = 3.02640E+06
TO =1360.00 DEG-R
SQROCK= .0613 ALPHA=30.000
MODEL=41V30 PHI= 0.000
HS= 7.27615E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	2.70	3.21721E-02	4.42158E-01	5.31674E-01	8.62384E-01	9.12000E-01
2	3.90	2.67688E-02	3.67898E-01	5.31674E-01	8.62384E-01	9.12000E-01
3	8.00	1.86903E-02	2.56871E-01	5.31674E-01	8.62384E-01	9.12000E-01
4	9.70	1.69736E-02	2.33278E-01	5.31674E-01	8.62384E-01	9.12000E-01
5	13.10	1.46058E-02	2.00735E-01	5.31674E-01	8.62384E-01	9.12000E-01

RUN=4600 TOP AIR PT = 177.70
TPC = 660.00 DEG-R MINF = 7.761
TI = 536.00 DEG-R R/FT = 9.86084E+05
TO =1265.00 DEG-R
SQROCK= .0546 ALPHA=30.000
MODEL=41V30 PHI= 0.000
HS= 3.96754E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	2.00	8.19498E-03	2.06551E-01	2.00751E-01	2.12261E-01	9.12000E-01
2	2.50	7.32981E-03	1.84745E-01	2.00751E-01	2.12261E-01	9.12000E-01
3	3.30	6.37978E-03	1.60799E-01	2.00751E-01	2.12261E-01	9.12000E-01
4	4.30	5.58893E-03	1.40866E-01	2.00751E-01	2.12261E-01	9.12000E-01
5	7.80	4.14969E-03	1.04591E-01	2.00751E-01	2.12261E-01	9.12000E-01
6	11.00	3.49435E-03	8.80735E-02	2.00751E-01	2.12261E-01	9.12000E-01
7	15.40	2.95327E-03	7.44357E-02	2.00751E-01	2.12261E-01	9.12000E-01

RUN=4601 TOP AIR PT = 664.70
TPC = 760.00 DEG-R MINF = 7.942
TI = 536.00 DEG-R R/FT = 3.01918E+06
TO =1380.00 DEG-R
SQROCK= .0586 ALPHA=30.000
MODEL=41V30 PHI= 0.000
HS= 7.37455E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	1.89290E-02	2.56680E-01	3.10009E-01	3.68301E-01	9.12000E-01
2	1.70	1.65530E-02	2.24460E-01	3.10009E-01	3.68301E-01	9.12000E-01
3	2.20	1.45509E-02	1.97312E-01	3.10009E-01	3.68301E-01	9.12000E-01
4	3.20	1.20649E-02	1.63602E-01	3.10009E-01	3.68301E-01	9.12000E-01
5	5.00	9.65195E-03	1.30882E-01	3.10009E-01	3.68301E-01	9.12000E-01
6	9.80	6.89425E-03	9.34870E-02	3.10009E-01	3.68301E-01	9.12000E-01

RUN=4556 SIDE AIR PT = 171.70
TPC = 710.00 DEG-R MINF = 7.756
TI = 536.00 DEG-R R/FT = 9.11711E+05
TO =1300.00 DEG-R
SQROCK= .0574 ALPHA=35.000
MODEL=22 PHI= 0.000
HS= 3.92274E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	1.57721E-02	4.02068E-01	2.74448E-01	3.13292E-01	9.00000E-01
2	3.80	9.22506E-03	2.35169E-01	2.74448E-01	3.13292E-01	9.00000E-01
3	6.00	7.34151E-03	1.87153E-01	2.74448E-01	3.13292E-01	9.00000E-01
4	8.70	6.09679E-03	1.55422E-01	2.74448E-01	3.13292E-01	9.00000E-01
5	12.20	5.14851E-03	1.31248E-01	2.74448E-01	3.13292E-01	9.00000E-01
6	18.60	4.16970E-03	1.06296E-01	2.74448E-01	3.13292E-01	9.00000E-01

RUN=4557 SIDE AIR PT = 171.70
TPC = 760.00 DEG-R MINF = 7.756
TI = 533.00 DEG-R R/FT = 9.41790E+05
TO =1275.00 DEG-R
SQROCK= .0586 ALPHA=35.000
MODEL=41 PHI= 0.000
HS= 3.91988E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	2.42335E-02	6.18221E-01	3.69406E-01	4.71510E-01	9.00000E-01
2	10.70	8.44688E-03	2.15488E-01	3.69406E-01	4.71510E-01	9.00000E-01
3	13.50	7.52006E-03	1.91844E-01	3.69406E-01	4.71510E-01	9.00000E-01

RUN=4558 SIDE AIR PT = 1449.70
TPC = 960.00 DEG-R MINF = 8.037
TI = 534.00 DEG-R R/FT = 6.13873E+06
TO =1415.00 DEG-R
SQROCK= .0617 ALPHA=35.000
MODEL=31 PHI= 0.000
HS= 1.06087E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	5.48426E-02	5.16959E-01	5.76065E-01	1.01346E+00	9.00000E-01
2	3.80	3.20773E-02	3.02368E-01	5.76065E-01	1.01346E+00	9.00000E-01
3	5.90	2.57433E-02	2.42662E-01	5.76065E-01	1.01346E+00	9.00000E-01
4	7.80	2.23894E-02	2.11048E-01	5.76065E-01	1.01346E+00	9.00000E-01
5	10.00	1.97738E-02	1.86392E-01	5.76065E-01	1.01346E+00	9.00000E-01
6	11.80	1.82032E-02	1.71588E-01	5.76065E-01	1.01346E+00	9.00000E-01
7	13.20	1.72109E-02	1.62234E-01	5.76065E-01	1.01346E+00	9.00000E-01

RUN=4561 SIDE AIR PT = 160.70
TPC = 635.00 DEG-R MINF = 7.746
TI = 538.00 DEG-R R/FT = 8.84160E+05
TO =1275.00 DEG-R
SQROCK= .0537 ALPHA=35.000
MODEL=31 PHI= 0.000
HS= 3.78795E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	8.10	3.05024E-03	8.05248E-02	1.59147E-01	1.61660E-01	9.00000E-01
2	17.00	2.10548E-03	5.55838E-02	1.59147E-01	1.61660E-01	9.00000E-01

RUN=4562 SIDE AIR PT = 1394.70
TPC = 760.00 DEG-R MINF = 8.032
TI = 541.00 DEG-R R/FT = 5.84493E+06
TO =1425.00 DEG-R
SQROCK= .0586 ALPHA=35.000
MODEL=22 PHI= 0.000
HS= 1.04489E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	4.30	9.75136E-03	9.33239E-02	2.95347E-01	3.45066E-01	9.00000E-01
2	6.70	7.81200E-03	7.47635E-02	2.95347E-01	3.45066E-01	9.00000E-01
3	9.40	6.59532E-03	6.31195E-02	2.95347E-01	3.45066E-01	9.00000E-01
4	11.90	5.86173E-03	5.60988E-02	2.95347E-01	3.45066E-01	9.00000E-01

RUN=4564 SIDE AIR PT = 659.70
TPC = 635.00 DEG-R MINF = 7.941
TI = 539.00 DEG-R R/FT = 2.96151E+06
TO =1390.00 DEG-R
SQROCK= .0537 ALPHA=35.000
MODEL=22 PHI= 0.000
HS= 7.32464E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	3.30	3.95864E-03	5.40456E-02	1.34831E-01	1.33915E-01	9.00000E-01
2	4.10	3.55150E-03	4.84870E-02	1.34831E-01	1.33915E-01	9.00000E-01
3	5.80	2.98600E-03	4.07665E-02	1.34831E-01	1.33915E-01	9.00000E-01
4	8.50	2.46657E-03	3.36750E-02	1.34831E-01	1.33915E-01	9.00000E-01
5	12.50	2.03399E-03	2.77691E-02	1.34831E-01	1.33915E-01	9.00000E-01
6	15.30	1.83848E-03	2.50999E-02	1.34831E-01	1.33915E-01	9.00000E-01

RUN=4565 SIDE AIR PT = 1469.70
TPC = 810.00 DEG-R MINF = 8.038
TI = 538.00 DEG-R R/FT = 6.07688E+06
TO =1435.00 DEG-R
SQROCK= .0595 ALPHA=35.000
MODEL=31 PHI= 0.000
HS= 1.07168E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	9.90	8.62124E-03	8.04462E-02	3.60982E-01	4.55901E-01	9.00000E-01
2	15.20	6.95770E-03	6.49234E-02	3.60982E-01	4.55901E-01	9.00000E-01

RUN=4569 SIDE AIR PT = 794.70
TPC = 810.00 DEG-R MINF = 7.964
TI = 539.00 DEG-R R/FT = 3.54256E+06
TO =1390.00 DEG-R
SQROCK= .0595 ALPHA=30.000
MODEL=22 PHI= 0.000
HS= 8.01982E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	10.60	9.00671E-03	1.12306E-01	3.80618E-01	4.92835E-01	9.00000E-01
2	14.30	7.75445E-03	9.66910E-02	3.80618E-01	4.92835E-01	9.00000E-01

RUN=4570 SIDE AIR PT = 1884.70
TPC = 860.00 DEG-R MINF = 8.067
TI = 542.00 DEG-R R/FT = 7.59384E+06
TO =1450.00 DEG-R
SQROCK= .0604 ALPHA=30.000
MODEL=31 PHI= 0.000
HS= 1.20444E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	6.20	1.37365E-02	1.14049E-01	4.16776E-01	5.66283E-01	9.00000E-01
2	11.00	1.03127E-02	8.56227E-02	4.16776E-01	5.66283E-01	9.00000E-01

RUN=4573 SIDE AIR PT = 167.70
TPC = 760.00 DEG-R MINF = 7.753
TI = 544.00 DEG-R R/FT = 1.00542E+06
TO =1210.00 DEG-R
SQROCK= .0586 ALPHA=30.000
MODEL=31VO PHI= 0.000
HS= 3.85647E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	2.20	2.06959E-02	5.36653E-01	3.96330E-01	5.23839E-01	9.00000E-01
2	4.00	1.53485E-02	3.97993E-01	3.96330E-01	5.23839E-01	9.00000E-01
3	5.10	1.35928E-02	3.52468E-01	3.96330E-01	5.23839E-01	9.00000E-01
4	7.00	1.16024E-02	3.00854E-01	3.96330E-01	5.23839E-01	9.00000E-01

RUN=4584 SIDE AIR PT = 1419.70
TPC = 810.00 DEG-R MINF = 8.034
TI = 542.00 DEG-R R/FT = 5.80985E+06
TO =1445.00 DEG-R
SQROCK= .0595 ALPHA=30.000
MODEL=31V30 PHI= 0.000
HS= 1.05521E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	5.40	1.13177E-02	1.07256E-01	3.53329E-01	4.42016E-01	9.00000E-01
2	6.60	1.02372E-02	9.70163E-02	3.53329E-01	4.42016E-01	9.00000E-01
3	9.30	8.62409E-03	8.17288E-02	3.53329E-01	4.42016E-01	9.00000E-01
4	13.90	7.05419E-03	6.68512E-02	3.53329E-01	4.42016E-01	9.00000E-01

RUN=4586 SIDE AIR PT = 644.70
TPC = 910.00 DEG-R MINF = 7.938
TI = 542.00 DEG-R R/FT = 3.00399E+06
TO =1360.00 DEG-R
SQROCK= .0613 ALPHA=30.000
MODEL=31V0 PHI= 0.000
HS= 7.25010E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	2.30	3.58705E-02	4.94759E-01	5.39589E-01	8.87443E-01	9.00000E-01
2	3.40	2.95027E-02	4.06928E-01	5.39589E-01	8.87443E-01	9.00000E-01
3	4.60	2.53643E-02	3.49847E-01	5.39589E-01	8.87443E-01	9.00000E-01

RUN=4588 SIDE AIR PT = 649.70
TPC = 710.00 DEG-R MINF = 7.939
TI = 542.00 DEG-R R/FT = 3.00792E+06
TO =1365.00 DEG-R
SQROCK= .0574 ALPHA=30.000
MODEL=31V0 PHI= 0.000
HS= 7.27930E-02 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	1.30	1.36229E-02	1.87146E-01	2.44720E-01	2.70601E-01	9.00000E-01
2	6.00	6.34112E-03	8.71116E-02	2.44720E-01	2.70601E-01	9.00000E-01
3	9.90	4.93655E-03	6.78163E-02	2.44720E-01	2.70601E-01	9.00000E-01
4	13.70	4.19644E-03	5.76489E-02	2.44720E-01	2.70601E-01	9.00000E-01

RUN=4593 SIDE AIR PT = 1909.70
TPC = 860.00 DEG-R MINF = 8.068
TI = 539.00 DEG-R R/FT = 8.01028E+06
TO =1415.00 DEG-R
SQROCK= .0604 ALPHA=30.000
MODEL=31V0 PHI= 0.000
HS= 1.20895E-01 BTU/FT.SQ-SEC-DEG-R

CONTOUR	T,SEC	H,BTU/FT.SQ-SEC-DEG-R	H/HS	T-BAR	BETA	TAW/TO
1	9.20	1.21650E-02	1.00624E-01	4.37032E-01	6.10899E-01	9.00000E-01