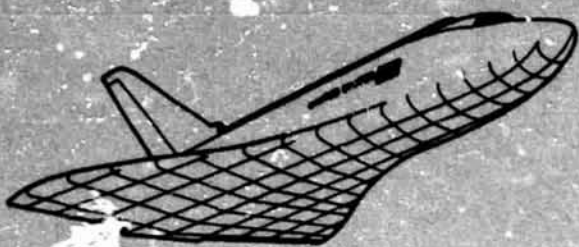


**REPORT MDC E1248  
JSC 09651**

NASA CR-  
141927



**DATA CORRELATION AND ANALYSIS  
OF ARC TUNNEL  
AND WIND TUNNEL TESTS  
OF RSI JOINTS AND GAPS  
PHASE II FINAL REPORT**

**VOLUME II -- DATA REPORT  
PART 2**

**NAS9-14012 DRD MA-384T 19 MAY 1975**

N75-28105

(NASA-CF-141927) DATA CORRELATION AND ANALYSIS OF ARC TUNNEL AND WIND TUNNEL TESTS OF RSI JOINTS AND GAPS, PHASE 2. VOLUME 2: DATA REPORT, PART 2 Final Report, 20 May 1974 - 19 May 1975 (McDonnell-Douglas

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**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

REPORT MDC E1248  
JSC 09651

**FOREWORD**

This report summarizes the work conducted by McDonnell Douglas Astronautics Company-East (MDAC-E) in St. Louis, Missouri for the Structures and Mechanics Division of the NASA Johnson Space Center (NASA-JSC) under Contract NAS9-14012, "Data Correlation and Analysis of Arc Tunnel and Wind Tunnel Test of RSI Joints and Gaps, Phase II." This final report consists of two volumes: Volume I - Technical Report and Volume II - Data Base, Part 1 and Part 2. The period of performance was from 20 May 1974 thru 19 May 1975.

Mr. Donald J. Tillian was the NASA Technical Monitor for this study; Messrs. H. E. Christensen and H. W. Kipp were the MDAC Principal Investigator and Study Manager, respectively. Significant contributions to this study were made by A. E. Bruns, M. B. Donovan, L. H. Ebbesmeyer, E. A. Eiswirth and T. W. Parkinson. The cooperation of numerous NASA Personnel at Ames Research Center, Johnson Space Center and Langley Research Center in providing experimental data, supplemental calculations and valuable counsel was instrumental to the successful completion of this study. We are appreciative of the cooperation from the following for supplying test data; C. D. Scott and L. P. Murray of JSC, W. K. Lockman and F. J. Centolanzi of Ames, D. A. Throckmorton and I. Weinstein of L&RC, and G. W. Mauss and C. B. Blumer of Rockwell International.



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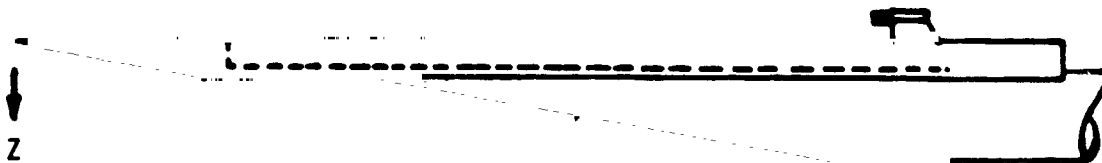
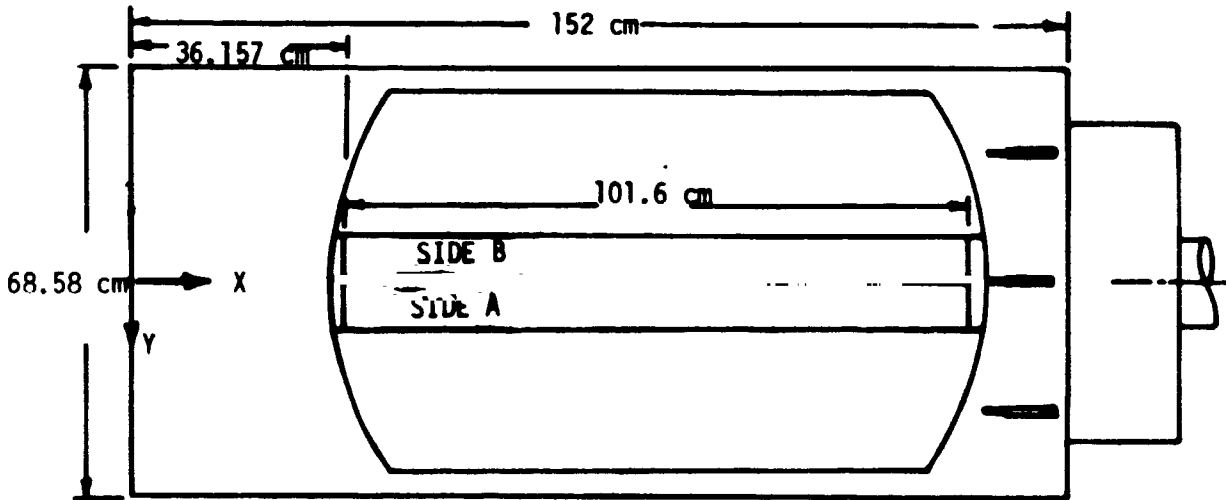
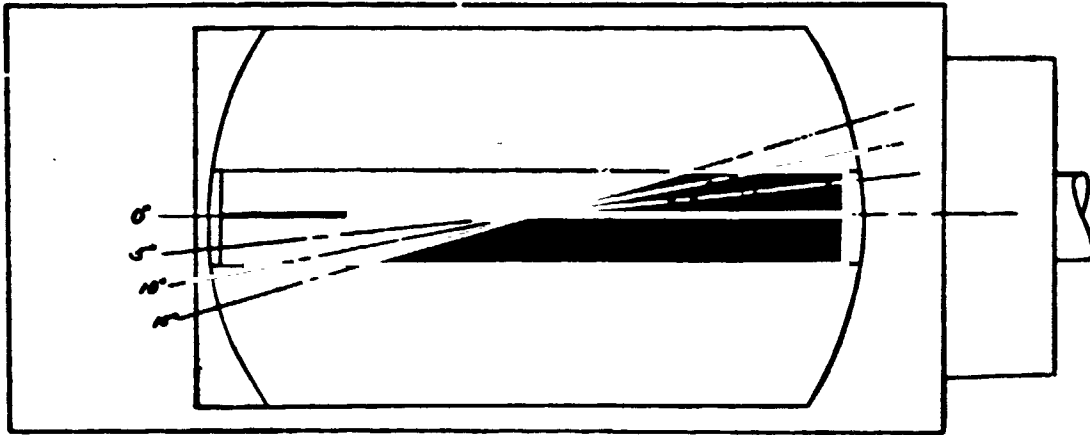


#### 5.0 NASA/AMES, 3.5 FOOT H.W.T. TESTS OF LONG IN-LINE GAP

Thin skin models with a long in-line gap were tested in the Ames 3.5 foot H.W.T., Figure 5.0-1. Thermocouples were installed along the top of the panel and along the faces of the gap. These are shown in Section 5.1. Gap widths of zero, 0.127cm and 0.254 cm for a gap depth of zero, 1.0 cm, 2.0 cm and 3.81 cm and for a gap length of 101.6 and 30.48 centimeters were tested at 0, 5, 10 and 15 degree orientation to the flow. Tests were conducted at a free stream Mach number of 5.1 and Reynolds number per meter of  $1.64 \times 10^6$ ,  $3.28 \times 10^6$  and  $6.56 \times 10^6$ . Figure 5.0-2 is a complete run schedule.



### AMES 3.5 FOOT H.W.T. IN-LINE GAP MODEL





### RUN SCHEDULE

SINGLE IN-LINE GAP TESTED IN THE AMES 3.5 H.W.T.  
MODEL OH-43  
TEST SUPERVISED BY C. D. BLUMER

RUN NO.	$R_N$ ( $\times 10^6/m$ )	GAP WIDTH (cm)	GAP DEPTH (cm)	GAP LENGTH (cm)	GAP ORIENT. ANGLE (DEG)	T/C SCHEDULE	MODULE POSITION SCHEDULE	REMARKS
1	1.64	0.127	0	101.6	0	2	1	TUNNEL CONDITIONS UNSTEADY, WILL RE-RUN GAP FILLED WITH DENTAL PLASTER
2	3.28	↓	↓	↓	↓	↓	↓	
3	1.64	↓	↓	↓	↓	↓	↓	
4	1.64	↓	↓	↓	↓	↓	↓	L.E.1
5	3.28	↓	↓	↓	↓	↓	↓	
6	1.64	↓	2.032	↓	↓	1	↓	L.E.1
7	3.28	↓	↓	↓	↓	↓	↓	
8	6.56	↓	↓	↓	↓	4	↓	L.E.1
9	1.64	↓	↓	↓	↓	↓	↓	
10	3.28	↓	↓	↓	↓	2	↓	L.E.1
11	6.56	↓	↓	↓	↓	↓	↓	
12	6.56	↓	0	↓	↓	5D	↓	L.E.1
13	6.56	↓	3.81	↓	↓	↓	↓	
14	3.28	↓	↓	↓	↓	3A	↓	L.E.1
15	1.64	↓	1.016	↓	↓	↓	↓	
16	6.56	↓	↓	↓	↓	6H	↓	L.E.1
17	3.28	↓	2.032	↓	↓	↓	↓	
18	1.64	↓	↓	30.48 (FWD)	↓	↓	2	L.E.1
19	1.64	↓	↓	↓	↓	↓	↓	
20	3.28	↓	↓	↓	↓	↓	↓	L.E.1
21	1.64	0.254	↓	↓	↓	↓	↓	
22	3.28	↓	↓	↓	↓	5	↓	L.E.1
23	3.28	↓	↓	↓	↓	↓	↓	
24	1.64	↓	↓	↓	↓	6I	↓	L.E.1
25	1.64	0.127	↓	↓	↓	↓	↓	
26	3.28	↓	↓	↓	↓	↓	↓	L.E.1
27	1.64	↓	↓	↓	10	↓	↓	
28	3.28	↓	↓	↓	↓	↓	↓	L.E.1
29	1.64	0.254	↓	↓	↓	↓	↓	
30	3.28	↓	↓	↓	↓	↓	↓	L.E.1
31	3.28	↓	↓	↓	15	↓	↓	
32	1.64	↓	↓	↓	↓	↓	↓	L.E.1
33	3.28	0.127	↓	↓	↓	↓	↓	
34	1.64	↓	↓	↓	↓	6J	↓	L.E.1
35	6.56	↓	↓	↓	↓	↓	3	
36	↓	0.254	↓	↓	↓	↓	↓	L.E.1
37	↓	↓	↓	↓	↓	↓	↓	
38	↓	0.127	↓	↓	↓	↓	↓	L.E.1
39	↓	↓	↓	↓	5	↓	↓	
40	↓	0.254	↓	↓	↓	↓	↓	L.E.1
41	↓	↓	↓	↓	↓	↓	↓	
42	↓	0.127	↓	↓	↓	↓	↓	L.E.1

5.0-3

FIGURE 5.0-2



**RUN SCHEDULE**  
SINGLE IN-LINE GAP TESTED IN THE AMES 3.5 H.W.T.  
MODEL OH-43  
TEST SUPERVISED BY C. D. BLUMER

RUN NO.	$R_N$ ( $\times 10^6/m$ )	GAP WIDTH (cm)	GAP DEPTH (cm)	GAP LENGTH (cm)	GAP ORIENT. ANGLE (DEG)	T/C SCHEDULE	MODULE POSITION SCHEDULE	REMARKS
43	1.64	0.254	1.016	101.6	0	3A	1	L.E.1
44	3.28	↓	↓	↓	↓	↓	↓	L.E.1
45	6.56	↓	↓	↓	↓	↓	↓	
46	1.64	↓	2.037	↓	↓	1	↓	
47	3.28	↓	↓	↓	↓	↓	↓	
48	6.56	↓	↓	↓	↓	4	↓	
49	6.56	↓	↓	↓	↓	4	↓	
50	1.64	↓	↓	↓	↓	4	↓	
51	3.28	0.254	2.032	101.6	↓	↓	↓	
52	1.64	0.063	↓	↓	↓	5D	↓	
53	3.28	↓	↓	↓	↓	↓	↓	
54	1.64	0.254	3.81	↓	↓	15D	↓	TOTAL TEMP. GAP PROBE IN
55	3.28	↓	↓	↓	↓	↓	↓	↓
56	6.56	↓	↓	↓	↓	↓	↓	↓
57	3.28	↓	↓	↓	10	↓	↓	↓
58	1.64	↓	↓	↓	10	↓	↓	↓
59	3.28	↓	↓	↓	5	↓	↓	↓
60	↓	↓	↓	↓	15	↓	↓	↓
61	↓	0.127	↓	↓	15	↓	↓	↓
62	↓	↓	↓	↓	10	↓	↓	↓
63	6.56	↓	↓	↓	10	↓	↓	↓
64	3.28	↓	↓	↓	5	↓	↓	↓
65	6.56	0.063	2.032	↓	0	5D	↓	↓
66	1.64	↓	1.016	↓	↓	3A	↓	↓
67	3.28	↓	↓	↓	↓	↓	↓	↓
68	6.56	↓	↓	↓	↓	↓	↓	↓
69	6.56	↓	0.508	↓	↓	↓	↓	↓
70	1.64	↓	↓	↓	↓	↓	↓	↓
71	3.28	↓	↓	↓	↓	↓	↓	↓
72	1.64	0.127	↓	↓	↓	↓	↓	↓
73	3.28	↓	↓	↓	↓	↓	↓	↓
74	6.56	↓	↓	↓	↓	↓	↓	↓
75	1.64	↓	0.381	30.48	↓	5E	4	TOTAL TEMP. RAKE IN (MOD.6)
76	3.28	0.127	0.381	(FWD)	↓	↓	↓	↓
77	6.56	↓	↓	↓	↓	↓	↓	↓
78	1.64	↓	↓	↓	5	5F	↓	↓
79	3.28	↓	↓	↓	↓	5G	↓	↓
80	3.28	↓	↓	↓	10	↓	↓	↓
81	1.64	↓	↓	↓	↓	↓	↓	↓
82	1.64	↓	↓	↓	15	↓	↓	↓



### RUN SCHEDULE

SINGLE IN-LINE GAP TESTED IN THE AMES 3.5 H.W.T.  
MODEL OH-43  
TEST SUPERVISED BY C. D. BLUMER

RUN NO.	$R_N$ ( $\times 10^6/m$ )	GAP WIDTH (cm)	GAP DEPTH (cm)	GAP LENGTH (cm)	GAP ORIENT. ANGLE (DEG)	T/C SCHEDULE	MODULE POSITION SCHEDULE	REMARKS
83	3.28	0.127	0.381	30.48	15	5G	4	
84	3.28	0.254	↓	(FWD)	↓	↓	↓	
85	1.64	↓	↓	↓	0	5E	↓	
86	1.64	↓	↓	↓	↓	↓	↓	
87	3.28	↓	↓	↓	↓	↓	↓	
88	6.36	↓	↓	↓	↓	↓	↓	
89	1.64	0.127	2.032	↓	↓	↓	↓	
90	3.28	↓	↓	↓	↓	↓	↓	
91	6.56	↓	3.81	30.48	↓	5H	5	
92	6.56	↓	↓	(AFT)	15	↓	↓	
93	6.56	0.254	↓	↓	↓	↓	↓	





5.1 Model Description and Instrumentation Location - The test configuration consisted of a thin skin model inserted into a 68.6 x 152.4 cm carrier plate wedge. Figure 5.0-1 shows the model inserted in the carrier plate. The joint configuration was a single, in-line, gap of either 30.48 cm (12 in) or 101.6 cm (40 in) length. The test matrix included four flow orientations, three gap widths, and four gap depths. A run schedule is given in Figure 5.0-2 which defines the test conditions (i.e., gap width, depth, length, etc) for each run.

The model was heavily instrumented to obtain heating data in the presence of laminar, transitional and turbulent boundary layers, and to investigate the effect of tile orientation for several gap width settings. Instrumentation included total temperature and pressure probes to define the free stream conditions, thermocouples along the gap length to define surface and gap heating, and instrumented modules to further define heating distributions.

The total temperature and pressure probes were mounted on the downstream end of the wedge at three spanwise (Y) locations as seen in Figure 5.0-1. These probes were used to define the free stream conditions for each test run.

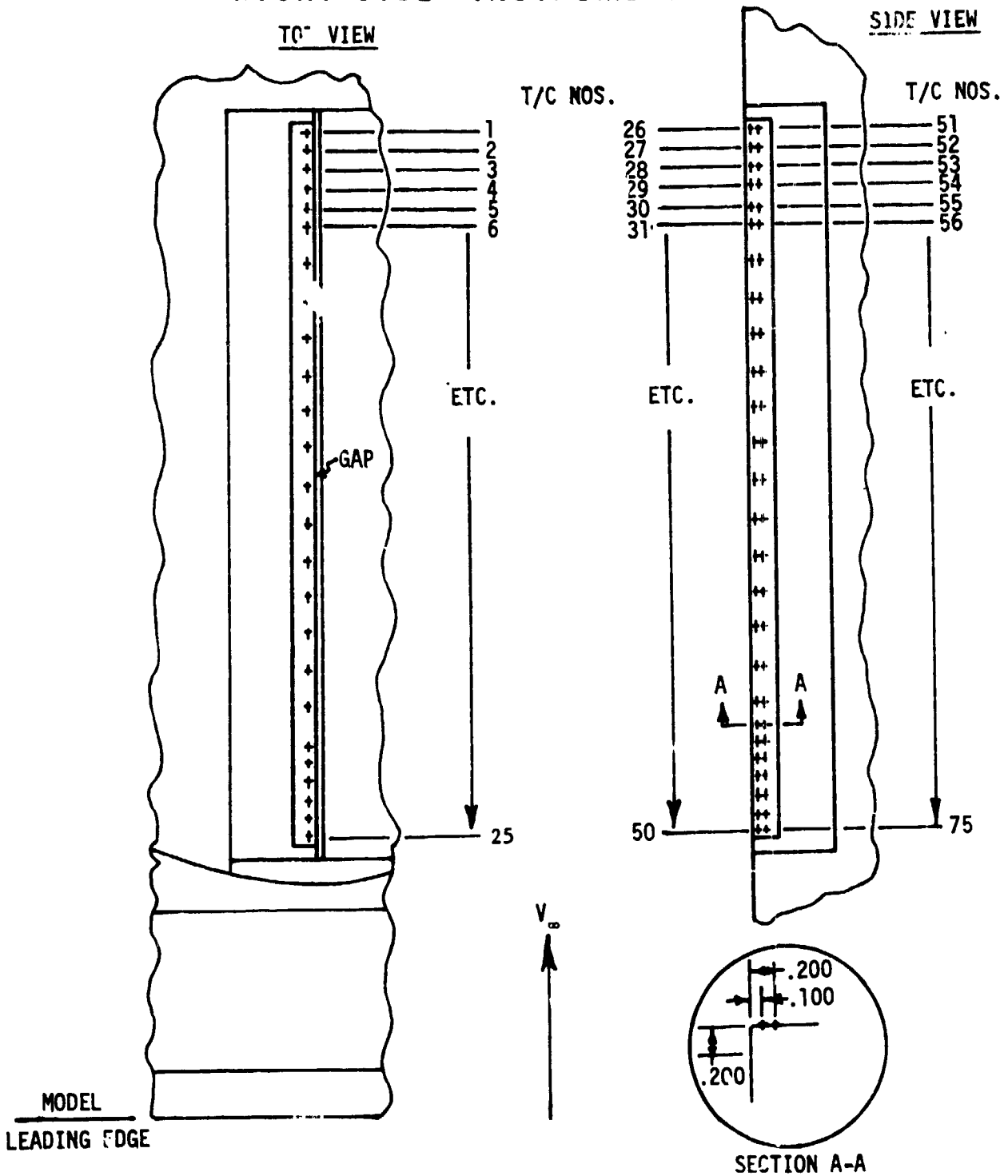
The thermocouples along the gap length are shown graphically in Figure 5.1-1. This instrumentation consisted of one row of thermocouples along the top surface of tile at  $Y = -0.200$  in and two rows of thermocouples near the top of the gap at depths (Z) of 0.100 and 0.200 inch. Each row contained 25 thermocouples. The axial location of each thermocouple is given in Figure 5.1-2.

Thermocouple locations on the instrumented modules are given in Figure 5.1-3 for each of the modules used. During the test program, five different module arrangements or positions were employed as defined in Figure 5.1-4. This figure gives for each arrangement, the instrumented modules used and their axial location. The reader is referred back to the run schedule (Figure 5.0-2) which cross-references the module position used during each run. It is noted, that not all available thermocouples were connected during a run. The thermocouple hookup schedule is given in Figure 5.1-5, and again the reader is referred to Figure 5.0-2 to determine the applicable T/C schedule for each run.

Nominal gap widths investigated during the test program were 0, 0.025, 0.050 and 0.100 inches. For each run, the actual gap width was measured at various axial locations, and are recorded in Figure 5.1-6.



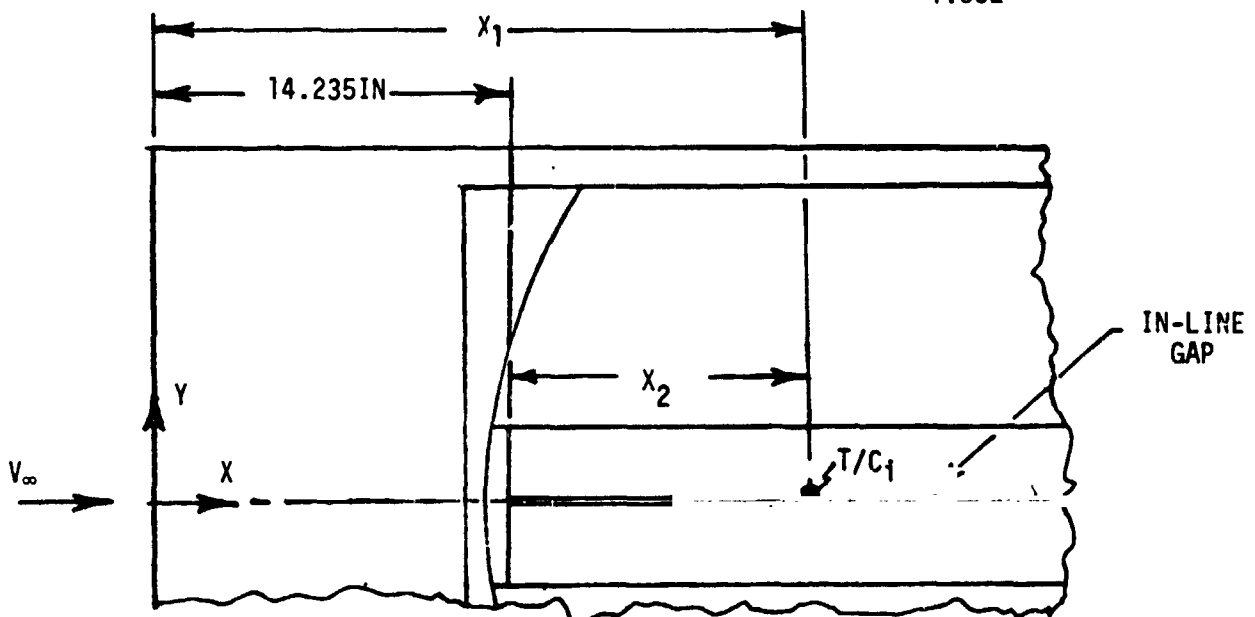
### AMES 3.5 FOOT H.W.T. IN-LINE GAP MODEL RIGHT SIDE INSTRUMENTATION





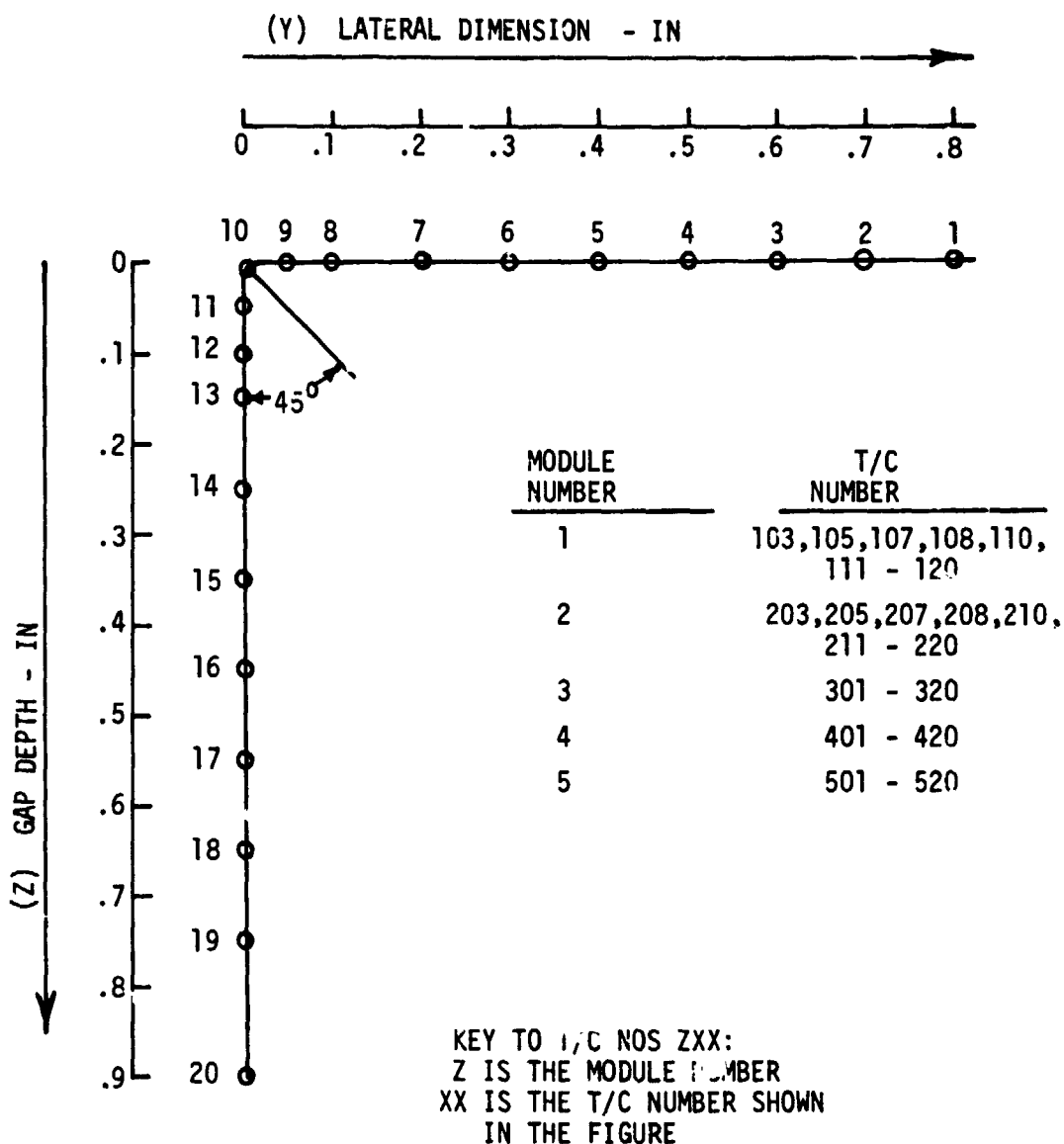
THERMOCOUPLE LOCATIONS  
AMES 3.5 FOOT H.W.T. INLINE GAP MODEL

T/C NUMBERS			$x_1$	$x_2$
ROW 1	ROW 2	ROW 3	DISTANCE FROM LEADING EDGE (IN)	DISTANCE FROM START OF GAP (IN)
1	26	51	53.244	39.009
2	27	52	52.246	38.011
3	28	53	51.246	37.011
4	29	54	50.247	36.012
5	30	55	49.249	35.014
6	31	56	48.250	34.015
7	32	57	46.249	32.014
8	33	58	44.242	30.007
9	34	59	42.247	28.012
10	35	60	40.237	26.002
11	36	61	38.237	24.002
12	37	62	36.238	22.003
13	38	63	34.238	20.003
14	39	64	32.237	18.002
15	40	65	30.237	16.002
16	41	66	28.237	14.002
17	42	67	26.237	12.002
18	43	68	24.236	10.001
19	44	69	22.236	8.001
20	45	70	20.233	5.998
21	46	71	19.237	5.002
22	47	72	18.231	3.996
23	48	73	17.231	2.996
24	49	74	16.235	2.000
25	50	75	15.237	1.002





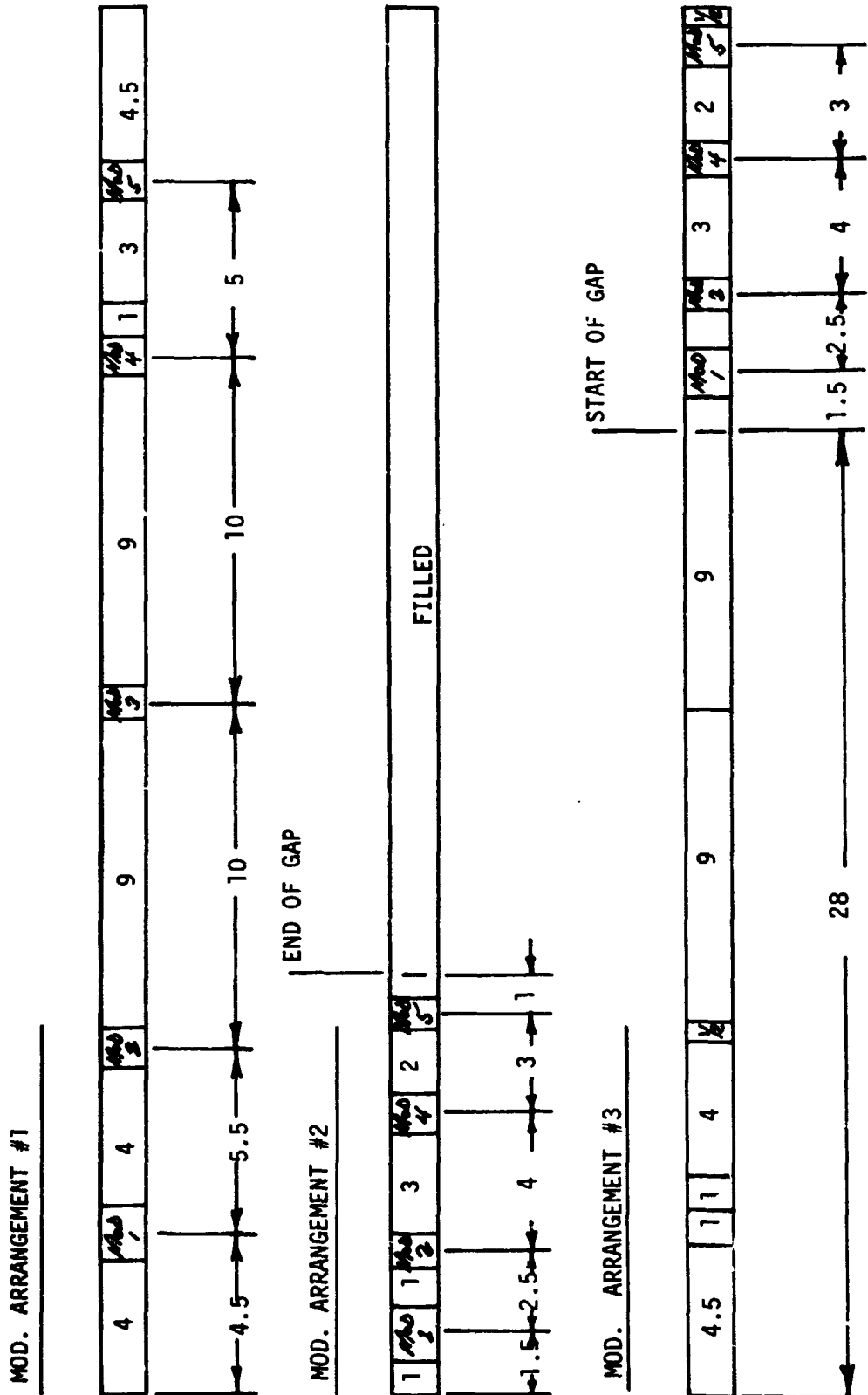
THERMOCOUPLE LOCATIONS ON THE  
INSTRUMENTED MODULES  
AMES 3.5 FOOT H.W.T. IN-LINE GAP MODEL





MODULE POSITIONS AND THERMOCOUPLE LOCATIONS  
AMES 3.5 FOOT H.W.T. IN-LINE GAP MODULE

o ALL DIMENSIONS IN INCHES



5.1-5

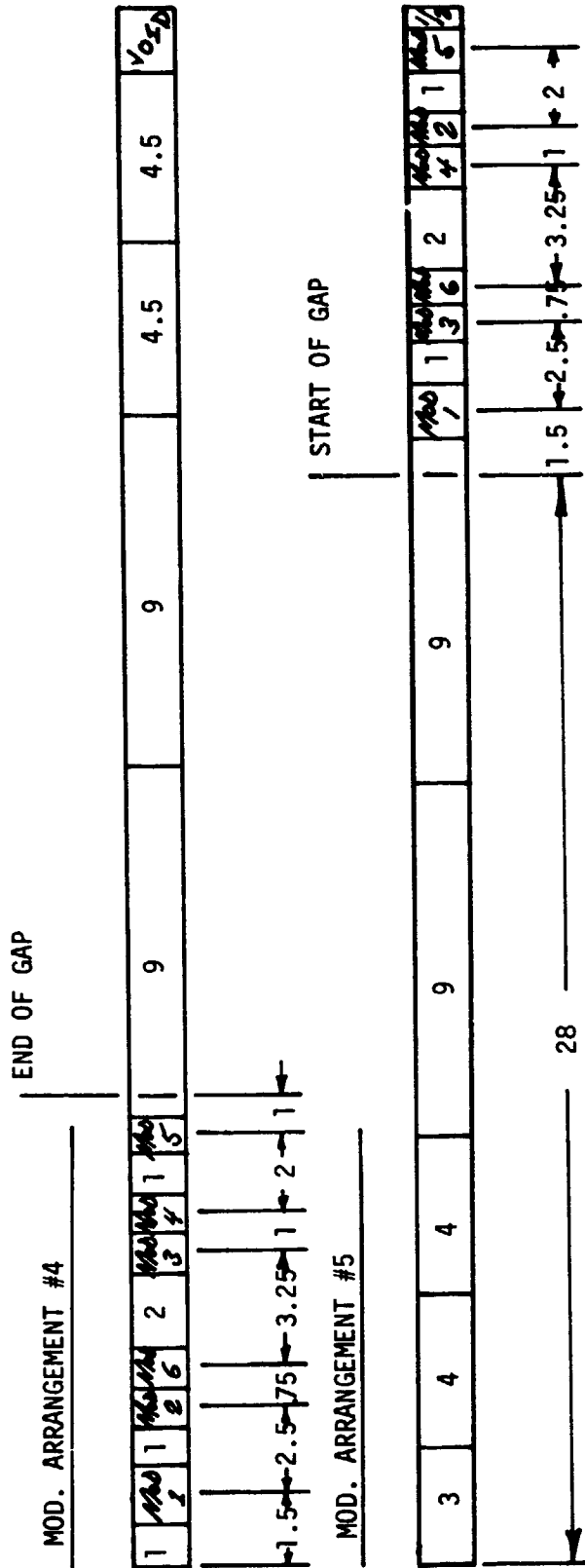
FIGURE 5.1-4





MODULE POSITIONS AND THERMOCOUPLE LOCATIONS  
AMES 3.5 FOOT H.W.T. IN-LINE GAP MODEL

o ALL DIMENSIONS IN INCHES



5.1-6

FIGURE 5.1-4  
CONC.



THERMOCOUPLE HOOKUP SCHEDULES  
AMES 3.5 FOOT H.W.T. IN-LINE GAP MODEL

<u>T/C HOOKUP SCHEDULE NO.</u>	<u>T/C NUMBER</u>	<u>NUMBER OF T/C'S</u>
1	1 - 75	75
2	1 - 25 103,105,107,108,110, 203,205,207,208,210 301 - 310 401 - 410 501 - 510	65
3A	1 - 25 103,105,107,108,110,111 - 115 203,205,207,208,210,211 - 215 306 - 315 406 - 415 506 - 515	75
4	102,105,107,108,110, 111 - 120 203,205,207,208,210, 211 - 220 306 - 320 406 - 420 506 - 520	75
5D	1 - 25 103,105,107,108,110, 111 - 115 203, 205, 207, 208, 210, 211 - 215 306 - 320 506 - 520	75
5E	6 - 25 103,105,107,108,110, 111 - 115 203,205,207,208,210, 211 - 220 306 - 320 506 - 515 601 - 605	75
5F	16 - 25 41 - 50 103,105,107,108,110, 111 - 115 203,205,207,208,210, 211 - 220 306 - 320 406 - 415 601 - 605	75



## THERMOCOUPLE HOOKUP SCHEDULES AMES 3.5 FOOT H.W.T. IN-LINE GAP MODEL

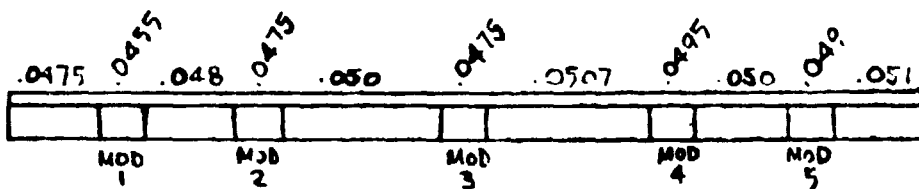
<u>T/C HOOKUP SCHEDULE NO.</u>	<u>T/C NUMBER</u>	<u>NUMBER OF T/C'S</u>
5G	16 - 25 41 - 50 103,105,107,108,110, 111 - 115 203,205,207,208,210, 211 - 220 306 - 320 506 - 515 601 - 605	75
5H	1 - 15 103,105,107,108,110, 111 - 115 306 - 320 406 - 420 506 - 520 601 - 605	75
6H	6 - 25 103,105,107,108,110, 111 - 120 203,205,207,208,210, 211 - 220 406 - 420 506 - 515	75
6I	16 - 25 41 - 50 103,105,107,108,110, 111 - 115 203,205,207,208,210, 211 - 220 406 - 420 506 - 520	75
6J	1 - 15 103,105,107,108,110, 111 - 120 203,205,207,208,210, 211 - 220 406 - 420 506 - 520	75
15D 5D WITH SINGLE GAP PROBE INSTEAD OF T/C 213	1 - 25 103,105,107,108,110, 111 - 115 203,205,207,208,210,211,212, GAP 214,215 306 - 320 506 - 520	75 TOTAL TEMP. PROBE (CALLED GAP)



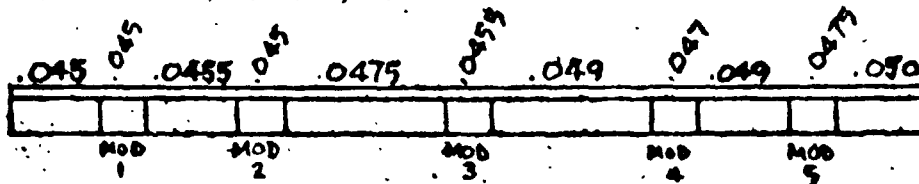
## MEASURED GAP WIDTHS AMES 3.5 FOOT H.W.T. IN-LINE GAP MODEL

- o SKETCHES NOT TO SCALE
- o ALL DIMENSIONS IN INCHES

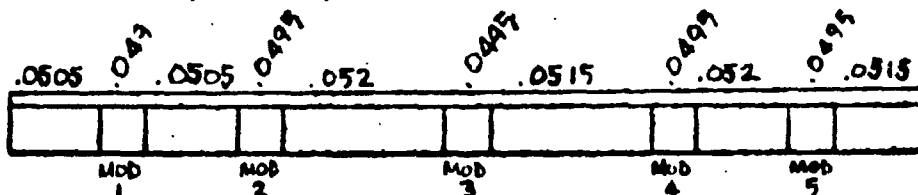
1) RUNS 6-11 40"L, .050"W, .8"D



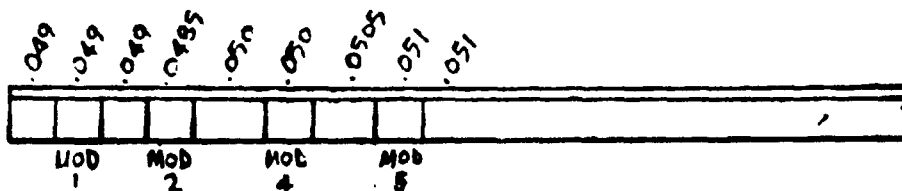
2) RUNS 13-15 40"L, .050"W, 1.5"D



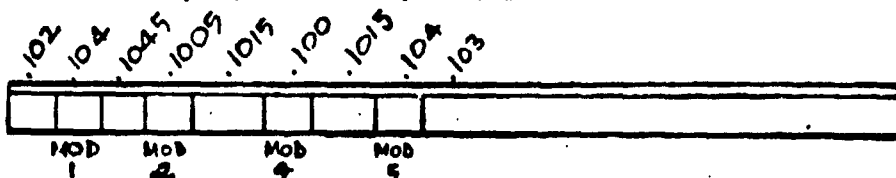
3) RUNS 16-18 40"L, .050"W, .4"D



4) RUNS 19-20 12"(FWD)L, .050"W, .8"D



5) RUNS 21-24 12"(FWD)L, .100"W, .8"D

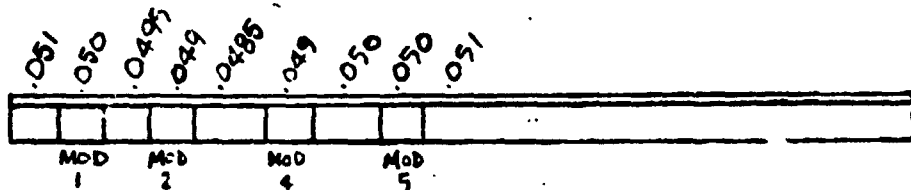




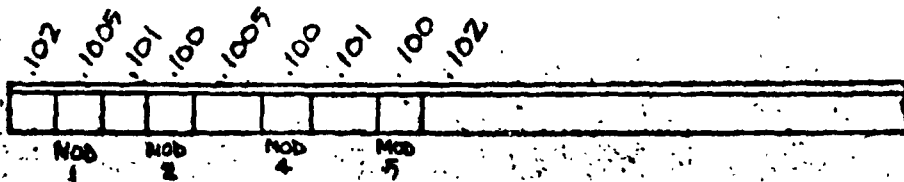
### MEASURED GAP WIDTHS AMES 3.5 FOOT H.W.T. IN-LINE GAP MODEL

- o SKETCHES NOT TO SCALE
- o ALL DIMENSIONS IN INCHES

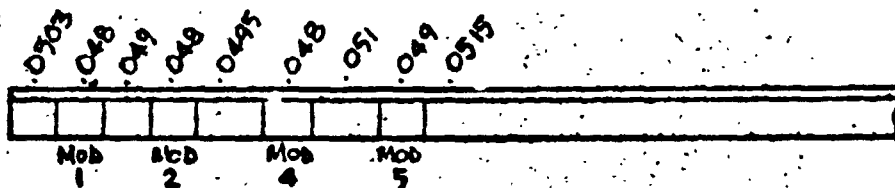
6) RUNS 25-28 12"(FWD)L, .050"W, .8"D



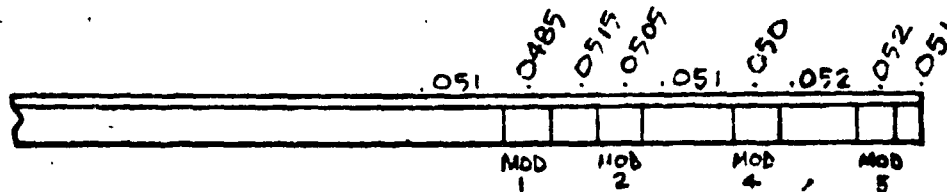
7) RUNS 29-32 12"(FWD)L, .100"W, .8"D



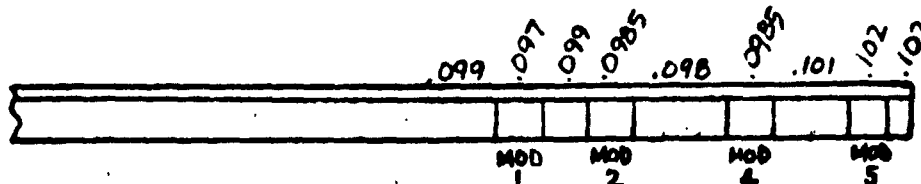
8) RUNS 33-34 12"(FWD)L, .050"W, .8"D



9) RUN 35 12"(AFT)L, .050"W, .8"D



10) RUNS 36-37 12"(AFT)L, .100"W, .8"D



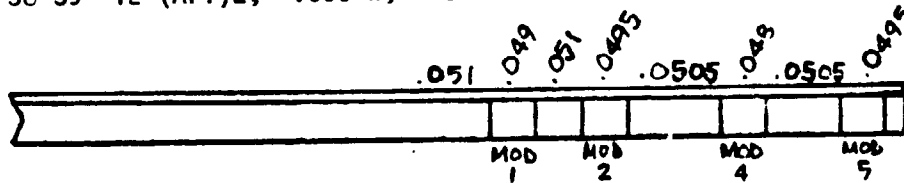




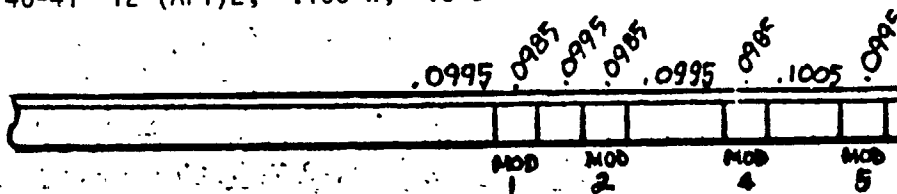
## MEASURED GAP WIDTHS AMES 3.5 FOOT H.W.T. IN-LINE GAP MODELS

- o SKETCHES NOT TO SCALE
- o ALL DIMENSIONS IN INCHES

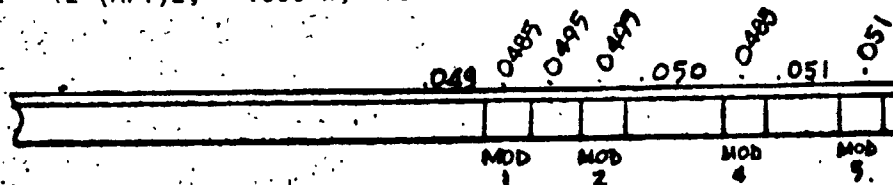
11) RUNS 38-39 12"(AFT)L, .050"W, .8"D



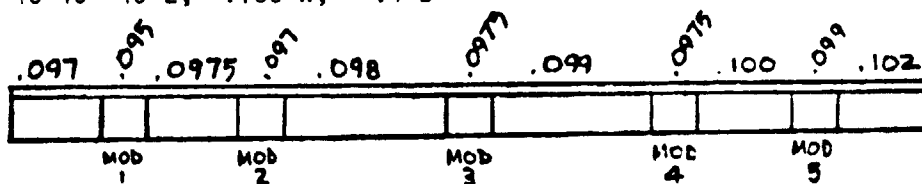
12) RUNS 40-41 12"(AFT)L, .100"W, .8"D



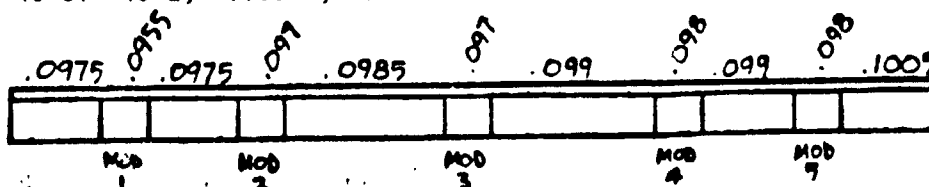
13) RUN 42 12"(AFT)L, .050"W, .8"D



14) RUNS 43-45 40"L, .100"W, .4"D



15) RUNS 46-51 40"L, .100"W, .8"D

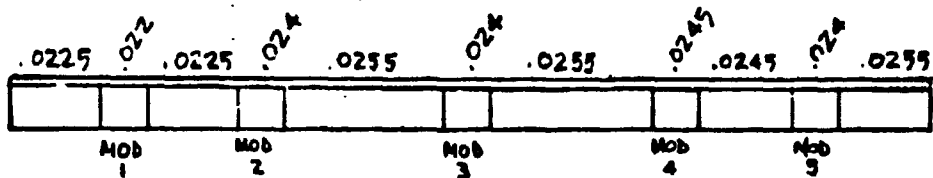




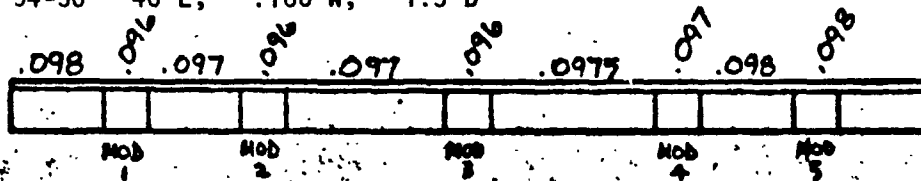
MEASURED GAP WIDTHS  
AMES 3.5 FOOT H.W.T. IN-LINE GAP MODEL

- o SKETCHES NOT TO SCALE
- o ALL DIMENSIONS IN INCHES

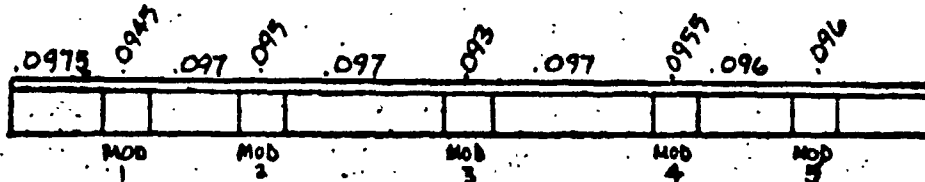
16) RUNS 52-53 40"L, .025"W, .8"D



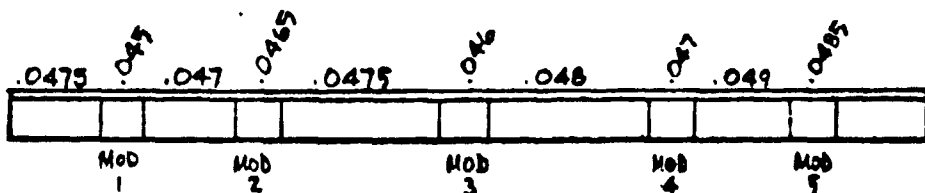
17) RUNS 54-56 40"L, .100"W, 1.5"D



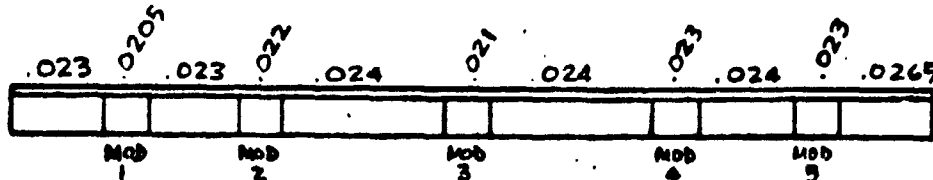
18) RUNS 57-60 40"L, .100"W, 1.5"D



19) RUNS 61-64 40"L, .050"W, 1.5"D



20) RUN 65 40"L, .025"W, .8"D

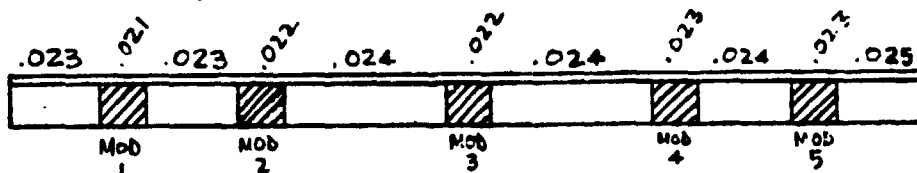




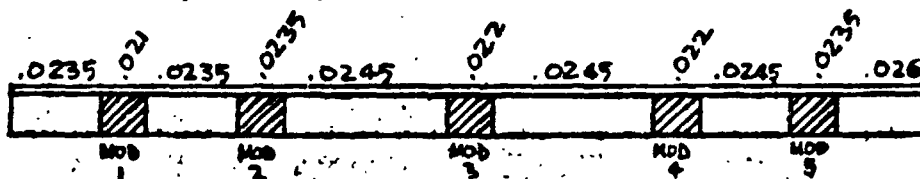
MEASURED GAP WIDTHS  
AMES 3.5 FOOT H.W.T. IN-LINE GAP MODEL

- o SKETCHES NOT TO SCALE
- o ALL DIMENSIONS IN INCHES

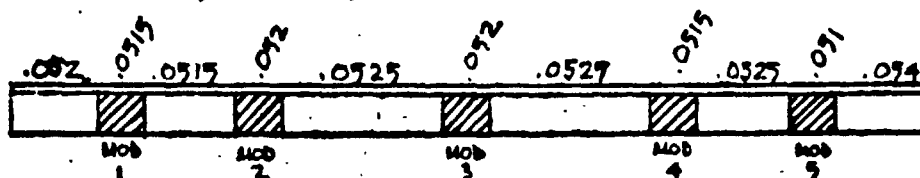
21) RUNS 66-68 40"L, .025"W, .4"D



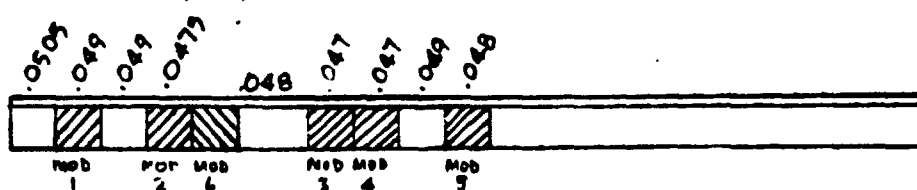
22) RUNS 69-71 40"L, .025"W, .2"D



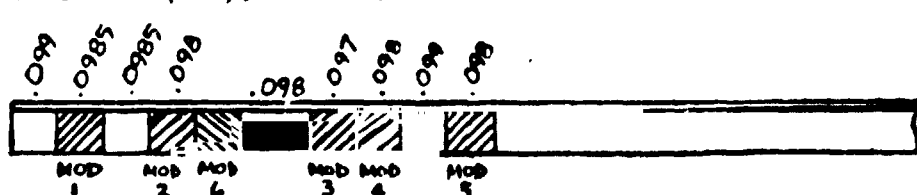
23) RUNS 72-74 40"L, .050"W, .2"D



24) RUNS 75-83 12"(FWD), .050"W, 1.5"D



25) RUNS 84-88 12"(FWD), .100"W, 1.5"D



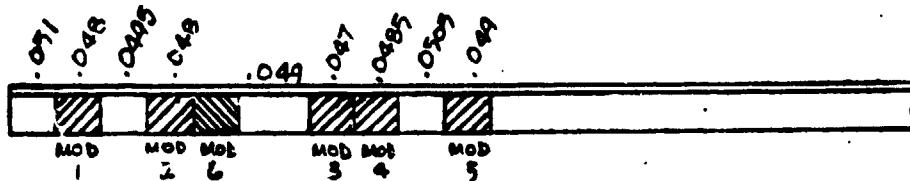


## MEASURED GAP WIDTHS AMES 3.5 FOOT H.W.T. IN-LINE GAP MODEL

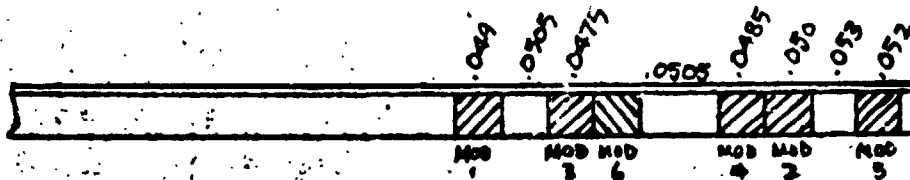
o SKETCHES NOT TO SCALE

o ALL DIMENSIONS IN INCHES

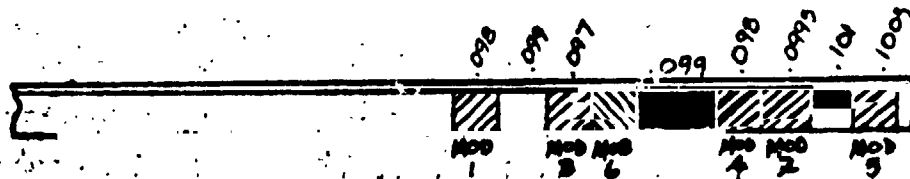
26) RUNS 89-90 12"(FWD), .050"W, .8"D



27) RUNS 91-92 12"(AFT), .050"W, 1.5"D



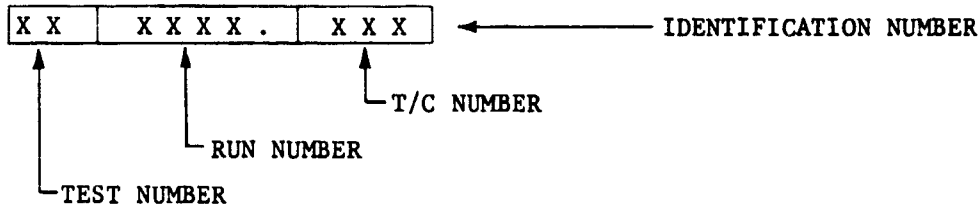
28) RUN 93 12"(AFT), .100"W, 1.5"D





5.2 Explanation of Terminology Used in Data Listing - Results from the Ames long in-line gap tests presented in Section 5.3 are organized by run number and contain information about test conditions, model configuration and thermocouple location, heat transfer parameters and boundary layer parameters. The data listing was prepared by analyzing and combining information recorded during calibration and test runs with boundary layer information.

The terminology used in the data listing is as follows:



- A(RAD) = Flow orientation - radians
- B.L. = Boundary layer state (1=laminar, 2=transitional, 3=turbulent)
- DELS = Displacement thickness
- FLOW-L = Gap flow length
- GAP = Gap width
- GAP-D = Gap depth
- G-CF = Gap configuration
- HAW/HT = Recovery factor (adiabatic wall enthalpy ratioed to free stream total enthalpy)  
0.908 for HT (Turbulent convective heat transfer coefficient)  
0.874 for HL (Laminar convective heat transfer coefficient)
- HL = Convective heat transfer coefficient based on recovery factor of 0.874
- HLC, HLCC = Conduction corrected HL
- HL/HLCC = Convective heat transfer coefficient ratioed to conduction corrected heat transfer coefficient
- HL/HE = Convective heat transfer coefficient ratioed to heat transfer coefficient measured on top of tile near gap
- HLC/HEC = Conduction corrected HL/HE
- HREF = Convective heat transfer coefficient on calibration plate
- HLC/HREF, HLCC/HREF = Conduction corrected HL ratioed to heat transfer coefficient on calibration plate





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HL/HREF	= Convective heat transfer coefficient in gap ratioed to coefficient on calibration plate at the same location
HT	= Convective heat transfer coefficient based on recovery factor of 0.907
LOC	= Instrumentation location
M, MACH	= Mach number
M-THICK	= Momentum thickness
NSTT	= Stanton number based on free stream conditions and HT
NTOL	= Data sequence number
PATN	= Tile pattern (0=staggered, 1=in-line)
PT	= Free stream total pressure
Q	= Convective heating
QS	= Heating rate to a sphere
RE/M, RE/METER	= Unit Reynolds number per meter
RHO VEL	= Free stream density - velocity product
STEP	= Step height
STL	= Stanton number based on free stream conditions and HL
STT	= Stanton number based on free stream conditions and HT
SUB-T	= Sub-layer thickness
T	= Temperature of model at time test data was obtained
TT	= Free stream total temperature
T/C	= Thermocouple number
TW/TE	= Temperature ratio across boundary layer
X	= Distance downstream from leading edge of carrier plate
X(BAR)	= Distance from leading edge of tile
Y, YY	= Lateral distance from tile centerline
Z, ZZ	= Distance from top of tile (X, Y, YY, Z, ZZ form right hand coordinate system)



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5.3 Data Tabulation for Ames 3.5 Foot H.W.T. Long In-Line Gap Heating Tests -

This section contains the program for transcribing data from the Ames 3.5 Foot H.W.T. into the Data Bank and the tabulation generated by the program. The program listing is included for completeness and also documents those steps necessary to process the data into the Data Bank. The data listing begins on Page 5.3-22. This listing employs the "24 Attribute Word List" (described in Volume 1, Section 5) used in the data selection and data correlation programs.







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T8LU110  
T9LU1110

WRITE(22,013)  
IF(MTAPF.EQ.1) WRITE(22,580)  
IF(MTAPF.EQ.1) WRITE(23,590)

THERMOCCUPLE LOCATION SPECIFICATION

DO 28 J=1,195

X(J) = 0.0

Y(J) = 0.0

Z(J) = 0.0

DO 30 I=1,25

X(I+25) = X(J)

Y(I+25) = Y(J)

Z(I+25) = Z(J)

DO 32 J=1,8

X(J+50) = X(J)

Y(J+50) = Y(J)

Z(J+50) = Z(J)

DO 34 I=1,5

X(I+50) = 0.54\*0.2

Y(I+50) = 0.509

Z(I+50) = 0.509

DO 36 I=1,5

X(I+50) = 0.017574

Y(I+50) = 0.017574

Z(I+50) = 0.042426

DO 38 I=1,5

X(I+50) = 0.050

Y(I+50) = 0.050

Z(I+50) = 0.050

DO 40 I=1,5

X(I+50) = 0.054

Y(I+50) = 0.054

Z(I+50) = 0.054

DO 42 I=1,5

X(I+50) = 0.054

Y(I+50) = 0.054

Z(I+50) = 0.054

DO 44 I=1,5

X(I+50) = 0.054

Y(I+50) = 0.054

Z(I+50) = 0.054

DO 46 I=1,5

X(I+50) = 0.054

Y(I+50) = 0.054

Z(I+50) = 0.054



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```

C 40 CONTINUE
C 41 HEATING RATIO TO GAP EDGE AND PRINTS RESULTS (SUB, RATIO)
C 42 IF (RATIO, EA, I) CALL RATIO(M, ND, D, LINE, MTEST, IRUN, I, PAGE)
C 43 I, RATIO = 1
C 44 CALL BUFLT(14, 109, ARRAY(1), ARRAY(100), NWD)
C 45 IF (NWD.EQ.-9) CALL EXIT
C 46 DECODE(13, 972, ARRAY(1)) (M(I), I=1, 10)
C 47 MTEST = M1(1)
C 48 IRUN = M1(2)
C 49 IA = M1(18)
C 50 CALL BUFLT(14, 103, ARRAY(1), ARRAY(100), NWD)
C 51 IF (NWD.EQ.-6) CALL EXIT
C 52 DO 43 J=1, 3
C 53 IA = 120 + J
C 54 KIA = 130 + J KIA=80
C 55 IF (J.EQ.3) (J-1)+1
C 56 I, M1 = I, M1
C 57 I, M-KIA = I, M-KIA+29
C 58 IF (M-KIA) 41, 41, 42
C 59 I, M1 = I, M1
C 60 IF (IRUN.EQ.0) GE.5+.AND.IRUN.LE.64) GO TO 820
C 61 CONTINUE (M1A, 904, ARRAY(IA)) (NTC(I), I=IM0, IM1)
C 62 DECODE(43, 973, ARRAY(IA)) (NTC(I), I=IM0, IM1)
C 63 GO TO 43
C 64 NTC(43) = 700
C 65 SINGLE GAP PROPE IS DESIGNATED AS T/C 700, COORDINATES
C 66 STORED AT 196
C 67 CONTINUE
C 68 CALL BUFLT(14, 108, ARRAY(1), ARRAY(100), NWD)
C 69 IF (NWD.EQ.-6) CALL EXIT
C 70 DO 45 J=1, 4
C 71 IA = 130 + (J-1) + 1
C 72 I, M1 = I, M1
C 73 DECODE(13, 972, ARRAY(IA)) (M(I), I=IM0, IM1)
C 74 CONTINUE
C 75 CALL BUFLT(14, 109, ARRAY(1), ARRAY(100), NWD)
C 76 IF (NWD.EQ.-6) CALL EXIT
C 77 DO 46 J=1, 13
C 78 IA = 130 + (J-1) + 1
C 79 I, M1 = I, M1
C 80 DECODE(130, 972, ARRAY(IA)) (M(I), I=IM0, I+1)
C 81 CONTINUE
C 82 IA = I, M1+1

```

5.3-5



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```

002566      IM1 = IM0+7
002570      DECODE(104,902,ARRAY(IA)) (M(I),I=IM0,IM1)
002574      CONTINUE
002578      IF (IRUN.GT.3) CALL EXIT
002582      CHECK T/C NO. FOR OUT OF SEQUENCE
002586      NLL = -1
002590      DO 49 JJ=1,4
002594      IF (NTC(JJ).EQ.733) GO TO 49
002598      IF (NTC(JJ).GT.NLL) GO TO 48
002602      NTC(JJ) = NLL+1
002606      GO TO 49
002610      48 NLL=NTC(JJ)
002614      49 CONTINUE
002618      C
002622      JM = 0
002626      CCC
002630      IF (IRUN.LT.2) JM = 1
002634      C
002638      GAM = 0
002642      MRUN = 0
002646      IF (IRUN.EQ.12) GO TO 51
002650      IF (IRUN.GT.5) GO TO 52
002654      ZERO GAP = 0.0
002658      51 GAPD = 0.0
002662      GAPL = 0.0
002666      GAPR = 0.0
002670      MODPE = 1
002674      MODPE = INSTRUMENTATION MODULE POSITION
002678      GO TO 60
002682      52 GAPL = 0.05C
002686      GAPR = 0.0
002690      GAPD = 0.0
002694      MODPE = 1
002698      IF (IRUN.LT.13) GO TO 60
002702      IF (IRUN.LT.16) GO TO 60
002706      GAPL = 0.4
002710      IF (IRUN.LT.19) GO TO 60
002714      MODPE = 2
002718      GAPL = 7.05C
002722      GAPR = 7.0
002726      GAPD = 7.0
002730      IF (IRUN.LT.21) GO TO 60
002734      IF (IRUN.LT.22) GAM = 5.0
002738      C
002742      IF (IRUN.LT.23) GO TO 50
002746      IF (IRUN.GT.26) GAM = 10.0
002750      GAP = 3.05
002754      IF (IRUN.LT.29) GO TO 60
002758      IF (IRUN.GT.33) GAM = 15.0
002762      GAP = 0.1
002766      IF (IRUN.LT.33) GO TO 60
002770      IF (IRUN.LT.35) GO TO 60
002774      IF (IRUN.GT.35) GAM = 10.0
002778      C
002782      002786
002790      002794
002798      002802
002806      002810
002814      002818
002822      002826
002830      002834
002838      002842
002846      002850
002854      002858
002862      002866
002870      002874
002878      002882
002886      002890
002894      002898
002902      002906
002910      002914
002918      002922
002926      002930
002934      002938
002942      002946
002950      002954
002958      002962
002966      002970
002974      002978
002982      002986
002990      002994
002998      003002
003006      003010
003014      003018
003022      003026
003030      003034
003038      003042
003046      003050
003054      003058
003062      003066
003070      003074
003078      003082
003086      003090
003094      003098
003102      003106
003110      003114
003118      003122
003126      003130
003134      003138
003142      003146
003150      003154
003158      003162
003166      003170
003174      003178
003182      003186
003190      003194
003198      003202
003206      003210
003214      003218
003222      003226
003230      003234
003238      003242
003246      003250
003254      003258
003262      003266
003270      003274
003278      003282
003286      003290
003294      003298
003302      003306
003310      003314
003318      003322
003326      003330
003334      003338
003342      003346
003350      003354
003358      003362
003366      003370
003374      003378
003382      003386
003390      003394
003398      003402
003406      003410
003414      003418
003422      003426
003430      003434
003438      003442
003446      003450
003454      003458
003462      003466
003470      003474
003478      003482
003486      003490
003494      003498
003502      003506
003510      003514
003518      003522
003526      003530
003534      003538
003542      003546
003550      003554
003558      003562
003566      003570
003574      003578
003582      003586
003590      003594
003598      003602
003606      003610
003614      003618
003622      003626
003630      003634
003638      003642
003646      003650
003654      003658
003662      003666
003670      003674
003678      003682
003686      003690
003694      003698
003702      003706
003710      003714
003718      003722
003726      003730
003734      003738
003742      003746
003750      003754
003758      003762
003766      003770
003774      003778
003782      003786
003790      003794
003798      003802
003806      003810
003814      003818
003822      003826
003830      003834
003838      003842
003846      003850
003854      003858
003862      003866
003870      003874
003878      003882
003886      003890
003894      003898
003902      003906
003910      003914
003918      003922
003926      003930
003934      003938
003942      003946
003950      003954
003958      003962
003966      003970
003974      003978
003982      003986
003990      003994
003998      004002
004006      004010
004014      004018
004022      004026
004030      004034
004038      004042
004046      004050
004054      004058
004062      004066
004070      004074
004078      004078

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```

MDCP = 7
IF (IRUN .LT. 35) GO TO 60
IF (IRUN .GT. 33) GAM = 5.0
IF (IRUN .GT. 40) GAM = 0.0
IF (IRUN .GT. 42) GO TO 60
IF (IRUN .GT. 43) GO TO 60
IF (IRUN .GT. 10)
GAPD = 1.4
MDCP = 1
IF (IRUN .LT. 6) GO TO 60
IF (IRUN .LT. 52) GO TO 60
IF (IRUN .LT. 25) GO TO 60
IF (IRUN .LT. 10)
GAPD = 1.5
IF (IRUN .LT. 57) GO TO 60
IF (IRUN .EQ. 59) GAM = 5.0
IF (IRUN .GT. 53) GAM = 15.0
IF (IRUN .GT. 61) GAM = 10.0
IF (IRUN .EQ. 50)
GAPD = 1.0
IF (IRUN .EQ. 64) GAM = 5.0
IF (IRUN .LT. 65) GO TO 60
GAPD = 0.025
GAPD = 0.07
IF (IRUN .LT. 66) GO TO 60
IF (IRUN .LT. 69) GO TO 60
IF (IRUN .LT. 72) GO TO 60
IF (IRUN .LT. 75) GO TO 60
MDCP = 12.0
GAPD = 1.0
IF (IRUN .GT. 73) GAM = 5.0
IF (IRUN .GT. 81) GAM = 15.0
IF (IRUN .GT. 84) GO TO 60
IF (IRUN .GT. 85) GAM = 0.0
IF (IRUN .GT. 89) GO TO 60
IF (IRUN .EQ. 0)
GAPD = 5
IF (IRUN .LT. 91) GO TO 60
MDCP = 1.5
IF (IRUN .GT. 91) GAM = 15.0

```







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LINE = 0  
NLAST = 105  
WRITE(6,97) W1(9), GAPL, W1(3), GAP, W1(10), GAPD, W1(4), GAM,  
W1(3), W1(14), MODP  
1 WRITE(5,911)  
WRITE(5,918)  
WRITE(6,970)  
LINE = LINE + 3

M = W1(18)  
DO 372 I=1, M  
W(I) = W(I)/1.8  
TAW = W(9) + 0.874

DO 400 I = 1, N  
HT = W(I) + 1.77 \* W1(14)  
HL = W(I) + 6.43 \* W1(14)  
N = NTC(I)  
MCHLCC = 9899.  
HLCOHR = 3853.  
STORAGE LOCATIONS INDEX

X = NLT.131) GO TO 300  
IF (NLT.271) GO TO 390  
IF (NLT.301) GO TO 390  
IF (NLT.431) GO TO 390  
IF (NLT.531) GO TO 390  
IF (NLT.631) GO TO 390  
IF (NLT.770) GO TO 390  
K = N-504  
CONTINUE

REFERENCE HEATING (RE--LINEAR, Y--2ND ORDER, X=LINEAR)

JK = X(K)  
XX = X(K)  
IF (W1(4).EQ.RELAST.AND. XX.EQ.XLAST .AND. Y(J).EQ.YLAST) GO TO 300  
IM = IM + 1  
IF (W1(4).EQ.RELAST) GO TO 290  
RELAST = W1(4)  
L = L + 1  
FINO REYNOLDS NO. POINT TO LEFT

II = II + 1  
IF (L) = II  
IF (II.EQ.3) GO TO 280  
IF (W1(4).EQ.RECAL(II+1,L)) GO TO 270  
IF (L) = (W1(4) - RECAL(II+1,L)) / (RECAL(II+1,L) - RECAL(II+1,L))  
R2(L) = 1.0 - R1(L)

ORIGINAL PAGE IS  
OF POOR QUALITY

TBLU3990  
TBLU4000  
TBLU4010  
TBLU4020  
TBLU4030  
TBLU4060  
TBLU4070  
TBLU4080  
TBLU4090  
TBLU4101  
TBLU4110  
TBLU4140



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0014F2 IF (IM.LT.IWT) WRITE(6,670) L,II,R1(L),R2(L),W1(4),PICAL(II,L),RECAL
001510 1(I,I+1,3) GO TO 26*
001513 CONTINUE
001513 IF (Y(J).EQ.YLAST) GO TO 305
001516 YLAST = Y(J)
001520 F1 = (Y2 - Y(J)) * (Y3 - Y(J)) / D1
001524 F2 = (Y1 - Y(J)) * (Y1 - Y(J)) / D2
001531 F3 = (Y2 - Y(J)) * (Y1 - Y(J)) / D3
001536 IF (IM.LT.IWT) WRITE(6,580) F1,F2,F3,Y(J),Y1,Y2,Y3,C1,D2,D3
C
001570 IF (XX.EQ.XLAST) GO TO 350
001572 IF (XX.LT.XTAB(ITOTAL-1)) GO TO 310
001575 ILAST = ITOTAL
001577 GO TO 34C
001577 IF (XTAB(ILAST).GT. XX) GO TO 330
001577 ILAST = ILAST + 1
001577 IF (ILAST.EQ.ITOTAL) GO TO 340
001577 IF (XTAB(ILAST).GT. XX) GO TO 340
001577 GO TO 320
001577 IF (XTAB(ILAST-1).LE.XX) GO TO 34*
001577 ILAST = ILAST - 1
001577 IF (ILAST.EQ.0.2) GO TO 34C
001577 GO TO 330
001577 CONTINUE
001577 IF (ILAST.LT.2) ILAST=2
001577 XC = (XX - XTAB(ILAST)) / (XTAB(ILAST-1) - XTAB(ILAST))
001577 XLAST = XC
001577 IF (IM.LT.IWT) WRITE(6,690) ILAST,BCD,XX,XTAB(ILAST),XTAB(ILAST-1)
C
001655 DO 360 L=1,3
001657 I = I(L)
001661 KKK = I(L) - 2
001664 DO 360 KKK=1,2
001666 KKK = KKK + 1
001666 IF (IM.LT.IWT) WRITE(6,700) L,KK,KKK,HREF(KKK,I,L),R1(L),HREF(KKK,
001724 1(I+1,L),R2(L))
001747 H1(KK,L) = HREF(KKK,I,L) * R1(L) + HREF(KKK,I+1,L) * R2(L)
001763 DO 370 KK=1,2
001765 H2(KK) = H1(KK,1) * F1 + H1(KK,2) * F2 + H1(KK,3) * F3
001776 HREF = 900 * H2(1) + (100 - 300) * H2(2)
002002 IF (IM.LT.IWT) WRITE(6,720) HREF,BCD,H2,F1,F2,F3
C
002024 CONTINUE
002024 HREF = HL / HREF
002026 ND(I) = N
002030 O(1,I) = Y(K)
002034 O(2,I) = Y(K)
002037 O(3,I) = Z(K)
002043 O(4,I) = 9999
002045 O(1,I) = W(I)
002050 IF (W(I+640).GT. 1.E-07 .AND. W(I+640).LT.1.0) GO TO 382
002060 GO TO 400
C
002060 O = W(I+15.) * 11346.931

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TBLU4180  
TBLU4190  
TBLU4210  
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TBLU4290  
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TBLU4580  
TBLU4590  
TBLU4600





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C 002222E DIST = VY**2 + VZ**2
C 002222E IDIR = 2, RIGHT SIDE
C 002222E IDIR = 1, LEFT SIDE
C 002222E IF (N1.LT.N) IDIR=1
C 002222E IF (JM.EC.1)
C 002222E 1WRITE (F,312) J,K,K1,N1,DIR,VY,Y(K1),Y(K),VZ,Z(K1),Z(K)
C 002222E 1IF (DIST.GT. DIST2(IDIR)) GO TO 395
C 002222E 1IF (DIR.IDIR) = DIST
C 002222E JD(IDIR) = POINTER FOR TEMP.
C 002222E K1S(ICIE) = K1
C 002222E 385 CONTINUE
C 002222E IF (JM.EC.1)
C 002222E 1WRITE (F,912) JD
C 002222E SINGLE END 2 ND. ORDER TEMP CURVE FIT
C 002222E KFD = 0
C 002222E SIGM1 = 1.0
C 002222E SIGM2 = 1.0
C 002222E 1IF (JD(1).NE.0) .AND. JD(2).NE.0) GO TO 387
C 002222E 1IF (JD(1).EQ.0) .AND. JD(2).EQ.0) GO TO 387
C 002222E 1IF (JD(1).NE.0) GO TO 378
C 002222E KFD = 1
C 002222E SIGM1 = -1.0
C 002222E SIGM2 = JD(2)+1
C 002222E K1 TO K1S(2)+1
C 002222E GO TO 379
C 002222E 378 KFD = 2
C 002222E JD(2) = JJ(1)-1
C 002222E SIGM2 = 1.0
C 002222E K1S(1) = K1S(1)-1
C 002222E K1 = Y(K1)-Y(K)
C 002222E VZ = Z(K1)-Z(K)
C 002222E VZ DIST2(KFD) = VY**2 + VZ**2
C 002222E CONTINUE
C 002222E 381 IF (JM.EC.1) GO TO 392
C 002222E 392 IF (DIST2(1).GT. 0.0) .AND. DIST2(2).GT. 0.0) GO TO 393
C 002222E 1WRITE (F,912) J,K,K1,N1,KFD,VY,Y(K1),Y(K),VZ,Z(K1),
C 002222E Z(K),DIST2
C 002222E CONTINUE
C 002222E POINTS ON PT. AND LEFT HAVE BEEN ESTABLISHED
C 002222E 396 JJ=1,3
C 002222E J = JD(JJ)
C 002222E IF (J.EQ.3) J = I .682575*300.
C 002222E CP = 312.426 + .692575*W(J)
C 002222E CP = 312.426 + .692575*H(J)
C 002222E CP = SPECIFIC HEAT OF 174 PH S. S. (J/KG-K)
C 002222E WZRCPE = (W(J)+440)*W1(14)/CP) + 505.328
C 002222E 505.328 = 1.09.001*100/(0.02254+7861.116)

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SURROUTING PATIC(M,ND,0,LINE,MTEST,IRUN,IPAGE)  
HEADING RATIOED TO GAP EDGE AND PRINTS T/C DATA, AMES IN-LINE GAP  
HEATING AT GAP AVERAGED, IF POSSIBLE

COMMON WORDT (KN, MSKIP, NSKIP)  
DIMENSION WORDT(24,80)  
DIMENSION IMORDT(24,160)  
EQUIVALENCE (WORDT,IMCRODT)  
DIMENSION ND(1), O(14,80), X1(26), X2(6), M2(6), ITC(5)  
DATA T/C(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100)  
DATA N10L/27

HEATING CORRECTED FOR CONDUCTION, FIRST CHOICE  
UNCORRECTED HEATING SECOND CHOICE

T/C 1 TO 25 MAKE FIRST STRING  
T/C 107, 307, 407, 507 MAKE SECOND STRING

FORMING STRINGS \*\*\*\*\*

DO 10 I=1,25  
X1(I) = 9999.  
IF (I.GT.5) GO TO 10  
X2(I) = 9999.  
10 CONTINUE

DO 100 I=1,10  
IF (D(I).EQ.9999.) GO TO 100  
IF (ND(I).GT.25 .AND. ND(I).LE.75) GO TO 100  
IF (ND(I).GT.25) GO TO 40  
M = D(14,I)  
IF (M.GT.1) .C .AND. M.NE.9999.) GO TO 20  
H = D(7,I)  
IF (H.LT.0) .OR. H.GT. 9.0) GO TO 100

J = 25  
20 IF (D(I).GT.1) .GT. X1(J)) GO TO 32  
30 IF (D(I).EQ.1 .AND. (D(I).EQ. 1 (J-1))) GO TO 32  
X1(J+1) = X1(J)  
H1(J+1) = H1(J)  
X1(J) = H1(J)  
H1(J) = H  
32 CONTINUE  
J = J-1  
IF (J.GT.0) GO TO 30  
GO TO 10

40 DO 50 J=1,5 .ITC(J) GO TO 60  
50 CONTINUE  
50 GO TO 100  
60 H = C(14,I) .AND. M.NE.9999.) GO TO 70  
IF (M.GT.1) .OR. H.GT.3.0) GO TO 100  
H = C(14,I) .OR. H.GT.3.0) GO TO 100

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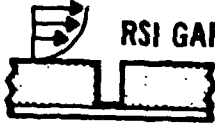
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000335 IF (J+1,GT,I,J) GO TO 150
000341 IF (H2(J+1).LT,FF+H2(J)) GO TO 155
000347 C XTRAN2 = X2(I)
000351 GO TO 156
000352 CONTINUE
000355
000355 C
000367
000373 IF (XTRAN1.LT,1.E30 .AND. XTRAN2.LT,1.E30)
000376 XTRAN = XTRAN1
000377 XTRAN = (XTRAN1 + XTRAN2)/2.0
000380 IF (XTRAN1.EQ,1.E30) XTRAN = XTRAN2
000384 IF (XTRAN2.EQ,1.E30) XTRAN = XTRAN1
000387 TURR = B.L. ONSET
000390 XTURB1 = 1.E30
000393 XTURB2 = 1.E30
000396 XTURB1 = 1.E30
000400 IF (XTRAN.AN,1.GT, 250.0) GO TO 163
000404 IF (X1(I).LT,XTRAN) GO TO 158
000407 IF (X1(I)+ID)
000411 DO 157 J=I,II
000414 IF (J+1,GT,I) GO TO 159
000417 IF (H1(J+1).GT, H1(J)/FF) GO TO 158
000420 CONTINUE
000423 XTURB1 = X1(I)
000426 GO TO 159
000429 CONTINUE
000432
000435 C
000437 IF (X2(I).LT,I,J XTRAN) GO TO 162
000441 IF (X2(I)+ID)
000444 DO 161 J=I,II
000447 IF (J+1,GT,I) GO TO 163
000450 IF (H2(J+1).GT, H2(J)/FF) GO TO 162
000453 CONTINUE
000456 XTURB2 = X2(I)
000459 GO TO 163
000462
000462 C
000474 IF (XTURB1.LT,1.E30 .AND. XTURB2.LT, 1.E30)
000477 XTURB = XTURB1 + XTURB2
000480 XTURB = (XTURB1 + XTURB2)/2.0
000483 IF (XTURB1.EQ,1.E30) XTURB = XTURB2
000486 IF (XTURB2.EQ,1.E30) XTURB = XTURB1
000489 EDGE RATIO
000492 GO TO 159
000495 I=1,M
000502 R = 0.0
000507 IF (0.4 I).EQ, 9999.9) GO TO 300
000510 GO TO (16,17,18,30) K
000513 IF (D(1+6U(I)DUM1(I), I) .OR. D(1+6U(I)DUM2(I), I) .GT, X1(I)) GO TO 100
000517 CALL D(1+6U(I)DUM1(I), I) .OR. D(1+6U(I)DUM2(I), I)
000522 IF (D(1+6U(I)DUM1(I), I) .GT, X2(I)) GO TO 170

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C011237 39F KM = KM+1
C011241 WORDT(4,KM) =
C011244 BOUNDARY LAYER STATE DESIGNATION
C011247 IF(WORDDT(4,KM) .GT. XTRAN) IWORDDT(24,KM) = 3
C011277 IF(WORDDT(4,KM) .GT. XTUR3) IWOPDDT(24,KM) = 3
C011277 MSKIP = MSKIP + 1
C011277 NTOL = NTOL+1
C011277 IF(MSKIP.LT.NSKIP) GO TO +5
C011277 MSKIP = MSKIP + 1
C011277 WRITE(22,500) WORDI(1,KM), IWORDDT(2,KM), IWORDDT(3,KM),
1 (WORDT(N,KM),N=4,13), IWORDDT(14,KM), WORDDT(16,KM), WORDDT(16,KM),
2 (WORDT(17,KM),N=18,23), IWORDDT(N,KM),N=18,23), IWORDDT(24,KM), NTOL
450 WRITE(23,610) WORDDT(1,KM), (WORDT(N,KM),N=18,23), IWORDDT(24,KM), NTOL
400 CONTINUE
400 WRITE(6,914)
1 WRITE(6,913) (Y1(I),H1(I), I=1,IT)
1 WRITE(6,912) (X2(I),H2(I), I=1,IJ)
1 WRITE(6,911) XTRAN,XTUR3
1 WRITE(6,910) KN, WRITE(6,915) KM, KN
1 WRITE(6,916) KN, (WORDT(KM,JN),KM=1,24), JN=1,KN)
KN=0
RETURN
C011341 600 FORMAT(F12.3,2I5,2F9.2,F6.2,2F8.3,F7.2,2F6.3,F8.2,F7.3,I5,F7.2,E11T8LU6240
C011344 1 FORMAT(F12.3,2I5,2F9.2,F6.2,2F8.3,F7.2,2F6.3,F8.2,F7.3,I5,F7.2,E11T8LU6240
C011347 2 FORMAT(F12.3,2F8.3,E11.3,F9.4,2E11.2,2I5)
C011350 900 FORMAT(I4,3F7.2,3E10.2,F6.3,3E11.3,F6.1,E10.2,3F8.3)
C011353 901 FORMAT(I4,3F7.2,3E10.2,F6.3,3E11.3,F6.1,26X,F8.3)
C011356 906 1 FSI GAP RUN(*I4,X STL Y Y Z Z Y HL HL/HLCC HT HLCC/H
1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011359 908 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011362 2 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011365 900 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
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C011691 973 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011694 974 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011697 975 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011700 976 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011703 977 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011706 978 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011709 979 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011712 980 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011715 981 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011718 982 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011721 983 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011724 984 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011727 985 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011730 986 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011733 987 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011736 988 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011739 989 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011742 990 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011745 991 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011748 992 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011751 993 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011754 994 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011757 995 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011760 996 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011763 997 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011766 998 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011769 999 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)
C011772 1000 1 HREFF HL/HE*) 1973.35X,*PAGE*I4) 1973.35X,*PAGE*I4)

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RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 00651

PAGE 1

AMES 3.5 FT PWT TEST (192), C.3. (VOLUME, IN-LINE RSI GAP RUN ( 1) 1973

IT = 1.22054" (14) GAP LENGTH = 0.508 (CM)  
 PT = 4.93585" (125) GAP WIDTH = 0.380 (CM)  
 MT = 1.22628" (31) GAP DEPTH = 0.307 (CM)  
 FE/METER = 1.427 (MG) ORIENTATIONS = 1.771 (DEG)  
 MAGN = 3.105 TS = 7.0931E+04 (M/M2)  
 CHO VEL = 1.0405E+11 (KG/M2-S) 100% POSITION = 1  
 WAM/MT = 1.024 FOR MT  
 WAM/PT = 1.074 FOR ML  
 HLCC = ML(1340, 0F=57, CONG.1)

T/C	X	Y	Z	U	V	W	ML	MT	ML/NREFF	NREF	STL	STT	T	HLCC	ML/MLCC	HLCC/NREF	ML/ME
(CM)	(CM)	(CM)	(CM)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(K)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)
1	135.24	-0.1	0.0	1.15E+3	0.71E+3	4.96E+3	0.52	6.53E+3	0.52	6.53E+3	2.422E-04	2.291E-04	296.1	1.000	1.000	1.000	1.000
2	132.79	-0.1	0.0	1.05E+3	0.76E+3	4.76E+3	0.77	6.72E+3	0.77	6.72E+3	2.479E-04	2.345E-04	290.4	1.000	1.000	1.000	1.000
3	133.16	-0.1	0.0	1.16E+3	0.94E+3	4.60E+3	0.73	6.772E+3	0.73	6.772E+3	2.949E-04	2.449E-04	296.7	1.000	1.000	1.000	1.000
4	127.53	-0.1	0.0	1.16E+3	0.79E+3	4.54E+3	0.74	6.748E+3	0.74	6.748E+3	2.463E-04	2.338E-04	296.6	1.000	1.000	1.000	1.000
5	125.59	-0.1	0.0	1.15E+3	0.89E+3	4.62E+3	0.73	6.80E+3	0.73	6.80E+3	2.310E-04	2.374E-04	290.7	1.000	1.000	1.000	1.000
6	122.56	-0.1	0.0	1.15E+3	0.99E+3	4.59E+3	0.76	6.89E+3	0.76	6.89E+3	2.569E-04	2.427E-04	290.5	1.000	1.000	1.000	1.000
7	117.87	-0.1	0.0	1.15E+3	0.99E+3	4.74E+3	0.76	6.89E+3	0.76	6.89E+3	2.573E-04	2.434E-04	290.8	1.000	1.000	1.000	1.000
8	112.37	-0.1	0.0	1.15E+3	1.19E+3	4.91E+3	0.77	6.71E+3	0.77	6.71E+3	2.655E-04	2.521E-04	296.7	1.000	1.000	1.000	1.000
9	107.31	-0.1	0.0	1.15E+3	1.38E+3	5.19E+3	0.72	6.84E+3	0.72	6.84E+3	2.754E-04	2.615E-04	296.7	1.000	1.000	1.000	1.000
10	102.00	-0.1	0.0	1.15E+3	1.58E+3	5.48E+3	0.72	7.00E+3	0.72	7.00E+3	2.767E-04	2.617E-04	296.8	1.000	1.000	1.000	1.000
11	97.82	-0.1	0.0	1.15E+3	1.78E+3	5.78E+3	0.72	7.16E+3	0.72	7.16E+3	2.844E-04	2.651E-04	296.8	1.000	1.000	1.000	1.000
12	92.84	-0.1	0.0	1.15E+3	1.98E+3	6.08E+3	0.72	7.32E+3	0.72	7.32E+3	2.844E-04	2.651E-04	296.8	1.000	1.000	1.000	1.000
13	88.96	-0.1	0.0	1.15E+3	2.18E+3	6.38E+3	0.72	7.48E+3	0.72	7.48E+3	2.925E-04	2.674E-04	297.4	1.000	1.000	1.000	1.000
14	81.08	-0.1	0.0	1.15E+3	2.38E+3	6.68E+3	0.72	7.64E+3	0.72	7.64E+3	3.026E-04	2.682E-04	297.3	1.000	1.000	1.000	1.000
15	76.30	-0.1	0.0	1.15E+3	2.58E+3	6.98E+3	0.72	7.80E+3	0.72	7.80E+3	2.934E-04	2.623E-04	297.3	1.000	1.000	1.000	1.000
16	71.52	-0.1	0.0	1.15E+3	2.78E+3	7.28E+3	0.72	7.96E+3	0.72	7.96E+3	3.072E-04	2.906E-04	297.5	1.000	1.000	1.000	1.000
17	66.64	-0.1	0.0	1.15E+3	2.98E+3	7.58E+3	0.72	8.12E+3	0.72	8.12E+3	3.266E-04	3.089E-04	297.5	1.000	1.000	1.000	1.000
18	61.76	-0.1	0.0	1.15E+3	3.18E+3	7.88E+3	0.72	8.28E+3	0.72	8.28E+3	3.432E-04	3.247E-04	298.1	1.000	1.000	1.000	1.000
19	46.88	-0.1	0.0	1.15E+3	3.38E+3	8.18E+3	0.72	8.44E+3	0.72	8.44E+3	3.592E-04	3.398E-04	297.8	1.000	1.000	1.000	1.000
20	51.99	-0.1	0.0	1.15E+3	3.58E+3	8.48E+3	0.72	8.60E+3	0.72	8.60E+3	3.805E-04	3.687E-04	297.8	1.000	1.000	1.000	1.000
21	48.96	-0.1	0.0	1.15E+3	3.78E+3	8.78E+3	0.72	8.76E+3	0.72	8.76E+3	3.767E-04	3.582E-04	298.5	1.000	1.000	1.000	1.000
22	46.33	-0.1	0.0	1.15E+3	3.98E+3	9.08E+3	0.72	8.92E+3	0.72	8.92E+3	3.944E-04	3.727E-04	298.1	1.000	1.000	1.000	1.000
23	43.77	-0.1	0.0	1.15E+3	4.18E+3	9.38E+3	0.72	9.08E+3	0.72	9.08E+3	4.127E-04	3.904E-04	298.8	1.000	1.000	1.000	1.000
24	41.24	-0.1	0.0	1.15E+3	4.38E+3	9.68E+3	0.72	9.24E+3	0.72	9.24E+3	4.356E-04	4.100E-04	298.6	1.000	1.000	1.000	1.000
25	38.70	-0.1	0.0	1.15E+3	4.58E+3	9.98E+3	0.72	9.40E+3	0.72	9.40E+3	4.459E-04	4.228E-04	297.6	1.000	1.000	1.000	1.000
103	47.59	1.02	0.0	5.15E+3	0.74E+3	3.76E+3	0.74	9.86E+3	0.74	9.86E+3	4.133E-04	3.900E-04	300.9	0.04E-03	1.000	0.04	1.07E
104	47.59	1.02	0.0	5.15E+3	0.74E+3	3.76E+3	0.74	9.86E+3	0.74	9.86E+3	4.133E-04	3.900E-04	300.9	0.04E-03	1.000	0.04	1.07E
105	47.59	1.02	0.0	5.15E+3	0.74E+3	3.76E+3	0.74	9.86E+3	0.74	9.86E+3	4.133E-04	3.900E-04	300.9	0.04E-03	1.000	0.04	1.07E
106	47.59	1.02	0.0	5.15E+3	0.74E+3	3.76E+3	0.74	9.86E+3	0.74	9.86E+3	4.133E-04	3.900E-04	300.9	0.04E-03	1.000	0.04	1.07E
107	47.59	1.02	0.0	5.15E+3	0.74E+3	3.76E+3	0.74	9.86E+3	0.74	9.86E+3	4.133E-04	3.900E-04	300.9	0.04E-03	1.000	0.04	1.07E
108	47.59	1.02	0.0	5.15E+3	0.74E+3	3.76E+3	0.74	9.86E+3	0.74	9.86E+3	4.133E-04	3.900E-04	300.9	0.04E-03	1.000	0.04	1.07E
109	47.59	1.02	0.0	5.15E+3	0.74E+3	3.76E+3	0.74	9.86E+3	0.74	9.86E+3	4.133E-04	3.900E-04	300.9	0.04E-03	1.000	0.04	1.07E
110	47.59	1.02	0.0	5.15E+3	0.74E+3	3.76E+3	0.74	9.86E+3	0.74	9.86E+3	4.133E-04	3.900E-04	300.9	0.04E-03	1.000	0.04	1.07E
203	61.56	1.02	0.0	4.85E+3	0.83E+3	6.93E+3	0.80	8.53E+3	0.80	8.53E+3	3.566E-04	3.368E-04	299.3	0.03E-03	1.000	0.03	1.03E
204	61.56	1.02	0.0	4.85E+3	0.83E+3	6.93E+3	0.80	8.53E+3	0.80	8.53E+3	3.566E-04	3.368E-04	299.3	0.03E-03	1.000	0.03	1.03E
205	61.56	1.02	0.0	4.85E+3	0.83E+3	6.93E+3	0.80	8.53E+3	0.80	8.53E+3	3.566E-04	3.368E-04	299.3	0.03E-03	1.000	0.03	1.03E
206	61.56	1.02	0.0	4.85E+3	0.83E+3	6.93E+3	0.80	8.53E+3	0.80	8.53E+3	3.566E-04	3.368E-04	299.3	0.03E-03	1.000	0.03	1.03E
207	61.56	1.02	0.0	4.85E+3	0.83E+3	6.93E+3	0.80	8.53E+3	0.80	8.53E+3	3.566E-04	3.368E-04	299.3	0.03E-03	1.000	0.03	1.03E
208	61.56	1.02	0.0	4.85E+3	0.83E+3	6.93E+3	0.80	8.53E+3	0.80	8.53E+3	3.566E-04	3.368E-04	299.3	0.03E-03	1.000	0.03	1.03E
209	61.56	1.02	0.0	4.85E+3	0.83E+3	6.93E+3	0.80	8.53E+3	0.80	8.53E+3	3.566E-04	3.368E-04	299.3	0.03E-03	1.000	0.03	1.03E
210	61.56	1.02	0.0	4.85E+3	0.83E+3	6.93E+3	0.80	8.53E+3	0.80	8.53E+3	3.566E-04	3.368E-04	299.3	0.03E-03	1.000	0.03	1.03E
301	84.96	2.03	0.0	3.42E+3	1.36E+3	5.36E+3	0.74	7.17E+3	0.74	7.17E+3	2.754E-04	2.603E-04	297.3	0.03E-03	1.000	0.03	0.97E
302	84.96	2.03	0.0	3.42E+3	1.36E+3	5.36E+3	0.74	7.17E+3	0.74	7.17E+3	2.754E-04	2.603E-04	297.3	0.03E-03	1.000	0.03	0.97E
303	84.96	2.03	0.0	3.42E+3	1.36E+3	5.36E+3	0.74	7.17E+3	0.74	7.17E+3	2.754E-04	2.603E-04	297.3	0.03E-03	1.000	0.03	0.97E
304	84.96	2.03	0.0	3.42E+3	1.36E+3	5.36E+3	0.74	7.17E+3	0.74	7.17E+3	2.754E-04	2.603E-04	297.3	0.03E-03	1.000	0.03	0.97E
305	84.96	2.03	0.0	3.42E+3	1.36E+3	5.36E+3	0.74	7.17E+3	0.74	7.17E+3	2.754E-04	2.603E-04	297.3	0.03E-03	1.000	0.03	0.97E
306	84.96	2.03	0.0	3.42E+3	1.36E+3	5.36E+3	0.74	7.17E+3	0.74	7.17E+3	2.754E-04	2.603E-04	297.3	0.03E-03	1.000	0.03	0.97E
307	84.96	2.03	0.0	3.42E+3	1.36E+3	5.36E+3	0.74	7.17E+3	0.74	7.17E+3	2.754E-04	2.603E-04	297.3	0.03E-03	1.000	0.03	0.97E
308	84.96	2.03	0.0	3.42E+3	1.36E+3	5.36E+3	0.74	7.17E+3	0.74	7.17E+3	2.754E-04	2.603E-04	297.3	0.03E-03	1.000	0.03	0.97E
309	84.96	2.03	0.0	3.42E+3	1.36E+3	5.36E+3	0.74	7.17E+3	0.74	7.17E+3	2.754E-04	2.603E-04	297.3	0.03E-03	1.000	0.03	0.97E
310	84.96	2.03	0.0	3.42E+3	1.36E+3	5.36E+3	0.74	7.17E+3	0.74	7.17E+3	2.754E-04	2.603E-04	297.3	0.03E-03	1.000	0.03	0.97E







# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 3

21 1971

AMES 3.6 FT. HWT TEST (2-23), C.B. PLUMER, IN-LINE RSI GAP RUN( 2) 1971  
 TT = 1.1272E+3(K) GAP LENGTH = 0.30 (CM)  
 FT = 1.7613E+3(N/M2) GAP WIDTH = 0.52 (CM)  
 WT = 1.1352E+5(LB/KG) GAP DEPTH = 0.50 (CM)  
 RE/METER = 3.711E+5 ORIENTATION = 0.97 (DEG)  
 PACH = 3.197 Q5 = 1.2536E+5(W/M2)  
 RHO W/L = 0.2775E+1(KG/M2-S) MOD.POSITION = 1  
 MAW/MT = 1.923 FOR MT  
 MAW/MT = 0.97% FOR ML  
 MLCC = ML(2ND. 3RD. CONCL.))

T/C	X (CM)	Y (CM)	Z (CM)	Q (W/M2)	HL (KG/M2-S)	MT (KG/M2-S)	ML/AREFF	PREF	STL	STT	T (K)	MLCC (KG/M2-S)	ML/MLCC	MLCC/PREF	ML/HE
1	135.24	-51	0.00	2.64E+04	1.53E-02	3.40E-02	7.37	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
2	132.76	-51	0.00	2.64E+04	1.53E-02	3.40E-02	7.37	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
3	132.16	-51	0.00	2.64E+04	1.53E-02	3.40E-02	7.37	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
4	127.63	-51	0.00	2.62E+04	1.50E-02	2.99E-02	7.52	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
5	125.09	-51	0.00	1.95E+04	1.64E-02	2.59E-02	7.22	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
6	122.56	-51	0.00	1.32E+04	2.46E-02	2.33E-02	7.34	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
7	117.47	-51	0.00	1.00E+04	2.82E-02	1.92E-02	7.35	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
8	112.37	-51	0.00	1.01E+04	1.96E-02	1.48E-02	6.97	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
9	107.31	-51	0.00	9.25E+03	1.85E-02	1.19E-02	6.79	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
10	102.20	-51	0.00	7.62E+03	1.63E-02	0.79E-02	6.71	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
11	97.12	-51	0.00	6.14E+03	1.30E-02	7.45E-03	6.64	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
12	92.04	-51	0.00	5.45E+03	7.37E-03	6.92E-03	6.65	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
13	86.96	-51	0.00	5.37E+03	5.82E-03	6.40E-03	6.75	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
14	81.88	-51	0.00	5.09E+03	7.06E-03	7.17E-03	7.98	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
15	75.81	-51	0.00	5.17E+03	7.35E-03	7.28E-03	8.18	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
16	71.72	-51	0.00	5.09E+03	3.95E-03	7.54E-03	8.40	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
17	66.64	-51	0.00	5.27E+03	8.80E-03	8.38E-03	8.52	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
18	61.56	-51	0.00	5.95E+03	1.76E-03	8.31E-03	8.41	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
19	56.48	-51	0.00	5.77E+03	9.13E-03	8.58E-03	8.25	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
20	51.39	-51	0.00	5.92E+03	7.38E-03	8.98E-03	7.96	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
21	46.31	-51	0.00	7.25E+03	3.34E-03	8.35E-03	7.59	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
22	41.23	-51	0.00	7.25E+03	9.77E-03	9.28E-03	7.60	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
23	36.15	-51	0.00	7.57E+03	1.82E-02	9.68E-03	7.91	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
24	31.07	-51	0.00	7.57E+03	1.37E-02	1.18E-02	8.05	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
25	25.99	-51	0.00	7.01E+03	1.07E-02	1.02E-02	8.05	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
103	47.59	1.32	0.00	7.11E+03	1.73E-02	9.72E-03	8.32	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
105	47.59	1.32	0.00	7.11E+03	1.62E-02	9.48E-03	8.12	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
107	47.59	1.32	0.00	7.11E+03	3.86E-03	9.48E-03	8.20	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
108	47.59	1.32	0.00	7.11E+03	7.25E-03	6.55E-03	8.59	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
110	47.59	1.32	0.00	7.11E+03	4.66E-03	5.48E-03	8.78	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
203	61.56	1.32	0.00	6.85E+03	1.75E-03	1.50E-03	8.03	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
205	61.56	1.32	0.00	6.85E+03	1.15E-03	1.69E-03	8.00	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
207	61.56	1.32	0.00	6.85E+03	9.13E-03	7.71E-03	7.98	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
213	61.56	1.32	0.00	6.85E+03	6.71E-03	6.32E-03	8.52	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
210	61.56	1.32	0.00	6.85E+03	5.45E-03	4.40E-03	8.44	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
301	86.96	1.32	0.00	6.85E+03	1.15E-03	1.69E-03	8.00	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
302	86.96	1.32	0.00	6.85E+03	6.71E-03	6.32E-03	7.98	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
303	86.96	1.32	0.00	6.85E+03	9.13E-03	7.71E-03	7.98	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075
306	86.96	1.32	0.00	6.85E+03	1.15E-03	1.69E-03	8.00	4.85E-02	0.399E-04	7.964E-04	290.8	1.000	1.000	0.32	1.075



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 4

AMES 3-6 FT HHT TEST (1-2), C.S. BLUMER, IN-LINE PSI GAP RUN ( 2) 1373

T/C	X (C#)	Y (C#)	ZZ (C#)	N (M/W2)	ML (KG/M2-S)	MT (KG/M2-S)	ML/MREF	MREF (KG/M2-S)	STL	STT	T (K)	MLCC (KG/M2-S)	ML/MLCC	MLCC/MREF	ML/M
304	66.96	1.72	1.00	0.98E+03	6.72E-03	6.37E-03	.671	1.072E-02	1.573E-14	1.491E-04	303.2	6.72E-03	1.000	.671	.593
306	66.96	1.73	1.00	0.67E+03	6.26E-03	6.36E-03	.625	1.070E-02	1.467E-04	1.391E-04	301.2	6.26E-03	1.000	.625	.925
307	66.96	1.74	1.00	0.15E+03	6.43E-03	6.36E-03	.610	1.070E-02	1.336E-04	1.427E-04	303.4	6.43E-03	1.000	.640	.948
308	66.96	1.75	1.00	3.52E+03	4.74E-03	6.36E-03	.674	1.070E-02	1.115E-04	1.057E-04	303.3	4.74E-03	1.000	.474	.781
309	66.96	1.76	1.00	2.80E+03	3.78E-03	3.99E-03	.376	1.070E-02	0.866E-04	0.448E-04	299.6	3.78E-03	1.000	.376	.657
310	66.96	1.77	1.00	2.44E+03	3.29E-03	3.12E-03	.327	1.070E-02	7.714E-05	7.314E-05	299.2	3.29E-03	1.000	.327	.465
311	112.76	2.73	2.00	1.07E+04	1.44E-02	1.36E-02	.636	2.192E-02	3.378E-04	3.194E-04	298.1	1.44E-02	1.000	.636	.941
312	112.76	1.73	2.00	1.15E+04	1.55E-02	1.47E-02	.767	2.197E-02	3.639E-04	3.459E-04	298.3	1.55E-02	1.000	.767	1.814
313	112.76	1.74	2.00	1.06E+04	1.43E-02	1.40E-02	.671	2.292E-02	3.462E-04	3.282E-04	292.6	1.43E-02	1.000	.671	.963
314	112.76	1.75	2.00	1.21E+04	1.64E-02	1.56E-02	.744	2.297E-02	3.849E-04	3.649E-04	300.6	1.64E-02	1.000	.744	1.867
315	112.76	1.76	2.00	1.11E+04	1.51E-02	1.43E-02	.661	2.212E-02	3.530E-04	3.347E-04	300.5	1.51E-02	1.000	.661	.977
316	112.76	1.77	2.00	1.16E+04	1.66E-02	1.58E-02	.649	2.217E-02	3.771E-04	3.594E-04	300.2	1.66E-02	1.000	.649	.981
317	112.76	1.78	2.00	9.42E+03	1.27E-02	1.21E-02	.573	2.222E-02	2.902E-04	2.827E-04	299.8	1.27E-02	1.000	.573	.822
318	112.76	1.79	2.00	7.80E+03	1.06E-02	1.11E-02	.476	2.227E-02	2.491E-04	2.362E-04	298.4	1.06E-02	1.000	.476	.688
319	112.76	1.80	2.00	1.50E+03	8.77E-03	4.32E-03	.394	2.229E-02	2.755E-04	1.949E-04	298.4	8.77E-03	1.000	.394	.869
320	112.76	1.81	2.00	5.00E+03	6.87E-03	4.51E-03	.300	2.231E-02	1.688E-04	1.529E-04	298.2	6.87E-03	1.000	.300	.941
321	129.06	2.73	2.00	1.08E+04	2.53E-02	2.40E-02	.795	3.593E-02	5.928E-04	5.621E-04	297.6	2.53E-02	1.000	.795	.979
322	129.06	1.78	2.00	2.18E+04	2.71E-02	2.57E-02	.754	3.599E-02	6.197E-04	6.024E-04	298.2	2.71E-02	1.000	.754	1.844
323	129.06	1.82	2.00	2.77E+04	2.71E-02	2.56E-02	.751	3.684E-02	6.335E-04	6.077E-04	299.2	2.71E-02	1.000	.751	1.839
324	129.06	1.83	2.00	1.07E+04	2.67E-02	2.53E-02	.739	3.614E-02	6.250E-04	5.926E-04	299.7	2.67E-02	1.000	.739	1.828
325	129.06	1.84	2.00	1.80E+04	2.54E-02	2.44E-02	.703	3.616E-02	5.955E-04	5.646E-04	299.9	2.54E-02	1.000	.703	.974
326	129.06	1.85	2.00	1.61E+04	2.65E-02	2.37E-02	.676	3.621E-02	5.736E-04	5.438E-04	299.8	2.65E-02	1.000	.676	.926
327	129.06	1.86	2.00	1.65E+04	2.84E-02	2.12E-02	.618	3.626E-02	5.248E-04	4.975E-04	298.9	2.84E-02	1.000	.618	.895
328	129.06	1.87	2.00	1.33E+04	1.88E-02	1.71E-02	.496	3.631E-02	4.218E-04	3.999E-04	298.9	1.88E-02	1.000	.496	.696
329	129.06	1.88	2.00	3.40E+03	1.48E-02	1.21E-02	.352	3.633E-02	2.996E-04	2.841E-04	297.6	1.48E-02	1.000	.352	.487
330	129.06	1.89	2.00	5.02E+03	1.17E-02	1.11E-02	.323	3.635E-02	2.751E-04	2.609E-04	297.5	1.17E-02	1.000	.323	.647

EDGE HEATING USED FOR ME

304	66.96	1.72	1.00	0.98E+03	7.047E-03	7.047E-03										
306	66.96	1.73	1.00	0.67E+03	6.047E-03	6.047E-03										
307	66.96	1.74	1.00	0.15E+03	7.512E-03	7.512E-03										
308	66.96	1.75	1.00	3.52E+03	7.738E-03	7.738E-03										
309	66.96	1.76	1.00	2.80E+03	7.698E-03	7.698E-03										
310	66.96	1.77	1.00	2.44E+03	7.902E-03	7.902E-03										
311	112.76	2.73	2.00	1.07E+04	8.458E-03	8.458E-03										
312	112.76	1.73	2.00	1.15E+04	8.132E-03	8.132E-03										
313	112.76	1.74	2.00	1.06E+04	7.932E-03	7.932E-03										
314	112.76	1.75	2.00	1.21E+04	8.749E-03	8.749E-03										
315	112.76	1.76	2.00	1.11E+04	8.052E-03	8.052E-03										
316	112.76	1.77	2.00	1.16E+04	8.202E-03	8.202E-03										
317	112.76	1.78	2.00	9.42E+03	8.398E-03	8.398E-03										
318	112.76	1.79	2.00	7.80E+03	8.132E-03	8.132E-03										
319	112.76	1.80	2.00	1.50E+03	8.749E-03	8.749E-03										
320	112.76	1.81	2.00	5.00E+03	8.052E-03	8.052E-03										
321	129.06	2.73	2.00	1.08E+04	9.255E-03	9.255E-03										
322	129.06	1.78	2.00	2.18E+04	9.458E-03	9.458E-03										
323	129.06	1.82	2.00	2.77E+04	9.255E-03	9.255E-03										
324	129.06	1.83	2.00	1.07E+04	9.458E-03	9.458E-03										
325	129.06	1.84	2.00	1.80E+04	9.255E-03	9.255E-03										
326	129.06	1.85	2.00	1.61E+04	9.458E-03	9.458E-03										
327	129.06	1.86	2.00	1.65E+04	9.255E-03	9.255E-03										
328	129.06	1.87	2.00	1.33E+04	9.458E-03	9.458E-03										
329	129.06	1.88	2.00	3.40E+03	9.255E-03	9.255E-03										
330	129.06	1.89	2.00	5.02E+03	9.458E-03	9.458E-03										

ALL TRANSITION DISTANCE = 0.003 CM  
FULLY TURBULENT ALL CONDITIONS AT 4 11.58 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1240  
JSC 09651

PAGE 5

3) 1973

AMES 3.6 FT WHT TEST (182), C.B. PLUMBER, IN-LINE RSI GAP RUN ( 3) 1973  
 TT = 1.4441E+3(K) GAP LENGTH = 3.00(CM)  
 FT = 5.4513E+05(N/M2) GAP WIDTH = 7.00(CM)  
 HT = 1.2121E+05(L/KG) GAP DEPTH = 0.00(CM)  
 RE/METER = 1.8735E+06 ORIENTATION = 0.00(DEG)  
 MACH = 5.480 OS = 0.8732E+04(N/M2)  
 RHO VEL = 2.7771E+11(KG/M2-S) 100-POSITION# 1  
 MAN/MT = 7.078 FOR HT  
 MAN/MT = 7.074 FOR HL  
 HLCC = HL12NC, 0.00E+00 COND.,)

T/C	X (CM)	Y (CM)	Z (CM)	G (W/M2)	HL (KG/M2-S)	MT (KG/M2-S)	HL/MREF (KG/M2-S)	MPEF (KG/M2-S)	STL	STT	Y (K)	HLCC (KG/M2-S)	ML/HLCC	HLCC/MREF	ML/M
1	135.24	-51	0.00	5.09E+03	5.02E-03	5.47E-03	1.036	6.22E-03	3.321E-04	3.158E-04	311.2				1.000
2	132.70	-51	0.00	4.63E+03	5.29E-03	5.96E-03	1.002	6.27E-03	3.061E-04	2.901E-04	311.5				1.000
3	130.16	-51	0.00	4.26E+03	6.15E-03	6.92E-03	0.976	6.29E-03	2.993E-04	2.837E-04	311.5				1.000
4	127.63	-51	0.00	3.90E+03	7.02E-03	7.97E-03	0.950	6.31E-03	2.925E-04	2.697E-04	311.7				1.000
5	125.09	-51	0.00	3.54E+03	7.90E-03	9.09E-03	0.924	6.33E-03	2.857E-04	2.577E-04	311.7				1.000
6	122.56	-51	0.00	3.18E+03	8.78E-03	1.03E-02	0.898	6.35E-03	2.789E-04	2.467E-04	311.7				1.000
7	117.67	-51	0.00	2.82E+03	9.66E-03	1.15E-02	0.872	6.37E-03	2.721E-04	2.367E-04	311.7				1.000
8	112.37	-51	0.00	2.46E+03	1.05E-02	1.27E-02	0.846	6.39E-03	2.653E-04	2.267E-04	311.7				1.000
9	107.31	-51	0.00	2.10E+03	1.14E-02	1.39E-02	0.820	6.41E-03	2.585E-04	2.167E-04	311.5				1.000
10	102.20	-51	0.00	1.74E+03	1.23E-02	1.51E-02	0.794	6.43E-03	2.517E-04	2.067E-04	311.5				1.000
11	97.12	-51	0.00	1.38E+03	1.32E-02	1.63E-02	0.768	6.45E-03	2.449E-04	1.967E-04	311.6				1.000
12	92.04	-51	0.00	1.02E+03	1.41E-02	1.75E-02	0.742	6.47E-03	2.381E-04	1.867E-04	311.6				1.000
13	86.96	-51	0.00	6.6E+02	1.50E-02	1.87E-02	0.716	6.49E-03	2.313E-04	1.767E-04	312.2				1.000
14	81.88	-51	0.00	3.0E+02	1.59E-02	2.00E-02	0.690	6.51E-03	2.245E-04	1.667E-04	312.0				1.000
15	76.80	-51	0.00	0.0E+00	1.68E-02	2.12E-02	0.664	6.53E-03	2.177E-04	1.567E-04	312.0				1.000
16	71.72	-51	0.00	0.0E+00	1.77E-02	2.24E-02	0.638	6.55E-03	2.109E-04	1.467E-04	312.3				1.000
17	66.64	-51	0.00	0.0E+00	1.86E-02	2.36E-02	0.612	6.57E-03	2.041E-04	1.367E-04	312.6				1.000
18	61.56	-51	0.00	0.0E+00	1.95E-02	2.48E-02	0.586	6.59E-03	1.973E-04	1.267E-04	313.2				1.000
19	56.48	-51	0.00	0.0E+00	2.04E-02	2.60E-02	0.560	6.61E-03	1.905E-04	1.167E-04	313.0				1.000
20	51.39	-51	0.00	0.0E+00	2.13E-02	2.72E-02	0.534	6.63E-03	1.837E-04	1.067E-04	313.2				1.000
21	46.31	-51	0.00	0.0E+00	2.22E-02	2.84E-02	0.508	6.65E-03	1.769E-04	9.67E-05	313.4				1.000
22	41.23	-51	0.00	0.0E+00	2.31E-02	2.96E-02	0.482	6.67E-03	1.701E-04	8.67E-05	313.5				1.000
23	36.15	-51	0.00	0.0E+00	2.40E-02	3.08E-02	0.456	6.69E-03	1.633E-04	7.67E-05	313.3				1.000
24	31.07	-51	0.00	0.0E+00	2.49E-02	3.20E-02	0.430	6.71E-03	1.565E-04	6.67E-05	313.4				1.000
25	26.00	-51	0.00	0.0E+00	2.58E-02	3.32E-02	0.404	6.73E-03	1.497E-04	5.67E-05	313.0				1.000
183	47.59	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
184	47.59	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
187	47.59	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
188	47.59	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
189	47.59	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
207	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
208	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
209	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
210	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
211	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
212	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
213	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
214	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
215	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
216	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
217	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
218	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
219	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
220	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
221	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
222	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
223	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
224	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
225	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
226	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
227	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
228	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
229	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
230	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
231	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
232	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
233	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000
234	61.56	1.52	0.00	1.42E+03	1.65E-03	1.73E-03	0.81	6.75E-03	3.371E-04	3.667E-04	310.0	1.000	0.611	0.826	1.000



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

AMES 30 FT DWT TEST (199) 2-C, BUMPER, IN-LINE RSI GAP RUI ( 3) 1373

T/C	X (CM)	VV (C)	D (CM)	Q (W/M2)	HL (KG/42-S)	HT (KG/M2-S)	ML/MREF	MREF (KG/M2-S)	STL	STT	T (K)	HLGC (KG/M2-S)	ML/MLGC	MLCC/MREF	ML/ME
305	84.06	1.72	0.71	3.25E+03	5.19E-03	4.32E-03	.731	7.11E-03	2.537E-04	2.394E-04	313.4	5.19E-03	1.000	.731	1.813
306	86.96	.76	.71	3.25E+03	5.19E-03	4.32E-03	.731	7.11E-03	2.489E-04	2.331E-04	312.3	5.05E-03	1.000	.731	.986
307	85.96	.76	.71	3.25E+03	5.19E-03	4.32E-03	.731	7.11E-03	2.315E-04	2.194E-04	314.2	4.75E-03	1.000	.665	.926
308	86.96	.76	.71	3.25E+03	5.19E-03	4.32E-03	.731	7.11E-03	1.847E-04	1.758E-04	311.4	3.79E-03	1.000	.534	.748
309	88.96	.76	.71	3.25E+03	5.19E-03	4.32E-03	.731	7.11E-03	1.443E-04	1.367E-04	311.1	2.96E-03	1.000	.417	.578
311	86.96	.76	.71	3.25E+03	5.19E-03	4.32E-03	.731	7.11E-03	1.114E-04	1.031E-04	311.9	2.34E-03	1.000	.333	.457
401	112.76	2.73	0.71	3.25E+03	5.19E-03	4.32E-03	.808	6.36E-03	2.596E-04	2.375E-04	310.5	5.14E-03	1.000	.888	.916
402	112.76	1.73	0.71	3.25E+03	5.19E-03	4.32E-03	.808	6.36E-03	2.782E-04	2.648E-04	311.9	5.71E-03	1.000	.896	1.018
403	112.76	1.72	0.71	4.26E+03	5.72E-03	4.42E-03	.808	6.36E-03	2.786E-04	2.648E-04	311.2	5.72E-03	1.000	.899	1.028
404	112.76	1.72	0.71	4.26E+03	5.72E-03	4.42E-03	.808	6.36E-03	2.777E-04	2.628E-04	311.3	5.69E-03	1.000	.895	1.014
405	112.76	1.72	0.71	3.99E+03	5.35E-03	4.15E-03	.808	6.36E-03	2.675E-04	2.493E-04	311.5	5.32E-03	1.000	.842	.954
406	112.76	1.72	0.71	4.19E+03	5.39E-03	4.15E-03	.808	6.36E-03	2.677E-04	2.494E-04	311.3	5.33E-03	1.000	.849	.962
407	112.76	.51	0.71	3.59E+03	4.92E-03	4.56E-03	.739	6.36E-03	2.345E-04	2.232E-04	311.6	4.82E-03	1.000	.798	.899
408	112.76	.24	0.71	2.81E+03	3.82E-03	3.52E-03	.611	6.36E-03	1.859E-04	1.762E-04	310.4	3.82E-03	1.000	.691	.881
409	112.76	.13	0.71	2.44E+03	3.38E-03	3.19E-03	.537	6.36E-03	1.619E-04	1.534E-04	310.7	3.32E-03	1.000	.623	.893
418	112.76	.04	0.71	1.92E+03	2.57E-03	2.44E-03	.425	6.36E-03	1.253E-04	1.188E-04	310.5	2.57E-03	1.000	.485	.859
501	125.06	2.73	0.71	3.99E+03	5.35E-03	5.16E-03	.809	6.36E-03	2.675E-04	2.466E-04	310.3	5.35E-03	1.000	.839	.923
502	125.06	1.73	0.71	4.45E+03	5.92E-03	5.69E-03	.903	6.36E-03	2.919E-04	2.754E-04	310.6	5.92E-03	1.000	.938	1.032
503	125.06	1.72	0.71	4.45E+03	5.92E-03	5.69E-03	.903	6.36E-03	2.919E-04	2.766E-04	311.0	5.99E-03	1.000	.943	1.037
504	125.06	1.72	0.71	4.37E+03	5.87E-03	5.56E-03	.924	6.36E-03	2.897E-04	2.789E-04	311.2	5.87E-03	1.000	.924	1.017
505	125.06	1.72	0.71	4.12E+03	5.52E-03	5.24E-03	.871	6.36E-03	2.691E-04	2.558E-04	311.2	5.52E-03	1.000	.871	.958
506	125.06	.76	0.71	3.97E+03	5.18E-03	4.83E-03	.825	6.36E-03	2.644E-04	2.504E-04	311.2	5.18E-03	1.000	.805	.885
507	125.06	.51	0.71	3.51E+03	4.48E-03	4.28E-03	.741	6.36E-03	2.332E-04	2.204E-04	310.8	4.48E-03	1.000	.781	.878
508	125.06	.25	0.71	2.99E+03	3.36E-03	3.16E-03	.628	6.36E-03	1.626E-04	1.541E-04	310.8	3.36E-03	1.000	.628	.808
509	125.06	.15	0.71	2.45E+03	2.69E-03	2.49E-03	.535	6.36E-03	1.324E-04	1.253E-04	310.7	2.69E-03	1.000	.535	.815
510	125.06	.04	0.71	1.96E+03	2.06E-03	2.04E-03	.424	6.36E-03	1.027E-04	1.009E-04	310.1	2.06E-03	1.000	.414	.809

EDGE HEATING USED FOR ME

X#	3.87E+01	ML	MR/REF	7.59E-01
X#	4.12E+01	ML	MR/REF	7.69E-01
X#	4.37E+01	ML	MR/REF	7.53E-01
X#	4.61E+01	ML	MR/REF	7.42E-01
X#	4.85E+01	ML	MR/REF	7.32E-01
X#	5.13E+01	ML	MR/REF	7.22E-01
X#	5.46E+01	ML	MR/REF	7.57E-01
X#	6.15E+01	ML	MR/REF	7.49E-01
X#	7.17E+01	ML	MR/REF	7.92E-01
X#	7.63E+01	ML	MR/REF	7.87E-01
X#	9.19E+01	ML	MR/REF	7.71E-01
X#	8.69E+01	ML	MR/REF	7.27E-01
X#	9.71E+01	ML	MR/REF	7.27E-01
X#	1.22E+02	ML	MR/REF	6.41E-01
X#	1.87E+02	ML	MR/REF	6.87E-01
X#	1.12E+02	ML	MR/REF	5.81E-01
X#	1.17E+02	ML	MR/REF	6.07E-01
X#	1.21E+02	ML	MR/REF	6.08E-01
X#	1.24E+02	ML	MR/REF	6.14E-01
X#	1.28E+02	ML	MR/REF	6.26E-01
X#	1.32E+02	ML	MR/REF	6.41E-01
X#	1.37E+02	ML	MR/REF	6.56E-01
X#	6.79E+01	ML	MR/REF	6.67E-01
X#	7.14E+01	ML	MR/REF	7.04E-01
X#	6.96E+01	ML	MR/REF	6.86E-01
X#	1.12E+02	ML	MR/REF	7.67E-01
X#	1.21E+02	ML	MR/REF	7.05E-01

2-C, TURBULENT 3-1. CONDITIONS AT X = 73.72 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 7

AMES 1.6 FT HWT TEST (122), C.B. BLUMER, IN-LINE RSI GAP RUN (4) 1973

TT = 1.1798E+3(K)  
 FT = 4.2574E+05(W/M2)  
 HT = 1.1715E+02(L/M2)  
 RE/METER = 1.6973E+06  
 MACH = 5.103  
 RHO MEL = 2.4333E+03(KG/M2-S)  
 HAW/MY = 0.974 FOR ML  
 MLCC = ML12NC.0F3E7 CONL.9)

T/C	X (CM)	Y (CM)	Z (CM)	O (M/W2)	ML (KG/M2-S)	MT (KG/M2-S)	ML/HREFF	HREF (KG/M2-S)	STL	STT	T (K)	ML/MLCC	MLCC/MREF	ML/WME
1	135.24	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.987	7.180E-03	3.243E-04	3.075E-04	313.3	1.000	1.000	1.000
2	132.70	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.986	7.124E-03	3.1314E-04	2.939E-04	313.6	1.000	1.000	1.000
3	130.16	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.985	7.068E-03	3.0249E-04	2.817E-04	313.8	1.000	1.000	1.000
4	127.63	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.989	6.859E-03	2.803E-04	2.729E-04	313.8	1.000	1.000	1.000
5	125.09	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.990	6.779E-03	2.885E-04	2.732E-04	313.6	1.000	1.000	1.000
6	122.56	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.921	6.608E-03	2.885E-04	2.728E-04	313.5	1.000	1.000	1.000
7	117.47	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.891	6.509E-03	2.747E-04	2.661E-04	314.0	1.000	1.000	1.000
8	112.37	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.699	6.54E-03	2.755E-04	2.608E-04	313.8	1.000	1.000	1.000
9	107.31	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.873	6.744E-03	2.753E-04	2.607E-04	313.0	1.000	1.000	1.000
10	102.28	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.843	6.924E-03	2.729E-04	2.583E-04	314.0	1.000	1.000	1.000
11	97.12	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.840	7.072E-03	2.779E-04	2.631E-04	314.0	1.000	1.000	1.000
12	92.04	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.849	7.217E-03	2.730E-04	2.585E-04	314.5	1.000	1.000	1.000
13	86.96	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.836	7.325E-03	2.668E-04	2.708E-04	314.4	1.000	1.000	1.000
14	81.88	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.823	7.424E-03	2.707E-04	2.636E-04	314.4	1.000	1.000	1.000
15	76.80	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.782	7.522E-03	2.751E-04	2.688E-04	314.6	1.000	1.000	1.000
16	71.72	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.789	7.965E-03	2.937E-04	2.788E-04	314.8	1.000	1.000	1.000
17	66.64	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.771	8.576E-03	3.085E-04	2.928E-04	315.3	1.000	1.000	1.000
18	61.56	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.751	9.073E-03	3.229E-04	3.097E-04	315.1	1.000	1.000	1.000
19	56.48	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.749	9.529E-03	3.343E-04	3.162E-04	315.2	1.000	1.000	1.000
20	51.39	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.791	9.779E-03	3.616E-04	3.423E-04	316.0	1.000	1.000	1.000
21	46.31	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.918	1.036E-02	3.809E-04	3.646E-04	315.5	1.000	1.000	1.000
22	41.23	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.821	1.034E-02	3.972E-04	3.768E-04	315.4	1.000	1.000	1.000
23	36.15	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.936	1.036E-02	4.151E-04	3.929E-04	315.4	1.000	1.000	1.000
24	31.07	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.936	1.036E-02	4.251E-04	4.034E-04	315.2	1.000	1.000	1.000
25	26.00	-51	1.00	6.93E+03	5.95E-03	5.95E-03	.821	9.516E-03	3.806E-04	3.602E-04	316.0	1.000	1.000	1.000
127	47.59	1.52	1.00	6.93E+03	5.95E-03	5.95E-03	.821	9.017E-03	3.742E-04	3.581E-04	319.4	1.000	1.000	1.000
128	47.59	1.52	1.00	6.93E+03	5.95E-03	5.95E-03	.743	9.017E-03	3.445E-04	3.268E-04	318.6	1.000	1.000	1.000
129	47.59	1.52	1.00	6.93E+03	5.95E-03	5.95E-03	.779	9.516E-03	3.645E-04	3.528E-04	317.6	1.000	1.000	1.000
130	47.59	1.52	1.00	6.93E+03	5.95E-03	5.95E-03	.379	9.918E-03	3.748E-04	3.646E-04	316.3	1.000	1.000	1.000
203	61.56	1.52	1.00	6.93E+03	5.95E-03	5.95E-03	.912	8.576E-03	3.217E-04	3.043E-04	316.7	1.000	1.000	1.000
204	61.56	1.52	1.00	6.93E+03	5.95E-03	5.95E-03	.798	8.576E-03	3.133E-04	2.980E-04	317.0	1.000	1.000	1.000
207	61.56	1.52	1.00	6.93E+03	5.95E-03	5.95E-03	.615	8.576E-03	2.973E-04	2.748E-04	316.6	1.000	1.000	1.000
210	61.56	1.52	1.00	6.93E+03	5.95E-03	5.95E-03	.518	8.576E-03	2.474E-04	2.275E-04	316.0	1.000	1.000	1.000
211	61.56	1.52	1.00	6.93E+03	5.95E-03	5.95E-03	.476	8.576E-03	1.629E-04	1.542E-04	315.1	1.000	1.000	1.000
321	86.96	1.52	1.00	6.93E+03	5.95E-03	5.95E-03	.622	7.217E-03	2.776E-04	2.562E-04	314.6	1.000	1.000	1.000
302	86.96	1.52	1.00	6.93E+03	5.95E-03	5.95E-03	.844	7.217E-03	2.474E-04	2.695E-04	315.1	1.000	1.000	1.000
303	86.96	1.52	1.00	6.93E+03	5.95E-03	5.95E-03	.853	7.217E-03	2.895E-04	2.748E-04	315.5	1.000	1.000	1.000
304	86.96	1.52	1.00	6.93E+03	5.95E-03	5.95E-03	.842	7.217E-03	2.911E-04	2.695E-04	315.7	1.000	1.000	1.000





# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 9

AMES 345 FT HWT TEST (1P2), C.O. BLUMER, IN-LINE RSI GAP PUN ( 5) 1973

TT = 1.33E+03(K)  
 GAP LENGTH = 0.30(1CM)  
 PT = 1.0294E+16(N/M2)  
 GAP WIDTH = 0.00(1CM)  
 HT = 1.2723E+16(L/J/AG)  
 GAP DEPTH = 0.3(1CM)  
 RE/METER = 3.17E+04  
 ORIENTATION = 0.000(DEG)  
 MACH = 5.03  
 QS = 1.2272E+05(W/M2)  
 RHC VEL = 4.11E+11(KG/P2-S)  
 100% POSITION = 1  
 WAM/HT = 4.9E+02 Wt  
 WAM/HT = 7.0% FOR HL  
 HLCC = HL(ENCL. OF REF. COND.)

T/C	X (CM)	Y (CM)	ZZ (CM)	0 (CM)	HL (W/M2)	HL (KG/M2-S)	WT (KG/M2-S)	HL/MPEFF	HREFI (KG/M2-S)	STL	STT	Y (K)	MLCC (KG/M2-S)	ML/HLCC	HLCC/MREF	ML/HE
1	135.24	-51	0.00	0.00	2.54E+04	3.45E+02	7.37E-02	773	4.520E-02	8.376E-04	7.935E-04	312.0	1.02E-02	1.000	0.61	1.000
2	132.70	-51	0.00	0.00	2.27E+04	3.43E+02	7.36E-02	782	3.047E-02	7.435E-04	7.103E-04	313.3	1.02E-02	1.000	0.61	1.000
3	130.16	-51	0.00	0.00	2.01E+04	2.93E-02	2.77E-02	709	2.666E-02	7.103E-04	6.729E-04	313.7	1.02E-02	1.000	0.61	1.000
4	127.63	-51	0.00	0.00	1.75E+04	2.57E-02	2.46E-02	763	2.374E-02	6.246E-04	5.917E-04	313.7	1.02E-02	1.000	0.61	1.000
5	125.10	-51	0.00	0.00	1.50E+04	2.43E-02	1.93E-02	815	2.053E-02	5.088E-04	5.278E-04	313.3	1.02E-02	1.000	0.61	1.000
6	122.56	-51	0.00	0.00	1.25E+04	2.43E-02	1.93E-02	815	2.053E-02	4.957E-04	4.696E-04	313.2	1.02E-02	1.000	0.61	1.000
7	119.99	-51	0.00	0.00	1.00E+04	1.62E-02	1.32E-02	764	1.708E-02	3.921E-04	3.745E-04	313.8	1.02E-02	1.000	0.61	1.000
8	117.47	-51	0.00	0.00	7.75E+03	1.30E-02	1.04E-02	730	1.331E-02	2.567E-04	2.432E-04	313.1	1.02E-02	1.000	0.61	1.000
9	114.91	-51	0.00	0.00	5.50E+03	1.06E-02	1.01E-02	730	1.218E-02	2.083E-04	1.974E-04	313.2	1.02E-02	1.000	0.61	1.000
10	112.24	-51	0.00	0.00	3.25E+03	8.98E-03	8.33E-03	710	1.015E-02	1.798E-04	1.711E-04	313.2	1.02E-02	1.000	0.61	1.000
11	92.74	-51	0.00	0.00	1.00E+03	7.45E-03	7.33E-03	639	9.722E-03	1.629E-04	1.543E-04	313.9	1.02E-02	1.000	0.61	1.000
12	92.74	-51	0.00	0.00	8.00E+02	6.71E-03	6.36E-03	795	9.202E-03	1.776E-04	1.683E-04	313.3	1.02E-02	1.000	0.61	1.000
13	81.00	-51	0.00	0.00	6.00E+02	7.32E-03	7.00E-03	807	5.335E-03	1.733E-04	1.699E-04	313.2	1.02E-02	1.000	0.61	1.000
14	81.00	-51	0.00	0.00	4.00E+02	7.32E-03	7.00E-03	807	5.335E-03	1.946E-04	1.842E-04	313.3	1.02E-02	1.000	0.61	1.000
15	76.50	-51	0.00	0.00	2.80E+02	8.11E-03	7.59E-03	853	3.932E-03	1.892E-04	1.887E-04	313.4	1.02E-02	1.000	0.61	1.000
16	71.72	-51	0.00	0.00	2.20E+02	8.11E-03	7.77E-03	839	9.702E-03	1.592E-04	1.595E-04	313.4	1.02E-02	1.000	0.61	1.000
17	66.54	-51	0.00	0.00	2.20E+02	8.11E-03	7.77E-03	839	9.702E-03	2.063E-04	1.954E-04	313.9	1.02E-02	1.000	0.61	1.000
18	61.56	-51	0.00	0.00	2.20E+02	9.91E-03	6.44E-03	819	1.000E-02	2.163E-04	2.049E-04	313.6	1.02E-02	1.000	0.61	1.000
19	56.08	-51	0.00	0.00	2.20E+02	9.91E-03	6.44E-03	819	1.000E-02	2.271E-04	2.091E-04	313.6	1.02E-02	1.000	0.61	1.000
20	51.39	-51	0.00	0.00	2.20E+02	9.91E-03	6.44E-03	819	1.000E-02	2.281E-04	2.161E-04	314.0	1.02E-02	1.000	0.61	1.000
21	46.91	-51	0.00	0.00	2.20E+02	9.91E-03	6.44E-03	819	1.000E-02	2.424E-04	2.298E-04	314.0	1.02E-02	1.000	0.61	1.000
22	46.91	-51	0.00	0.00	2.20E+02	9.91E-03	6.44E-03	819	1.000E-02	2.424E-04	2.298E-04	314.0	1.02E-02	1.000	0.61	1.000
23	41.77	-51	0.00	0.00	2.20E+02	1.00E-02	1.32E-02	825	1.269E-02	2.503E-04	2.371E-04	313.7	1.02E-02	1.000	0.61	1.000
24	41.77	-51	0.00	0.00	2.20E+02	1.00E-02	1.32E-02	825	1.269E-02	2.617E-04	2.479E-04	313.7	1.02E-02	1.000	0.61	1.000
25	39.74	-51	0.00	0.00	2.20E+02	1.00E-02	1.32E-02	826	1.343E-02	2.692E-04	2.551E-04	313.2	1.02E-02	1.000	0.61	1.000
123	97.59	1.52	0.00	0.00	2.44E+03	1.72E-02	3.64E-03	819	1.211E-02	2.471E-04	2.343E-04	318.1	1.02E-02	1.000	0.61	1.000
124	97.59	1.52	0.00	0.00	2.20E+03	3.95E-03	9.48E-03	921	1.211E-02	2.416E-04	2.288E-04	319.0	9.95E-03	1.000	0.61	1.000
125	97.59	1.52	0.00	0.00	2.00E+03	3.95E-03	8.59E-03	949	1.212E-02	2.273E-04	2.066E-04	318.1	9.07E-03	1.000	0.61	1.000
126	97.59	1.52	0.00	0.00	1.80E+03	3.95E-03	6.06E-03	958	1.212E-02	1.977E-04	1.637E-04	316.7	7.03E-03	1.000	0.61	1.000
127	97.59	1.52	0.00	0.00	1.60E+03	4.03E-03	4.03E-03	984	1.212E-02	1.841E-04	1.661E-04	315.2	4.78E-03	1.000	0.61	1.000
203	61.56	1.52	0.00	0.00	6.00E+03	3.61E-03	5.44E-03	877	1.225E-02	2.163E-04	2.049E-04	315.3	8.91E-03	1.000	0.61	1.000
204	61.56	1.52	0.00	0.00	5.00E+03	3.61E-03	3.98E-03	875	1.224E-02	2.175E-04	2.061E-04	315.0	8.96E-03	1.000	0.61	1.000
205	61.56	1.52	0.00	0.00	4.00E+03	3.61E-03	3.48E-03	877	1.025E-02	1.907E-04	1.808E-04	315.5	7.66E-03	1.000	0.61	1.000
206	61.56	1.52	0.00	0.00	3.00E+03	3.61E-03	2.98E-03	877	1.025E-02	1.590E-04	1.500E-04	315.6	5.95E-03	1.000	0.61	1.000
207	61.56	1.52	0.00	0.00	2.00E+03	3.61E-03	2.48E-03	877	1.025E-02	1.590E-04	1.500E-04	315.6	5.95E-03	1.000	0.61	1.000
208	61.56	1.52	0.00	0.00	1.00E+03	3.61E-03	1.98E-03	877	1.025E-02	1.590E-04	1.500E-04	315.6	5.95E-03	1.000	0.61	1.000
209	61.56	1.52	0.00	0.00	1.00E+03	3.61E-03	1.98E-03	877	1.025E-02	1.590E-04	1.500E-04	315.6	5.95E-03	1.000	0.61	1.000
301	86.94	1.52	0.00	0.00	2.00E+03	6.00E-03	5.21E-03	926	9.023E-03	1.603E-04	1.451E-04	313.4	6.80E-03	1.000	0.61	1.000
302	86.94	1.52	0.00	0.00	1.50E+03	7.36E-03	6.73E-03	743	9.023E-03	1.734E-04	1.646E-04	314.2	7.16E-03	1.000	0.61	1.000
303	86.94	1.52	0.00	0.00	1.00E+03	6.95E-03	6.95E-03	751	9.023E-03	1.757E-04	1.665E-04	314.0	7.24E-03	1.000	0.61	1.000
304	86.94	1.52	0.00	0.00	1.00E+03	6.95E-03	6.95E-03	743	9.023E-03	1.868E-04	1.899E-04	315.3	6.95E-03	1.000	0.61	1.000







RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 11

AMES 3.6 FT HWT TEST (192), C.B. JUMPER, IN-LINE RSI GAP RUN( 6) 1973

TT = 1.179E+07(K)  
GT = 5.347E+06(EN/M2)  
HT = 1.223E+06(LI/KG)  
REF/METER = 1.623E+06  
MACH = 5.16  
RMC VEL = 2.1132E+1(KG/M2-S)  
HAM/HT = 1.874 FOR HL  
HLCC = HL(2ND, DPE) (CONL...)

T/C	Y	X	Y	Z	CP	HT	HL	HT	HL/HREF	HREF	STL	STT	T	HLCC	ML/HLCC	MLCC/HREF	ML/ME
1	135.24	-0.1	1.02E+02	3.22E+03	7.87E+03	1.97	6.85E+03	4.305E-04	4.136E-04	313.6	6.76E-03	0.961	1.443	0.961	1.443	1.000	
2	132.70	-0.1	3.05E+03	3.32E+03	7.86E+03	1.26	6.85E+03	3.937E-04	3.730E-04	314.0	6.76E-03	0.947	1.330	0.947	1.330	1.000	
3	134.16	-0.1	6.05E+03	3.45E+03	7.82E+03	1.223	6.85E+03	3.694E-04	3.677E-04	314.1	6.40E-03	0.958	1.276	0.958	1.276	1.000	
4	127.63	-0.1	7.05E+03	7.71E+03	7.31E+03	1.176	6.85E+03	3.657E-04	3.458E-04	314.3	8.02E-03	0.962	1.223	0.962	1.223	1.000	
5	125.09	-0.1	7.05E+03	7.71E+03	7.31E+03	1.176	6.85E+03	3.657E-04	3.388E-04	314.3	7.95E-03	0.953	1.217	0.953	1.217	1.000	
6	122.60	-0.1	7.05E+03	7.71E+03	7.31E+03	1.122	6.85E+03	3.451E-04	3.269E-04	314.3	7.63E-03	0.956	1.174	0.956	1.174	1.000	
7	117.47	-0.1	7.05E+03	7.29E+03	6.58E+03	1.076	6.85E+03	3.249E-04	3.145E-04	314.6	7.38E-03	0.952	1.131	0.952	1.131	1.000	
8	112.97	-0.1	7.05E+03	6.95E+03	6.58E+03	1.076	6.85E+03	3.249E-04	3.066E-04	314.6	7.13E-03	0.952	1.104	0.952	1.104	1.000	
9	107.71	-0.1	7.05E+03	6.79E+03	6.58E+03	1.021	6.85E+03	3.249E-04	3.066E-04	314.6	7.05E-03	0.954	1.057	0.954	1.057	1.000	
10	102.21	-0.1	7.05E+03	6.73E+03	6.37E+03	1.024	6.85E+03	3.193E-04	3.066E-04	314.9	6.77E-03	0.948	0.991	0.991	1.000		
11	97.12	-0.1	7.05E+03	6.42E+03	6.09E+03	0.939	6.85E+03	3.041E-04	2.893E-04	315.1	6.77E-03	0.948	0.965	0.965	1.000		
12	92.46	-0.1	7.05E+03	6.38E+03	5.95E+03	0.913	6.85E+03	3.021E-04	2.742E-04	315.1	6.75E-03	0.946	0.929	0.929	1.000		
13	90.66	-0.1	7.05E+03	6.12E+03	5.79E+03	0.854	7.15E+03	2.894E-04	2.742E-04	315.6	6.65E-03	0.920	0.869	0.869	1.000		
14	81.08	-0.1	6.87E+03	6.33E+03	6.00E+03	0.871	7.27E+03	2.997E-04	2.839E-04	315.9	7.05E-03	0.898	0.869	0.869	1.000		
15	70.31	-0.1	6.87E+03	6.33E+03	6.00E+03	0.871	7.27E+03	2.997E-04	2.789E-04	316.6	6.57E-03	0.943	0.898	0.898	1.000		
16	71.72	-0.1	6.87E+03	6.49E+03	6.17E+03	0.867	7.48E+03	3.074E-04	2.989E-04	316.6	6.48E-03	1.001	0.866	0.866	1.000		
17	66.64	-0.1	6.87E+03	6.49E+03	6.17E+03	0.867	7.48E+03	3.074E-04	3.180E-04	317.1	7.87E-03	1.003	0.893	0.893	1.000		
18	61.66	-0.1	6.87E+03	6.22E+03	6.22E+03	0.970	7.22E+03	3.51E-04	3.324E-04	317.7	7.40E-03	1.002	0.868	0.868	1.000		
19	56.8	-0.1	6.87E+03	6.63E+03	7.22E+03	0.945	6.12E+03	3.63E-04	3.408E-04	318.0	7.60E-03	1.004	0.842	0.842	1.000		
20	51.89	-0.1	6.87E+03	7.84E+03	7.84E+03	0.829	6.40E+03	3.742E-04	3.586E-04	318.2	7.84E-03	1.001	0.828	0.828	1.000		
21	48.38	-0.1	6.87E+03	8.21E+03	7.87E+03	0.841	6.71E+03	3.897E-04	3.651E-04	313.7	8.11E-03	1.015	0.834	0.834	1.000		
22	46.11	-0.1	6.87E+03	8.42E+03	7.87E+03	0.841	6.94E+03	3.944E-04	3.773E-04	313.4	8.36E-03	1.007	0.836	0.836	1.000		
23	43.77	-0.1	6.87E+03	8.55E+03	8.10E+03	0.932	6.27E+03	4.145E-04	3.832E-04	318.3	8.49E-03	1.007	0.827	0.827	1.000		
24	41.24	-0.1	6.87E+03	8.95E+03	8.95E+03	0.848	6.51E+03	4.237E-04	4.013E-04	318.2	8.90E-03	1.006	0.843	0.843	1.000		
25	38.88	-0.1	6.87E+03	8.24E+03	8.95E+03	0.853	6.78E+03	4.373E-04	4.12E-04	317.5	9.28E-03	0.996	0.857	0.857	1.000		
26	35.24	-0.1	6.87E+03	8.46E+03	8.46E+03	0.844	6.84E+03	4.431E-04	4.12E-04	313.3	9.33E-03	0.888	0.566	0.566	0.847		
27	32.74	-0.1	6.87E+03	8.19E+03	8.19E+03	0.841	6.31E+03	4.511E-04	4.42E-04	313.6	9.40E-03	0.864	0.515	0.515	0.847		
28	30.16	-0.1	6.87E+03	8.42E+03	8.42E+03	0.845	6.71E+03	4.591E-04	4.386E-04	313.7	9.33E-03	0.895	0.535	0.535	0.847		
29	27.67	-0.1	6.87E+03	8.55E+03	8.55E+03	0.842	6.87E+03	4.642E-04	4.355E-04	313.8	9.14E-03	0.903	0.579	0.579	0.847		
30	25.09	-0.1	6.87E+03	8.95E+03	8.95E+03	0.843	6.85E+03	4.73E-04	4.23E-04	313.8	8.99E-03	0.874	0.575	0.575	0.847		
31	22.66	-0.1	6.87E+03	8.44E+03	8.44E+03	0.841	6.35E+03	4.83E-04	4.17E-04	313.8	8.99E-03	0.874	0.575	0.575	0.847		
32	21.07	-0.1	6.87E+03	8.47E+03	8.47E+03	0.840	6.51E+03	4.83E-04	4.17E-04	313.7	8.81E-03	0.832	0.368	0.368	0.847		
33	18.77	-0.1	6.87E+03	8.42E+03	8.14E+03	0.873	6.45E+03	4.83E-04	4.17E-04	314.2	8.76E-03	0.873	0.380	0.380	0.847		
34	17.31	-0.1	6.87E+03	8.42E+03	8.14E+03	0.873	6.45E+03	4.83E-04	4.075E-04	314.1	8.74E-03	0.876	0.424	0.424	0.847		
35	15.22	-0.1	6.87E+03	8.27E+03	8.14E+03	0.874	6.60E+03	4.83E-04	4.075E-04	314.2	8.59E-03	0.875	0.389	0.389	0.847		
36	13.07	-0.1	6.87E+03	8.27E+03	8.14E+03	0.874	6.60E+03	4.83E-04	4.075E-04	314.3	8.63E-03	0.867	0.389	0.389	0.847		
37	9.24	-0.1	6.87E+03	8.24E+03	8.14E+03	0.873	6.93E+03	4.83E-03	4.075E-03	314.4	8.63E-03	0.861	0.372	0.372	0.847		
38	6.06	-0.1	6.87E+03	8.14E+03	8.14E+03	0.873	7.15E+03	4.83E-03	4.075E-03	314.9	8.87E-03	0.846	0.400	0.400	0.847		
39	3.14	-0.1	6.87E+03	8.14E+03	8.14E+03	0.873	7.15E+03	4.83E-03	4.075E-03	315.3	9.22E-03	0.846	0.414	0.414	0.847		
40	76.68	-0.1	6.87E+03	8.14E+03	8.14E+03	0.873	7.15E+03	4.83E-03	4.075E-03	315.3	9.22E-03	0.846	0.414	0.414	0.847		
41	71.72	-0.1	6.87E+03	8.14E+03	8.14E+03	0.873	7.15E+03	4.83E-03	4.075E-03	315.3	9.22E-03	0.846	0.414	0.414	0.847		
42	66.64	-0.1	6.87E+03	8.21E+03	8.21E+03	0.874	7.61E+03	4.83E-03	4.075E-03	315.1	9.69E-03	1.009	0.276	0.276	0.847		



RSI GAP HEATING ANALYSIS - II

VOLUME II

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AMES 3.5 FT. HWT TEST (192) C.P. BLUMER, IN-LINE RSI GAP SUP ( 0) 1973

T/C	X	Y	Z	ML	HT	ML/HT	ML/HTREF	STL	STT	T	PLCC	ML/PLCC	MLCC/HTREF	ML/HT
43	51.56	0.00	27	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
44	56.48	0.00	27	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
45	51.30	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
46	48.86	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
47	46.31	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
48	43.77	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
49	41.24	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
50	38.70	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
51	36.16	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
52	33.62	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
53	31.08	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
54	28.54	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
55	26.00	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
56	23.46	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
57	20.92	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
58	18.38	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
59	15.84	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
60	13.30	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
61	10.76	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
62	8.22	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
63	5.68	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
64	3.14	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
65	0.60	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
66	0.00	0.00	25	3.16E+02	2.18E-03	1.45E-03	2.51	1.022E-04	9.185E-05	315.7	1.19E-03	1.307	.252	.290
67	66.64	0.00	51	3.16E+02	2.18E-04	4.39E-04	0.83	1.496E-05	1.496E-05	312.3	9.04E-04	0.533	.149	.112
68	61.56	0.00	51	3.16E+02	2.18E-04	4.39E-04	0.83	1.496E-05	1.496E-05	312.3	9.04E-04	0.533	.149	.112
69	56.48	0.00	51	3.16E+02	2.18E-04	4.39E-04	0.83	1.496E-05	1.496E-05	312.3	9.04E-04	0.533	.149	.112
70	51.39	0.00	51	3.16E+02	2.18E-04	4.39E-04	0.83	1.496E-05	1.496E-05	312.3	9.04E-04	0.533	.149	.112
71	46.30	0.00	51	3.16E+02	2.18E-04	4.39E-04	0.83	1.496E-05	1.496E-05	312.3	9.04E-04	0.533	.149	.112
72	41.21	0.00	51	3.16E+02	2.18E-04	4.39E-04	0.83	1.496E-05	1.496E-05	312.3	9.04E-04	0.533	.149	.112
73	36.12	0.00	51	3.16E+02	2.18E-04	4.39E-04	0.83	1.496E-05	1.496E-05	312.3	9.04E-04	0.533	.149	.112
74	31.03	0.00	51	3.16E+02	2.18E-04	4.39E-04	0.83	1.496E-05	1.496E-05	312.3	9.04E-04	0.533	.149	.112
75	25.94	0.00	51	3.16E+02	2.18E-04	4.39E-04	0.83	1.496E-05	1.496E-05	312.3	9.04E-04	0.533	.149	.112

EDGE HEATING USED FOR HT

43	3.873E+01	ML	/HTREF=	6.556E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
44	4.124E+01	ML	/HTREF=	8.433E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
45	4.377E+01	ML	/HTREF=	8.206E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
46	4.631E+01	ML	/HTREF=	6.355E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
47	4.884E+01	ML	/HTREF=	8.374E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
48	5.139E+01	ML	/HTREF=	8.279E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
49	5.393E+01	ML	/HTREF=	8.421E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
50	5.648E+01	ML	/HTREF=	6.508E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
51	5.902E+01	ML	/HTREF=	8.335E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
52	6.156E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
53	6.410E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
54	6.664E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
55	6.918E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
56	7.172E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
57	7.426E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
58	7.680E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
59	7.934E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
60	8.188E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
61	8.442E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
62	8.696E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
63	8.950E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
64	9.204E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
65	9.458E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
66	9.712E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
67	9.966E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
68	10.220E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
69	10.474E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
70	10.728E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
71	10.982E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
72	11.236E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
73	11.490E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
74	11.744E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168
75	11.998E+01	ML	/HTREF=	8.673E-03	3.00E-04	1.496E-05	0.83	7.300E-03	1.496E-05	313.4	7.00E-04	0.447	.096	.168

CAL. TRANSITION DISTANCE = 1.73 CM  
FULLY TURBULENT 3.0. CONDITIONS AT = 376.0° CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
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AMES 3.5 FT WHT TEST (112), C-23. BLUMER, IN-LINE RSI GAP RUN ( 7) 1971

TT = 1.1213E+3(K)  
PT = 1.0308E+16(N/M2)  
HT = 1.1958E+6(J/KG)  
RE/METER = 3.2734E+4  
MACH = 5.107  
RUC VEL = 4.1278E+1(K/M2-S)  
MAM/HT = 3.6918E+3(WT  
MLCC = ML(2RC) 3000 COND.4)

GAP LENGTH = 101.50(CM)  
GAP WIDTH = .127(CM)  
GAP DEPTH = 2.032(CM)  
ORIENTATICA = 2.005(DEG)  
QS = 1.2092E+5(W/M2)  
MOD.PCSITICA = 1

T/C	X	Y	Z	D	ML	MT	HL/HREFF	HREF	STL	STT	T	MLCC	HL/MLCC	MLCC/HREF	ML/HE
(CM)	(CM)	(CM)	(CM)	(M/M2)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(1.114E-01)	(1.055E-03)	(K)	(K/M2-S)			
1	135.24	-51	0.0	3.46E+04	1.635E-02	4.52E-02	4.26E-02	1.193E-03	1.193E-03	1.051E-03	313.1	4.72E-02	.983	1.125	1.000
2	132.70	-51	0.0	3.46E+04	1.635E-02	4.44E-02	3.695E-02	1.193E-03	1.193E-03	1.000E-03	313.2	4.72E-02	.987	1.216	1.000
3	135.16	-51	0.0	3.46E+04	1.635E-02	4.37E-02	3.589E-02	1.193E-03	1.193E-03	1.044E-03	313.3	4.67E-02	.988	1.302	1.000
4	128.67	-51	0.0	3.46E+04	1.635E-02	4.33E-02	3.283E-02	1.073E-03	1.073E-03	1.034E-03	313.0	4.63E-02	.987	1.437	1.000
5	125.99	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	9.86E-04	313.0	4.41E-02	.987	1.637	1.000
6	122.56	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	9.86E-04	313.3	3.89E-02	.984	1.763	1.000
7	117.67	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	7.12E-04	313.2	3.21E-02	.982	1.748	1.000
8	112.37	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	5.17E-04	313.1	2.56E-02	.980	1.748	1.000
9	107.33	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	4.38E-04	313.2	1.98E-02	.972	1.572	1.000
10	102.27	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	4.38E-04	313.3	1.66E-02	.967	1.512	1.000
11	97.12	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	4.38E-04	313.3	1.29E-02	.966	1.384	1.000
12	92.04	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	2.787E-04	313.6	1.29E-02	.966	1.384	1.000
13	86.96	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	2.787E-04	313.7	1.29E-02	.966	1.384	1.000
14	81.88	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	2.787E-04	313.7	1.29E-02	.966	1.384	1.000
15	76.80	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	2.787E-04	313.5	1.29E-02	.966	1.384	1.000
16	71.72	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	2.787E-04	313.5	1.29E-02	.966	1.384	1.000
17	66.64	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	2.787E-04	313.7	1.29E-02	.966	1.384	1.000
18	61.56	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	2.787E-04	313.7	1.29E-02	.966	1.384	1.000
19	56.48	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	2.787E-04	313.9	1.29E-02	.966	1.384	1.000
20	51.40	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	2.787E-04	313.9	1.29E-02	.966	1.384	1.000
21	46.32	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	2.787E-04	313.9	1.29E-02	.966	1.384	1.000
22	41.24	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	2.787E-04	313.9	1.29E-02	.966	1.384	1.000
23	36.16	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	2.787E-04	313.9	1.29E-02	.966	1.384	1.000
24	31.08	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	2.787E-04	313.9	1.29E-02	.966	1.384	1.000
25	26.00	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	2.787E-04	313.9	1.29E-02	.966	1.384	1.000
26	20.92	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	2.787E-04	313.9	1.29E-02	.966	1.384	1.000
27	15.84	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	2.787E-04	313.9	1.29E-02	.966	1.384	1.000
28	10.76	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	2.787E-04	313.9	1.29E-02	.966	1.384	1.000
29	5.68	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	2.787E-04	313.9	1.29E-02	.966	1.384	1.000
30	0.60	-51	0.0	3.46E+04	1.635E-02	4.32E-02	2.691E-02	1.073E-03	1.073E-03	2.787E-04	313.9	1.29E-02	.966	1.384	1.000
31	125.56	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
32	112.47	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
33	112.37	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
34	107.33	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
35	102.27	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
36	97.12	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
37	92.04	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
38	86.96	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
39	81.88	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
40	76.80	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
41	71.72	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
42	66.64	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
43	61.56	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
44	56.48	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
45	51.40	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
46	46.32	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
47	41.24	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
48	36.16	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
49	31.08	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
50	26.00	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
51	20.92	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
52	15.84	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
53	10.76	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
54	5.68	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000
55	0.60	0.00	25	2.09E+04	2.91E-02	2.74E-02	2.74E-02	1.27E-02	1.27E-02	2.58E-04	314.1	1.04E-02	1.008	.985	1.000



RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 14

AMES 3.5 FT HW7 T5T (102), C.3, BLUMER, IN-LINE R3I GAP RUN( 7) 1973

T/C	X (CM)	Y (CM)	Z (CM)	W (CM)	ML (KG/M <sup>2</sup> -S)	MT (KG/M <sup>2</sup> -S)	HL/MKREF (KG/M <sup>2</sup> -S)	HREF (KG/M <sup>2</sup> -S)	STL	STY	T (K)	MLCC (KG/M <sup>2</sup> -S)	ML/MLCC	MLCC/MREF	ML/ME
43	61.56	0.00	0.25	2.70E+03	3.06E-03	3.72E-03	1.037E-02	9.21E-05	0.732E-05	310.3	3.76E-03	1.026	.363	.380	
44	56.48	0.00	0.25	2.70E+03	3.06E-03	3.72E-03	1.037E-02	9.21E-05	0.507E-05	310.9	3.67E-03	1.036	.333	.373	
45	51.39	0.00	0.25	2.70E+03	3.06E-03	3.72E-03	1.037E-02	9.21E-05	7.529E-05	310.1	3.24E-03	1.026	.277	.319	
46	49.86	0.00	0.25	2.70E+03	3.06E-03	3.72E-03	1.037E-02	9.21E-05	0.704E-05	310.6	3.04E-03	1.057	.301	.347	
47	46.31	0.00	0.25	2.46E+03	3.41E-03	3.23E-03	1.247E-02	0.131E-05	7.704E-05	310.6	3.12E-03	1.027	.266	.306	
48	43.77	0.00	0.25	2.70E+03	3.06E-03	3.72E-03	1.037E-02	9.21E-05	0.542E-05	311.3	3.67E-03	1.028	.246	.312	
49	41.24	0.00	0.25	2.70E+03	3.06E-03	3.72E-03	1.037E-02	9.21E-05	0.627E-05	310.2	3.72E-03	1.028	.281	.316	
50	38.71	0.00	0.25	2.24E+03	3.12E-03	2.95E-03	1.351E-02	7.443E-05	7.055E-05	309.6	3.13E-03	.996	.230	.259	
51	35.24	0.00	0.25	2.24E+03	3.12E-03	2.95E-03	1.351E-02	7.443E-05	2.191E-04	309.4	3.52E-02	.945	.213	.209	
52	32.71	0.00	0.25	1.91E+03	3.27E-03	3.40E-03	1.20E-02	3.27E-04	2.245E-04	309.7	1.16E-02	.943	.324	.285	
53	30.16	0.00	0.25	1.91E+03	3.27E-03	3.40E-03	1.20E-02	3.27E-04	2.813E-04	310.7	1.31E-02	.955	.334	.276	
54	27.63	0.00	0.25	1.91E+03	3.27E-03	3.40E-03	1.20E-02	3.27E-04	2.799E-04	309.9	1.29E-02	.958	.361	.277	
55	25.09	0.00	0.25	1.91E+03	3.27E-03	3.40E-03	1.20E-02	3.27E-04	2.923E-04	309.5	1.39E-02	.956	.413	.260	
56	22.56	0.00	0.25	1.91E+03	3.27E-03	3.40E-03	1.20E-02	3.27E-04	2.494E-04	309.2	1.14E-02	.951	.426	.260	
57	19.97	0.00	0.25	1.91E+03	3.27E-03	3.40E-03	1.20E-02	3.27E-04	2.809E-04	309.6	1.40E-03	.937	.436	.267	
58	17.31	0.00	0.25	1.91E+03	3.27E-03	3.40E-03	1.20E-02	3.27E-04	1.806E-04	309.4	8.99E-03	.934	.477	.267	
59	14.70	0.00	0.25	1.91E+03	3.27E-03	3.40E-03	1.20E-02	3.27E-04	1.629E-04	309.5	7.69E-03	.934	.515	.301	
60	12.20	0.00	0.25	1.91E+03	3.27E-03	3.40E-03	1.20E-02	3.27E-04	1.390E-04	309.3	6.72E-03	.919	.536	.341	
61	9.712	0.00	0.25	1.91E+03	3.27E-03	3.40E-03	1.20E-02	3.27E-04	1.267E-05	309.1	3.75E-03	.899	.346	.229	
62	92.04	0.00	0.25	1.91E+03	3.27E-03	3.40E-03	1.20E-02	3.27E-04	1.382E-05	309.1	3.75E-03	.867	.132	.102	
63	80.96	0.00	0.25	1.91E+03	3.27E-03	3.40E-03	1.20E-02	3.27E-04	2.944E-05	309.1	3.75E-03	.681	.206	.107	
64	51.99	0.00	0.25	1.91E+03	3.27E-03	3.40E-03	1.20E-02	3.27E-04	2.654E-05	308.6	3.00E-03	1.005	.113	.119	
65	24.52	0.00	0.25	1.91E+03	3.27E-03	3.40E-03	1.20E-02	3.27E-04	2.284E-05	309.3	9.84E-04	1.187	.896	.896	
66	1.72	0.00	0.25	1.91E+03	3.27E-03	3.40E-03	1.20E-02	3.27E-04	1.932E-05	309.3	7.90E-04	1.127	.873	.873	
67	46.84	0.00	0.25	6.19E+02	3.54E-04	8.39E-04	1.37E-02	2.839E-05	1.911E-05	309.0	7.15E-04	1.161	.065	.073	
68	1.56	0.00	0.25	5.13E+02	4.45E-04	8.39E-04	1.37E-02	2.317E-05	1.370E-05	309.9	5.24E-04	1.161	.045	.051	
69	56.46	0.00	0.25	4.41E+02	5.05E-04	9.76E-04	1.17E-02	1.452E-05	2.278E-05	310.3	7.98E-04	1.209	.064	.076	
70	1.39	0.00	0.25	7.27E+02	3.01E-03	9.83E-04	1.20E-02	2.403E-05	2.143E-05	309.6	4.58E-04	1.185	.080	.089	
71	48.06	0.00	0.25	3.08E+02	4.01E-04	8.39E-04	1.20E-02	1.875E-05	9.930E-05	309.6	3.10E-04	1.329	.029	.029	
72	40.31	0.00	0.25	1.62E+02	6.22E-04	3.99E-04	1.20E-02	1.285E-02	1.192E-05	309.2	4.80E-04	1.224	.031	.035	
73	40.37	0.00	0.25	1.62E+02	6.22E-04	3.99E-04	1.20E-02	1.285E-02	1.192E-05	309.2	4.80E-04	1.224	.031	.035	
74	41.26	0.00	0.25	1.62E+02	6.22E-04	3.99E-04	1.20E-02	1.285E-02	1.192E-05	309.2	4.80E-04	1.224	.031	.035	
75	38.79	0.00	0.25	1.62E+02	6.22E-04	3.99E-04	1.20E-02	1.285E-02	1.192E-05	309.2	4.80E-04	1.224	.031	.035	

ORIGINAL PAGE IS  
OF POOR QUALITY

EDGE HEATING USED FOR ME

76	3.87E+01	ML	MREF	6.91E-01
77	0.126E+01	ML	MREF	0.94E-01
78	0.377E+01	ML	MREF	0.61E-01
79	0.631E+01	ML	MREF	0.37E-01
80	0.886E+01	ML	MREF	0.51E-01
81	0.139E+01	ML	MREF	0.67E-01
82	0.645E+01	ML	MREF	0.92E-01
83	0.150E+01	ML	MREF	0.43E-01
84	0.666E+01	ML	MREF	0.47E-01
85	7.17E+01	ML	MREF	1.11E+00
86	7.64E+01	ML	MREF	1.11E+00
87	0.186E+01	ML	MREF	1.27E+00
88	0.190E+01	ML	MREF	1.37E+00
89	0.215E+01	ML	MREF	1.37E+00
90	9.71E+01	ML	MREF	1.72E+00
91	1.02E+02	ML	MREF	1.71E+00
92	1.07E+02	ML	MREF	1.76E+00
93	1.12E+02	ML	MREF	1.73E+00
94	1.17E+02	ML	MREF	1.67E+00
95	1.22E+02	ML	MREF	1.41E+00
96	1.27E+02	ML	MREF	1.32E+00
97	1.32E+02	ML	MREF	1.21E+00
98	1.37E+02	ML	MREF	1.10E+00
99	1.42E+02	ML	MREF	9.81E-01

2-DL TRANSITION DISTANCE X = 71.99 CM  
FULLY TURBULENT R.I.L. CONDITIONS AT X=376.03 CM



RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MOC E1248  
JSC 09651

PAGE 15

03 10-3

AMES 3.6 FT HWT TEST (1123), 2.5. BLUMER, IN-LIAI RSI GAP RUN ( 8) 10-3  
 TT = 1.147E+03(K) GAP LENG<sup>2</sup> = 101.500(CM)  
 PT = 2.0759E+01(M/M<sup>2</sup>) GAP WIDTH = .127(CM)  
 HT = 1.211E+01(J/JVC) GAP JFFTH = 2.032(CM)  
 RF/AFTR = 5.7302E+16 ORIENTATION = 3.000(DEG)  
 WACH = 5.100 OS  
 RMC VFL = 4.37E+26(1)(KG/M<sup>2</sup>-S) MOD. POSITION = 1  
 NEM/MT = 0.924 FOR HT  
 HAW/MT = 0.974 FOR HL  
 HLCC = HL(2)NC. OPLE = CONC(1)

T/C	X	Y	Z	W	V	U	T	S	R	Q	P	O	N	M	L	K	J	I	H	G	F	E	D	C	B	A
1	115.24	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	132.73	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	132.73	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	127.43	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	125.09	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	122.56	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	117.67	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	112.37	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	107.31	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	102.20	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	97.12	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	92.04	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	86.96	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	81.88	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	76.80	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	71.72	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	66.64	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	61.56	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	56.48	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	51.40	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	46.32	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	41.24	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	36.16	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	31.08	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	26.00	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	20.92	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	15.84	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	10.76	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	5.68	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.60	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.52	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	0.44	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	0.36	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	0.28	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	0.20	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	0.12	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	0.04	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	0.00	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	-0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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4YES 3.5 FT HWT TEST (1P2), C. S. BLUMER, IA-LINE RSI GAP RUN ( 8) 1973

T/C	X (CM)	Y (CM)	Z (CM)	ZZ (CM)	O (W/M2)	ML (KG/M2-S)	MT (KG/M2-S)	ML/HREF (KG/M2-S)	HREF (KG/M2-S)	STL	STT	T (K)	MLCC (K/CM2-S)	ML/MLCC	MLCC/HREF	ML/ML
43	51.56	0.77	1.82E+04	2.45E-02	1.817	1.38E-02	1.38E-02	1.38E-02	1.38E-02	1.317E-04	2.859E-04	313.3	1.49E-02	1.008	1.832	1.821
44	56.42	0.77	1.82E+04	1.60E-02	1.794	1.46E-02	1.46E-02	1.46E-02	1.46E-02	1.544E-04	1.63E-04	312.7	1.58E-02	1.016	1.877	1.885
45	61.39	0.77	1.82E+04	3.69E-03	1.621	1.54E-02	1.54E-02	1.54E-02	1.54E-02	1.154E-04	1.173E-04	312.9	1.53E-03	1.017	1.611	1.592
46	66.84	0.77	1.82E+04	5.14E-03	1.621	1.60E-02	1.60E-02	1.60E-02	1.60E-02	1.159E-04	1.097E-04	314.0	4.93E-03	1.028	1.624	1.637
47	66.31	0.70	1.74E+04	5.03E-03	1.608	1.63E-02	1.63E-02	1.63E-02	1.63E-02	6.842E-05	5.729E-05	313.5	4.40E-03	1.023	1.644	1.628
48	63.77	0.77	1.82E+04	4.43E-03	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	5.399E-05	5.116E-05	313.9	4.40E-03	1.023	1.644	1.628
49	61.24	0.77	1.82E+04	4.29E-03	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	1.115E-05	1.897E-05	312.9	4.69E-04	1.069	1.891	1.894
50	36.70	0.77	1.82E+04	3.73E-03	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	1.169E-04	1.109E-04	313.0	1.06E-02	0.919	1.124	1.145
51	135.24	0.77	1.82E+04	9.14E-03	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	1.098E-04	1.040E-04	314.0	2.67E-02	0.948	1.331	1.358
52	132.70	0.77	1.82E+04	2.53E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	1.031E-04	2.000E-04	312.0	2.75E-02	0.960	1.352	1.366
53	130.16	0.77	1.82E+04	2.50E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.171E-04	3.005E-04	313.0	2.95E-02	0.965	1.402	1.361
54	127.63	0.77	1.82E+04	2.50E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.275E-04	3.104E-04	313.3	2.90E-02	0.966	1.429	1.358
55	125.09	0.77	1.82E+04	2.73E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.243E-04	312.8	3.08E-02	0.968	1.429	1.358
56	122.56	0.77	1.82E+04	2.70E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.172E-04	312.4	3.08E-02	0.968	1.429	1.358
57	117.47	0.77	1.82E+04	2.65E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.072E-04	312.6	3.08E-02	0.968	1.429	1.358
58	112.37	0.77	1.82E+04	2.65E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.072E-04	312.6	3.08E-02	0.968	1.429	1.358
59	107.31	0.77	1.82E+04	2.65E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.072E-04	312.6	3.08E-02	0.968	1.429	1.358
60	102.23	0.77	1.82E+04	2.65E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.072E-04	312.6	3.08E-02	0.968	1.429	1.358
61	97.12	0.77	1.82E+04	2.65E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.072E-04	312.6	3.08E-02	0.968	1.429	1.358
62	92.04	0.77	1.82E+04	2.65E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.072E-04	312.6	3.08E-02	0.968	1.429	1.358
63	86.96	0.77	1.82E+04	2.65E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.072E-04	312.6	3.08E-02	0.968	1.429	1.358
64	81.89	0.77	1.82E+04	2.65E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.072E-04	312.6	3.08E-02	0.968	1.429	1.358
65	76.80	0.77	1.82E+04	2.65E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.072E-04	312.6	3.08E-02	0.968	1.429	1.358
66	71.72	0.77	1.82E+04	2.65E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.072E-04	312.6	3.08E-02	0.968	1.429	1.358
67	66.64	0.77	1.82E+04	2.65E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.072E-04	312.6	3.08E-02	0.968	1.429	1.358
68	61.56	0.77	1.82E+04	2.65E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.072E-04	312.6	3.08E-02	0.968	1.429	1.358
69	56.48	0.77	1.82E+04	2.65E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.072E-04	312.6	3.08E-02	0.968	1.429	1.358
70	51.39	0.77	1.82E+04	2.65E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.072E-04	312.6	3.08E-02	0.968	1.429	1.358
71	46.31	0.77	1.82E+04	2.65E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.072E-04	312.6	3.08E-02	0.968	1.429	1.358
72	41.23	0.77	1.82E+04	2.65E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.072E-04	312.6	3.08E-02	0.968	1.429	1.358
73	36.15	0.77	1.82E+04	2.65E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.072E-04	312.6	3.08E-02	0.968	1.429	1.358
74	31.07	0.77	1.82E+04	2.65E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.072E-04	312.6	3.08E-02	0.968	1.429	1.358
75	25.99	0.77	1.82E+04	2.65E-02	1.621	1.64E-02	1.64E-02	1.64E-02	1.64E-02	3.422E-04	3.072E-04	312.6	3.08E-02	0.968	1.429	1.358

EDGE HEATING USED FOR ME

XX	3.87E+01	ML	/HREF	6.05E-01
XX	4.12E+01	ML	/HREF	9.42E-01
XX	4.37E+01	ML	/HREF	9.33E-01
XX	4.61E+01	ML	/HREF	9.21E-01
XX	4.86E+01	ML	/HREF	5.40E-01
XX	5.13E+01	ML	/HREF	1.33E+00
XX	5.64E+01	ML	/HREF	1.21E+00
XX	5.15E+00	ML	/HREF	1.74E+00
XX	6.66E+01	ML	/HREF	2.74E+00
XX	7.17E+01	ML	/HREF	2.43E+00
XX	7.67E+01	ML	/HREF	3.71E+00
XX	8.18E+01	ML	/HREF	4.01E+00
XX	8.69E+01	ML	/HREF	3.23E+00
XX	9.20E+01	ML	/HREF	3.04E+00
XX	9.71E+01	ML	/HREF	2.75E+00
XX	1.02E+02	ML	/HREF	2.28E+00
XX	1.07E+02	ML	/HREF	1.77E+00
XX	1.12E+02	ML	/HREF	1.39E+00
XX	1.17E+02	ML	/HREF	1.21E+00
XX	1.22E+02	ML	/HREF	1.07E+00
XX	1.27E+02	ML	/HREF	9.97E-01
XX	1.32E+02	ML	/HREF	9.77E-01
XX	1.37E+02	ML	/HREF	9.27E-01
XX	1.42E+02	ML	/HREF	8.77E-01

P.L. TRANSITION DISTANCE = 1.33 CM  
FULLY TURBULENT FLOW CONDITIONS AT = 374.6 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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AMES 3.5 FT HWT TEST (1-23), C.B. BLUMER, IN-LINE RSI GAP RUN ( 9) 1973

IT = 1.1119E+01 (K)  
FT = 5.2010E+05 (N/M2)  
HT = 1.0773E+06 (J/KG)  
RE/METER = 1.0561E+06  
MACH = 5.447  
PHC WEL = 2.1030E+01 (KG/M2-S)  
MAM/MT = 4.098 FOR MT  
MAM/MT = 4.074 FOR HL  
PLCC = HL(2ND, 04CR, COND.0)

GAP LENGTH = 101.530 (CM)  
GAP WIDTH = .127 (CM)  
GAP DEPTH = 2.032 (CM)  
ORIENTATION = 3.002 (DSC)  
QS = 9.3221E+04 (W/M2)  
100. POSITION = 1

T/C	X (CM)	Y (CM)	Z (CM)	W (CM)	HL (KG/M2-S)	HT (KG/M2-S)	MT (KG/M2-S)	HL/MEFF (KG/M2-S)	MREF (KG/M2-S)	STL	STT	Y (K)	HLCC (K/M2-S)	HL/HLCC	HLCC/MREF	ML/ME
173	47.59	1.52	1.70	5.77E+03	6.04E-13	7.61E-03	9.13	5.084E-03	3.610E-04	3.609E-04	309.5	6.04E-03	1.000	.013	1.000	
175	47.59	1.02	1.00	5.54E+03	7.73E-13	7.32E-03	7.32	9.180E-03	3.470E-04	3.470E-04	319.1	7.73E-03	1.000	.702	1.000	
177	47.59	.51	.00	4.91E+03	6.48E-13	6.48E-03	.692	9.684E-03	3.241E-04	3.241E-04	309.3	6.48E-03	1.000	.692	.005	
178	47.59	.25	.00	3.67E+03	7.83E-13	3.91E-03	.514	6.855E-03	2.835E-04	2.835E-04	298.4	5.05E-03	1.000	.514	.534	
179	47.59	.00	.16	2.67E+03	1.19E-12	3.91E-03	.417	9.695E-03	1.976E-04	1.976E-04	307.9	4.13E-03	1.000	.417	.339	
181	47.59	.00	.25	1.95E+03	2.62E-12	2.40E-03	.265	5.885E-03	1.378E-04	1.378E-04	307.1	2.62E-03	1.000	.265	.191	
182	47.59	.00	.38	1.45E+03	1.40E-12	1.33E-03	.145	5.885E-03	5.39E-05	5.39E-05	326.5	1.40E-03	1.000	.145	.041	
183	47.59	.00	.46	2.31E+02	3.29E-12	7.34E-04	.072	6.082E-03	1.313E-05	1.313E-05	395.3	3.20E-04	1.000	.032	.004	
184	47.59	.00	.49	2.67E+01	3.41E-12	3.23E-05	.003	5.861E-03	1.617E-06	1.617E-06	384.4	3.41E-05	1.000	.003	.004	
185	47.59	.00	1.14	1.67E+01	2.44E-12	2.32E-05	.012	6.861E-03	1.159E-06	1.159E-06	303.8	4.44E-05	1.000	.002	.003	
186	47.59	.00	1.00	1.61E+01	1.87E-12	1.87E-05	.002	6.365E-03	7.494E-07	7.494E-07	303.2	1.67E-05	1.000	.002	.002	
187	47.59	.00	1.65	5.38E+01	8.60E-12	6.34E-06	.611	9.405E-03	4.373E-07	4.373E-07	302.7	4.00E-06	1.000	.001	.001	
188	47.59	.00	1.89	3.18E+02	7.33E-12	7.33E-10	1.01	5.021E-03	3.534E-07	3.534E-07	302.5	7.33E-06	1.000	.001	.001	
189	47.59	.00	2.29													
203	61.56	1.32	1.00	1.06E+03	1.09E-12	5.52E-13	.605	5.575E-03	3.204E-04	3.204E-04	300.9	6.09E-03	1.000	.005	1.041	
205	61.56	1.12	1.00	1.09E+03	1.09E-12	1.55E-13	.604	6.154E-03	3.077E-04	3.077E-04	300.5	6.91E-03	1.000	.008	1.045	
207	61.56	.51	1.00	4.74E+03	6.61E-13	1.24E-03	.773	6.152E-03	3.134E-04	2.969E-04	337.2	6.61E-03	1.000	.773	1.000	
210	61.56	.25	.00	3.45E+03	1.07E-12	6.27E-03	.734	3.551E-03	2.854E-04	2.744E-04	305.5	6.02E-03	1.000	.704	.911	
211	61.56	.00	.14	4.25E+03	1.49E-12	4.25E-03	.524	6.591E-03	2.127E-04	2.127E-04	375.1	4.49E-03	1.000	.524	.679	
212	61.56	.00	.15	2.77E+03	1.79E-12	3.59E-03	.443	6.591E-03	1.495E-04	1.495E-04	375.7	3.79E-03	1.000	.443	.573	
213	61.56	.00	.28	1.49E+03	2.62E-12	2.49E-03	.337	5.500E-03	1.243E-04	1.243E-04	375.2	2.62E-03	1.000	.337	.397	
214	61.56	.00	.48	1.45E+03	1.95E-12	1.44E-03	.178	8.15E-03	7.228E-05	6.849E-05	374.6	1.52E-03	1.000	.178	.231	
215	61.56	.00	.64	2.70E+02	1.31E-12	3.14E-04	.135	8.561E-03	1.569E-05	1.487E-05	303.9	1.31E-04	1.000	.039	.058	
216	61.56	.00	.59	2.18E+01	3.74E-12	3.52E-05	.014	6.551E-03	1.774E-06	1.675E-06	303.4	1.74E-05	1.000	.004	.026	
217	61.56	.00	1.14	1.07E+01	7.75E-12	7.26E-06	.011	6.551E-03	3.049E-07	2.858E-07	303.0	7.75E-05	1.000	.001	.001	
218	61.56	.00	1.44													
219	61.56	.00	1.65													
220	61.56	.00	2.29													
376	61.56	.24	.00	1.22E+03	1.07E-12	5.28E-03	.776	7.189E-03	2.942E-04	2.803E-04	305.4	5.95E-03	1.000	.776	1.010	
377	61.56	.21	.00	3.08E+02	2.42E-12	1.73E-03	.660	7.189E-03	2.614E-04	2.475E-04	306.2	5.95E-03	1.000	.766	1.000	
378	61.56	.21	.00	3.10E+03	2.43E-12	2.73E-03	.630	7.189E-03	2.369E-04	2.245E-04	305.2	5.01E-03	1.000	.636	.904	
379	61.56	.18	.00	3.11E+03	4.71E-12	4.93E-03	.509	7.189E-03	2.142E-04	1.959E-04	305.5	4.31E-03	1.000	.509	.748	
380	61.56	.18	.00	2.67E+03	1.92E-12	3.02E-03	.32	7.189E-03	1.812E-04	1.717E-04	305.3	3.82E-03	1.000	.32	.397	
381	61.56	.00	.17	2.62E+03	1.77E-12	2.91E-03	.272	7.189E-03	1.653E-04	1.578E-04	305.1	3.67E-03	1.000	.272	.358	
382	61.56	.00	.28	1.45E+03	1.09E-12	1.95E-03	.272	7.189E-03	9.253E-05	8.777E-05	304.6	1.98E-03	1.000	.272	.358	
383	61.56	.00	.48	2.11E+02	1.15E-12	1.16E-03	.156	7.189E-03	5.315E-05	5.239E-05	304.3	1.15E-03	1.000	.156	.203	
384	61.56	.00	.64	1.25E+02	2.40E-12	2.34E-04	.134	7.189E-03	1.160E-05	1.077E-05	313.9	1.46E-04	1.000	.034	.041	



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 18

AMES 3.6 FT HWT TEST (1E2), C.O. BLUMER, IN-LINE RSI GAP RUP( 5) 1973

T/C	Y	W	(C)	W	Z	G	ML	MT	ML/HREFF	MREF	STL	STT	T	PLCC	ML/MLCC	MLCC/HREF	ML/HTE
(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)	(C)
315	86.96	0.70	0.89	1.14	2.55E+01	7.66E-05	3.631E-06	3.448E-06	3.448E-06	3.448E-06	3.448E-06	3.448E-06	3.448E-06	7.66E-05	1.000	0.811	0.814
316	86.96	0.70	0.89	1.40	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
317	86.96	0.70	0.89	1.65	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
318	86.96	0.70	0.89	1.90	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
319	86.96	0.70	0.89	2.15	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
320	86.96	0.70	0.89	2.40	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
406	112.76	0.75	0.90	3.00	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
407	112.76	0.75	0.90	3.25	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
408	112.76	0.75	0.90	3.50	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
409	112.76	0.75	0.90	3.75	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
410	112.76	0.75	0.90	4.00	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
411	112.76	0.75	0.90	4.25	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
412	112.76	0.75	0.90	4.50	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
413	112.76	0.75	0.90	4.75	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
414	112.76	0.75	0.90	5.00	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
415	112.76	0.75	0.90	5.25	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
416	112.76	0.75	0.90	5.50	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
417	112.76	0.75	0.90	5.75	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
418	112.76	0.75	0.90	6.00	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
419	112.76	0.75	0.90	6.25	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
420	112.76	0.75	0.90	6.50	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
506	125.06	0.75	0.90	7.00	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
507	125.06	0.75	0.90	7.25	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
508	125.06	0.75	0.90	7.50	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
509	125.06	0.75	0.90	7.75	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
510	125.06	0.75	0.90	8.00	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
511	125.06	0.75	0.90	8.25	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
512	125.06	0.75	0.90	8.50	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
513	125.06	0.75	0.90	8.75	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
514	125.06	0.75	0.90	9.00	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
515	125.06	0.75	0.90	9.25	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
516	125.06	0.75	0.90	9.50	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
517	125.06	0.75	0.90	9.75	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
518	125.06	0.75	0.90	10.00	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
519	125.06	0.75	0.90	10.25	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815
520	125.06	0.75	0.90	10.50	3.96E+01	7.78E-05	3.391E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	3.688E-06	8.21E-05	1.000	0.811	0.815

**ORIGINAL PAGE IS  
OF POOR QUALITY**

EDGE HEATING USED FOR ME

X = 4.759E+01 ML /HREF = 7.031E-01  
 X = 6.176E+01 ML /HREF = 7.731E-01  
 X = 8.698E+01 ML /HREF = 7.636E-01  
 Y = 1.124E+02 ML /HREF = 5.105E-01  
 Y = 1.251E+02 ML /HREF = 7.031E-01  
 9-L TRANSITION DISTANCE = 31.95 CM  
 FULLY TURBULENT 3-L. CONDITIONS AT = 112.36 CM





**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

PAGE 19

ANES 7.5 FT HWT TEST (1P2), G.C. BLUMER, IA-LINE RSI GAP RUN( 10) 1973

IT = 1.1911E+03(K)  
 PI = 1.775E+06(N/M2)  
 PT = 1.255E+06(J/KC)  
 RE/METER = 3.1123E+06  
 MACH = 5.107  
 RMC W/L = +1.034E+01(KG/M2-S)  
 HAM/W/T = 1.003 F02 MT  
 HAM/W/T = 0.874 FOR HL  
 MLCC = HL(2ALC. 09DES COND.01)  
 GAP LFKGTP = 101.580(CM)  
 GAP WIDTH = .127(CM)  
 GAP DEPTH = 2.032(CM)  
 ORIENTATION = 9.000(DEC)  
 OS = 1.3232E+05(W/M2)  
 400. POSITIONCN = 1

T/C	X (CM)	Y (CM)	Z (CM)	G (W/M2)	ML (KG/M2-S)	FT (KG/M2-S)	ML/MREF (KG/M2-S)	MREF (KG/M2-S)	STL	STT	T (K)	ML/MLCC (K/(M2-S))	MLCC/MREF	ML/MLCC	MLCC/MREF	ML/MLCC
103	47.59	1.52	0.00	8.32E+03	1.07E-02	1.92E-02	0.893	1.201E-02	2.560E-04	2.427E-04	317.3	1.07E-02	0.893	1.000	0.893	1.000
105	47.59	1.02	0.00	7.77E+03	3.09E-03	9.47E-03	0.822	1.201E-02	2.309E-04	2.264E-04	318.0	1.07E-02	0.832	1.000	0.832	1.000
107	47.59	.51	0.00	7.22E+03	3.09E-03	8.67E-03	0.757	1.201E-02	2.173E-04	2.060E-04	318.0	1.07E-02	0.757	1.000	0.757	1.000
109	47.59	.01	0.00	6.67E+03	3.09E-03	6.73E-03	0.591	1.201E-02	1.593E-04	1.510E-04	318.0	1.07E-02	0.591	1.000	0.591	1.000
110	47.59	.00	0.00	5.53E+03	3.09E-03	5.85E-03	0.495	1.201E-02	1.421E-04	1.348E-04	318.0	1.07E-02	0.495	1.000	0.495	1.000
111	47.59	.00	0.00	4.66E+03	3.09E-03	4.78E-03	0.338	1.201E-02	9.697E-05	9.195E-05	318.0	1.07E-02	0.338	1.000	0.338	1.000
112	47.59	.00	0.00	3.17E+03	4.78E-03	2.31E-03	0.203	1.201E-02	5.033E-05	5.531E-05	318.0	1.07E-02	0.203	1.000	0.203	1.000
113	47.59	.00	0.00	1.01E+03	2.44E-04	6.21E-04	0.055	1.201E-02	1.566E-05	1.405E-05	318.0	1.07E-02	0.055	1.000	0.055	1.000
114	47.59	.00	0.00	1.20E+02	1.54E-04	1.46E-04	0.013	1.201E-02	3.670E-06	3.481E-06	318.0	1.07E-02	0.013	1.000	0.013	1.000
115	47.59	.00	0.00	2.30E+01	1.73E-05	3.48E-05	0.003	1.201E-02	8.770E-07	8.319E-07	309.0	1.07E-02	0.003	1.000	0.003	1.000
117	47.59	.00	0.00	1.31E+01	1.73E-05	1.68E-05	0.001	1.201E-02	4.130E-07	3.925E-07	309.0	1.07E-02	0.001	1.000	0.001	1.000
118	47.59	.00	0.00	1.45E+01	1.92E-05	1.82E-05	0.002	1.201E-02	4.979E-07	4.844E-07	307.6	1.07E-02	0.002	1.000	0.002	1.000
119	47.59	.00	0.00	7.67E+00	3.69E-06	9.19E-06	0.001	1.201E-02	2.316E-07	2.197E-07	307.1	1.07E-02	0.001	1.000	0.001	1.000
120	47.59	.00	0.00	7.57E+00	3.78E-06	9.19E-06	0.001	1.201E-02	2.315E-07	2.196E-07	306.4	1.07E-02	0.001	1.000	0.001	1.000
203	61.56	1.52	0.00	7.27E+03	9.12E-03	9.38E-03	0.918	1.116E-02	2.223E-04	2.112E-04	318.6	1.07E-02	0.918	1.000	0.918	1.000
205	61.56	1.02	0.00	6.72E+03	9.12E-03	8.61E-03	0.848	1.116E-02	2.172E-04	2.059E-04	319.3	1.07E-02	0.848	1.000	0.848	1.000
207	61.56	.51	0.00	6.17E+03	9.12E-03	8.37E-03	0.830	1.116E-02	2.034E-04	1.928E-04	319.0	1.07E-02	0.830	1.000	0.830	1.000
208	61.56	.25	0.00	5.61E+03	9.12E-03	7.85E-03	0.846	1.116E-02	2.055E-04	1.948E-04	318.4	1.07E-02	0.846	1.000	0.846	1.000
210	61.56	.00	0.00	5.05E+03	7.85E-03	7.20E-03	0.748	1.116E-02	1.815E-04	1.722E-04	318.2	1.07E-02	0.748	1.000	0.748	1.000
211	61.56	.00	0.00	4.49E+03	6.70E-03	6.43E-03	0.667	1.116E-02	1.620E-04	1.536E-04	318.7	1.07E-02	0.667	1.000	0.667	1.000
212	61.56	.00	0.00	3.93E+03	5.55E-03	5.43E-03	0.585	1.116E-02	1.425E-04	1.362E-04	318.0	1.07E-02	0.585	1.000	0.585	1.000
213	61.56	.00	0.00	3.37E+03	4.40E-03	4.31E-03	0.525	1.116E-02	1.225E-04	1.162E-04	318.0	1.07E-02	0.525	1.000	0.525	1.000
214	61.56	.00	0.00	2.81E+03	3.25E-03	3.13E-03	0.465	1.116E-02	1.025E-04	9.493E-05	318.0	1.07E-02	0.465	1.000	0.465	1.000
215	61.56	.00	0.00	2.25E+03	2.10E-03	2.06E-03	0.405	1.116E-02	8.250E-05	7.493E-05	318.0	1.07E-02	0.405	1.000	0.405	1.000
216	61.56	.00	0.00	1.69E+03	9.66E-04	1.56E-04	0.19	1.116E-02	4.682E-05	4.441E-05	309.2	1.07E-02	0.19	1.000	0.19	1.000
217	61.56	.00	0.00	1.13E+03	1.41E-05	1.78E-05	0.002	1.116E-02	4.337E-07	4.114E-07	308.5	1.07E-02	0.002	1.000	0.002	1.000
218	61.56	.00	0.00	6.87E+02	1.13E-06	7.71E-06	0.001	1.116E-02	1.944E-07	1.844E-07	307.2	1.07E-02	0.001	1.000	0.001	1.000
219	61.56	.00	0.00	6.87E+02	1.13E-06	7.71E-06	0.001	1.116E-02	1.944E-07	1.844E-07	307.2	1.07E-02	0.001	1.000	0.001	1.000
220	61.56	.00	0.00	6.87E+02	1.13E-06	7.71E-06	0.001	1.116E-02	1.944E-07	1.844E-07	307.2	1.07E-02	0.001	1.000	0.001	1.000
304	86.96	.75	0.00	1.27E+03	7.70E-03	7.38E-03	0.818	9.134E-03	1.860E-04	1.763E-04	313.7	7.70E-03	0.818	1.000	0.818	1.000
307	86.96	.51	0.00	1.19E+03	1.14E-02	1.05E-02	1.133	5.043E-03	2.722E-04	2.581E-04	313.3	1.14E-02	1.133	1.000	1.133	1.000
308	86.96	.25	0.00	1.07E+03	1.06E-02	1.03E-02	1.070	3.653E-03	1.754E-04	1.671E-04	313.0	1.06E-02	1.070	1.000	1.070	1.000
309	86.96	.00	0.00	1.00E+03	1.06E-02	1.03E-02	1.070	3.653E-03	1.754E-04	1.671E-04	313.0	1.06E-02	1.070	1.000	1.070	1.000
310	86.96	.00	0.00	1.00E+03	1.06E-02	1.03E-02	1.070	3.653E-03	1.754E-04	1.671E-04	313.0	1.06E-02	1.070	1.000	1.070	1.000
311	86.96	.00	0.00	1.00E+03	1.06E-02	1.03E-02	1.070	3.653E-03	1.754E-04	1.671E-04	313.0	1.06E-02	1.070	1.000	1.070	1.000
312	86.96	.00	0.00	1.00E+03	1.06E-02	1.03E-02	1.070	3.653E-03	1.754E-04	1.671E-04	313.0	1.06E-02	1.070	1.000	1.070	1.000
313	86.96	.00	0.00	1.00E+03	1.06E-02	1.03E-02	1.070	3.653E-03	1.754E-04	1.671E-04	313.0	1.06E-02	1.070	1.000	1.070	1.000
314	86.96	.00	0.00	1.00E+03	1.06E-02	1.03E-02	1.070	3.653E-03	1.754E-04	1.671E-04	313.0	1.06E-02	1.070	1.000	1.070	1.000



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E124R  
JSC 09651

PAGE 20

AMES 3.5 FT HWT TEST (1R2), J. BLUMBERG, IN-LINE RSI GAP FUN (10) 1973

T/C	X	Y	Z	Q	HL	HT	HL/HREFF	HREF	STL	STT	T	HLCC	HL/MLCC	HLCC/HREF	ML/HE
(CH)	(CH)	(CH)	(CH)	(G/M2)	(KG/M2-S)	(KG/M2-S)		(KG/M2-S)		(K)	(K)	(KG/M2-S)			
315	86.96	0.00	1.00	2.474E+32	1.16E-03	1.40E-03	.121	6.61E-03	2.75E-05	2.62E-05	305.6	1.16E-03	1.000	.121	.101
316	86.96	0.00	1.00	2.474E+32	4.74E-04	4.50E-04	.030	9.45E-03	1.13E-05	1.07E-05	305.6	4.74E-04	1.000	.030	.042
317	86.96	0.00	1.00												
318	86.96	0.00	1.00												
319	86.96	0.00	1.00												
320	86.96	0.00	1.00												
406	112.36	.75	1.00	2.474E+32	3.25E-02	3.45E-02	1.671	1.65E-02	7.79E-04	7.39E-04	310.7	3.26E-02	1.000	1.671	.900
407	112.36	.51	1.00	2.474E+32	3.60E-12	3.42E-12	1.841	1.55E-12	8.61E-14	8.16E-14	310.6	3.60E-12	1.000	1.841	1.981
408	112.36	.25	1.00	2.474E+32	3.52E-12	3.43E-12	1.545	1.36E-12	8.65E-14	8.21E-14	310.1	3.52E-12	1.000	1.545	1.803
409	112.36	.15	1.00	2.474E+32	3.45E-02	3.27E-02	1.756	1.56E-02	8.24E-04	7.81E-04	309.8	3.45E-02	1.000	1.756	.984
410	112.36	.05	1.00	2.474E+32	3.33E-02	2.94E-02	1.571	1.36E-02	7.44E-04	7.02E-04	309.5	3.33E-02	1.000	1.571	.896
411	112.36	.00	1.00	2.474E+32	2.75E-02	2.61E-02	1.470	1.26E-02	6.58E-04	6.24E-04	309.1	2.75E-02	1.000	1.470	.761
412	112.36	.00	.25	1.52E+34	1.94E-02	1.96E-02	.986	1.96E-02	4.63E-04	4.39E-04	308.5	1.94E-02	1.000	.986	.936
413	112.36	.00	.38	1.12E+34	1.42E-02	1.35E-02	.722	1.46E-02	3.33E-04	3.21E-04	307.3	1.42E-02	1.000	.722	.382
414	112.36	.00	.64	4.87E+32	5.73E-03	5.72E-03	.100	1.55E-02	1.44E-04	1.36E-04	307.2	5.73E-03	1.000	.100	.166
415	112.36	.00	.89	1.87E+33	2.37E-03	2.28E-03	.121	1.96E-02	5.67E-05	5.37E-05	306.8	2.37E-03	1.000	.121	.066
416	112.36	.00	1.14	7.77E+32	6.81E-14	6.46E-14	.035	1.96E-02	1.62E-05	1.54E-05	306.1	6.81E-14	1.000	.035	.019
417	112.36	.00	1.37												
418	112.36	.00	1.68												
419	112.36	.00	1.98												
420	112.36	.00	2.29												
506	125.06	.75	1.00	3.15E+34	3.49E-02	3.68E-02	1.225	3.17E-02	9.25E-04	8.81E-04	311.6	3.49E-02	1.000	1.225	1.002
507	125.06	.51	1.00	3.15E+34	3.89E-02	3.68E-02	1.223	3.10E-02	9.23E-04	8.81E-04	310.2	3.89E-02	1.000	1.223	1.000
508	125.06	.25	1.00	2.67E+34	3.59E-02	3.28E-02	1.189	3.18E-02	8.55E-04	8.59E-04	309.6	3.59E-02	1.000	1.189	.872
509	125.06	.15	1.00	2.67E+34	3.52E-02	3.22E-02	1.163	3.19E-02	8.13E-04	7.69E-04	308.7	3.52E-02	1.000	1.163	.872
510	125.06	.05	1.00	2.67E+34	3.52E-02	3.18E-02	1.104	3.19E-02	8.36E-04	7.94E-04	308.9	3.52E-02	1.000	1.104	.896
511	125.06	.00	.15	2.61E+34	3.32E-02	3.15E-02	1.141	3.19E-02	7.94E-04	7.53E-04	308.7	3.32E-02	1.000	1.141	.891
512	125.06	.00	.28	2.17E+34	2.76E-02	2.65E-02	.854	3.19E-02	6.59E-04	6.25E-04	308.5	2.76E-02	1.000	.854	.786
513	125.06	.00	.48	1.77E+34	2.12E-02	2.11E-02	.655	3.19E-02	5.17E-04	4.81E-04	308.1	2.12E-02	1.000	.655	.544
514	125.06	.00	.64	7.77E+33	1.87E-03	1.87E-03	.319	3.19E-02	2.35E-04	2.23E-04	307.6	1.87E-03	1.000	.319	.293
515	125.06	.00	.89	2.27E+33	1.12E-03	1.12E-03	.128	3.19E-02	9.79E-05	9.28E-05	306.8	1.12E-03	1.000	.128	.105
516	125.06	.00	1.14	1.36E+33	1.72E-03	1.67E-03	.074	3.19E-02	4.11E-05	3.90E-05	307.0	1.72E-03	1.000	.074	.044
517	125.06	.00	1.37	9.18E+31	1.25E-04	1.13E-04	.014	3.19E-02	2.98E-06	2.83E-06	306.6	1.25E-04	1.000	.014	.007
518	125.06	.00	1.68												
519	125.06	.00	1.98												
520	125.06	.00	2.29												

EDGE HEATING USED FOR W  
 RE 4.75E+31 HL /HREFE 5.21E-01  
 RE 6.16E+31 HL /HREFE 5.21E-01  
 RE 8.68E+31 HL /HREFE 1.10E+00  
 RE 1.12E+32 HL /HREFE 1.10E+00  
 RE 1.32E+32 HL /HREFE 1.10E+00  
 FULLY TURBULENT 1.1.1. CONJUGATE 112.36 CM





# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 22

AMES 3x5 FT HWY TEST ( ), C.C. BLUMER, IN-LINE RSI GAP RUN( 11) 1973

T/C	X (CM)	Y (CM)	ZZ (CM)	G (W/M <sup>2</sup> )	H (KG/M <sup>2</sup> -S)	HL/HREF (KG/M <sup>2</sup> -S)	PT (KG/M <sup>2</sup> -S)	HL/HREF (KG/M <sup>2</sup> -S)	HREF (KG/M <sup>2</sup> -S)	STL	STT	T (K)	MLCC (K/M <sup>2</sup> -S)	HL/MLCC	MLCC/HREF	HL/ML
315	86.96	0.00	0.00	9.07E+03	1.29E-02	1.22E-02	4.99	2.114E-02	1.573E-04	1.573E-04	1.566E-04	310.0	5.29E-02	1.000	.689	.189
316	86.96	0.00	1.04	3.37E+03	4.26E-03	4.26E-03	.213	2.114E-02	5.363E-05	5.363E-05	5.363E-05	304.3	4.95E-03	1.000	.213	.866
317	86.96	0.00	2.08	2.28E+03	2.85E-03	2.85E-03	.154	2.114E-02	3.543E-05	3.543E-05	3.543E-05	304.3	3.05E-03	1.000	.154	.845
318	86.96	0.00	3.12	7.95E+02	1.06E-03	1.06E-03	.050	2.114E-02	1.266E-05	1.266E-05	1.266E-05	304.3	1.06E-03	1.000	.050	.816
319	86.96	0.00	4.16	5.07E+04	6.77E-02	6.42E-02	1.134	5.975E-02	6.097E-04	6.097E-04	7.661E-04	314.2	6.77E-02	1.000	1.134	.903
320	112.36	0.00	5.20	5.07E+04	6.77E-02	6.42E-02	1.134	5.975E-02	6.097E-04	6.097E-04	7.794E-04	314.2	6.09E-02	1.000	1.134	1.800
407	112.36	0.00	6.24	4.09E+04	6.53E-02	6.53E-02	1.154	5.975E-02	6.227E-04	6.227E-04	7.794E-04	314.2	6.09E-02	1.000	1.154	1.800
408	112.36	0.00	7.28	4.09E+04	6.53E-02	6.53E-02	1.154	5.975E-02	7.794E-04	7.794E-04	7.794E-04	313.4	6.53E-02	1.000	1.094	.940
409	112.36	0.00	8.32	4.09E+04	6.53E-02	6.53E-02	1.154	5.975E-02	7.794E-04	7.794E-04	7.794E-04	312.6	6.53E-02	1.000	1.040	.902
410	112.36	0.00	9.36	4.09E+04	6.53E-02	6.53E-02	1.154	5.975E-02	6.743E-04	6.743E-04	6.743E-04	312.4	6.21E-02	1.000	.952	.825
411	112.36	0.00	10.40	3.00E+04	5.24E-02	4.97E-02	.870	5.968E-02	6.254E-04	6.254E-04	6.254E-04	311.7	5.24E-02	1.000	.870	.761
412	112.36	0.00	11.44	3.00E+04	5.24E-02	4.97E-02	.870	5.968E-02	6.254E-04	6.254E-04	6.254E-04	311.6	4.97E-02	1.000	.805	.594
413	112.36	0.00	12.48	2.41E+04	4.24E-02	3.67E-02	.695	5.968E-02	3.868E-04	3.868E-04	3.868E-04	308.2	3.24E-02	1.000	.543	.471
414	112.36	0.00	13.52	2.41E+04	4.24E-02	3.67E-02	.695	5.968E-02	3.868E-04	3.868E-04	3.868E-04	308.2	3.24E-02	1.000	.543	.471
415	112.36	0.00	14.56	2.41E+04	4.24E-02	3.67E-02	.695	5.968E-02	2.391E-04	2.391E-04	2.391E-04	309.1	2.08E-02	1.000	.336	.291
416	112.36	0.00	15.60	9.15E+03	1.23E-02	1.16E-02	.215	5.968E-02	1.463E-04	1.463E-04	1.367E-04	307.2	1.23E-02	1.000	.285	.178
417	112.36	0.00	16.64	9.15E+03	1.23E-02	1.16E-02	.215	5.968E-02	6.685E-05	6.685E-05	6.231E-05	306.1	7.24E-03	1.000	.122	.106
418	112.36	0.00	17.68	7.17E+03	4.24E-03	4.24E-03	.071	5.968E-02	5.968E-05	5.968E-05	4.797E-05	305.3	4.24E-03	1.000	.071	.062
419	112.36	0.00	18.72	1.12E+03	1.50E-03	1.42E-03	.026	5.968E-02	1.292E-05	1.292E-05	1.599E-05	305.2	1.50E-03	1.000	.025	.022
420	112.36	0.00	19.76	1.12E+03	1.50E-03	1.42E-03	.026	5.968E-02	2.631E-06	2.631E-06	2.495E-06	304.3	2.28E-04	1.000	.004	.003
506	125.06	0.00	0.00	4.28E+03	7.11E-02	5.75E-02	.734	7.699E-02	7.290E-04	7.290E-04	6.914E-04	314.1	6.11E-02	1.000	.794	.994
507	125.06	0.00	1.04	4.28E+03	7.11E-02	5.75E-02	.734	7.699E-02	7.290E-04	7.290E-04	6.914E-04	313.3	6.11E-02	1.000	.794	1.800
508	125.06	0.00	2.08	4.28E+03	7.11E-02	5.75E-02	.734	7.699E-02	7.290E-04	7.290E-04	6.914E-04	312.5	6.08E-02	1.000	.790	.994
509	125.06	0.00	3.12	3.12E+04	6.53E-02	5.24E-02	.722	7.699E-02	6.625E-04	6.625E-04	6.279E-04	311.5	5.59E-02	1.000	.670	.858
510	125.06	0.00	4.16	3.12E+04	6.53E-02	5.24E-02	.722	7.699E-02	6.625E-04	6.625E-04	6.279E-04	311.5	5.21E-02	1.000	.650	.815
511	125.06	0.00	5.20	3.12E+04	6.53E-02	5.24E-02	.722	7.699E-02	5.366E-04	5.366E-04	5.053E-04	311.9	5.01E-02	1.000	.650	.699
512	125.06	0.00	6.24	3.12E+04	6.53E-02	5.24E-02	.722	7.699E-02	5.117E-04	5.117E-04	4.849E-04	311.5	4.29E-02	1.000	.550	.699
513	125.06	0.00	7.28	3.12E+04	6.53E-02	5.24E-02	.722	7.699E-02	4.224E-04	4.224E-04	4.073E-04	309.6	3.58E-02	1.000	.460	.577
514	125.06	0.00	8.32	3.12E+04	6.53E-02	5.24E-02	.722	7.699E-02	2.957E-04	2.957E-04	2.824E-04	309.7	2.14E-02	1.000	.279	.349
515	125.06	0.00	9.36	3.12E+04	6.53E-02	5.24E-02	.722	7.699E-02	1.401E-04	1.401E-04	1.414E-04	307.7	1.24E-02	1.000	.161	.282
516	125.06	0.00	10.40	3.12E+04	6.53E-02	5.24E-02	.722	7.699E-02	9.15E-05	9.15E-05	4.673E-05	307.6	7.67E-03	1.000	.107	.125
517	125.06	0.00	11.44	3.12E+04	6.53E-02	5.24E-02	.722	7.699E-02	9.15E-05	9.15E-05	5.804E-05	306.6	5.13E-03	1.000	.067	.084
518	125.06	0.00	12.48	3.12E+04	6.53E-02	5.24E-02	.722	7.699E-02	2.631E-06	2.631E-06	2.425E-06	306.1	2.14E-04	1.000	.028	.035
519	125.06	0.00	13.52	3.12E+04	6.53E-02	5.24E-02	.722	7.699E-02	2.631E-06	2.631E-06	2.425E-06	306.1	2.14E-04	1.000	.028	.035
520	125.06	0.00	14.56	3.12E+04	6.53E-02	5.24E-02	.722	7.699E-02	4.635E-06	4.635E-06	4.807E-06	305.6	3.69E-04	1.000	.005	.006

EGG HEATING USED FOR MF

XE 4.759E+01 HL /HREFE 7.014E-01  
 XE 6.177E+01 HL /HREFE 1.19E+01  
 XE 8.696E+01 HL /HREFE 3.27E+01  
 XE 1.128E+02 HL /HREFE 1.134E+01  
 XE 1.228E+02 HL /HREFE 1.027E-01  
 XE 1.228E+02 HL /HREFE 1.027E-01  
 FULLY TRANSPARENT DISTANCE = 1.059 CM  
 FULLY TRANSPARENT 300. CONDITIONS AT = 112.36 CM

**ORIGINAL PAGE IS  
OF POOR QUALITY**



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 23

AMES 3.4 FT HT TEST (1-2), C.B. BLUMER, IN-LINE RSI GAP RUN ( 12) 1373

TT = 1.122E+07(K) GAP LENGTH = 3.000(CM)  
 FT = 2.132E+06(W/M^2) GAP WIDTH = 3.000(CM)  
 HT = 1.191E+04(L/KC) GAP DEPTH = 5.000(CM)  
 RE/METER = 6.879E+04 ORIENTATION = 7.377(DEG)  
 MACH = 5.117 OS = 1.722E+03(W/M^2)  
 RHO VEL = 5.602E+01(KG/M^2-S) 40C-POSITION= 1  
 MAN/PT = 3.63E F03 HT  
 MAN/HT = 0.174 FOR HL  
 MLCG = HL12ND, ORCER (COND.,)

T/C	X (CM)	Y (CM)	Z (CM)	Q (K/M^2)	HL (KG/M^2-S)	HT (KG/M^2-S)	ML/4REFF (KG/M^2-S)	MPEF (KG/M^2-S)	STL	STT	T (K)	'LCC (K/M^2-S)	ML/MLCC	MLCG/MREF	HL/HE
1	135.24	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
2	132.70	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
3	130.16	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
4	127.63	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
5	125.09	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
6	122.56	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
7	119.97	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
8	117.37	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
9	114.77	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
10	112.17	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
11	109.57	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
12	106.97	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
13	104.37	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
14	101.77	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
15	99.17	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
16	96.57	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
17	93.97	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
18	91.37	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
19	88.77	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
20	86.17	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
21	83.57	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
22	80.97	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
23	78.37	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
24	75.77	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
25	73.17	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
26	70.57	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
27	67.97	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
28	65.37	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
29	62.77	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
30	60.17	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
31	57.57	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
32	54.97	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
33	52.37	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
34	49.77	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
35	47.17	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
36	44.57	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
37	41.97	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
38	39.37	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
39	36.77	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
40	34.17	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
41	31.57	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
42	28.97	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
43	26.37	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
44	23.77	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
45	21.17	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
46	18.57	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
47	15.97	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
48	13.37	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
49	10.77	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
50	8.17	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
51	5.57	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
52	2.97	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880
53	0.37	-0.1	-0.0	0.85E+04	6.72E-02	6.76E-02	0.76	6.79E-02	7.93E-04	7.51E-04	316.1				1.880



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 24

AMES 3.5 FT PWT TEST (1F2), C.S. BLUMSB, IN-LINE RSI CAP RUN (12) 1977

T/C	X (CH)	YY (C4)	ZZ (C4)	Q (W/FT)	ML (KG/M2-S)	HT (KG/FT2-S)	ML/HRFF (KG/HR-S)	STL	SIT	T (K)	HLCC (ML/HR-S)	HLCC/HRFF	ML/HR
395	40.9E	1.32	1.32	2.21E+04	3.04E-02	2.85E-02	1.410	3.86E-04	3.370E-04	321.97	3.01E-02	1.410	1.007
396	86.9E	1.32	1.32	2.21E+04	3.04E-02	2.85E-02	1.423	3.86E-04	3.370E-04	317.72	3.01E-02	1.423	1.016
397	96.3E	1.32	1.32	2.21E+04	2.79E-02	2.61E-02	1.276	3.04E-04	3.04E-04	317.00	3.01E-02	1.276	0.912
398	85.9E	1.25	1.25	1.82E+04	2.24E-02	2.17E-02	1.026	2.17E-02	2.076E-04	315.55	3.01E-02	1.026	0.733
399	86.9E	1.15	1.15	1.82E+04	1.65E-02	1.57E-02	0.769	1.65E-02	1.65E-04	314.33	3.01E-02	1.65E-02	0.549
310	86.9E	1.15	1.15	1.82E+04	1.65E-02	1.57E-02	0.769	1.65E-02	1.65E-04	313.99	3.01E-02	1.65E-02	0.421
401	112.3E	2.03	2.03	4.76E+04	5.97E-02	5.22E-02	1.060	6.45E-02	7.352E-04	313.99	6.97E-02	1.060	0.666
402	112.3E	1.79	1.79	4.76E+04	6.04E-02	5.34E-02	1.123	6.45E-02	7.352E-04	315.45	6.97E-02	1.123	0.932
403	112.3E	1.72	1.72	4.76E+04	6.04E-02	5.34E-02	1.122	6.45E-02	7.352E-04	316.99	6.97E-02	1.122	0.940
404	112.3E	1.27	1.27	4.98E+04	5.88E-02	5.44E-02	1.075	6.40E-02	7.604E-04	317.66	6.97E-02	1.075	0.918
405	112.3E	1.22	1.22	4.98E+04	6.71E-02	6.34E-02	1.359	6.34E-02	7.322E-04	317.46	6.97E-02	1.359	0.984
406	112.3E	1.22	1.22	4.98E+04	6.11E-02	5.91E-02	1.097	6.14E-02	6.863E-04	316.99	6.97E-02	1.097	0.829
407	112.3E	0.91	0.91	3.84E+04	5.45E-02	5.16E-02	0.868	6.44E-02	6.44E-04	316.22	6.97E-02	0.868	0.688
408	112.3E	0.91	0.91	3.84E+04	4.33E-02	4.35E-02	0.663	4.34E-02	5.968E-04	313.99	6.97E-02	0.663	0.721
409	112.3E	0.91	0.91	3.84E+04	4.26E-02	4.41E-02	0.601	4.19E-02	4.744E-04	314.00	6.97E-02	0.601	0.573
410	112.3E	0.91	0.91	2.29E+04	3.16E-02	2.99E-02	0.515	3.76E-04	3.838E-04	313.99	6.97E-02	0.515	0.420
501	125.0E	2.03	2.03	4.61E+04	4.36E-02	4.72E-02	0.673	7.92E-02	7.316E-04	314.00	6.97E-02	0.673	0.910
502	125.0E	1.79	1.79	4.92E+04	6.76E-02	6.47E-02	0.854	7.91E-02	7.569E-04	315.45	6.97E-02	0.854	0.968
503	125.0E	1.72	1.72	4.92E+04	6.76E-02	6.47E-02	0.854	7.91E-02	7.569E-04	316.99	6.97E-02	0.854	0.968
504	125.0E	1.27	1.27	4.92E+04	6.43E-02	6.32E-02	0.844	7.90E-02	7.664E-04	317.00	6.97E-02	0.844	0.957
505	125.0E	1.22	1.22	4.97E+04	6.33E-02	6.99E-02	0.801	7.89E-02	7.881E-04	317.43	6.97E-02	0.801	0.986
506	125.0E	1.22	1.22	4.97E+04	6.21E-02	5.88E-02	0.758	7.89E-02	6.954E-04	316.99	6.97E-02	0.758	0.893
507	125.0E	0.91	0.91	3.84E+04	5.69E-02	5.35E-02	0.717	7.88E-02	6.679E-04	316.99	6.97E-02	0.717	0.813
508	125.0E	0.91	0.91	3.84E+04	4.45E-02	4.21E-02	0.564	7.87E-02	6.325E-04	314.44	6.97E-02	0.564	0.564
509	125.0E	0.91	0.91	2.24E+04	2.95E-02	2.75E-02	0.374	7.87E-02	3.432E-04	312.66	6.97E-02	0.374	0.424
510	125.0E	0.91	0.91	2.24E+04	3.11E-02	2.89E-02	0.395	7.87E-02	3.872E-04	313.99	6.97E-02	0.395	0.447

SOLE HEATING USED FOR ME  
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 X# 4.124E+01 ML HRFFFF 7.845E-01  
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# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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1973

AMES 7.6 FT WMT TEST (1'2), C.S. BLUMER, IN-LINE RSI GAP RUN ( 13) 1973  
 TT = 1.41E+03 (K) GAP LENGTH = 31.50 (CM)  
 FT = 2.10E+06 (W/M2) GAP WIDTH = 0.12 (CM)  
 LV = 1.22E+06 (J/KG) GAP DEPTH = 3.01 (CM)  
 DE/METER = 1.43E+06 ORIENTATION = 0.37 (DEG)  
 PACH = 5.13 Q5  
 PNC VEL = 4.72E+03 (KG/M2-S) 400 POSITIONS = 1  
 HAM/HT = 1.903 FOR HT  
 HAM/HT = 1.874 FOR HL  
 HLCC = 4L(2VC, DRJER COND...)

T/G	X	Y	Z	G	HL	MT	HL/HREFF	HREF	STL	STT	T	HLCC	HL/MLCC	MLCC/HREF	HL/ML
(CM)	(CM)	(CM)	(CM)	(W/M2)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(K)	(K)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)
1	135.24	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	320.5	1.000				
2	132.79	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
3	132.16	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
4	127.53	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
5	125.09	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
6	122.56	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
7	117.47	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
8	112.37	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
9	117.31	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
10	112.20	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
11	97.42	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
12	92.14	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
13	96.06	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
14	81.08	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
15	76.81	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
16	71.72	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
17	66.64	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
18	61.56	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
19	56.48	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
20	51.39	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
21	48.36	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
22	44.31	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
23	43.77	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
24	41.04	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
25	38.00	-51	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000				
103	47.59	1.32	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000	0.619	1.000	0.619	0.619
104	47.59	1.32	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000	0.772	1.000	0.772	0.772
105	47.59	1.32	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000	0.759	1.000	0.759	0.759
106	47.59	1.32	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000	0.773	1.000	0.773	0.773
107	47.59	1.32	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000	0.628	1.000	0.628	0.628
108	47.59	1.32	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000	0.628	1.000	0.628	0.628
109	47.59	1.32	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000	0.539	1.000	0.539	0.539
110	47.59	1.32	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000	0.333	1.000	0.333	0.333
111	47.59	1.32	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000	0.332	1.000	0.332	0.332
112	47.59	1.32	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000	0.139	1.000	0.139	0.139
113	47.59	1.32	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000	0.16	1.000	0.16	0.16
114	47.59	1.32	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000	0.029	1.000	0.029	0.029
115	47.59	1.32	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000	0.029	1.000	0.029	0.029
203	61.56	1.32	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000	0.606	1.000	0.606	0.606
204	61.56	1.32	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000	0.801	1.000	0.801	0.801
205	61.56	1.32	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000	0.801	1.000	0.801	0.801
206	61.56	1.32	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000	1.115	1.000	1.115	1.115
207	61.56	1.32	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000	1.517	1.000	1.517	1.517
208	61.56	1.32	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000	1.517	1.000	1.517	1.517
209	61.56	1.32	0.00	0.17E+04	5.95E+02	0.17	8.531E+02	8.352E+04	7.911E-04	321.6	1.000	1.714	1.000	1.714	1.714

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RSI GAP HEATING ANALYSIS - II  
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AMES 1.5 FT HMT TEST (102), G.P. BLUMER, IN-LINE RSI GAP RUN 13) 1973

T/C	X (CM)	Y (CM)	Z (CM)	W (CM)	U (CM)	V (CM)	HT (KG/MP-S)	ML (KG/MP-S)	ML/HREF (KG/MP-S)	HREF (KG/MP-S)	STL	STT	T (K)	ML/MLCC (K/MP-S)	MLCC/HREF	ML/HE
211	61.56	7.07	1.15	1.85E+04	2.69E-02	1.877	1.39E-02	2.99E-04	2.99E-04	2.99E-04	2.99E-04	2.99E-04	320.5	1.000	1.007	.761
212	61.56	7.09	1.15	1.85E+04	2.69E-02	1.603	1.38E-02	2.69E-04	2.69E-04	2.69E-04	2.69E-04	2.69E-04	319.9	1.000	1.000	.875
213	61.56	7.11	1.15	1.85E+04	1.63E-02	1.323	1.38E-02	1.63E-04	1.63E-04	1.63E-04	1.63E-04	1.63E-04	319.5	1.000	1.023	.957
214	61.56	7.13	1.15	1.85E+04	9.81E-03	7.11	1.38E-02	1.17E-04	1.17E-04	1.17E-04	1.17E-04	1.17E-04	316.4	1.000	.711	.294
215	61.56	7.15	1.15	1.85E+04	4.64E-03	3.36	1.38E-02	5.57E-05	5.57E-05	5.57E-05	5.57E-05	5.57E-05	315.3	1.000	.336	.102
305	86.96	7.15	1.15	1.85E+04	6.44E-02	1.131	2.58E-02	7.74E-04	7.74E-04	7.74E-04	7.74E-04	7.74E-04	322.8	1.000	3.131	.468
307	86.96	7.17	1.15	1.85E+04	6.32E-02	3.232	2.66E-02	8.31E-04	8.31E-04	8.31E-04	8.31E-04	8.31E-04	322.7	1.000	3.232	.468
308	86.96	7.19	1.15	1.85E+04	4.47E-02	3.126	2.17E-02	7.78E-04	7.78E-04	7.78E-04	7.78E-04	7.78E-04	321.9	1.000	3.126	.468
309	86.96	7.21	1.15	1.85E+04	5.94E-02	2.946	2.07E-02	7.14E-04	7.14E-04	7.14E-04	7.14E-04	7.14E-04	321.1	1.000	2.866	.468
310	86.96	7.23	1.15	1.85E+04	5.82E-02	2.697	2.17E-02	6.73E-04	6.73E-04	6.73E-04	6.73E-04	6.73E-04	320.6	1.000	2.697	.468
311	86.96	7.25	1.15	1.85E+04	4.83E-02	2.324	2.17E-02	5.67E-04	5.67E-04	5.67E-04	5.67E-04	5.67E-04	319.3	1.000	2.324	.468
312	86.96	7.27	1.15	1.85E+04	3.21E-02	1.633	2.07E-02	4.07E-04	4.07E-04	4.07E-04	4.07E-04	4.07E-04	318.2	1.000	1.633	.468
313	86.96	7.29	1.15	1.85E+04	3.36E-02	1.708	2.07E-02	4.26E-04	4.26E-04	4.26E-04	4.26E-04	4.26E-04	318.8	1.000	3.36E-02	.468
314	86.96	7.31	1.15	1.85E+04	2.73E-02	1.121	2.17E-02	2.79E-04	2.79E-04	2.79E-04	2.79E-04	2.79E-04	316.2	1.000	1.121	.468
315	86.96	7.33	1.15	1.85E+04	1.47E-02	0.778	2.17E-02	1.76E-04	1.76E-04	1.76E-04	1.76E-04	1.76E-04	315.2	1.000	.778	.468
316	86.96	7.35	1.15	1.85E+04	9.74E-03	4.95	2.07E-02	1.23E-04	1.23E-04	1.23E-04	1.23E-04	1.23E-04	313.9	1.000	.495	.468
317	86.96	7.37	1.15	1.85E+04	6.21E-03	3.299	2.07E-02	7.65E-05	7.65E-05	7.65E-05	7.65E-05	7.65E-05	312.4	1.000	.299	.468
318	86.96	7.39	1.15	1.85E+04	3.20E-03	1.154	2.07E-02	3.04E-05	3.04E-05	3.04E-05	3.04E-05	3.04E-05	312.6	1.000	.154	.468
319	86.96	7.41	1.15	1.85E+04	1.10E-03	0.653	2.07E-02	1.32E-05	1.32E-05	1.32E-05	1.32E-05	1.32E-05	312.3	1.000	.053	.468
322	86.96	7.43	1.15	1.85E+04	2.04E-02	1.101	5.53E-02	5.53E-04	5.53E-04	5.53E-04	5.53E-04	5.53E-04	320.4	1.000	.771	.889
506	125.76	7.45	1.15	1.85E+04	2.84E-02	0.771	7.57E-02	7.01E-04	7.01E-04	7.01E-04	7.01E-04	7.01E-04	319.6	1.000	.771	.889
507	125.76	7.47	1.15	1.85E+04	5.53E-02	0.772	7.57E-02	7.01E-04	7.01E-04	7.01E-04	7.01E-04	7.01E-04	319.6	1.000	.772	.889
508	125.76	7.49	1.15	1.85E+04	5.37E-02	0.750	7.57E-02	6.81E-04	6.81E-04	6.81E-04	6.81E-04	6.81E-04	318.8	1.000	.750	.783
509	125.76	7.51	1.15	1.85E+04	4.96E-02	0.650	7.57E-02	6.93E-04	6.93E-04	6.93E-04	6.93E-04	6.93E-04	317.4	1.000	.650	.679
510	125.76	7.53	1.15	1.85E+04	4.12E-02	0.677	7.57E-02	6.13E-04	6.13E-04	6.13E-04	6.13E-04	6.13E-04	316.1	1.000	.677	.787
511	125.76	7.55	1.15	1.85E+04	4.65E-02	0.659	7.57E-02	6.83E-04	6.83E-04	6.83E-04	6.83E-04	6.83E-04	317.5	1.000	.659	.678
512	125.76	7.57	1.15	1.85E+04	4.22E-02	0.559	7.57E-02	5.07E-04	5.07E-04	5.07E-04	5.07E-04	5.07E-04	317.1	1.000	.559	.583
513	125.76	7.59	1.15	1.85E+04	3.30E-02	0.461	7.57E-02	4.15E-04	4.15E-04	4.15E-04	4.15E-04	4.15E-04	315.3	1.000	.461	.481
514	125.76	7.61	1.15	1.85E+04	2.19E-02	0.288	7.57E-02	2.61E-04	2.61E-04	2.61E-04	2.61E-04	2.61E-04	314.3	1.000	.288	.301
515	125.76	7.63	1.15	1.85E+04	1.33E-02	1.176	7.57E-02	1.63E-04	1.63E-04	1.63E-04	1.63E-04	1.63E-04	314.1	1.000	.176	.184
516	125.76	7.65	1.15	1.85E+04	4.31E-03	0.145	7.57E-02	1.57E-04	1.57E-04	1.57E-04	1.57E-04	1.57E-04	314.1	1.000	.145	.121
517	125.76	7.67	1.15	1.85E+04	4.23E-03	0.145	7.57E-02	1.57E-04	1.57E-04	1.57E-04	1.57E-04	1.57E-04	313.3	1.000	.145	.121
518	125.76	7.69	1.15	1.85E+04	2.00E-03	0.127	7.57E-02	6.29E-05	6.29E-05	6.29E-05	6.29E-05	6.29E-05	313.3	1.000	.127	.072
519	125.76	7.71	1.15	1.85E+04	1.95E-03	0.127	7.57E-02	6.29E-05	6.29E-05	6.29E-05	6.29E-05	6.29E-05	312.8	1.000	.127	.028
520	125.76	7.73	1.15	1.85E+04	1.10E-03	0.071	7.57E-02	4.93E-05	4.93E-05	4.93E-05	4.93E-05	4.93E-05	312.2	1.000	.071	.028

EDGE HEATING USED FOR ME  
 X# 3.07E+01 ML /MPREF 6.31E-01  
 X# 4.12E+01 ML /MPREF 6.31E-01  
 X# 4.37E+01 ML /MPREF 6.31E-01  
 X# 4.63E+01 ML /MPREF 6.31E-01  
 X# 4.88E+01 ML /MPREF 6.77E-01  
 X# 5.13E+01 ML /MPREF 1.00E+01

5.3-47





**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

X#	5.072E+11	ML	/MREFF#	1.473E+11
X#	6.156E+01	ML	/MREFF#	2.375E+00
X#	6.654E+11	ML	/MREFF#	3.497E+10
X#	7.122E+11	ML	/MREFF#	4.321E+00
X#	7.605E+11	ML	/MREFF#	4.600E+00
X#	8.188E+01	ML	/MREFF#	4.839E+00
X#	8.695E+11	ML	/MREFF#	3.711E+11
X#	9.214E+11	ML	/MREFF#	3.145E+10
X#	9.722E+11	ML	/MREFF#	2.672E+00
X#	1.022E+11	ML	/MREFF#	2.072E+10
X#	1.073E+12	ML	/MREFF#	1.646E+00
X#	1.124E+12	ML	/MREFF#	1.337E+11
X#	1.175E+12	ML	/MREFF#	1.142E+11
X#	1.226E+02	ML	/MREFF#	9.999E+01
X#	1.277E+12	ML	/MREFF#	9.271E+11
X#	1.328E+12	ML	/MREFF#	5.225E+11
X#	1.379E+12	ML	/MREFF#	6.731E+11
X#	1.430E+12	ML	/MREFF#	6.174E+11
X#	4.759E+11	ML	/MREFF#	7.568E+11
X#	6.156E+11	ML	/MREFF#	1.115E+10
X#	8.636E+11	ML	/MREFF#	3.232E+00
X#	1.251E+12	ML	/MREFF#	7.720E+11

5-L. TRANSITION DISTANCE = 10.7 CM  
 FULLY TURBULENT 3-L. CONDITIONS AT = 91.88 CM



RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 27

AMES 3-F FT HWT TEST (1-2), C-1, BLUMES, IN-LINE RSI GAP FUN (1-4) 1973

TT = 1.1141E+03(K)  
 PT = 1.0773E+06(IN/M2)  
 FT = 1.1621E+05(LJ/KG)  
 RE/METER = 3.4113E+06  
 WACH = 5.107  
 RHO VFL = 4.7514E+03(KG/M2-S)  
 HAM/MT = 3.905 FOR HT  
 HAW/MT = 3.674 FOR ML  
 MLCC = 4.1E2NC ORCCP COME.0)

T/C	X (CM)	Y (CM)	Z (CM)	ZZ (CM)	D (CM)	ML (KG/M2-S)	HT (KG/M2-S)	ML/HREF (KG/M2-S)	HREF (KG/M2-S)	STL (K)	STT (K)	T (K)	MLCC (K/M2-S)	ML/MLCC	MLCC/HREF	ML/HE
1	135.24	-051	0.00	0.00	3.52E+04	4.91E+02	4.85E+02	.987	4.98E+02	1.12E+03	1.06E+03	314.8				1.00E
2	135.70	-051	0.00	0.00	3.85E+04	4.96E+02	4.70E+02	1.134	4.37E+02	1.139E+03	1.079E+03	315.2				1.00E
3	136.16	-051	0.00	0.00	4.20E+04	4.97E+02	4.76E+02	1.274	4.17E+02	1.153E+03	1.092E+03	315.1				1.00E
4	127.63	-051	0.00	0.00	3.50E+04	4.95E+02	4.65E+02	1.313	3.77E+02	1.137E+03	1.076E+03	315.2				1.00E
5	128.09	-051	0.00	0.00	3.54E+04	4.95E+02	4.62E+02	1.426	3.46E+02	1.139E+03	1.059E+03	314.9				1.00E
6	122.56	-051	0.00	0.00	3.35E+04	4.87E+02	4.36E+02	1.601	2.87E+02	1.057E+03	1.001E+03	314.9				1.00E
7	117.47	-051	0.00	0.00	3.38E+04	4.81E+02	4.36E+02	1.704	2.39E+02	9.207E+02	9.718E+02	314.9				1.00E
8	112.37	-051	0.00	0.00	2.87E+04	4.61E+02	3.80E+02	1.739	1.53E+02	7.73E+02	7.32E+02	314.6				1.00E
9	107.31	-051	0.00	0.00	2.43E+04	3.37E+02	3.19E+02	1.739	1.07E+02	6.25E+02	5.92E+02	314.5				1.00E
10	102.27	-051	0.00	0.00	1.95E+04	2.72E+02	2.58E+02	1.695	1.60E+02	6.25E+02	5.92E+02	314.5				1.00E
11	97.12	-051	0.00	0.00	1.53E+04	2.13E+02	2.02E+02	1.584	1.34E+02	4.89E+02	4.63E+02	314.4				1.00E
12	92.04	-051	0.00	0.00	1.17E+04	1.81E+02	1.71E+02	1.571	1.15E+02	4.15E+02	3.93E+02	314.4				1.00E
13	86.96	-051	0.00	0.00	8.48E+03	1.42E+02	1.34E+02	1.354	1.04E+02	3.24E+02	3.07E+02	314.5				1.00E
14	81.88	-051	0.00	0.00	6.76E+03	1.21E+02	1.15E+02	1.251	9.71E+02	2.78E+02	2.64E+02	314.5				1.00E
15	76.80	-051	0.00	0.00	5.92E+03	9.75E+02	9.15E+02	1.251	9.15E+02	2.21E+02	2.10E+02	314.3				1.00E
16	71.72	-051	0.00	0.00	5.66E+03	9.35E+02	8.80E+02	.956	9.71E+02	2.13E+02	2.02E+02	314.4				1.00E
17	66.64	-051	0.00	0.00	6.96E+03	9.63E+02	9.12E+02	.956	1.00E+02	2.21E+02	2.09E+02	314.5				1.00E
18	61.56	-051	0.00	0.00	7.24E+03	1.11E+02	9.59E+02	.961	1.15E+02	2.32E+02	2.20E+02	314.8				1.00E
19	56.48	-051	0.00	0.00	7.37E+03	1.07E+02	9.77E+02	.923	1.17E+02	2.34E+02	2.24E+02	314.9				1.00E
20	51.39	-051	0.00	0.00	6.98E+03	1.07E+02	1.02E+02	.973	1.19E+02	2.46E+02	2.33E+02	314.9				1.00E
21	46.31	-051	0.00	0.00	7.65E+03	1.07E+02	1.11E+02	.871	1.22E+02	2.44E+02	2.32E+02	314.4				1.00E
22	41.23	-051	0.00	0.00	8.13E+03	1.12E+02	1.16E+02	.886	1.26E+02	2.57E+02	2.43E+02	319.2				1.00E
23	36.15	-051	0.00	0.00	8.46E+03	1.17E+02	1.11E+02	.896	1.30E+02	2.68E+02	2.54E+02	315.2				1.00E
24	31.07	-051	0.00	0.00	8.82E+03	1.24E+02	1.16E+02	.931	1.34E+02	2.86E+02	2.71E+02	315.2				1.00E
25	26.00	-051	0.00	0.00	9.11E+03	1.24E+02	1.20E+02	.931	1.37E+02	2.83E+02	2.74E+02	314.6				1.00E
103	47.59	1.52	0.00	0.00	7.91E+03	1.19E+02	1.23E+02	.875	1.24E+02	2.49E+02	2.36E+02	318.7	1.09E+02	1.000	.875	.99E
104	47.59	1.52	0.00	0.00	7.91E+03	1.05E+02	9.36E+02	.846	1.24E+02	2.41E+02	2.20E+02	319.7	1.05E+02	1.000	.846	.96E
107	47.59	1.51	0.00	0.00	7.20E+03	1.02E+02	9.63E+02	.817	1.24E+02	2.31E+02	2.21E+02	319.1	1.02E+02	1.000	.817	.93E
108	47.59	1.51	0.00	0.00	6.55E+03	1.03E+02	9.75E+02	.778	1.24E+02	2.13E+02	1.99E+02	318.0	9.93E+02	1.000	.778	.86E
110	47.59	1.51	0.00	0.00	5.95E+03	1.03E+02	9.66E+02	.857	1.24E+02	2.05E+02	1.89E+02	316.7	9.93E+02	1.000	.857	.83E
111	47.59	1.51	0.00	0.00	5.42E+03	1.03E+02	9.33E+02	.852	1.24E+02	1.95E+02	1.82E+02	316.0	9.63E+02	1.000	.852	.81E
112	47.59	1.51	0.00	0.00	4.95E+03	1.29E+02	7.31E+02	.824	1.24E+02	1.85E+02	1.74E+02	314.8	9.29E+02	1.000	.824	.78E
113	47.59	1.51	0.00	0.00	4.53E+03	1.09E+02	1.01E+02	.876	1.24E+02	1.79E+02	1.69E+02	313.9	8.91E+02	1.000	.876	.75E
114	47.59	1.51	0.00	0.00	4.15E+03	1.05E+02	1.04E+02	.874	1.24E+02	1.72E+02	1.63E+02	312.4	8.72E+02	1.000	.874	.72E
115	47.59	1.51	0.00	0.00	3.80E+03	1.04E+02	9.96E+02	.875	1.24E+02	1.67E+02	1.59E+02	315.8	8.16E+02	1.000	.875	.69E
203	61.56	1.52	0.00	0.00	6.15E+03	1.14E+02	9.96E+02	.875	1.24E+02	2.11E+02	1.99E+02	315.0	6.16E+02	1.000	.875	.66E
205	61.56	1.52	0.00	0.00	5.70E+03	1.05E+02	9.26E+02	.832	1.24E+02	2.01E+02	1.91E+02	315.0	6.26E+02	1.000	.832	.63E
207	61.56	1.51	0.00	0.00	5.25E+03	1.04E+02	9.31E+02	.753	1.24E+02	1.94E+02	1.84E+02	315.1	6.34E+02	1.000	.753	.61E
208	61.56	1.51	0.00	0.00	4.80E+03	1.02E+02	9.31E+02	.734	1.24E+02	1.87E+02	1.77E+02	315.4	6.42E+02	1.000	.734	.59E
210	61.56	1.51	0.00	0.00	4.35E+03	1.01E+02	9.42E+02	.714	1.24E+02	1.81E+02	1.71E+02	314.4	6.49E+02	1.000	.714	.57E

ORIGINAL PAGE IS  
OF POOR QUALITY





**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

REPORT MDC E1248  
 JSC 09651

2.0231E-11	/MREFF=	9.807E-11
5.611E-11	/MREFF=	2.172E-01
9.559E-11	/MREFF=	7.634E-11
9.556E-11	/MREFF=	2.053E-11
1.017E+00	/MREFF=	1.054E+00
1.251E+00	/MREFF=	
1.336E+00	/MREFF=	
1.571E+00	/MREFF=	
1.504E+00	/MREFF=	
1.695E+00	/MREFF=	
1.739E+00	/MREFF=	
1.74E+00	/MREFF=	
1.671E+00	/MREFF=	
1.476E+00	/MREFF=	
1.313E+00	/MREFF=	
1.234E+00	/MREFF=	
1.134E+00	/MREFF=	
9.807E-11	/MREFF=	
4.759E+01	/MREFF=	
6.356E+11	/MREFF=	
6.596E+11	/MREFF=	
1.251E+02	/MREFF=	
8.1. TRANSITION DISTANCE = 40.83 CM		
FULLY TURBULENT 3.1. CONDITIONS AT X=376.00 CM		



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

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AMES 3.6 FT PHT TEST (1\*2) J.C. BLUMER, IN-LINE RSI GAP RUN( 1st) 1377

VT = 1.2386E+1(K) GAP LENGTH = 111.5" (CM)  
 FT = 5.2330E+5(IN/M2) GAP WIDTH = .12" (CM)  
 HT = 1.1675E+3(LJ/KG) GAP DEPTH = 3.315 (CM)  
 RE/METER = 1.7772E+7 ORIENTATION = 3.702 (DEG)  
 PACH = 5.1" OS = 8.3468E+4(IN/M2)  
 RHO VEL = 2.1464E+1(KG/M2-S) NOC.POSITION = 1  
 MAN/MT = 0.999 FOS HT  
 MAN/MT = 7.87" FOR PL  
 MLCG = 4(LONG. OR SV CONCL.)\*

T/C	X (CM)	Y	Z (CM)	C (IN/M2)	ML (KG/M2-S)	MT (KG/M2-S)	HL/REF (KG/M2-S)	STL	STT	T (K)	ML/MLCC (KG/M2-S)	MLCG/REF	HL/ME
1	135.74	-0.1	1.000	7.20E+07	7.46E+03	7.16E+03	1.129	7.34E+03	3.522E+04	3.334E-04	312.4	1.000	1.000
2	132.77	-0.1	1.000	2.13E+07	7.43E+03	7.13E+03	1.139	7.45E+03	3.495E-04	312.6	1.000	1.000	1.000
3	133.16	-0.1	1.000	5.22E+07	7.51E+03	7.15E+03	1.075	7.45E+03	3.465E-04	312.5	1.000	1.000	1.000
4	127.63	-0.1	1.000	5.22E+07	7.44E+03	7.14E+03	1.069	7.45E+03	3.465E-04	312.5	1.000	1.000	1.000
5	125.59	-0.1	1.000	2.13E+07	7.41E+03	7.12E+03	1.078	7.45E+03	3.453E-04	312.4	1.000	1.000	1.000
6	122.76	-0.1	1.000	2.13E+07	7.35E+03	7.07E+03	1.076	7.42E+03	3.429E-04	312.3	1.000	1.000	1.000
7	117.47	-0.1	1.000	5.12E+07	7.32E+03	7.03E+03	1.104	7.43E+03	3.441E-04	312.3	1.000	1.000	1.000
8	112.77	-0.1	1.000	5.12E+07	7.21E+03	6.93E+03	1.075	7.43E+03	3.353E-04	312.2	1.000	1.000	1.000
9	117.31	-0.1	1.000	5.12E+07	7.21E+03	6.93E+03	1.075	7.43E+03	3.353E-04	312.2	1.000	1.000	1.000
10	102.00	-0.1	1.000	5.12E+07	7.25E+03	6.98E+03	1.071	7.47E+03	3.273E-04	312.0	1.000	1.000	1.000
11	97.12	-0.1	1.000	5.12E+07	7.03E+03	6.68E+03	1.011	7.59E+03	3.273E-04	311.9	1.000	1.000	1.000
12	92.74	-0.1	1.000	5.12E+07	7.07E+03	6.72E+03	1.024	7.59E+03	3.337E-04	311.9	1.000	1.000	1.000
13	86.04	-0.1	1.000	5.12E+07	7.21E+03	6.82E+03	1.024	7.59E+03	3.337E-04	311.9	1.000	1.000	1.000
14	81.48	-0.1	1.000	5.12E+07	7.08E+03	6.68E+03	1.034	7.33E+03	3.337E-04	311.9	1.000	1.000	1.000
15	76.5	-0.1	1.000	5.12E+07	7.08E+03	6.68E+03	1.034	7.33E+03	3.337E-04	311.9	1.000	1.000	1.000
16	71.74	-0.1	1.000	5.12E+07	7.08E+03	6.68E+03	1.034	7.33E+03	3.337E-04	311.9	1.000	1.000	1.000
17	66.64	-0.1	1.000	5.12E+07	7.06E+03	6.66E+03	1.061	7.57E+03	3.403E-04	311.9	1.000	1.000	1.000
18	61.76	-0.1	1.000	5.12E+07	7.05E+03	6.65E+03	1.07	7.57E+03	3.403E-04	312.0	1.000	1.000	1.000
19	56.58	-0.1	1.000	5.12E+07	7.01E+03	6.61E+03	1.07	7.57E+03	3.403E-04	312.1	1.000	1.000	1.000
20	51.39	-0.1	1.000	5.12E+07	6.17E+03	5.74E+03	1.056	7.59E+03	3.604E-04	312.0	1.000	1.000	1.000
21	46.11	-0.1	1.000	5.12E+07	6.03E+03	5.60E+03	1.059	7.59E+03	3.604E-04	312.2	1.000	1.000	1.000
22	40.77	-0.1	1.000	5.12E+07	5.89E+03	5.46E+03	1.089	7.59E+03	3.827E-04	312.1	1.000	1.000	1.000
23	35.47	-0.1	1.000	5.12E+07	5.85E+03	5.42E+03	1.083	7.59E+03	3.827E-04	312.1	1.000	1.000	1.000
24	30.24	-0.1	1.000	5.12E+07	5.82E+03	5.39E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
25	25.07	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
26	19.86	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
27	14.66	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
28	9.46	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
29	4.26	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
30	-0.94	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
31	-5.74	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
32	-10.54	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
33	-15.34	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
34	-20.14	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
35	-24.94	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
36	-29.74	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
37	-34.54	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
38	-39.34	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
39	-44.14	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
40	-48.94	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
41	-53.74	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
42	-58.54	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
43	-63.34	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
44	-68.14	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
45	-72.94	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
46	-77.74	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
47	-82.54	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
48	-87.34	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
49	-92.14	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
50	-96.94	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
51	-101.74	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
52	-106.54	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
53	-111.34	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
54	-116.14	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
55	-120.94	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
56	-125.74	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
57	-130.54	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
58	-135.34	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
59	-140.14	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
60	-144.94	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
61	-149.74	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
62	-154.54	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
63	-159.34	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
64	-164.14	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
65	-168.94	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
66	-173.74	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
67	-178.54	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
68	-183.34	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
69	-188.14	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
70	-192.94	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
71	-197.74	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
72	-202.54	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
73	-207.34	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
74	-212.14	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074	7.59E+03	4.042E-04	312.1	1.000	1.000	1.000
75	-216.94	-0.1	1.000	5.12E+07	5.81E+03	5.38E+03	1.074</						







# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 31

AMES 3.5 FT. HWT TEST (12); C.B. BLUMER, IN-LINE RSI GAP RUN ( 16) 1973

77 = 1.1261E+7(K) GAP LENGTH = 101.50 (CM)  
 FT = 2.1167E+16(N/M2) GAP WIDTH = .127 (CM)  
 HT = 1.1513E+16 (N/KG) GAP DEPTH = 1.111 (CM)  
 RE/METER = 5.597E+16 ORIENTATION = 3.003 (CFG)  
 MACH = 5.11% OS = 1.7237E+05 (N/M2)  
 RHO MEL = 9.4871E+1 (KG/M2-S) 400 POSIT:CN = 1  
 HAWMHT = 9.974 FOR ML  
 HLCG = HL(2NC, 3DE) CONC(1)

T/C	X (CM)	YV (CM)	77 (CP)	0 (M/M2)	HL (KG/M2-S)	HT (KG/P2-S)	ML/HREFF	HRFF (KG/P2-S)	STL	STT	T (K)	HLCC (K/(M2-S))	HL/HLCC	MCCG/HREF	ML/HE
1	135.24	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
2	132.70	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
3	130.16	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
4	127.63	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
5	125.09	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
6	122.56	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
7	117.47	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
8	112.37	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
9	117.31	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
10	112.20	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
11	97.12	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
12	92.04	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
13	86.96	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
14	81.88	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
15	76.80	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
16	71.72	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
17	66.64	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
18	61.56	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
19	56.48	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
20	51.40	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
21	46.32	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
22	41.24	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
23	36.16	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
24	31.08	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
25	26.00	-51	1.000	5.117E+14	7.12E-12	6.74E-02	6.517E+12	5.595E-04	7.949E-04	7.949E-04	317.7				1.000
173	47.59	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99
174	47.59	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99
175	47.59	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99
176	47.59	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99
177	47.59	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99
178	47.59	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99
179	47.59	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99
180	47.59	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99
181	47.59	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99
182	47.59	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99
183	47.59	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99
184	47.59	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99
185	47.59	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99
203	61.56	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99
204	61.56	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99
205	61.56	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99
206	61.56	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99
207	61.56	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99
208	61.56	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99
209	61.56	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99
210	61.56	1.00	1.000	5.025E+13	1.30E-12	1.27E-02	7.05	1.547E+12	1.529E+04	1.547E+04	329.2	1.30E-12	1.000	7.88	0.99





**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

PAGE 32

AYES 3.6 FT HNT TEST (112), 0.0. 3LUMFR, IA-LINE RSI GAP RUN ( 16) 1073

TAC	Y (CM)	YV (CM)	77 (CPI)	C (M/M2)	ML (KG/M2-S)	MT (KG/M2-S)	ML/MREF	MREF (KG/M2-S)	STL	STT	T (K)	ILCC (K/M-S)	ML/MLCC	MLCC/MREF	ML/ME
211	61.56	0.00	0.15	1.71E+04	1.37E-02	1.37E-02	0.992	1.439E-02	1.600E-04	1.600E-04	316.7	7.49E-02	1.000	0.992	0.12
212	61.56	0.00	0.25	6.41E+03	1.17E-02	1.17E-02	0.83	1.439E-02	1.600E-04	1.600E-04	316.7	7.49E-02	1.000	0.992	0.00
213	61.56	0.00	0.35	3.97E+03	7.75E-03	7.75E-03	0.82	1.439E-02	3.695E-05	3.695E-05	314.6	6.25E-03	1.000	0.83	-0.70
214	61.56	0.00	0.49	2.45E+03	2.95E-03	2.95E-03	0.71	1.439E-02	3.694E-05	3.694E-05	312.4	2.86E-03	1.000	0.83	-1.65
215	61.56	0.00	0.69	1.60E+02	4.31E-04	4.31E-04	0.30	1.439E-02	5.074E-06	5.074E-06	311.1	1.24E-04	1.000	0.30	0.25
306	86.96	0.75	0.00	3.66E+04	5.39E-02	5.39E-02	2.449	2.451E-02	6.334E-04	6.334E-04	719.3	5.37E-02	1.000	2.449	0.779
307	86.96	0.51	0.00	1.27E+04	2.49E-02	2.49E-02	2.707	2.451E-02	6.801E-04	6.801E-04	319.2	5.04E-02	1.000	2.707	0.643
308	86.96	0.23	0.00	3.32E+04	5.39E-02	5.39E-02	2.775	2.451E-02	7.073E-04	7.073E-04	319.2	5.04E-02	1.000	2.775	0.665
309	86.96	0.15	0.00	3.44E+04	5.68E-02	5.68E-02	2.614	2.451E-02	6.876E-04	6.876E-04	317.4	5.64E-02	1.000	2.614	0.615
310	86.96	0.00	0.04	3.68E+04	5.37E-02	5.37E-02	2.476	2.451E-02	6.332E-04	6.332E-04	316.7	5.37E-02	1.000	2.476	0.772
311	86.96	0.00	0.15	3.74E+04	5.42E-02	5.42E-02	2.127	2.451E-02	5.443E-04	5.443E-04	315.5	4.62E-02	1.000	2.127	0.663
312	86.96	0.00	0.25	2.14E+04	3.51E-02	3.51E-02	1.515	2.451E-02	4.333E-04	4.333E-04	314.4	3.91E-02	1.000	1.515	0.593
313	86.96	0.00	0.38	1.08E+04	2.49E-02	2.49E-02	1.103	2.451E-02	3.052E-04	3.052E-04	312.9	2.59E-02	1.000	1.103	0.372
314	86.96	0.00	0.64	3.15E+03	1.47E-02	1.47E-02	0.54	2.451E-02	1.332E-04	1.332E-04	312.2	1.17E-02	1.000	0.54	0.160
315	86.96	0.00	0.89	2.70E+02	3.83E-03	3.83E-03	0.177	2.451E-02	4.315E-05	4.315E-05	311.0	3.83E-03	1.000	0.177	0.045
407	112.36	0.75	0.00	1.74E+04	7.35E-02	7.35E-02	1.143	6.164E-02	8.379E-04	8.379E-04	317.5	7.09E-02	1.000	1.143	0.865
407	112.36	0.51	0.00	5.17E+04	7.35E-02	7.35E-02	1.146	6.164E-02	8.379E-04	8.379E-04	317.5	7.09E-02	1.000	1.146	0.871
408	112.36	0.23	0.00	1.99E+04	6.98E-02	6.98E-02	1.379	6.164E-02	7.849E-04	7.849E-04	316.1	6.06E-02	1.000	1.379	0.828
409	112.36	0.15	0.00	2.72E+04	6.98E-02	6.98E-02	1.110	6.164E-02	7.379E-04	7.379E-04	315.6	6.25E-02	1.000	1.110	0.772
410	112.36	0.00	0.04	1.77E+04	5.63E-02	5.63E-02	0.914	6.164E-02	6.074E-04	6.074E-04	315.2	5.63E-02	1.000	0.914	0.694
411	112.36	0.00	0.15	3.63E+04	7.35E-02	7.35E-02	0.914	6.164E-02	6.074E-04	6.074E-04	314.3	5.04E-02	1.000	0.914	0.618
412	112.36	0.00	0.25	2.60E+04	3.64E-02	3.64E-02	0.250	6.164E-02	4.296E-04	4.296E-04	313.2	3.64E-02	1.000	0.250	0.449
413	112.36	0.00	0.38	1.44E+04	2.46E-02	2.46E-02	0.12	6.164E-02	2.989E-04	2.989E-04	312.3	2.94E-02	1.000	0.12	0.313
414	112.36	0.00	0.64	7.12E+03	1.47E-02	1.47E-02	0.163	6.164E-02	1.866E-04	1.866E-04	310.6	1.86E-02	1.000	0.163	0.184
415	112.36	0.00	0.89	2.77E+03	3.99E-03	3.99E-03	0.091	6.164E-02	6.975E-05	6.975E-05	310.3	1.59E-03	1.000	0.091	0.069
506	125.04	0.75	0.00	4.10E+04	6.95E-02	6.95E-02	0.13	7.914E-02	7.491E-04	7.491E-04	316.7	6.39E-02	1.000	0.13	0.849
507	125.04	0.51	0.00	1.33E+04	6.95E-02	6.95E-02	0.137	7.914E-02	7.426E-04	7.426E-04	316.7	6.39E-02	1.000	0.137	0.842
508	125.04	0.23	0.00	3.69E+04	6.95E-02	6.95E-02	0.747	7.914E-02	7.931E-04	7.931E-04	315.2	6.25E-02	1.000	0.747	0.822
509	125.04	0.15	0.00	1.57E+04	5.07E-02	5.07E-02	0.16	7.914E-02	6.684E-04	6.684E-04	315.9	5.67E-02	1.000	0.16	0.759
510	125.04	0.00	0.04	1.77E+04	3.65E-02	3.65E-02	0.064	7.914E-02	6.077E-04	6.077E-04	315.4	5.24E-02	1.000	0.064	0.701
511	125.04	0.00	0.15	3.74E+04	5.42E-02	5.42E-02	0.206	7.914E-02	5.757E-04	5.757E-04	315.3	4.89E-02	1.000	0.206	0.621
512	125.04	0.00	0.25	2.60E+04	3.64E-02	3.64E-02	0.066	7.914E-02	4.021E-04	4.021E-04	314.7	3.92E-02	1.000	0.066	0.525
513	125.04	0.00	0.38	1.44E+04	2.46E-02	2.46E-02	0.164	7.914E-02	3.245E-04	3.245E-04	313.5	2.94E-02	1.000	0.164	0.368
514	125.04	0.00	0.64	7.12E+03	1.47E-02	1.47E-02	0.107	7.914E-02	1.874E-04	1.874E-04	312.2	1.32E-02	1.000	0.107	0.187
515	125.04	0.00	0.89	1.64E+03	1.51E-03	1.51E-03	0.020	7.914E-02	1.077E-05	1.077E-05	310.9	1.59E-03	1.000	0.020	0.021

EDGE HEATING USED FOR ME  
 506 3.07E+01 ML /MREF 9.21E+01  
 507 4.12E+01 ML /MREF 6.07E+01  
 508 4.37E+01 ML /MREF 6.59E+01  
 509 4.61E+01 ML /MREF 6.15E+01  
 510 4.86E+01 ML /MREF 5.71E+01  
 511 5.11E+01 ML /MREF 5.27E+01  
 512 5.36E+01 ML /MREF 4.83E+01  
 513 5.61E+01 ML /MREF 4.39E+01  
 514 5.86E+01 ML /MREF 3.95E+01  
 515 6.11E+01 ML /MREF 3.51E+01



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

22	9.139E+01	ML	/MREFF	5.00E-01
22	9.048E+01	ML	/MREFF	9.34E-01
22	6.195E+01	ML	/MREFF	1.22E+01
22	6.665E+01	ML	/MREFF	1.24E+01
22	7.172E+01	ML	/MREFF	1.92E+00
22	7.659E+01	ML	/MREFF	2.43E+00
22	9.108E+01	ML	/MREFF	3.15E+00
22	8.695E+01	ML	/MREFF	3.23E+00
22	9.204E+01	ML	/MREFF	3.25E+00
22	9.722E+01	ML	/MREFF	2.25E+01
22	1.822E+02	ML	/MREFF	2.81E+02
22	1.073E+02	ML	/MREFF	1.63E+01
22	1.125E+02	ML	/MREFF	1.71E+00
22	1.175E+02	ML	/MREFF	1.12E+00
22	1.226E+02	ML	/MREFF	9.94E-01
22	1.251E+02	ML	/MREFF	9.18E-01
22	1.276E+02	ML	/MREFF	8.67E-01
22	1.322E+02	ML	/MREFF	8.07E-01
22	1.759E+01	ML	/MREFF	7.14E-01
22	6.156E+01	ML	/MREFF	8.53E-01
22	6.698E+01	ML	/MREFF	2.76E+00
22	1.124E+02	ML	/MREFF	1.14E+01
22	1.251E+02	ML	/MREFF	7.91E-01

0.1. TRANSITION DISTANCE = 78.79 CM  
 FULLY TURBULENT 3.1. CONDITIONS AT : 41.24 CM

**ORIGINAL PAGE IS  
 OF POOR QUALITY**



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09631**

PAGE 33

AMES 3.6 FT. PMT TEST (1823), 2.0% BLURRY, IN-LINE PSI GAP SUB( 17) 1973

IT = 1.117E-03 (K)  
 GAP LENGTH = 14.67 (CM)  
 PT = 1.0738E+06 (N/M2)  
 GAP WIDTH = .127 (CM)  
 MT = 1.0131E+07 (N/KG)  
 GAP DEPTH = 1.31E (CM)  
 RE/METER = 1.000E+00  
 ORIENTATION = 9.00 (DEG)  
 MACH = 3.10  
 35 = 1.27E+1E+05 (N/M2)  
 PRC VEL = 3.7471E+11 (KG/M2-S)  
 WAM/MT = 1.074 E03 MT  
 WAM/PT = 1.074 E03 MT  
 MLCC = ML(2HC, 3TEP COND...)  
 400, POSITION = 1

T/C	X (CM)	Y (CM)	ZZ (CM)	Q (N/M2)	ML (KG/M2-S)	MT (KG/M2-S)	HT (ML/REF)	MREF (KG/PT-S)	STL	STT	T (K)	MLCC (ML/MLCC)	MLCC/MREF	HL/MZ
1	135.24	-.51	-.51	3.12E+04	4.95E-02	4.60E-02	1.07E-02	1.11E-03	1.11E-03	1.057E-03	305.1			1.000
2	132.77	-.51	-.51	3.11E+04	4.94E-02	4.59E-02	1.07E-02	1.11E-03	1.11E-03	1.055E-03	305.6			1.000
3	130.16	-.51	-.51	3.10E+04	4.93E-02	4.58E-02	1.07E-02	1.11E-03	1.11E-03	1.053E-03	306.1			1.000
4	127.63	-.51	-.51	3.09E+04	4.92E-02	4.57E-02	1.07E-02	1.11E-03	1.11E-03	1.051E-03	306.6			1.000
5	125.09	-.51	-.51	3.08E+04	4.91E-02	4.56E-02	1.07E-02	1.11E-03	1.11E-03	1.049E-03	307.1			1.000
6	122.56	-.51	-.51	3.07E+04	4.90E-02	4.55E-02	1.07E-02	1.11E-03	1.11E-03	1.047E-03	307.6			1.000
7	120.07	-.51	-.51	3.06E+04	4.89E-02	4.54E-02	1.07E-02	1.11E-03	1.11E-03	1.045E-03	308.1			1.000
8	117.67	-.51	-.51	3.05E+04	4.88E-02	4.53E-02	1.07E-02	1.11E-03	1.11E-03	1.043E-03	308.6			1.000
9	115.31	-.51	-.51	3.04E+04	4.87E-02	4.52E-02	1.07E-02	1.11E-03	1.11E-03	1.041E-03	309.1			1.000
10	112.99	-.51	-.51	3.03E+04	4.86E-02	4.51E-02	1.07E-02	1.11E-03	1.11E-03	1.039E-03	309.6			1.000
11	110.72	-.51	-.51	3.02E+04	4.85E-02	4.50E-02	1.07E-02	1.11E-03	1.11E-03	1.037E-03	310.1			1.000
12	108.50	-.51	-.51	3.01E+04	4.84E-02	4.49E-02	1.07E-02	1.11E-03	1.11E-03	1.035E-03	310.6			1.000
13	106.33	-.51	-.51	3.00E+04	4.83E-02	4.48E-02	1.07E-02	1.11E-03	1.11E-03	1.033E-03	311.1			1.000
14	104.21	-.51	-.51	2.99E+04	4.82E-02	4.47E-02	1.07E-02	1.11E-03	1.11E-03	1.031E-03	311.6			1.000
15	102.14	-.51	-.51	2.98E+04	4.81E-02	4.46E-02	1.07E-02	1.11E-03	1.11E-03	1.029E-03	312.1			1.000
16	100.12	-.51	-.51	2.97E+04	4.80E-02	4.45E-02	1.07E-02	1.11E-03	1.11E-03	1.027E-03	312.6			1.000
17	98.15	-.51	-.51	2.96E+04	4.79E-02	4.44E-02	1.07E-02	1.11E-03	1.11E-03	1.025E-03	313.1			1.000
18	96.23	-.51	-.51	2.95E+04	4.78E-02	4.43E-02	1.07E-02	1.11E-03	1.11E-03	1.023E-03	313.6			1.000
19	94.36	-.51	-.51	2.94E+04	4.77E-02	4.42E-02	1.07E-02	1.11E-03	1.11E-03	1.021E-03	314.1			1.000
20	92.54	-.51	-.51	2.93E+04	4.76E-02	4.41E-02	1.07E-02	1.11E-03	1.11E-03	1.019E-03	314.6			1.000
21	90.77	-.51	-.51	2.92E+04	4.75E-02	4.40E-02	1.07E-02	1.11E-03	1.11E-03	1.017E-03	315.1			1.000
22	89.05	-.51	-.51	2.91E+04	4.74E-02	4.39E-02	1.07E-02	1.11E-03	1.11E-03	1.015E-03	315.6			1.000
23	87.38	-.51	-.51	2.90E+04	4.73E-02	4.38E-02	1.07E-02	1.11E-03	1.11E-03	1.013E-03	316.1			1.000
24	85.76	-.51	-.51	2.89E+04	4.72E-02	4.37E-02	1.07E-02	1.11E-03	1.11E-03	1.011E-03	316.6			1.000
25	84.19	-.51	-.51	2.88E+04	4.71E-02	4.36E-02	1.07E-02	1.11E-03	1.11E-03	1.009E-03	317.1			1.000
102	47.59	1.72	1.72	7.02E+02	1.55E-02	1.92E-02	1.04E-02	1.24E-02	2.49E-02	2.02E-04	312.2	1.03E-02	1.000	.073
103	47.59	1.72	1.72	7.01E+02	1.54E-02	1.91E-02	1.04E-02	1.24E-02	2.48E-02	2.02E-04	312.7	1.02E-02	1.000	.073
104	47.59	1.72	1.72	7.00E+02	1.53E-02	1.90E-02	1.04E-02	1.24E-02	2.47E-02	2.02E-04	313.2	1.01E-02	1.000	.073
105	47.59	1.72	1.72	6.99E+02	1.52E-02	1.89E-02	1.04E-02	1.24E-02	2.46E-02	2.02E-04	313.7	1.00E-02	1.000	.073
106	47.59	1.72	1.72	6.98E+02	1.51E-02	1.88E-02	1.04E-02	1.24E-02	2.45E-02	2.02E-04	314.2	9.9E-03	1.000	.073
107	47.59	1.72	1.72	6.97E+02	1.50E-02	1.87E-02	1.04E-02	1.24E-02	2.44E-02	2.02E-04	314.7	9.8E-03	1.000	.073
108	47.59	1.72	1.72	6.96E+02	1.49E-02	1.86E-02	1.04E-02	1.24E-02	2.43E-02	2.02E-04	315.2	9.7E-03	1.000	.073
109	47.59	1.72	1.72	6.95E+02	1.48E-02	1.85E-02	1.04E-02	1.24E-02	2.42E-02	2.02E-04	315.7	9.6E-03	1.000	.073
110	47.59	1.72	1.72	6.94E+02	1.47E-02	1.84E-02	1.04E-02	1.24E-02	2.41E-02	2.02E-04	316.2	9.5E-03	1.000	.073
111	47.59	1.72	1.72	6.93E+02	1.46E-02	1.83E-02	1.04E-02	1.24E-02	2.40E-02	2.02E-04	316.7	9.4E-03	1.000	.073
112	47.59	1.72	1.72	6.92E+02	1.45E-02	1.82E-02	1.04E-02	1.24E-02	2.39E-02	2.02E-04	317.2	9.3E-03	1.000	.073
113	47.59	1.72	1.72	6.91E+02	1.44E-02	1.81E-02	1.04E-02	1.24E-02	2.38E-02	2.02E-04	317.7	9.2E-03	1.000	.073
114	47.59	1.72	1.72	6.90E+02	1.43E-02	1.80E-02	1.04E-02	1.24E-02	2.37E-02	2.02E-04	318.2	9.1E-03	1.000	.073
115	47.59	1.72	1.72	6.89E+02	1.42E-02	1.79E-02	1.04E-02	1.24E-02	2.36E-02	2.02E-04	318.7	9.0E-03	1.000	.073
201	61.58	1.82	1.82	1.01E+03	1.23E-02	1.64E-02	1.07E-02	1.52E-02	2.82E-04	2.01E-04	328.0	6.23E-01	1.000	.077
202	61.58	1.82	1.82	1.00E+03	1.22E-02	1.63E-02	1.07E-02	1.52E-02	2.81E-04	2.01E-04	328.5	6.22E-01	1.000	.077
203	61.58	1.82	1.82	9.99E+02	1.21E-02	1.62E-02	1.07E-02	1.52E-02	2.80E-04	2.01E-04	329.0	6.21E-01	1.000	.077
204	61.58	1.82	1.82	9.98E+02	1.20E-02	1.61E-02	1.07E-02	1.52E-02	2.79E-04	2.01E-04	329.5	6.20E-01	1.000	.077
205	61.58	1.82	1.82	9.97E+02	1.19E-02	1.60E-02	1.07E-02	1.52E-02	2.78E-04	2.01E-04	330.0	6.19E-01	1.000	.077
206	61.58	1.82	1.82	9.96E+02	1.18E-02	1.59E-02	1.07E-02	1.52E-02	2.77E-04	2.01E-04	330.5	6.18E-01	1.000	.077
207	61.58	1.82	1.82	9.95E+02	1.17E-02	1.58E-02	1.07E-02	1.52E-02	2.76E-04	2.01E-04	331.0	6.17E-01	1.000	.077
208	61.58	1.82	1.82	9.94E+02	1.16E-02	1.57E-02	1.07E-02	1.52E-02	2.75E-04	2.01E-04	331.5	6.16E-01	1.000	.077
209	61.58	1.82	1.82	9.93E+02	1.15E-02	1.56E-02	1.07E-02	1.52E-02	2.74E-04	2.01E-04	332.0	6.15E-01	1.000	.077
210	61.58	1.82	1.82	9.92E+02	1.14E-02	1.55E-02	1.07E-02	1.52E-02	2.73E-04	2.01E-04	332.5	6.14E-01	1.000	.077



RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09651

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AMES 7.5 FT HWT TEST (182), C.E. BLUMER, IN-LINE CSI GAP RUN (17) 597

T/C	A	W	Z	G	ML	HT	HL	MREF	STL	STT	T	MLCC	ML/MLCC	ML/MLCC	ML/MLCC	ML/MLCC
211	61.56	0.00	15	1.01E+02	5.74E+03	5.04E-03	0.54E	1.00E-02	1.321E-04	1.79E-04	304.0	1.74E-03	1.000	0.946	0.871	0.849
212	61.56	0.00	25	2.03E+03	3.91E+03	7.32E-03	0.37E	1.00E-02	9.07E-05	1.00E-05	306.0	3.91E-03	1.000	0.372	0.309	0.283
213	61.56	0.00	34	1.02E+03	2.66E+03	2.00E-03	0.21E	1.00E-02	6.07E-05	1.00E-05	303.6	2.66E-03	1.000	0.251	0.203	0.184
214	61.56	0.00	44	2.02E+02	1.07E+04	4.23E-04	0.42E	1.00E-02	1.00E-05	1.00E-05	302.4	4.07E-04	1.000	0.042	0.034	0.031
215	61.56	0.00	59	4.00E+02	5.19E+03	3.00E-03	0.39E	1.00E-02	1.42E-04	1.34E-04	306.5	6.19E-03	1.000	0.599	0.490	0.469
317	66.96	0.01	10	2.03E+03	3.91E+03	5.07E-03	0.59E	1.00E-02	1.49E-04	1.37E-04	306.3	6.20E-03	1.000	0.609	0.500	0.479
318	66.96	0.01	20	4.00E+03	4.25E+03	7.32E-03	0.73E	1.00E-02	1.92E-04	1.82E-04	304.0	8.25E-03	1.000	0.825	0.670	0.649
319	66.96	0.01	30	6.00E+03	6.70E+03	8.00E-03	0.80E	1.00E-02	2.00E-04	1.89E-04	305.3	8.70E-03	1.000	0.870	0.700	0.679
320	66.96	0.01	40	8.00E+03	8.99E+03	7.07E-03	0.70E	1.00E-02	1.86E-04	1.76E-04	304.9	8.99E-03	1.000	0.899	0.730	0.709
321	66.96	0.01	50	1.00E+04	1.00E+04	5.00E-03	0.50E	1.00E-02	1.28E-04	1.21E-04	304.1	5.00E-03	1.000	0.500	0.400	0.380
322	66.96	0.01	60	1.20E+04	1.20E+04	2.10E-03	0.21E	1.00E-02	9.17E-05	8.89E-05	303.5	2.10E-03	1.000	0.210	0.160	0.150
323	66.96	0.01	70	1.40E+04	1.40E+04	3.04E-03	0.30E	1.00E-02	6.31E-05	6.02E-05	302.5	4.00E-03	1.000	0.400	0.310	0.290
324	66.96	0.01	80	1.60E+04	1.60E+04	4.00E-03	0.40E	1.00E-02	4.63E-05	4.44E-05	302.3	4.00E-03	1.000	0.400	0.300	0.280
325	66.96	0.01	90	1.80E+04	1.80E+04	5.00E-03	0.50E	1.00E-02	3.67E-05	3.49E-05	302.3	4.00E-03	1.000	0.400	0.300	0.280
408	112.36	0.02	10	2.03E+04	2.03E+04	1.23E-02	1.23E	2.00E-02	6.60E-04	6.25E-04	305.4	2.03E-02	1.000	1.237	0.980	0.940
409	112.36	0.02	20	4.00E+04	4.00E+04	2.46E-02	2.46E	2.00E-02	7.07E-04	6.70E-04	304.9	2.03E-02	1.000	1.321	1.040	0.990
410	112.36	0.02	30	6.00E+04	6.00E+04	3.69E-02	3.69E	2.00E-02	6.99E-04	6.63E-04	304.5	3.69E-02	1.000	1.305	1.000	0.950
411	112.36	0.02	40	8.00E+04	8.00E+04	4.92E-02	4.92E	2.00E-02	6.86E-04	6.50E-04	304.1	4.92E-02	1.000	1.223	0.940	0.890
412	112.36	0.02	50	1.00E+05	1.00E+05	6.15E-02	6.15E	2.00E-02	6.74E-04	6.38E-04	303.8	6.15E-02	1.000	1.078	0.800	0.760
413	112.36	0.02	60	1.20E+05	1.20E+05	7.38E-02	7.38E	2.00E-02	6.61E-04	6.25E-04	303.5	7.38E-02	1.000	0.937	0.680	0.640
414	112.36	0.02	70	1.40E+05	1.40E+05	8.61E-02	8.61E	2.00E-02	6.49E-04	6.13E-04	302.9	8.61E-02	1.000	0.816	0.560	0.520
415	112.36	0.02	80	1.60E+05	1.60E+05	9.84E-02	9.84E	2.00E-02	6.37E-04	6.01E-04	302.3	9.84E-02	1.000	0.765	0.510	0.470
506	125.06	0.03	10	2.03E+04	2.03E+04	1.23E-02	1.23E	2.00E-02	1.44E-05	1.37E-05	301.1	6.29E-04	1.000	0.27	0.21	0.20
507	125.06	0.03	20	4.00E+04	4.00E+04	2.46E-02	2.46E	2.00E-02	9.19E-04	8.71E-04	304.7	4.00E-02	1.000	1.070	0.820	0.780
508	125.06	0.03	30	6.00E+04	6.00E+04	3.69E-02	3.69E	2.00E-02	9.25E-04	8.77E-04	304.7	4.00E-02	1.000	1.076	0.820	0.780
509	125.06	0.03	40	8.00E+04	8.00E+04	4.92E-02	4.92E	2.00E-02	9.17E-04	8.69E-04	304.4	3.99E-02	1.000	1.066	0.810	0.770
510	125.06	0.03	50	1.00E+05	1.00E+05	6.15E-02	6.15E	2.00E-02	9.05E-04	8.57E-04	304.2	3.94E-02	1.000	0.91	0.710	0.670
511	125.06	0.03	60	1.20E+05	1.20E+05	7.38E-02	7.38E	2.00E-02	8.93E-04	8.45E-04	303.7	3.84E-02	1.000	0.833	0.630	0.590
512	125.06	0.03	70	1.40E+05	1.40E+05	8.61E-02	8.61E	2.00E-02	8.81E-04	8.33E-04	303.7	3.74E-02	1.000	0.822	0.620	0.580
513	125.06	0.03	80	1.60E+05	1.60E+05	9.84E-02	9.84E	2.00E-02	8.69E-04	8.21E-04	303.0	3.64E-02	1.000	0.730	0.530	0.490
514	125.06	0.03	90	1.80E+05	1.80E+05	1.10E-01	1.10E	2.00E-02	8.57E-04	8.09E-04	302.2	3.54E-02	1.000	0.640	0.440	0.400

EDGE HEATING LSPR FOR ME  
 Xa 3.37E+01 ML /MREFS 8.93E+01  
 Xb 6.12E+01 ML /MREFS 1.00E+01  
 Xc 4.37E+01 ML /MREFS 2.41E+01  
 Xd 6.63E+01 ML /MREFS 6.64E+01  
 Xe 4.84E+01 ML /MREFS 2.00E+01

5.3-59

**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
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28	5.133E+01	ML	/MSEFFS	0.731E+11
28	5.648E+01	ML	/MSEFFS	9.509E+11
28	6.156E+01	ML	/MSEFFS	6.175E+11
28	6.664E+01	ML	/MSEFFS	5.72E+11
28	7.172E+01	ML	/MSEFFS	9.786E+11
28	7.680E+01	ML	/MSEFFS	1.22E+12
28	8.188E+01	ML	/MSEFFS	1.119E+12
28	8.696E+01	ML	/MSEFFS	1.179E+12
28	9.204E+01	ML	/MSEFFS	1.276E+12
28	9.712E+01	ML	/MSEFFS	1.713E+12
28	1.022E+02	ML	/MSEFFS	1.442E+12
28	1.073E+02	ML	/MSEFFS	1.244E+12
28	1.124E+02	ML	/MSEFFS	1.529E+12
28	1.175E+02	ML	/MSEFFS	1.497E+12
28	1.226E+02	ML	/MSEFFS	1.334E+12
28	1.277E+02	ML	/MSEFFS	1.236E+12
28	1.328E+02	ML	/MSEFFS	1.193E+12
28	1.379E+02	ML	/MSEFFS	1.14E+12
28	1.430E+02	ML	/MSEFFS	9.753E+11
28	4.759E+01	ML	/MSEFFS	7.82E+11
28	6.176E+01	ML	/MSEFFS	7.09E+11
28	8.696E+01	ML	/MSEFFS	6.091E+11
28	1.124E+02	ML	/MSEFFS	1.321E+12
28	1.381E+02	ML	/MSEFFS	1.77E+12

28. TRANSITION DISTANCE = 51.39 CM  
 FULLY TURBULENT 9.4. CONDITIONS AT = 112.37 CM



RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
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AMES 345 77 HMT 15213 C.B. BLUMER, IN-LINE RSI GAP RUN( 10) 1373

TT = 1.18E+003(K)  
PT = 1.091E+05(W/M2)  
GT = 1.22E+02(L/J/KG)  
RE/METER = 1.5531E+06  
MACH = 4.147  
PWC VEL = 2.473E+01(KG/M2-S)  
PAR/MY = 7.97E FOR MT  
PLCC = 4.12ZNC, ORCEP COND.,)

GAP LENGTH = 171.5" (CM)  
GAP WIDTH = .127 (CM)  
GAP DEPTH = 1.316 (CM)  
ORIFATICAION = 0.307 (D/FG)  
OS = 9.0193E+04(W/M2)  
400. POSITION = 1

T/C	X (CM)	Y (CM)	Z (CM)	G (W/M2)	ML (KG/M2-S)	MT (KG/M2-S)	ML/MPEFF (KG/M2-S)	HPEF (KG/M2-S)	STL (KG/M2-S)	STT (K)	ML/MLCC (K/(M2-S))	MLCC/MREF	ML/HE
1	135.24	-51	0.00	5.71E+03	7.49E+03	7.99E+03	1.235	6.09E+03	3.65E+14	3.460E-04	306.4	1.000	1.000
2	132.70	-51	0.00	5.71E+03	7.49E+03	7.99E+03	1.149	6.130E+03	3.444E+04	3.267E-04	366.7	1.000	1.000
3	130.16	-51	0.00	5.34E+03	6.64E+03	7.133	1.133	6.178E+03	3.419E+04	3.242E-04	386.7	1.000	1.000
4	127.63	-51	0.00	5.18E+03	6.44E+03	6.933	1.093	6.218E+03	3.322E+04	3.114E-04	386.0	1.000	1.000
5	125.09	-51	0.00	5.10E+03	6.31E+03	6.790	1.050	6.258E+03	3.301E+04	3.130E-04	386.7	1.000	1.000
6	122.56	-51	0.00	5.19E+03	6.37E+03	6.84E+03	1.044	6.314E+03	3.284E+04	3.114E-04	386.0	1.000	1.000
7	117.47	-51	0.00	5.06E+03	6.19E+03	6.59E+03	1.022	6.364E+03	3.218E+04	3.091E-04	387.1	1.000	1.000
8	112.37	-51	0.00	4.96E+03	6.16E+03	6.56E+03	1.022	6.364E+03	3.178E+04	3.114E-04	387.2	1.000	1.000
9	107.31	-51	0.00	4.96E+03	6.16E+03	6.56E+03	1.022	6.364E+03	3.178E+04	3.114E-04	387.2	1.000	1.000
10	102.20	-51	0.00	4.96E+03	6.16E+03	6.56E+03	1.022	6.364E+03	3.178E+04	3.114E-04	387.2	1.000	1.000
11	97.12	-51	0.00	4.96E+03	6.16E+03	6.56E+03	1.022	6.364E+03	3.178E+04	3.114E-04	387.2	1.000	1.000
12	92.04	-51	0.00	4.96E+03	6.16E+03	6.56E+03	1.022	6.364E+03	3.178E+04	3.114E-04	387.2	1.000	1.000
13	86.96	-51	0.00	4.96E+03	6.16E+03	6.56E+03	1.022	6.364E+03	3.178E+04	3.114E-04	387.2	1.000	1.000
14	81.88	-51	0.00	4.96E+03	6.16E+03	6.56E+03	1.022	6.364E+03	3.178E+04	3.114E-04	387.2	1.000	1.000
15	76.80	-51	0.00	4.96E+03	6.16E+03	6.56E+03	1.022	6.364E+03	3.178E+04	3.114E-04	387.2	1.000	1.000
16	71.72	-51	0.00	4.96E+03	6.16E+03	6.56E+03	1.022	6.364E+03	3.178E+04	3.114E-04	387.2	1.000	1.000
17	66.64	-51	0.00	4.96E+03	6.16E+03	6.56E+03	1.022	6.364E+03	3.178E+04	3.114E-04	387.2	1.000	1.000
18	61.56	-51	0.00	4.96E+03	6.16E+03	6.56E+03	1.022	6.364E+03	3.178E+04	3.114E-04	387.2	1.000	1.000
19	56.48	-51	0.00	4.96E+03	6.16E+03	6.56E+03	1.022	6.364E+03	3.178E+04	3.114E-04	387.2	1.000	1.000
20	51.40	-51	0.00	4.96E+03	6.16E+03	6.56E+03	1.022	6.364E+03	3.178E+04	3.114E-04	387.2	1.000	1.000
21	46.32	-51	0.00	4.96E+03	6.16E+03	6.56E+03	1.022	6.364E+03	3.178E+04	3.114E-04	387.2	1.000	1.000
22	41.24	-51	0.00	4.96E+03	6.16E+03	6.56E+03	1.022	6.364E+03	3.178E+04	3.114E-04	387.2	1.000	1.000
23	36.16	-51	0.00	4.96E+03	6.16E+03	6.56E+03	1.022	6.364E+03	3.178E+04	3.114E-04	387.2	1.000	1.000
24	31.08	-51	0.00	4.96E+03	6.16E+03	6.56E+03	1.022	6.364E+03	3.178E+04	3.114E-04	387.2	1.000	1.000
25	26.00	-51	0.00	4.96E+03	6.16E+03	6.56E+03	1.022	6.364E+03	3.178E+04	3.114E-04	387.2	1.000	1.000
103	47.89	132	0.00	5.21E+03	7.46E+03	7.84E+03	0.825	9.77E+03	3.93E+04	3.73E-04	312.7	0.86E-03	1.000
104	47.89	137	0.00	5.21E+03	7.46E+03	7.84E+03	0.825	9.77E+03	3.93E+04	3.73E-04	312.7	0.86E-03	1.000
105	47.89	142	0.00	5.21E+03	7.46E+03	7.84E+03	0.825	9.77E+03	3.93E+04	3.73E-04	312.7	0.86E-03	1.000
106	47.89	147	0.00	5.21E+03	7.46E+03	7.84E+03	0.825	9.77E+03	3.93E+04	3.73E-04	312.7	0.86E-03	1.000
107	47.89	152	0.00	5.21E+03	7.46E+03	7.84E+03	0.825	9.77E+03	3.93E+04	3.73E-04	312.7	0.86E-03	1.000
108	47.89	157	0.00	5.21E+03	7.46E+03	7.84E+03	0.825	9.77E+03	3.93E+04	3.73E-04	312.7	0.86E-03	1.000
109	47.89	162	0.00	5.21E+03	7.46E+03	7.84E+03	0.825	9.77E+03	3.93E+04	3.73E-04	312.7	0.86E-03	1.000
110	47.89	167	0.00	5.21E+03	7.46E+03	7.84E+03	0.825	9.77E+03	3.93E+04	3.73E-04	312.7	0.86E-03	1.000
111	47.89	172	0.00	5.21E+03	7.46E+03	7.84E+03	0.825	9.77E+03	3.93E+04	3.73E-04	312.7	0.86E-03	1.000
112	47.89	177	0.00	5.21E+03	7.46E+03	7.84E+03	0.825	9.77E+03	3.93E+04	3.73E-04	312.7	0.86E-03	1.000
113	47.89	182	0.00	5.21E+03	7.46E+03	7.84E+03	0.825	9.77E+03	3.93E+04	3.73E-04	312.7	0.86E-03	1.000
114	47.89	187	0.00	5.21E+03	7.46E+03	7.84E+03	0.825	9.77E+03	3.93E+04	3.73E-04	312.7	0.86E-03	1.000
115	47.89	192	0.00	5.21E+03	7.46E+03	7.84E+03	0.825	9.77E+03	3.93E+04	3.73E-04	312.7	0.86E-03	1.000
203	61.66	132	0.00	5.30E+03	7.09E+03	6.72E+03	0.831	8.48E+03	3.46E+04	3.28E-04	310.2	7.09E-03	1.000
204	61.66	137	0.00	5.30E+03	7.09E+03	6.72E+03	0.831	8.48E+03	3.46E+04	3.28E-04	310.2	7.09E-03	1.000
205	61.66	142	0.00	5.30E+03	7.09E+03	6.72E+03	0.831	8.48E+03	3.46E+04	3.28E-04	310.2	7.09E-03	1.000
206	61.66	147	0.00	5.30E+03	7.09E+03	6.72E+03	0.831	8.48E+03	3.46E+04	3.28E-04	310.2	7.09E-03	1.000
207	61.66	152	0.00	5.30E+03	7.09E+03	6.72E+03	0.831	8.48E+03	3.46E+04	3.28E-04	310.2	7.09E-03	1.000
208	61.66	157	0.00	5.30E+03	7.09E+03	6.72E+03	0.831	8.48E+03	3.46E+04	3.28E-04	310.2	7.09E-03	1.000
209	61.66	162	0.00	5.30E+03	7.09E+03	6.72E+03	0.831	8.48E+03	3.46E+04	3.28E-04	310.2	7.09E-03	1.000
210	61.66	167	0.00	5.30E+03	7.09E+03	6.72E+03	0.831	8.48E+03	3.46E+04	3.28E-04	310.2	7.09E-03	1.000





**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

REPORT MDC E1248  
 JSC 09651

X#	0.1325E+1	ML	/MREFFS	0.1325E+1
X#	0.0688E+1	ML	/MREFFS	0.494E-1
X#	0.150E+1	ML	/MREFFS	0.735E-1
X#	0.0688E+1	ML	/MREFFS	9.074E-1
X#	7.178E+0	ML	/MREFFS	0.718E-1
X#	7.668E+0	ML	/MREFFS	0.438E-1
X#	0.138E+1	ML	/MREFFS	0.433E-1
X#	0.098E+1	ML	/MREFFS	0.677E-1
X#	9.712E+0	ML	/MREFFS	5.113E-1
X#	9.712E+0	ML	/MREFFS	0.735E-1
X#	1.079E+0	ML	/MREFFS	0.868E-1
X#	1.079E+0	ML	/MREFFS	1.722E+1
X#	1.125E+0	ML	/MREFFS	1.045E+0
X#	1.175E+0	ML	/MREFFS	1.065E+0
X#	1.225E+0	ML	/MREFFS	1.075E+0
X#	1.251E+0	ML	/MREFFS	1.095E+0
X#	1.278E+0	ML	/MREFFS	1.135E+0
X#	1.378E+0	ML	/MREFFS	1.185E+0
X#	1.392E+0	ML	/MREFFS	1.215E+0
X#	6.759E+0	ML	/MREFFS	7.716E-1
X#	0.158E+1	ML	/MREFFS	7.977E-1
X#	0.098E+1	ML	/MREFFS	7.473E-1
X#	1.125E+0	ML	/MREFFS	0.024E-1
X#	1.251E+0	ML	/MREFFS	0.015E-1

P.L. TRANSITION DISTANCE = 56.49 CM  
 FULLY TURBULENT 3.0. CCMUTICHS AT = 0.064 CM

**ORIGINAL PAGE IS  
 OF POOR QUALITY**





# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 0965i

PAGE 37

AMES 3.5 FT HMT TEST (1F2), C.E. PLUMER, IN-LINE RFI GAP RUN( 19) 1973

TT = 1.27776(31K)  
 TT = 5.21762(N/M2)  
 GAP LENGTH = 30.420(CM)  
 GAP WIDTH = .127(CM)  
 HT = 1.27762(N/M2)  
 GAP DEPTH = 2.32(CM)  
 REHEATER = 1.44(N/KC)  
 ORIENTATION = 0.79(C/EG)  
 Q5 = 9.5941E+04(M/M2)  
 100. POSITION = 2  
 RMC VEL = 1.55715(N/KC/M2-S)  
 MAN/MT = 1.957402 MT  
 MAN/MT = 0.874 FOR ML  
 HLCC = HL(2HC, 3FUEO CONC.))

T/C	X (CM)	Y (CM)	Z (CM)	C (M/M2)	ML (KG/M2-S)	HT (KG/M2-S)	ML/HREFF	HREF (KG/M2-S)	STL	STT	T (K)	HLCC (KC/M2-S)	ML/HLCC	MLCC/HREF	ML/WE
6	122.76	-5.31	0.00	2.74E+03	6.56E-03	6.25E-03	1.119	5.91E+03	3.293E-04	3.118E-04	300.8	9.44E-03	1.000	0.899	1.000
7	117.47	-5.31	0.00	5.69E+03	7.34E-03	6.95E-03	0.71	6.08E+03	3.672E-07	3.477E-07	306.7	9.26E-03	1.000	0.882	1.000
8	112.37	-5.31	0.00	5.54E+03	6.21E-03	5.85E-03	1.112	6.12E+03	3.112E-04	2.945E-04	306.8	9.02E-03	1.000	0.858	1.000
9	107.31	-5.31	0.00	5.17E+03	6.23E-03	5.92E-03	1.075	6.23E+03	3.119E-04	2.961E-04	308.9	8.28E-03	1.000	0.770	1.000
10	102.20	-5.31	0.00	5.18E+03	6.37E-03	6.15E-03	0.82	6.19E+03	3.197E-04	3.020E-04	301.1	6.28E-03	1.000	0.591	1.000
11	97.12	-5.31	0.00	5.18E+03	6.22E-03	5.95E-03	0.939	6.24E+03	3.112E-04	2.954E-04	301.2	5.24E-03	1.000	0.498	1.000
12	92.04	-5.31	0.00	5.15E+03	6.27E-03	5.95E-03	0.922	6.07E+03	3.119E-04	2.980E-04	301.5	2.10E-03	1.000	0.280	1.000
13	86.96	-5.31	0.00	5.15E+03	6.22E-03	5.90E-03	0.867	7.039E+03	3.112E-04	2.954E-04	301.8	5.98E-04	1.000	0.057	1.000
14	81.88	-5.31	0.00	5.15E+03	6.19E-03	5.77E-03	0.894	7.15E+03	3.270E-04	3.052E-04	302.1	6.68E-05	1.000	0.003	1.000
15	76.80	-5.31	0.00	5.17E+03	6.19E-03	5.90E-03	0.851	7.27E+03	3.098E-04	2.941E-04	302.1	2.87E-05	1.000	0.003	1.000
16	71.72	-5.31	0.00	5.22E+03	6.43E-03	6.18E-03	0.82	7.77E+03	3.219E-04	3.055E-04	302.2	3.95E-05	1.000	0.000	1.000
17	66.64	-5.31	0.00	5.50E+03	7.22E-03	6.66E-03	0.89	8.13E+03	3.511E-04	3.333E-04	303.1	3.671E-04	1.000	0.347	1.000
18	61.56	-5.31	0.00	6.26E+02	7.73E-03	7.38E-03	0.917	8.42E+03	3.866E-04	3.671E-04	304.2	3.082E-04	1.000	0.262	1.000
19	56.48	-5.31	0.00	6.48E+03	8.00E-03	7.60E-03	0.970	8.69E+03	4.086E-04	3.882E-04	304.8	3.952E-04	1.000	0.402	1.000
20	51.39	-5.31	0.00	6.77E+03	8.12E-03	7.90E-03	0.994	9.13E+03	4.164E-04	4.246E-04	305.9	4.246E-04	1.000	0.438	1.000
21	46.31	-5.31	0.00	7.27E+03	9.94E-03	8.58E-03	0.937	9.54E+03	4.676E-04	4.386E-04	305.3	4.386E-04	1.000	0.438	1.000
22	41.23	-5.31	0.00	7.35E+03	9.59E-03	8.62E-03	0.925	9.829E+03	4.547E-04	4.386E-04	305.3	4.386E-04	1.000	0.438	1.000
23	36.15	-5.31	0.00	7.42E+03	9.81E-03	9.71E-03	0.928	1.011E+04	4.594E-04	4.386E-04	305.4	4.386E-04	1.000	0.438	1.000
24	31.07	-5.31	0.00	7.42E+03	9.69E-03	9.18E-03	0.932	1.039E+04	4.894E-04	4.597E-04	305.8	4.597E-04	1.000	0.438	1.000
25	26.00	-5.31	0.00	8.37E+03	8.89E-03	9.39E-03	0.927	1.067E+04	4.951E-04	4.699E-04	305.6	4.699E-04	1.000	0.438	1.000
103	39.97	1.02	0.00	7.65E+03	9.44E-03	8.98E-03	0.899	1.05E+04	4.724E-04	4.682E-04	309.0	9.44E-03	1.000	0.899	1.000
109	39.97	1.02	0.00	7.64E+03	9.26E-03	8.75E-03	0.892	1.051E+04	4.619E-04	4.598E-04	310.2	9.26E-03	1.000	0.882	1.000
107	35.97	0.51	0.00	7.27E+03	9.12E-03	9.55E-03	0.850	1.051E+04	4.513E-04	4.282E-04	309.7	9.02E-03	1.000	0.858	1.000
108	35.97	0.51	0.00	6.52E+03	9.17E-03	7.68E-03	0.770	1.052E+04	4.952E-04	3.645E-04	308.7	8.10E-03	1.000	0.770	1.000
110	39.97	0.04	0.00	6.01E+03	6.22E-03	5.92E-03	0.891	1.052E+04	3.111E-04	2.953E-04	307.3	6.28E-03	1.000	0.591	1.000
111	39.97	0.04	0.00	6.23E+03	6.22E-03	5.92E-03	0.890	1.052E+04	2.621E-04	2.987E-04	306.9	5.24E-03	1.000	0.498	1.000
112	39.97	0.04	0.00	6.08E+03	6.44E-03	6.48E-03	0.890	1.052E+04	1.791E-04	1.780E-04	305.8	3.95E-03	1.000	0.347	1.000
113	39.97	0.01	0.00	6.17E+03	6.33E-03	6.48E-03	0.890	1.052E+04	1.533E-04	1.533E-04	304.9	2.10E-03	1.000	0.280	1.000
114	39.97	0.01	0.00	6.17E+03	6.33E-03	6.48E-03	0.890	1.052E+04	2.994E-05	2.994E-05	303.5	5.98E-04	1.000	0.057	1.000
118	39.97	0.01	0.00	6.17E+03	6.68E-03	5.38E-03	0.716	1.052E+04	3.441E-06	3.441E-06	302.2	6.68E-05	1.000	0.003	1.000
116	39.97	0.01	0.00	6.17E+03	6.68E-03	5.38E-03	0.716	1.052E+04	1.639E-06	1.639E-06	301.3	2.87E-05	1.000	0.003	1.000
117	39.97	0.01	0.00	6.17E+03	6.68E-03	5.38E-03	0.716	1.052E+04	1.639E-06	1.639E-06	301.3	2.87E-05	1.000	0.003	1.000
110	39.97	0.01	0.00	6.17E+03	6.68E-03	5.38E-03	0.716	1.052E+04	1.639E-06	1.639E-06	301.3	2.87E-05	1.000	0.003	1.000
110	39.97	0.01	0.00	6.17E+03	6.68E-03	5.38E-03	0.716	1.052E+04	1.639E-06	1.639E-06	301.3	2.87E-05	1.000	0.003	1.000
121	39.97	0.01	0.00	6.17E+03	6.68E-03	5.38E-03	0.716	1.052E+04	1.639E-06	1.639E-06	301.3	2.87E-05	1.000	0.003	1.000
203	45.32	1.02	0.00	7.01E+03	9.22E-03	9.22E-03	0.898	9.819E+03	4.263E-04	4.140E-04	306.3	8.75E-03	1.000	0.882	1.000
205	46.32	1.02	0.00	7.01E+03	9.22E-03	9.22E-03	0.898	9.819E+03	4.263E-04	4.140E-04	306.3	8.75E-03	1.000	0.882	1.000
207	46.32	1.02	0.00	6.77E+03	9.33E-03	9.33E-03	0.898	9.819E+03	4.263E-04	4.140E-04	306.3	8.75E-03	1.000	0.882	1.000
208	46.32	1.02	0.00	6.77E+03	9.33E-03	9.33E-03	0.898	9.819E+03	4.263E-04	4.140E-04	306.3	8.75E-03	1.000	0.882	1.000
210	46.32	1.02	0.00	6.77E+03	9.33E-03	9.33E-03	0.898	9.819E+03	4.263E-04	4.140E-04	306.3	8.75E-03	1.000	0.882	1.000
211	46.32	1.02	0.00	6.77E+03	9.33E-03	9.33E-03	0.898	9.819E+03	4.263E-04	4.140E-04	306.3	8.75E-03	1.000	0.882	1.000

5.3-64



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 38

APES T.C. ST. WHT TEST (182), C.C. PLUMER, IN-LINE RSI GAP RUN ( 19) 1973

T/C	X (CM)	WY (CM)	Z (CM)	HT (M/2)	ML (KG/M2-S)	MT (KG/M2-S)	ML/MREF	MREF (KG/M2-S)	STL	STT (K)	T (K)	MLCC (K (1/M2-S))	ML/MLCC	MLCC/MREF	ML/HE
211	46.32	7.00	18	3.91E+03	4.82E-03	4.57E-03	.491	9.85E-03	2.411E-04	2.288E-04	303.2	1.82E-03	1.000	.491	.939
212	46.32	7.00	25	2.77E+03	3.44E-03	3.24E-03	.348	9.22E-03	1.798E-04	1.622E-04	322.7	3.44E-03	1.000	.348	.876
213	46.32	7.00	64	1.72E+02	1.50E-04	1.42E-04	.035	9.62E-03	7.57E-06	7.120E-06	300.0	1.50E-04	1.000	.035	.817
214	46.32	7.00	114												
216	46.32	7.00	140												
218	46.32	7.00	145												
219	46.32	7.00	1.94												
224	46.32	7.00	2.29												
426	56.48	7.00	7.00	5.45E+03	6.97E-03	6.52E-03	.704	6.63E-03	3.409E-04	3.312E-04	305.0	6.97E-03	1.000	.704	.871
407	56.48	7.00	1.00	5.75E+03	7.04E-03	6.59E-03	.792	6.89E-03	3.926E-04	3.348E-04	304.4	7.04E-03	1.000	.792	.882
408	56.48	7.00	2.25	5.40E+03	6.68E-03	6.32E-03	.749	6.83E-03	3.339E-04	3.144E-04	303.5	6.68E-03	1.000	.749	.872
409	56.48	7.00	3.70	4.77E+03	7.81E-03	7.54E-03	.656	6.87E-03	2.919E-04	2.711E-04	303.5	7.81E-03	1.000	.656	.729
410	56.48	7.00	5.04	4.07E+03	4.93E-03	4.49E-03	.525	6.43E-03	2.468E-04	2.302E-04	303.2	4.93E-03	1.000	.525	.816
411	56.48	7.00	8.15	3.41E+03	4.23E-03	4.08E-03	.476	6.80E-03	2.117E-04	2.099E-04	302.7	4.23E-03	1.000	.476	.828
412	56.48	7.00	1.25	2.12E+03	2.60E-03	2.47E-03	.223	6.71E-03	1.372E-04	1.236E-04	311.6	2.60E-03	1.000	.223	.825
413	56.48	7.00	3.70	1.22E+03	1.52E-03	1.44E-03	.171	8.11E-03	7.594E-05	7.209E-05	301.4	1.52E-03	1.000	.171	.890
414	56.48	7.00	6.64	1.33E+02	1.71E-04	1.62E-04	.019	8.11E-03	8.542E-06	8.110E-06	300.4	1.71E-04	1.000	.019	.881
415	56.48	7.00	8.09												
416	56.48	7.00	1.14												
417	56.48	7.00	2.40												
418	56.48	7.00	1.65												
419	56.48	7.00	1.94												
420	56.48	7.00	2.29												
506	64.10	7.00	7.00	5.74E+03	6.68E-03	6.26E-03	.813	6.10E-03	3.772E-04	3.314E-04	304.1	6.68E-03	1.000	.813	.896
507	64.10	7.00	1.00	5.16E+03	6.37E-03	6.15E-03	.745	6.10E-03	3.193E-04	3.020E-04	303.9	6.37E-03	1.000	.745	.865
518	64.10	7.00	2.25	4.70E+03	7.91E-03	7.51E-03	.716	6.11E-03	2.913E-04	2.800E-04	303.5	7.91E-03	1.000	.716	.882
509	64.10	7.00	3.70	4.07E+03	4.93E-03	4.62E-03	.654	6.11E-03	2.467E-04	2.341E-04	303.0	4.93E-03	1.000	.654	.869
510	64.10	7.00	5.04	3.41E+03	4.23E-03	4.03E-03	.521	6.11E-03	2.117E-04	2.029E-04	302.5	4.23E-03	1.000	.521	.879
511	64.10	7.00	8.15	2.12E+03	2.60E-03	2.49E-03	.478	6.11E-03	1.944E-04	1.845E-04	302.6	2.60E-03	1.000	.478	.827
512	64.10	7.00	1.25	2.01E+03	2.84E-03	2.64E-03	.313	6.11E-03	1.273E-04	1.205E-04	302.2	2.84E-03	1.000	.313	.844
513	64.10	7.00	3.70	1.33E+02	1.69E-03	1.63E-03	.134	6.11E-03	5.438E-05	5.125E-05	301.8	1.69E-03	1.000	.134	.847
514	64.10	7.00	6.64	7.03E+01	1.97E-04	1.82E-04	.012	6.11E-03	4.699E-06	4.613E-06	301.5	1.97E-04	1.000	.012	.813
515	64.10	7.00	8.09												

EDGE HEATING USEF. FOR WE  
 X# 3.819E+01 ML /MREF# 9.278E-01  
 X# 4.124E+01 ML /MREF# 9.228E-01  
 X# 4.377E+01 ML /MREF# 9.31E-01  
 X# 4.611E+01 ML /MREF# 9.248E-01  
 X# 4.858E+01 ML /MREF# 9.373E-01  
 X# 5.119E+01 ML /MREF# 8.942E-01

5.3-65



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

##	7.000E+01	ML	/MRFFF	6.000E+01
##	6.186E+01	ML	/MRFFF	5.178E+01
##	6.648E+01	ML	/MRFFF	5.931E+01
##	7.122E+01	ML	/MRFFF	6.723E+01
##	7.693E+01	ML	/MRFFF	5.810E+01
##	8.185E+01	ML	/MRFFF	7.2E+01
##	8.696E+01	ML	/MRFFF	7.2E+01
##	9.216E+01	ML	/MRFFF	7.2E+01
##	9.742E+01	ML	/MRFFF	5.180E+01
##	1.027E+02	ML	/MRFFF	5.827E+01
##	1.073E+02	ML	/MRFFF	5.948E+01
##	1.124E+02	ML	/MRFFF	1.712E+01
##	1.179E+02	ML	/MRFFF	1.266E+03
##	1.228E+02	ML	/MRFFF	1.119E+03
##	7.997E+01	ML	/MRFFF	8.009E+01
##	6.832E+01	ML	/MRFFF	6.537E+01
##	5.843E+01	ML	/MRFFF	7.922E+01
##	6.417E+01	ML	/MRFFF	7.022E+01

9.0. TRANSITION DISTANCE = 6.48 CM  
 FULLY TURBULENT 1.0. CONDITIONS AT 376.00 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
ISC 09651

PAGE 39

AMES T.6 FT HWT TEST (122), C.S. BLUMER, IN-LINE RSI GAP RUN ( 2 ) 1973

TT = 1.1442E+1(K)  
 RT = 1.7442E+16(N/M2)  
 PT = 1.2132E+16(J/KG)  
 RE/METER = 3.2729E+9  
 PACH = 3.31E-1  
 RHO VCL = 4.2735E+11(KG/M2-S)  
 MAH/MT = 1.903 FOR MT  
 MAH/MT = 0.274 FOR ML  
 MLCC = 4112M.C. 94DE4 COND.8)

V/C	X (CM)	Y (CM)	ZZ (CM)	U (4/M2)	ML (4/M2)	MT (KG/M2-S)	ML/HTREF	HREF (KG/M2-S)	STL	STT	T (K)	ML/MLCC (KG/M2-S)	MLCC/HTREF	ML/MLCC	MLCC/HREF	ML/HT	
6	122.66	-51	0.00	3.27E+14	4.39E-02	4.37E-02	1.37	3.287E-02	1.93E-03	9.932E-04	395.4					1.000	
7	117.67	-51	0.00	2.65E+14	3.39E-02	3.39E-02	1.409	2.499E-02	7.623E-04	7.227E-04	386.1						1.600
8	107.31	-51	0.00	2.07E+14	2.54E-02	2.54E-02	1.487	1.822E-02	6.279E-04	5.544E-04	376.3						1.000
9	107.31	-51	0.00	1.64E+14	2.15E-02	2.15E-02	1.677	1.502E-02	4.335E-04	4.679E-04	366.6						1.000
10	107.31	-51	0.00	1.29E+14	1.71E-02	1.71E-02	1.931	1.261E-02	3.388E-04	3.700E-04	356.9						1.000
11	97.12	-51	0.00	1.07E+14	1.58E-02	1.58E-02	1.831	1.087E-02	3.633E-04	3.449E-04	357.2						1.000
12	92.64	-51	0.00	9.18E+13	1.22E-02	1.22E-02	1.834	9.937E-03	2.859E-04	2.718E-04	357.8						1.000
13	88.06	-51	0.00	7.87E+13	1.00E-02	1.00E-02	1.834	9.360E-03	2.476E-04	2.447E-04	358.0						1.000
14	88.06	-51	0.00	6.87E+13	8.75E-03	8.75E-03	1.834	8.997E-03	2.184E-04	2.184E-04	358.0						1.000
15	78.89	-51	0.00	6.14E+13	7.99E-03	7.99E-03	1.834	8.297E-03	1.954E-04	1.954E-04	358.0						1.000
16	74.72	-51	0.00	5.65E+13	7.55E-03	7.55E-03	1.834	7.837E-03	1.782E-04	1.782E-04	358.0						1.000
17	68.64	-51	0.00	5.27E+13	7.27E-03	7.27E-03	1.834	7.527E-03	1.632E-04	1.632E-04	358.0						1.000
18	64.80	-51	0.00	5.00E+13	7.00E-03	7.00E-03	1.834	7.200E-03	1.500E-04	1.500E-04	358.0						1.000
19	60.00	-51	0.00	4.75E+13	6.75E-03	6.75E-03	1.834	6.875E-03	1.387E-04	1.387E-04	358.0						1.000
20	55.39	-51	0.00	4.50E+13	6.50E-03	6.50E-03	1.834	6.550E-03	1.283E-04	1.283E-04	358.0						1.000
21	48.96	-51	0.00	4.25E+13	6.25E-03	6.25E-03	1.834	6.225E-03	1.187E-04	1.187E-04	358.0						1.000
22	48.96	-51	0.00	4.00E+13	6.00E-03	6.00E-03	1.834	5.900E-03	1.098E-04	1.098E-04	358.0						1.000
23	43.77	-51	0.00	3.75E+13	5.75E-03	5.75E-03	1.834	5.575E-03	1.016E-04	1.016E-04	358.0						1.000
24	43.77	-51	0.00	3.50E+13	5.50E-03	5.50E-03	1.834	5.250E-03	9.415E-05	9.415E-05	358.0						1.000
25	38.78	-51	0.00	3.25E+13	5.25E-03	5.25E-03	1.834	4.925E-03	8.733E-05	8.733E-05	358.0						1.000
103	39.97	1.62	1.00	9.12E+13	1.23E-02	1.17E-02	0.917	1.342E-02	2.694E-04	2.720E-04	316.3			1.23E-02	1.000	0.917	1.000
104	39.97	1.62	1.00	8.12E+13	1.22E-02	1.15E-02	0.917	1.342E-02	2.694E-04	2.700E-04	317.5			1.22E-02	1.000	0.908	0.925
105	39.97	1.62	1.00	7.12E+13	1.22E-02	1.14E-02	0.917	1.342E-02	2.694E-04	2.681E-04	318.8			1.22E-02	1.000	0.912	0.912
106	39.97	1.62	1.00	6.12E+13	1.22E-02	1.12E-02	0.917	1.342E-02	2.694E-04	2.674E-04	319.4			1.22E-02	1.000	0.912	0.848
107	39.97	1.62	1.00	5.12E+13	1.22E-02	1.10E-02	0.917	1.342E-02	2.694E-04	2.654E-04	319.4			1.22E-02	1.000	0.912	0.677
108	39.97	1.62	1.00	4.12E+13	1.22E-02	1.08E-02	0.917	1.342E-02	2.694E-04	2.634E-04	319.4			1.22E-02	1.000	0.912	0.664
109	39.97	1.62	1.00	3.12E+13	1.22E-02	1.06E-02	0.917	1.342E-02	2.694E-04	2.614E-04	319.4			1.22E-02	1.000	0.912	0.652
110	39.97	1.62	1.00	2.12E+13	1.22E-02	1.04E-02	0.917	1.342E-02	2.694E-04	2.594E-04	319.4			1.22E-02	1.000	0.912	0.640
111	39.97	1.62	1.00	1.12E+13	1.22E-02	1.02E-02	0.917	1.342E-02	2.694E-04	2.574E-04	319.4			1.22E-02	1.000	0.912	0.628
112	39.97	1.62	1.00	0.12E+13	1.22E-02	1.00E-02	0.917	1.342E-02	2.694E-04	2.554E-04	319.4			1.22E-02	1.000	0.912	0.616
113	39.97	1.62	1.00	0.02E+13	1.22E-02	1.00E-02	0.917	1.342E-02	2.694E-04	2.534E-04	319.4			1.22E-02	1.000	0.912	0.604
114	39.97	1.62	1.00	0.00E+13	1.22E-02	1.00E-02	0.917	1.342E-02	2.694E-04	2.514E-04	319.4			1.22E-02	1.000	0.912	0.592
115	39.97	1.62	1.00	0.00E+13	1.22E-02	1.00E-02	0.917	1.342E-02	2.694E-04	2.494E-04	319.4			1.22E-02	1.000	0.912	0.580
116	39.97	1.62	1.00	0.00E+13	1.22E-02	1.00E-02	0.917	1.342E-02	2.694E-04	2.474E-04	319.4			1.22E-02	1.000	0.912	0.568
117	39.97	1.62	1.00	0.00E+13	1.22E-02	1.00E-02	0.917	1.342E-02	2.694E-04	2.454E-04	319.4			1.22E-02	1.000	0.912	0.556
118	39.97	1.62	1.00	0.00E+13	1.22E-02	1.00E-02	0.917	1.342E-02	2.694E-04	2.434E-04	319.4			1.22E-02	1.000	0.912	0.544
119	39.97	1.62	1.00	0.00E+13	1.22E-02	1.00E-02	0.917	1.342E-02	2.694E-04	2.414E-04	319.4			1.22E-02	1.000	0.912	0.532
120	39.97	1.62	1.00	0.00E+13	1.22E-02	1.00E-02	0.917	1.342E-02	2.694E-04	2.394E-04	319.4			1.22E-02	1.000	0.912	0.520
121	39.97	1.62	1.00	0.00E+13	1.22E-02	1.00E-02	0.917	1.342E-02	2.694E-04	2.374E-04	319.4			1.22E-02	1.000	0.912	0.508

ORIGINAL PAGE IS  
OF POOR QUALITY





**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

RS	2.071E+01	ML	/HREFF	1.001E+00
RS	6.156E+01	ML	/HREFF	1.001E+00
RS	6.604E+01	ML	/HREFF	1.015E+00
RS	7.172E+01	ML	/HREFF	1.021E+00
RS	7.680E+01	ML	/HREFF	1.048E+00
RS	8.188E+01	ML	/HREFF	1.130E+00
RS	8.696E+01	ML	/HREFF	1.277E+01
RS	9.204E+01	ML	/HREFF	1.493E+00
RS	9.712E+01	ML	/HREFF	1.931E+00
RS	1.022E+02	ML	/HREFF	1.257E+00
RS	1.073E+02	ML	/HREFF	1.437E+00
RS	1.124E+02	ML	/HREFF	1.643E+00
RS	1.225E+02	ML	/HREFF	1.937E+00
RS	3.937E+01	ML	/HREFF	8.003E-01
RS	4.672E+01	ML	/HREFF	8.024E-01
RS	5.648E+01	ML	/HREFF	4.309E-01
RS	6.412E+01	ML	/HREFF	7.763E-01

9-L. TRANSITION DISTANCE = 1.39 CM  
 FULLY TURBULENT 9-L. CONDITIONS AT 376.00 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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INSTRUMENT TEST (S) (D) (E) (F) (G) (H) (I) (J) (K) (L) (M) (N) (O) (P) (Q) (R) (S) (T) (U) (V) (W) (X) (Y) (Z)

GAP LENGTH = 3.000 (CM)  
 GAP WIDTH = .02 (CM)  
 GAP DEPTH = 2.000 (CM)  
 ORIENTATION = 0.0 (DEG)  
 Q = 1.1  
 RHC VEL = 2.000 (M/SEC)  
 PAM/MT = 1.000 (M/SEC)  
 MLC = 1.000 (M/SEC)

T/C	X (CM)	Y (CM)	Z (CM)	C (M/MT)	H (KG/M2-S)	HT (MG/M2-S)	ML/MREF	PREF (KG/M2-S)	STL	STT	T (K)	MLCC (K/M2-S)	ML/MLCC	MLCC/MREF	HL/HE
7	117.67	0.51	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.1			1.000	
8	117.67	0.51	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.4			1.000	
9	117.67	0.51	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.4			1.000	
10	117.67	0.51	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.5			1.000	
11	117.67	0.51	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.5			1.000	
12	117.67	0.51	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.5			1.000	
13	117.67	0.51	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.5			1.000	
14	117.67	0.51	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.5			1.000	
15	117.67	0.51	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.5			1.000	
16	117.67	0.51	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.5			1.000	
17	117.67	0.51	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.5			1.000	
18	117.67	0.51	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.5			1.000	
19	117.67	0.51	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.5			1.000	
20	117.67	0.51	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.5			1.000	
21	117.67	0.51	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.5			1.000	
22	117.67	0.51	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.5			1.000	
23	117.67	0.51	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.5			1.000	
24	117.67	0.51	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.5			1.000	
25	117.67	0.51	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.5			1.000	
103	39.97	1.72	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.1	9.54E-02	1.000	.875	.914
104	39.97	1.72	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.1	9.54E-02	1.000	.875	.911
105	39.97	1.72	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.1	9.54E-02	1.000	.875	.913
106	39.97	1.72	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.1	9.54E-02	1.000	.875	.913
107	39.97	1.72	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.1	9.54E-02	1.000	.875	.911
108	39.97	1.72	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.1	9.54E-02	1.000	.875	.912
109	39.97	1.72	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.1	9.54E-02	1.000	.875	.912
110	39.97	1.72	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.1	9.54E-02	1.000	.875	.912
111	39.97	1.72	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.1	9.54E-02	1.000	.875	.912
112	39.97	1.72	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.1	9.54E-02	1.000	.875	.912
113	39.97	1.72	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.1	9.54E-02	1.000	.875	.912
114	39.97	1.72	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.1	9.54E-02	1.000	.875	.912
115	39.97	1.72	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.1	9.54E-02	1.000	.875	.912
116	39.97	1.72	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.1	9.54E-02	1.000	.875	.912
117	39.97	1.72	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.1	9.54E-02	1.000	.875	.912
118	39.97	1.72	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.1	9.54E-02	1.000	.875	.912
119	39.97	1.72	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.1	9.54E-02	1.000	.875	.912
120	39.97	1.72	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.1	9.54E-02	1.000	.875	.912
203	46.92	1.00	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.4	8.66E-02	1.000	.850	.887
204	46.92	1.00	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.4	8.66E-02	1.000	.850	.884
205	46.92	1.00	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.4	8.66E-02	1.000	.850	.882
206	46.92	1.00	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.4	8.66E-02	1.000	.850	.882
207	46.92	1.00	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.4	8.66E-02	1.000	.850	.881
208	46.92	1.00	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.4	8.66E-02	1.000	.850	.881
209	46.92	1.00	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.4	8.66E-02	1.000	.850	.881
210	46.92	1.00	0.00	0.00	1.00E-02	1.00E-02	1.44	2.27E-03	4.32E-04	4.57E-04	380.4	8.66E-02	1.000	.850	.881

5.7-70



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT M. C. E1748  
JSC 09651

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AMES 3-6 P. HMT TEST (172), C.E. BLUMER, IN-LINE RSI GAP RUN ( 21) 1973

T/C	X (CM)	Y (CM)	Z (CM)	C (W/M2)	HL (KG/M2-S)	MT (KG/PS-S)	HL/HREFF (KG/M2-S)	PREF (KG/M2-S)	STL	STT	T (K)	MLCC (K/M2-S)	HL/MLCC	MLCC/HREF	HL/HE
211	46.32	0.31	0.15	5.95E+03	6.45E+03	6.45E+03	.602	1.019E-02	3.163E-04	2.094E-04	391.9	1.95E-03	1.000	.602	.733
212	46.32	0.33	0.25	3.55E+03	4.36E+03	4.36E+03	.514	1.019E-02	2.785E-04	2.257E-04	391.6	5.24E-03	1.000	.514	.538
213	46.32	0.33	0.78	2.35E+03	3.36E+03	3.36E+03	.673	1.019E-02	1.718E-07	1.621E-07	338.7	3.78E-05	1.000	.008	.002
214	46.32	0.37	1.09	2.71E+02	3.73E-04	2.84E+04	.029	1.019E-02	1.366E-05	1.294E-05	299.6	3.80E-04	1.000	.029	.031
216	46.32	0.37	1.04	4.71E+01	7.35E-05	4.66E+05	.017	1.019E-02	3.198E-06	3.027E-06	299.3	7.83E-05	1.300	.007	.007
218	46.32	0.37	1.05												
219	46.32	0.37	1.05												
220	46.32	0.37	2.09												
402	56.48	0.74	0.00	1.16E+03	5.24E-13	5.91E+02	.661	5.179E-03	2.833E-04	2.687E-04	393.4	6.24E-03	1.000	.601	.734
407	56.48	0.51	0.00	4.37E+03	6.45E-03	6.45E-03	.714	5.179E-03	2.981E-04	2.821E-04	393.0	6.55E-03	1.000	.714	.771
410	56.48	0.25	0.00	6.65E+03	6.65E-03	6.65E-03	.761	9.177E-03	3.176E-04	3.008E-04	392.4	6.99E-03	1.000	.761	.822
419	56.48	0.15	0.00	6.65E+03	6.65E-03	6.65E-03	.729	9.177E-03	3.742E-04	2.899E-04	392.5	6.69E-03	1.000	.729	.787
410	56.48	0.34	0.00	3.08E+03	5.95E-03	5.95E-03	.638	9.176E-03	2.793E-04	2.958E-04	392.3	5.94E-03	1.000	.638	.699
411	56.48	0.37	0.15	3.95E+03	3.29E-03	5.81E-03	.576	9.176E-03	7.495E-04	2.276E-04	391.5	5.25E-03	1.000	.576	.622
412	56.48	0.37	0.33	2.92E+03	3.24E-03	3.24E-03	.373	5.176E-03	1.957E-04	1.474E-04	391.2	3.42E-03	1.000	.373	.403
413	56.48	0.37	0.78	1.47E+03	2.21E-03	2.20E-03	.240	9.176E-03	1.994E-04	9.950E-05	393.5	2.21E-03	1.000	.240	.268
414	56.48	0.37	0.68	3.53E+02	5.43E-04	4.85E+04	.056	9.176E-03	2.333E-05	2.210E-05	390.0	5.13E-04	1.000	.056	.068
415	56.48	0.37	0.09												
416	56.48	0.37	1.04												
417	56.48	0.37	1.04												
418	56.48	0.37	1.05												
419	56.48	0.37	1.05												
420	56.48	0.37	2.09												
506	64.10	0.75	0.00	3.31E+03	4.56E-03	5.26E+03	.664	6.354E-03	2.590E-04	2.394E-04	392.9	5.56E-03	1.000	.664	.827
507	64.10	0.71	0.00	3.95E+03	5.92E-03	5.60E+03	.759	6.354E-03	2.693E-04	2.549E-04	392.8	5.92E-03	1.000	.759	.860
508	64.10	0.25	0.00	6.65E+03	6.65E-03	6.65E-03	.611	6.354E-03	3.139E-04	2.976E-04	392.6	6.68E-03	1.000	.611	.754
509	64.10	0.25	0.00	6.65E+03	6.65E-03	6.65E-03	.783	6.354E-03	2.945E-04	2.877E-04	392.2	6.54E-03	1.000	.783	.800
510	64.10	0.36	0.00	4.02E+03	5.73E-03	5.70E-03	.721	6.354E-03	2.700E-04	2.594E-04	391.0	6.83E-03	1.000	.721	.800
511	64.10	0.37	0.15	3.01E+03	4.61E-03	5.31E+03	.672	6.354E-03	2.334E-04	2.447E-04	392.1	5.61E-03	1.000	.672	.834
512	64.10	0.37	0.33	1.91E+03	4.64E-03	4.39E+03	.556	6.354E-03	2.111E-04	1.999E-04	391.6	4.64E-03	1.000	.556	.824
513	64.10	0.37	0.78	1.00E+02	2.62E-03	2.77E+03	.359	6.354E-03	1.309E-04	1.258E-04	391.1	2.92E-03	1.000	.359	.831
514	64.10	0.37	0.68	4.53E+02	4.87E-04	6.95E+04	.052	6.354E-03	3.123E-05	2.959E-05	393.7	6.87E-04	1.000	.052	.074
515	64.10	0.37	0.09												

EGGE HEATING USER FOR MC  
 X# 3.973E+01 HL /HREFF 0.377E-01  
 X# 6.126E+01 HL /HREFF 6.737E-01  
 X# 4.277E+01 HL /HREFF 5.103E-01  
 X# 4.631E+01 HL /HREFF 6.044E-01  
 X# 5.084E+01 HL /HREFF 5.413E-01  
 X# 5.143E+01 HL /HREFF 6.413E-01







**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

REPORT MDC E1248  
JSC 09651

PAGE 43

AMES 3.5 FT. HWT TEST (1-23) C-3. BLUMER, IN-LINE RSI GAP PUN ( 22) 1973

TT = 1.132E+03 (K) GAP LENGTH = 30.480 (CM)  
 FT = 1.0315E+04 (IN/WT) GAP WIDTH = .296 (CM)  
 HT = 1.2346E+04 (E/J/KG) GAP DEPTH = 2.332 (CM)  
 RE/METER = 3.0376E+04 ORIENTATION = .000 (DEG)  
 MACH = 5.130 OS  
 RHO VFL = 4.527E+11 (KG/WT-S) MCG POSITION = 2  
 NAM/WT = 3.9E5 FOR HT  
 MLCG = 6.874 FOR HL  
 MLCG = HL (END. ORDER COND.)\*

T/C	X (CM)	Y (CM)	Z (CM)	Q (W/M2)	ML (KG/M2-S)	HT (KG/M2-S)	ML/MREFF (KG/M2-S)	STL	STT	T (K)	ML/MLCG (K/(M2-S))	MLCG/MREF	ML/NE
6	122.76	-51	0.00	3.79E+04	4.37E-02	1.560	2.015E-02	1.034E-03	1.020E-03	304.1			1.000
7	117.67	-51	0.00	3.79E+04	4.37E-02	1.560	2.015E-02	1.034E-03	1.020E-03	304.1			1.000
8	112.57	-51	0.00	3.79E+04	4.37E-02	1.560	2.015E-02	1.034E-03	1.020E-03	304.1			1.000
9	107.47	-51	0.00	3.79E+04	4.37E-02	1.560	2.015E-02	1.034E-03	1.020E-03	304.1			1.000
10	102.37	-51	0.00	3.79E+04	4.37E-02	1.560	2.015E-02	1.034E-03	1.020E-03	304.1			1.000
11	97.27	-51	0.00	3.79E+04	4.37E-02	1.560	2.015E-02	1.034E-03	1.020E-03	304.1			1.000
12	92.17	-51	0.00	3.79E+04	4.37E-02	1.560	2.015E-02	1.034E-03	1.020E-03	304.1			1.000
13	87.07	-51	0.00	3.79E+04	4.37E-02	1.560	2.015E-02	1.034E-03	1.020E-03	304.1			1.000
14	81.97	-51	0.00	3.79E+04	4.37E-02	1.560	2.015E-02	1.034E-03	1.020E-03	304.1			1.000
15	76.87	-51	0.00	3.79E+04	4.37E-02	1.560	2.015E-02	1.034E-03	1.020E-03	304.1			1.000
16	71.77	-51	0.00	3.79E+04	4.37E-02	1.560	2.015E-02	1.034E-03	1.020E-03	304.1			1.000
17	66.67	-51	0.00	3.79E+04	4.37E-02	1.560	2.015E-02	1.034E-03	1.020E-03	304.1			1.000
18	61.57	-51	0.00	3.79E+04	4.37E-02	1.560	2.015E-02	1.034E-03	1.020E-03	304.1			1.000
19	56.47	-51	0.00	3.79E+04	4.37E-02	1.560	2.015E-02	1.034E-03	1.020E-03	304.1			1.000
20	51.37	-51	0.00	3.79E+04	4.37E-02	1.560	2.015E-02	1.034E-03	1.020E-03	304.1			1.000
21	46.27	-51	0.00	3.79E+04	4.37E-02	1.560	2.015E-02	1.034E-03	1.020E-03	304.1			1.000
22	41.17	-51	0.00	3.79E+04	4.37E-02	1.560	2.015E-02	1.034E-03	1.020E-03	304.1			1.000
23	36.07	-51	0.00	3.79E+04	4.37E-02	1.560	2.015E-02	1.034E-03	1.020E-03	304.1			1.000
24	30.97	-51	0.00	3.79E+04	4.37E-02	1.560	2.015E-02	1.034E-03	1.020E-03	304.1			1.000
25	25.87	-51	0.00	3.79E+04	4.37E-02	1.560	2.015E-02	1.034E-03	1.020E-03	304.1			1.000
103	39.97	1.52	0.00	8.96E+03	1.17E-02	1.11E-02	1.31E-02	2.099E-04	2.748E-04	313.9	1.17E-02	1.000	.909
105	39.97	1.52	0.00	8.96E+03	1.17E-02	1.11E-02	1.31E-02	2.099E-04	2.748E-04	313.9	1.17E-02	1.000	.909
107	39.97	1.52	0.00	8.96E+03	1.17E-02	1.11E-02	1.31E-02	2.099E-04	2.748E-04	313.9	1.17E-02	1.000	.909
109	39.97	1.52	0.00	8.96E+03	1.17E-02	1.11E-02	1.31E-02	2.099E-04	2.748E-04	313.9	1.17E-02	1.000	.909
110	39.97	1.52	0.00	8.96E+03	1.17E-02	1.11E-02	1.31E-02	2.099E-04	2.748E-04	313.9	1.17E-02	1.000	.909
111	39.97	1.52	0.00	8.96E+03	1.17E-02	1.11E-02	1.31E-02	2.099E-04	2.748E-04	313.9	1.17E-02	1.000	.909
112	39.97	1.52	0.00	8.96E+03	1.17E-02	1.11E-02	1.31E-02	2.099E-04	2.748E-04	313.9	1.17E-02	1.000	.909
113	39.97	1.52	0.00	8.96E+03	1.17E-02	1.11E-02	1.31E-02	2.099E-04	2.748E-04	313.9	1.17E-02	1.000	.909
114	39.97	1.52	0.00	8.96E+03	1.17E-02	1.11E-02	1.31E-02	2.099E-04	2.748E-04	313.9	1.17E-02	1.000	.909
115	39.97	1.52	0.00	8.96E+03	1.17E-02	1.11E-02	1.31E-02	2.099E-04	2.748E-04	313.9	1.17E-02	1.000	.909
116	39.97	1.52	0.00	8.96E+03	1.17E-02	1.11E-02	1.31E-02	2.099E-04	2.748E-04	313.9	1.17E-02	1.000	.909
117	39.97	1.52	0.00	8.96E+03	1.17E-02	1.11E-02	1.31E-02	2.099E-04	2.748E-04	313.9	1.17E-02	1.000	.909
118	39.97	1.52	0.00	8.96E+03	1.17E-02	1.11E-02	1.31E-02	2.099E-04	2.748E-04	313.9	1.17E-02	1.000	.909
119	39.97	1.52	0.00	8.96E+03	1.17E-02	1.11E-02	1.31E-02	2.099E-04	2.748E-04	313.9	1.17E-02	1.000	.909
120	39.97	1.52	0.00	8.96E+03	1.17E-02	1.11E-02	1.31E-02	2.099E-04	2.748E-04	313.9	1.17E-02	1.000	.909
203	46.32	1.52	0.00	8.96E+03	1.17E-02	1.11E-02	1.31E-02	2.099E-04	2.748E-04	313.9	1.17E-02	1.000	.909
205	46.32	1.52	0.00	8.96E+03	1.17E-02	1.11E-02	1.31E-02	2.099E-04	2.748E-04	313.9	1.17E-02	1.000	.909
207	46.32	1.52	0.00	8.96E+03	1.17E-02	1.11E-02	1.31E-02	2.099E-04	2.748E-04	313.9	1.17E-02	1.000	.909
209	46.32	1.52	0.00	8.96E+03	1.17E-02	1.11E-02	1.31E-02	2.099E-04	2.748E-04	313.9	1.17E-02	1.000	.909
210	46.32	1.52	0.00	8.96E+03	1.17E-02	1.11E-02	1.31E-02	2.099E-04	2.748E-04	313.9	1.17E-02	1.000	.909

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RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 44

AMES 1/5 FT HNT TEST (103), G.F. BLUMER, IN-LINE RSI GAP RUN( 22) 173

T/C	X (CM)	WY (CM)	Z7 (CM)	C (W/M <sup>2</sup> )	HL (KG/M <sup>2</sup> -S)	MT (KG/M <sup>2</sup> -S)	ML/MREF (KG/M <sup>2</sup> -S)	MREF (KG/M <sup>2</sup> -S)	STL	STY	T (K)	ILCC (K)(K/M <sup>2</sup> -S)	HL/MLCC	MLCG/MREF	ML/HE
211	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	2.076E-04	307.2	1.23E-02	1.900	1.917	.943
212	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	2.490E-04	306.0	1.00E-02	1.000	.879	.815
213	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	2.997E-05	313.7	1.20E-02	1.000	.106	.898
214	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.197E-04	309.9	5.12E-03	1.000	.478	.677
215	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.220E-04	309.3	5.24E-03	1.000	.498	.448
216	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	2.411E-04	308.1	1.03E-02	1.000	.962	.886
217	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	2.367E-04	318.3	1.01E-02	1.000	.945	.864
218	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	2.144E-04	307.0	5.33E-03	1.000	.672	.797
219	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	2.547E-04	307.2	2.75E-03	1.000	.617	.747
220	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.534E-04	306.1	2.55E-03	1.000	.612	.696
221	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.166E-04	309.9	4.73E-03	1.000	.441	.604
222	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	4.198E-05	304.4	1.78E-03	1.000	.168	.492
223	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.379E-06	303.7	5.07E-05	1.700	.095	.605
224	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.663E-04	308.0	7.82E-03	1.000	.714	.594
225	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.895E-04	308.7	8.18E-03	1.000	.823	.609
226	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	2.114E-04	309.2	9.33E-03	1.730	.918	.717
227	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.998E-04	307.6	8.54E-03	1.000	.860	.654
228	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.830E-04	307.4	7.82E-03	1.000	.795	.617
229	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.602E-04	307.7	7.18E-03	1.000	.729	.564
230	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.398E-04	306.9	5.67E-03	1.000	.595	.495
231	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	8.908E-05	306.0	3.63E-03	1.000	.369	.287
232	46.32	1.71	1.23E-02	1.17E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	1.21E-02	2.747E-05	304.7	1.17E-03	1.100	.119	.093

EGF HEATING USED FOR ME  
 X# 3.979E+01 ML /MREF# 9.610E-01  
 X# 6.124E+01 ML /MREF# 1.031E+00  
 X# 4.778E+01 ML /MREF# 1.031E+00  
 X# 4.631E+01 ML /MREF# 1.031E+00  
 X# 4.806E+01 ML /MREF# 1.031E+00  
 X# 5.139E+01 ML /MREF# 1.031E+00

5.3-74

**RSI GAP HEATING ANALYSIS -- II**  
**VOLUME II**

REPORT MDC 41348  
 JSC 09651

20	2.0000001	ML	/MREFFS	1.420E+00
21	6.200E+01	ML	/MREFFS	1.430E+00
22	6.464E+01	ML	/MREFFS	1.819E+00
23	7.372E+01	ML	/MREFFS	1.930E+00
24	7.800E+01	ML	/MREFFS	1.975E+00
25	8.180E+01	ML	/MREFFS	2.000E+00
26	8.690E+01	ML	/MREFFS	2.352E+00
27	9.200E+01	ML	/MREFFS	2.672E+00
28	9.712E+01	ML	/MREFFS	2.680E+00
29	1.022E+02	ML	/MREFFS	2.214E+00
30	1.073E+02	ML	/MREFFS	1.503E+00
31	1.124E+02	ML	/MREFFS	
32	1.175E+02	ML	/MREFFS	

33	3.997E+01	ML	/MREFFS	9.015E-01
34	4.032E+01	ML	/MREFFS	9.049E-01
35	6.040E+01	ML	/MREFFS	4.000E-01
36	6.617E+01	ML	/MREFFS	0.232E-01

0.4. TRANSITION DISTANCE = 78.73 CM  
 FULLY TURBULENT 9.0. CONDITIONS AT = 102.23 CM

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# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC 81248  
JSC 09651

PAGE 46

AMES 1.5 FT. HWT TEST (1-2), C.E. PLUMER, IN-LINE RSI GAP FU.( 2) 1371

T/C	X	YV	ZZ	C	ML	PT	ML/HREFF	MREF	STL	STT	T	PLCC	ML/MLCC	MLCG/HREF	ML/HE
(CH)	(CM)	(CH)	(CM)	(K/MH2)	(KG/M2-S)	(KG/M2-S)	(ML/HREFF)	(KG/M2-S)	(K/MH2-S)	(K)	(K)	(K/MH2-S)	(ML/MLCC)	MLCG/HREF	ML/HE
216	46.32	1.14	1.14	1.14	2.04E-05	2.04E-05	.002	1.076E-02	1.703E-06	9.517E-07	305.7	1.15E-05	1.000	.002	.002
217	46.32	3.00	1.40	9.73E-01	1.36E-05	1.24E-05	.001	1.008E-02	6.344E-07	6.008E-07	305.8	1.34E-05	1.000	.001	.002
218	46.32	1.00	1.00	2.67E-01	1.81E-06	3.23E-16	.000	1.000E-02	1.594E-07	1.510E-07	305.3	1.44E-06	1.000	.000	.000
219	46.32	1.00	1.00	7.22E-01	1.73E-04	9.72E-19	.010	1.008E-02	4.887E-06	4.852E-06	305.1	1.03E-04	1.000	.010	.012
220	46.32	1.00	1.00	5.82E-01	7.62E-05	7.03E-05	.007	1.008E-02	3.871E-06	3.288E-06	304.8	1.42E-05	1.000	.007	.008
405	56.40	.75	1.70	5.97E-03	9.59E-13	6.10E-03	.041	9.099E-03	6.001E-04	3.788E-04	313.4	0.59E-03	1.000	.041	1.024
407	56.40	.51	1.00	5.77E-03	2.86E-03	7.02E-03	.009	9.000E-03	3.604E-04	3.588E-04	318.1	0.20E-03	1.000	.009	1.003
408	56.40	.25	1.00	5.17E-03	7.49E-03	7.00E-03	.014	9.000E-03	3.463E-04	3.276E-04	309.6	7.40E-03	1.000	.014	1.009
409	56.40	.14	1.00	4.61E-03	4.40E-03	6.28E-03	.026	9.000E-03	3.087E-04	2.923E-04	309.3	6.62E-03	1.000	.026	.726
410	56.40	.04	1.00	3.95E-03	3.64E-03	5.34E-03	.051	9.000E-03	2.647E-04	2.499E-04	308.9	9.64E-03	1.000	.051	.668
411	56.40	.02	1.00	3.21E-03	4.59E-03	4.33E-03	.105	9.000E-03	2.147E-04	2.033E-04	308.5	4.59E-03	1.000	.105	.657
412	56.40	.01	1.00	2.52E-03	2.85E-03	2.78E-03	.214	9.000E-03	1.335E-04	1.268E-04	307.7	2.85E-03	1.000	.214	.609
413	56.40	0.00	1.00	1.47E-03	2.88E-03	1.98E-03	.531	9.000E-03	9.377E-05	9.168E-05	307.1	2.19E-03	1.000	.531	.591
414	56.40	0.00	1.00	1.38E-03	5.89E-04	5.92E-04	.069	9.000E-03	2.924E-05	2.765E-05	306.8	6.29E-04	1.000	.069	.589
415	56.40	0.00	1.00	1.24E-03	7.47E-05	7.07E-05	.008	9.000E-03	3.494E-06	3.269E-06	306.3	7.47E-05	1.000	.008	.511
416	56.40	0.00	1.00	1.50E-03	5.09E-05	4.82E-05	.006	9.000E-03	2.382E-06	2.256E-06	305.8	5.09E-05	1.000	.006	.507
417	56.40	1.00	1.00	1.44											
418	56.40	1.00	1.00	1.00											
419	56.40	1.00	1.00	1.00											
420	56.40	1.00	1.00	1.00											
506	64.10	.75	1.70	5.17E-03	7.60E-03	6.08E-03	.077	6.281E-03	3.398E-04	3.217E-04	309.5	7.20E-03	1.000	.077	1.062
507	64.10	.51	1.00	5.11E-03	7.31E-03	6.92E-03	.093	6.281E-03	3.192E-04	3.238E-04	309.8	7.31E-03	1.000	.093	1.069
508	64.10	.25	1.00	4.77E-03	6.79E-03	6.45E-03	.116	6.279E-03	3.161E-04	3.293E-04	308.2	6.79E-03	1.000	.116	1.001
509	64.10	.15	1.00	3.65E-03	5.21E-03	5.10E-03	.161	6.279E-03	2.439E-04	2.389E-04	307.1	5.21E-03	1.000	.161	.876
510	64.10	.08	1.00	2.91E-03	4.87E-03	4.74E-03	.209	6.279E-03	2.562E-04	2.424E-04	306.2	5.47E-03	1.000	.209	.829
511	64.10	.04	1.00	2.41E-03	4.85E-03	4.88E-03	.283	6.278E-03	2.122E-04	2.084E-04	308.0	5.19E-03	1.000	.283	.825
512	64.10	0.00	1.00	2.74E-03	3.91E-03	3.78E-03	.372	6.276E-03	1.831E-04	1.733E-04	307.6	3.91E-03	1.000	.372	.828
513	64.10	.00	1.00	1.66E-03	2.85E-03	2.51E-03	.521	6.276E-03	1.242E-04	1.176E-04	307.3	2.69E-03	1.000	.521	.825
514	64.10	.00	1.00	1.46E-03	7.79E-04	7.33E-04	.094	6.276E-03	7.644E-05	7.451E-05	306.7	7.79E-04	1.000	.094	.825
515	64.10	.00	1.00	2.20E-02	3.86E-04	3.37E-04	.039	6.276E-03	1.519E-05	1.439E-05	306.8	3.24E-04	1.000	.039	.822
516	64.10	1.00	1.00	1.17E-03	5.88E-05	5.57E-05	.017	6.275E-03	2.733E-06	2.607E-06	305.1	5.88E-05	1.000	.017	.809
517	64.10	1.00	1.00	1.44	7.24E-05	6.55E-05	.009	6.275E-03	3.387E-06	3.277E-06	305.7	7.24E-05	1.000	.009	.812
518	64.10	1.00	1.00	1.00	2.71E-05	2.57E-05	.003	6.275E-03	1.269E-06	1.282E-06	305.5	2.71E-05	1.000	.003	.804
519	64.10	1.00	1.00	1.00											
520	64.10	1.00	1.00	1.00											

EDGE HEATING USED FOR HE

X= 3.87E-01 ML /HREFF= 9.134E-01

X= 4.12E-01 ML /HREFF= 9.305E-01

X= 4.37E-01 ML /HREFF= 6.915E-01

X= 4.67E-01 ML /HREFF= 6.473E-01

X= 4.88E-01 ML /HREFF= 6.673E-01

X= 5.179E-01 ML /HREFF= 7.225E-01

X= 5.648E-01 ML /HREFF= 7.684E-01

X= 6.358E-01 ML /HREFF= 7.572E-01

X= 7.437E-01 ML /HREFF= 7.433E-01

X= 3.997E-01 ML /HREFF= 9.262E-01

X= 4.672E-01 ML /HREFF= 1.012E-01

X= 5.644E-01 ML /HREFF= 6.17E-01

X= 6.418E-01 ML /HREFF= 6.426E-01

9.1. TRANSITION DISTANCE = 30.97 CM

FULLY TURBULENT 9.1. CONDITIONS AT = 41.24 CM

5.3-77



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 48

AMES 3.5 FT. HWT TEST (1123), C.B. BLUMER, IN-LINE RSI GAP RUN( 24) 1973

T/C	X (CM)	Y (CM)	Z (CM)	O (MG/M2)	ML (MG/M2-S)	HT (MG/M2-S)	ML/MREF (MG/M2-S)	MREF (MG/M2-S)	STL	SST	T (K)	PLCC (K/M2-S)	ML/MLCC	MLGG/MREF	ML/ME
215	66.32	0.77	1.14	5.77E+12	7.93E-04	7.53E-04	.64	1.243E-02	1.906E-05	1.876E-05	307.2	1.93E-04	1.000	.864	.987
217	66.32	0.03	1.60	1.59E+12	2.60E-04	2.46E-04	.821	1.243E-02	6.245E-06	5.917E-06	306.9	2.08E-04	1.000	.821	.882
218	66.32	0.13	1.65	1.13E+11	1.79E-05	4.37E-05	.803	1.243E-02	1.933E-06	9.707E-07	306.4	4.30E-05	1.000	.803	.894
220	66.32	0.13	2.29												
226	66.48	.75	0.70	1.11E+04	1.68E-02	1.33E-02	.276	1.197E-02	3.364E-04	3.185E-04	314.4	1.68E-02	1.000	1.276	1.651
227	66.48	.31	2.70	6.7E+13	1.62E-02	1.18E-02	1.112	1.197E-02	2.932E-04	2.776E-04	314.1	1.62E-02	1.000	1.112	1.444
228	66.48	.25	1.5	6.7E+13	9.32E-03	9.88E-03	.923	1.197E-02	2.240E-04	2.122E-04	313.4	9.32E-03	1.000	.649	1.104
229	66.48	.15	1.0	5.7E+13	7.97E-03	7.59E-03	.727	1.197E-02	1.914E-04	1.815E-04	312.9	7.97E-03	1.000	.726	.944
230	66.48	.24	.74	1.95E+13	6.86E-03	6.50E-03	.625	1.197E-02	1.649E-04	1.562E-04	312.4	6.86E-03	1.000	.625	.812
231	66.48	.15	.15	2.6E+13	5.88E-03	5.38E-03	.538	1.197E-02	1.419E-04	1.344E-04	311.9	5.88E-03	1.000	.538	.699
232	66.48	0.79	.25	2.9E+13	4.89E-03	3.88E-03	.372	1.197E-02	9.875E-05	9.288E-05	311.8	4.89E-03	1.000	.372	.413
233	66.48	0.79	.30	2.9E+13	2.82E-03	2.67E-03	.257	1.197E-02	6.782E-05	6.425E-05	309.6	2.82E-03	1.000	.257	.324
234	66.48	0.71	.64	5.74E+12	1.85E-03	1.73E-03	.115	1.197E-02	2.762E-05	2.617E-05	309.1	1.85E-03	1.000	.115	.185
235	66.48	0.09	.20	3.74E+12	4.93E-04	4.67E-04	.845	1.197E-02	1.104E-05	1.122E-05	308.3	1.93E-04	1.000	.845	.858
236	66.48	0.77	1.14	1.71E+12	2.96E-04	2.23E-04	.721	1.197E-02	5.663E-06	5.372E-06	307.6	2.96E-04	1.000	.821	.828
237	66.48	.77	1.47	2.7E+11	1.87E-04	7.93E-05	.177	1.197E-02	1.915E-06	1.814E-06	307.6	7.93E-05	1.000	.887	.889
238	66.48	.77	1.89	2.7E+11	3.82E-05	3.52E-05	.713	1.197E-02	9.178E-07	8.697E-07	306.6	3.82E-05	1.000	.889	.889
239	66.48	0.30	1.98	3.2E+11	4.47E-05	4.24E-05	.804	1.197E-02	1.075E-06	1.019E-06	306.4	4.47E-05	1.000	.684	.685
240	66.48	0.30	2.29												
246	66.10	.76	0.70	1.58E+13	1.95E-02	9.97E-03	1.841	1.111E-02	2.533E-04	2.396E-04	313.9	1.95E-02	1.000	1.841	1.466
247	66.10	.51	.11	6.1E+13	1.95E-03	9.32E-03	.980	1.111E-02	2.381E-04	2.255E-04	313.4	9.98E-03	1.000	.980	1.382
248	66.10	.25	0.80	6.7E+13	5.49E-03	9.88E-03	.923	1.111E-02	2.244E-04	2.126E-04	312.7	9.32E-03	1.000	.923	1.302
249	66.10	.15	1.0	5.6E+13	7.87E-03	7.49E-03	.770	1.111E-02	1.691E-04	1.594E-04	311.4	7.87E-03	1.000	.770	1.097
250	66.10	.74	.24	5.17E+13	7.02E-03	6.65E-03	.694	1.111E-02	1.697E-04	1.590E-04	311.4	7.02E-03	1.000	.694	.979
251	66.10	.77	.15	4.86E+13	6.72E-03	6.38E-03	.664	1.111E-02	1.615E-04	1.538E-04	311.1	6.72E-03	1.000	.664	.937
252	66.10	0.70	.25	3.7E+13	5.18E-03	4.94E-03	.512	1.111E-02	1.246E-04	1.188E-04	310.9	5.18E-03	1.000	.512	.723
253	66.10	0.03	.70	2.7E+13	3.92E-03	3.36E-03	.316	1.111E-02	8.532E-05	8.083E-05	310.8	3.92E-03	1.000	.316	.495
254	66.10	.70	.64	4.8E+12	1.87E-03	1.18E-03	.116	1.111E-02	2.812E-05	2.664E-05	309.1	1.87E-03	1.000	.116	.163
255	66.10	0.03	.89	1.77E+12	2.44E-04	2.31E-04	.824	1.111E-02	5.858E-06	5.548E-06	308.1	2.44E-04	1.000	.824	.824
256	66.10	1.47	1.14	2.7E+12	2.77E-04	2.52E-04	.827	1.111E-02	6.669E-06	6.319E-06	308.1	1.77E-04	1.000	.827	.839
257	66.10	0.70	1.47	2.51E+12	4.81E-04	3.98E-04	.840	1.111E-02	9.631E-06	9.127E-06	307.6	4.81E-04	1.000	.840	.866
258	66.10	0.00	1.65	1.6E+12	2.19E-04	2.38E-04	.822	1.111E-02	5.279E-06	4.998E-06	307.2	2.19E-04	1.000	.822	.831
259	66.10	0.70	1.90	1.99E+11	2.73E-05	2.59E-05	.513	1.111E-02	6.550E-07	6.215E-07	306.9	2.73E-05	1.000	.804	.804
260	66.10	0.30	2.29	1.24E+11	6.05E-06	6.31E-06	.507	1.111E-02	1.599E-06	1.516E-06	306.4	1.65E-06	1.000	.887	.889

EDGE HEATING USED FOR ME

- X# 3.878E+11 ML /MREF= 9.719E-01
- X# 4.824E+11 ML /MREF= 9.948E-01
- X# 4.377E+11 ML /MREF= 5.555E-01
- X# 4.831E+11 ML /MREF= 9.572E-01
- X# 4.888E+11 ML /MREF= 9.234E-01
- X# 5.135E+11 ML /MREF= 8.777E-01
- X# 5.448E+11 ML /MREF= 7.657E-01
- X# 6.156E+11 ML /MREF= 6.962E-01
- X# 7.172E+11 ML /MREF= 7.081E-01

- X# 3.997E+11 ML /MREF= 1.110E+00
- X# 4.832E+11 ML /MREF= 1.439E+00
- X# 5.568E+11 ML /MREF= 1.112E+00
- X# 6.119E+11 ML /MREF= 9.797E-01

ALL TRANSITION DISTANCE = 51.55 CM  
FULLY TURBULENT @ ALL CONDITIONS AT X=376.04 CM

5.3-79





# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 49

AMES 3-5 FT HWT TEST (182), C-2, BLUMER, IN-LINE RSI GAP FUN (25) 1973

TT = 1.119E+01 (K)  
FT = 3.950E+03 (IN/M2)  
HT = 1.192E+02 (J/KG)  
WE/METER = 1.457E+04  
RACH = 5.17E  
RMO VEL = 3.37+2E+01 (KG/PZ-S)  
MAN/MT = 3.87E FOR HT  
MAN/MT = 3.87E FOR ML  
MLCC = ML12NC, ORDER COND. 2

T/C	X (CM)	Y (CM)	Z (CM)	W (IN)	HT (KG/PZ-S)	ML (KG/M2-S)	ML/HREF	AREF (KG/M2-S)	STL	STT	T (K)	MLCC (KG/M2-S)	ML/MLCC	MLCC/HREF	ML/ME
16	71.72	-51	1.64E+03	6.47E-03	6.13E-03	.848	7.63E-03	2.726E-04	2.503E-04	307.7	1.000	1.000	1.000	1.000	
17	66.64	-51	1.64E+03	7.52E-03	7.12E-03	.866	8.83E-03	3.155E-04	3.999E-04	389.2	1.000	1.000	1.000	1.000	
18	61.56	-51	1.64E+03	8.61E-03	7.43E-03	.882	1.021E-02	3.374E-04	3.130E-04	309.3	1.000	1.000	1.000	1.000	
19	56.48	-51	1.64E+03	9.70E-03	7.85E-03	.896	1.170E-02	3.480E-04	3.354E-04	309.3	1.000	1.000	1.000	1.000	
20	51.40	-51	1.64E+03	1.08E-02	8.31E-03	.904	1.328E-02	3.571E-04	3.515E-04	309.4	1.000	1.000	1.000	1.000	
21	46.32	-51	1.64E+03	1.19E-02	8.74E-03	.907	1.495E-02	3.627E-04	3.629E-04	309.6	1.000	1.000	1.000	1.000	
22	41.24	-51	1.64E+03	1.30E-02	9.15E-03	.907	1.678E-02	3.654E-04	3.631E-04	309.5	1.000	1.000	1.000	1.000	
23	36.16	-51	1.64E+03	1.41E-02	9.52E-03	.901	1.878E-02	3.577E-04	3.601E-04	309.7	1.000	1.000	1.000	1.000	
24	31.08	-51	1.64E+03	1.52E-02	9.87E-03	.900	2.095E-02	3.341E-04	3.412E-04	309.8	1.000	1.000	1.000	1.000	
25	26.00	-51	1.64E+03	1.63E-02	1.019E-02	.894	2.338E-02	2.940E-04	3.007E-04	309.8	1.000	1.000	1.000	1.000	
26	20.92	-51	1.64E+03	1.74E-02	1.025E-02	.882	2.608E-02	2.380E-04	2.640E-04	307.9	1.000	1.000	1.000	1.000	
27	15.84	-51	1.64E+03	1.85E-02	1.025E-02	.864	2.915E-02	1.724E-04	1.724E-04	307.9	1.000	1.000	1.000	1.000	
28	10.76	-51	1.64E+03	1.96E-02	1.019E-02	.834	3.268E-02	1.024E-04	9.702E-05	306.3	1.000	1.000	1.000	1.000	
29	5.68	-51	1.64E+03	2.07E-02	9.87E-03	.784	3.678E-02	5.414E-05	5.414E-05	306.1	1.000	1.000	1.000	1.000	
30	0.60	-51	1.64E+03	2.18E-02	9.22E-03	.724	4.155E-02	2.244E-05	2.244E-05	306.3	1.000	1.000	1.000	1.000	
31	39.97	1.02	7.22E+03	1.00E-02	9.32E-03	.918	1.094E-02	4.233E-04	4.008E-04	312.6	1.000	1.000	1.000	1.000	
32	39.97	1.02	7.22E+03	1.00E-02	9.32E-03	.904	1.204E-02	4.190E-04	3.803E-04	312.4	1.000	1.000	1.000	1.000	
33	39.97	1.02	7.22E+03	1.00E-02	9.32E-03	.891	1.324E-02	4.233E-04	3.709E-04	312.9	1.000	1.000	1.000	1.000	
34	39.97	1.02	7.22E+03	1.00E-02	9.32E-03	.879	1.454E-02	4.188E-04	3.506E-04	312.1	1.000	1.000	1.000	1.000	
35	39.97	1.02	7.22E+03	1.00E-02	9.32E-03	.864	1.594E-02	4.095E-04	3.263E-04	310.9	1.000	1.000	1.000	1.000	
36	39.97	1.02	7.22E+03	1.00E-02	9.32E-03	.849	1.744E-02	3.935E-04	2.935E-04	310.6	1.000	1.000	1.000	1.000	
37	39.97	1.02	7.22E+03	1.00E-02	9.32E-03	.834	1.904E-02	3.735E-04	2.635E-04	309.6	1.000	1.000	1.000	1.000	
38	39.97	1.02	7.22E+03	1.00E-02	9.32E-03	.819	2.074E-02	3.495E-04	2.345E-04	308.9	1.000	1.000	1.000	1.000	
39	39.97	1.02	7.22E+03	1.00E-02	9.32E-03	.804	2.254E-02	3.215E-04	2.045E-04	307.9	1.000	1.000	1.000	1.000	
40	39.97	1.02	7.22E+03	1.00E-02	9.32E-03	.789	2.444E-02	2.895E-04	1.745E-04	307.8	1.000	1.000	1.000	1.000	
41	39.97	1.02	7.22E+03	1.00E-02	9.32E-03	.774	2.644E-02	2.535E-04	1.445E-04	307.8	1.000	1.000	1.000	1.000	
42	39.97	1.02	7.22E+03	1.00E-02	9.32E-03	.759	2.854E-02	2.135E-04	1.145E-04	307.8	1.000	1.000	1.000	1.000	
43	39.97	1.02	7.22E+03	1.00E-02	9.32E-03	.744	3.074E-02	1.695E-04	8.45E-05	307.8	1.000	1.000	1.000	1.000	
44	39.97	1.02	7.22E+03	1.00E-02	9.32E-03	.729	3.304E-02	1.215E-04	5.45E-05	307.8	1.000	1.000	1.000	1.000	
45	39.97	1.02	7.22E+03	1.00E-02	9.32E-03	.714	3.544E-02	7.65E-05	2.45E-05	307.8	1.000	1.000	1.000	1.000	
46	39.97	1.02	7.22E+03	1.00E-02	9.32E-03	.699	3.794E-02	3.25E-05	5.45E-06	307.8	1.000	1.000	1.000	1.000	
47	39.97	1.02	7.22E+03	1.00E-02	9.32E-03	.684	4.054E-02	0.00E-05	0.00E-05	307.8	1.000	1.000	1.000	1.000	
48	39.97	1.02	7.22E+03	1.00E-02	9.32E-03	.669	4.324E-02	0.00E-05	0.00E-05	307.8	1.000	1.000	1.000	1.000	
49	39.97	1.02	7.22E+03	1.00E-02	9.32E-03	.654	4.604E-02	0.00E-05	0.00E-05	307.8	1.000	1.000	1.000	1.000	
50	39.97	1.02	7.22E+03	1.00E-02	9.32E-03	.639	4.894E-02	0.00E-05	0.00E-05	307.8	1.000	1.000	1.000	1.000	
203	46.32	1.02	6.75E+03	3.07E-03	6.55E-03	.685	1.094E-02	3.619E-04	3.619E-04	317.8	1.000	1.000	1.000	1.000	
204	46.32	1.02	6.75E+03	3.07E-03	6.55E-03	.699	1.204E-02	3.490E-04	3.490E-04	311.4	1.000	1.000	1.000	1.000	
205	46.32	1.02	6.75E+03	3.07E-03	6.55E-03	.714	1.324E-02	3.371E-04	3.371E-04	311.2	1.000	1.000	1.000	1.000	
206	46.32	1.02	6.75E+03	3.07E-03	6.55E-03	.729	1.454E-02	3.261E-04	3.261E-04	310.5	1.000	1.000	1.000	1.000	
207	46.32	1.02	6.75E+03	3.07E-03	6.55E-03	.744	1.594E-02	3.161E-04	3.161E-04	310.5	1.000	1.000	1.000	1.000	
208	46.32	1.02	6.75E+03	3.07E-03	6.55E-03	.759	1.744E-02	3.071E-04	3.071E-04	309.8	1.000	1.000	1.000	1.000	
209	46.32	1.02	6.75E+03	3.07E-03	6.55E-03	.774	1.904E-02	2.991E-04	2.991E-04	309.2	1.000	1.000	1.000	1.000	
210	46.32	1.02	6.75E+03	3.07E-03	6.55E-03	.789	2.074E-02	2.931E-04	2.931E-04	308.5	1.000	1.000	1.000	1.000	
211	46.32	1.02	6.75E+03	3.07E-03	6.55E-03	.804	2.254E-02	2.881E-04	2.881E-04	307.8	1.000	1.000	1.000	1.000	
212	46.32	1.02	6.75E+03	3.07E-03	6.55E-03	.819	2.444E-02	2.841E-04	2.841E-04	307.8	1.000	1.000	1.000	1.000	
213	46.32	1.02	6.75E+03	3.07E-03	6.55E-03	.834	2.644E-02	2.811E-04	2.811E-04	307.8	1.000	1.000	1.000	1.000	
214	46.32	1.02	6.75E+03	3.07E-03	6.55E-03	.849	2.854E-02	2.791E-04	2.791E-04	307.8	1.000	1.000	1.000	1.000	
215	46.32	1.02	6.75E+03	3.07E-03	6.55E-03	.864	3.074E-02	2.781E-04	2.781E-04	307.8	1.000	1.000	1.000	1.000	

RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
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AMES 3.5 FT WWT TEST (1R2), C.S. BLUMER, IN-LINE RSI GAP FUN( 25) 1973

T/C	X (CM)	Y (CM)	Z (CM)	Q (M^2)	ML (KG/M^2-S)	PT (KG/M^2-S)	ML/NREF (KG/M^2-S)	STL	STT	T (K)	MLCC (K)	ML/MLCC	MLCC/NREF	ML/NE
216	66.72	6.94	1.14	7.22E+01	4.42E+05	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
217	66.32	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
218	66.32	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
219	66.32	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
220	66.32	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
406	66.40	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
407	66.40	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
408	66.40	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
409	66.40	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
410	66.40	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
411	66.40	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
412	66.40	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
413	66.40	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
414	66.40	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
415	66.40	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
416	66.40	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
417	66.40	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
418	66.40	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
419	66.40	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
420	66.40	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
506	64.10	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
507	64.10	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
508	64.10	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
509	64.10	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
510	64.10	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
511	64.10	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
512	64.10	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
513	64.10	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
514	64.10	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
515	64.10	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
516	64.10	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
517	64.10	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
518	64.10	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
519	64.10	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005
520	64.10	6.94	1.14	5.85E+03	7.69E-03	7.28E+03	9.214E-03	3.239E-04	3.060E-04	304.0	4.42E-05	1.000	.004	.005

EDGE HEATING USED FOR ME  
 3.070E+01 ML /NREFS 9.372E-01  
 4.324E+01 ML /NREFS 9.67E-01  
 4.377E+01 ML /NREFS 2.697E-01  
 4.531E+01 ML /NREFS 0.972E-01  
 4.888E+01 ML /NREFS 0.843E-01  
 4.139E+01 ML /NREFS 0.537E-01  
 5.640E+01 ML /NREFS 0.517E-01  
 6.196E+01 ML /NREFS 0.595E-01  
 7.172E+01 ML /NREFS 0.470E-01  
 3.997E+01 ML /NREFS 9.100E-01  
 4.032E+01 ML /NREFS 5.391E-01  
 5.640E+01 ML /NREFS 0.777E-01  
 6.196E+01 ML /NREFS 0.211E-01  
 ALL TRANSITION DISTANCE = 375.0" CM  
 FULLY TURBULENT ALL CONDITIONS AT 4774.00 CM

ORIGINAL PAGE IS  
OF POOR QUALITY



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

PAGE 91

0) 1973

AMES 35 FT HMT TEST (1021), C.F. BLUMER, IA-LINE RSI GAP RUN:

TT = 1.131NE+13(K) GAP LENGTH = 30.46"(CM)  
 PT = 1.1357E+05(N/M2) GAP WIDTH = .12"(CM)  
 MT = 1.189E+05(J/K) GAP DEPTH = 2.32(CM)  
 PE/METER = 3.2-44E+1C ORIENTATION = F.90(CDEC)  
 PACH = 5.11C QS = 1.23PLE+05(M/M2)  
 RMO VEL = 4.1-39E+11(KG/M2-S) MOD. POSITION = 2  
 HAW/PT = 1.004 FOR MT  
 HAW/MT = 0.874 FOR ML  
 MLCC = MLE2NC.3(DREC. COND.\*\*)

TAC	X (CM)	YV (CM)	ZZ (CM)	G (M/M2)	ML (KG/M2-S)	MT (KG/M2-S)	ML/HREFF	HREF (KG/M2-S)	STL	STT	T (K)	MLCC (K/M2-S)	ML/MLCC	MLCC/HREF	ML/MLCC	ML/HNE
16	71.72	0.51	0.00	0.78003	7.97E-03	7.95E-13	.633	9.439E-03	1.899E-04	1.796E-04	310.9				1.000	
17	66.64	0.51	0.00	6.05E+03	3.45E-03	6.49E-03	.871	1.129E-02	2.103E-04	2.146E-04	313.05				1.000	
18	61.56	0.51	0.00	6.05E+03	3.45E-03	6.49E-03	.874	1.192E-02	2.247E-04	2.198E-04	313.0				1.000	
19	56.48	0.51	0.00	7.15E+03	3.09E-03	9.20E-03	.873	1.163E-02	2.362E-04	2.237E-04	313.0				1.000	
20	51.39	0.51	0.00	7.61E+03	3.04E-02	9.35E-03	.867	1.199E-02	2.555E-04	2.373E-04	313.1				1.000	
21	46.31	0.51	0.00	7.71E+03	1.85E-02	1.00E-02	.856	1.177E-02	2.951E-04	2.416E-04	314.3				1.000	
22	41.24	0.51	0.00	7.99E+03	1.99E-02	1.03E-02	.957	1.274E-02	2.637E-04	2.491E-04	314.0				1.000	
23	36.17	0.51	0.00	8.07E+03	1.20E-02	1.03E-02	.913	1.312E-02	2.896E-04	2.734E-04	314.4				1.000	
24	31.10	0.51	0.00	8.07E+03	1.23E-02	1.07E-02	.915	1.349E-02	2.975E-04	2.819E-04	314.3				1.000	
25	26.03	0.51	0.00	8.22E+03	1.65E-03	1.58E-03	.179	9.433E-03	3.972E-05	3.764E-05	308.4				.216	
26	21.00	0.51	0.00	1.07E+03	2.34E-03	2.25E-03	.238	6.823E-03	5.634E-05	5.338E-05	303.7				.279	
27	16.00	0.51	0.00	1.07E+03	3.11E-03	2.10E-03	.205	1.129E-02	6.094E-05	6.026E-05	311.7				.286	
28	11.00	0.51	0.00	2.12E+03	2.89E-03	2.73E-03	.264	1.092E-02	6.953E-05	6.987E-05	312.3				.310	
29	6.00	0.51	0.00	1.99E+03	2.71E-03	2.57E-03	.234	1.162E-02	6.571E-05	6.197E-05	312.0				.277	
30	1.00	0.51	0.00	2.11E+03	2.74E-03	2.85E-03	.229	1.198E-02	6.614E-05	6.266E-05	312.0				.284	
31	0.00	0.51	0.00	2.05E+03	2.84E-03	2.69E-03	.230	1.136E-02	6.849E-05	6.409E-05	312.0				.266	
32	43.77	0.51	0.00	2.25E+03	3.67E-03	2.31E-03	.241	1.274E-02	7.331E-05	7.002E-05	312.1				.281	
33	41.24	0.51	0.00	2.27E+03	4.47E-03	4.23E-03	.341	1.311E-02	1.076E-04	1.028E-04	312.6				.373	
34	38.70	0.51	0.00	2.27E+03	3.70E-03	3.95E-03	.274	1.349E-02	8.919E-05	8.458E-05	311.4				.300	
103	39.97	1.52	0.90	6.97E+03	1.22E-02	1.10E-02	.919	1.330E-02	2.947E-04	2.791E-04	310.1	1.22E-02	1.000	.919	1.000	
104	39.97	1.52	0.90	6.97E+03	1.18E-02	1.12E-02	.900	1.338E-02	2.849E-04	2.694E-04	310.5	1.10E-02	1.000	.888	1.000	
105	39.97	1.52	0.90	9.39E+03	1.24E-02	1.17E-02	.937	1.331E-02	2.917E-04	2.822E-04	310.9	1.24E-02	1.000	.932	1.000	
106	39.97	1.52	0.90	9.39E+03	1.26E-02	1.19E-02	.945	1.330E-02	3.037E-04	2.878E-04	312.7	1.26E-02	1.000	.945	1.000	
107	39.97	1.52	0.90	7.78E+03	1.26E-02	1.03E-02	.880	1.331E-02	2.863E-04	2.620E-04	316.3	1.06E-02	1.000	.880	1.000	
108	39.97	1.52	0.90	6.95E+03	1.15E-03	8.68E-03	.629	1.331E-02	2.217E-04	2.191E-04	315.7	9.10E-03	1.000	.629	1.000	
109	39.97	1.52	0.90	4.72E+03	9.46E-03	9.12E-03	.488	1.331E-02	1.956E-04	1.474E-04	314.5	6.60E-03	1.000	.488	1.000	
110	39.97	1.52	0.90	2.89E+03	3.80E-03	3.70E-03	.294	1.331E-02	9.410E-05	8.914E-05	313.5	3.98E-03	1.000	.294	1.000	
111	39.97	1.52	0.90	5.77E+02	1.19E-03	1.19E-03	.069	1.331E-02	2.653E-05	2.720E-05	314.9	1.19E-03	1.000	.069	1.000	
112	39.97	1.52	0.90	1.79E+02	2.43E-04	2.31E-04	.910	1.330E-02	5.935E-06	5.957E-06	310.5	2.43E-04	1.000	.910	1.000	
203	46.32	1.52	0.90	1.15E+02	1.16E-02	1.14E-02	.692	1.233E-02	2.656E-04	2.515E-04	315.4	1.16E-02	1.000	.692	1.000	
204	46.32	1.52	0.90	5.47E+02	1.16E-02	1.10E-02	.640	1.233E-02	2.799E-04	2.651E-04	316.2	1.10E-02	1.000	.640	1.000	
205	46.32	1.52	0.90	9.49E+03	1.29E-02	1.23E-02	1.040	1.233E-02	3.118E-04	2.953E-04	315.9	1.23E-02	1.000	1.047	1.000	
206	46.32	1.52	0.90	7.03E+03	1.13E-02	1.11E-02	.854	1.233E-02	2.611E-04	2.492E-04	315.1	1.09E-02	1.000	.854	1.000	
207	46.32	1.52	0.90	6.02E+03	2.47E-03	2.41E-03	.599	1.233E-02	1.784E-04	1.590E-04	314.9	7.45E-03	1.000	.599	1.000	
208	46.32	1.52	0.90	4.64E+03	5.66E-03	5.74E-03	.490	1.233E-02	1.461E-04	1.364E-04	313.3	6.06E-03	1.000	.490	1.000	
209	46.32	1.52	0.90	2.72E+02	3.11E-03	3.03E-03	.833	1.233E-02	9.910E-05	9.309E-05	312.3	4.11E-03	1.000	.833	1.000	
210	46.32	1.52	0.90	1.33E+01	1.03E-15	1.72E-05	.011	1.233E-02	4.449E-07	4.178E-07	303.3	1.03E-05	1.000	.011	1.000	



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1240  
JSC 09651

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AMES 3.6 FT. WNT TEST (1122), C-3. BLUMER, IN-LINE RSI GAP RUN( 26) 1973

T/C	X (CM)	Y (CM)	Z (CM)	ZZ (CP)	C (M/M2)	ML (KG/M2-S)	MT (KG/M2-S)	ML/HREFF (KG/M2-S)	HREF (KG/M2-S)	STL	STT	T (K)	MLCC (KG/M2-S)	ML/MLCC	MLCC/HREF	ML/ML/HREF	
216	6.32	0.99	1.14														
217	6.32	0.93	1.40														
218	6.32	0.30	1.65														
219	6.32	0.90	1.90														
220	6.32	0.30	2.29														
426	56.48	0.76	0.00	7.11E+03	9.71E-03	9.19E-03	9.19E-03	0.009	1.091E-02	2.339E-04	2.216E-04	313.8	1.71E-03	1.000	0.009	1.042	
427	56.48	0.41	0.00	7.55E+03	1.03E-02	9.76E-03	9.76E-03	0.944	1.092E-02	2.339E-04	2.339E-04	313.8	1.09E-02	1.000	0.944	1.186	
428	56.48	0.25	0.00	7.55E+03	1.03E-02	9.04E-03	9.04E-03	0.74	1.092E-02	2.339E-04	2.339E-04	312.7	9.54E-03	1.000	0.74	1.024	
429	56.48	0.15	0.00	7.55E+03	1.03E-02	7.99E-03	7.99E-03	0.763	1.092E-02	2.339E-04	1.902E-04	312.8	6.39E-03	1.000	0.763	0.894	
430	56.48	0.04	0.00	7.55E+03	1.03E-02	6.50E-03	6.50E-03	0.536	1.092E-02	2.339E-04	1.506E-04	311.7	6.09E-03	1.000	0.536	0.745	
431	56.48	0.01	0.00	7.55E+03	1.03E-02	5.43E-03	5.43E-03	0.52E	1.092E-02	2.339E-04	1.329E-04	311.3	5.73E-03	1.000	0.52E	0.615	
432	56.48	0.00	0.00	7.55E+03	1.03E-02	4.91E-03	4.91E-03	0.261	1.092E-02	2.339E-04	7.392E-05	310.3	3.07E-03	1.000	0.261	0.329	
433	56.48	0.00	0.00	7.55E+03	1.03E-02	1.84E-03	1.84E-03	0.178	1.092E-02	2.339E-04	4.044E-05	309.2	1.99E-03	1.000	0.178	0.209	
434	56.48	0.00	0.00	7.55E+03	1.03E-02	3.17E-04	3.17E-04	0.029	1.092E-02	2.339E-04	7.246E-06	308.0	3.17E-04	1.000	0.029	0.024	
435	56.48	0.00	0.00	7.55E+03	1.03E-02	0.00	0.00	0.00	1.092E-02	2.339E-04	0.00	308.0	0.00	1.000	0.00	0.00	
436	56.48	0.00	0.00	7.55E+03	1.03E-02	0.00	0.00	0.00	1.092E-02	2.339E-04	0.00	308.0	0.00	1.000	0.00	0.00	
437	56.48	0.00	0.00	7.55E+03	1.03E-02	0.00	0.00	0.00	1.092E-02	2.339E-04	0.00	308.0	0.00	1.000	0.00	0.00	
438	56.48	0.00	0.00	7.55E+03	1.03E-02	0.00	0.00	0.00	1.092E-02	2.339E-04	0.00	308.0	0.00	1.000	0.00	0.00	
439	56.48	0.00	0.00	7.55E+03	1.03E-02	0.00	0.00	0.00	1.092E-02	2.339E-04	0.00	308.0	0.00	1.000	0.00	0.00	
440	56.48	0.00	0.00	7.55E+03	1.03E-02	0.00	0.00	0.00	1.092E-02	2.339E-04	0.00	308.0	0.00	1.000	0.00	0.00	
506	64.10	0.76	0.00	6.50E+03	8.00E-03	6.41E-03	6.41E-03	0.003	1.005E-02	2.140E-04	2.027E-04	313.5	8.00E-03	1.000	0.003	1.026	
507	64.10	0.51	0.00	6.50E+03	8.00E-03	7.75E-03	7.75E-03	0.13	1.005E-02	2.140E-04	1.967E-04	312.9	8.10E-03	1.000	0.13	0.944	
508	64.10	0.25	0.00	6.50E+03	8.00E-03	6.50E-03	6.50E-03	0.90	1.005E-02	2.140E-04	1.905E-04	312.2	6.94E-03	1.000	0.90	0.801	
509	64.10	0.16	0.00	6.50E+03	8.00E-03	5.37E-03	5.37E-03	0.66	1.005E-02	2.140E-04	1.815E-04	311.3	4.99E-03	1.000	0.66	0.564	
510	64.10	0.04	0.00	6.50E+03	8.00E-03	4.81E-03	4.81E-03	0.541	1.005E-02	2.140E-04	1.741E-04	311.0	5.04E-03	1.000	0.541	0.528	
511	64.10	0.01	0.00	6.50E+03	8.00E-03	3.78E-03	3.78E-03	0.505	1.005E-02	2.140E-04	1.680E-04	310.7	5.00E-03	1.000	0.505	0.506	
512	64.10	0.00	0.00	6.50E+03	8.00E-03	2.51E-03	2.51E-03	0.340	1.005E-02	2.140E-04	1.600E-04	310.2	3.62E-03	1.000	0.340	0.394	
513	64.10	0.00	0.00	6.50E+03	8.00E-03	2.02E-03	2.02E-03	0.213	1.005E-02	2.140E-04	1.536E-04	309.7	2.14E-03	1.000	0.213	0.267	
514	64.10	0.00	0.00	6.50E+03	8.00E-03	1.66E-03	1.66E-03	0.164	1.005E-02	2.140E-04	1.476E-04	309.0	1.66E-03	1.000	0.164	0.204	
515	64.10	0.00	0.00	6.50E+03	8.00E-03	0.00	0.00	0.00	1.005E-02	2.140E-04	0.00	309.0	0.00	1.000	0.00	0.00	
516	64.10	0.00	0.00	6.50E+03	8.00E-03	0.00	0.00	0.00	1.005E-02	2.140E-04	0.00	309.0	0.00	1.000	0.00	0.00	
517	64.10	0.00	0.00	6.50E+03	8.00E-03	0.00	0.00	0.00	1.005E-02	2.140E-04	0.00	309.0	0.00	1.000	0.00	0.00	
518	64.10	0.00	0.00	6.50E+03	8.00E-03	0.00	0.00	0.00	1.005E-02	2.140E-04	0.00	309.0	0.00	1.000	0.00	0.00	
519	64.10	0.00	0.00	6.50E+03	8.00E-03	0.00	0.00	0.00	1.005E-02	2.140E-04	0.00	309.0	0.00	1.000	0.00	0.00	
520	64.10	0.00	0.00	6.50E+03	8.00E-03	0.00	0.00	0.00	1.005E-02	2.140E-04	0.00	309.0	0.00	1.000	0.00	0.00	

EDGE HEATING USED FOR ME

ML /HREFF= 9.186E-01  
ML /HREFF= 9.131E-01  
ML /HREFF= 8.566E-01  
ML /HREFF= 8.509E-01  
ML /HREFF= 8.669E-01  
ML /HREFF= 8.428E-01  
ML /HREFF= 8.358E-01  
ML /HREFF= 8.738E-01  
ML /HREFF= 8.333E-01

ML /HREFF= 9.298E-01  
ML /HREFF= 1.647E+00  
ML /HREFF= 9.442E-01  
ML /HREFF= 8.134E-01

SO. TRANSITION DISTANCE = 39.97 CM  
FULLY TURBULENT 3AL. CONDITIONS AT X = 41.24 CM



RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09651

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ANES 3-5 FT HWT TEST (152), 3-3. BLUMER, IN-LINE RSI GAP RUN# (27) 1973

TT = 1.12-6.93(1K)  
 GAP LENGTH = 3".45"(1CM)  
 PI = 5.2252+15(M/M2)  
 GAP WIDTH = .127(1CM)  
 HT = 1.19228E-01(L/M2)  
 GAP DEPTH = 2.332(1CM)  
 REHEATER = 1.5332E-01  
 ORIENTATIONAL = 1.0300(1DEG)  
 MACH = 5.134  
 OS = 6.7263E+04(M/M2)  
 RMC VEL = 2.1319E+11(KG/M2-S)  
 10C-POSITION# = 2  
 MAN/MY = 1.95% FOR ML  
 MAN/MT = 0.87% FOR ML  
 MLCC = ML(2NC, ORDER COND.,)

T/C	X	Y	Z	Q	ML	MT	ML/MREF	MREF	STL	STT	T	MLCC	ML/MCC	MLCC/MREF	ML/MLE
16	71.72	-51	0.00	3.94E+13	5.11E-03	5.04E-03	.71*	7.40E-03	2.529E-04	2.396E-04	305.6	(K) (KG/M2-S)			1.000
17	66.64	-51	0.00	4.60E+13	6.07E-03	6.07E-03	.751	8.51E-03	3.248E-04	2.808E-04	307.5				1.000
18	66.64	-51	0.00	4.02E+13	6.35E-03	6.35E-03	.757	9.03E-03	3.248E-04	3.041E-04	307.5				1.000
19	56.48	-51	0.00	5.27E+13	7.24E-03	7.24E-03	.768	9.67E-03	3.627E-04	3.240E-04	307.8				1.000
20	51.39	-51	0.00	5.49E+13	7.51E-03	7.51E-03	.772	9.72E-03	3.577E-04	3.385E-04	308.1				1.000
21	46.31	-51	0.00	5.49E+13	8.05E-03	7.63E-03	.855	1.01E-02	3.937E-04	3.629E-04	308.2				1.000
22	46.31	-51	0.00	5.95E+13	9.12E-03	7.70E-03	.750	1.02E-02	3.66E-04	3.661E-04	308.1				1.000
24	41.24	-51	0.00	6.15E+13	8.46E-03	8.22E-03	.801	1.05E-02	4.02E-04	3.815E-04	308.2				1.000
25	38.78	-51	0.00	6.05E+13	9.13E-03	8.32E-03	.829	1.08E-02	4.32E-04	4.193E-04	307.7				1.000
41	71.72	0.00	.05	7.13E+12	9.71E-04	9.20E-04	.123	7.02E-03	4.619E-05	4.376E-05	305.3				.088
42	66.64	0.00	.05	1.07E+12	1.46E-03	1.38E-03	.174	6.35E-03	6.94E-05	6.591E-05	306.2				.028
43	61.56	0.00	.05	1.35E+12	1.88E-03	1.74E-03	.204	9.02E-03	9.74E-05	9.246E-05	307.1				.272
44	56.48	0.00	.05	1.35E+12	1.88E-03	1.75E-03	.195	9.47E-03	9.74E-05	9.341E-05	306.9				.257
45	51.39	0.00	.05	1.35E+12	1.88E-03	1.75E-03	.221	9.72E-03	9.33E-05	8.813E-05	307.0				.268
46	46.31	0.00	.05	1.43E+12	1.95E-03	1.85E-03	.216	1.03E-02	1.02E-04	9.740E-05	307.1				.269
47	46.31	0.00	.05	1.43E+12	1.95E-03	1.85E-03	.190	1.02E-02	9.33E-05	8.614E-05	307.8				.251
49	41.24	0.00	.05	1.43E+12	1.95E-03	1.85E-03	.193	1.05E-02	9.71E-05	9.289E-05	307.3				.261
50	38.78	0.00	.05	1.47E+12	2.05E-03	2.02E-03	.236	1.08E-02	1.21E-04	1.151E-04	306.5				.201
103	39.97	1.52	0.00	6.75E+13	1.72E-03	5.26E-03	.816	1.06E-02	4.15E-04	3.932E-04	311.4	0.72E-03	1.000	.816	.995
105	39.97	1.02	0.00	6.49E+13	1.87E-03	5.40E-03	.825	1.06E-02	4.15E-04	3.990E-04	312.2	0.67E-03	1.000	.825	1.011
107	39.97	0.51	0.00	7.21E+13	1.89E-03	5.37E-03	.925	1.07E-02	4.73E-04	4.496E-04	311.9	9.09E-03	1.000	.925	1.128
108	39.97	0.25	0.00	7.21E+13	1.89E-03	5.18E-03	.925	1.07E-02	4.69E-04	4.365E-04	310.9	9.69E-03	1.000	.945	1.104
110	39.97	0.00	0.00	5.63E+13	1.66E-03	7.20E-03	.718	1.07E-02	3.65E-04	3.463E-04	309.9	7.60E-03	1.000	.718	.877
111	39.97	0.00	.05	5.63E+13	1.66E-03	6.34E-03	.590	1.07E-02	3.73E-04	3.672E-04	309.5	6.30E-03	1.000	.590	.737
112	39.97	0.00	.05	5.63E+13	1.66E-03	6.34E-03	.388	1.07E-02	1.95E-04	1.890E-04	308.7	4.12E-03	1.000	.388	.469
113	39.97	0.00	.05	5.63E+13	1.66E-03	6.34E-03	.209	1.07E-02	1.95E-04	1.897E-04	308.1	2.23E-03	1.000	.209	.255
114	39.97	0.00	.05	5.63E+13	1.66E-03	6.34E-03	.102	1.07E-02	1.13E-05	2.974E-05	306.7	1.60E-04	1.000	.102	.062
115	39.97	0.00	.05	5.63E+13	1.66E-03	6.34E-03	.012	1.07E-02	6.28E-06	5.954E-06	305.0	1.32E-04	1.000	.012	.015
203	46.32	1.52	0.00	6.75E+13	1.75E-03	5.26E-03	.875	1.06E-02	4.16E-04	3.943E-04	302.1	0.75E-03	1.000	.875	1.007
205	46.32	1.02	0.00	6.75E+13	1.75E-03	5.26E-03	.925	1.06E-02	4.16E-04	4.171E-04	309.4	9.25E-03	1.000	.925	1.100
207	46.32	0.51	0.00	6.99E+13	1.81E-03	7.00E-03	.911	1.09E-02	3.95E-04	3.652E-04	309.7	1.10E-03	1.000	.911	1.090
210	46.32	0.25	0.00	6.99E+13	1.81E-03	7.00E-03	.700	1.09E-02	3.61E-04	3.426E-04	309.2	7.60E-03	1.000	.700	.946
211	46.32	0.00	0.00	6.34E+13	1.66E-03	5.27E-03	.590	1.07E-02	2.84E-04	2.696E-04	308.2	5.90E-03	1.000	.590	.743
211	46.32	0.00	.05	6.34E+13	1.66E-03	4.32E-03	.538	1.07E-02	2.41E-04	2.291E-04	307.9	5.82E-03	1.000	.538	.637
212	46.32	0.00	.05	6.34E+13	1.66E-03	4.32E-03	.353	1.07E-02	1.67E-04	1.592E-04	306.9	3.53E-03	1.000	.353	.446
213	46.32	0.00	.05	6.34E+13	1.66E-03	4.32E-03	.010	1.07E-02	1.13E-05	1.592E-05	306.7	1.60E-04	1.000	.010	.062
214	46.32	0.00	.05	6.34E+13	1.66E-03	4.32E-03	.010	1.07E-02	1.13E-05	1.592E-05	306.7	1.60E-04	1.000	.010	.062
215	46.32	0.00	.05	6.34E+13	1.66E-03	4.32E-03	.010	1.07E-02	1.13E-05	1.592E-05	306.7	1.60E-04	1.000	.010	.062



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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AMES 3.5 FT HWT TEST (152), G.3. BLUMES, IN-LINE RST GAP RUN ( 27) 1973

T/C	X	Y	Z	G	ML	HT	ML/NRFF	HREF	STL	STT	T	MLCC	ML/MLCC	MLCC/NRFF	ML/NE
(C)	(C)	(C)	(C)	(W/P2)	(G/P2-S)	(G/P2-S)		(KG/M2-S)	(K/M2-S)	(K)	(K)	(K/M2-S)			
216	46.32	4.01	1.40	6.37E+0	9.20E-76	.021	1.000E-02	4.116E-07	3.972E-07	393.9	1.65E-06	1.000	.001		
217	46.32	4.01	1.40	1.97E+01	2.62E-05	2.45E-05	1.07E-02	1.245E-06	1.101E-06	313.7	1.62E-05	1.000	.003		
218	46.32	4.01	1.40	2.41E+01	1.27E-05	3.17E-05	1.30E-02	1.575E-06	1.470E-06	303.4	1.27E-05	1.000	.003		
220	46.32	4.01	2.09	4.02E+00	5.45E-06	5.16E-06	1.00E-02	2.331E-07	2.456E-07	303.2	1.65E-06	1.000	.001		
406	56.48	7.76	1.00	5.43E+03	7.43E-03	7.34E-03	.023	9.030E-03	3.536E-04	398.9	7.43E-03	1.000	.023		
407	56.48	7.76	1.00	5.61E+03	7.60E-03	7.20E-03	.050	9.030E-03	3.693E-04	388.6	7.60E-03	1.000	.050		
408	56.48	7.76	1.00	5.14E+03	5.53E-03	6.62E-03	.774	9.31E-03	3.324E-04	383.1	6.99E-03	1.000	.774		
409	56.48	7.76	1.00	4.57E+03	5.18E-03	5.96E-03	.605	9.79E-03	2.949E-04	387.8	6.18E-03	1.000	.605		
410	56.48	7.76	1.00	3.96E+03	5.27E-03	5.80E-03	.584	9.029E-03	2.505E-04	387.4	5.27E-03	1.000	.584		
411	56.48	7.76	1.00	3.36E+03	4.59E-03	4.35E-03	.509	9.029E-03	2.184E-04	387.1	4.59E-03	1.000	.509		
412	56.48	7.76	1.00	1.91E+03	2.69E-03	2.95E-03	.298	9.029E-03	1.262E-04	1.219E-04	2.69E-03	1.000	.298		
414	56.48	7.76	1.00	1.01E+03	1.30E-03	1.31E-03	.153	9.029E-03	6.568E-05	6.217E-05	1.30E-03	1.000	.153		
415	56.48	7.76	1.00	1.52E+02	2.07E-04	1.36E-04	.023	9.029E-03	9.831E-06	9.320E-06	2.07E-04	1.000	.023		
416	56.48	7.76	1.14												
417	56.48	7.76	1.40												
418	56.48	7.76	1.65	4.37E+01	3.94E-05	5.93E-05	.006	9.029E-03	2.777E-06	2.632E-06	3.94E-05	1.000	.006		
419	56.48	7.76	1.90	2.15E+01	2.92E-05	2.77E-05	.003	9.029E-03	1.369E-06	1.317E-06	2.92E-05	1.000	.003		
422	56.48	7.76	2.29												
506	64.10	7.76	1.00	4.70E+03	6.43E-03	6.18E-03	.701	8.232E-03	3.061E-04	2.988E-04	6.43E-03	1.000	.701		
507	64.10	7.76	1.00	4.66E+03	6.37E-03	6.33E-03	.774	8.232E-03	3.085E-04	2.879E-04	6.37E-03	1.000	.774		
508	64.10	7.76	1.00	4.39E+03	5.90E-03	5.66E-03	.729	8.232E-03	2.893E-04	2.704E-04	5.90E-03	1.000	.729		
509	64.10	7.76	1.00	3.65E+03	5.02E-03	4.76E-03	.618	8.232E-03	2.389E-04	2.264E-04	5.02E-03	1.000	.618		
510	64.10	7.76	1.00	3.77E+03	4.19E-03	3.97E-03	.519	8.232E-03	1.994E-04	1.890E-04	4.19E-03	1.000	.519		
511	64.10	7.76	1.00	2.85E+03	3.89E-03	3.58E-03	.432	8.232E-03	1.832E-04	1.733E-04	3.89E-03	1.000	.432		
512	64.10	7.76	1.00	1.87E+03	2.42E-03	2.42E-03	.310	8.232E-03	1.243E-04	1.196E-04	2.42E-03	1.000	.310		
513	64.10	7.76	1.00	1.19E+03	1.62E-03	1.53E-03	.196	8.232E-03	7.694E-05	7.241E-05	1.62E-03	1.000	.196		
514	64.10	7.76	1.00	2.73E+02	2.75E-04	2.61E-04	.033	8.232E-03	1.370E-05	1.268E-05	2.75E-04	1.000	.033		
515	64.10	7.76	1.00	7.16E+00	9.73E-06	9.23E-06	.011	8.232E-03	4.631E-07	4.309E-07	9.73E-06	1.000	.011		
516	64.10	7.76	1.00	1.99E+01	2.70E-04	2.36E-04	.013	8.232E-03	1.247E-06	1.219E-06	2.70E-04	1.000	.013		
517	64.10	7.76	1.00	7.98E+01	1.08E-04	1.03E-04	.013	8.232E-03	5.186E-06	4.877E-06	1.08E-04	1.000	.013		
518	64.10	7.76	1.00	7.50E+01	1.03E-04	9.74E-05	.012	8.232E-03	4.895E-06	4.633E-06	1.03E-04	1.000	.012		
519	64.10	7.76	1.00												
520	64.10	7.76	2.29	7.61E+01	1.04E-04	9.94E-05	.013	8.232E-03	4.930E-06	4.681E-06	1.04E-04	1.000	.013		

EDGE HEATING USED FOR MC

X#	3.80E+01	ML	/NRFF#	8.33E-01
X#	4.124E+01	ML	/NRFF#	8.059E-01
X#	4.377E+01	ML	/NRFF#	7.837E-01
X#	4.631E+01	ML	/NRFF#	8.447E-01
X#	4.886E+01	ML	/NRFF#	7.723E-01
X#	5.139E+01	ML	/NRFF#	7.644E-01
X#	5.392E+01	ML	/NRFF#	7.671E-01
X#	5.645E+01	ML	/NRFF#	7.516E-01
X#	5.898E+01	ML	/NRFF#	7.902E-01
X#	3.907E+01	ML	/NRFF#	9.249E-01
X#	4.622E+01	ML	/NRFF#	8.144E-01
X#	5.640E+01	ML	/NRFF#	6.535E-01
X#	6.410E+01	ML	/NRFF#	7.735E-01

R.O.L. TRANSITION DISTANCE = 3.32 CM  
FULLY TURBULENT R.O.L. CONDITIONS AT X = 61.56 CM

5.3-85



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 55

201 1973

AMES 3.5 FT HWT TEST (1973) C.S. SUPER IN-LINE RSI GAP WUR( 201 1973)  
 TT = 1.119E+02(K)  
 FT = 1.7349E+06(N/M2)  
 HT = 1.11-3E+06(J/KC)  
 GE/METER = 1.2E+07E+06  
 WACH = 3.1E+06  
 RMC VEL = 1.1322E+11(KG/M2-S)  
 PAM/MT = .983 FOR HT  
 HAM/MT = .8274 FOR WL  
 MLCC = HL(2ND ORDER CONC.)\*2  
 GAP LENGTH = 3".483(CM)  
 GAP WIDTH = .127(CM)  
 GAP DEPTH = 2.032(CM)  
 ORIENTATION = 16.01(CFG)  
 ZS = 1.21E+06.35(W/M2)  
 VOL.POSITION# 2

T/C	X (CM)	Y (CM)	Z (CM)	N (M/M2)	HL (KG/M2-S)	HT (KG/M2-S)	ML/HRFF (KG/M2-S)	MPEF (KG/M2-S)	STL	STT	T (K)	MLCC (K/M2-S)	ML/MLCC	MLCC/MREF	ML/ME
16	71.72	0.81	0.00	1.02E+03	7.50E+03	7.50E+03	.830	9.53E+03	1.93E+04	1.793E-04	399.6				1.000
17	60.84	0.81	0.00	1.02E+03	7.50E+03	7.50E+03	.830	9.53E+03	1.93E+04	1.793E-04	399.6				1.000
18	61.56	0.81	0.00	1.02E+03	7.50E+03	7.50E+03	.830	9.53E+03	1.93E+04	1.793E-04	399.6				1.000
19	56.48	0.81	0.00	1.02E+03	7.50E+03	7.50E+03	.830	9.53E+03	1.93E+04	1.793E-04	399.6				1.000
20	71.39	0.81	0.00	1.02E+03	7.50E+03	7.50E+03	.830	9.53E+03	1.93E+04	1.793E-04	399.6				1.000
21	48.86	0.81	0.00	1.02E+03	7.50E+03	7.50E+03	.830	9.53E+03	1.93E+04	1.793E-04	399.6				1.000
22	48.31	0.81	0.00	1.02E+03	7.50E+03	7.50E+03	.830	9.53E+03	1.93E+04	1.793E-04	399.6				1.000
23	43.77	0.81	0.00	1.02E+03	7.50E+03	7.50E+03	.830	9.53E+03	1.93E+04	1.793E-04	399.6				1.000
24	41.24	0.81	0.00	1.02E+03	7.50E+03	7.50E+03	.830	9.53E+03	1.93E+04	1.793E-04	399.6				1.000
25	70.72	0.81	0.00	1.02E+03	7.50E+03	7.50E+03	.830	9.53E+03	1.93E+04	1.793E-04	399.6				1.000
41	71.72	0.81	0.00	1.02E+03	7.50E+03	7.50E+03	.830	9.53E+03	1.93E+04	1.793E-04	399.6				1.000
42	60.84	0.81	0.00	1.02E+03	7.50E+03	7.50E+03	.830	9.53E+03	1.93E+04	1.793E-04	399.6				1.000
43	61.56	0.81	0.00	1.02E+03	7.50E+03	7.50E+03	.830	9.53E+03	1.93E+04	1.793E-04	399.6				1.000
44	56.48	0.81	0.00	1.02E+03	7.50E+03	7.50E+03	.830	9.53E+03	1.93E+04	1.793E-04	399.6				1.000
45	51.39	0.81	0.00	1.02E+03	7.50E+03	7.50E+03	.830	9.53E+03	1.93E+04	1.793E-04	399.6				1.000
46	48.86	0.81	0.00	1.02E+03	7.50E+03	7.50E+03	.830	9.53E+03	1.93E+04	1.793E-04	399.6				1.000
47	48.31	0.81	0.00	1.02E+03	7.50E+03	7.50E+03	.830	9.53E+03	1.93E+04	1.793E-04	399.6				1.000
48	43.77	0.81	0.00	1.02E+03	7.50E+03	7.50E+03	.830	9.53E+03	1.93E+04	1.793E-04	399.6				1.000
49	41.24	0.81	0.00	1.02E+03	7.50E+03	7.50E+03	.830	9.53E+03	1.93E+04	1.793E-04	399.6				1.000
50	38.70	1.03	0.25	2.49E+03	3.44E+03	3.26E+03	.853	1.361E+02	6.23E+05	7.790E-05	310.1				.868
103	39.97	1.52	0.70	5.65E+03	1.24E+02	1.17E+02	.921	1.342E+02	2.95E+04	2.799E-04	316.5				.988
105	39.97	1.02	0.70	5.65E+03	1.24E+02	1.17E+02	.919	1.342E+02	2.95E+04	2.799E-04	317.5				.977
107	39.97	0.51	0.70	5.65E+03	1.24E+02	1.17E+02	.919	1.342E+02	2.95E+04	2.799E-04	317.5				1.121
110	39.97	0.25	0.70	5.65E+03	1.24E+02	1.17E+02	.919	1.342E+02	2.95E+04	2.799E-04	317.5				1.109
111	39.97	0.00	0.70	5.65E+03	1.24E+02	1.17E+02	.919	1.342E+02	2.95E+04	2.799E-04	317.5				1.089
112	39.97	0.00	0.00	5.65E+03	1.24E+02	1.17E+02	.919	1.342E+02	2.95E+04	2.799E-04	317.5				1.083
113	39.97	0.00	0.00	5.65E+03	1.24E+02	1.17E+02	.919	1.342E+02	2.95E+04	2.799E-04	317.5				1.083
114	39.97	0.00	0.00	5.65E+03	1.24E+02	1.17E+02	.919	1.342E+02	2.95E+04	2.799E-04	317.5				1.083
115	39.97	0.00	0.00	5.65E+03	1.24E+02	1.17E+02	.919	1.342E+02	2.95E+04	2.799E-04	317.5				1.083
203	46.32	1.52	0.70	5.65E+03	1.24E+02	1.17E+02	.919	1.342E+02	2.95E+04	2.799E-04	317.5				1.118
205	46.32	1.02	0.70	5.65E+03	1.24E+02	1.17E+02	.919	1.342E+02	2.95E+04	2.799E-04	317.5				1.124
207	46.32	0.51	0.70	5.65E+03	1.24E+02	1.17E+02	.919	1.342E+02	2.95E+04	2.799E-04	317.5				1.084
210	46.32	0.25	0.70	5.65E+03	1.24E+02	1.17E+02	.919	1.342E+02	2.95E+04	2.799E-04	317.5				1.084
211	46.32	0.00	0.70	5.65E+03	1.24E+02	1.17E+02	.919	1.342E+02	2.95E+04	2.799E-04	317.5				1.084
212	46.32	0.00	0.00	5.65E+03	1.24E+02	1.17E+02	.919	1.342E+02	2.95E+04	2.799E-04	317.5				1.084
213	46.32	0.00	0.00	5.65E+03	1.24E+02	1.17E+02	.919	1.342E+02	2.95E+04	2.799E-04	317.5				1.084
214	46.32	0.00	0.00	5.65E+03	1.24E+02	1.17E+02	.919	1.342E+02	2.95E+04	2.799E-04	317.5				1.084
215	46.32	0.00	0.00	5.65E+03	1.24E+02	1.17E+02	.919	1.342E+02	2.95E+04	2.799E-04	317.5				1.084

RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09451

PAGE 56

AMES 3-5 FT HNT TEST (16-1) C-3. BLUMER, 7N-LINE RSI GAP RUN ( 28) 1973

T/C	X (CM)	Y (CM)	ZZ (CM)	G (M/PS)	HL (KG/M2-S)	MT (KG/PS-S)	ML/HREF (KG/M2-S)	HREF (KG/M2-S)	STL	STT	T (K)	MLCG (K(R/M2-S))	ML/MCG	MLGG/HREF	ML/HE
216	46.32	0.00	1.14	7.15E+33	9.95E+33	9.95E+33	1.10E-02	2.37E-04	2.37E-04	2.30E-04	212.3	1.98E-03	1.000	.987	1.002
217	46.32	0.00	1.47	7.15E+33	1.05E-02	9.95E+33	1.20E-02	2.55E-04	2.55E-04	2.30E-04	211.9	1.89E-02	1.000	.986	1.119
218	46.32	0.00	1.85	7.15E+33	3.68E-13	9.35E+33	1.30E-02	2.35E-04	2.35E-04	2.27E-04	211.2	1.80E-03	1.000	.988	1.051
219	46.32	0.00	1.99	7.15E+33	8.18E-03	8.72E+33	1.30E-02	2.19E-04	2.19E-04	1.99E-04	210.6	1.80E-03	1.000	.982	1.030
220	46.32	0.00	2.29	7.15E+33	7.92E-13	7.13E+33	1.30E-02	1.79E-04	1.79E-04	1.74E-04	210.1	7.82E-03	1.000	.984	1.000
406	56.48	0.76	0.70	7.15E+33	6.40E-03	6.40E+33	1.10E-02	1.83E-04	1.83E-04	1.44E-04	209.6	6.44E-03	1.000	.981	1.000
407	56.48	0.91	0.70	7.15E+33	1.19E-13	3.37E+33	1.10E-02	1.83E-04	1.83E-04	9.42E-05	209.6	6.19E-03	1.000	.981	1.000
408	56.48	1.25	0.70	7.15E+33	2.32E-03	2.32E+33	1.10E-02	1.83E-04	1.83E-04	9.42E-05	209.1	6.19E-03	1.000	.981	1.000
409	56.48	1.45	0.70	7.15E+33	4.85E-03	4.85E+33	1.10E-02	1.83E-04	1.83E-04	9.42E-05	208.7	6.19E-03	1.000	.981	1.000
410	56.48	1.84	0.70	7.15E+33	3.20E-03	3.20E+33	1.10E-02	1.83E-04	1.83E-04	9.42E-05	208.6	6.19E-03	1.000	.981	1.000
411	56.48	2.00	0.70	7.15E+33	3.20E-03	3.20E+33	1.10E-02	1.83E-04	1.83E-04	9.42E-05	208.6	6.19E-03	1.000	.981	1.000
412	56.48	2.37	0.70	7.15E+33	3.20E-03	3.20E+33	1.10E-02	1.83E-04	1.83E-04	9.42E-05	208.6	6.19E-03	1.000	.981	1.000
413	56.48	2.52	0.70	7.15E+33	3.20E-03	3.20E+33	1.10E-02	1.83E-04	1.83E-04	9.42E-05	208.6	6.19E-03	1.000	.981	1.000
414	56.48	2.89	0.70	7.15E+33	3.20E-03	3.20E+33	1.10E-02	1.83E-04	1.83E-04	9.42E-05	208.6	6.19E-03	1.000	.981	1.000
415	56.48	3.26	0.70	7.15E+33	3.20E-03	3.20E+33	1.10E-02	1.83E-04	1.83E-04	9.42E-05	208.6	6.19E-03	1.000	.981	1.000
416	56.48	3.70	1.14	7.15E+33	3.20E-03	3.20E+33	1.10E-02	1.83E-04	1.83E-04	9.42E-05	208.6	6.19E-03	1.000	.981	1.000
417	56.48	4.17	1.40	7.15E+33	3.20E-03	3.20E+33	1.10E-02	1.83E-04	1.83E-04	9.42E-05	208.6	6.19E-03	1.000	.981	1.000
418	56.48	4.70	1.65	7.15E+33	3.20E-03	3.20E+33	1.10E-02	1.83E-04	1.83E-04	9.42E-05	208.6	6.19E-03	1.000	.981	1.000
419	56.48	5.24	1.90	7.15E+33	3.20E-03	3.20E+33	1.10E-02	1.83E-04	1.83E-04	9.42E-05	208.6	6.19E-03	1.000	.981	1.000
420	56.48	5.80	2.29	7.15E+33	3.20E-03	3.20E+33	1.10E-02	1.83E-04	1.83E-04	9.42E-05	208.6	6.19E-03	1.000	.981	1.000
506	66.10	0.76	1.00	5.90E+33	0.28E-03	7.84E-03	1.04E-02	1.90E-04	1.90E-04	1.87E-04	211.9	0.24E-03	1.000	.917	1.001
507	66.10	0.91	1.00	5.90E+33	0.34E-03	7.35E-03	1.04E-02	1.90E-04	1.90E-04	1.87E-04	211.4	0.34E-03	1.000	.917	1.001
508	66.10	1.29	1.00	5.90E+33	6.72E-03	6.31E-03	1.04E-02	1.90E-04	1.90E-04	1.87E-04	210.7	0.72E-03	1.000	.912	1.001
509	66.10	1.45	1.00	5.90E+33	6.72E-03	6.31E-03	1.04E-02	1.90E-04	1.90E-04	1.87E-04	209.7	0.72E-03	1.000	.912	1.001
510	66.10	1.74	1.00	5.90E+33	5.72E-03	5.49E-03	1.04E-02	1.90E-04	1.90E-04	1.87E-04	209.3	0.72E-03	1.000	.912	1.001
511	66.10	2.03	1.00	5.90E+33	5.72E-03	5.49E-03	1.04E-02	1.90E-04	1.90E-04	1.87E-04	208.8	0.72E-03	1.000	.912	1.001
512	66.10	2.32	1.00	5.90E+33	5.72E-03	5.49E-03	1.04E-02	1.90E-04	1.90E-04	1.87E-04	208.5	0.72E-03	1.000	.912	1.001
513	66.10	2.70	1.00	5.90E+33	5.72E-03	5.49E-03	1.04E-02	1.90E-04	1.90E-04	1.87E-04	207.9	0.72E-03	1.000	.912	1.001
514	66.10	3.09	1.00	5.90E+33	5.72E-03	5.49E-03	1.04E-02	1.90E-04	1.90E-04	1.87E-04	207.8	0.72E-03	1.000	.912	1.001
515	66.10	3.48	1.00	5.90E+33	5.72E-03	5.49E-03	1.04E-02	1.90E-04	1.90E-04	1.87E-04	207.8	0.72E-03	1.000	.912	1.001
516	66.10	3.87	1.00	5.90E+33	5.72E-03	5.49E-03	1.04E-02	1.90E-04	1.90E-04	1.87E-04	207.8	0.72E-03	1.000	.912	1.001
517	66.10	4.26	1.00	5.90E+33	5.72E-03	5.49E-03	1.04E-02	1.90E-04	1.90E-04	1.87E-04	207.8	0.72E-03	1.000	.912	1.001
518	66.10	4.65	1.00	5.90E+33	5.72E-03	5.49E-03	1.04E-02	1.90E-04	1.90E-04	1.87E-04	207.8	0.72E-03	1.000	.912	1.001
519	66.10	5.04	1.00	5.90E+33	5.72E-03	5.49E-03	1.04E-02	1.90E-04	1.90E-04	1.87E-04	207.8	0.72E-03	1.000	.912	1.001
520	66.10	5.43	1.00	5.90E+33	5.72E-03	5.49E-03	1.04E-02	1.90E-04	1.90E-04	1.87E-04	207.8	0.72E-03	1.000	.912	1.001

EDGE HEATING USED FOR ME  
 X= 3.87E+01 ML /HREF= 9.97E-01  
 X= 4.12E+01 ML /HREF= 9.27E-01  
 X= 4.37E+01 ML /HREF= 8.72E-01  
 X= 4.62E+01 ML /HREF= 8.26E-01  
 X= 4.87E+01 ML /HREF= 7.89E-01  
 X= 5.12E+01 ML /HREF= 7.59E-01  
 X= 5.37E+01 ML /HREF= 7.34E-01  
 X= 5.62E+01 ML /HREF= 7.12E-01  
 X= 5.87E+01 ML /HREF= 6.91E-01  
 X= 6.12E+01 ML /HREF= 6.71E-01  
 X= 6.37E+01 ML /HREF= 6.52E-01  
 X= 6.62E+01 ML /HREF= 6.34E-01  
 X= 6.87E+01 ML /HREF= 6.17E-01  
 X= 7.12E+01 ML /HREF= 6.01E-01

ORIGINAL PAGE IS  
OF POOR QUALITY

94. TRANSITION DISTANCE = 40.32 CM  
 FULLY TURBULENT 3-LL. CONDITIONS AT = 48.96 CM





RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
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AMES 3.5 FT HWT TEST (1P2), C.3. BLUMER, IN-LINE RSI GAP RUN ( 29) 1973

TT = 1.097E+03 (K)  
 FT = 5.2134E+02 (M/M2)  
 PT = 1.1877E+01 (J/KG)  
 RE/METER = 1.7361E+06  
 WACH = 9.137  
 ANG VEL = 2.4394E+01 (KG/M2-S)  
 HAM/HT = 3.908 FOR HT  
 HAM/WT = 9.674 FOR WL  
 MLCC = ML(2ND, ORCEP CONC.1)  
 GAP LENGTH = 3.46F (CM)  
 GAP WIDTH = .254 (CM)  
 GAP DEPTH = 2.132 (CM)  
 ORIENTATION = 1.00L (DEG)  
 OS = 0.3166E+04 (M/M2)  
 40C. POSITION = 2

T/C	X (CM)	Y (CM)	Z (CM)	G (M/P2)	HL (KG/M2-S)	PT (KG/P2-S)	ML/HREF (KG/M2-S)	STL	STT	T (K)	MLCC (KG/M2-S)	ML/MLCC	MLGG/HREF	ML/M
16	71.72	-51	1.00	4.55E+03	5.52E-03	6.17E-03	0.85	7.53E-03	3.047E-04	310.9	2.884E-04	310.9	1.000	1.000
17	68.64	-51	1.00	2.31E+03	7.23E-03	6.35E-03	0.83	8.183E-03	3.199E-04	312.5	3.199E-04	312.5	1.000	1.000
18	65.56	-51	1.00	1.02E+03	7.48E-03	7.02E-03	0.83	9.08E-03	3.307E-04	312.6	3.307E-04	312.6	1.000	1.000
19	62.48	-51	1.00	5.36E+03	7.68E-03	7.27E-03	0.83	9.946E-03	3.397E-04	312.7	3.397E-04	312.7	1.000	1.000
20	59.40	-51	1.00	2.71E+03	8.20E-03	7.75E-03	0.87	1.088E-02	3.625E-04	312.8	3.625E-04	312.8	1.000	1.000
21	48.86	-51	1.00	1.95E+03	9.52E-03	9.08E-03	0.87	1.336E-02	3.777E-04	312.8	3.777E-04	312.8	1.000	1.000
22	46.31	-51	1.00	4.22E+03	8.95E-03	8.65E-03	0.82	1.164E-02	3.952E-04	312.7	3.952E-04	312.7	1.000	1.000
23	43.77	-51	1.00	1.51E+03	9.58E-03	9.25E-03	0.86	1.192E-02	4.025E-04	312.9	4.025E-04	312.9	1.000	1.000
24	41.24	-51	1.00	1.00E+03	9.75E-03	9.23E-03	0.89	1.192E-02	4.025E-04	312.4	4.025E-04	312.4	1.000	1.000
25	38.70	-51	1.00	7.85E+02	1.12E-03	1.06E-03	0.49	7.536E-03	9.246E-05	309.8	9.246E-05	309.8	1.000	1.000
26	36.16	-51	1.00	1.57E+03	2.15E-03	2.02E-03	0.75	7.574E-03	1.325E-04	310.5	1.325E-04	310.5	1.000	1.000
27	33.62	-51	1.00	1.18E+03	2.59E-03	2.42E-03	0.72	8.508E-03	1.209E-04	311.6	1.209E-04	311.6	1.000	1.000
28	31.08	-51	1.00	2.33E+03	3.08E-03	2.85E-03	0.76	9.08E-03	1.255E-04	312.0	1.255E-04	312.0	1.000	1.000
29	28.54	-51	1.00	1.34E+03	2.86E-03	2.53E-03	0.77	9.547E-03	1.234E-04	311.9	1.234E-04	311.9	1.000	1.000
30	26.00	-51	1.00	1.92E+03	3.78E-03	3.53E-03	0.84	9.798E-03	1.299E-04	311.8	1.299E-04	311.8	1.000	1.000
31	23.46	-51	1.00	2.02E+03	3.98E-03	3.75E-03	0.86	1.002E-02	1.356E-04	311.9	1.356E-04	311.9	1.000	1.000
32	20.92	-51	1.00	2.34E+03	3.32E-03	3.14E-03	0.84	1.036E-02	1.484E-04	311.7	1.484E-04	311.7	1.000	1.000
33	18.38	-51	1.00	2.82E+03	3.25E-03	3.07E-03	0.87	1.064E-02	1.515E-04	312.0	1.515E-04	312.0	1.000	1.000
34	15.84	-51	1.00	1.87E+03	2.82E-03	2.68E-03	0.81	1.092E-02	1.524E-04	311.4	1.524E-04	311.4	1.000	1.000
35	13.30	-51	1.00	1.51E+03	3.39E-03	3.19E-03	0.82	1.077E-02	1.539E-04	315.6	1.539E-04	315.6	1.000	1.000
36	10.76	-51	1.00	6.77E+03	9.35E-03	8.83E-03	0.86	1.077E-02	1.539E-04	316.3	1.539E-04	316.3	1.000	1.000
37	8.22	-51	1.00	7.21E+03	1.13E-02	1.07E-02	0.97	1.077E-02	1.539E-04	315.9	1.539E-04	315.9	1.000	1.000
38	5.68	-51	1.00	7.65E+03	1.07E-02	1.02E-02	0.97	1.078E-02	1.539E-04	315.2	1.539E-04	315.2	1.000	1.000
39	3.14	-51	1.00	5.24E+03	8.98E-03	8.50E-03	0.93	1.078E-02	1.539E-04	314.3	1.539E-04	314.3	1.000	1.000
40	0.60	-51	1.00	1.14E+03	7.68E-03	7.27E-03	0.73	1.078E-02	1.539E-04	314.0	1.539E-04	314.0	1.000	1.000
41	0.06	-51	1.00	3.42E+03	5.48E-03	5.10E-03	0.59	1.078E-02	1.539E-04	313.2	1.539E-04	313.2	1.000	1.000
42	0.00	-51	1.00	2.98E+03	3.48E-03	3.25E-03	0.59	1.078E-02	1.539E-04	312.7	1.539E-04	312.7	1.000	1.000
43	0.00	-51	1.00	9.75E+02	3.44E-03	3.22E-03	0.59	1.078E-02	1.539E-04	311.6	1.539E-04	311.6	1.000	1.000
44	0.00	-51	1.00	1.15E+02	2.44E-04	2.31E-04	0.23	1.078E-02	1.539E-04	319.2	1.539E-04	319.2	1.000	1.000
45	0.00	-51	1.00	1.55E+03	3.29E-03	3.09E-03	0.82	1.078E-02	1.539E-04	314.3	1.539E-04	314.3	1.000	1.000
46	0.00	-51	1.00	7.34E+03	1.06E-02	1.00E-02	1.06	1.078E-02	1.539E-04	314.3	1.539E-04	314.3	1.000	1.000
47	0.00	-51	1.00	7.74E+03	1.06E-02	1.00E-02	1.06	1.078E-02	1.539E-04	314.3	1.539E-04	314.3	1.000	1.000
48	0.00	-51	1.00	6.02E+03	9.43E-03	9.01E-03	0.91	1.078E-02	1.539E-04	314.0	1.539E-04	314.0	1.000	1.000
49	0.00	-51	1.00	5.22E+03	7.58E-03	7.16E-03	0.72	1.078E-02	1.539E-04	313.3	1.539E-04	313.3	1.000	1.000
50	0.00	-51	1.00	4.67E+03	6.65E-03	6.24E-03	0.64	1.078E-02	1.539E-04	313.0	1.539E-04	313.0	1.000	1.000
51	0.00	-51	1.00	3.11E+03	4.93E-03	4.67E-03	0.69	1.078E-02	1.539E-04	312.4	1.539E-04	312.4	1.000	1.000
52	0.00	-51	1.00	3.11E+01	5.74E-06	5.48E-06	0.30	1.078E-02	1.539E-04	336.7	1.539E-04	336.7	1.000	1.000
53	0.00	-51	1.00	2.10E+02	1.17E-04	1.12E-04	0.17	1.078E-02	1.539E-04	319.6	1.539E-04	319.6	1.000	1.000
54	0.00	-51	1.00	2.10E+02	1.17E-04	1.12E-04	0.17	1.078E-02	1.539E-04	319.6	1.539E-04	319.6	1.000	1.000
55	0.00	-51	1.00	2.10E+02	1.17E-04	1.12E-04	0.17	1.078E-02	1.539E-04	319.6	1.539E-04	319.6	1.000	1.000

RSI GAP HEATING ANALYSIS - II

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AMES 3.5 FT HWT TEST (102), C.S. BLUMFR, IN-LINE RSI GAP RUN( 29) 1973

T/C	X	Y	Z	WT	ML/HREFF	MFEF	STL	STT	T	MLCC	ML/MLCC	MLCC/HREF	ML/ME
(CH)	(M/42)	(M/42)	(M/42)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(K)	(K)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(ML/ME)
216	46.32	0.00	1.34	3.22E-06	0.00	1.07E-02	1.830E-07	1.506E-07	309.6	1.48E-06	1.000	0.00	0.00
217	46.32	0.00	1.40	2.68E-05	0.00	1.07E-02	1.822E-06	1.822E-06	309.6	1.48E-06	1.000	0.00	0.00
218	46.32	0.00	1.46	2.14E-04	0.00	1.07E-02	2.33E-07	2.33E-07	309.6	1.48E-06	1.000	0.00	0.00
219	46.32	0.00	1.52	1.60E-03	0.00	1.07E-02	9.79E-07	9.79E-07	309.6	1.48E-06	1.000	0.00	0.00
220	46.32	0.00	1.58	1.06E-02	0.00	1.07E-02	3.90E-06	3.90E-06	309.6	1.48E-06	1.000	0.00	0.00
407	56.40	0.00	1.64	6.38E-03	0.00	1.07E-02	1.59E-05	1.59E-05	313.4	8.98E-03	1.000	0.00	1.542
408	56.40	0.00	1.70	4.27E-03	0.00	1.07E-02	4.03E-04	4.03E-04	313.4	8.98E-03	1.000	0.00	1.516
409	56.40	0.00	1.76	2.77E-03	0.00	1.07E-02	1.03E-04	1.03E-04	312.4	8.98E-03	1.000	0.00	1.569
410	56.40	0.00	1.82	1.77E-03	0.00	1.07E-02	3.95E-04	3.95E-04	312.4	8.98E-03	1.000	0.00	1.690
411	56.40	0.00	1.88	1.18E-03	0.00	1.07E-02	1.39E-04	1.39E-04	312.4	8.98E-03	1.000	0.00	1.872
412	56.40	0.00	1.94	7.85E-04	0.00	1.07E-02	5.13E-05	5.13E-05	311.4	8.98E-03	1.000	0.00	2.118
413	56.40	0.00	2.00	5.13E-04	0.00	1.07E-02	3.43E-05	3.43E-05	311.4	8.98E-03	1.000	0.00	2.434
414	56.40	0.00	2.06	3.39E-04	0.00	1.07E-02	2.28E-05	2.28E-05	310.4	8.98E-03	1.000	0.00	2.834
415	56.40	0.00	2.12	2.28E-04	0.00	1.07E-02	1.51E-05	1.51E-05	309.6	8.98E-03	1.000	0.00	3.318
416	56.40	0.00	2.18	1.51E-04	0.00	1.07E-02	9.84E-06	9.84E-06	309.6	8.98E-03	1.000	0.00	3.898
417	56.40	0.00	2.24	1.00E-04	0.00	1.07E-02	6.58E-06	6.58E-06	309.6	8.98E-03	1.000	0.00	4.584
418	56.40	0.00	2.30	6.58E-05	0.00	1.07E-02	4.42E-06	4.42E-06	309.6	8.98E-03	1.000	0.00	5.390
419	56.40	0.00	2.36	4.42E-05	0.00	1.07E-02	2.98E-06	2.98E-06	309.6	8.98E-03	1.000	0.00	6.334
420	56.40	0.00	2.42	2.98E-05	0.00	1.07E-02	2.00E-06	2.00E-06	309.6	8.98E-03	1.000	0.00	7.430
506	66.10	0.00	2.48	2.00E-05	0.00	1.07E-02	1.360E-07	1.360E-07	309.6	2.29E-06	1.000	0.00	8.684
507	66.10	0.00	2.54	1.360E-05	0.00	1.07E-02	9.26E-08	9.26E-08	312.6	7.29E-03	1.000	0.00	1.017
508	66.10	0.00	2.60	9.26E-08	0.00	1.07E-02	6.33E-08	6.33E-08	312.6	7.29E-03	1.000	0.00	1.183
509	66.10	0.00	2.66	6.33E-08	0.00	1.07E-02	4.42E-08	4.42E-08	311.7	7.29E-03	1.000	0.00	1.366
510	66.10	0.00	2.72	4.42E-08	0.00	1.07E-02	3.09E-08	3.09E-08	311.7	7.29E-03	1.000	0.00	1.572
511	66.10	0.00	2.78	3.09E-08	0.00	1.07E-02	2.16E-08	2.16E-08	311.4	7.29E-03	1.000	0.00	1.806
512	66.10	0.00	2.84	2.16E-08	0.00	1.07E-02	1.51E-08	1.51E-08	311.4	7.29E-03	1.000	0.00	2.074
513	66.10	0.00	2.90	1.51E-08	0.00	1.07E-02	1.03E-08	1.03E-08	310.4	7.29E-03	1.000	0.00	2.380
514	66.10	0.00	2.96	1.03E-08	0.00	1.07E-02	7.11E-09	7.11E-09	310.4	7.29E-03	1.000	0.00	2.728
515	66.10	0.00	3.02	7.11E-09	0.00	1.07E-02	4.98E-09	4.98E-09	309.6	7.29E-03	1.000	0.00	3.122
516	66.10	0.00	3.08	4.98E-09	0.00	1.07E-02	3.43E-09	3.43E-09	309.6	7.29E-03	1.000	0.00	3.566
517	66.10	0.00	3.14	3.43E-09	0.00	1.07E-02	2.40E-09	2.40E-09	309.6	7.29E-03	1.000	0.00	4.064
518	66.10	0.00	3.20	2.40E-09	0.00	1.07E-02	1.68E-09	1.68E-09	309.6	7.29E-03	1.000	0.00	4.620
519	66.10	0.00	3.26	1.68E-09	0.00	1.07E-02	1.18E-09	1.18E-09	309.6	7.29E-03	1.000	0.00	5.238
520	66.10	0.00	3.32	1.18E-09	0.00	1.07E-02	8.33E-10	8.33E-10	309.6	7.29E-03	1.000	0.00	5.924

EDGE HEATING USED FOR ME  
 X# 3.073E+01 ML /HREFS 0.928E-01  
 X# 4.124E+01 ML /HREFS 0.982E-01  
 X# 4.377E+01 ML /HREFS 0.24E-01  
 X# 4.832E+01 ML /HREFS 0.472E-01  
 X# 4.886E+01 ML /HREFS 0.308E-01  
 X# 5.139E+01 ML /HREFS 0.744E-01  
 X# 5.646E+01 ML /HREFS 0.228E-01  
 X# 6.158E+01 ML /HREFS 0.529E-01  
 X# 7.122E+01 ML /HREFS 0.555E-01  
 X# 3.997E+01 ML /HREFS 9.712E-01  
 X# 4.632E+01 ML /HREFS 1.749E+00  
 X# 5.638E+01 ML /HREFS 5.831E-01  
 X# 6.810E+01 ML /HREFS 0.800E-01  
 9.0L TRANSITION DISTANCE = 39.97 CM  
 FULLY TURBULENT 3.0L CONDITIONS AT # 41.24 CM



RSI GAP HEATING ANALYSIS - II  
VOLUME II

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AMES 3-5 FT WHT TEST (4523), 3-30-60 IN-LINE RSI GAP RUN 3(1) 1977  
TT = 1.125E+07(4)  
FT = 1.348E+17(N/M<sup>2</sup>)  
PT = 1.531E+06(J/KG)  
PE/METER = 3.222E+06  
MACH = 5.10  
RSC VEL = 4.037E+03(K/M<sup>2</sup>-S)  
HAM/PT = 1.455E FOR HT  
HAM/WHT = 0.874 FOR HL  
MLCC = MLCC(M, ORDR: COIL-4)  
GAP LI-GTP = 31.49(CM)  
SAB WICH = .254(CM)  
SAP DEPTH = 2.12(CM)  
ORIENT:CCW = 10.00(DEG)  
CS = 1.2246E\*(W/M<sup>2</sup>)  
LOC POSITION: 2

Table with columns: T/C, X (CM), Y (CM), Z (CM), C (M/M<sup>2</sup>), ML (KG/M<sup>2</sup>-S), FT (MG/M<sup>2</sup>-S), ML/REF, MREF (KG/M<sup>2</sup>-S), STL, STT, T (K), MLCG (K/M<sup>2</sup>-S), ML/MLCC, MLCC/MREF, ML/NE.

# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
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AMES 3.5 FT PWT TEST (1.02), C.O. VOLUMES, IN-LINE PSI GAP RUNE (30) 1973

T/C	X (CM)	Y (CM)	Z (CM)	G (MP/2)	ML (KG/M2-S)	MT (KG/PS-S)	ML/MREFF	MREF (KG/M2-S)	STL	STY	T (K)	PLCC (K/M2-S)	ML/MLCC	MLCC/MREF	ML/ME
216	46.32	0.79	1.14	5.37E+02	7.17E-04	6.90E-04	0.98	1.239E-02	1.72E-05	1.638E-05	302.7	7.17E-04	1.000	0.89	0.63
217	46.32	0.70	1.40	2.61E+02	3.61E-04	0.31	1.239E-02	9.18E-06	9.18E-06	8.678E-06	302.5	3.61E-04	1.000	0.81	0.33
218	46.32	0.61	1.65	7.16E+01	3.69E-05	9.10E-05	0.30	1.239E-02	2.33E-05	2.279E-05	302.1	9.09E-05	1.000	0.86	0.89
220	46.32	0.68	2.29	5.93E+03	9.12E-03	7.69E-03	0.74	1.294E-02	1.99E-04	1.498E-04	310.4	8.12E-03	1.000	0.74	0.64
406	56.48	0.51	1.20	6.57E+03	6.16E-03	7.74E-03	0.76	1.294E-02	1.99E-04	1.498E-04	310.2	8.12E-03	1.000	0.74	0.64
407	56.48	0.51	1.20	6.57E+03	6.16E-03	7.74E-03	0.76	1.294E-02	1.99E-04	1.498E-04	310.2	8.12E-03	1.000	0.74	0.64
408	56.48	0.51	1.20	6.57E+03	6.16E-03	7.74E-03	0.76	1.294E-02	1.99E-04	1.498E-04	310.2	8.12E-03	1.000	0.74	0.64
409	56.48	0.51	1.20	6.57E+03	6.16E-03	7.74E-03	0.76	1.294E-02	1.99E-04	1.498E-04	310.2	8.12E-03	1.000	0.74	0.64
410	56.48	0.51	1.20	6.57E+03	6.16E-03	7.74E-03	0.76	1.294E-02	1.99E-04	1.498E-04	310.2	8.12E-03	1.000	0.74	0.64
411	56.48	0.51	1.20	6.57E+03	6.16E-03	7.74E-03	0.76	1.294E-02	1.99E-04	1.498E-04	310.2	8.12E-03	1.000	0.74	0.64
412	56.48	0.51	1.20	6.57E+03	6.16E-03	7.74E-03	0.76	1.294E-02	1.99E-04	1.498E-04	310.2	8.12E-03	1.000	0.74	0.64
413	56.48	0.51	1.20	6.57E+03	6.16E-03	7.74E-03	0.76	1.294E-02	1.99E-04	1.498E-04	310.2	8.12E-03	1.000	0.74	0.64
414	56.48	0.51	1.20	6.57E+03	6.16E-03	7.74E-03	0.76	1.294E-02	1.99E-04	1.498E-04	310.2	8.12E-03	1.000	0.74	0.64
415	56.48	0.51	1.20	6.57E+03	6.16E-03	7.74E-03	0.76	1.294E-02	1.99E-04	1.498E-04	310.2	8.12E-03	1.000	0.74	0.64
416	56.48	0.51	1.20	6.57E+03	6.16E-03	7.74E-03	0.76	1.294E-02	1.99E-04	1.498E-04	310.2	8.12E-03	1.000	0.74	0.64
417	56.48	0.51	1.20	6.57E+03	6.16E-03	7.74E-03	0.76	1.294E-02	1.99E-04	1.498E-04	310.2	8.12E-03	1.000	0.74	0.64
418	56.48	0.51	1.20	6.57E+03	6.16E-03	7.74E-03	0.76	1.294E-02	1.99E-04	1.498E-04	310.2	8.12E-03	1.000	0.74	0.64
419	56.48	0.51	1.20	6.57E+03	6.16E-03	7.74E-03	0.76	1.294E-02	1.99E-04	1.498E-04	310.2	8.12E-03	1.000	0.74	0.64
420	56.48	0.51	1.20	6.57E+03	6.16E-03	7.74E-03	0.76	1.294E-02	1.99E-04	1.498E-04	310.2	8.12E-03	1.000	0.74	0.64
506	66.10	0.76	0.60	6.57E+03	6.22E-03	7.64E-03	0.81	1.608E-02	1.99E-04	1.498E-04	310.5	8.22E-03	1.000	0.82	1.04
507	66.10	0.51	1.00	5.97E+03	6.22E-03	7.64E-03	0.81	1.608E-02	1.99E-04	1.498E-04	310.5	8.22E-03	1.000	0.82	1.04
508	66.10	0.29	1.40	3.29E+03	3.59E-03	4.63E-03	0.79	1.608E-02	1.99E-04	1.498E-04	310.5	8.22E-03	1.000	0.82	1.04
509	66.10	0.19	0.70	5.24E+03	7.19E-03	6.77E-03	0.79	1.608E-02	1.99E-04	1.498E-04	310.5	8.22E-03	1.000	0.82	1.04
510	66.10	0.36	0.40	4.59E+03	6.26E-03	5.93E-03	0.81	1.608E-02	1.99E-04	1.498E-04	310.5	8.22E-03	1.000	0.82	1.04
511	66.10	0.70	0.15	4.52E+03	6.35E-03	5.71E-03	0.80	1.608E-02	1.99E-04	1.498E-04	310.5	8.22E-03	1.000	0.82	1.04
512	66.10	0.80	0.25	3.74E+03	4.95E-03	4.31E-03	0.82	1.608E-02	1.99E-04	1.498E-04	310.5	8.22E-03	1.000	0.82	1.04
513	66.10	0.30	0.30	2.35E+03	3.20E-03	3.33E-03	0.81	1.608E-02	1.99E-04	1.498E-04	310.5	8.22E-03	1.000	0.82	1.04
514	66.10	0.70	0.64	7.97E+02	1.78E-03	1.63E-03	0.80	1.608E-02	1.99E-04	1.498E-04	310.5	8.22E-03	1.000	0.82	1.04
515	66.10	0.90	0.89	1.66E+02	1.99E-04	1.99E-04	0.81	1.608E-02	1.99E-04	1.498E-04	310.5	8.22E-03	1.000	0.82	1.04
516	66.10	0.70	1.14	1.74E+02	1.41E-04	1.34E-04	0.81	1.608E-02	1.99E-04	1.498E-04	310.5	8.22E-03	1.000	0.82	1.04
517	66.10	0.70	1.40	6.55E+01	8.62E-05	8.17E-05	0.81	1.608E-02	1.99E-04	1.498E-04	310.5	8.22E-03	1.000	0.82	1.04
518	66.10	0.90	1.65	5.69E+01	7.49E-05	7.06E-05	0.81	1.608E-02	1.99E-04	1.498E-04	310.5	8.22E-03	1.000	0.82	1.04
519	66.10	0.80	1.90	7.96E+01	1.29E-05	1.29E-05	0.81	1.608E-02	1.99E-04	1.498E-04	310.5	8.22E-03	1.000	0.82	1.04
520	66.10	0.90	2.29	7.96E+01	1.29E-05	1.29E-05	0.81	1.608E-02	1.99E-04	1.498E-04	310.5	8.22E-03	1.000	0.82	1.04

EDGE HEATING USED FOR ME

20	3.87E+01	ML	MREF	9.72E-11
20	4.32E+01	ML	MREF	9.94E-01
20	4.37E+01	ML	MREF	5.50E-01
20	4.63E+01	ML	MREF	9.16E-01
20	4.80E+01	ML	MREF	8.70E-01
20	5.13E+01	ML	MREF	6.49E-01
20	5.64E+01	ML	MREF	7.43E-01
20	6.19E+01	ML	MREF	7.00E-01
20	7.17E+01	ML	MREF	7.17E-01
20	3.99E+01	ML	MREF	1.41E+00
20	6.03E+01	ML	MREF	1.07E+00
20	5.66E+01	ML	MREF	1.62E+01
20	6.61E+01	ML	MREF	7.96E+01

2.1. TRANSITION DISTANCE = 14.97 CM  
FULLY TURBULENT 9.1. CONDITIONS AT 5 41.24 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 61

AMES 3.5 FT HWT TEST (1972), 2.3. PLUMER, IN-LINE RSI GAP RUN# 311 1972

TT = 1.0222E+02 (K)  
 GAP LENGTH = 37.63 (CM)  
 PT = 1.0318E+01 (K/M2)  
 GAP WIDTH = .254 (CM)  
 MT = 1.1218E+01 (J/KG)  
 GAP DEPTH = 2.332 (CM)  
 REAMETER = 3.060E+01  
 ORIENTATION = 19.3 (DEG)  
 PACH = 9.11  
 QS = 1.1629E+05 (W/M2)  
 RMC VEL = 4.271E+01 (K/M2-S)  
 YOC POSITION# 2  
 MAN/PNT = 2.094 FOR MT  
 HLCR = 4.074 FOR ML  
 HLCR = 4.1220, 3.225 COND.))

T/C	X (CM)	Y (CM)	ZZ (K)	C (W/M2)	ML (K/M2-S)	MT (K/M2-S)	HL/M/REF (K/M2-S)	STL (K/M2-S)	STT (K)	T (K)	ML/M/CC (K/M2-S)	MLCC/MREF (K/M2-S)	ML/M (K/M2-S)
16	71.72	-61	2.07E+03	7.64E+03	7.23E+03	7.41	6.77E+03	1.753E+04	1.691E-04	306.0	1.000	1.000	1.000
17	66.84	-61	1.04E+03	5.60E+03	5.14E+03	9.12	1.13E+02	2.333E+04	1.973E-04	303.2	1.000	1.000	1.000
18	61.96	-61	6.29E+02	3.11E+03	2.43E+03	9.12	1.12E+02	2.129E+04	2.010E-04	303.4	1.000	1.000	1.000
19	56.48	-61	4.50E+02	1.64E+03	9.13E+02	7.08	1.19E+02	2.122E+04	2.118E-04	303.7	1.000	1.000	1.000
20	51.39	-61	3.04E+02	1.02E+03	9.35E+02	6.27	1.23E+02	2.362E+04	2.252E-04	303.9	1.000	1.000	1.000
21	46.36	-61	1.74E+02	5.75E+02	1.67E+02	5.46	1.27E+02	2.511E+04	2.377E-04	304.1	1.000	1.000	1.000
22	41.31	-61	7.02E+01	1.12E+02	1.72E+02	4.83	1.30E+02	2.649E+04	2.469E-04	304.8	1.000	1.000	1.000
23	36.77	-61	3.01E+01	1.18E+02	1.12E+02	4.78	1.34E+02	2.751E+04	2.613E-04	304.3	1.000	1.000	1.000
24	31.24	-61	1.12E+01	1.18E+02	1.11E+02	4.51	1.38E+02	2.790E+04	2.649E-04	303.3	1.000	1.000	1.000
25	26.72	-61	4.26E+00	1.73E+01	1.64E+01	1.77	1.76E+02	3.036E+04	3.024E-04	297.3	1.000	1.000	1.000
26	21.72	-61	2.14E+00	2.12E+01	2.04E+01	2.56	1.12E+02	3.053E+04	3.061E-04	298.7	1.000	1.000	1.000
27	16.54	-61	1.07E+00	2.61E+01	2.28E+01	2.26	1.05E+02	3.024E+04	3.320E-04	301.4	1.000	1.000	1.000
28	11.56	-61	5.05E+00	2.67E+01	2.53E+01	2.36	1.12E+02	3.024E+04	3.490E-04	302.0	1.000	1.000	1.000
29	6.48	-61	1.75E+00	2.46E+01	2.33E+01	2.36	1.19E+02	3.024E+04	3.448E-04	301.9	1.000	1.000	1.000
30	1.39	-61	1.90E+00	2.68E+01	2.77E+01	2.74	1.23E+02	3.024E+04	3.372E-04	302.0	1.000	1.000	1.000
31	40.96	-61	2.91E+00	3.39E+01	3.21E+01	2.67	1.27E+02	3.024E+04	3.584E-04	302.2	1.000	1.000	1.000
32	36.31	-61	3.32E+00	4.01E+01	4.05E+01	3.67	1.30E+02	3.024E+04	3.632E-04	302.1	1.000	1.000	1.000
33	31.77	-61	3.11E+00	4.81E+01	4.85E+01	3.36	1.34E+02	3.024E+04	3.648E-04	302.9	1.000	1.000	1.000
34	27.24	-61	2.71E+00	5.69E+01	5.25E+01	3.36	1.38E+02	3.024E+04	3.648E-04	301.5	1.000	1.000	1.000
35	22.72	-61	2.14E+00	6.01E+01	5.03E+01	2.09	1.38E+02	3.024E+04	3.648E-04	301.5	1.000	1.000	1.000
36	18.24	-61	1.58E+00	6.01E+01	5.03E+01	7.57	1.38E+02	3.024E+04	3.648E-04	307.8	1.000	1.000	1.000
37	13.72	-61	1.07E+00	6.01E+01	5.03E+01	6.16	1.36E+02	3.024E+04	3.648E-04	309.2	1.000	1.000	1.000
38	9.24	-61	6.29E+00	6.01E+01	5.03E+01	1.037	1.36E+02	3.024E+04	3.648E-04	308.7	1.000	1.000	1.000
39	4.72	-61	3.04E+00	6.01E+01	5.03E+01	1.036	1.36E+02	3.024E+04	3.648E-04	307.6	1.000	1.000	1.000
40	0.24	-61	1.35E+00	6.01E+01	5.03E+01	0.894	1.36E+02	3.024E+04	3.648E-04	306.1	1.000	1.000	1.000
41	39.97	-61	8.75E+00	7.76E+01	7.34E+01	7.71	1.32E+02	3.024E+04	3.712E-04	305.5	1.000	1.000	1.000
42	35.97	-61	8.75E+00	7.76E+01	7.34E+01	5.65	1.36E+02	3.024E+04	3.712E-04	304.2	1.000	1.000	1.000
43	31.97	-61	3.71E+00	8.08E+01	7.34E+01	3.72	1.36E+02	3.024E+04	3.648E-04	303.4	1.000	1.000	1.000
44	27.97	-61	3.11E+00	8.08E+01	7.34E+01	3.23	1.36E+02	3.024E+04	3.648E-04	301.4	1.000	1.000	1.000
45	23.97	-61	2.31E+00	8.08E+01	7.34E+01	0.30	1.36E+02	3.024E+04	3.648E-04	299.6	1.000	1.000	1.000
46	19.97	-61	1.75E+00	8.08E+01	7.34E+01	1.031	1.26E+02	3.024E+04	3.648E-04	304.9	1.000	1.000	1.000
47	15.97	-61	1.15E+00	8.08E+01	7.34E+01	1.714	1.26E+02	3.024E+04	3.648E-04	305.6	1.000	1.000	1.000
48	11.97	-61	6.29E+00	8.08E+01	7.34E+01	9.32	1.26E+02	3.024E+04	3.648E-04	304.8	1.000	1.000	1.000
49	7.97	-61	3.04E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	304.8	1.000	1.000	1.000
50	3.97	-61	1.75E+00	8.08E+01	7.34E+01	7.23	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
51	0.00	-61	5.65E+00	8.08E+01	7.34E+01	6.39	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
52	46.32	-61	1.75E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
53	41.32	-61	1.15E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
54	36.32	-61	6.29E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
55	31.32	-61	3.04E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
56	26.32	-61	1.75E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
57	21.32	-61	1.15E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
58	16.32	-61	6.29E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
59	11.32	-61	3.04E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
60	6.32	-61	1.75E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
61	1.32	-61	1.15E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
62	0.00	-61	6.29E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
63	46.32	-61	1.75E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
64	41.32	-61	1.15E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
65	36.32	-61	6.29E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
66	31.32	-61	3.04E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
67	26.32	-61	1.75E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
68	21.32	-61	1.15E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
69	16.32	-61	6.29E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
70	11.32	-61	3.04E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
71	6.32	-61	1.75E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
72	1.32	-61	1.15E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000
73	0.00	-61	6.29E+00	8.08E+01	7.34E+01	8.83	1.26E+02	3.024E+04	3.648E-04	303.9	1.000	1.000	1.000



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 62

AMES 3.6 FT HWT TEST (182), C.O. BLUMER, IN-LINE RSI GAP RUN ( 31) 1973

T/C	X (CM)	Y (CM)	ZZ (CM)	Y (IN/2)	HT (KG/IN <sup>2</sup> -S)	ML (KG/IN <sup>2</sup> -S)	ML/HREFF	PREF (KG/IN <sup>2</sup> -S)	STL	STT	T (KI)	MLCC (K/IN <sup>2</sup> -S)	ML/MLCC	MLCG/HREF	ML/ME
236	46.32	0.03	1.04	1.92E+02	2.69E-04	2.69E-04	.021	1.269E-02	6.299E-06	5.968E-06	296.0	1.69E-04	1.000	.021	.025
237	46.32	0.03	1.04	6.18E+01	1.04E-04	1.04E-04	.079	1.269E-02	2.019E-06	2.666E-06	295.7	1.28E-04	1.000	.089	.011
238	46.32	0.03	1.04	1.61E+02	7.72E-06	7.72E-06	.071	1.269E-02	1.039E-07	1.793E-07	295.3	6.18E-06	1.000	.081	.081
239	46.32	0.03	1.04	3.72E+01	5.34E-08	5.34E-08	.071	1.269E-02	1.249E-06	1.179E-06	295.0	5.32E-08	1.000	.004	.086
220	46.32	0.00	1.02	1.72E+02	1.89E-04	1.89E-04	.035	1.269E-02	4.477E-06	4.179E-06	299.6	1.89E-04	1.000	.019	.086
476	56.48	0.05	0.00	5.27E+02	9.62E-03	9.62E-03	.054	1.122E-02	2.110E-04	1.996E-04	303.4	9.62E-03	1.000	.004	.991
407	56.48	0.05	0.00	6.71E+03	5.71E-03	5.71E-03	.065	1.122E-02	2.269E-04	2.149E-04	303.1	9.71E-03	1.000	.065	1.000
408	56.48	0.05	1.00	6.71E+03	9.50E-03	9.50E-03	.054	1.122E-02	2.231E-04	2.129E-04	302.5	9.50E-03	1.000	.054	1.002
409	56.48	0.05	1.00	6.07E+03	8.87E-03	8.87E-03	.073	1.122E-02	2.472E-04	1.919E-04	301.9	8.87E-03	1.000	.073	.992
410	56.48	0.05	0.00	5.19E+02	7.49E-03	7.49E-03	.066	1.122E-02	1.749E-04	1.696E-04	301.3	7.49E-03	1.000	.066	.019
411	56.48	0.05	0.00	2.49E+03	6.74E-03	6.74E-03	.530	1.122E-02	1.411E-04	1.336E-04	300.8	6.74E-03	1.000	.530	.663
412	56.48	0.05	0.00	2.49E+03	3.59E-03	3.59E-03	.320	1.122E-02	8.30E-05	7.949E-05	299.7	3.59E-03	1.000	.320	.394
413	56.48	0.05	0.00	1.57E+03	2.26E-03	2.26E-03	.201	1.122E-02	5.27E-05	4.999E-05	299.5	2.26E-03	1.000	.201	.200
414	56.48	0.05	0.00	2.78E+02	3.71E-04	3.71E-04	.035	1.122E-02	6.667E-06	6.219E-06	297.9	3.71E-04	1.000	.035	.041
415	56.48	0.00	0.00	1.52E+01	2.10E-05	2.10E-05	.012	1.122E-02	5.099E-07	4.827E-07	297.2	2.10E-05	1.000	.012	.002
416	56.48	0.00	1.04												
417	56.48	0.00	1.00												
418	56.48	0.00	1.00												
419	56.48	0.00	1.00												
420	56.48	0.00	2.00												
500	64.10	0.05	0.00	4.17E+03	7.49E-03	7.49E-03	.729	1.034E-02	1.747E-04	1.696E-04	302.6	7.49E-03	1.000	.729	.890
507	64.10	0.05	0.00	4.01E+03	7.49E-03	7.49E-03	.679	1.034E-02	1.657E-04	1.657E-04	302.4	7.49E-03	1.000	.679	.682
508	64.10	0.05	0.00	4.01E+03	6.26E-03	6.26E-03	.679	1.034E-02	1.446E-04	1.382E-04	301.6	6.26E-03	1.000	.679	.793
509	64.10	0.05	0.00	3.18E+03	4.90E-03	4.90E-03	.642	1.034E-02	1.079E-04	1.019E-04	300.8	4.90E-03	1.000	.642	.660
510	64.10	0.05	0.00	3.01E+03	3.40E-03	3.40E-03	.530	1.034E-02	1.201E-04	1.219E-04	300.2	3.40E-03	1.000	.530	.600
511	64.10	0.05	0.00	3.61E+03	5.19E-03	5.19E-03	.502	1.034E-02	1.219E-04	1.190E-04	299.8	5.19E-03	1.000	.502	.624
512	64.10	0.05	0.00	2.77E+03	3.02E-03	3.02E-03	.390	1.034E-02	9.19E-05	8.789E-05	299.3	3.02E-03	1.000	.390	.472
513	64.10	0.05	0.00	1.77E+03	2.06E-03	2.06E-03	.240	1.034E-02	9.931E-05	9.679E-05	299.0	2.06E-03	1.000	.240	.300
514	64.10	0.05	0.00	4.11E+02	5.97E-04	5.97E-04	.059	1.034E-02	1.039E-05	1.032E-05	297.9	5.97E-04	1.000	.059	.072
515	64.10	0.05	1.04												
516	64.10	0.05	1.04												
517	64.10	0.05	1.04												
518	64.10	0.05	1.05												
519	64.10	0.05	1.00												
520	64.10	0.00	2.00												

EDGE HEATING USED FOR ME

ME 0.67E+01 ML /HREFF= 0.51E-01

ME 4.12E+01 ML /HREFF= 0.79E-01

ME 6.77E+01 ML /HREFF= 0.34E-01

ME 6.63E+01 ML /HREFF= 0.459E-01

ME 6.88E+01 ML /HREFF= 0.27E-01

ME 9.17E+01 ML /HREFF= 2.07E-01

ME 5.66E+01 ML /HREFF= 6.16E-01

ME 6.19E+01 ML /HREFF= 8.12E-01

ME 7.17E+01 ML /HREFF= 7.12E-01

ME 3.99E+01 ML /HREFF= 1.03E+00

ME 4.63E+01 ML /HREFF= 9.32E-01

ME 5.64E+01 ML /HREFF= 8.13E-01

ME 6.41E+01 ML /HREFF= 6.99E-01

9.0. TRANSITION DISTANCE = 19.97 CM

FULLY TURBULENT 4.0. CONJECTURE AT = 40.95 CM

5.3-93



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 64

AMES 3.5 FT. HWT TEST (122), C.R. BLUMER, IN-LINE RSI GAP RUN (32) 1973

T/C	X	WY	27	C	ML	ML/MREFF	MREF	STL	STT	T	MLC	ML/MLCC	MLCC/MREF	ML/ME
(CH)	(CH)	(CH)	(CH)	(M/HZ)	(K/MZ-S)	(K/MZ-S)	(K/MZ-S)	(K)	(K)	(K)	(K/MZ-S)	(K)	(K/MZ-S)	(K)
216	46.32	0.07	1.04	1.79E+00	1.24E-05	1.17E-05	1.17E-02	5.803E-07	5.497E-07	300.1	1.24E-05	1.000	.001	.001
217	46.32	0.30	1.03	1.15E+01	1.48E-05	1.94E-05	1.67E-02	6.916E-07	6.253E-07	299.7	1.96E-05	1.000	.001	.002
218	46.32	0.39	1.03	1.45E+01	2.59E-05	1.94E-05	1.67E-02	9.589E-07	9.078E-07	299.5	2.04E-05	1.000	.002	.002
220	46.32	0.00	2.29	6.47E+03	9.62E-03	8.18E-03	9.18E-03	4.039E-04	3.829E-04	304.3	8.02E-03	1.000	.949	1.002
406	56.00	.76	1.00	6.44E+03	9.13E-03	8.05E-03	9.18E-03	4.276E-04	4.051E-04	304.6	9.13E-03	1.000	1.000	1.125
407	56.00	.51	1.00	6.32E+03	3.58E-03	2.65E-03	2.65E-03	4.196E-04	3.974E-04	304.1	8.56E-03	1.000	.966	1.104
408	56.00	.35	1.00	5.42E+03	4.22E-03	7.78E-03	9.05E-03	3.651E-04	3.567E-04	303.7	8.22E-03	1.000	.905	1.013
409	56.00	.35	1.00	5.42E+03	4.22E-03	7.78E-03	9.05E-03	3.651E-04	3.567E-04	303.7	7.48E-03	1.000	.708	.602
410	56.00	.34	1.00	5.42E+03	4.22E-03	7.78E-03	9.05E-03	3.651E-04	3.567E-04	303.7	7.48E-03	1.000	.708	.602
411	56.00	.07	1.00	4.22E+03	2.25E-03	3.92E-03	3.92E-03	2.929E-04	2.775E-04	303.8	6.25E-03	1.000	.600	.771
412	56.00	.07	1.00	4.22E+03	2.25E-03	3.92E-03	3.92E-03	2.929E-04	2.775E-04	303.8	6.25E-03	1.000	.600	.771
413	56.00	0.99	1.00	1.59E+03	2.86E-03	2.92E-03	3.92E-03	1.246E-04	1.181E-04	303.6	4.18E-03	1.000	.461	.516
414	56.00	0.99	1.00	1.59E+03	2.86E-03	2.92E-03	3.92E-03	1.246E-04	1.181E-04	303.6	4.18E-03	1.000	.461	.516
415	56.00	0.99	1.00	1.59E+03	2.86E-03	2.92E-03	3.92E-03	1.246E-04	1.181E-04	303.6	4.18E-03	1.000	.461	.516
416	56.00	0.99	1.00	1.59E+03	2.86E-03	2.92E-03	3.92E-03	1.246E-04	1.181E-04	303.6	4.18E-03	1.000	.461	.516
417	56.00	0.30	1.00	1.64E+01	1.24E-04	1.17E-04	1.17E-04	5.796E-06	5.492E-06	300.7	1.24E-04	1.000	.014	.015
418	56.00	0.00	1.00	1.64E+01	2.25E-05	2.19E-05	2.19E-05	1.054E-06	9.982E-07	300.2	2.25E-05	1.000	.002	.003
419	56.00	0.00	1.00	1.64E+01	2.25E-05	2.19E-05	2.19E-05	1.054E-06	9.982E-07	300.2	2.25E-05	1.000	.002	.003
420	56.00	0.00	1.00	1.64E+01	2.25E-05	2.19E-05	2.19E-05	1.054E-06	9.982E-07	300.2	2.25E-05	1.000	.002	.003
421	56.00	0.00	1.00	1.64E+01	2.25E-05	2.19E-05	2.19E-05	1.054E-06	9.982E-07	300.2	2.25E-05	1.000	.002	.003
422	56.00	0.00	1.00	1.64E+01	2.25E-05	2.19E-05	2.19E-05	1.054E-06	9.982E-07	300.2	2.25E-05	1.000	.002	.003
506	64.10	.76	1.00	1.39E+03	7.07E-03	6.69E-03	6.69E-03	3.319E-04	3.136E-04	304.2	7.07E-03	1.000	.053	.054
507	64.10	.51	1.00	1.39E+03	7.07E-03	6.69E-03	6.69E-03	3.319E-04	3.136E-04	304.2	7.07E-03	1.000	.053	.054
508	64.10	.25	1.00	1.42E+03	6.89E-03	6.43E-03	6.43E-03	3.180E-04	3.020E-04	303.4	6.89E-03	1.000	.022	.022
509	64.10	.25	1.00	1.42E+03	6.89E-03	6.43E-03	6.43E-03	3.180E-04	3.020E-04	303.4	6.89E-03	1.000	.022	.022
510	64.10	.74	1.00	3.59E+03	5.73E-03	5.43E-03	5.43E-03	2.887E-04	2.846E-04	302.9	5.73E-03	1.000	.613	.613
511	64.10	0.39	1.00	3.59E+03	5.73E-03	5.43E-03	5.43E-03	2.887E-04	2.846E-04	302.9	5.73E-03	1.000	.613	.613
512	64.10	0.99	1.00	2.18E+03	3.69E-03	2.92E-03	2.92E-03	1.446E-04	1.378E-04	302.8	3.69E-03	1.000	.059	.057
513	64.10	0.99	1.00	2.18E+03	3.69E-03	2.92E-03	2.92E-03	1.446E-04	1.378E-04	302.8	3.69E-03	1.000	.059	.057
514	64.10	0.99	1.00	2.18E+03	3.69E-03	2.92E-03	2.92E-03	1.446E-04	1.378E-04	302.8	3.69E-03	1.000	.059	.057
515	64.10	0.99	1.00	2.18E+03	3.69E-03	2.92E-03	2.92E-03	1.446E-04	1.378E-04	302.8	3.69E-03	1.000	.059	.057
516	64.10	0.07	1.00	1.69E+01	2.13E-03	2.07E-03	2.07E-03	9.070E-05	9.381E-05	301.7	2.13E-03	1.000	.033	.033
517	64.10	0.07	1.00	1.69E+01	2.13E-03	2.07E-03	2.07E-03	9.070E-05	9.381E-05	301.7	2.13E-03	1.000	.033	.033
518	64.10	0.07	1.00	1.69E+01	2.13E-03	2.07E-03	2.07E-03	9.070E-05	9.381E-05	301.7	2.13E-03	1.000	.033	.033
519	64.10	0.07	1.00	1.69E+01	2.13E-03	2.07E-03	2.07E-03	9.070E-05	9.381E-05	301.7	2.13E-03	1.000	.033	.033
520	64.10	0.77	1.00	2.07E+02	4.20E-04	3.98E-04	3.98E-04	1.966E-05	1.863E-05	301.1	4.20E-04	1.000	.051	.057

ORIGINAL PAGE IS  
OF POOR QUALITY

EDGE HEATING USED FOR ME  
 X 3.07E+01 ML /MREFF  
 X 4.12E+01 ML /MREFF  
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 X 9.85E+02 ML /MREFF  
 X 9.90E+02 ML /MREFF  
 X 9.95E+02 ML /MREFF  
 X 1.00E+03 ML /MREFF

9.0. TRANSITION DISTANCE = 0.32 CM  
 FULLY TURBULENCE 3.0. CONDITIONS AT X = 41.56 CM





# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 65

AMES 1.5 FT PM TEST (1-2), C.E. BLUMER, IN-LINE RSI GAP RUN ( 33) 1973

TT = 1.14 1E+11 (M)  
 GAP LENGTH = 37.491 (CM)  
 PT = 1.0731E+06 (N/CM2)  
 GAP WIDTH = .127 (CM)  
 HT = 1.23 0E+06 (J/KG)  
 GAP DEPTH = 2.332 (CM)  
 Q/METER = 1.11 4E+06  
 ORIENTATION = 15.003 (DEG)  
 QS = 1.0276E+05 (W/M2)  
 MAGN = 9.133  
 400-POSITION = 2  
 RMC VEL = 4.0657E+11 (KG/M2-S)  
 HAN/MNT = 1.974 FOR MT  
 MAM/MNT = 1.074 FOR HL  
 MLCC = HL (2NE. 3-DEP COND.)

7/C	X	Y/Y	Z/Z	C	HL	MT	HL/HREFF	HREF	STL	STT	T	MLCC	ML/MLCC	MLCC/HREF	ML/ME
(C/M)	(C/M)	(C/M)	(C/M)	(M/M2)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(K/(M2-S))	(K)	(K)	(K/(M2-S))	ML/MLCC	MLCC/HREF	ML/ME
16	71.72	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
17	66.06	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
18	61.56	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
19	56.06	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
20	51.56	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
21	47.06	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
22	42.56	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
23	38.06	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
24	33.56	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
25	29.06	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
26	24.56	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
27	20.06	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
28	15.56	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
29	11.06	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
30	6.56	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
31	2.06	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
32	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
33	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
34	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
35	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
36	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
37	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
38	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
39	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
40	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
41	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
42	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
43	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
44	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
45	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
46	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
47	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
48	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
49	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
50	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
51	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
52	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
53	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
54	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
55	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
56	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
57	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
58	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
59	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931
60	0.00	0.51	0.00	0.00	3.79E-03	6.41E-13	0.577	1.111E-02	2.183E-04	1.020E-04	305.3	1.000	1.000	0.044	0.931



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

PAGE 66

AMES 3.65 FT HWT TEST (1-2), C.E. BLUMER, IN-LINE RSI GAP FUR ( 33) 1973

T/C	X (CM)	Y (CM)	Z (CM)	O (W/2)	ML (KG/M2-S)	HT (KG/P2-S)	ML/HREF (KG/M2-S)	STL	STT	T (K)	MLCC (K/M2-S)	ML/MLCC	MLGG/HREF	ML/HE
216	46.32	0.34	1.34	7.36E+03	3.62E-03	9.61E-03	.698	1.072E-02	2.371E-04	2.240E-04	378.6	5.62E-03	1.000	.098
217	46.32	0.32	1.40	7.68E+03	1.02E-02	9.69E-03	.953	1.072E-02	2.517E-04	2.307E-04	380.4	5.82E-02	1.000	.093
218	46.32	0.31	1.65	7.55E+03	4.79E-03	9.29E-03	.914	1.072E-02	2.411E-04	2.280E-04	387.5	5.79E-03	1.000	.914
219	46.32	0.30	1.90	6.72E+03	9.77E-03	8.32E-03	.818	1.072E-02	2.162E-04	2.059E-04	387.0	5.77E-03	1.000	.818
220	46.32	0.30	2.29	5.72E+03	7.50E-03	7.11E-03	.700	1.072E-02	1.843E-04	1.793E-04	386.4	5.69E-03	1.000	.700
406	56.68	0.76	1.50	4.91E+03	5.48E-03	6.14E-03	.674	1.072E-02	1.590E-04	1.513E-04	385.9	6.40E-03	1.000	.674
407	56.68	0.71	1.50	3.09E+03	4.02E-03	3.81E-03	.375	1.072E-02	9.961E-05	9.398E-05	384.0	4.82E-03	1.000	.375
408	56.68	0.69	1.50	1.79E+03	2.30E-03	2.18E-03	.218	1.072E-02	5.673E-05	5.341E-05	383.6	2.30E-03	1.000	.218
409	56.68	0.69	1.50	2.04E+03	5.08E-04	5.35E-04	.054	1.072E-02	1.423E-05	1.356E-05	383.2	5.60E-04	1.000	.054
410	56.68	0.70	1.50	2.04E+03	5.20E-04	5.34E-04	.053	1.072E-02	7.990E-07	7.490E-07	382.4	5.62E-05	1.000	.053
411	56.68	0.89	1.50	1.36E+03	1.02E-02	9.69E-03	.953	1.072E-02	2.517E-04	2.307E-04	380.4	5.82E-02	1.000	.953
412	56.68	0.90	1.50	1.65E+03	1.65E-03	1.65E-03	.165	1.072E-02	1.65E-03	1.65E-03	380.4	1.65E-03	1.000	.165
413	56.68	0.90	1.50	1.65E+03	1.65E-03	1.65E-03	.165	1.072E-02	1.65E-03	1.65E-03	380.4	1.65E-03	1.000	.165
414	56.68	0.90	1.50	1.65E+03	1.65E-03	1.65E-03	.165	1.072E-02	1.65E-03	1.65E-03	380.4	1.65E-03	1.000	.165
415	56.68	0.90	1.50	1.65E+03	1.65E-03	1.65E-03	.165	1.072E-02	1.65E-03	1.65E-03	380.4	1.65E-03	1.000	.165
416	56.68	0.90	1.50	1.65E+03	1.65E-03	1.65E-03	.165	1.072E-02	1.65E-03	1.65E-03	380.4	1.65E-03	1.000	.165
417	56.68	0.90	1.50	1.65E+03	1.65E-03	1.65E-03	.165	1.072E-02	1.65E-03	1.65E-03	380.4	1.65E-03	1.000	.165
418	56.68	0.90	1.50	1.65E+03	1.65E-03	1.65E-03	.165	1.072E-02	1.65E-03	1.65E-03	380.4	1.65E-03	1.000	.165
419	56.68	0.90	1.50	1.65E+03	1.65E-03	1.65E-03	.165	1.072E-02	1.65E-03	1.65E-03	380.4	1.65E-03	1.000	.165
420	56.68	0.90	1.50	1.65E+03	1.65E-03	1.65E-03	.165	1.072E-02	1.65E-03	1.65E-03	380.4	1.65E-03	1.000	.165
506	64.10	0.75	0.20	6.44E+03	1.62E-03	7.90E-03	.054	9.056E-03	2.079E-04	1.967E-04	380.1	8.42E-03	1.000	.054
507	64.10	0.51	0.20	1.36E+03	0.23E-03	7.91E-03	.035	9.056E-03	2.079E-04	1.967E-04	380.1	8.42E-03	1.000	.035
508	64.10	0.29	0.20	5.95E+03	7.78E-03	7.37E-03	.709	9.056E-03	1.916E-04	1.837E-04	386.0	7.70E-03	1.000	.709
509	64.10	0.19	0.20	1.98E+03	6.41E-03	6.18E-03	.606	9.056E-03	1.979E-04	1.898E-04	385.7	6.41E-03	1.000	.606
510	64.10	0.24	0.20	1.25E+03	5.56E-03	5.27E-03	.504	9.056E-03	1.377E-04	1.299E-04	385.4	5.56E-03	1.000	.504
511	64.10	0.30	0.20	1.18E+03	6.22E-03	4.96E-03	.530	9.056E-03	1.297E-04	1.221E-04	385.0	6.22E-03	1.000	.530
512	64.10	0.30	0.20	2.79E+03	3.54E-03	3.35E-03	.359	9.056E-03	8.744E-05	8.269E-05	384.5	7.54E-03	1.000	.359
513	64.10	0.29	0.20	1.65E+03	2.24E-03	2.19E-03	.224	9.056E-03	5.411E-05	5.158E-05	384.0	2.24E-03	1.000	.224
514	64.10	0.29	0.20	3.43E+03	4.97E-04	4.72E-04	.056	9.056E-03	1.220E-05	1.163E-05	383.0	4.97E-04	1.000	.056
515	64.10	0.89	0.20	3.43E+03	4.95E-05	4.22E-05	.035	9.056E-03	1.091E-06	1.039E-06	382.0	4.95E-05	1.000	.035
516	64.10	0.90	0.20	1.65E+03	1.65E-03	1.65E-03	.165	1.072E-02	1.65E-03	1.65E-03	380.4	1.65E-03	1.000	.165
517	64.10	0.90	0.20	1.65E+03	1.65E-03	1.65E-03	.165	1.072E-02	1.65E-03	1.65E-03	380.4	1.65E-03	1.000	.165
518	64.10	0.90	0.20	1.65E+03	1.65E-03	1.65E-03	.165	1.072E-02	1.65E-03	1.65E-03	380.4	1.65E-03	1.000	.165
519	64.10	0.90	0.20	1.65E+03	1.65E-03	1.65E-03	.165	1.072E-02	1.65E-03	1.65E-03	380.4	1.65E-03	1.000	.165
520	64.10	0.90	0.20	1.65E+03	1.65E-03	1.65E-03	.165	1.072E-02	1.65E-03	1.65E-03	380.4	1.65E-03	1.000	.165

EDGE HEATING USED FOR ME  
 XE 3.872E+01 ML /HREF= 9.169E-01  
 XE 4.124E+01 ML /HREF= 6.902E-01  
 XE 4.77E+01 ML /HREF= 6.744E-01  
 XE 6.31E+01 ML /HREF= 6.20E-01  
 XE 8.06E+01 ML /HREF= 6.071E-01  
 XE 9.19E+01 ML /HREF= 6.078E-01  
 XE 5.64E+01 ML /HREF= 6.037E-01  
 XE 6.159E+01 ML /HREF= 6.771E-01  
 XE 7.172E+01 ML /HREF= 6.443E-01  
 XE 3.997E+01 ML /HREF= 1.514E+00  
 XE 4.832E+01 ML /HREF= 6.32E-01  
 XE 5.649E+01 ML /HREF= 9.631E-01  
 XE 6.436E+01 ML /HREF= 6.392E-01  
 O.A. TRANSITION DISTANCE = 0.32 CM  
 FULLY TURBULENT O.A. CONDITION AT X = 48.66 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 67

34) 1973

AMES 3.6 FT MW TEST (172), G.B. FLUMER, IN-LINE PSI GAP - UN ( 34) 1973  
 VT = 1.41E+04 (K) GAP LENGTH = 3".47 (CM)  
 PT = 6.84E+04 (W/M2) GAP WIDTH = .127 (CM)  
 RT = 1.371E+04 (J/KG) GAP DEPTH = 2.332 (CM)  
 RE/METER = 1.67E+04 NO. ORIENTATIONS = 15.000 (DEG)  
 MAGN = 5.11 35 = 6.427E+04 (W/M2)  
 PWC VEL = 2.33E+04 (K/M2-S) 400. POSITION# = 2  
 HAN/MY = 2.00E+04 FOR MY  
 HAN/WPT = 2.00E+04 FOR WL  
 MLCC = ML(2NC, 3S) DEF. COME(,)

T/C	X (CM)	YV (CM)	ZZ (CM)	Q (W/M2)	PL (MG/P2-S)	MT (MG/P2-S)	ML/HREF (MG/P2-S)	MREF (MG/P2-S)	STL	STY	T (K)	MLCC (K/M2-S)	ML/MLCC	MLCC/MREF	ML/ME
17	61.62	-51	0.00	6.45E+03	1.03E+03	6.47E+03	.911	7.03E+03	3.251E+04	3.079E-04	308.2	9.76E-03	1.707	.918	1.62E
16	61.64	-51	0.00	7.78E+03	1.03E+03	6.47E+03	.911	7.03E+03	4.717E-04	4.365E-04	315.1	9.90E-03	1.685	.924	1.635
15	61.66	-51	0.00	9.11E+03	1.03E+03	6.47E+03	.911	7.03E+03	6.162E-04	6.025E-04	314.5	1.01E-02	1.600	.990	1.615
14	61.68	-51	0.00	1.04E+04	1.03E+03	6.47E+03	.911	7.03E+03	7.607E-04	7.995E-04	313.7	1.03E-02	1.500	.946	1.580
13	61.70	-51	0.00	1.17E+04	1.03E+03	6.47E+03	.911	7.03E+03	9.052E-04	9.333E-04	312.9	7.89E-03	1.800	.732	.820
12	61.72	-51	0.00	1.30E+04	1.03E+03	6.47E+03	.911	7.03E+03	1.049E-03	1.072E-02	312.2	6.56E-03	1.700	.611	.684
11	61.74	-51	0.00	1.43E+04	1.03E+03	6.47E+03	.911	7.03E+03	1.186E-03	1.172E-02	311.5	4.29E-03	1.600	.480	.448
10	61.76	-51	0.00	1.56E+04	1.03E+03	6.47E+03	.911	7.03E+03	1.323E-03	1.272E-02	310.8	2.96E-03	1.500	.349	.287
9	61.78	-51	0.00	1.69E+04	1.03E+03	6.47E+03	.911	7.03E+03	1.460E-03	1.372E-02	310.1	1.63E-03	1.400	.218	.186
8	61.80	-51	0.00	1.82E+04	1.03E+03	6.47E+03	.911	7.03E+03	1.597E-03	1.472E-02	309.4	3.51E-04	1.300	.086	.074
7	61.82	-51	0.00	1.95E+04	1.03E+03	6.47E+03	.911	7.03E+03	1.734E-03	1.572E-02	308.7	1.16E-04	1.200	.011	.012
6	61.84	-51	0.00	2.08E+04	1.03E+03	6.47E+03	.911	7.03E+03	1.871E-03	1.672E-02	308.0	9.97E-05	1.100	.000	.000
5	61.86	-51	0.00	2.21E+04	1.03E+03	6.47E+03	.911	7.03E+03	2.008E-03	1.772E-02	307.3	8.30E-05	1.000	.000	.000
4	61.88	-51	0.00	2.34E+04	1.03E+03	6.47E+03	.911	7.03E+03	2.145E-03	1.872E-02	306.6	6.63E-05	9.00E-05	.000	.000
3	61.90	-51	0.00	2.47E+04	1.03E+03	6.47E+03	.911	7.03E+03	2.282E-03	1.972E-02	305.9	4.96E-05	8.00E-05	.000	.000
2	61.92	-51	0.00	2.60E+04	1.03E+03	6.47E+03	.911	7.03E+03	2.419E-03	2.072E-02	305.2	3.29E-05	7.00E-05	.000	.000
1	61.94	-51	0.00	2.73E+04	1.03E+03	6.47E+03	.911	7.03E+03	2.556E-03	2.172E-02	304.5	1.62E-05	6.00E-05	.000	.000
0	61.96	-51	0.00	2.86E+04	1.03E+03	6.47E+03	.911	7.03E+03	2.693E-03	2.272E-02	303.8	9.55E-06	5.00E-05	.000	.000
373	932								1.820E-04	1.820E-04	309.4	9.76E-03	1.707	.918	1.62E
374	932								1.820E-04	1.820E-04	309.4	9.90E-03	1.685	.924	1.635
375	932								1.820E-04	1.820E-04	309.4	1.01E-02	1.600	.990	1.615
376	932								1.820E-04	1.820E-04	309.4	1.03E-02	1.500	.946	1.580
377	932								1.820E-04	1.820E-04	309.4	7.89E-03	1.800	.732	.820
378	932								1.820E-04	1.820E-04	309.4	6.56E-03	1.700	.611	.684
379	932								1.820E-04	1.820E-04	309.4	4.29E-03	1.600	.480	.448
380	932								1.820E-04	1.820E-04	309.4	2.96E-03	1.500	.349	.287
381	932								1.820E-04	1.820E-04	309.4	1.63E-03	1.400	.218	.186
382	932								1.820E-04	1.820E-04	309.4	1.16E-04	1.300	.086	.074
383	932								1.820E-04	1.820E-04	309.4	9.97E-05	1.200	.011	.012
384	932								1.820E-04	1.820E-04	309.4	8.30E-05	1.100	.000	.000
385	932								1.820E-04	1.820E-04	309.4	6.63E-05	1.000	.000	.000
386	932								1.820E-04	1.820E-04	309.4	4.96E-05	9.00E-05	.000	.000
387	932								1.820E-04	1.820E-04	309.4	3.29E-05	8.00E-05	.000	.000
388	932								1.820E-04	1.820E-04	309.4	1.62E-05	7.00E-05	.000	.000
389	932								1.820E-04	1.820E-04	309.4	9.55E-06	6.00E-05	.000	.000
390	932								1.820E-04	1.820E-04	309.4	7.89E-06	5.00E-05	.000	.000
391	932								1.820E-04	1.820E-04	309.4	6.23E-06	4.00E-05	.000	.000
392	932								1.820E-04	1.820E-04	309.4	4.57E-06	3.00E-05	.000	.000
393	932								1.820E-04	1.820E-04	309.4	2.91E-06	2.00E-05	.000	.000
394	932								1.820E-04	1.820E-04	309.4	1.25E-06	1.00E-05	.000	.000
395	932								1.820E-04	1.820E-04	309.4	6.89E-07	5.00E-06	.000	.000
396	932								1.820E-04	1.820E-04	309.4	3.23E-07	2.00E-06	.000	.000
397	932								1.820E-04	1.820E-04	309.4	1.57E-07	1.00E-06	.000	.000
398	932								1.820E-04	1.820E-04	309.4	7.11E-08	5.00E-07	.000	.000
399	932								1.820E-04	1.820E-04	309.4	3.45E-08	2.00E-07	.000	.000
400	932								1.820E-04	1.820E-04	309.4	1.79E-08	1.00E-07	.000	.000

# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 68

AMES 3.65 FT HMT TEST (162), C.B. BLUMER, IN-LINE RSI GAP RUN (36) 1973

T/C	X (CM)	Y (CM)	Z (CM)	C (W/M <sup>2</sup> )	ML (KG/M <sup>2</sup> -S)	MT (KG/M <sup>2</sup> -S)	ML/MREF (KG/M <sup>2</sup> -S)	STL	STT	T (K)	MLCC (K/(M <sup>2</sup> -S))	ML/MLCC	MLCC/MREF	ML/M <sup>2</sup>
216	46.32	0.00	1.14	3.97E+01	5.56E-06	5.26E-06	0.84	1.03E-02	2.647E-07	306.2	5.56E-06	1.000	.001	.001
217	46.32	0.70	1.56	3.15E+01	4.04E-05	4.04E-05	0.04	1.03E-02	2.033E-06	306.1	4.27E-05	1.000	.004	.005
218	46.32	0.00	1.50	1.28E+01	1.80E-05	1.79E-05	0.02	1.03E-02	6.553E-07	309.7	1.80E-05	1.000	.002	.002
220	46.32	0.00	2.09	6.78E+03	8.56E-03	9.11E-03	0.94	9.05E-03	4.079E-04	311.2	8.56E-03	1.000	.946	1.003
476	56.48	0.00	1.00	6.31E+03	8.09E-03	8.22E-03	0.93	8.05E-03	4.235E-04	310.8	8.09E-03	1.000	.903	1.003
477	56.48	0.00	1.51	5.25E+03	8.27E-03	7.93E-03	0.94	8.05E-03	3.633E-04	311.3	8.27E-03	1.000	.914	1.017
480	56.48	0.25	1.60	6.27E+03	7.32E-03	6.93E-03	0.99	8.04E-03	3.439E-04	309.9	7.32E-03	1.000	.809	.908
409	56.48	0.15	1.50	4.36E+03	6.14E-03	5.81E-03	0.78	9.04E-03	2.923E-04	309.6	6.14E-03	1.000	.678	.708
410	56.48	0.00	1.50	3.74E+03	5.25E-03	4.98E-03	0.51	8.14E-03	2.502E-04	313.3	5.25E-03	1.000	.541	.644
412	56.48	0.00	1.50	2.74E+03	4.17E-03	3.98E-03	0.38	9.14E-03	1.589E-04	308.5	4.17E-03	1.000	.358	.388
413	56.48	0.00	1.50	1.09E+03	1.53E-03	1.45E-03	0.16	9.04E-03	7.273E-05	307.6	1.53E-03	1.000	.169	.188
414	56.48	0.00	1.50	2.21E+02	3.13E-04	2.94E-04	0.04	9.04E-03	1.479E-05	317.4	3.13E-04	1.000	.034	.034
415	56.48	0.00	1.50	7.97E+01	5.56E-05	5.27E-05	0.06	9.04E-03	2.649E-06	306.9	5.56E-05	1.000	.006	.007
416	56.48	0.00	1.50	4.29E+01	6.01E-05	5.69E-05	0.07	9.04E-03	2.862E-06	306.5	6.01E-05	1.000	.007	.007
417	56.48	0.00	1.50	4.69E+01	6.86E-05	6.21E-05	0.17	9.04E-03	3.122E-06	310.2	6.86E-05	1.000	.007	.008
418	56.48	0.00	1.50	1.09E+03	1.53E-03	1.45E-03	0.16	9.04E-03	7.273E-05	307.6	1.53E-03	1.000	.169	.188
419	56.48	0.00	1.50	2.21E+02	3.13E-04	2.94E-04	0.04	9.04E-03	1.479E-05	317.4	3.13E-04	1.000	.034	.034
420	56.48	0.00	1.50	7.97E+01	5.56E-05	5.27E-05	0.06	9.04E-03	2.649E-06	306.9	5.56E-05	1.000	.006	.007
421	56.48	0.00	1.50	4.29E+01	6.01E-05	5.69E-05	0.07	9.04E-03	2.862E-06	306.5	6.01E-05	1.000	.007	.007
422	56.48	0.00	1.50	4.69E+01	6.86E-05	6.21E-05	0.17	9.04E-03	3.122E-06	310.2	6.86E-05	1.000	.007	.008
506	64.10	0.76	0.00	5.49E+03	7.73E-03	7.32E-03	0.97	8.24E-03	3.689E-04	310.5	7.73E-03	1.000	.937	1.038
507	64.10	0.51	0.00	5.48E+03	7.69E-03	7.28E-03	0.92	8.24E-03	3.655E-04	310.1	7.69E-03	1.000	.932	1.031
508	64.10	0.25	0.00	5.73E+03	7.75E-03	6.74E-03	0.87	8.24E-03	3.361E-04	309.7	7.87E-03	1.000	.897	1.009
509	64.10	0.15	0.00	4.14E+03	5.92E-03	5.51E-03	0.78	8.24E-03	2.772E-04	309.8	5.82E-03	1.000	.786	1.000
511	64.10	0.00	0.00	3.57E+03	4.93E-03	4.65E-03	0.56	8.24E-03	2.339E-04	308.5	4.91E-03	1.000	.596	1.021
512	64.10	0.00	0.00	2.73E+03	4.31E-03	4.09E-03	0.49	8.24E-03	2.137E-04	308.5	4.53E-03	1.000	.549	1.101
522	64.10	0.00	0.00	2.06E+03	2.69E-03	2.74E-03	0.35	8.24E-03	1.379E-04	308.2	2.80E-03	1.000	.351	.708
523	64.10	0.00	0.00	1.33E+03	1.82E-03	1.72E-03	0.22	8.24E-03	8.673E-05	307.9	1.82E-03	1.000	.221	.479
524	64.10	0.00	0.00	2.87E+02	3.99E-04	3.78E-04	0.04	8.24E-03	1.902E-05	307.3	3.99E-04	1.000	.040	.109
525	64.10	0.00	0.00	1.33E+02	1.80E-04	1.77E-04	0.02	8.24E-03	8.692E-06	306.6	1.80E-04	1.000	.023	.049
516	64.10	0.00	1.14	7.21E+02	4.49E-04	4.25E-04	0.04	8.24E-03	2.139E-05	316.3	4.49E-04	1.000	.054	.110
517	64.10	0.00	1.05	5.20E+01	5.30E-05	5.09E-05	0.17	8.24E-03	2.859E-06	309.7	5.30E-05	1.000	.007	.036
518	64.10	0.00	1.00	5.20E+01	5.30E-05	5.09E-05	0.17	8.24E-03	2.859E-06	309.7	5.30E-05	1.000	.007	.036
520	64.10	0.00	1.00	5.20E+01	5.30E-05	5.09E-05	0.17	8.24E-03	2.859E-06	309.7	5.30E-05	1.000	.007	.036

**ORIGINAL PAGE IS  
OF POOR QUALITY**

EDGE HEATING USED FOR ME

X#	3.07E+01	ML	MREF	0.28E-01
X#	6.32E+01	ML	MREF	6.82E-01
X#	6.37E+01	ML	MREF	6.74E-01
X#	6.31E+01	ML	MREF	6.93E-01
X#	6.80E+01	ML	MREF	6.00E-01
X#	5.13E+01	ML	MREF	6.81E-01
X#	6.64E+01	ML	MREF	6.96E-01
X#	6.19E+01	ML	MREF	6.27E-01
X#	6.66E+01	ML	MREF	6.23E-01
X#	7.17E+01	ML	MREF	9.38E-01
X#	3.99E+01	ML	MREF	9.32E-01
X#	6.63E+01	ML	MREF	9.17E-01
X#	6.64E+01	ML	MREF	9.02E-01
X#	6.41E+01	ML	MREF	6.72E-01

3.0 L. TURBULENT 3.0 L. CONDITIONS AT 375.10 CM

5.3-99



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 69

AVES 1.5 FT HWT TEST (1R2), 2.5 PLUMER, IN-LINE RSI GAP FUP( 15) 1971

IT = 1.1325E+01(K)  
 FT = 2.0915E+06(W/M<sup>2</sup>)  
 PT = 1.1945E+05(L/KC)  
 RE/METER = 0.0777E+06  
 WACH = 5.377  
 RHO VEL = 3.3041E+01(KG/M<sup>2</sup>-S)  
 HAM/MT = 1.0974 FOR HT  
 HAM/MT = 1.0974 FOR ML  
 MLCC = ML(2AC, 3DEF, COND,\*)

T/C	X (CM)	YV (CM)	ZZ (CM)	U (M/MT)	ML (KG/M <sup>2</sup> -S)	HT (KG/M <sup>2</sup> -S)	ML/MLR/MLRFF (KG/M <sup>2</sup> -S)	MREF (KG/M <sup>2</sup> -S)	STL	SIT	T (K)	MLCC (K/(M <sup>2</sup> -S))	ML/MLCC	MLCC/MREF	ML/ME
1	135.24	-51	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	311.9	7.51E-02	1.000	1.000	1.000	1.000
2	132.74	-51	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.4	7.51E-02	1.000	1.000	1.000	1.000
3	130.16	-51	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
4	127.63	-51	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
5	125.09	-51	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
6	122.56	-51	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
7	117.47	-51	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
8	112.37	-51	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
9	107.31	-51	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
10	102.24	-51	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
11	97.12	-51	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
12	92.04	-51	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
13	86.96	-51	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
14	81.88	-51	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
15	76.81	-51	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
103	111.09	1.52	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
104	111.09	1.72	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
105	111.09	1.92	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
106	111.09	2.12	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
107	111.09	2.32	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
108	111.09	2.52	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
109	111.09	2.72	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
110	111.09	2.92	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
111	111.09	3.12	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
112	111.09	3.32	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
113	111.09	3.52	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
114	111.09	3.72	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
115	111.09	3.92	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
116	111.09	4.12	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
117	111.09	4.32	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
118	111.09	4.52	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
119	111.09	4.72	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
120	111.09	4.92	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
203	117.44	1.52	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
204	117.44	1.72	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
205	117.44	1.92	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
206	117.44	2.12	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
207	117.44	2.32	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
208	117.44	2.52	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
209	117.44	2.72	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
210	117.44	2.92	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
211	117.44	3.12	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
212	117.44	3.32	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
213	117.44	3.52	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
214	117.44	3.72	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000
215	117.44	3.92	2.00	5.77E+04	7.31E-02	6.97E-02	8.62E-02	8.719E-04	8.261E-04	312.5	7.51E-02	1.000	1.000	1.000	1.000



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 70

AMES 3.5 FT. HWT TEST (1523), J.P. BLUMER, IN-LINE RSI GAP RUN( 32) 1973

T/C	X (CH)	Y (CH)	ZZ (C)	G (M/M <sup>2</sup> )	ML (KG/M <sup>2</sup> -S)	MT (KG/M <sup>2</sup> -S)	ML/MREF	HREF (KG/M <sup>2</sup> -S)	STL	STT	T (K)	PLCC (K/(M <sup>2</sup> -S))	HL/MLCC	MLCC/MREF	ML/MHE	
216	117.44	0.00	1.14	9.56E+03	1.29E-02	1.53E-04	.186	6.317E-02	1.537E-04	1.457E-04	392.4	1.29E-02	1.000	.166	.173	
217	117.44	0.00	1.40	6.07E+03	6.20E-03	7.78E-03	.119	6.517E-02	9.745E-05	9.274E-05	305.0	6.20E-03	1.000	.119	.110	
218	117.44	0.00	1.65	3.81E+03	4.46E-03	4.32E-03	.075	6.517E-02	5.325E-05	5.268E-05	302.0	4.46E-03	1.000	.085	.068	
219	117.44	0.00	1.90	1.64E+03	1.69E-03	1.79E-03	.027	6.517E-02	2.252E-05	2.195E-05	301.6	1.69E-03	1.000	.027	.025	
220	117.44	0.00	2.29	1.11E+02	1.49E-04	1.41E-04	.002	6.517E-02	1.774E-06	1.694E-06	301.4	1.49E-04	1.000	.002	.002	
406	127.60	0.76	1.00	5.11E+04	5.95E-02	6.59E-02	.859	6.004E-02	8.295E-04	7.850E-04	311.1	6.95E-02	1.000	.869	.865	
407	127.60	0.51	1.00	5.33E+04	7.26E-02	6.59E-02	.907	7.995E-02	8.657E-04	8.265E-04	310.9	7.26E-02	1.000	.907	.924	
408	127.60	0.24	1.00	5.55E+04	7.33E-02	6.59E-02	.915	7.995E-02	8.723E-04	8.262E-04	310.1	7.33E-02	1.000	.915	.932	
409	127.60	0.14	1.00	5.77E+04	6.97E-02	6.51E-02	.872	7.995E-02	8.315E-04	7.879E-04	309.5	6.97E-02	1.000	.872	.889	
410	127.60	0.06	1.00	4.95E+04	6.22E-02	5.95E-02	.776	7.995E-02	7.416E-04	7.028E-04	309.0	6.22E-02	1.000	.776	.793	
411	127.60	0.00	1.15	4.17E+04	5.52E-02	5.32E-02	.692	7.987E-02	6.517E-04	6.242E-04	308.5	5.52E-02	1.000	.692	.704	
412	127.60	0.00	1.25	2.74E+04	3.72E-02	3.52E-02	.465	7.987E-02	6.417E-04	6.208E-04	307.8	3.72E-02	1.000	.465	.474	
413	127.60	0.00	1.38	1.73E+04	2.36E-02	2.22E-02	.293	7.987E-02	2.788E-04	2.643E-04	305.0	2.36E-02	1.000	.293	.298	
414	127.60	0.00	1.64	1.89E+03	2.96E-03	2.95E-03	.111	7.987E-02	9.573E-05	9.075E-05	304.9	2.96E-03	1.000	.111	.102	
415	127.60	0.00	1.90	2.06E+02	1.96E-03	1.91E-03	.013	7.987E-02	1.266E-05	1.202E-05	303.3	1.96E-03	1.000	.013	.014	
416	127.60	0.00	1.40	2.49E+02	3.35E-04	3.18E-04	.004	7.387E-02	6.001E-06	3.742E-06	302.6	3.35E-04	1.000	.004	.004	
417	127.60	0.00	1.85	1.17E+01	5.32E-05	7.88E-05	.001	7.987E-02	9.916E-07	9.473E-07	302.2	1.32E-05	1.000	.001	.001	
418	127.60	0.00	1.90													
419	127.60	0.00	2.29													
506	135.22	0.76	0.70	5.76E+04	6.09E-02	6.53E-02	.792	6.765E-02	8.223E-04	7.798E-04	311.4	6.09E-02	1.000	.792	.840	
507	135.22	0.51	0.60	5.14E+04	7.10E-02	6.84E-02	.805	8.765E-02	8.353E-04	7.915E-04	310.6	7.10E-02	1.000	.805	.866	
508	135.22	0.24	0.60	5.53E+04	7.20E-02	7.33E-02	.826	8.697E-02	8.972E-04	8.591E-04	309.9	7.20E-02	1.000	.826	.883	
509	135.22	0.14	1.00	5.30E+04	7.20E-02	6.82E-02	.820	8.697E-02	8.972E-04	8.199E-04	309.4	7.20E-02	1.000	.820	.863	
510	135.22	0.06	1.15	4.28E+04	5.81E-02	6.45E-02	.783	8.697E-02	8.115E-04	7.693E-04	307.8	5.81E-02	1.000	.783	.838	
511	135.22	0.00	1.25	4.79E+04	5.95E-02	6.45E-02	.747	8.697E-02	7.749E-04	7.343E-04	307.3	6.45E-02	1.000	.747	.807	
512	135.22	0.00	1.38	3.18E+04	5.43E-02	5.37E-02	.624	8.697E-02	6.483E-04	6.133E-04	307.0	5.43E-02	1.000	.624	.672	
513	135.22	0.00	1.64	3.27E+04	4.93E-02	4.10E-02	.496	8.697E-02	5.167E-04	4.891E-04	306.2	4.93E-02	1.000	.496	.551	
514	135.22	0.00	1.90	1.9E+04	2.46E-02	2.33E-02	.283	8.697E-02	2.973E-04	2.780E-04	305.3	2.46E-02	1.000	.283	.306	
515	135.22	0.00	1.40	1.9E+04	1.40E-02	1.45E-02	.176	8.697E-02	1.761E-04	1.670E-04	304.2	1.40E-02	1.000	.176	.202	
516	135.22	0.00	1.14	6.95E+03	9.38E-03	8.45E-03	.116	8.697E-02	1.119E-04	1.070E-04	304.1	9.38E-03	1.000	.116	.126	
517	135.22	0.00	1.14	3.63E+03	4.90E-03	4.56E-03	.056	8.697E-02	5.849E-05	5.598E-05	303.5	4.90E-03	1.000	.056	.067	
518	135.22	0.00	1.65	1.82E+03	2.45E-03	2.32E-03	.028	8.697E-02	2.924E-05	2.772E-05	303.1	2.45E-03	1.000	.028	.033	
519	135.22	0.00	1.90	1.23E+03	1.66E-03	1.57E-03	.019	8.697E-02	1.973E-05	1.872E-05	302.4	1.66E-03	1.000	.019	.023	
520	135.22	0.00	2.29	1.69E+02	2.28E-04	2.46E-04	.003	8.697E-02	2.710E-06	2.577E-06	301.6	1.66E-03	1.000	.003	.003	

EDGE HEATING USED FOR HE

X# 7.649E+01 ML /MREF# 3.562E+02

X# 8.188E+01 ML /MREF# 3.999E+00

X# 8.696E+01 ML /MREF# 2.305E+00

X# 9.204E+01 ML /MREF# 2.979E+00

X# 9.712E+01 ML /MREF# 2.113E+00

X# 1.022E+02 ML /MREF# 1.533E+00

X# 1.073E+02 ML /MREF# 1.793E+00

X# 1.124E+02 ML /MREF# 1.237E+00

X# 1.175E+02 ML /MREF# 1.77E+00

X# 1.226E+02 ML /MREF# 1.029E+00

X# 1.277E+02 ML /MREF# 5.699E-01

X# 1.328E+02 ML /MREF# 5.616E-01

X# 1.379E+02 ML /MREF# 6.417E-01

X# 1.430E+02 ML /MREF# 1.67E+00

X# 1.481E+02 ML /MREF# 1.52E+00

X# 1.532E+02 ML /MREF# 9.75E-01

X# 1.583E+02 ML /MREF# 8.40E-01

X# 1.634E+02 ML /MREF# 8.40E-01

ALL TRANSITION DISTANCE = 0.66 CM

FULLY TURBULENT 3.0 L. CONDITIONS AT = 81.05 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 71

AMES 7.5 FT WWT TEST (1-2) T.E. BLUMER, IN-LINE RSI GPO RUN# (36) 1973

TT = 1.11" (28.17 CM)  
 GAP LENGTH = 3" (7.62 CM)  
 GAP WIDTH = .25" (6.35 CM)  
 HT = 2.0332" (51.64 MM)  
 GAP WIDTH = .25" (6.35 CM)  
 PE/METER = 6.81 (1.78 G/G)  
 MACH = 5.11  
 RMC VEL = 3.61 (9.17 M/M)  
 HAM/HT = 3.97 (101.4 MM)  
 HLEP = HLE2ND (DRUCK COME.1)

T/C	X	Y	Z	ZZ	C	ML	ML	MT	ML/MREF	MREF	STL	STT	T	MLCC	ML/MLCC	MLCC/MREF	ML/HF
(IN)	(IN)	(IN)	(IN)	(IN)	(IN)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(K)	(KG/M2-S)			
1	136.24	-51	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.00	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.267	1.026
2	132.70	-51	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.00	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.250	1.001
3	131.16	-51	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.00	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.429	1.009
4	127.67	-51	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.00	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.870	1.003
5	125.09	-51	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.00	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	2.076	1.002
6	122.86	-51	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.00	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.902	1.003
7	117.67	-51	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.00	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.433	1.001
8	117.37	-51	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.00	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	0.896	1.000
9	117.31	-51	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.00	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	0.896	1.000
10	117.28	-51	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.00	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	0.896	1.000
11	97.12	-51	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.00	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	0.896	1.000
12	92.34	-51	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.00	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	0.896	1.000
13	86.04	-51	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.00	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	0.896	1.000
14	81.92	-51	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.00	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	0.896	1.000
15	76.00	-51	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.00	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	0.896	1.000
103	111.09	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	1.267	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.267	1.026
105	111.09	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	1.250	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.250	1.001
107	111.09	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	1.429	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.429	1.009
108	111.09	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	1.870	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.870	1.003
110	111.09	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	2.076	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	2.076	1.002
111	111.09	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	1.902	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.902	1.003
112	111.09	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	1.433	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.433	1.001
113	111.09	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.896	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	0.896	1.000
114	111.09	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.896	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	0.896	1.000
115	111.09	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.896	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	0.896	1.000
116	111.09	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.896	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	0.896	1.000
117	111.09	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.896	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	0.896	1.000
118	111.09	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.896	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	0.896	1.000
119	111.09	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.896	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	0.896	1.000
120	111.09	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	0.896	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	0.896	1.000
203	117.64	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	1.113	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.113	1.026
205	117.64	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	1.059	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.059	1.001
207	117.64	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	1.175	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.175	1.009
209	117.64	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	1.204	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.204	1.003
211	117.64	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	1.243	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.243	1.002
212	117.64	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	1.026	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.026	1.003
213	117.64	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	1.026	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.026	1.001
214	117.64	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	1.026	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.026	1.000
215	117.64	1.52	1.00	1.00	1.00	7.40E-02	7.40E-02	7.40E-02	1.026	7.40E-02	9.9.1E-04	9.336E-04	315.0	7.34E-02	1.000	1.026	1.000

RSI GAP HEATING ANALYSIS - II  
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AMES 1.3 CT HWY TEST (1-2), C.S. BLUMER, IN-LINE RSI GAP RUN( 36) 1973

T/C	X (CM)	Y (CM)	Z (CM)	D (W/M2)	HL (KG/M2-S)	HT (KG/M2-S)	HL/HREF (KG/M2-S)	MREF (KG/M2-S)	STL	STT	T (K)	HLCC (K/M2-S)	HL/MLCC	MLCC/MREF	ML/MLCC	ML/MREF
216	117.64	0.00	1.14	3.57E+04	4.80E-02	4.95E-02	5.97	1.95E-02	5.70E-04	5.40E-04	317.1	1.00E-02	1.000	.698	.700	
217	117.64	0.00	1.44	3.31E+04	4.25E-02	4.32E-02	6.30	1.95E-02	5.07E-04	4.78E-04	309.7	4.24E-02	1.000	.618	.619	
218	117.64	0.00	1.65	2.85E+04	3.39E-02	3.21E-02	4.87	6.94E-02	4.33E-04	3.82E-04	306.6	3.39E-02	1.000	.407	.404	
219	117.64	0.00	1.90	1.95E+04	2.26E-02	2.14E-02	3.82	6.94E-02	2.67E-04	2.54E-04	306.0	2.26E-02	1.000	.325	.329	
220	117.64	0.00	2.29	3.91E+03	5.38E-03	5.05E-03	.877	6.94E-02	6.34E-05	6.00E-05	305.6	5.33E-03	1.000	.677	.674	
476	127.60	.75	1.17	4.62E+04	5.35E-02	5.91E-02	.739	8.41E-02	7.55E-04	7.19E-04	319.1	6.35E-02	1.000	.709	.685	
487	127.60	.51	1.00	4.86E+04	5.18E-02	5.51E-02	.762	8.41E-02	7.28E-04	6.90E-04	319.1	6.35E-02	1.000	.762	.797	
488	127.60	.25	1.17	4.81E+04	5.18E-02	5.51E-02	.710	8.41E-02	6.74E-04	6.42E-04	319.5	5.78E-02	1.000	.710	.743	
409	127.60	.15	1.17	3.82E+04	5.39E-02	5.10E-02	.674	8.41E-02	6.49E-04	6.07E-04	314.0	5.95E-02	1.000	.674	.732	
410	127.60	.15	1.17	3.82E+04	4.66E-02	4.61E-02	.606	8.41E-02	6.74E-04	6.40E-04	313.5	4.66E-02	1.000	.606	.634	
411	127.60	.00	1.15	3.24E+04	4.45E-02	4.20E-02	.553	8.41E-02	7.27E-04	6.99E-04	313.0	4.44E-02	1.000	.553	.578	
412	127.60	.00	.25	2.77E+04	3.85E-02	3.27E-02	.423	8.41E-02	8.31E-04	8.00E-04	311.6	3.85E-02	1.000	.423	.448	
413	127.60	.00	.75	1.93E+04	2.69E-02	2.49E-02	.328	8.41E-02	3.12E-04	2.96E-04	309.7	2.69E-02	1.000	.328	.343	
414	127.60	.00	.39	1.95E+04	1.89E-02	1.74E-02	.273	8.41E-02	2.23E-04	2.15E-04	309.5	1.89E-02	1.000	.273	.282	
415	127.60	.00	.14	1.95E+04	1.43E-02	1.34E-02	.217	8.41E-02	1.93E-04	1.83E-04	308.7	1.43E-02	1.000	.217	.212	
416	127.60	.00	1.14	1.95E+04	1.43E-02	1.34E-02	.177	8.41E-02	1.69E-04	1.60E-04	307.8	1.43E-02	1.000	.177	.186	
417	127.60	.00	1.44	3.37E+03	1.22E-02	1.16E-02	.132	8.41E-02	1.45E-04	1.37E-04	306.9	1.22E-02	1.000	.132	.139	
418	127.60	.00	1.49	2.95E+03	9.63E-03	9.13E-03	.127	8.41E-02	1.14E-04	1.06E-04	306.6	9.63E-03	1.000	.127	.136	
419	127.60	.00	1.99	6.74E+02	5.98E-03	5.61E-03	.074	8.41E-02	7.84E-05	7.60E-05	306.2	5.98E-03	1.000	.074	.077	
420	127.60	.00	2.29	6.74E+02	3.19E-04	3.47E-04	.031	8.41E-02	1.09E-05	1.037E-05	305.6	3.19E-04	1.000	.031	.032	
506	135.22	.75	1.17	4.62E+04	5.35E-02	5.95E-02	.731	8.74E-02	7.59E-04	7.19E-04	319.2	6.35E-02	1.000	.731	.761	
507	135.22	.51	1.00	4.81E+04	5.18E-02	5.53E-02	.646	8.74E-02	6.73E-04	6.39E-04	314.5	5.64E-02	1.000	.646	.676	
508	135.22	.25	1.17	3.82E+04	4.70E-02	4.53E-02	.569	8.74E-02	6.69E-04	6.38E-04	313.7	4.78E-02	1.000	.569	.598	
509	135.22	.15	1.17	2.85E+04	3.84E-02	3.64E-02	.440	8.74E-02	4.96E-04	4.32E-04	312.4	3.64E-02	1.000	.440	.470	
511	135.22	.15	1.17	2.41E+04	3.33E-02	3.16E-02	.332	8.74E-02	3.96E-04	3.75E-04	312.0	3.33E-02	1.000	.332	.362	
512	135.22	.15	1.17	2.32E+04	2.92E-02	2.80E-02	.288	8.74E-02	3.61E-04	3.42E-04	311.9	2.92E-02	1.000	.288	.318	
513	135.22	.00	.25	1.93E+04	2.16E-02	2.03E-02	.225	8.74E-02	2.94E-04	2.81E-04	311.3	2.16E-02	1.000	.225	.255	
514	135.22	.00	.75	1.42E+04	1.47E-02	1.39E-02	.168	8.74E-02	1.74E-04	1.65E-04	311.7	1.47E-02	1.000	.168	.198	
515	135.22	.00	.39	1.42E+04	1.47E-02	1.39E-02	.133	8.74E-02	1.74E-04	1.65E-04	309.8	1.47E-02	1.000	.133	.163	
516	135.22	.00	1.14	3.37E+03	1.22E-02	1.16E-02	.081	8.74E-02	1.45E-04	1.37E-04	308.7	1.22E-02	1.000	.081	.082	
517	135.22	.00	1.44	2.95E+03	1.02E-02	9.79E-03	.053	8.74E-02	1.14E-04	1.06E-04	308.0	1.02E-02	1.000	.053	.053	
518	135.22	.00	1.49	2.95E+03	9.95E-03	9.79E-03	.042	8.74E-02	1.14E-04	1.06E-04	308.0	9.95E-03	1.000	.042	.043	
519	135.22	.00	1.99	6.74E+02	3.86E-03	3.69E-03	.035	8.74E-02	3.64E-05	3.49E-05	307.9	3.86E-03	1.000	.035	.035	
520	135.22	.00	2.29	6.74E+02	1.59E-04	1.44E-04	.024	8.74E-02	1.50E-05	1.40E-05	306.7	1.59E-04	1.000	.024	.025	

EDGE HEATING USED FOR ME

X#	7.65E+01	ML	/MREF#	1.12E+00
X#	8.40E+01	ML	/MREF#	2.07E+00
X#	8.69E+01	ML	/MREF#	2.31E+00
X#	9.29E+01	ML	/MREF#	1.91E+00
X#	9.72E+01	ML	/MREF#	1.76E+00
X#	1.12E+02	ML	/MREF#	1.53E+00
X#	1.173E+02	ML	/MREF#	1.41E+00
X#	1.124E+02	ML	/MREF#	1.18E+00
X#	1.175E+02	ML	/MREF#	5.64E-01
X#	1.224E+02	ML	/MREF#	6.47E-01
X#	1.251E+02	ML	/MREF#	6.58E-01
X#	1.276E+02	ML	/MREF#	9.16E-01
X#	1.302E+02	ML	/MREF#	9.17E-01
X#	1.392E+02	ML	/MREF#	6.43E-01
X#	1.411E+02	ML	/MREF#	1.12E+00
X#	1.474E+02	ML	/MREF#	1.175E+00
X#	1.522E+02	ML	/MREF#	7.02E-01
X#	1.562E+02	ML	/MREF#	6.15E-01

PL. TRANSITION DISTANCE = 64.6 CM  
FULLY TURBULENT FL. CONDITIONS AT = 86.9 CM





RSI GAP HEATING ANALYSIS - II
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AMES 3.5 FT HWT TEST (192), G.P. BLUMER, IN-LINE RSI GAP FUNK (37) 1973

TT = 1.1215E+13(K)
PI = 2.7903E+03(N/M2)
PT = 1.1934E+03(J/KG)
RM/METER = 6.5327E+04
MACH = 9.137
RMC WFL = 5.64-53E+11(KG/M2-S)
HAM/MT = 0.993 FOR MT
HAM/MT = 0.874 FOR ML
MLCC = ML(2NC, ORDER COND.1)

GAP LENGTH = 30.4F(CM)
GAP WIDTH = .254(ICM)
GAP DEPTH = 2.032(ICM)
ORIENTATIONS = 16.33R(DEC)
QS = 1.7132E+05(W/M2)
MOD. POSITION = 3

Table with columns: T/C, X (CM), Y (CM), Z (CM), Q (W/M2), ML (KG/M2-S), HT (KG/P2-S), ML/MREF, HREF (KG/P2-S), STL, STT, T (K), MLCC (K/M2-S), ML/MLCC, NLCC/MREF, ML/HE. Rows 1-210.



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

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AMES 3.5 FT. HWT TEST (172) C.S. BLUMER, IN-LINE RSI GAP RUN ( 37) 1373

T/C	X (CM)	Y (CM)	WZ (ICP)	O (M/M <sup>2</sup> )	ML (KG/M <sup>2</sup> -S)	MT (KG/M <sup>2</sup> -S)	HL/HREFF	HREF (KG/M <sup>2</sup> -S)	STL	STT	T (K)	HLCC (K/(M <sup>2</sup> -S))	ML/MLCC	HLCC/HREF	ML/NE
216	117.64	0.00	1.14	4.77E-04	1.41E-02	5.74E-02	874	7.442E-02	7.122E-04	6.747E-04	309.6	1.01E-02	1.000	.084	.089
217	117.64	0.00	1.44	3.55E-04	4.91E-02	4.65E-02	697	7.104E-02	5.015E-02	5.558E-04	312.3	4.91E-02	1.000	.007	.789
218	117.64	0.00	1.28	2.77E-04	3.73E-02	3.38E-02	531	7.442E-02	4.816E-04	4.822E-04	309.2	3.73E-02	1.000	.556	.587
219	117.64	0.00	1.08	1.74E-04	2.85E-02	2.31E-02	344	7.442E-02	2.931E-02	2.978E-04	308.8	2.49E-02	1.000	.348	.394
220	117.64	0.00	2.29	3.46E-04	5.23E-02	4.71E-02	3175	7.442E-02	6.267E-02	5.931E-04	309.5	5.23E-02	1.000	.075	.076
206	127.60	0.74	1.00	4.31E-04	5.49E-02	5.68E-02	736	8.126E-02	7.999E-04	6.721E-04	317.8	5.99E-02	1.000	.738	.766
207	127.60	0.51	1.70	4.42E-04	5.59E-02	5.29E-02	588	8.126E-02	6.819E-04	6.257E-04	316.9	5.59E-02	1.000	.008	.724
212	127.60	0.25	1.10	3.62E-04	4.23E-02	4.93E-02	544	8.114E-02	6.107E-04	5.856E-04	310.3	5.23E-02	1.000	.044	.067
409	127.60	0.15	0.08	3.66E-04	5.79E-02	4.91E-02	624	6.313E-02	6.313E-04	5.896E-04	319.9	5.08E-02	1.000	.626	.667
410	127.60	0.06	0.14	3.41E-04	4.72E-02	4.47E-02	562	6.109E-02	5.866E-04	5.896E-04	319.4	4.72E-02	1.000	.502	.620
411	127.60	0.06	0.15	3.12E-04	4.37E-02	4.11E-02	533	6.118E-02	5.373E-04	4.896E-04	319.0	4.37E-02	1.000	.559	.574
412	127.60	0.00	0.21	2.54E-04	3.54E-02	3.15E-02	437	6.118E-02	4.196E-04	3.874E-04	319.7	3.54E-02	1.000	.437	.466
413	127.60	0.00	0.38	2.14E-04	2.95E-02	2.88E-02	364	6.108E-02	3.895E-04	3.311E-04	311.9	1.95E-02	1.000	.364	.388
414	127.60	0.00	0.64	1.81E-04	2.38E-02	2.23E-02	291	6.138E-02	2.794E-04	2.646E-04	311.8	1.95E-02	1.000	.291	.311
415	127.60	0.00	0.99	1.51E-04	2.09E-02	1.98E-02	222	6.138E-02	2.427E-04	2.348E-04	311.1	1.89E-02	1.000	.222	.274
416	127.60	0.00	1.14	1.39E-04	1.88E-02	1.78E-02	222	6.104E-02	2.127E-04	2.155E-04	318.3	1.89E-02	1.000	.222	.236
417	127.60	0.00	1.46	1.02E-04	1.51E-02	1.41E-02	186	6.138E-02	1.784E-04	1.590E-04	309.6	1.51E-02	1.000	.186	.198
418	127.60	0.00	1.85	8.22E-05	1.13E-02	1.17E-02	140	6.138E-02	1.340E-04	1.269E-04	308.2	1.13E-02	1.000	.140	.148
419	127.60	0.00	1.90	6.94E-05	9.81E-03	6.44E-03	884	6.108E-02	6.346E-04	7.823E-04	309.0	6.08E-03	1.000	.084	.089
423	127.60	1.07	2.29	3.17E-02	1.11E-03	1.03E-03	814	6.108E-02	1.314E-04	1.245E-04	308.7	1.11E-03	1.000	.814	.815
506	135.22	0.74	1.00	4.39E-04	5.18E-02	5.77E-02	691	8.222E-02	7.928E-04	6.936E-04	316.9	6.19E-02	1.000	.691	.700
507	135.22	0.51	1.70	4.42E-04	5.17E-02	4.33E-02	586	8.217E-02	6.817E-04	6.293E-04	316.3	5.17E-02	1.000	.586	.604
508	135.22	0.25	1.10	2.95E-04	4.95E-02	3.97E-02	484	8.212E-02	4.841E-04	4.599E-04	315.8	4.95E-02	1.000	.484	.529
509	135.22	0.15	0.08	2.94E-04	5.24E-02	3.87E-02	468	6.314E-02	3.836E-04	3.833E-04	315.4	3.26E-02	1.000	.368	.419
518	135.22	0.14	0.04	2.78E-04	2.82E-02	2.67E-02	320	6.836E-02	3.334E-04	3.158E-04	313.9	2.82E-02	1.000	.320	.365
511	135.22	0.00	0.18	1.84E-04	2.89E-02	2.44E-02	289	6.878E-02	3.166E-04	2.897E-04	313.8	3.99E-02	1.000	.289	.330
512	135.22	0.00	0.25	1.34E-04	1.85E-02	1.78E-02	210	6.878E-02	2.199E-04	2.073E-04	313.3	1.85E-02	1.000	.210	.239
513	135.22	0.00	0.38	9.95E-05	1.35E-02	1.28E-02	164	6.878E-02	1.313E-04	1.188E-04	312.8	1.35E-02	1.000	.164	.175
514	135.22	0.00	0.64	6.14E-05	9.91E-03	9.78E-03	897	6.878E-02	1.808E-04	9.946E-04	312.1	1.35E-02	1.000	.897	.918
515	135.22	0.00	0.99	4.98E-05	6.87E-03	6.51E-03	678	6.878E-02	8.148E-04	7.711E-04	311.1	6.87E-03	1.000	.678	.689
516	135.22	0.00	1.14	4.82E-05	6.65E-03	6.30E-03	675	6.878E-02	7.870E-04	7.455E-04	311.0	6.65E-03	1.000	.675	.686
517	135.22	0.00	1.46	2.75E-05	5.18E-03	4.98E-03	480	6.878E-02	4.328E-04	5.895E-04	310.9	5.18E-03	1.000	.480	.497
518	135.22	0.00	1.85	2.69E-05	4.18E-03	3.98E-03	367	6.878E-02	4.370E-04	4.614E-04	309.9	4.18E-03	1.000	.367	.383
519	135.22	0.00	1.90	1.50E-05	2.37E-03	2.05E-03	247	6.878E-02	2.388E-04	2.333E-04	309.3	2.17E-03	1.000	.247	.262
520	135.22	0.00	2.29	2.18E-02	1.09E-04	1.03E-04	823	6.878E-02	3.950E-04	3.903E-04	308.5	3.04E-04	1.000	.823	.844

EDGE HEATING USED FOR HT

HT	7.689E-01	ML	/HREFS	1.536E-00
HT	8.188E-01	ML	/HREFS	2.628E-00
HT	8.696E-01	ML	/HREFS	2.177E-00
HT	9.244E-01	ML	/HREFS	1.949E-00
HT	9.712E-01	ML	/HREFS	1.803E-00
HT	1.022E-01	ML	/HREFS	1.510E-00
HT	1.073E-01	ML	/HREFS	1.335E-00
HT	1.124E-01	ML	/HREFS	1.174E-00
HT	1.175E-01	ML	/HREFS	1.031E-00
HT	1.226E-01	ML	/HREFS	9.031E-01
HT	1.281E-01	ML	/HREFS	8.031E-01
HT	1.327E-01	ML	/HREFS	7.175E-01
HT	1.376E-01	ML	/HREFS	6.531E-01
HT	1.427E-01	ML	/HREFS	6.031E-01
HT	1.478E-01	ML	/HREFS	5.631E-01
HT	1.529E-01	ML	/HREFS	5.331E-01
HT	1.580E-01	ML	/HREFS	5.031E-01

R.L. TRANSDUCER DISTANCE = 4.64 CM  
FULLY TURBULENT Q.L. CONDITIONS AT 30.3m CM

ORIGINAL PAGE IS  
OF POOR QUALITY



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1240  
JSC 09651

PAGE 76

AMES 3.2 FT HWT TEST (1R2) 2.0. BLUMER, IN-LINE RSI GAP PUN (38) 1973

T/C	X (C)	Y (C)	Z (C)	G (W/P2)	HL (KG/M2-S)	MT (KG/P2-S)	HL/HREF (KG/M2-S)	MREF (KG/M2-S)	STL	STT	T (K)	HLCC (K/M2-S)	HL/MLCC	MLCC/MREF	HL/ME
216	117.44	7.31	1.16	1.7E+04	1.46E-02	1.38E-02	.204	7.147E-02	1.722E-04	1.631E-04	309.9	1.46E-02	1.000	.204	.195
217	117.44	7.31	1.47	9.90E+03	9.49E-03	8.98E-03	.133	7.147E-02	1.180E-04	1.039E-04	310.0	1.46E-02	1.000	.133	.227
218	117.44	7.31	1.85	3.64E+03	5.47E-03	5.27E-03	.077	7.147E-02	6.473E-05	6.311E-05	309.3	1.46E-02	1.000	.077	.073
219	117.44	5.93	1.92	1.75E+03	2.44E-03	2.31E-03	.034	7.147E-02	2.879E-05	2.787E-05	308.9	1.46E-02	1.000	.034	.033
220	117.44	5.93	2.29	1.76E+02	2.45E-04	2.32E-04	.003	7.147E-02	2.893E-06	2.740E-06	308.7	1.46E-04	1.000	.003	.003
496	127.60	7.6	1.97	4.58E+04	6.45E-02	6.11E-02	.794	6.239E-02	7.610E-04	7.294E-04	317.1	6.45E-02	1.000	.794	.691
497	127.60	7.6	1.90	4.65E+04	6.53E-02	6.18E-02	.794	6.232E-02	7.693E-04	7.207E-04	317.0	6.45E-02	1.000	.794	.692
498	127.60	7.6	1.83	4.71E+04	6.61E-02	6.26E-02	.797	6.215E-02	7.737E-04	7.250E-04	316.4	6.45E-02	1.000	.797	.697
499	127.60	7.6	1.76	3.91E+04	4.48E-02	5.19E-02	.658	6.213E-02	5.465E-04	6.180E-04	315.9	5.48E-02	1.000	.658	.756
500	127.60	7.6	1.69	3.78E+04	4.75E-02	4.50E-02	.579	6.211E-02	5.611E-04	5.303E-04	315.9	4.75E-02	1.000	.579	.657
501	127.60	7.6	1.62	2.92E+04	4.11E-02	3.95E-02	.500	6.209E-02	4.822E-04	4.584E-04	315.0	4.11E-02	1.000	.500	.568
502	127.60	7.6	1.55	1.90E+04	2.68E-02	2.48E-02	.339	6.209E-02	3.089E-04	2.921E-04	313.8	2.62E-02	1.000	.339	.362
503	127.60	7.6	1.48	1.79E+04	1.93E-02	1.49E-02	.186	6.209E-02	1.809E-04	1.709E-04	312.2	1.93E-02	1.000	.186	.212
504	127.60	7.6	1.41	1.11E+03	4.12E-03	4.12E-03	.033	6.209E-02	5.311E-05	4.859E-05	312.1	4.39E-03	1.000	.033	.060
505	127.60	7.6	1.34	9.92E+02	1.11E-03	1.05E-03	.013	6.209E-02	1.379E-05	1.236E-05	311.5	1.11E-03	1.000	.013	.019
506	127.60	7.6	1.27	7.72E+01	1.88E-04	1.82E-04	.001	6.209E-02	1.272E-06	1.204E-06	310.8	1.88E-04	1.000	.001	.001
507	127.60	7.6	1.20	7.53E+01	1.81E-04	1.75E-04	.001	6.219E-02	1.395E-07	1.236E-07	310.8	1.11E-05	1.000	.001	.000
508	127.60	7.6	1.13	4.58E+04	6.46E-02	6.12E-02	.725	6.948E-02	7.620E-04	7.233E-04	317.4	6.46E-02	1.000	.725	.600
509	127.60	7.6	1.06	4.59E+04	6.46E-02	6.12E-02	.725	6.948E-02	7.622E-04	7.236E-04	316.0	6.46E-02	1.000	.725	.601
510	127.60	7.6	1.00	4.62E+04	6.78E-02	6.41E-02	.731	6.905E-02	7.909E-04	7.503E-04	316.0	6.78E-02	1.000	.731	.609
511	127.60	7.6	0.94	4.62E+04	6.58E-02	6.15E-02	.730	6.907E-02	7.462E-04	7.254E-04	314.9	6.58E-02	1.000	.730	.607
512	127.60	7.6	0.88	4.33E+04	6.09E-02	5.76E-02	.684	6.944E-02	7.176E-04	6.795E-04	314.4	6.09E-02	1.000	.684	.604
513	127.60	7.6	0.82	4.12E+04	4.79E-02	4.49E-02	.638	6.944E-02	6.828E-04	6.485E-04	313.9	4.79E-02	1.000	.638	.600
514	127.60	7.6	0.76	2.74E+02	3.56E-02	3.37E-02	.434	6.944E-02	4.210E-04	3.977E-04	313.2	3.56E-02	1.000	.434	.497
515	127.60	7.6	0.70	1.98E+04	1.66E-02	1.57E-02	.137	6.944E-02	1.900E-04	1.858E-04	312.5	1.66E-02	1.000	.137	.232
516	127.60	7.6	0.64	5.97E+03	7.79E-03	7.17E-03	.007	6.944E-02	9.180E-05	8.644E-05	311.5	7.79E-02	1.000	.007	.189
517	127.60	7.6	0.58	3.36E+03	4.70E-03	4.45E-03	.003	6.944E-02	5.535E-05	5.253E-05	311.5	4.70E-03	1.000	.003	.066
518	127.60	7.6	0.52	2.85E+03	3.93E-03	3.77E-03	.005	6.944E-02	4.691E-05	4.443E-05	310.9	3.93E-03	1.000	.005	.066
519	127.60	7.6	0.46	2.89E+03	3.96E-03	3.75E-03	.004	6.944E-02	4.667E-05	4.428E-05	310.4	3.96E-03	1.000	.004	.065
520	127.60	7.6	0.40	2.44E+03	3.47E-03	3.25E-03	.000	6.944E-02	4.347E-05	4.137E-05	309.9	3.47E-03	1.000	.000	.064
521	127.60	7.6	0.34	2.01E+02	1.76E-04	1.76E-04	.000	6.944E-02	6.316E-06	6.316E-06	309.1	1.76E-04	1.000	.000	.060

5.3-107

EDGE HEATING USED FOR HE

X#	7.68E+01	ML	MREFS	1.45E+00
X#	8.18E+01	ML	MREFS	1.12E+00
X#	8.69E+01	ML	MREFS	2.12E+00
X#	9.20E+01	ML	MREFS	2.18E+00
X#	9.71E+01	ML	MREFS	1.92E+00
X#	1.02E+02	ML	MREFS	1.75E+00
X#	1.07E+02	ML	MREFS	1.74E+00
X#	1.12E+02	ML	MREFS	1.17E+00
X#	1.17E+02	ML	MREFS	1.17E+00
X#	1.22E+02	ML	MREFS	9.16E-01
X#	1.27E+02	ML	MREFS	9.09E-01
X#	1.32E+02	ML	MREFS	8.79E-01
X#	1.37E+02	ML	MREFS	2.30E-01
X#	1.39E+02	ML	MREFS	6.04E-01
X#	1.41E+02	ML	MREFS	1.24E+01
X#	1.43E+02	ML	MREFS	9.69E-01
X#	1.45E+02	ML	MREFS	7.31E-01
X#	1.47E+02	ML	MREFS	7.22E-01

S.L. TRANSITION DISTANCE = 66.64 CM  
FULLY TURBULENT S.L. CONDITIONS AT = 86.95 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09681

PAGE 77

AMES 1.5 FT HWY TEST (1-2), G.3. BLUYER, IN-LINE RSI GAP RUM( 39) 1573

TT = 1.119E+03 (M)  
 PY = 2.008E+06 (M/M2)  
 HT = 1.194E+05 (J/KG)  
 RE/METER = 9.675E+05  
 MACH = 5.10  
 RHC VEL = 9.445E+01 (M/M2-S)  
 WAM/WT = 1.97A FOR WT  
 WAM/WT = 2.07A FOR ML  
 FLCC = ML(ZNC, ORCE, COND...)  
 GAP LENGTH = 30.4 (CM)  
 GAP WIDTH = .127 (CM)  
 GAP DEPTH = 2.332 (CM)  
 DRIFTATION = 5.00 (DEG)  
 QS = 1.790E+05 (M/M2)  
 MOD-POSITION = 3

T/C	X	Y	Z	CP	ML	WT	ML/MREF	MREF	STL	ST	T	MLCC	ML/MLCC	MLCC/MREF	ML/WE
(CM)	(CM)	(CM)	(CM)	(CP)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(K)	(K)	(K/M2-S)	(K/M2-S)	(K/MREF)	(ML/WE)
1	135.24	-51	0.00	0.00	6.89E-02	6.92E-02	0.780	8.22E-02	8.14E-04	7.71E-04	319.8				1.000
2	132.70	-51	0.30	0.30	5.09E-02	6.52E-02	0.824	8.30E-02	8.13E-04	7.71E-04	320.0				1.000
3	130.16	-51	0.70	0.70	4.71E-02	6.71E-02	0.872	8.12E-02	8.10E-04	7.97E-04	320.3				1.000
4	127.63	-51	1.10	1.10	4.30E-02	6.77E-02	0.907	7.89E-02	8.47E-04	8.01E-04	320.5				1.000
5	125.09	-51	1.50	1.50	3.92E-02	7.17E-02	0.965	7.66E-02	8.70E-04	8.11E-04	320.7				1.000
6	122.56	-51	1.90	1.90	3.53E-02	7.77E-02	1.111	7.56E-02	9.20E-04	8.74E-04	320.4				1.000
7	117.47	-51	2.30	2.30	3.15E-02	7.74E-02	1.255	6.16E-02	9.15E-04	8.66E-04	321.1				1.000
8	112.37	-51	2.70	2.70	2.76E-02	6.84E-02	1.425	5.47E-02	8.55E-04	8.10E-04	319.3				1.000
9	107.28	-51	3.10	3.10	2.37E-02	5.20E-02	1.628	4.67E-02	7.85E-04	7.43E-04	318.3				1.000
10	102.20	-51	3.50	3.50	1.98E-02	3.60E-02	1.874	3.31E-02	7.07E-04	6.69E-04	318.7				1.000
11	97.12	-51	3.90	3.90	1.59E-02	2.02E-02	1.902	2.66E-02	5.93E-04	5.60E-04	318.9				1.000
12	92.04	-51	4.30	4.30	1.20E-02	4.34E-02	1.596	2.18E-02	5.14E-04	4.86E-04	319.1				1.000
13	86.96	-51	4.70	4.70	8.08E-03	3.08E-02	2.810	1.79E-02	4.25E-04	4.82E-04	319.6				1.000
14	81.88	-51	5.10	5.10	4.17E-03	2.46E-02	1.532	1.54E-02	2.91E-04	2.75E-04	319.6				1.000
15	76.80	-51	5.50	5.50	2.26E-02	7.19E-02	1.281	5.90E-02	8.94E-04	8.67E-04	320.1				1.000
16	71.72	-51	5.90	5.90	7.82E-02	7.32E-02	1.257	5.90E-02	8.78E-04	8.31E-04	320.4				1.000
17	66.64	-51	6.30	6.30	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
18	61.56	-51	6.70	6.70	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
19	56.48	-51	7.10	7.10	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
20	51.40	-51	7.50	7.50	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
21	46.32	-51	7.90	7.90	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
22	41.24	-51	8.30	8.30	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
23	36.16	-51	8.70	8.70	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
24	31.08	-51	9.10	9.10	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
25	26.00	-51	9.50	9.50	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
26	20.92	-51	9.90	9.90	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
27	15.84	-51	10.30	10.30	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
28	10.76	-51	10.70	10.70	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
29	5.68	-51	11.10	11.10	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
30	0.60	-51	11.50	11.50	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
31		-51	11.90	11.90	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
32		-51	12.30	12.30	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
33		-51	12.70	12.70	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
34		-51	13.10	13.10	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
35		-51	13.50	13.50	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
36		-51	13.90	13.90	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
37		-51	14.30	14.30	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
38		-51	14.70	14.70	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
39		-51	15.10	15.10	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
40		-51	15.50	15.50	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
41		-51	15.90	15.90	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
42		-51	16.30	16.30	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
43		-51	16.70	16.70	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
44		-51	17.10	17.10	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
45		-51	17.50	17.50	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
46		-51	17.90	17.90	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
47		-51	18.30	18.30	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
48		-51	18.70	18.70	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
49		-51	19.10	19.10	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
50		-51	19.50	19.50	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
51		-51	19.90	19.90	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
52		-51	20.30	20.30	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
53		-51	20.70	20.70	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
54		-51	21.10	21.10	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
55		-51	21.50	21.50	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
56		-51	21.90	21.90	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
57		-51	22.30	22.30	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
58		-51	22.70	22.70	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
59		-51	23.10	23.10	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
60		-51	23.50	23.50	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
61		-51	23.90	23.90	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
62		-51	24.30	24.30	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
63		-51	24.70	24.70	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
64		-51	25.10	25.10	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
65		-51	25.50	25.50	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
66		-51	25.90	25.90	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
67		-51	26.30	26.30	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
68		-51	26.70	26.70	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
69		-51	27.10	27.10	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
70		-51	27.50	27.50	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
71		-51	27.90	27.90	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
72		-51	28.30	28.30	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
73		-51	28.70	28.70	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
74		-51	29.10	29.10	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
75		-51	29.50	29.50	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8				1.000
76		-51	29.90	29.90	2.27E-02	7.82E-02	1.262	5.90E-02	8.51E-04	8.34E-04	320.8	</			



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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ANES 7.5 FT WHT TEST (102), C.S. BLUMBER, IA-LINE RSI GAP FUN( 35) 1973

T/C	X (CM)	Y (CM)	Z (CM)	Q (M <sup>2</sup> /S)	ML (MG/M <sup>2</sup> -S)	HT (KG/P <sup>2</sup> -S)	ML/HREF	HREF (KG/M <sup>2</sup> -S)	STL	STT	Y (K)	MLCC (K/M <sup>2</sup> -S)	ML/MLCC	MLCC/HREF	ML/HREF
216	117.44	0.00	1.14	1.12E+01	1.59E-02	1.47E-02	.219	7.77E-02	1.83E-04	1.73E-04	310.3	2.59E-02	1.000	.219	.199
217	117.44	0.00	1.40	6.74E+03	9.33E-03	4.94E-03	.132	7.07E-02	1.19E-04	1.04E-04	310.3	5.33E-03	1.000	.132	.150
218	117.44	0.00	1.65	3.61E+03	4.59E-03	4.73E-03	.071	7.07E-02	5.94E-05	5.93E-05	310.3	4.93E-03	1.000	.071	.084
219	117.44	0.00	1.90	1.47E+03	2.03E-03	1.92E-03	.029	7.07E-02	7.41E-05	2.27E-05	308.9	2.83E-03	1.000	.029	.029
228	117.44	0.00	2.59	4.07E+01	4.78E-05	4.95E-05	.001	7.07E-02	5.56E-07	5.27E-07	308.9	4.78E-05	1.000	.001	.001
406	127.60	0.75	1.00	4.65E+04	6.46E-02	6.15E-02	.732	9.15E-02	7.64E-04	7.29E-04	317.7	6.46E-02	1.000	.732	.900
407	127.60	0.51	0.90	4.56E+04	6.36E-02	6.05E-02	.704	9.15E-02	7.55E-04	7.19E-04	317.7	6.36E-02	1.000	.704	.880
408	127.60	0.25	0.80	4.15E+04	5.74E-02	5.43E-02	.631	8.14E-02	6.79E-04	6.42E-04	317.1	5.74E-02	1.000	.631	.773
409	127.60	0.13	0.70	3.67E+04	5.14E-02	4.86E-02	.564	8.14E-02	6.07E-04	5.75E-04	316.7	5.14E-02	1.000	.564	.659
410	127.60	0.04	0.60	3.15E+04	4.60E-02	4.38E-02	.500	6.13E-02	5.23E-04	4.92E-04	316.4	4.60E-02	1.000	.500	.532
411	127.60	0.00	0.50	2.73E+04	4.17E-02	3.97E-02	.464	6.13E-02	4.46E-04	4.23E-04	315.8	3.97E-02	1.000	.464	.464
412	127.60	0.00	0.25	1.75E+04	2.63E-02	2.48E-02	.299	6.13E-02	2.97E-04	2.72E-04	314.6	2.48E-02	1.000	.299	.343
413	127.60	0.00	0.00	1.03E+04	1.63E-02	1.36E-02	.176	6.13E-02	1.69E-04	1.60E-04	313.0	1.43E-02	1.000	.176	.202
414	127.60	0.00	0.00	2.37E+03	3.73E-03	3.78E-03	.749	6.13E-02	4.73E-05	4.40E-05	312.9	4.40E-03	1.000	.749	.896
415	127.60	0.00	0.00	6.54E+02	9.87E-04	9.18E-04	.012	6.13E-02	1.14E-05	1.00E-05	312.1	9.79E-04	1.000	.012	.014
416	127.60	0.00	1.04	1.44E+02	2.80E-04	1.90E-04	.002	6.13E-02	2.37E-06	2.24E-06	311.9	2.68E-04	1.000	.002	.003
417	127.60	0.00	1.01	3.37E+01	4.66E-05	4.42E-05	.001	6.13E-02	5.51E-07	5.22E-07	311.2	4.66E-05	1.000	.001	.001
419	127.60	0.00	1.98	1.98											
420	127.60	0.00	2.20												
506	135.22	0.75	0.50	4.61E+04	6.45E-02	6.11E-02	.729	8.04E-02	7.63E-04	7.33E-04	316.2	6.45E-02	1.000	.729	.905
507	135.22	0.51	0.40	4.42E+04	6.27E-02	5.94E-02	.709	8.04E-02	7.42E-04	7.12E-04	317.4	6.27E-02	1.000	.709	.895
508	135.22	0.25	0.30	4.23E+04	5.85E-02	5.52E-02	.680	8.04E-02	7.19E-04	6.81E-04	316.8	5.85E-02	1.000	.680	.882
509	135.22	0.13	0.20	3.80E+04	5.41E-02	5.13E-02	.613	8.04E-02	6.43E-04	6.06E-04	315.3	5.41E-02	1.000	.613	.785
510	135.22	0.04	0.10	3.54E+04	5.10E-02	4.73E-02	.560	8.04E-02	5.91E-04	5.60E-04	314.7	5.08E-02	1.000	.560	.684
511	135.22	0.00	0.00	3.37E+04	4.71E-02	4.46E-02	.534	8.04E-02	5.57E-04	5.28E-04	314.7	4.71E-02	1.000	.534	.654
512	135.22	0.00	0.00	2.77E+04	3.83E-02	3.82E-02	.433	8.04E-02	4.53E-04	4.29E-04	314.7	3.83E-02	1.000	.433	.595
513	135.22	0.00	0.00	2.12E+04	2.95E-02	2.87E-02	.334	8.04E-02	3.49E-04	3.31E-04	314.0	2.95E-02	1.000	.334	.420
514	135.22	0.00	0.00	1.74E+04	1.44E-02	1.36E-02	.162	8.04E-02	1.69E-04	1.60E-04	313.1	1.44E-02	1.000	.162	.208
515	135.22	0.00	0.00	4.72E+03	3.95E-03	3.50E-03	.074	8.04E-02	4.43E-05	4.25E-05	312.3	3.95E-03	1.000	.074	.095
516	135.22	0.00	1.04	2.77E+03	2.38E-03	2.25E-03	.027	8.04E-02	2.91E-05	2.66E-05	311.2	2.38E-03	1.000	.027	.034
517	135.22	0.00	1.04	1.14E+03	2.38E-03	2.25E-03	.027	8.04E-02	2.91E-05	2.66E-05	311.2	2.38E-03	1.000	.027	.034
518	135.22	0.00	1.05	1.62E+03	2.68E-03	2.68E-03	.032	8.04E-02	3.31E-05	3.14E-05	310.9	2.68E-03	1.000	.032	.041
519	135.22	0.00	1.99	1.62E+03	2.68E-03	2.68E-03	.032	8.04E-02	3.31E-05	3.14E-05	310.9	2.68E-03	1.000	.032	.041
520	135.22	0.00	2.29	2.95E+02	4.48E-04	3.37E-04	.005	8.04E-02	4.83E-06	4.63E-06	309.1	4.48E-04	1.000	.005	.006

EDGE HEATING USED FOR ME

ML	1.792E+00
ML/HREF	2.013E+00
ML	1.344E+01
ML/HREF	1.612E+01
ML	1.574E+00
ML/HREF	1.627E+00
ML	1.473E+00
ML/HREF	1.235E+00
ML	1.235E+00
ML/HREF	1.131E+00
ML	5.613E+01
ML/HREF	5.613E+01
ML	9.066E+01
ML/HREF	6.718E+01
ML	4.312E+01
ML/HREF	7.790E+01
ML	1.235E+00
ML/HREF	1.235E+00
ML	9.918E+01
ML/HREF	9.918E+01
ML	7.316E+01
ML/HREF	7.316E+01
ML	7.937E+01
ML/HREF	7.937E+01

ML TRANSITION DISTANCE = 66.00 CM  
FULLY TURBULENT R.L. CONJUNCTION AT = 85.96 CM

5.3-109



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 79

AMES 3.5 FT HWT TEST (112), C.O. BLUMER, IN-LINE RSI GAP RUN ( 40) 1973

TT = 1.8229E+17(K)  
GAP LENGTH = 30.480(CM)  
FT = 2.1995E+06(W/M2)  
GAP WIDTH = .254(CM)  
ST = 1.5277E+03(LJ/KG)  
GAP DEPTH = 2.032(CM)  
REHEATER = 5.5964E+02  
ORIENTATION = 4.000(DEG)  
MACH = 5.0  
SS = 1.7104E+05(W/M2)  
400.CCSIIICN = 3  
RMC VEL = 5.857E+11(KG/M2-S)  
WAV/MT = 1.97E+07 FOR HT  
MACH/MT = 1.87E+07 FOR HL  
MLCC = ML12ND, ORDEF CONC.1)

T/C	X	Y	Z	W	H	ML	HT	ML/HT	HREF	STL	STT	T	MLCC	ML/MLCC	MLCC/HREF	ML/HE
(CM)	(CM)	(CM)	(CM)	(W/M2)	(KG/P2-S)	(KG/P2-S)	(KG/P2-S)	(KG/HT-S)	(KG/M2-S)	(K/M2-S)	(K)	(K)	(K/M2-S)	(K/M2-S)	(K/M2-S)	(K/M2-S)
1	135.24	-51	0.00	5.15E+04	7.12E-02	6.74E-02	8.53	9.34E-02	9.47E-04	7.965E-04	323.9	1.000	7.49E-02	1.000	1.272	1.000
2	132.70	-51	0.00	5.25E+04	7.40E-02	7.02E-02	9.12	1.12E-02	8.79E-04	8.278E-04	324.1	1.000	7.20E-02	1.000	1.235	1.000
3	130.16	-51	0.00	5.45E+04	7.59E-02	7.18E-02	9.63	1.12E-02	8.97E-04	8.493E-04	324.2	1.000	7.50E-02	1.000	1.273	1.000
4	127.53	-51	0.00	5.45E+04	7.92E-02	7.52E-02	1.076	7.64E-02	9.371E-04	8.867E-04	324.1	1.000	8.37E-02	1.000	1.429	1.000
5	125.09	-51	0.00	5.35E+04	7.59E-02	7.18E-02	1.077	7.04E-02	8.977E-04	8.495E-04	324.4	1.000	8.42E-02	1.000	1.429	1.000
6	122.56	-51	0.00	5.35E+04	7.53E-02	7.12E-02	1.224	6.15E-02	8.94E-04	8.426E-04	324.8	1.000	8.42E-02	1.000	1.429	1.000
7	117.47	-51	0.00	5.20E+04	7.43E-02	7.03E-02	1.468	5.06E-02	8.78E-04	8.318E-04	323.8	1.000	8.42E-02	1.000	1.429	1.000
8	117.31	-51	0.00	5.05E+04	6.94E-02	6.57E-02	1.637	4.08E-02	8.25E-04	7.767E-04	321.7	1.000	8.42E-02	1.000	1.429	1.000
9	102.27	-51	0.00	4.41E+04	6.18E-02	5.89E-02	1.869	3.39E-02	7.394E-04	6.914E-04	321.8	1.000	8.42E-02	1.000	1.429	1.000
10	97.12	-51	0.00	3.79E+04	5.31E-02	5.02E-02	2.036	2.65E-02	6.278E-04	5.942E-04	321.9	1.000	8.42E-02	1.000	1.429	1.000
11	92.54	-51	0.00	3.11E+04	4.36E-02	4.13E-02	1.996	2.14E-02	5.156E-04	4.888E-04	322.3	1.000	8.42E-02	1.000	1.429	1.000
12	86.96	-51	0.00	2.47E+04	3.46E-02	3.27E-02	1.936	1.78E-02	4.032E-04	3.872E-04	322.8	1.000	8.42E-02	1.000	1.429	1.000
13	81.98	-51	0.00	1.85E+04	2.36E-02	2.23E-02	1.528	1.54E-02	2.786E-04	2.637E-04	322.5	1.000	8.42E-02	1.000	1.429	1.000
14	76.60	-51	0.00	1.35E+04	1.49E-02	1.40E-02	1.235	9.89E-02	8.956E-04	8.379E-04	327.8	1.000	7.49E-02	1.000	1.272	1.000
15	111.09	152	0.00	5.15E+04	7.49E-02	7.06E-02	1.272	5.88E-02	8.69E-04	8.148E-04	328.9	1.000	7.20E-02	1.000	1.235	1.000
16	111.09	152	0.00	5.35E+04	7.59E-02	7.09E-02	1.273	5.89E-02	8.69E-04	8.397E-04	328.5	1.000	7.50E-02	1.000	1.273	1.000
17	111.09	152	0.00	5.35E+04	7.59E-02	7.09E-02	1.429	5.89E-02	8.99E-04	8.380E-04	327.5	1.000	8.37E-02	1.000	1.429	1.000
18	111.09	152	0.00	5.20E+04	7.43E-02	7.03E-02	1.494	5.06E-02	8.78E-04	8.083E-04	325.1	1.000	8.42E-02	1.000	1.429	1.000
19	111.09	152	0.00	5.05E+04	6.94E-02	6.57E-02	1.637	4.08E-02	8.25E-04	7.493E-04	323.7	1.000	8.42E-02	1.000	1.429	1.000
20	111.09	152	0.00	4.41E+04	6.18E-02	5.89E-02	1.869	3.39E-02	7.394E-04	6.999E-04	324.6	1.000	8.42E-02	1.000	1.429	1.000
21	111.09	152	0.00	3.79E+04	5.31E-02	5.02E-02	2.036	2.65E-02	6.278E-04	5.727E-04	322.2	1.000	8.42E-02	1.000	1.429	1.000
22	111.09	152	0.00	3.11E+04	4.36E-02	4.13E-02	1.996	2.14E-02	5.156E-04	4.767E-04	321.8	1.000	8.42E-02	1.000	1.429	1.000
23	111.09	152	0.00	2.47E+04	3.46E-02	3.27E-02	1.936	1.78E-02	4.032E-04	3.737E-04	319.9	1.000	8.42E-02	1.000	1.429	1.000
24	111.09	152	0.00	1.85E+04	2.36E-02	2.23E-02	1.528	1.54E-02	2.786E-04	2.658E-04	317.5	1.000	8.42E-02	1.000	1.429	1.000
25	117.44	152	0.00	5.25E+04	7.40E-02	7.02E-02	1.235	5.88E-02	8.69E-04	8.203E-04	324.4	1.000	7.49E-02	1.000	1.272	1.000
26	117.44	152	0.00	5.45E+04	7.59E-02	7.18E-02	1.273	5.89E-02	8.69E-04	8.499E-04	325.4	1.000	7.50E-02	1.000	1.273	1.000
27	117.44	152	0.00	5.35E+04	7.59E-02	7.18E-02	1.429	5.89E-02	8.99E-04	8.478E-04	325.3	1.000	8.37E-02	1.000	1.371	1.000
28	117.44	152	0.00	5.20E+04	7.43E-02	7.03E-02	1.494	5.06E-02	8.78E-04	8.495E-04	324.8	1.000	8.42E-02	1.000	1.429	1.000
29	117.44	152	0.00	5.05E+04	6.94E-02	6.57E-02	1.637	4.08E-02	8.25E-04	8.426E-04	324.8	1.000	8.42E-02	1.000	1.429	1.000
30	117.44	152	0.00	4.41E+04	6.18E-02	5.89E-02	1.869	3.39E-02	7.394E-04	8.318E-04	323.8	1.000	8.42E-02	1.000	1.429	1.000
31	117.44	152	0.00	3.79E+04	5.31E-02	5.02E-02	2.036	2.65E-02	6.278E-04	8.25E-04	323.1	1.000	8.42E-02	1.000	1.429	1.000
32	117.44	152	0.00	3.11E+04	4.36E-02	4.13E-02	1.996	2.14E-02	5.156E-04	8.148E-04	322.2	1.000	8.42E-02	1.000	1.429	1.000
33	117.44	152	0.00	2.47E+04	3.46E-02	3.27E-02	1.936	1.78E-02	4.032E-04	8.148E-04	319.3	1.000	8.42E-02	1.000	1.429	1.000
34	117.44	152	0.00	1.85E+04	2.36E-02	2.23E-02	1.528	1.54E-02	2.786E-04	8.148E-04	317.5	1.000	8.42E-02	1.000	1.429	1.000
35	117.44	152	0.00	1.35E+04	1.49E-02	1.40E-02	1.235	9.89E-02	8.69E-04	8.203E-04	316.4	1.000	7.49E-02	1.000	1.272	1.000
203	117.44	152	0.00	5.25E+04	7.40E-02	7.02E-02	1.235	5.88E-02	8.69E-04	8.203E-04	324.4	1.000	7.49E-02	1.000	1.272	1.000
204	117.44	152	0.00	5.45E+04	7.59E-02	7.18E-02	1.273	5.89E-02	8.69E-04	8.499E-04	325.4	1.000	7.50E-02	1.000	1.273	1.000
205	117.44	152	0.00	5.35E+04	7.59E-02	7.18E-02	1.429	5.89E-02	8.99E-04	8.478E-04	325.3	1.000	8.37E-02	1.000	1.371	1.000
206	117.44	152	0.00	5.20E+04	7.43E-02	7.03E-02	1.494	5.06E-02	8.78E-04	8.495E-04	324.8	1.000	8.42E-02	1.000	1.429	1.000
207	117.44	152	0.00	5.05E+04	6.94E-02	6.57E-02	1.637	4.08E-02	8.25E-04	8.426E-04	324.8	1.000	8.42E-02	1.000	1.429	1.000
208	117.44	152	0.00	4.41E+04	6.18E-02	5.89E-02	1.869	3.39E-02	7.394E-04	8.318E-04	323.8	1.000	8.42E-02	1.000	1.429	1.000
209	117.44	152	0.00	3.79E+04	5.31E-02	5.02E-02	2.036	2.65E-02	6.278E-04	8.25E-04	323.1	1.000	8.42E-02	1.000	1.429	1.000
210	117.44	152	0.00	3.11E+04	4.36E-02	4.13E-02	1.996	2.14E-02	5.156E-04	8.148E-04	322.2	1.000	8.42E-02	1.000	1.429	1.000
211	117.44	152	0.00	2.47E+04	3.46E-02	3.27E-02	1.936	1.78E-02	4.032E-04	8.148E-04	319.3	1.000	8.42E-02	1.000	1.429	1.000
212	117.44	152	0.00	1.85E+04	2.36E-02	2.23E-02	1.528	1.54E-02	2.786E-04	8.148E-04	317.5	1.000	8.42E-02	1.000	1.429	1.000
213	117.44	152	0.00	1.35E+04	1.49E-02	1.40E-02	1.235	9.89E-02	8.69E-04	8.203E-04	316.4	1.000	7.49E-02	1.000	1.272	1.000
214	117.44	152	0.00	1.35E+04	1.49E-02	1.40E-02	1.235	9.89E-02	8.69E-04	8.203E-04	316.4	1.000	7.49E-02	1.000	1.272	1.000
215	117.44	152	0.00	1.35E+04	1.49E-02	1.40E-02	1.235	9.89E-02	8.69E-04	8.203E-04	316.4	1.000	7.49E-02	1.000	1.272	1.000



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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AMES 7.5 FT HWT TEST (1\*2), C.B. BLUMER, IN-LINE RSI GAP RUN# 40) 1971

T/C	X (CM)	Y (CM)	Z (CM)	G (W/M <sup>2</sup> )	ML (KG/M <sup>2</sup> -S)	HT (KG/M <sup>2</sup> -S)	ML/HREFF (KG/M <sup>2</sup> -S)	STL (KG/M <sup>2</sup> -S)	STT (K)	Y (K)	MLCC (ML/M <sup>2</sup> -S)	MLCC/MREF	ML/HE
216	117.64	0.00	1.14	4.61E+04	5.43E-02	6.39E-02	.912	7.057E-02	7.603E-04	7.205E-04	344.6	1.000	.045
217	117.64	0.09	1.05	3.75E+04	5.22E-02	6.95E-02	.740	7.057E-02	6.173E-04	5.891E-04	314.9	1.000	.057
218	117.64	0.17	1.05	2.79E+04	3.87E-02	3.97E-02	.549	7.057E-02	4.592E-04	4.305E-04	314.2	1.000	.089
219	117.64	0.25	1.00	1.75E+04	2.45E-02	2.32E-02	.347	7.057E-02	2.992E-04	2.739E-04	313.5	1.000	.085
220	117.64	0.00	2.29	3.58E+03	4.96E-03	4.78E-03	.070	7.057E-02	5.065E-05	5.556E-05	313.2	1.000	.085
416	127.60	0.00	1.00	5.05E+04	7.03E-02	6.75E-02	.869	8.141E-02	8.368E-04	7.913E-04	322.1	1.000	.069
417	127.60	0.01	0.99	4.56E+04	6.48E-02	6.06E-02	.707	8.141E-02	7.560E-04	7.163E-04	322.1	1.000	.082
418	127.60	0.05	0.99	3.77E+04	5.20E-02	4.93E-02	6.49	8.141E-02	6.243E-04	5.905E-04	321.5	1.000	.072
419	127.60	0.15	0.90	3.65E+04	4.83E-02	4.57E-02	.594	8.141E-02	5.707E-04	5.402E-04	321.1	1.000	.054
418	127.60	0.26	0.04	3.62E+02	1.30E-03	1.30E-03	.017	8.141E-02	1.623E-05	1.542E-05	328.9	1.000	.017
411	127.60	0.00	0.15	2.44E+04	4.1E-02	3.92E-02	.502	8.141E-02	4.829E-04	4.568E-04	329.2	1.000	.052
412	127.60	0.09	0.25	2.44E+04	4.1E-02	3.92E-02	.419	8.141E-02	4.829E-04	4.568E-04	329.8	1.000	.049
413	127.60	0.17	0.34	2.11E+04	2.90E-02	2.82E-02	.367	8.141E-02	3.527E-04	3.339E-04	317.3	1.000	.042
414	127.60	0.25	0.64	1.87E+04	2.50E-02	2.37E-02	.310	8.141E-02	2.967E-04	2.803E-04	317.3	1.000	.038
419	127.60	0.00	0.49	1.61E+04	2.24E-02	2.12E-02	.276	8.141E-02	2.653E-04	2.512E-04	316.7	1.000	.037
416	127.60	0.09	1.14	1.39E+04	1.93E-02	1.83E-02	.237	8.141E-02	2.281E-04	2.169E-04	319.7	1.000	.028
417	127.60	0.17	1.14	1.17E+04	1.69E-02	1.61E-02	.196	8.141E-02	1.893E-04	1.788E-04	314.0	1.000	.036
418	127.60	0.25	1.44	8.42E+03	1.17E-02	1.11E-02	.144	8.141E-02	1.382E-04	1.309E-04	314.6	1.000	.030
419	127.60	0.00	1.90	8.88E+03	6.77E-03	6.32E-03	.083	8.141E-02	8.013E-05	7.580E-05	316.2	1.000	.031
420	127.60	0.01	2.29	6.52E+02	6.95E-04	6.93E-04	.011	8.141E-02	1.055E-05	9.965E-05	313.7	1.000	.011
516	135.22	0.76	0.38	4.24E+04	5.95E-02	5.63E-02	.673	8.035E-02	7.033E-04	6.656E-04	322.0	1.000	.032
517	135.22	0.81	1.04	3.64E+04	5.10E-02	4.83E-02	.570	8.035E-02	6.039E-04	5.715E-04	321.3	1.000	.074
518	135.22	0.86	1.00	2.91E+04	4.76E-02	4.50E-02	.461	8.035E-02	5.077E-04	4.805E-04	320.5	1.000	.069
519	135.22	0.91	1.00	2.23E+04	3.11E-02	2.94E-02	.353	8.035E-02	3.679E-04	3.482E-04	319.5	1.000	.036
518	135.22	0.94	0.74	1.97E+04	2.66E-02	2.52E-02	.312	8.035E-02	3.147E-04	2.979E-04	319.2	1.000	.032
511	135.22	0.98	0.15	1.73E+04	2.42E-02	2.29E-02	.274	8.035E-02	2.857E-04	2.709E-04	318.6	1.000	.039
512	135.22	0.99	0.25	1.33E+04	1.85E-02	1.75E-02	.216	8.035E-02	2.199E-04	2.071E-04	318.1	1.000	.029
513	135.22	0.99	0.46	1.05E+04	1.47E-02	1.40E-02	.167	8.035E-02	1.744E-04	1.651E-04	318.1	1.000	.027
514	135.22	0.99	0.64	7.95E+03	1.03E-02	9.79E-03	.117	8.035E-02	1.271E-04	1.215E-04	317.4	1.000	.017
516	135.22	0.88	0.89	2.96E+03	8.29E-03	7.89E-03	.094	8.035E-02	9.819E-05	9.280E-05	316.6	1.000	.094
517	135.22	0.99	1.14	2.27E+03	7.34E-03	6.95E-03	.063	8.035E-02	8.675E-05	8.214E-05	316.7	1.000	.093
518	135.22	0.99	1.44	1.76E+03	6.12E-03	5.27E-03	.075	8.035E-02	6.333E-05	7.417E-05	316.1	1.000	.075
519	135.22	0.99	1.68	1.65E+03	5.35E-03	5.07E-03	.061	8.035E-02	6.821E-05	5.994E-05	315.5	1.000	.061
520	135.22	0.99	1.90	2.17E+03	3.84E-03	3.68E-03	.034	8.035E-02	3.694E-05	2.403E-05	314.8	1.000	.034
520	135.22	0.99	2.29	6.25E+02	6.95E-04	6.93E-04	.010	8.035E-02	8.022E-05	8.022E-05	313.7	1.000	.010

EDGE HEATING USED FOR ME

ME	7.693E+01	ML	/HREFF	1.52E+01
ME	8.100E+01	ML	/HREFF	1.93E+00
ME	8.696E+01	ML	/HREFF	1.936E+00
ME	9.274E+01	ML	/HREFF	2.038E+00
ME	9.712E+01	ML	/HREFF	1.869E+00
ME	1.022E+02	ML	/HREFF	1.697E+00
ME	1.073E+02	ML	/HREFF	1.469E+00
ME	1.124E+02	ML	/HREFF	1.224E+00
ME	1.175E+02	ML	/HREFF	1.077E+00
ME	1.226E+02	ML	/HREFF	1.13E+00
ME	1.276E+02	ML	/HREFF	9.632E-01
ME	1.327E+02	ML	/HREFF	5.118E-01
ME	1.378E+02	ML	/HREFF	4.820E-01
ME	1.429E+02	ML	/HREFF	2.047E-01
ME	1.481E+02	ML	/HREFF	1.273E+01
ME	1.532E+02	ML	/HREFF	1.671E+00
ME	1.583E+02	ML	/HREFF	7.667E-01
ME	1.634E+02	ML	/HREFF	5.799E-01

9. ALL TRANSITION DISTANCE = 6.64 CM  
FULLY TURBULENT A.L. CONDITIONS AT X = 32.4 CM

ORIGINAL PAGE IS  
OF POOR QUALITY





# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 81

AMES 3.5 FT HWT TEST (142), C-3, BLUME 1, IN-LINE RSI GAP RUN (1) 1373

TT = 1.34E+07 (K)  
 GAP LENGTH = 3R.49 (CM)  
 DT = 2.595E+06 (W/M2)  
 GAP WIDTH = .254 (CM)  
 WT = 1.214E+03 (KG)  
 GAP DEPTH = 2.032 (CM)  
 REAMETER = 6.77E+04  
 ORIENTATIONS = 0.00 (DEG)  
 OS = 1.7866E+05 (W/M2)  
 400. POSITIONS = 3  
 PRC VEL = 9.3552E+11 (KG/M2-S)  
 HAW/MY = 1.93E FOR WT  
 HAW/MT = 7.974 FOR ML  
 MLCG = ML(2ND. 3RCE) COME.

T/C	X (CM)	Y (CM)	ZZ (CM)	ML (KG/M2-S)	MT (KG/PT-S)	ML/HREFF	HREF (KG/M2-S)	STL	STT	T (K)	MLCG (ML/M2-S)	MLCG/HREF	ML/WE
1	135.24	-51	0.00	5.03E+04	7.09E-02	6.71E-12	.926	6.53E-02	6.497E-04	6.055E-04	308.0		1.000
2	132.70	-51	0.00	5.03E+04	7.34E-02	5.96E-02	.919	6.17E-02	6.344E-04	5.344E-04	310.9		1.000
3	133.16	-51	0.00	5.03E+04	7.70E-02	5.30E-02	.903	7.63E-02	6.759E-04	4.319E-04	319.2		1.000
4	127.03	-51	0.00	5.03E+04	7.99E-02	7.57E-02	1.051	7.60E-02	9.008E-04	9.008E-04	300.1		1.000
5	125.89	-51	0.00	5.03E+04	8.37E-02	7.93E-02	1.137	7.36E-02	9.510E-04	9.510E-04	309.0		1.000
6	122.86	-51	1.00	6.24E+04	8.33E-02	7.49E-02	1.231	6.76E-02	9.468E-04	9.468E-04	309.4		1.000
7	117.47	-51	1.00	6.13E+04	8.10E-02	7.66E-02	1.389	6.94E-02	9.305E-04	9.305E-04	309.7		1.000
8	112.37	-51	1.00	6.57E+04	7.42E-02	7.33E-02	1.531	6.44E-02	8.439E-04	8.439E-04	310.0		1.000
9	107.31	-51	1.00	7.29E+04	6.54E-02	6.58E-02	1.771	5.91E-02	7.591E-04	7.591E-04	306.6		1.000
10	102.20	-51	1.00	8.63E+04	6.15E-02	5.83E-02	1.918	5.27E-02	6.995E-04	6.995E-04	306.7		1.000
11	97.12	-51	1.00	9.81E+04	5.07E-02	4.80E-02	1.985	4.55E-02	6.073E-04	6.073E-04	306.6		1.000
12	92.04	-51	1.00	1.09E+05	3.83E-02	3.63E-02	2.819	2.17E-02	4.353E-04	4.353E-04	307.4		1.000
13	86.96	-51	0.00	2.21E+04	2.94E-02	2.78E-02	4.697	1.73E-02	3.524E-04	3.524E-04	308.1		1.000
14	81.88	-51	0.00	1.62E+04	2.15E-02	2.14E-02	1.431	1.55E-02	2.501E-04	2.446E-04	307.7		1.000
15	76.80	-51	0.00	1.57E+04	7.48E-02	7.07E-02	1.323	5.35E-02	8.948E-04	6.488E-04	312.5	7.44E-02	1.000
163	111.09	1.52	1.00	3.15E+04	7.11E-02	6.73E-02	1.260	5.64E-02	6.525E-04	6.078E-04	313.6	7.11E-02	1.000
175	111.09	1.52	1.00	3.20E+04	7.78E-02	6.79E-02	1.254	5.64E-02	6.431E-04	6.033E-04	312.9	7.08E-02	1.000
187	111.09	1.52	1.00	3.44E+04	7.31E-02	6.93E-02	1.296	5.64E-02	6.077E-04	6.313E-04	312.1	7.31E-02	1.000
198	111.09	1.52	1.00	3.44E+04	7.21E-02	6.44E-02	1.279	5.64E-02	6.615E-04	6.201E-04	310.6	7.21E-02	1.000
209	111.09	1.52	1.00	3.44E+04	6.82E-02	6.67E-02	1.219	5.64E-02	7.077E-04	7.757E-04	310.8	6.82E-02	1.000
220	111.09	1.52	1.00	3.44E+04	5.82E-02	5.92E-02	1.107	5.64E-02	7.183E-04	7.183E-04	308.9	6.25E-02	1.000
231	111.09	1.52	1.00	3.44E+04	5.74E-02	5.96E-02	.947	5.64E-02	6.473E-04	6.473E-04	306.4	5.96E-02	1.000
242	111.09	1.52	1.00	3.44E+04	3.65E-02	3.65E-02	.643	5.64E-02	4.628E-04	4.384E-04	304.9	3.65E-02	1.000
253	111.09	1.52	1.00	3.44E+04	2.48E-02	2.28E-02	.426	5.64E-02	2.684E-04	2.734E-04	304.9	2.48E-02	1.000
264	111.09	1.52	1.00	3.44E+04	1.27E-02	1.21E-02	.225	5.64E-02	1.523E-04	1.446E-04	304.1	1.27E-02	1.000
275	111.09	1.52	1.00	3.44E+04	6.67E-03	6.32E-03	.118	5.64E-02	7.99E-05	7.505E-05	303.2	6.67E-03	1.000
286	111.09	1.52	1.00	3.44E+04	4.21E-03	3.95E-03	.075	5.64E-02	5.95E-05	4.705E-05	302.6	4.21E-03	1.000
297	111.09	1.52	1.00	3.44E+04	2.42E-03	2.22E-03	.043	5.64E-02	2.87E-05	2.723E-05	312.0	2.42E-03	1.000
308	111.09	1.52	1.00	3.44E+04	1.61E-03	1.41E-03	.026	5.64E-02	4.33E-06	4.113E-06	301.8	1.61E-03	1.000
319	117.44	1.52	1.00	5.03E+04	7.25E-02	6.97E-02	1.059	6.11E-02	6.635E-04	6.241E-04	303.5	7.25E-02	1.000
330	117.44	1.52	1.00	5.03E+04	7.34E-02	6.96E-02	1.039	6.79E-02	6.345E-04	6.345E-04	310.1	7.34E-02	1.000
341	117.44	1.52	1.00	5.03E+04	7.21E-02	6.83E-02	1.062	6.64E-02	6.164E-04	6.164E-04	309.3	7.21E-02	1.000
352	117.44	1.52	1.00	5.03E+04	7.06E-02	6.76E-02	1.136	6.79E-02	6.931E-04	6.464E-04	309.3	7.06E-02	1.000
363	117.44	1.52	1.00	5.03E+04	6.92E-02	6.54E-02	1.174	6.79E-02	9.039E-04	9.039E-04	308.1	6.92E-02	1.000
374	117.44	1.52	1.00	5.03E+04	6.16E-02	7.73E-02	1.204	6.77E-02	9.735E-04	9.274E-04	307.6	6.16E-02	1.000
385	117.44	1.52	1.00	5.03E+04	4.21E-02	7.79E-02	1.213	6.77E-02	9.937E-04	9.342E-04	306.6	4.21E-02	1.000
396	117.44	1.52	1.00	5.03E+04	2.62E-02	7.04E-02	1.104	6.77E-02	9.375E-04	8.891E-04	303.6	2.62E-02	1.000
407	117.44	1.52	1.00	5.03E+04	1.62E-02	7.04E-02	1.104	6.77E-02	9.375E-04	8.891E-04	303.6	1.62E-02	1.000



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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AMES 3.5 FT. HWT TEST (192), G.S. BLUMER, IN-LINE RSI GAP SUP ( 41) 1977

T/C	X (CM)	Y (CM)	Z (CM)	G (MM2)	HL (KG/M2-S)	HT (KG/M2-S)	HL/HREFF (KG/M2-S)	MREF (KG/M2-S)	STL	STT	T (K)	MLCC (K/M2-S)	HL/MLCC	MLCC/HREF	ML/MLME
216	117.44	0.70	1.14	4.31E+04	5.07E-12	5.51E-02	1.014	6.172E-02	8.236E-04	7.12E-04	299.4	1.07E-02	1.000	1.014	.823
217	117.44	0.70	1.64	4.31E+04	5.68E-04	5.37E-12	.87	6.772E-02	6.796E-04	5.46E-04	293.6	5.67E-02	1.000	.837	.679
218	117.44	0.70	2.14	4.31E+04	2.8E-02	4.31E-02	1.014	6.172E-02	5.275E-04	4.85E-04	298.9	4.20E-02	1.000	.631	.512
219	117.44	0.70	2.64	4.31E+04	2.73E-02	2.58E-02	1.014	6.172E-02	3.875E-04	3.47E-04	298.9	2.73E-02	1.000	.683	.527
220	117.44	0.70	3.14	4.31E+04	6.27E-03	5.94E-03	.093	6.772E-02	7.517E-05	7.131E-05	298.8	6.27E-03	1.000	.093	.075
221	127.60	.75	3.60	5.11E+04	6.27E-02	5.51E-02	.373	7.063E-02	8.279E-04	7.810E-04	306.8	6.07E-02	1.000	.873	.880
222	127.60	.75	4.10	5.11E+04	5.82E-02	6.46E-02	.866	7.858E-02	8.177E-04	7.752E-04	306.7	6.07E-02	1.000	.866	.832
223	127.60	.75	4.60	5.11E+04	5.95E-02	5.85E-02	.783	7.852E-02	6.183E-04	6.010E-04	306.2	5.95E-02	1.000	.783	.775
224	127.60	.75	5.10	5.11E+04	5.67E-02	5.19E-02	.697	7.850E-02	6.566E-04	6.225E-04	305.7	5.67E-02	1.000	.697	.709
225	127.60	.75	5.60	5.11E+04	5.46E-03	6.13E-03	.062	7.848E-02	7.750E-05	7.340E-05	305.3	6.46E-03	1.000	.062	.064
226	127.60	.75	6.10	5.11E+04	4.58E-02	4.32E-02	.261	7.847E-02	5.859E-04	5.185E-04	304.8	4.58E-02	1.000	.261	.291
227	127.60	.75	6.60	5.11E+04	3.77E-02	3.57E-02	.800	7.847E-02	4.513E-04	4.284E-04	303.5	3.77E-02	1.000	.800	.848
228	127.60	.75	7.10	5.11E+04	3.20E-02	3.03E-02	.807	7.847E-02	3.835E-04	3.637E-04	303.0	3.20E-02	1.000	.807	.844
229	127.60	.75	7.60	5.11E+04	2.63E-02	2.35E-02	.303	7.847E-02	3.229E-04	3.063E-04	301.7	2.63E-02	1.000	.303	.349
230	127.60	.75	8.10	5.11E+04	2.48E-02	2.20E-02	.787	7.847E-02	2.898E-04	2.739E-04	301.1	2.48E-02	1.000	.787	.812
231	127.60	.75	8.60	5.11E+04	2.37E-02	1.96E-02	.263	7.847E-02	2.878E-04	2.850E-04	300.3	2.07E-02	1.000	.263	.288
232	127.60	.75	9.10	5.11E+04	1.72E-02	1.54E-02	.520	7.847E-02	2.863E-04	1.862E-04	299.6	1.72E-02	1.000	.520	.523
233	127.60	.75	9.60	5.11E+04	1.29E-02	1.22E-02	.184	7.847E-02	1.548E-04	1.869E-04	299.3	1.29E-02	1.000	.184	.167
234	127.60	.75	10.10	5.11E+04	7.95E-03	7.16E-03	.096	7.847E-02	8.595E-05	8.593E-05	298.9	7.95E-03	1.000	.096	.090
235	127.60	.75	10.60	5.11E+04	1.25E-03	1.17E-03	.016	7.847E-02	1.485E-05	1.480E-05	298.6	1.25E-03	1.000	.016	.016
236	135.22	.76	1.00	5.12E+04	6.46E-02	6.46E-02	.795	6.573E-02	8.171E-04	7.746E-04	306.8	6.01E-02	1.000	.795	.959
237	135.22	.76	1.50	5.12E+04	5.33E-02	6.30E-02	.739	6.569E-02	7.595E-04	7.201E-04	306.2	6.33E-02	1.000	.739	.892
238	135.22	.76	2.00	5.12E+04	5.08E-02	4.82E-02	.594	6.564E-02	6.599E-04	6.170E-04	305.5	5.08E-02	1.000	.594	.717
239	135.22	.76	2.50	5.12E+04	3.82E-02	3.63E-02	.648	6.563E-02	4.560E-04	4.360E-04	304.4	3.82E-02	1.000	.648	.549
240	135.22	.76	3.00	5.12E+04	3.39E-02	3.39E-02	.361	6.561E-02	3.823E-04	3.707E-04	303.8	3.26E-02	1.000	.361	.459
241	135.22	.76	3.50	5.12E+04	2.99E-02	2.79E-02	.343	6.561E-02	3.283E-04	3.040E-04	303.4	2.99E-02	1.000	.343	.414
242	135.22	.76	4.00	5.12E+04	2.42E-02	2.09E-02	.258	6.560E-02	2.648E-04	2.511E-04	303.2	2.42E-02	1.000	.258	.311
243	135.22	.76	4.50	5.12E+04	1.75E-02	1.66E-02	.235	6.560E-02	2.433E-04	1.992E-04	302.8	1.75E-02	1.000	.235	.247
244	135.22	.76	5.00	5.12E+04	1.28E-02	1.16E-02	.147	6.560E-02	1.666E-04	1.590E-04	302.1	1.28E-02	1.000	.147	.172
245	135.22	.76	5.50	5.12E+04	9.15E-03	9.15E-03	.115	6.560E-02	1.832E-04	1.821E-04	301.8	9.08E-03	1.000	.115	.139
246	135.22	.76	6.00	5.12E+04	8.58E-03	8.58E-03	.177	6.560E-02	1.593E-04	1.542E-04	301.1	9.16E-03	1.000	.177	.129
247	135.22	.76	6.50	5.12E+04	7.76E-03	7.76E-03	.196	6.560E-02	9.621E-05	9.315E-05	300.7	8.19E-03	1.000	.196	.135
248	135.22	.76	7.00	5.12E+04	6.85E-03	6.85E-03	.080	6.560E-02	8.219E-05	7.795E-05	300.1	6.05E-03	1.000	.080	.087
249	135.22	.76	7.50	5.12E+04	4.63E-03	4.63E-03	.054	6.560E-02	5.519E-05	5.234E-05	299.4	4.69E-03	1.000	.054	.065
250	135.22	.76	8.00	5.12E+04	1.13E-03	1.13E-03	.013	6.560E-02	1.355E-05	1.356E-05	298.5	1.13E-03	1.000	.013	.016

EDGE HEATING USED FOR ME

ML /HREFF 1.431E+07  
ML /HREFF 1.697E+00  
ML /HREFF 1.813E+02  
ML /HREFF 1.945E+07  
ML /HREFF 1.047E+03  
ML /HREFF 1.771E+10  
ML /HREFF 1.237E+02  
ML /HREFF 1.339E+02  
ML /HREFF 4.231E+07  
ML /HREFF 1.117E+07  
ML /HREFF 1.241E+02  
ML /HREFF 1.241E+02  
ML /HREFF 5.228E+01  
ML /HREFF 5.17E-01  
ML /HREFF 6.232E+01

ML /HREFF 1.270E+07  
ML /HREFF 1.692E+07  
ML /HREFF 6.875E+01  
ML /HREFF 7.833E+01

5.6. TRANSITION DISTANCE = 64.64 CM  
FULLY TURBULEN 31.1. CONDITIONS AT z = 9.612 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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AMES 3.5 FT WHT TEST (1P2), C-3. BLUMER, IN-LINE RSI GAP RUN( +2) 1973

TT = 1.14-2E+3(K)  
GAP LENGTH = 39.450(CM)  
FT = 2.10-4E+1A(N/M2)  
GAP WIDTH = .127(CM)  
MT = 1.207E+6(J/KG)  
GAP DEPTH = 2.032(CM)  
REL/METER = 6.844E+1A  
ORIENTATION = 1.310(DSG)  
MACH = 5.103  
OS = 1.7680E+5(N/M2)  
Y00.POSITION = 3

RWD VEL = 9.377E+1(KG/M2-S)  
HAM/HT = 1.808 FOR MT  
HAM/MT = 0.874 FOR HL  
MLCC = MLCCNC OPDEP COND.1)

T/C	X	Y	Z	G	HL	HT	ML/MREF	MREF	STL	STY	T	MLCC	ML/MLCC	MLCC/MREF	HL/HE
(C4)	(C4)	(C4)	(C4)	(M/M2)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(C4)	(C4)	(K)	(K/M2-S)			
1	135.24	-51	0.00	0.23E+1	7.07E-02	6.57E-02	0.10	6.82E-02	6.607E-04	7.966E-04	310.6	7.94E-02	1.000	1.321	0.939
2	132.70	-51	0.00	0.18E+1	6.99E-02	6.62E-02	0.11	6.194E-02	6.342E-04	7.905E-04	311.5	7.94E-02	1.000	1.267	0.915
3	130.16	-51	0.00	0.13E+1	7.28E-02	6.93E-02	0.11	7.017E-02	6.675E-04	8.154E-04	311.6	7.94E-02	1.000	1.208	0.899
4	127.63	-51	0.00	0.08E+1	7.37E-02	6.981E-02	0.11	7.044E-02	6.794E-04	8.333E-04	311.7	7.94E-02	1.000	1.208	0.899
5	125.09	-51	0.00	0.03E+1	7.65E-02	7.24E-02	0.12	7.444E-02	9.116E-04	9.638E-04	311.6	7.94E-02	1.000	1.208	0.899
6	122.56	-51	0.00	0.00E+1	8.10E-02	7.67E-02	0.13	8.044E-02	9.665E-04	9.158E-04	312.0	7.94E-02	1.000	1.208	0.899
7	119.07	-51	0.00	0.00E+1	8.28E-02	7.74E-02	0.13	8.065E-02	9.605E-04	9.293E-04	312.3	7.94E-02	1.000	1.208	0.899
8	115.57	-51	0.00	0.00E+1	8.35E-02	7.76E-02	0.13	8.065E-02	9.605E-04	9.293E-04	312.3	7.94E-02	1.000	1.208	0.899
9	112.07	-51	0.00	0.00E+1	8.35E-02	7.76E-02	0.13	8.065E-02	9.605E-04	9.293E-04	312.3	7.94E-02	1.000	1.208	0.899
10	108.57	-51	0.00	0.00E+1	8.35E-02	7.76E-02	0.13	8.065E-02	9.605E-04	9.293E-04	312.3	7.94E-02	1.000	1.208	0.899
11	105.07	-51	0.00	0.00E+1	8.35E-02	7.76E-02	0.13	8.065E-02	9.605E-04	9.293E-04	312.3	7.94E-02	1.000	1.208	0.899
12	101.57	-51	0.00	0.00E+1	8.35E-02	7.76E-02	0.13	8.065E-02	9.605E-04	9.293E-04	312.3	7.94E-02	1.000	1.208	0.899
13	98.07	-51	0.00	0.00E+1	8.35E-02	7.76E-02	0.13	8.065E-02	9.605E-04	9.293E-04	312.3	7.94E-02	1.000	1.208	0.899
14	94.57	-51	0.00	0.00E+1	8.35E-02	7.76E-02	0.13	8.065E-02	9.605E-04	9.293E-04	312.3	7.94E-02	1.000	1.208	0.899
15	91.07	-51	0.00	0.00E+1	8.35E-02	7.76E-02	0.13	8.065E-02	9.605E-04	9.293E-04	312.3	7.94E-02	1.000	1.208	0.899
103	111.09	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
104	111.09	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
105	111.09	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
106	111.09	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
107	111.09	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
108	111.09	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
109	111.09	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
110	111.09	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
111	111.09	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
112	111.09	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
113	111.09	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
114	111.09	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
115	111.09	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
116	111.09	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
117	111.09	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
118	111.09	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
119	111.09	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
120	111.09	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
203	117.44	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
204	117.44	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
205	117.44	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
206	117.44	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
207	117.44	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
208	117.44	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
209	117.44	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
210	117.44	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
211	117.44	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
212	117.44	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
213	117.44	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
214	117.44	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939
215	117.44	1.52	0.00	5.06E+1	7.94E-02	7.15E-02	1.321	9.710E-02	9.874E-04	6.533E-04	310.7	7.94E-02	1.000	1.321	0.939



RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09651

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AMES 3.5 FT MNT TEST (J-2), G.B. BLUMER, IN-LINE RSI GAP RUN( -2) 1973

T/C	X	Y	Z	G	ML	PT	ML/HREF	HREF	STL	STT	T	MLCC	ML/MLCC	MLCC/HREF	ML/HE
(CM)	(M/2)	(KG/M2-S)	(KG/PT-S)	(KG/PT-S)	(KG/PT-S)	(KG/PT-S)	(KG/PT-S)	(KG/PT-S)	(M/2-S)	(K)	(M/2-S)	(M/2-S)	(M/2-S)	(M/2-S)	(M/2-S)
216	117.44	0.00	1.14	1.27E+04	1.59E-02	1.51E-02	.233	6.054E-02	1.934E-04	1.085E-04	302.4	1.59E-02	1.000	.233	.196
217	117.44	0.00	1.40	7.93E+03	9.76E-03	9.26E-03	.142	6.054E-02	1.16E-04	1.10E-04	302.5	9.76E-03	1.000	.142	.120
218	117.44	0.00	1.45	3.31E+03	5.27E-03	4.81E-03	.074	6.054E-02	6.73E-05	5.73E-05	301.9	5.07E-03	1.000	.074	.062
219	117.44	0.00	1.90	1.45E+03	2.29E-03	2.13E-03	.033	6.054E-02	2.63E-05	2.54E-05	301.4	2.25E-03	1.000	.033	.022
220	117.44	0.00	2.29	2.03E+02	2.76E-04	2.56E-04	.014	6.054E-02	3.22E-06	3.08E-06	301.2	2.76E-04	1.000	.014	.003
406	127.60	0.76	0.00	4.21E+04	6.52E-02	6.10E-02	.021	7.926E-02	7.764E-04	7.37E-04	310.3	6.52E-02	1.000	.021	.001
407	127.60	0.51	0.00	4.21E+04	6.52E-02	6.10E-02	.021	7.926E-02	7.764E-04	7.37E-04	310.3	6.52E-02	1.000	.021	.001
408	127.60	0.25	0.00	4.21E+04	6.52E-02	6.10E-02	.021	7.926E-02	7.764E-04	7.37E-04	310.3	6.52E-02	1.000	.021	.001
409	127.60	0.15	0.00	3.07E+04	4.82E-02	4.57E-02	.016	7.926E-02	5.72E-04	5.45E-04	309.1	4.82E-02	1.000	.016	.007
410	127.60	0.04	0.00	3.07E+04	4.82E-02	4.57E-02	.016	7.926E-02	5.72E-04	5.45E-04	309.1	4.82E-02	1.000	.016	.007
411	127.60	0.01	0.00	2.87E+04	3.46E-02	3.28E-02	.010	7.926E-02	4.08E-04	3.93E-04	308.0	3.46E-02	1.000	.010	.004
412	127.60	0.01	0.00	1.87E+04	2.11E-02	2.00E-02	.007	7.926E-02	2.54E-04	2.39E-04	306.8	2.11E-02	1.000	.007	.003
413	127.60	0.00	0.00	8.91E+03	1.19E-02	1.13E-02	.003	7.926E-02	1.43E-04	1.38E-04	305.1	1.19E-02	1.000	.003	.001
414	127.60	0.00	0.00	2.57E+03	3.43E-03	3.26E-03	.001	7.926E-02	4.13E-05	3.97E-05	304.9	3.43E-03	1.000	.001	.000
415	127.60	0.00	0.00	5.21E+02	6.73E-04	6.31E-04	.000	7.926E-02	9.53E-06	9.03E-06	304.0	6.73E-04	1.000	.000	.000
416	127.60	0.00	1.44	5.77E+03	7.76E-03	7.35E-03	.031	7.926E-02	9.194E-07	8.717E-07	303.6	7.76E-03	1.000	.031	.001
417	127.60	0.00	1.44	5.77E+03	7.76E-03	7.35E-03	.031	7.926E-02	9.194E-07	8.717E-07	303.6	7.76E-03	1.000	.031	.001
418	127.60	0.00	1.65	1.90											
419	127.60	0.00	1.90												
420	127.60	0.00	2.29												
506	135.22	0.76	0.00	4.84E+04	6.28E-02	5.92E-02	.073	8.648E-02	7.493E-04	7.075E-04	310.4	6.28E-02	1.000	.073	.005
507	135.22	0.51	0.00	4.84E+04	6.28E-02	5.92E-02	.073	8.648E-02	7.493E-04	7.075E-04	310.4	6.28E-02	1.000	.073	.005
508	135.22	0.25	0.00	4.84E+04	6.28E-02	5.92E-02	.073	8.648E-02	7.493E-04	7.075E-04	310.4	6.28E-02	1.000	.073	.005
509	135.22	0.15	0.00	3.76E+04	4.51E-02	4.26E-02	.050	8.648E-02	5.49E-04	5.17E-04	309.0	4.51E-02	1.000	.050	.003
510	135.22	0.04	0.00	3.76E+04	4.51E-02	4.26E-02	.050	8.648E-02	5.49E-04	5.17E-04	309.0	4.51E-02	1.000	.050	.003
511	135.22	0.01	0.00	3.56E+04	3.76E-02	3.59E-02	.034	8.648E-02	4.30E-04	4.08E-04	307.9	3.76E-02	1.000	.034	.002
512	135.22	0.00	0.00	2.91E+04	3.91E-02	3.78E-02	.028	8.648E-02	3.60E-04	3.49E-04	306.7	3.91E-02	1.000	.028	.001
513	135.22	0.00	0.00	2.21E+04	3.02E-02	2.89E-02	.020	8.648E-02	2.94E-04	2.84E-04	305.1	3.02E-02	1.000	.020	.001
514	135.22	0.00	0.00	1.7E+04	1.44E-02	1.36E-02	.016	8.648E-02	1.71E-04	1.64E-04	304.9	1.44E-02	1.000	.016	.000
515	135.22	0.00	0.00	5.03E+03	6.78E-03	6.35E-03	.008	8.648E-02	1.08E-04	1.02E-04	304.4	6.78E-03	1.000	.008	.000
516	135.22	0.00	1.14	3.55E+03	4.48E-03	4.25E-03	.002	8.648E-02	5.36E-05	5.08E-05	304.4	4.48E-03	1.000	.002	.000
517	135.22	0.00	1.40	3.49E+03	4.68E-03	4.42E-03	.004	8.648E-02	5.36E-05	5.08E-05	304.4	4.68E-03	1.000	.004	.000
518	135.22	0.00	1.65	7.25E+03	4.38E-03	4.15E-03	.014	8.648E-02	5.22E-05	4.95E-05	304.1	4.38E-03	1.000	.014	.000
519	135.22	0.00	1.90	2.81E+03	3.75E-03	3.55E-03	.013	8.648E-02	4.43E-05	4.23E-05	302.0	3.75E-03	1.000	.013	.000
420	135.22	0.00	2.29	5.21E+02	6.93E-04	6.62E-04	.010	8.648E-02	9.32E-06	8.99E-06	302.0	6.93E-04	1.000	.010	.000

EDGE HEATING USED FOR HE  
 X# 7.63E+01 ML /HREF= 1.295E+01  
 X# 8.18E+01 ML /HREF= 1.537E+01  
 X# 8.69E+01 ML /HREF= 1.657E+01  
 X# 9.20E+01 ML /HREF= 1.811E+01  
 X# 9.72E+01 ML /HREF= 1.971E+01  
 X# 1.022E+02 ML /HREF= 2.136E+01  
 X# 1.073E+02 ML /HREF= 2.306E+01  
 X# 1.124E+02 ML /HREF= 2.481E+01  
 X# 1.175E+02 ML /HREF= 2.661E+01  
 X# 1.226E+02 ML /HREF= 2.846E+01  
 X# 1.276E+02 ML /HREF= 3.036E+01  
 X# 1.327E+02 ML /HREF= 3.231E+01  
 X# 1.377E+02 ML /HREF= 3.431E+01

9.4. TRANSITION DISTANCE = 86.64 CM  
 FULLY TURBULENT T.L. CONDITION AT = 97.12 CM



# RSI GAP HEATING ANALYSIS II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 85

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AMES 7.5 FT HWT TEST (1-2) C.S. BLUNFR. IN-LINE RSI GAP RUN (3) 1973  
 TT = 1.0377E+07(K) GAP LENGTH = 101.57(CM)  
 FT = 5.1359E+05(IN/M2) GAP WIDTH = .254(CM)  
 PT = 1.1423E+01(LJ/KG) GAP DEPTH = 1.116(CM)  
 PE/METER = 1.77E+04 MAGN. ORIENTATIONS = 3.00(DEC)  
 MAGN. OS = 8.2081E+04(IN/M2)  
 RMO VEL = 2.1224E+01(KG/M2-S) 400.POSITION = 1  
 HAN/MNT = 7.879 FOR HT  
 HLCG = ML(2NC. OP-SEP CONC.))

T/C	X (CM)	Y (CM)	Z (CM)	O (CM)	ML (KG/M2-S)	HT (KG/M2-S)	MREF (KG/M2-S)	STL	STT	T (K)	ML/MCC	MCG/MREF	ML/ME
1	135.24	-51	0.0	0.0	1.19E+02	1.12E+02	1.619	7.332E+03	5.594E+04	5.297E-04	389.3	1.000	
2	132.78	-51	0.0	0.0	1.45E+03	1.13E+02	1.582	7.139E+03	5.322E+04	5.039E-04	385.8	1.000	
3	130.16	-51	0.0	0.0	1.82E+03	1.13E+02	1.604	7.042E+03	5.378E+04	5.026E-04	385.8	1.000	
4	127.63	-51	0.0	0.0	2.21E+03	1.03E+02	1.527	6.846E+03	5.250E+04	4.971E-04	386.0	1.000	
5	125.09	-51	0.0	0.0	2.62E+03	1.03E+02	1.553	6.718E+03	5.122E+04	4.855E-04	385.9	1.000	
6	122.56	-51	0.0	0.0	3.05E+03	9.78E+01	1.477	6.526E+03	4.914E+04	4.653E-04	386.0	1.000	
7	119.97	-51	0.0	0.0	3.50E+03	9.28E+01	1.383	6.289E+03	4.628E+04	4.366E-04	386.3	1.000	
8	117.37	-51	0.0	0.0	3.97E+03	8.74E+01	1.280	6.009E+03	4.288E+04	4.009E-04	386.4	1.000	
9	114.73	-51	0.0	0.0	4.46E+03	8.16E+01	1.171	5.694E+03	3.937E+04	3.728E-04	386.8	1.000	
10	112.06	-51	0.0	0.0	4.97E+03	7.55E+01	1.057	5.337E+03	3.587E+04	3.409E-04	386.7	1.000	
11	109.34	-51	0.0	0.0	5.50E+03	6.91E+01	9.41	4.944E+03	3.246E+04	3.146E-04	387.2	1.000	
12	106.56	-51	0.0	0.0	6.05E+03	6.25E+01	8.16	4.522E+03	2.915E+04	2.915E-04	387.6	1.000	
13	103.72	-51	0.0	0.0	6.62E+03	5.58E+01	6.86	4.078E+03	2.594E+04	2.709E-04	387.8	1.000	
14	100.84	-51	0.0	0.0	7.21E+03	4.91E+01	5.52	3.623E+03	2.283E+04	2.523E-04	387.8	1.000	
15	97.92	-51	0.0	0.0	7.82E+03	4.24E+01	4.16	3.159E+03	1.981E+04	2.361E-04	387.8	1.000	
16	94.97	-51	0.0	0.0	8.45E+03	3.58E+01	2.79	2.688E+03	1.688E+04	2.217E-04	386.4	1.000	
17	91.99	-51	0.0	0.0	9.10E+03	2.93E+01	1.41	2.212E+03	1.409E+04	2.089E-04	386.5	1.000	
18	88.98	-51	0.0	0.0	9.77E+03	2.28E+01	0.00	1.737E+03	1.145E+04	1.985E-04	386.6	1.000	
19	85.94	-51	0.0	0.0	1.046E+04	1.64E+01	-0.44	1.262E+03	8.901E+03	1.899E-04	386.0	1.000	
20	82.86	-51	0.0	0.0	1.117E+04	1.00E+01	-0.82	7.337E+02	6.409E+03	1.827E-04	386.5	1.000	
21	79.74	-51	0.0	0.0	1.190E+04	4.65E+00	-0.76	4.935E+02	4.869E+03	1.772E-04	386.4	1.000	
22	76.57	-51	0.0	0.0	1.265E+04	0.00E+00	-0.44	2.593E+02	3.409E+03	1.726E-04	386.4	1.000	
23	73.34	-51	0.0	0.0	1.342E+04	-0.44E+00	-0.44	1.262E+02	2.062E+03	1.686E-04	386.4	1.000	
24	70.06	-51	0.0	0.0	1.420E+04	-0.82E+00	-0.44	6.591E+01	1.353E+03	1.659E-04	386.4	1.000	
25	66.73	-51	0.0	0.0	1.500E+04	-1.20E+00	-0.44	3.159E+01	7.337E+02	1.644E-04	386.4	1.000	
103	47.59	1.52	0.0	0.0	5.22E+03	7.72E+03	1.777	5.935E+03	3.638E+04	3.442E-04	315.4	1.000	
104	47.59	1.52	0.0	0.0	5.69E+03	6.27E+03	1.572	5.937E+03	3.688E+04	3.608E-04	315.7	1.000	
105	47.59	1.52	0.0	0.0	6.16E+03	4.82E+03	1.367	5.937E+03	3.722E+04	3.688E-04	315.2	1.000	
106	47.59	1.52	0.0	0.0	6.63E+03	3.37E+03	1.162	5.937E+03	3.652E+04	3.652E-04	315.5	1.000	
107	47.59	1.52	0.0	0.0	7.10E+03	1.92E+03	0.957	5.935E+03	2.889E+04	2.739E-04	315.5	1.000	
108	47.59	1.52	0.0	0.0	7.57E+03	4.80E+02	0.752	5.935E+03	2.390E+04	2.290E-04	315.4	1.000	
109	47.59	1.52	0.0	0.0	8.04E+03	0.00E+02	0.547	5.935E+03	1.891E+04	1.891E-04	315.3	1.000	
110	47.59	1.52	0.0	0.0	8.51E+03	-0.44E+02	0.342	5.935E+03	1.392E+04	1.392E-04	315.2	1.000	
111	47.59	1.52	0.0	0.0	8.98E+03	-0.82E+02	0.137	5.935E+03	8.938E+03	8.938E-05	315.6	1.000	
112	47.59	1.52	0.0	0.0	9.45E+03	-1.20E+02	0.00	5.935E+03	3.953E+03	3.953E-05	315.4	1.000	
113	47.59	1.52	0.0	0.0	9.92E+03	-1.58E+02	-0.137	5.935E+03	1.965E+03	1.965E-05	315.4	1.000	
114	47.59	1.52	0.0	0.0	1.039E+04	-1.96E+02	-0.274	5.935E+03	9.662E+02	9.662E-06	315.4	1.000	
115	47.59	1.52	0.0	0.0	1.086E+04	-2.34E+02	-0.411	5.935E+03	4.676E+02	4.676E-06	315.4	1.000	
203	61.56	1.52	0.0	0.0	1.163E+04	7.24E+03	1.642	6.591E+03	3.409E+04	3.409E-04	386.5	1.000	
204	61.56	1.52	0.0	0.0	1.210E+04	6.76E+03	1.437	6.591E+03	3.373E+04	3.373E-04	386.8	1.000	
205	61.56	1.52	0.0	0.0	1.257E+04	6.28E+03	1.232	6.591E+03	3.254E+04	3.254E-04	386.7	1.000	
206	61.56	1.52	0.0	0.0	1.304E+04	5.80E+03	1.027	6.591E+03	3.093E+04	2.933E-04	386.3	1.000	
207	61.56	1.52	0.0	0.0	1.351E+04	5.32E+03	0.822	6.591E+03	2.933E+04	2.933E-04	386.3	1.000	
208	61.56	1.52	0.0	0.0	1.398E+04	4.84E+03	0.617	6.591E+03	2.772E+04	2.772E-04	386.3	1.000	
209	61.56	1.52	0.0	0.0	1.445E+04	4.36E+03	0.412	6.591E+03	2.611E+04	2.611E-04	386.3	1.000	
210	61.56	1.52	0.0	0.0	1.492E+04	3.88E+03	0.207	6.591E+03	2.450E+04	2.450E-04	386.3	1.000	



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

REPORT MDC E1248  
JSC 09651

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AMES 3.5 FT. HNT TEST (122), C.P. BLUMER, IN-LINE RSI GAP RUN (43) 1973

T/C	X (C)	Y (C)	Z (C)	D (M/M2)	ML (KG/M2-S)	HT (KG/M2-S)	ML/MREF	MREF (KG/M2-S)	STL	STT	T (K)	MLCC (KG/M2-S)	ML/MLCC	MLCC/MREF	ML/ME
211	61.96	0.74	0.35	3.70E+03	4.80E-03	4.07E-03	.569	6.583E-03	2.299E-04	2.177E-04	305.1	4.08E-03	1.000	.569	.600
212	61.96	0.73	0.25	2.49E+03	3.59E-03	3.40E-03	.410	8.63E-03	1.692E-04	1.602E-04	305.8	3.59E-03	1.000	.618	.441
213	61.96	0.73	0.16	7.97E+02	6.01E-06	5.57E-06	.071	6.593E-03	2.831E-07	2.673E-07	339.7	6.01E-06	1.000	.001	.001
214	61.96	0.74	0.09	1.43E+01	2.06E-05	1.99E-05	.002	6.563E-03	9.731E-07	9.107E-07	303.0	2.06E-05	1.000	.002	.003
306	66.96	0.76	0.70	3.05E+03	4.62E-06	4.16E-06	.071	7.231E-03	2.177E-07	2.050E-07	330.7	4.62E-06	1.000	.001	.001
307	66.96	0.51	0.00	6.05E+03	3.84E-03	5.73E-03	.000	7.231E-03	2.177E-04	2.605E-04	306.6	9.84E-03	1.000	.000	.727
308	66.96	0.25	0.00	3.27E+03	5.45E-03	5.74E-03	.670	7.232E-03	2.857E-04	2.705E-04	305.3	6.06E-03	1.000	.030	.754
309	66.96	0.18	0.07	3.77E+03	5.43E-03	5.74E-03	.751	7.232E-03	2.558E-04	2.422E-04	305.0	5.43E-03	1.000	.751	.675
310	66.96	0.04	0.04	3.50E+03	5.05E-03	4.78E-03	.690	7.232E-03	2.378E-04	2.251E-04	305.9	5.05E-03	1.000	.690	.620
311	66.96	0.37	0.11	2.74E+03	3.94E-03	3.73E-03	.345	7.232E-03	1.867E-04	1.759E-04	305.5	3.94E-03	1.000	.545	.490
312	66.96	0.37	0.24	1.71E+03	2.45E-03	2.33E-03	.340	7.232E-03	1.161E-04	1.098E-04	305.8	2.45E-03	1.000	.340	.306
313	66.96	0.30	0.38	1.33E+03	1.77E-03	1.67E-03	.244	7.232E-03	8.327E-05	7.805E-05	305.5	1.77E-03	1.000	.244	.220
314	66.96	0.33	0.54	7.32E+02	6.30E-04	5.97E-04	.087	7.232E-03	2.970E-05	2.813E-05	305.5	6.30E-04	1.000	.087	.076
315	66.96	0.01	0.09	1.46E+01	6.40E-05	6.07E-05	.009	7.232E-03	3.010E-06	2.850E-06	303.0	6.40E-05	1.000	.009	.000
406	112.96	0.76	0.00	3.37E+03	3.90E-03	5.69E-03	.043	6.624E-03	2.630E-04	2.490E-04	305.7	5.69E-03	1.000	.043	.571
407	112.96	0.51	0.00	6.70E+03	6.80E-03	6.52E-03	1.039	6.624E-03	3.243E-04	3.070E-04	305.4	6.00E-03	1.000	1.039	.704
408	112.96	0.25	0.00	5.36E+03	7.71E-03	7.30E-03	1.164	6.624E-03	3.634E-04	3.461E-04	305.2	7.71E-03	1.000	1.164	.749
409	112.96	0.15	0.02	9.04E+03	7.31E-03	6.93E-03	1.104	6.624E-03	3.446E-04	3.263E-04	305.0	7.31E-03	1.000	1.104	.748
410	112.96	0.04	0.04	6.44E+03	6.40E-03	6.10E-03	.966	6.624E-03	3.011E-04	2.894E-04	305.0	6.40E-03	1.000	.966	.654
411	112.96	0.37	0.15	5.00E+03	5.61E-03	5.33E-03	.866	6.624E-03	2.842E-04	2.562E-04	305.7	5.61E-03	1.000	.866	.573
412	112.96	0.37	0.25	2.33E+03	3.20E-03	3.33E-03	.404	6.624E-03	1.979E-04	1.429E-04	305.2	3.20E-03	1.000	.404	.328
413	112.96	0.30	0.38	6.07E+02	1.29E-03	1.19E-03	.189	6.624E-03	5.804E-05	5.572E-05	303.6	1.29E-03	1.000	.189	.128
414	112.96	0.30	0.54	1.22E+02	1.79E-04	1.70E-04	.027	6.624E-03	6.456E-06	6.008E-06	303.5	1.79E-04	1.000	.027	.010
415	112.96	0.37	0.09	1.22E+02	1.79E-04	1.70E-04	.027	6.624E-03	6.456E-06	6.008E-06	303.5	1.79E-04	1.000	.027	.010
506	125.06	0.76	0.09	4.39E+03	6.32E-03	5.99E-03	.911	6.943E-03	2.900E-04	2.821E-04	305.0	6.32E-03	1.000	.911	.568
507	125.06	0.51	0.00	5.02E+03	7.81E-03	7.19E-03	1.125	6.943E-03	3.679E-04	3.464E-04	305.1	7.81E-03	1.000	1.125	.701
508	125.06	0.25	0.00	6.27E+03	8.97E-03	8.49E-03	1.292	6.943E-03	4.229E-04	4.030E-04	305.0	8.97E-03	1.000	1.292	.680
509	125.06	0.15	0.02	6.81E+03	8.36E-03	7.98E-03	1.204	6.943E-03	3.938E-04	3.729E-04	305.0	8.36E-03	1.000	1.204	.751
510	125.06	0.04	0.04	5.82E+03	7.49E-03	7.13E-03	1.079	6.943E-03	3.522E-04	3.342E-04	305.7	7.49E-03	1.000	1.079	.672
511	125.06	0.37	0.15	4.69E+02	7.03E-03	6.68E-03	1.013	6.943E-03	3.319E-04	3.139E-04	305.0	7.03E-03	1.000	1.013	.632
512	125.06	0.37	0.25	3.22E+03	4.72E-03	4.47E-03	.680	6.943E-03	2.225E-04	2.107E-04	305.7	4.72E-03	1.000	.680	.424
513	125.06	0.30	0.38	2.12E+02	3.15E-03	2.95E-03	.433	6.943E-03	1.437E-04	1.361E-04	305.5	3.15E-03	1.000	.433	.274
514	125.06	0.30	0.54	5.12E+02	7.39E-04	6.36E-04	.106	6.943E-03	3.465E-05	3.202E-05	303.9	7.39E-04	1.000	.106	.066
515	125.06	0.37	0.09	5.12E+02	7.39E-04	6.36E-04	.106	6.943E-03	3.465E-05	3.202E-05	303.9	7.39E-04	1.000	.106	.066

EDGE HEATING USED FOR NF  
 X# 3.074E+01 ML /MREF# 9.426E-01  
 X# 4.124E+01 ML /MREF# 5.734E-01  
 X# 4.377E+01 ML /MREF# 9.490E-01  
 X# 4.631E+01 ML /MREF# 9.179E-01  
 X# 4.896E+01 ML /MREF# 5.476E-01

**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

X#	7.139E+01	ML	/MREFF#	7.139E+01
X#	9.048E+01	ML	/MREFF#	9.048E+01
X#	6.156E+01	ML	/MREFF#	6.156E+01
X#	6.664E+01	ML	/MREFF#	6.664E+01
X#	7.122E+01	ML	/MREFF#	7.122E+01
X#	7.630E+01	ML	/MREFF#	7.630E+01
X#	8.138E+01	ML	/MREFF#	8.138E+01
X#	8.646E+01	ML	/MREFF#	8.646E+01
X#	9.154E+01	ML	/MREFF#	9.154E+01
X#	9.712E+01	ML	/MREFF#	9.712E+01
X#	1.022E+02	ML	/MREFF#	1.022E+02
X#	1.073E+02	ML	/MREFF#	1.073E+02
X#	1.124E+02	ML	/MREFF#	1.124E+02
X#	1.175E+02	ML	/MREFF#	1.175E+02
X#	1.226E+02	ML	/MREFF#	1.226E+02
X#	1.277E+02	ML	/MREFF#	1.277E+02
X#	1.328E+02	ML	/MREFF#	1.328E+02
X#	1.379E+02	ML	/MREFF#	1.379E+02
X#	4.759E+11	ML	/MREFF#	4.759E+11
X#	6.195E+11	ML	/MREFF#	6.195E+11
X#	8.606E+01	ML	/MREFF#	8.606E+01
X#	1.124E+02	ML	/MREFF#	1.124E+02
X#	1.226E+02	ML	/MREFF#	1.226E+02

X#	9.212E+01	ML	/MREFF#	9.212E+01
X#	9.712E+01	ML	/MREFF#	9.712E+01
X#	1.022E+02	ML	/MREFF#	1.022E+02
X#	1.073E+02	ML	/MREFF#	1.073E+02
X#	1.124E+02	ML	/MREFF#	1.124E+02
X#	1.175E+02	ML	/MREFF#	1.175E+02
X#	1.226E+02	ML	/MREFF#	1.226E+02
X#	1.277E+02	ML	/MREFF#	1.277E+02
X#	1.328E+02	ML	/MREFF#	1.328E+02
X#	1.379E+02	ML	/MREFF#	1.379E+02
X#	8.339E+11	ML	/MREFF#	8.339E+11
X#	8.746E+11	ML	/MREFF#	8.746E+11
X#	9.076E+01	ML	/MREFF#	9.076E+01
X#	1.039E+02	ML	/MREFF#	1.039E+02
X#	1.122E+02	ML	/MREFF#	1.122E+02

8.0. TRANSITION DISTANCE = 76.8) CM  
 FULLY TURBULENT 9.0. CONDITIONS AT z=376.63 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 87

AMES 3.5 FT HMT TEST (122), C.E. BLUMER, IN-LINE RSI GAP RUN( 44) 1973

TT = 1.1474E+11(K)  
 FT = 9.9070E+10(N/M2)  
 HT = 1.2312E+16(J/KG)  
 RE/METER = 2.9439E+06  
 MACH = 5.103  
 RHC VEL = 3.8991E+11(KG/M2-S)  
 HAM/MT = 1.998 FOR MT  
 HAM/NT = 0.874 FOR HL  
 MLCC = HL(2MC, 3F0EP CONE,\*)

GAP LENGTH = 101.503(CM)  
 GAP WIDTH = .254(CM)  
 GAP DEPTH = 1.313(CM)  
 ORIENTATION = 2.000(DEG)  
 OS = 1.2482E+05(N/M2)  
 100, POSITION = 1

T/C	X (CM)	Y (CM)	Z (CM)	O (W/M2)	ML (KG/M2-S)	MT (KG/M2-S)	ML/HREF (KG/M2-S)	HREF (KG/M2-S)	STL	STT	T (K)	MLCC (KG/M2-S)	ML/MLCC	MLCC/HREF	ML/NE
1	135.24	-51	0.90	3.76E+04	4.69E-02	4.42E-02	1.249	3.731E-02	1.195E-03	1.133E-03	309.6			1.000	
2	132.70	-51	0.00	3.67E+04	4.62E-02	4.30E-02	1.414	3.267E-02	1.105E-03	1.123E-03	309.6			1.000	
3	130.16	-51	0.90	3.47E+04	4.67E-02	4.42E-02	1.537	3.234E-02	1.197E-03	1.143E-03	309.7			1.000	
4	127.67	-51	0.00	3.47E+04	4.54E-02	4.30E-02	1.620	2.902E-02	1.164E-03	1.104E-03	309.9			1.000	
5	125.09	-51	0.90	3.17E+04	4.62E-02	4.15E-02	1.720	2.571E-02	1.134E-03	1.075E-03	309.7			1.000	
6	122.56	-51	0.00	3.11E+04	4.00E-02	3.36E-02	1.913	2.330E-02	1.045E-03	9.909E-04	309.6			1.000	
7	119.87	-51	0.90	2.65E+04	3.67E-02	2.72E-02	1.971	1.762E-02	8.930E-04	8.446E-04	310.2			1.000	
8	117.31	-51	0.00	2.19E+04	2.87E-02	2.21E-02	1.938	1.679E-02	7.354E-04	6.972E-04	310.2			1.000	
9	107.29	-51	0.90	1.74E+04	1.80E-02	1.76E-02	1.871	1.109E-02	4.733E-04	4.586E-04	310.4			1.000	
10	97.12	-51	0.00	1.27E+04	1.06E-02	1.37E-02	1.876	9.895E-03	4.234E-04	4.133E-04	311.8			1.000	
11	86.96	-51	0.90	9.99E+03	1.31E-02	1.24E-02	1.817	9.246E-03	3.360E-04	3.109E-04	311.8			1.000	
12	82.74	-51	0.00	9.19E+03	1.21E-02	1.14E-02	1.363	8.049E-03	3.093E-04	2.932E-04	311.3			1.000	
13	81.00	-51	0.90	7.70E+03	1.06E-02	1.00E-02	1.345	6.931E-03	2.737E-04	2.566E-04	311.3			1.000	
14	76.80	-51	0.00	7.07E+03	1.02E-02	9.59E-03	1.332	6.034E-03	2.623E-04	2.488E-04	311.4			1.000	
15	71.72	-51	0.90	6.16E+03	1.06E-02	1.00E-02	1.321	5.938E-03	2.714E-04	2.572E-04	311.6			1.000	
16	66.64	-51	0.00	5.32E+03	1.09E-02	1.04E-02	1.100	5.936E-03	2.803E-04	2.657E-04	311.9			1.000	
17	61.56	-51	0.90	4.27E+03	1.30E-02	1.22E-02	1.024	1.095E-02	2.772E-04	2.627E-04	312.1			1.000	
18	56.48	-51	0.00	3.87E+03	1.46E-02	1.40E-02	1.030	1.122E-02	2.980E-04	2.832E-04	312.2			1.000	
19	51.39	-51	0.90	3.24E+03	1.16E-02	1.10E-02	1.014	1.192E-02	2.979E-04	2.874E-04	312.5			1.000	
20	46.31	-51	0.00	2.92E+03	1.28E-02	1.15E-02	1.018	1.192E-02	3.112E-04	2.958E-04	312.5			1.000	
21	40.96	-51	0.90	2.41E+03	1.26E-02	1.26E-02	1.029	1.227E-02	3.237E-04	3.069E-04	312.2			1.000	
22	35.77	-51	0.00	2.03E+03	1.31E-02	1.24E-02	1.039	1.261E-02	3.361E-04	3.186E-04	312.3			1.000	
23	31.24	-51	0.90	1.63E+03	1.20E-02	1.21E-02	1.064	1.296E-02	3.273E-04	3.103E-04	311.4			1.000	
24	26.70	-51	0.00	1.27E+03	1.14E-02	1.17E-02	1.046	1.172E-02	2.653E-04	2.524E-04	315.3			0.876	
25	22.59	1.52	0.90	9.77E+03	1.02E-02	9.64E-03	0.946	1.173E-02	2.809E-04	2.672E-04	316.4			0.896	
26	17.89	1.07	0.00	8.77E+03	1.02E-02	9.64E-03	0.967	1.173E-02	2.809E-04	2.672E-04	316.4			0.896	
27	13.09	0.51	0.80	7.89E+03	1.09E-02	9.98E-03	0.998	1.173E-02	2.701E-04	2.599E-04	315.9			0.880	
28	8.29	0.25	0.30	6.99E+03	1.17E-02	1.11E-02	0.910	1.173E-02	2.737E-04	2.594E-04	314.8			0.916	
29	3.49	0.04	0.00	6.09E+03	9.34E-03	8.89E-03	0.796	1.173E-02	2.394E-04	2.378E-04	313.5			0.787	
30	0.00	0.00	0.00	5.15E+03	8.09E-03	7.67E-03	0.689	1.173E-02	2.074E-04	1.964E-04	311.9			0.661	
31	0.00	0.00	0.00	4.27E+03	6.87E-03	6.38E-03	0.580	1.173E-02	1.805E-04	1.627E-04	311.7			0.600	
32	0.00	0.00	0.00	3.41E+03	5.80E-03	5.38E-03	0.469	1.173E-02	1.591E-04	1.427E-04	310.9			0.580	
33	0.00	0.00	0.00	2.57E+03	4.80E-03	4.44E-03	0.402	1.173E-02	1.377E-04	1.217E-04	310.1			0.512	
34	0.00	0.00	0.00	1.74E+03	3.95E-03	3.64E-03	0.358	1.173E-02	1.172E-04	1.045E-04	315.3			0.465	
35	0.00	0.00	0.00	9.87E+03	8.64E-03	8.19E-03	0.669	9.034E-03	2.815E-04	2.109E-04	312.7			0.350	
36	61.56	1.32	0.00	8.22E+03	6.23E-03	5.77E-03	0.524	9.034E-03	2.815E-04	1.944E-04	312.9			0.25E-03	
37	61.56	1.32	0.00	6.99E+03	7.81E-03	7.44E-03	0.597	9.034E-03	2.815E-04	1.944E-04	312.9			0.787	
38	61.56	1.25	0.00	5.44E+03	7.49E-03	6.70E-03	0.720	9.034E-03	1.833E-04	1.738E-04	312.0			7.15E-03	
39	61.56	1.14	0.00	4.22E+03	5.54E-03	5.25E-03	0.558	9.034E-03	1.421E-04	1.367E-04	311.6			5.54E-03	

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**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

PAGE 08

AMES 3.5 FT WHT TEST (1-2), D.B. BLUMER, IN-LINE RSI GAP RUN( 44) 1973

T/C	X (CM)	Y (CM)	Z (CM)	ZZ (CM)	O (N/M2)	ML (KG/M2-S)	HT (KG/M2-S)	ML/MREF	HREF (KG/M2-S)	STL	STT	T (K)	MLCC (KG/M2-S)	ML/MLCC	MLCC/HREF	ML/ME
211	61.56	0.01	.15	.15	3.10E+03	4.15E+03	3.84E-03	.578	9.935E-03	1.473E-04	1.396E-04	308.7	9.79E-03	1.000	.578	.525
212	61.56	0.01	.25	.25	3.10E+03	4.15E+03	3.84E-03	.658	9.935E-03	1.473E-04	9.851E-05	308.3	4.09E-03	1.000	.658	.571
213	61.56	0.01	.35	.35	3.10E+03	4.15E+03	3.84E-03	.738	9.935E-03	1.473E-04	1.414E-04	318.4	9.02E-03	1.000	.738	.446
214	61.56	0.01	.45	.45	3.10E+03	4.15E+03	3.84E-03	.818	9.935E-03	1.473E-04	2.213E-04	329.7	9.13E-03	1.000	.818	.697
215	61.56	0.01	.55	.55	3.10E+03	4.15E+03	3.84E-03	.898	9.935E-03	1.473E-04	3.012E-04	339.2	9.49E-03	1.000	.898	.726
306	86.96	0.01	.05	.05	4.45E+03	5.82E+03	5.51E-03	.531	9.225E-03	1.492E-04	1.492E-04	318.4	9.02E-03	1.000	.531	.446
307	86.96	0.01	.15	.15	4.45E+03	5.82E+03	5.51E-03	.557	9.225E-03	1.492E-04	2.133E-04	329.7	9.13E-03	1.000	.557	.697
308	86.96	0.01	.25	.25	4.45E+03	5.82E+03	5.51E-03	.583	9.225E-03	1.492E-04	2.774E-04	339.2	9.49E-03	1.000	.583	.726
309	86.96	0.01	.35	.35	4.45E+03	5.82E+03	5.51E-03	.609	9.225E-03	1.492E-04	3.415E-04	348.7	9.85E-03	1.000	.609	.755
310	86.96	0.01	.45	.45	4.45E+03	5.82E+03	5.51E-03	.635	9.225E-03	1.492E-04	4.056E-04	358.2	1.02E-02	1.000	.635	.824
311	86.96	0.01	.55	.55	4.45E+03	5.82E+03	5.51E-03	.661	9.225E-03	1.492E-04	4.697E-04	367.7	1.05E-02	1.000	.661	.893
312	86.96	0.01	.65	.65	4.45E+03	5.82E+03	5.51E-03	.687	9.225E-03	1.492E-04	5.338E-04	377.2	1.08E-02	1.000	.687	.962
313	86.96	0.01	.75	.75	4.45E+03	5.82E+03	5.51E-03	.713	9.225E-03	1.492E-04	5.979E-04	386.7	1.11E-02	1.000	.713	.101
314	86.96	0.01	.85	.85	4.45E+03	5.82E+03	5.51E-03	.739	9.225E-03	1.492E-04	6.620E-04	396.2	1.14E-02	1.000	.739	.170
315	86.96	0.01	.95	.95	4.45E+03	5.82E+03	5.51E-03	.765	9.225E-03	1.492E-04	7.261E-04	405.7	1.17E-02	1.000	.765	.239
406	112.36	0.01	.05	.05	1.49E+04	2.48E+04	2.35E-02	1.425	1.735E-02	6.335E-04	6.027E-04	389.1	2.49E-02	1.000	1.425	.723
407	112.36	0.01	.15	.15	1.49E+04	2.48E+04	2.35E-02	1.505	1.735E-02	7.156E-04	6.738E-04	398.6	2.77E-02	1.000	1.505	.896
408	112.36	0.01	.25	.25	1.49E+04	2.48E+04	2.35E-02	1.585	1.735E-02	8.077E-04	7.350E-04	408.1	3.05E-02	1.000	1.585	.107
409	112.36	0.01	.35	.35	1.49E+04	2.48E+04	2.35E-02	1.665	1.735E-02	8.998E-04	7.963E-04	417.6	3.33E-02	1.000	1.665	.176
410	112.36	0.01	.45	.45	1.49E+04	2.48E+04	2.35E-02	1.745	1.735E-02	9.919E-04	8.576E-04	427.1	3.61E-02	1.000	1.745	.245
411	112.36	0.01	.55	.55	1.49E+04	2.48E+04	2.35E-02	1.825	1.735E-02	1.084E-03	9.189E-04	436.6	3.89E-02	1.000	1.825	.314
412	112.36	0.01	.65	.65	1.49E+04	2.48E+04	2.35E-02	1.905	1.735E-02	1.176E-03	9.802E-04	446.1	4.17E-02	1.000	1.905	.383
413	112.36	0.01	.75	.75	1.49E+04	2.48E+04	2.35E-02	1.985	1.735E-02	1.268E-03	1.041E-03	455.6	4.45E-02	1.000	1.985	.452
414	112.36	0.01	.85	.85	1.49E+04	2.48E+04	2.35E-02	2.065	1.735E-02	1.360E-03	1.102E-03	465.1	4.73E-02	1.000	2.065	.521
415	112.36	0.01	.95	.95	1.49E+04	2.48E+04	2.35E-02	2.145	1.735E-02	1.452E-03	1.163E-03	474.6	5.01E-02	1.000	2.145	.590
516	125.06	0.01	.05	.05	2.05E+04	3.67E+04	3.48E-02	1.325	2.775E-02	9.413E-04	8.926E-04	388.1	3.67E-02	1.000	1.325	.617
517	125.06	0.01	.15	.15	2.05E+04	3.67E+04	3.48E-02	1.366	2.775E-02	9.719E-04	9.234E-04	388.1	3.85E-02	1.000	1.366	.686
518	125.06	0.01	.25	.25	2.05E+04	3.67E+04	3.48E-02	1.407	2.775E-02	1.002E-03	9.545E-04	388.1	4.03E-02	1.000	1.407	.755
519	125.06	0.01	.35	.35	2.05E+04	3.67E+04	3.48E-02	1.448	2.775E-02	1.033E-03	9.866E-04	388.1	4.21E-02	1.000	1.448	.824
520	125.06	0.01	.45	.45	2.05E+04	3.67E+04	3.48E-02	1.489	2.775E-02	1.064E-03	1.018E-03	388.1	4.39E-02	1.000	1.489	.893
521	125.06	0.01	.55	.55	2.05E+04	3.67E+04	3.48E-02	1.530	2.775E-02	1.095E-03	1.053E-03	388.1	4.57E-02	1.000	1.530	.962
522	125.06	0.01	.65	.65	2.05E+04	3.67E+04	3.48E-02	1.571	2.775E-02	1.126E-03	1.088E-03	388.1	4.75E-02	1.000	1.571	.101
523	125.06	0.01	.75	.75	2.05E+04	3.67E+04	3.48E-02	1.612	2.775E-02	1.157E-03	1.123E-03	388.1	4.93E-02	1.000	1.612	.170
524	125.06	0.01	.85	.85	2.05E+04	3.67E+04	3.48E-02	1.653	2.775E-02	1.188E-03	1.160E-03	388.1	5.11E-02	1.000	1.653	.239
525	125.06	0.01	.95	.95	2.05E+04	3.67E+04	3.48E-02	1.694	2.775E-02	1.219E-03	1.195E-03	388.1	5.29E-02	1.000	1.694	.308

EDGE HEATING USED FOR ME

ME	ML	HREF	ML/HREF
ME 1	5.00E+01	9.935E-03	5.03E-01
ME 2	1.39E+00	1.473E-04	9.44E-04
ME 3	1.29E+00	1.473E-04	8.76E-04
ME 4	1.18E+01	1.473E-04	1.26E-02
ME 5	3.59E+03	1.492E-04	1.06E-02
ME 6	1.41E+04	1.492E-04	1.01E-02
ME 7	4.05E+04	1.492E-04	2.73E-02
ME 8	1.08E+05	1.492E-04	7.26E-02
ME 9	2.48E+05	1.492E-04	1.66E-01
ME 10	5.82E+05	1.492E-04	3.98E-01
ME 11	1.49E+06	1.492E-04	1.00E+00
ME 12	3.67E+06	1.492E-04	2.49E+00
ME 13	9.23E+06	1.492E-04	6.18E+00
ME 14	2.35E+07	1.492E-04	1.58E+01
ME 15	5.92E+07	1.492E-04	3.98E+01
ME 16	1.49E+08	1.492E-04	1.00E+02
ME 17	3.67E+08	1.492E-04	2.49E+02
ME 18	9.23E+08	1.492E-04	6.18E+02
ME 19	2.35E+09	1.492E-04	1.58E+03
ME 20	5.92E+09	1.492E-04	3.98E+03
ME 21	1.49E+10	1.492E-04	1.00E+04
ME 22	3.67E+10	1.492E-04	2.49E+04
ME 23	9.23E+10	1.492E-04	6.18E+04
ME 24	2.35E+11	1.492E-04	1.58E+05
ME 25	5.92E+11	1.492E-04	3.98E+05
ME 26	1.49E+12	1.492E-04	1.00E+06
ME 27	3.67E+12	1.492E-04	2.49E+06
ME 28	9.23E+12	1.492E-04	6.18E+06
ME 29	2.35E+13	1.492E-04	1.58E+07
ME 30	5.92E+13	1.492E-04	3.98E+07
ME 31	1.49E+14	1.492E-04	1.00E+08
ME 32	3.67E+14	1.492E-04	2.49E+08
ME 33	9.23E+14	1.492E-04	6.18E+08
ME 34	2.35E+15	1.492E-04	1.58E+09
ME 35	5.92E+15	1.492E-04	3.98E+09
ME 36	1.49E+16	1.492E-04	1.00E+10
ME 37	3.67E+16	1.492E-04	2.49E+10
ME 38	9.23E+16	1.492E-04	6.18E+10
ME 39	2.35E+17	1.492E-04	1.58E+11
ME 40	5.92E+17	1.492E-04	3.98E+11
ME 41	1.49E+18	1.492E-04	1.00E+12
ME 42	3.67E+18	1.492E-04	2.49E+12
ME 43	9.23E+18	1.492E-04	6.18E+12
ME 44	2.35E+19	1.492E-04	1.58E+13
ME 45	5.92E+19	1.492E-04	3.98E+13
ME 46	1.49E+20	1.492E-04	1.00E+14
ME 47	3.67E+20	1.492E-04	2.49E+14
ME 48	9.23E+20	1.492E-04	6.18E+14
ME 49	2.35E+21	1.492E-04	1.58E+15
ME 50	5.92E+21	1.492E-04	3.98E+15

20	2.137E+01	ML	/MREFF	1.38E+01
20	5.048E+01	ML	/MREFF	1.928E+00
20	6.156E+01	ML	/MREFF	1.137E+00
20	6.666E+01	ML	/MREFF	1.121E+01
20	7.172E+01	ML	/MREFF	1.122E+00
20	7.678E+01	ML	/MREFF	1.122E+00
20	8.184E+01	ML	/MREFF	1.122E+00
20	8.690E+01	ML	/MREFF	1.437E+00
20	9.196E+01	ML	/MREFF	1.678E+00
20	9.702E+01	ML	/MREFF	1.671E+00
20	1.020E+02	ML	/MREFF	1.838E+00
20	1.073E+02	ML	/MREFF	1.938E+00
20	1.126E+02	ML	/MREFF	1.971E+00
20	1.179E+02	ML	/MREFF	1.933E+00
20	1.232E+02	ML	/MREFF	1.721E+00
20	1.285E+02	ML	/MREFF	1.624E+00
20	1.338E+02	ML	/MREFF	1.537E+00
20	1.391E+02	ML	/MREFF	1.448E+00
20	1.444E+02	ML	/MREFF	1.249E+00
20	6.789E+01	ML	/MREFF	6.976E-01
20	6.156E+01	ML	/MREFF	7.446E-01
20	6.666E+01	ML	/MREFF	6.332E-01
20	7.172E+01	ML	/MREFF	3.528E+00
20	7.678E+01	ML	/MREFF	3.368E+00

90. TRANSITION DISTANCE = 38.78 CM  
FULLY TURBULENT 90. CONDITIONS AT = 112.37 CM



RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
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AMSS 3.5 FT HHT TEST (SE2), C.C. PLUMER, IN-LINE PSI GAP RUN( 45) 19.3

TT = 1.8234E+3(K)  
GAP LENGTH = 1.160 (CM)  
FT = 2.7924E+06 (IN/M2)  
GAP WIDTH = .254 (CM)  
HT = 1.32E+04 (LJ/KG)  
GAP DEPTH = 1.716 (CM)  
WEIGHTER = 6.5779E+06  
ORIENTATION = 0.000 (DEG)  
QS = 1.7229E+05 (IN/M2)  
400. POSITION = 1  
RHO VEL = 5.033E+04 (KG/M2-S)  
HAM/MT = 1.0E+04 FOR HT  
HAM/MT = 1.0E+04 FOR ML  
MLCC = ML(2NK, 3) DEP CONC.\*\*) )

T/C	X	Y	Z	ML	MT	ML/MREF	MREF	STL	STT	T	MLCC	ML/MLCC	MLCC/MREF	ML/AE
(C)	(C)	(C)	(C)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(K)	(K)	(K/M2-S)	(K/M2-S)	(K/M2-S)	(K/M2-S)
1	135.24	-51	0.00	1.02E+04	7.27E+12	6.08E+12	0.82A	0.793E+12	0.611E+04	0.156E-04	312.6	1.000	1.000	1.000
2	132.70	-51	0.00	0.22E+04	7.22E+12	6.94E+12	0.80	0.32E+12	0.55E+04	0.17E-04	313.2	1.000	1.000	1.000
3	131.16	-51	0.00	0.41E+04	7.49E+12	7.95E+12	0.925	0.69E+12	0.57E+04	0.40E-04	313.2	1.000	1.000	1.000
4	127.63	-51	0.00	5.40E+04	7.47E+12	7.98E+12	0.951	7.05E+12	0.836E+04	0.300E-04	313.4	1.000	1.000	1.000
5	125.89	-51	0.00	1.03E+04	7.59E+12	7.99E+12	0.996	7.52E+12	0.998E+04	0.522E-04	313.1	1.000	1.000	1.000
6	122.56	-51	0.00	6.71E+04	7.99E+12	7.98E+12	1.125	7.12E+12	9.36E+04	0.069E-04	313.3	1.000	1.000	1.000
7	117.47	-51	0.00	5.87E+04	4.66E+12	7.64E+12	1.335	6.13E+12	9.55E+04	0.048E-04	313.3	1.000	1.000	1.000
8	112.77	-51	0.00	0.11E+04	3.30E+12	7.36E+12	1.645	5.14E+12	9.32E+04	0.31E-04	313.2	1.000	1.000	1.000
9	107.31	-51	0.00	6.18E+04	3.55E+12	6.10E+12	2.498	4.17E+12	1.51E+04	9.950E-04	313.1	1.000	1.000	1.000
10	102.80	-51	0.00	6.14E+04	3.49E+12	6.14E+12	2.577	3.29E+12	9.938E-04	9.938E-04	313.0	1.000	1.000	1.000
11	97.12	-51	0.00	6.31E+04	5.73E+12	6.75E+12	3.300	2.67E+12	9.882E-04	9.882E-04	313.1	1.000	1.000	1.000
12	92.04	-51	0.00	5.99E+04	4.29E+12	7.45E+12	3.984	2.17E+12	9.388E-04	9.388E-04	313.5	1.000	1.000	1.000
13	86.96	-51	0.00	5.08E+04	0.12E+12	7.09E+12	6.553	1.76E+12	9.618E-04	9.618E-04	313.6	1.000	1.000	1.000
14	81.88	-51	0.00	0.33E+04	0.69E+12	5.34E+12	8.343	1.54E+12	7.92E+04	7.579E-04	313.4	1.000	1.000	1.000
15	75.77	-51	0.00	7.08E+04	2.36E+12	5.37E+12	8.850	1.38E+12	6.348E-04	6.413E-04	313.5	1.000	1.000	1.000
16	71.57	-51	0.00	2.82E+04	1.90E+12	3.78E+12	2.858	1.36E+12	4.627E-04	4.302E-04	313.6	1.000	1.000	1.000
17	66.66	-51	0.00	1.09E+04	2.69E+12	2.95E+12	1.958	1.10E+12	3.188E-04	3.028E-04	313.9	1.000	1.000	1.000
18	51.56	-51	0.00	1.42E+04	1.97E+12	1.86E+12	1.318	1.09E+12	2.329E-04	2.206E-04	314.1	1.000	1.000	1.000
19	56.48	-51	0.00	1.38E+04	1.91E+12	1.81E+12	1.275	1.588E+12	2.267E-04	2.147E-04	314.2	1.000	1.000	1.000
20	51.39	-51	0.00	2.24E+04	1.75E+12	1.85E+12	1.072	1.625E+12	2.868E-04	2.695E-04	314.7	1.000	1.000	1.000
21	46.26	-51	0.00	1.31E+04	1.80E+12	1.70E+12	1.094	1.661E+12	2.133E-04	2.020E-04	314.5	1.000	1.000	1.000
22	46.33	-51	0.00	1.33E+04	1.87E+12	1.77E+12	1.133	1.691E+12	2.211E-04	2.094E-04	314.6	1.000	1.000	1.000
23	43.77	-51	0.00	1.33E+04	1.91E+12	1.81E+12	1.111	1.722E+12	2.269E-04	2.148E-04	314.6	1.000	1.000	1.000
24	41.24	-51	0.00	1.27E+04	1.75E+12	1.66E+12	1.070	1.754E+12	2.577E-04	2.467E-04	313.7	1.000	1.000	1.000
25	38.72	-51	0.00	0.37E+04	1.70E+12	1.31E+12	0.842	1.644E+12	1.641E-04	1.554E-04	314.7	1.000	1.000	1.000
100	47.89	100	0.00	0.57E+04	1.34E+12	1.27E+12	0.614	1.644E+12	1.505E-04	1.433E-04	320.3	1.000	1.000	1.000
101	47.89	100	0.00	1.05E+04	1.40E+12	1.50E+12	0.901	1.644E+12	1.755E-04	1.661E-04	319.3	1.000	1.000	1.000
102	47.89	100	0.00	1.22E+04	1.70E+12	1.81E+12	1.333	1.644E+12	2.013E-04	1.905E-04	317.6	1.000	1.000	1.000
103	47.89	100	0.00	1.27E+04	2.07E+12	1.57E+12	1.577	1.644E+12	2.396E-04	1.984E-04	315.5	1.000	1.000	1.000
104	47.89	100	0.00	1.16E+04	1.64E+12	1.55E+12	0.996	1.644E+12	1.939E-04	1.837E-04	314.5	1.000	1.000	1.000
105	47.89	100	0.00	1.17E+04	1.49E+12	1.31E+12	0.915	1.644E+12	1.734E-04	1.671E-04	312.5	1.000	1.000	1.000
106	47.89	100	0.00	1.14E+04	1.46E+12	1.37E+12	0.898	1.644E+12	1.737E-04	1.639E-04	314.3	1.000	1.000	1.000
107	47.89	100	0.00	1.07E+04	0.53E+12	7.98E+11	0.577	1.644E+12	9.67E-05	9.354E-05	304.7	1.000	1.000	1.000
108	47.89	100	0.00	1.02E+04	2.40E+12	2.35E+12	0.151	1.644E+12	2.342E-05	2.708E-05	334.4	1.000	1.000	1.000
200	61.86	100	0.00	0.00E+03	1.12E+12	1.16E+12	0.807	1.401E+12	1.323E-04	1.258E-04	314.0	1.000	1.000	1.000
201	61.86	100	0.00	0.00E+04	1.17E+12	1.31E+12	0.935	1.401E+12	1.335E-04	1.314E-04	315.8	1.000	1.000	1.000
202	61.86	100	0.00	1.25E+04	1.79E+12	1.59E+12	1.272	1.401E+12	2.117E-04	2.005E-04	315.1	1.000	1.000	1.000
203	61.86	100	0.00	1.52E+04	2.11E+12	1.95E+12	1.697	1.401E+12	2.694E-04	2.362E-04	314.0	1.000	1.000	1.000
204	61.86	100	0.00	1.07E+04	2.19E+12	1.77E+12	1.654	1.401E+12	1.402E-04	1.455E-04	314.2	1.000	1.000	1.000



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

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TEST (182), C.O. BLUMER, IN-LINE RSI GAP RUN( 45) 1973

T/C	X (C)	Y (C)	Z (C)	O (4/M2)	HL (KG/M2-S)	HT (KG/M2-S)	ML/MREF (KG/M2-S)	MREF (KG/M2-S)	STL	STT	T (K)	PLCC (K/M2-)	ML/MLCC	MLCG/MREF	ML/HE
211	61.56	0.07	0.15	1.05E+04	2.27E-02	2.15E-02	1.61E-02	1.407E-02	2.691E-04	2.598E-04	309.6	2.27E-02	1.000	1.614	.046
212	61.56	0.07	0.25	1.39E+04	1.91E-02	1.91E-02	1.360	1.407E-02	2.267E-04	2.140E-04	317.8	1.91E-02	1.000	1.360	.712
214	61.46	0.03	0.44	2.98E+02	4.07E-04	3.05E-04	.029	1.407E-02	4.917E-06	4.566E-06	303.1	4.07E-04	1.000	.029	.015
376	86.96	0.07	0.03	0.94E+04	6.02E-02	6.46E-02	3.175	2.149E-02	8.089E-04	7.688E-04	312.4	6.02E-02	1.000	3.175	.096
377	86.96	0.07	0.15	4.57E+04	5.16E-02	6.31E-02	3.098	2.156E-02	7.097E-04	7.490E-04	311.4	6.02E-02	1.000	3.098	.048
378	86.96	0.07	0.25	0.97E+04	6.14E-02	7.71E-02	3.771	2.156E-02	9.648E-04	9.149E-04	310.0	6.14E-02	1.000	3.771	.096
379	86.96	0.07	0.44	4.16E+04	5.73E-02	5.92E-02	2.648	2.162E-02	6.794E-04	6.427E-04	309.9	5.73E-02	1.000	2.648	.096
380	86.96	0.07	0.15	3.64E+04	5.60E-02	4.74E-02	2.313	2.163E-02	5.930E-04	5.619E-04	309.0	5.60E-02	1.000	2.313	.048
381	86.96	0.07	0.25	2.69E+04	3.67E-02	3.47E-02	1.694	2.163E-02	4.343E-04	4.139E-04	307.2	3.67E-02	1.000	1.694	.048
382	86.96	0.07	0.44	2.39E+04	2.27E-02	3.10E-02	1.514	2.163E-02	3.080E-04	3.177E-04	306.0	2.27E-02	1.000	1.514	.048
314	86.96	0.07	0.15	1.37E+04	1.73E-02	1.98E-02	.821	2.163E-02	2.154E-04	1.994E-04	305.5	1.73E-02	1.000	.821	.216
315	86.96	0.07	0.25	1.27E+03	5.97E-03	6.50E-03	.322	2.163E-02	8.257E-05	7.868E-05	304.1	6.97E-03	1.000	.322	.085
488	112.36	0.07	0.15	0.91E+04	5.07E-02	4.50E-02	1.110	6.149E-02	6.137E-04	7.707E-04	312.1	6.07E-02	1.000	1.110	.050
489	112.36	0.07	0.25	0.97E+04	6.05E-02	6.49E-02	1.116	6.149E-02	8.122E-04	7.693E-04	311.5	6.05E-02	1.000	1.116	.048
490	112.36	0.07	0.44	4.67E+04	6.43E-02	6.09E-02	1.648	6.138E-02	7.623E-04	7.222E-04	310.7	6.43E-02	1.000	1.648	.707
419	112.36	0.07	0.15	1.25E+04	5.99E-02	5.07E-02	.975	6.138E-02	7.051E-04	6.743E-04	310.1	5.98E-02	1.000	.975	.741
418	112.36	0.07	0.25	0.99E+04	4.16E-02	5.38E-02	.874	6.138E-02	6.352E-04	6.017E-04	309.8	5.36E-02	1.000	.874	.664
411	112.36	0.07	0.44	3.57E+04	4.91E-02	4.65E-02	.881	6.135E-02	5.820E-04	5.514E-04	309.1	4.91E-02	1.000	.881	.680
412	112.36	0.07	0.15	2.63E+04	3.61E-02	3.42E-02	.589	6.135E-02	4.282E-04	4.058E-04	307.9	3.61E-02	1.000	.589	.448
413	112.36	0.07	0.25	1.42E+04	2.50E-02	2.36E-02	.407	6.135E-02	2.957E-04	2.802E-04	306.9	2.50E-02	1.000	.407	.389
414	112.36	0.07	0.44	6.34E+03	1.67E-03	8.22E-03	.141	6.135E-02	1.828E-04	1.748E-04	304.8	1.67E-03	1.000	.141	.087
415	112.36	0.07	0.15	1.47E+03	7.44E-03	7.05E-03	.121	5.135E-02	6.815E-05	6.355E-05	303.9	7.44E-03	1.000	.121	.092
506	125.06	0.07	0.15	4.67E+04	6.45E-02	6.11E-02	.810	7.609E-02	7.643E-04	7.240E-04	311.3	6.45E-02	1.000	.810	.059
507	125.06	0.07	0.25	1.67E+04	5.35E-02	6.22E-02	.876	7.609E-02	7.526E-04	7.129E-04	311.5	6.35E-02	1.000	.876	.047
508	125.06	0.07	0.44	4.49E+04	5.19E-02	5.86E-02	.786	7.675E-02	7.335E-04	6.949E-04	310.7	6.19E-02	1.000	.786	.026
509	125.06	0.07	0.15	3.07E+04	5.61E-02	5.32E-02	.713	7.872E-02	6.958E-04	6.300E-04	310.5	5.61E-02	1.000	.713	.749
510	125.06	0.07	0.25	3.67E+04	5.10E-02	4.91E-02	.555	7.865E-02	6.147E-04	5.820E-04	310.0	5.10E-02	1.000	.555	.691
511	125.06	0.07	0.44	3.65E+04	4.88E-02	4.52E-02	.620	7.865E-02	5.787E-04	5.478E-04	310.1	4.88E-02	1.000	.620	.628
512	125.06	0.07	0.15	2.91E+04	4.08E-02	3.79E-02	.509	7.865E-02	4.742E-04	4.443E-04	309.2	4.08E-02	1.000	.509	.534
513	125.06	0.07	0.25	2.27E+04	3.67E-02	2.91E-02	.391	7.865E-02	3.617E-04	3.446E-04	304.2	3.67E-02	1.000	.391	.010
514	125.06	0.07	0.44	1.85E+04	1.49E-02	1.91E-02	.189	7.865E-02	1.759E-04	1.687E-04	306.5	1.49E-02	1.000	.189	.038
515	125.06	0.07	0.15	3.11E+03	4.29E-03	4.07E-03	.094	7.865E-02	5.039E-05	4.776E-05	305.1	4.29E-03	1.000	.094	.057

EDGE HEATING LSFO FOR HE  
 X= 3.878E+01 ML /MREF= 9.386E-01  
 X= 4.128E+01 ML /MREF= 1.111E+01  
 X= 4.377E+01 ML /MREF= 1.130E+01  
 X= 4.631E+01 ML /MREF= 1.084E+00  
 X= 4.895E+01 ML /MREF= 1.072E+01  
 X= 5.159E+01 ML /MREF= 1.072E+01

5.5-125

**ORIGINAL PAGE IS  
OF POOR QUALITY**

**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

##	3.3375E+1	ML	HNREFF=	1.0000E+0
##	6.6640E+1	ML	HNREFF=	1.318E+0
##	6.6640E+1	ML	HNREFF=	1.930E+0
##	7.372E+1	ML	HNREFF=	2.840E+0
##	7.692E+1	ML	HNREFF=	3.850E+0
##	8.188E+1	ML	HNREFF=	4.342E+0
##	8.696E+1	ML	HNREFF=	4.533E+0
##	9.214E+1	ML	HNREFF=	3.674E+0
##	9.712E+1	ML	HNREFF=	3.337E+0
##	1.022E+2	ML	HNREFF=	2.577E+0
##	1.073E+2	ML	HNREFF=	2.038E+0
##	1.124E+2	ML	HNREFF=	1.642E+0
##	1.175E+2	ML	HNREFF=	1.315E+0
##	1.225E+2	ML	HNREFF=	1.125E+0
##	1.276E+2	ML	HNREFF=	5.979E-01
##	1.327E+2	ML	HNREFF=	8.511E-01
##	1.378E+2	ML	HNREFF=	6.251E-01
##	1.429E+2	ML	HNREFF=	6.473E-01
##	1.480E+2	ML	HNREFF=	1.254E-01
##	4.759E+1	ML	HNREFF=	9.110E-01
##	6.152E+1	ML	HNREFF=	1.272E+0
##	8.696E+1	ML	HNREFF=	3.175E+0
##	1.124E+2	ML	HNREFF=	1.115E+0
##	1.251E+2	ML	HNREFF=	6.058E-01

P.A. TRANSITION DISTANCE = 30.70 CM  
 FULLY TURBULENT 3.0. CONDITIONS AT = 81.88 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 91

AMES 3.5 FT. HMT TEST (102); C.B. BLUMF9, IN-LINE RSI GAP RUN( 46) 1973

TT = 1.032E+03 (K)  
 HT = 5.17E+03 (W/M2)  
 WT = 1.142E+04 (JAVG)  
 RE/MPHTER = 1.72E+04  
 MACH = 5.103  
 RHC VEL = 2.143E+01 (KG/M2-S)  
 HAM/MT = 3.974 FOR ML  
 MLCG = ML2NL ORCEP COND.1

T/C	X (CH)	YV (CM)	ZZ (CM)	C (M/W2)	ML (KG/M2-S)	HT (KG/P2-S)	ML/MREF	MREF (KG/M2-S)	STL	STT	T (K)	MLCC (K/M2-S)	ML/MLCC	MLCG/MREF	ML/ME
1	135.24	-51	-51	1.00	2.22E-02	2.18E-02	2.987	7.514E-03	1.037E-03	9.013E-04	379.9	1.26E-02	.903	3.088	.903
2	132.78	-51	-51	1.00	2.06E-02	1.35E-02	2.029	7.232E-03	9.613E-04	9.038E-04	310.2	1.11E-02	.977	2.494	1.008
3	130.16	-51	-51	1.00	1.90E-04	1.32E-02	2.025	7.466E-03	9.846E-04	8.940E-04	310.2	1.06E-02	.982	2.877	1.008
4	127.63	-51	-51	1.00	1.83E-04	1.94E-02	2.751	7.650E-03	9.951E-04	8.567E-04	310.3	1.09E-02	.983	2.795	1.000
5	125.09	-51	-51	1.00	1.88E-02	1.88E-02	2.737	6.934E-03	8.791E-04	8.298E-04	310.2	1.91E-02	.980	2.795	1.000
6	122.56	-51	-51	1.00	1.82E-04	1.55E-02	2.395	6.773E-03	8.451E-04	7.715E-04	310.2	1.78E-02	.980	2.632	1.000
7	119.47	-51	-51	1.00	1.81E-04	1.51E-02	2.395	6.671E-03	7.454E-04	7.059E-04	310.4	1.64E-02	.977	2.451	1.000
8	117.37	-51	-51	1.00	1.81E-04	1.37E-02	2.222	6.511E-03	6.954E-04	6.607E-04	310.3	1.51E-02	.976	2.277	1.000
9	117.31	-51	-51	1.00	1.82E-03	1.27E-02	1.980	6.790E-03	6.272E-04	5.936E-04	312.3	1.38E-02	.976	2.028	1.000
10	112.20	-51	-51	1.00	1.83E-03	1.16E-02	1.751	6.978E-03	5.703E-04	5.997E-04	318.3	1.26E-02	.978	1.805	1.000
11	97.12	-51	-51	1.00	1.82E-03	1.14E-02	1.695	7.421E-03	5.531E-04	5.230E-04	310.3	1.24E-02	.971	1.745	1.000
12	92.74	-51	-51	1.00	1.81E-03	9.92E-03	1.445	7.255E-03	4.893E-04	4.631E-04	311.3	1.09E-02	.960	1.906	1.000
13	16.96	-51	-51	1.00	1.81E-03	9.13E-03	1.312	7.349E-03	4.500E-04	4.259E-04	310.6	1.02E-02	.943	1.291	1.000
14	81.88	-51	-51	1.00	1.82E-03	7.76E-03	1.031	7.648E-03	3.827E-04	3.622E-04	310.5	8.61E-03	.952	1.457	1.000
15	76.80	-51	-51	1.00	1.82E-03	7.22E-03	1.011	7.849E-03	3.580E-04	3.369E-04	310.6	7.61E-03	1.003	1.808	1.000
16	71.72	-51	-51	1.00	1.82E-03	7.46E-03	.987	7.986E-03	3.678E-04	3.481E-04	310.7	7.80E-03	1.001	.946	1.000
17	66.64	-51	-51	1.00	1.82E-03	7.54E-03	.933	6.197E-03	3.745E-04	3.544E-04	310.9	8.03E-03	1.700	.934	1.000
18	61.56	-51	-51	1.00	1.82E-03	7.46E-03	.856	9.104E-03	3.679E-04	3.828E-04	311.1	7.84E-03	1.809	.850	1.000
19	56.48	-51	-51	1.00	1.82E-03	7.77E-03	.854	9.569E-03	3.839E-04	3.828E-04	311.1	8.17E-03	1.805	.853	1.000
20	51.39	-51	-51	1.00	1.82E-03	6.21E-03	.854	9.569E-03	4.004E-04	3.790E-04	311.3	8.49E-03	1.811	.864	1.000
21	46.31	-51	-51	1.00	1.82E-03	6.12E-03	.874	9.822E-03	4.004E-04	3.790E-04	311.3	8.49E-03	1.811	.864	1.000
22	46.93	-51	-51	1.00	1.82E-03	6.32E-03	.870	1.130E-02	4.132E-04	3.880E-04	311.2	8.72E-03	1.806	.863	1.000
23	43.77	-51	-51	1.00	1.82E-03	6.26E-03	.867	1.036E-02	4.282E-04	3.976E-04	311.1	8.95E-03	1.806	.862	1.000
24	41.24	-51	-51	1.00	1.82E-03	6.02E-03	.874	1.061E-02	4.347E-04	4.114E-04	311.2	9.26E-03	1.806	.869	1.000
25	39.70	-51	-51	1.00	1.82E-03	5.78E-03	.848	1.094E-02	4.399E-04	4.098E-04	310.6	8.92E-03	1.806	.815	1.000
26	35.24	-51	-51	1.00	1.82E-03	5.11E-03	.848	7.515E-03	5.160E-04	4.884E-04	303.7	1.14E-02	.966	1.523	.986
27	32.70	-51	-51	1.00	1.82E-03	4.15E-03	1.565	7.315E-03	5.885E-04	5.922E-04	310.0	1.22E-02	.961	1.687	.938
28	30.16	-51	-51	1.00	1.82E-03	4.13E-03	1.415	7.21E-03	5.866E-04	5.932E-04	310.0	1.20E-02	.969	1.676	.988
29	27.63	-51	-51	1.00	1.82E-03	4.16E-03	1.624	7.104E-03	5.839E-04	5.939E-04	310.1	1.20E-02	.969	1.676	.983
30	25.09	-51	-51	1.00	1.82E-03	4.12E-03	1.596	7.47E-03	5.215E-03	4.936E-04	310.0	1.15E-02	.973	1.630	.983
31	22.56	-51	-51	1.00	1.82E-03	4.12E-03	1.478	6.531E-03	4.799E-03	4.524E-04	309.9	1.08E-02	.969	1.526	.954
32	21.47	-51	-51	1.00	1.82E-03	4.12E-03	1.380	6.370E-03	4.255E-04	4.037E-04	309.9	9.58E-03	.962	1.483	.933
33	21.47	-51	-51	1.00	1.82E-03	4.12E-03	1.380	6.370E-03	4.255E-04	4.037E-04	309.9	9.58E-03	.962	1.483	.933
34	21.47	-51	-51	1.00	1.82E-03	4.12E-03	1.380	6.370E-03	4.255E-04	4.037E-04	309.9	9.58E-03	.962	1.483	.933
35	21.47	-51	-51	1.00	1.82E-03	4.12E-03	1.380	6.370E-03	4.255E-04	4.037E-04	309.9	9.58E-03	.962	1.483	.933
36	21.47	-51	-51	1.00	1.82E-03	4.12E-03	1.380	6.370E-03	4.255E-04	4.037E-04	309.9	9.58E-03	.962	1.483	.933
37	21.47	-51	-51	1.00	1.82E-03	4.12E-03	1.380	6.370E-03	4.255E-04	4.037E-04	309.9	9.58E-03	.962	1.483	.933
38	21.47	-51	-51	1.00	1.82E-03	4.12E-03	1.380	6.370E-03	4.255E-04	4.037E-04	309.9	9.58E-03	.962	1.483	.933
39	21.47	-51	-51	1.00	1.82E-03	4.12E-03	1.380	6.370E-03	4.255E-04	4.037E-04	309.9	9.58E-03	.962	1.483	.933
40	21.47	-51	-51	1.00	1.82E-03	4.12E-03	1.380	6.370E-03	4.255E-04	4.037E-04	309.9	9.58E-03	.962	1.483	.933
41	21.47	-51	-51	1.00	1.82E-03	4.12E-03	1.380	6.370E-03	4.255E-04	4.037E-04	309.9	9.58E-03	.962	1.483	.933
42	21.47	-51	-51	1.00	1.82E-03	4.12E-03	1.380	6.370E-03	4.255E-04	4.037E-04	309.9	9.58E-03	.962	1.483	.933



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 92

AMES 3.6 FT WHT TEST (1-2), 3.5. BLUPER, IN-LINE RSI GAP PUP ( 46) 1973

T/C	X (CM)	Y (CM)	Z (CM)	HT (KG/M2-S)	ML/MREFF (KG/M2-S)	STL	SIT	T (K)	MLCC (MG/M2-S)	ML/MLCC	MLCC/MREF	ML/ME
42	61.0	0.0	0.0	3.93E-03	6.68	1.878E-04	1.778E-04	339.1	4.03E-03	1.800	0.466	0.92
44	56.4	0.0	0.0	3.95E-03	4.71	1.733E-04	1.639E-04	306.9	3.97E-03	1.821	0.392	0.97
45	51.3	0.0	0.0	3.78E-03	4.14	1.635E-04	1.752E-04	306.9	3.95E-03	1.710	0.10	0.91
46	46.4	0.0	0.0	4.25E-03	4.64	2.097E-04	1.985E-04	339.3	4.04E-03	1.921	0.48	0.91
47	46.3	0.0	0.0	4.25E-03	4.66	2.097E-04	2.078E-04	339.3	4.04E-03	1.914	0.459	0.92
48	43.7	0.0	0.0	4.33E-03	4.75	2.271E-04	2.148E-04	339.1	4.08E-03	1.811	0.463	0.93
49	40.2	0.0	0.0	3.93E-03	2.65	1.635E-04	1.763E-04	306.6	3.94E-03	1.814	0.369	0.92
50	36.7	0.0	0.0	3.51E-03	2.05	1.494E-04	1.278E-04	306.6	2.84E-03	1.439	0.232	0.85
51	32.4	0.0	0.0	3.51E-03	1.54	1.731E-04	1.639E-04	306.3	4.09E-03	1.86	0.545	0.84
52	28.2	0.0	0.0	3.95E-03	1.42	1.872E-04	1.772E-04	306.2	5.59E-03	0.94	0.759	0.84
53	24.0	0.0	0.0	4.74E-03	0.99	2.353E-04	2.232E-04	306.1	5.33E-03	0.91	0.744	0.85
54	19.8	0.0	0.0	4.74E-03	0.69	2.316E-04	2.192E-04	339.6	4.99E-03	0.98	0.708	0.86
55	15.6	0.0	0.0	4.43E-03	0.61	2.196E-04	2.069E-04	339.6	4.99E-03	0.91	0.691	0.85
56	12.5	0.0	0.0	4.25E-03	0.64	2.079E-04	1.968E-04	306.6	4.79E-03	0.91	0.613	0.83
57	11.4	0.0	0.0	3.53E-03	0.66	1.749E-04	1.674E-04	306.4	4.19E-03	0.94	0.613	0.83
58	11.3	0.0	0.0	3.44E-03	0.54	1.636E-04	1.605E-04	339.5	4.03E-03	0.96	0.601	0.84
59	10.3	0.0	0.0	3.37E-03	0.49	1.512E-04	1.471E-04	306.4	3.61E-03	0.98	0.546	0.83
60	12.2	0.0	0.0	3.18E-03	0.91	1.565E-04	1.482E-04	306.5	3.68E-03	0.92	0.528	0.83
61	9.2	0.0	0.0	3.18E-03	0.74	1.565E-04	1.468E-04	306.3	3.68E-03	0.98	0.528	0.83
62	9.2	0.0	0.0	2.78E-03	0.71	1.333E-04	1.261E-04	306.2	3.21E-03	0.89	0.451	0.85
63	8.6	0.0	0.0	2.89E-03	0.75	1.333E-04	1.261E-04	306.1	2.65E-03	0.86	0.365	0.85
64	8.1	0.0	0.0	1.98E-03	0.25	0.906E-03	9.412E-05	339.1	2.31E-03	0.23	0.311	0.83
65	7.6	0.0	0.0	1.51E-03	0.22	7.046E-05	7.465E-05	339.6	1.87E-03	1.012	0.221	0.83
66	7.1	0.0	0.0	1.38E-03	0.18	6.711E-05	6.353E-05	306.3	1.43E-03	1.003	0.178	0.83
67	6.6	0.0	0.0	1.38E-03	0.17	6.802E-05	6.438E-05	306.3	1.40E-03	0.999	0.178	0.83
68	6.1	0.0	0.0	1.24E-03	0.14	9.105E-05	8.424E-05	306.3	1.26E-03	1.061	0.132	0.83
69	5.6	0.0	0.0	1.19E-03	0.12	9.569E-05	8.128E-05	306.3	1.22E-03	1.036	0.137	0.83
70	5.1	0.0	0.0	1.19E-03	0.15	9.297E-05	8.697E-05	306.9	1.27E-03	1.064	0.149	0.83
71	4.6	0.0	0.0	1.45E-03	0.15	8.319E-05	7.874E-05	306.6	1.22E-03	1.039	0.178	0.83
72	4.1	0.0	0.0	1.59E-03	0.17	1.111E-02	8.319E-05	306.6	1.20E-03	1.042	0.121	0.83
73	4.1	0.0	0.0	1.24E-03	0.12	1.037E-02	5.802E-05	306.5	1.20E-03	1.042	0.121	0.83
74	3.6	0.0	0.0	1.04E-03	0.10	1.066E-02	5.804E-05	306.4	1.02E-03	1.055	0.095	0.83
75	3.1	0.0	0.0	1.04E-03	0.10	1.066E-02	5.804E-05	306.4	1.02E-03	1.055	0.095	0.83

EDGE HEATING USED FOR ME

ME	3.87E-01	ML	MREF	0.155E-71
ME	4.124E-01	ML	MREF	0.586E-01
ME	4.377E-01	ML	MREF	0.621E-01
ME	4.631E-01	ML	MREF	0.631E-01
ME	4.896E-01	ML	MREF	0.644E-01
ME	5.139E-01	ML	MREF	0.635E-01
ME	5.443E-01	ML	MREF	0.679E-01
ME	5.756E-01	ML	MREF	0.736E-01
ME	6.064E-01	ML	MREF	0.846E-01
ME	7.12E-01	ML	MREF	1.18E-01
ME	8.389E-01	ML	MREF	1.331E-01
ME	9.496E-01	ML	MREF	1.676E-01
ME	1.022E-01	ML	MREF	1.45E-01
ME	1.022E-01	ML	MREF	1.676E-01
ME	1.022E-01	ML	MREF	2.024E-01
ME	1.022E-01	ML	MREF	2.277E-01
ME	1.022E-01	ML	MREF	2.645E-01
ME	1.022E-01	ML	MREF	2.712E-01
ME	1.022E-01	ML	MREF	2.715E-01
ME	1.022E-01	ML	MREF	2.755E-01
ME	1.022E-01	ML	MREF	2.877E-01
ME	1.022E-01	ML	MREF	2.934E-01
ME	1.022E-01	ML	MREF	3.18E-01

2.0. TRANSITION DISTANCE = 0.07 CM  
FULLY TURBULENT 3.0. CONDITIONS AT 376.0 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 93

AMES 3.5 FT HMT TEST (182), C.B. BLUMER, IN-LINE RSI GAP FUM( 47) 1973

TT = 1.142E+03 (K)  
 GAP LENGTH = 191.650 (CM)  
 FT = 1.0271E+02 (M/M2)  
 GAP WIDTH = .254 (CM)  
 MT = 1.211E+01 (J/KG)  
 GAP DEPTH = 3.332 (CM)  
 RE/METER = 1.1331E+01  
 ORIENTATION = 0.307 (DEG)  
 MACH = 5.180  
 7S = 1.2361E+05 (M/M2)  
 RMC WFL = 4.0633E+11 (KG/M2-S)  
 100. POSITION = 1  
 HAM/MT = 3.995 FOR HT  
 HAM/MT = 1.074 FOR ML  
 MLCC = ML(2ND, REDEP COND...)

T/C	X	ZZ	VV	0	ML	HT	ML/REF	MREF	STL	STT	T	MLCC	ML/MLCC	MLCC/MREF	ML/ME
(C)	(M)	(M)	(M)	(M)	(M)	(M)	(M)	(M)	(M)	(M)	(K)	(M)	(M)	(M)	(M)
1	133.24	0.51	3.70	0.00	4.52E-02	4.22E-02	1.572	4.301E-02	1.435E-03	1.047E-03	313.0	4.59E-02	.904	1.040	1.000
2	132.78	0.51	3.70	0.00	4.59E-02	4.35E-02	1.339	3.827E-02	1.122E-03	1.063E-03	314.2	4.66E-02	.904	1.239	1.070
3	132.16	0.51	3.70	0.00	4.77E-02	4.51E-02	1.347	3.950E-02	1.155E-03	1.106E-03	314.3	4.83E-02	.907	1.359	1.088
4	127.63	0.51	3.70	0.00	4.78E-02	4.52E-02	1.659	3.273E-02	1.166E-03	1.106E-03	314.4	4.93E-02	.908	1.476	1.088
5	125.09	0.51	3.70	0.00	4.84E-02	4.55E-02	1.617	2.936E-02	1.185E-03	1.122E-03	314.4	4.98E-02	.908	1.633	1.088
6	122.56	0.51	3.70	0.00	4.95E-02	4.69E-02	2.010	2.664E-02	1.211E-03	1.147E-03	314.5	5.01E-02	.908	2.035	1.088
7	117.47	0.51	3.70	0.00	4.95E-02	4.69E-02	2.357	2.412E-02	1.230E-03	1.167E-03	314.5	5.01E-02	.908	2.391	1.088
8	112.37	0.51	3.70	0.00	4.95E-02	4.69E-02	2.644	2.166E-02	1.248E-03	1.189E-03	314.6	4.81E-02	.905	2.691	1.088
9	107.31	0.51	3.70	0.00	4.95E-02	4.69E-02	2.871	1.933E-02	1.265E-03	1.211E-03	314.6	4.68E-02	.902	2.843	1.088
10	102.20	0.51	3.70	0.00	3.33E-02	3.15E-02	2.783	1.497E-02	8.42E-04	7.714E-04	315.1	3.39E-02	.902	2.043	1.088
11	97.12	0.51	3.70	0.00	2.95E-02	2.80E-02	2.927	1.455E-02	7.220E-04	6.641E-04	315.4	3.01E-02	.903	2.044	1.088
12	92.74	0.51	3.70	0.00	2.39E-02	2.27E-02	2.681	9.338E-03	5.847E-04	5.399E-04	315.9	2.46E-02	.973	2.551	1.088
13	86.98	0.51	3.70	0.00	2.83E-02	2.72E-02	2.631	5.339E-03	5.210E-04	4.966E-04	316.1	2.21E-02	.904	2.424	1.088
14	80.88	0.51	3.70	0.00	1.72E-02	1.53E-02	1.937	9.595E-03	4.498E-04	3.977E-04	316.2	1.79E-02	.968	2.043	1.088
15	76.89	0.51	3.70	0.00	1.33E-02	1.19E-02	1.537	9.329E-03	3.915E-04	3.327E-04	316.5	1.44E-02	.966	1.542	1.088
16	71.72	0.51	3.70	0.00	1.26E-02	1.19E-02	1.292	9.721E-03	3.071E-04	2.909E-04	316.9	1.27E-02	.993	1.201	1.031
17	66.64	0.51	3.70	0.00	1.17E-02	1.11E-02	1.150	1.121E-02	2.666E-04	2.415E-04	317.3	1.16E-02	.989	1.182	1.088
18	61.56	0.51	3.70	0.00	1.22E-02	1.12E-02	1.043	1.122E-02	2.761E-04	2.615E-04	317.5	1.13E-02	.996	1.057	1.088
19	56.46	0.51	3.70	0.00	1.15E-02	1.07E-02	1.051	1.152E-02	2.967E-04	2.884E-04	317.7	1.12E-02	.995	1.056	1.088
20	51.39	0.51	3.70	0.00	1.13E-02	1.001	1.001	1.184E-02	2.976E-04	2.752E-04	318.2	1.08E-02	1.004	.997	1.088
21	46.36	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.976E-04	2.818E-04	317.9	1.21E-02	1.005	.906	1.088
22	46.71	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088
23	43.77	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088
24	41.24	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088
25	38.74	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088
26	35.24	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088
27	32.74	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088
28	30.16	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088
29	27.63	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088
30	25.05	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088
31	22.46	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088
32	19.87	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088
33	17.27	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088
34	14.67	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088
35	12.07	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088
36	9.47	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088
37	6.87	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088
38	4.27	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088
39	1.67	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088
40	0.07	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088
41	0.00	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088
42	0.00	0.51	3.70	0.00	1.15E-02	1.001	1.001	1.225E-02	2.965E-04	2.809E-04	317.6	1.21E-02	1.007	.955	1.088

ORIGINAL PAGE IS  
OF POOR QUALITY





RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 94

AMES 3.5 FT HNT TEST (1-2), G.3, BLUMER, IN-LINE PSI GAP RUN (47) 1373

T/C	X (C)	Y (C)	Z (C)	G (W/M2)	HL (KG/M2-S)	HT (KG/M2-S)	HL/HREF	PREF (KG/M2-S)	STL	STT	T (K)	MLCC (MG/M2-S)	HL/MLCC	MLCC/HREF	HL/ME
43	61.96	7.91	0.00	3.07E+03	1.44E-03	3.11E-03	.632	1.015E-02	1.575E-04	1.493E-04	314.0	6.57E-03	.981	.664	.255
44	56.48	7.91	0.00	3.07E+03	6.76E-03	6.90E-03	.626	1.015E-02	1.633E-04	1.506E-04	314.0	6.80E-03	.994	.629	.680
45	51.39	7.91	0.00	3.07E+03	3.10E-03	3.15E-03	.957	1.015E-02	2.272E-04	2.133E-04	314.0	9.38E-03	.993	.813	.765
46	46.34	7.91	0.00	3.07E+03	1.44E-02	1.49E-02	.574	1.015E-02	2.595E-04	2.443E-04	314.0	1.03E-02	1.008	.870	.873
47	46.34	7.91	0.00	3.07E+03	3.42E-03	3.47E-03	.680	1.024E-02	2.063E-04	1.922E-04	314.0	8.36E-03	1.008	.693	.693
48	43.77	7.91	0.00	3.07E+03	7.99E-03	8.04E-03	.539	1.291E-02	1.663E-04	1.575E-04	314.0	6.72E-03	1.012	.533	.596
49	41.24	7.91	0.00	3.07E+03	3.49E-03	3.54E-03	.278	1.335E-02	1.672E-04	1.631E-04	314.0	3.40E-03	1.039	.268	.287
50	39.70	7.91	0.00	3.07E+03	1.06E-02	1.07E-02	.079	1.335E-02	2.595E-04	2.498E-04	313.5	6.48E-04	1.632	.049	.087
51	35.24	7.91	0.00	3.07E+03	1.17E-02	1.18E-02	.268	4.795E-02	2.863E-04	2.719E-04	313.5	1.2 E-02	.943	.265	.272
52	32.70	7.91	0.00	3.07E+03	1.17E-02	1.18E-02	.268	4.795E-02	2.863E-04	2.719E-04	313.5	1.2 E-02	.943	.265	.272
53	30.16	7.91	0.00	3.07E+03	1.85E-02	1.85E-02	.484	7.037E-02	4.517E-04	4.280E-04	310.4	1.92E-02	.961	.504	.513
54	27.63	7.91	0.00	3.07E+03	1.85E-02	1.85E-02	.522	3.535E-02	4.517E-04	4.280E-04	311.1	1.91E-02	.968	.539	.547
55	25.09	7.91	0.00	3.07E+03	1.84E-02	1.74E-02	.354	3.261E-02	4.493E-04	4.263E-04	311.2	1.90E-02	.970	.502	.504
56	22.56	7.91	0.00	3.07E+03	1.82E-02	1.73E-02	.610	2.904E-02	4.483E-04	4.208E-04	311.0	1.84E-02	.969	.638	.666
57	17.47	7.91	0.00	3.07E+03	1.77E-02	1.68E-02	.722	2.455E-02	4.372E-04	4.101E-04	310.0	1.83E-02	.967	.707	.767
58	12.37	7.91	0.00	3.07E+03	1.83E-02	1.74E-02	.915	2.538E-02	4.493E-04	4.249E-04	311.0	1.98E-02	.967	.948	.997
59	10.31	7.91	0.00	3.07E+03	1.82E-02	1.82E-02	1.157	1.661E-02	4.693E-04	4.473E-04	311.1	1.99E-02	.965	1.198	1.446
60	9.24	7.91	0.00	3.07E+03	1.76E-02	1.67E-02	1.378	1.793E-02	4.731E-04	4.608E-04	311.3	1.92E-02	.971	1.449	1.699
61	8.17	7.91	0.00	3.07E+03	1.71E-02	1.62E-02	1.476	1.193E-02	4.375E-04	4.408E-04	311.3	1.82E-02	.966	1.528	1.739
62	7.10	7.91	0.00	3.07E+03	1.31E-02	1.24E-02	1.258	1.044E-02	3.237E-04	3.037E-04	311.4	1.37E-02	.957	1.315	1.584
63	6.03	7.91	0.00	3.07E+03	1.31E-02	1.24E-02	1.258	1.044E-02	3.237E-04	3.037E-04	311.6	1.37E-02	.957	1.315	1.584
64	4.96	7.91	0.00	3.07E+03	1.31E-02	1.24E-02	1.258	1.044E-02	3.237E-04	3.037E-04	311.6	1.37E-02	.957	1.315	1.584
65	3.89	7.91	0.00	3.07E+03	1.31E-02	1.24E-02	1.258	1.044E-02	3.237E-04	3.037E-04	311.6	1.37E-02	.957	1.315	1.584
66	2.82	7.91	0.00	3.07E+03	1.31E-02	1.24E-02	1.258	1.044E-02	3.237E-04	3.037E-04	311.6	1.37E-02	.957	1.315	1.584
67	1.75	7.91	0.00	3.07E+03	1.31E-02	1.24E-02	1.258	1.044E-02	3.237E-04	3.037E-04	311.6	1.37E-02	.957	1.315	1.584
68	0.68	7.91	0.00	3.07E+03	1.31E-02	1.24E-02	1.258	1.044E-02	3.237E-04	3.037E-04	311.6	1.37E-02	.957	1.315	1.584
69	0.61	7.91	0.00	3.07E+03	1.31E-02	1.24E-02	1.258	1.044E-02	3.237E-04	3.037E-04	311.6	1.37E-02	.957	1.315	1.584
70	0.54	7.91	0.00	3.07E+03	1.31E-02	1.24E-02	1.258	1.044E-02	3.237E-04	3.037E-04	311.6	1.37E-02	.957	1.315	1.584
71	0.47	7.91	0.00	3.07E+03	1.31E-02	1.24E-02	1.258	1.044E-02	3.237E-04	3.037E-04	311.6	1.37E-02	.957	1.315	1.584
72	0.40	7.91	0.00	3.07E+03	1.31E-02	1.24E-02	1.258	1.044E-02	3.237E-04	3.037E-04	311.6	1.37E-02	.957	1.315	1.584
73	0.33	7.91	0.00	3.07E+03	1.31E-02	1.24E-02	1.258	1.044E-02	3.237E-04	3.037E-04	311.6	1.37E-02	.957	1.315	1.584
74	0.26	7.91	0.00	3.07E+03	1.31E-02	1.24E-02	1.258	1.044E-02	3.237E-04	3.037E-04	311.6	1.37E-02	.957	1.315	1.584
75	0.19	7.91	0.00	3.07E+03	1.31E-02	1.24E-02	1.258	1.044E-02	3.237E-04	3.037E-04	311.6	1.37E-02	.957	1.315	1.584

EDGE HEATING USED FOR ME

XL	3.07E+03	HL	1.44E-03
XL	4.12E+01	HL	9.37E-03
XL	4.37E+01	HL	9.40E-03
XL	4.46E+01	HL	9.48E-03
XL	4.66E+01	HL	9.90E-03
XL	5.139E+01	HL	1.030E+00
XL	5.64E+01	HL	1.047E+02
XL	6.155E+01	HL	1.113E+02
XL	6.666E+01	HL	1.331E+02
XL	7.172E+01	HL	1.542E+02
XL	7.681E+01	HL	1.905E+00
XL	8.188E+01	HL	2.424E+02
XL	8.695E+01	HL	2.531E+02
XL	9.204E+01	HL	2.645E+02
XL	9.712E+01	HL	2.871E+02
XL	1.022E+02	HL	2.844E+02
XL	1.073E+02	HL	2.933E+02
XL	1.124E+02	HL	2.931E+02
XL	1.175E+02	HL	2.931E+02
XL	1.225E+02	HL	2.636E+02
XL	1.255E+02	HL	1.447E+02
XL	1.275E+02	HL	1.733E+02
XL	1.302E+02	HL	1.4219E+02
XL	1.352E+02	HL	1.100E+02

RAL TRANSITION DISTANCE = 70.7 CM  
FULLY TURBULENT R.L. CONDITIONS AT = 376.03 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 95

AMES 3.5 FT WHT TEST (1-2), 2.2. BLUMER, IN-LINE RSI GAP RUN ( +8) 1973

TT = 1.11224F(1)(K)  
 FT = 2.11131E+16(N/M2)  
 PI = 1.11131E+16(J/KC)  
 RE/METER = 6.6177E+06  
 MACH = 3.100  
 RHO VEL = 4.64911E+11(KG/M2-S)  
 HAM/HT = 7.65E-04 F/R HT  
 HLCC = HL12ND, ORDER COND. 1

GAP LENGTH = 101.507(CM)  
 GAP WIDTH = .254(CM)  
 GAP DEPTH = 2.532(CM)  
 ORIENTATION = 4.300(DEG)  
 OS = 1.7120E+05(W/M2)  
 YOD.POSITION = 1

T/C	X (CM)	Y (CM)	Z (CM)	W (M/M2)	HL (KG/M2-S)	HT (KG/M2-S)	HL/HREF (KG/M2-S)	HREF (KG/M2-S)	STL	STT	T (K)	HLCC (K/M2-S)	HL/HLCC	HLCC/HREF	HL/HE
1	135.24	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	318.2	6.65E-02	0.903	0.752	1.000
2	132.70	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	319.3	6.93E-02	0.901	0.827	1.000
3	130.16	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	319.3	7.27E-02	0.906	0.866	1.000
4	127.63	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	319.3	7.47E-02	0.906	0.920	1.000
5	125.09	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	319.2	7.47E-02	0.907	0.973	1.000
6	122.56	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	319.4	7.47E-02	0.907	1.100	1.000
7	119.47	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	319.4	7.47E-02	0.907	1.304	1.000
8	112.37	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	319.6	8.08E-02	0.909	1.847	1.000
9	107.31	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	319.6	8.37E-02	0.908	2.116	1.000
10	102.23	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	319.9	8.61E-02	0.907	2.592	1.000
11	97.14	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	320.7	8.61E-02	0.907	3.230	1.000
12	86.96	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	320.7	8.61E-02	0.907	3.230	1.000
13	81.88	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	320.7	8.61E-02	0.907	3.230	1.000
14	76.80	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	320.7	8.61E-02	0.907	3.230	1.000
15	71.72	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	320.9	8.61E-02	0.907	3.230	1.000
16	66.64	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	321.6	8.61E-02	0.907	3.230	1.000
17	61.56	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	322.2	8.61E-02	0.907	3.230	1.000
18	56.48	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	322.5	8.61E-02	0.907	3.230	1.000
19	51.40	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	322.5	8.61E-02	0.907	3.230	1.000
20	46.32	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	322.5	8.61E-02	0.907	3.230	1.000
21	41.24	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	322.5	8.61E-02	0.907	3.230	1.000
22	36.16	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	322.5	8.61E-02	0.907	3.230	1.000
23	31.08	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	322.5	8.61E-02	0.907	3.230	1.000
24	26.00	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	322.5	8.61E-02	0.907	3.230	1.000
25	20.92	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	322.5	8.61E-02	0.907	3.230	1.000
26	15.84	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	322.5	8.61E-02	0.907	3.230	1.000
27	10.76	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	322.5	8.61E-02	0.907	3.230	1.000
28	5.68	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	322.5	8.61E-02	0.907	3.230	1.000
29	0.60	-51	0.01	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	322.5	8.61E-02	0.907	3.230	1.000
30	132.00	0.00	0.00	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	317.0	3.36E-02	0.866	0.388	0.501
31	129.46	0.00	0.00	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	317.9	3.78E-02	0.866	0.450	0.544
32	126.92	0.00	0.00	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	317.9	3.95E-02	0.866	0.504	0.595
33	124.38	0.00	0.00	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	317.9	4.13E-02	0.866	0.558	0.646
34	121.84	0.00	0.00	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	317.5	4.08E-02	0.866	0.512	0.597
35	119.30	0.00	0.00	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	317.5	4.13E-02	0.866	0.566	0.648
36	116.76	0.00	0.00	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	317.5	4.13E-02	0.866	0.520	0.600
37	114.22	0.00	0.00	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	317.9	4.71E-02	0.866	0.614	0.705
38	111.68	0.00	0.00	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	317.9	5.25E-02	0.866	0.708	0.800
39	109.14	0.00	0.00	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	317.6	5.71E-02	0.866	0.802	0.905
40	106.60	0.00	0.00	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	317.7	6.44E-02	0.866	0.931	1.034
41	104.06	0.00	0.00	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	317.7	6.44E-02	0.866	0.885	1.000
42	101.52	0.00	0.00	1.66E+04	6.04E+02	6.374E+02	0.812	6.374E+02	6.316E+04	7.299E-04	317.5	6.61E-02	0.866	0.839	0.955



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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AMES 3.5 FT WHT TEST (12), C.B. BLUMBERG, IN-LINE PSI GAP (UP) (48) 1973

T/C	X (CM)	Y (CM)	Z (CM)	C (H/A)	HL (KG/M2-S)	HT (KG/M2-S)	HL/HREF (KG/M2-S)	STL	STT	T (K)	MLCC (KG/M2-S)	MLCC/MREF	ML/HE
47	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
48	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
49	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
50	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
51	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
52	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
53	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
54	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
55	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
56	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
57	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
58	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
59	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
60	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
61	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
62	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
63	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
64	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
65	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
66	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
67	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
68	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
69	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
70	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
71	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
72	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
73	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
74	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232
75	61.56	0.31	0.25	1.07E+00	2.67E-02	2.01E-02	1.08E-02	1.72E-04	2.98E-04	316.0	1.55E-02	.927	.232

EDGE HEATING USDO FOR HE

XX	3.07E+01	ML /HREF	6.37E-01
XX	4.12E+01	ML /HREF	9.21E-01
XX	4.37E+01	ML /HREF	9.64E-01
XX	4.61E+01	ML /HREF	1.25E+01
XX	4.85E+01	ML /HREF	1.11E+00
XX	5.13E+01	ML /HREF	1.07E+00
XX	5.40E+01	ML /HREF	1.16E+00
XX	5.68E+01	ML /HREF	1.41E+00
XX	6.06E+01	ML /HREF	1.73E+00
XX	7.01E+01	ML /HREF	2.38E+01
XX	7.60E+01	ML /HREF	3.22E+01
XX	8.10E+01	ML /HREF	3.67E+01
XX	9.16E+01	ML /HREF	3.43E+00
XX	9.27E+01	ML /HREF	2.27E+01
XX	9.71E+01	ML /HREF	2.59E+00
XX	1.022E+02	ML /HREF	2.11E+01
XX	1.073E+02	ML /HREF	1.67E+01
XX	1.124E+02	ML /HREF	1.34E+01
XX	1.175E+02	ML /HREF	1.14E+01
XX	1.226E+02	ML /HREF	6.73E+01
XX	1.277E+02	ML /HREF	5.10E+01
XX	1.328E+02	ML /HREF	2.63E+01
XX	1.379E+02	ML /HREF	6.27E+01
XX	1.430E+02	ML /HREF	7.62E+01

ALL TRANSITION DISTANCE = 14.71 CM  
FULLY TURBULENT ALL CONDITIONS AT #374.16 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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AMES 3.6 FT. MNT TEST (102), C.2, BLUNEZ, IN-LINE RSI GAP PUK( #9) 1973

TT = 1.1753E+21(K)  
 GAP LENGTH = 101.500(CM)  
 GAP WIDTH = .254(CM)  
 Y = 2.753E+06(N/M2)  
 GAP DEPTH = 2.032(CM)  
 HT = 1.1072E+16(J/KG)  
 ORIENTATION = 0.000(DEG)  
 RE/METER = 6.778E+06  
 QS = 1.6458E+05(N/M2)  
 MACH = 5.1(N)  
 40C.POSITION = 1  
 RMC VEL = 3.5133E+11(KG/M2-S)  
 PAM/MT = 3.998 F32 MT  
 MAN/MT = 0.874 F32 ML  
 MLCC = ML(2NC, ORDER COND,\*)

T/C	X	Y	Z	G	ML	MT	ML/HREF	HREF	STL	STT	T	MLCC	ML/MLCC	MLCC/HREF	ML/HE
(CM)	(CM)	(CP)	(M/M2)	(M/M2)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(K)	(K)	(KG/M2-S)			
103	47.59	1.52	0.00	9.62E+03	1.40E-12	1.32E-02	.539	1.065E-02	1.640E-04	1.551E-04	326.1	1.40E-02	1.000	.039	.693
104	47.59	1.52	0.00	1.04E+04	1.65E-12	1.84E-02	.941	1.664E-02	1.837E-04	1.737E-04	329.0	1.56E-02	1.000	.948	1.002
105	47.59	1.52	0.00	1.34E+04	1.95E-12	2.41E-02	1.170	2.284E-02	2.287E-04	2.163E-04	327.0	1.95E-02	1.000	1.170	1.258
106	47.59	1.52	0.00	1.67E+04	2.41E-12	3.12E-02	1.274	3.064E-02	2.439E-04	2.368E-04	326.0	2.41E-02	1.000	1.274	1.361
107	47.59	1.52	0.00	1.67E+04	2.12E-12	2.90E-02	1.272	2.664E-02	2.407E-04	2.393E-04	325.2	2.12E-02	1.000	1.272	1.394
108	47.59	1.52	0.00	1.39E+04	2.01E-12	1.90E-02	1.206	1.664E-02	2.357E-04	2.230E-04	323.0	1.90E-02	1.000	1.206	1.203
109	47.59	1.52	0.00	1.19E+04	1.72E-12	1.53E-02	1.073	1.664E-02	2.013E-04	1.918E-04	322.5	1.72E-02	1.000	1.073	1.009
110	47.59	1.52	0.00	1.19E+04	1.13E-12	1.34E-02	.676	1.664E-02	1.322E-04	1.251E-04	329.5	1.13E-02	1.000	.676	.720
111	47.59	1.52	0.00	3.98E+13	5.70E-03	5.39E-03	.342	1.664E-02	6.692E-05	6.332E-05	318.9	5.70E-03	1.000	.342	.364
112	47.59	1.52	0.00	1.62E+12	2.42E-03	2.29E-03	.145	1.664E-02	2.878E-05	2.686E-05	317.7	2.42E-03	1.000	.145	.155
113	47.59	1.52	0.00	1.66E+12	3.13E-04	8.78E-04	.055	1.664E-02	1.079E-05	1.022E-05	316.0	3.13E-04	1.000	.055	.059
114	47.59	1.52	0.00	2.28E+13	1.20E-02	1.13E-12	.842	1.449E-02	1.449E-04	1.326E-04	325.1	1.20E-02	1.000	.842	.722
115	47.59	1.52	0.00	2.28E+13	1.23E-02	1.16E-12	.866	1.421E-02	1.449E-04	1.368E-04	326.1	1.23E-02	1.000	.866	.752
116	47.59	1.52	0.00	1.41E+14	1.66E-02	1.97E-02	1.167	1.423E-02	1.950E-04	1.848E-04	325.6	1.66E-02	1.000	1.167	1.000
117	47.59	1.52	0.00	1.41E+14	2.16E-02	2.35E-02	1.449	1.424E-02	2.423E-04	2.292E-04	324.8	2.16E-02	1.000	1.449	1.282
118	47.59	1.52	0.00	1.1E+14	2.47E-02	2.33E-02	1.731	1.425E-02	2.697E-04	2.761E-04	323.2	2.47E-02	1.000	1.731	1.404
119	47.59	1.52	0.00	1.67E+14	2.40E-02	2.27E-02	1.683	1.425E-02	2.817E-04	2.665E-04	322.7	2.40E-02	1.000	1.683	1.442
120	47.59	1.52	0.00	1.66E+14	2.33E-02	2.26E-02	1.675	1.425E-02	2.804E-04	2.653E-04	321.7	2.33E-02	1.000	1.675	1.476
121	47.59	1.52	0.00	6.93E+13	5.90E-13	9.37E-13	.695	1.425E-02	1.153E-04	1.101E-04	317.8	5.90E-13	1.000	.695	.695
122	47.59	1.52	0.00	7.02E+13	5.99E-13	5.29E-13	.392	1.425E-02	6.566E-05	6.219E-05	317.8	5.99E-13	1.000	.392	.392
123	47.59	1.52	0.00	1.75E+13	2.48E-03	2.36E-03	.175	1.425E-02	2.925E-05	2.768E-05	316.3	2.48E-03	1.000	.175	.188
124	47.59	1.52	0.00	4.55E+12	5.51E-14	6.18E-14	.348	1.425E-02	7.642E-06	7.233E-06	315.8	5.51E-14	1.000	.348	.639
125	47.59	1.52	0.00	4.67E+14	6.64E-02	6.29E-02	3.012	2.206E-02	7.905E-04	7.383E-04	324.4	6.64E-02	1.000	3.012	3.612
126	47.59	1.52	0.00	5.11E+14	7.23E-02	6.94E-02	3.267	2.211E-02	8.492E-04	8.033E-04	323.8	7.23E-02	1.000	3.267	3.263
127	47.59	1.52	0.00	4.90E+14	7.19E-02	6.88E-02	3.243	2.216E-02	8.441E-04	8.000E-04	323.0	7.19E-02	1.000	3.243	3.243
128	47.59	1.52	0.00	4.91E+14	7.07E-02	6.69E-02	3.165	2.219E-02	8.302E-04	7.858E-04	322.9	7.07E-02	1.000	3.165	3.165
129	47.59	1.52	0.00	4.78E+14	6.87E-02	6.50E-02	3.104	2.223E-02	8.053E-04	7.634E-04	321.9	6.87E-02	1.000	3.104	3.104
130	47.59	1.52	0.00	4.78E+14	6.81E-02	6.45E-02	2.515	2.228E-02	8.020E-04	7.493E-04	321.6	6.81E-02	1.000	2.515	.660
131	47.59	1.52	0.00	3.47E+14	4.88E-12	4.68E-12	2.197	2.221E-02	5.731E-04	5.421E-04	320.1	4.88E-12	1.000	2.197	.729
132	47.59	1.52	0.00	2.31E+14	3.89E-12	3.11E-12	1.442	2.221E-02	3.566E-04	3.459E-04	318.4	3.89E-12	1.000	1.442	.492



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
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AMES 3.5 FT PWT TEST (182), G.P. BLUMER, IN-LINE RSI GAP DIA (49) 1973

T/C	X (CM)	Y (CM)	Z (CM)	G (W/2)	ML (KG/M2-S)	MT (KG/M2-S)	HL/HREFF	HREF (KG/M2-S)	STL	STT	T (K)	MLCC (KG/M2-S)	ML/MLCC	MLCC/HREF	ML/HE
75	86.96	0.00	0.00	1.07E+04	2.110E-02	1.99E-02	0.94	2.22E-02	2.46E-04	2.33E-04	317.2	6.10E-02	1.000	0.96	0.34
316	86.96	0.00	1.00	1.07E+04	1.51E-02	1.43E-02	0.60	2.22E-02	1.77E-04	1.67E-04	313.9	1.51E-02	1.000	0.68	0.26
317	86.96	0.00	1.00	1.31E+03	3.97E-03	3.0E-03	0.44	2.22E-02	1.03E-04	9.97E-05	313.9	4.97E-03	1.000	0.44	0.14
318	86.96	0.00	1.00	3.25E+03	0.62E-03	0.37E-03	0.28	2.22E-02	5.42E-05	5.13E-05	313.9	4.62E-03	1.000	0.28	0.09
319	86.96	0.00	1.90	4.21E+02	6.03E-04	0.71E-04	0.27	2.22E-02	7.00E-06	6.71E-06	312.6	6.03E-04	1.000	0.27	0.08
320	86.96	0.00	2.20												
76	112.36	0.00	0.00	0.61E+04	6.63E-02	6.27E-02	1.165	6.33E-02	7.78E-04	7.36E-04	321.2	6.63E-02	1.000	1.066	1.023
77	112.36	0.00	0.00	0.61E+04	0.47E-02	0.42E-02	1.722	6.33E-02	0.63E-04	7.19E-04	320.9	6.47E-02	1.000	1.022	1.000
78	112.36	0.00	0.00	1.12E+04	0.51E-02	0.48E-02	0.934	6.33E-02	6.96E-04	6.57E-04	320.1	5.91E-02	1.000	0.94	0.34
79	112.36	0.00	0.00	3.92E+04	0.48E-02	0.45E-02	0.60	6.33E-02	6.43E-04	6.09E-04	319.6	5.46E-02	1.000	0.66	0.26
80	112.36	0.00	0.00	3.92E+04	0.95E-02	0.92E-02	0.72	6.32E-02	5.01E-04	5.59E-04	319.0	4.95E-02	1.000	0.72	0.26
81	112.36	0.00	0.00	2.95E+04	0.27E-02	0.24E-02	0.25	6.32E-02	0.31E-04	4.78E-04	318.1	0.27E-02	1.000	0.25	0.08
82	112.36	0.00	0.00	2.23E+04	0.18E-02	0.16E-02	0.03	6.32E-02	0.73E-04	3.58E-04	318.0	3.18E-02	1.000	0.93	0.92
83	112.36	0.00	0.00	2.13E+04	0.92E-02	0.87E-02	0.73	6.32E-02	0.51E-04	3.37E-04	316.4	2.99E-02	1.000	0.73	0.463
84	112.36	0.00	0.00	3.36E+04	1.92E-02	1.81E-02	0.33	6.32E-02	2.25E-04	2.13E-04	316.2	1.92E-02	1.000	0.33	0.96
85	112.36	0.00	0.00	9.03E+03	1.20E-02	1.21E-02	0.203	6.32E-02	1.59E-04	1.47E-04	315.6	1.20E-02	1.000	0.203	0.96
86	112.36	0.00	1.00	5.05E+03	0.48E-03	0.37E-03	0.134	6.32E-02	0.95E-04	9.42E-04	314.8	0.48E-03	1.000	0.134	0.31
87	112.36	0.00	1.00	7.71E+03	0.32E-03	0.24E-03	0.04	6.32E-02	0.25E-04	5.93E-04	314.0	0.32E-03	1.000	0.04	0.92
88	112.36	0.00	1.00	1.03E+03	2.57E-03	2.64E-03	0.041	6.32E-02	3.92E-05	2.86E-04	313.7	2.57E-03	1.000	0.041	0.06
89	112.36	0.00	2.20												
90	125.06	0.00	0.00	0.23E+04	6.77E-02	6.74E-02	0.749	6.19E-02	7.12E-04	6.79E-04	320.0	6.77E-02	1.000	0.749	1.050
91	125.06	0.00	0.00	0.37E+04	0.78E-02	0.74E-02	0.74	6.19E-02	6.78E-04	6.43E-04	320.0	5.78E-02	1.000	0.74	1.000
92	125.06	0.00	0.00	3.64E+04	0.28E-02	0.28E-02	0.23	6.19E-02	6.13E-04	5.84E-04	319.1	5.28E-02	1.000	0.23	0.914
93	125.06	0.00	0.00	3.15E+04	0.52E-02	0.48E-02	0.56	6.19E-02	5.31E-04	5.17E-04	317.6	4.52E-02	1.000	0.56	0.24
94	125.06	0.00	0.00	3.76E+04	0.79E-02	0.76E-02	0.593	6.19E-02	5.63E-04	5.39E-04	316.4	4.79E-02	1.000	0.593	0.31
95	125.06	0.00	0.00	3.10E+04	0.57E-02	0.53E-02	0.58	6.17E-02	5.36E-04	5.07E-04	316.1	4.57E-02	1.000	0.58	0.22
96	125.06	0.00	0.00	2.72E+04	0.66E-02	0.63E-02	0.478	6.17E-02	4.92E-04	4.29E-04	317.6	3.66E-02	1.000	0.478	0.69
97	125.06	0.00	0.00	2.25E+04	0.21E-02	0.21E-02	0.397	6.17E-02	3.76E-04	3.56E-04	317.0	3.21E-02	1.000	0.397	0.96
98	125.06	0.00	0.00	1.45E+04	2.06E-02	1.95E-02	0.255	6.17E-02	2.41E-04	2.29E-04	316.3	2.06E-02	1.000	0.255	0.97
99	125.06	0.00	0.00	6.55E+03	1.23E-02	1.23E-02	0.15	6.17E-02	1.52E-04	1.43E-04	315.3	1.23E-02	1.000	0.15	0.25
100	125.06	0.00	1.00	3.05E+03	0.49E-03	0.33E-03	0.11	6.17E-02	3.97E-04	3.49E-04	314.3	0.49E-03	1.000	0.11	0.37
101	125.06	0.00	1.00	3.05E+03	0.95E-03	0.72E-03	0.033	6.17E-02	5.92E-04	5.62E-04	314.6	0.95E-03	1.000	0.033	0.88
102	125.06	0.00	1.00	1.03E+03	1.52E-03	1.52E-03	0.024	6.17E-02	2.25E-04	2.17E-04	314.2	1.52E-03	1.000	0.024	0.93
103	125.06	0.00	1.00	1.03E+03	2.25E-02	2.13E-02	0.01	6.17E-02	2.61E-04	2.44E-04	313.4	2.25E-02	1.000	0.01	0.08

EDGE HEATING USED FOR HE

HE 6.759E+01 ML /HREFF 9.336E-01  
 HE 6.186E+01 ML /HREFF 1.177E+01  
 HE 8.696E+01 ML /HREFF 3.012E+01  
 HE 1.124E+02 ML /HREFF 1.012E+01  
 HE 1.241E+02 ML /HREFF 7.114E+01

9.0 L. TRANSITION DISTANCE = 47.59 CM  
 FULLY TURBULENT 3.0 L. CONDITIONS AT = 112.36 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 99

AMES 3-5 FV HWT TEST (102), C.B. BLUMER, IN-LINE RSI GAP RUN( 5.) 1973

TT = 1.223E+03 (K)  
 GAP LENGTH = 101.509 (CM)  
 GAP WIDTH = .254 (CM)  
 MT = 1.1223E+03 (J/KG)  
 GAP DEPTH = 2.632 (CM)  
 ORIENTATION = 2.700 (DEG)  
 OS = 8.4637E+04 (W/M2)  
 400. POSITION = 1  
 RHO VEL = 2.0722E+01 (KG/M2-S)  
 HAW/MT = 7.008 FOR MT  
 HAW/MT = 0.874 FOR HL  
 HLCC = HL/2ND. ORDER CONC. (1)

T/C	X (CM)	Y (CM)	ZZ (CM)	W (CM)	ML (KG/M2-S)	MT (KG/M2-S)	HL/MREF (KG/M2-S)	STL	STT	T (K)	HLCC (K/M2-S)	ML/MCC	HLCC/MREF	ML/HE
103	47.59	1.52	1.00	1.00	7.35E+03	7.72E-03	0.30	9.840E-03	3.939E-04	3.729E-04	3.16E-03	1.000	.030	1.004
105	47.59	1.52	1.00	1.00	7.35E+03	7.72E-03	.526	9.641E-03	3.923E-04	3.715E-04	3.13E-03	1.000	.026	1.000
107	47.59	1.52	1.00	1.00	7.35E+03	7.72E-03	.811	9.840E-03	3.859E-04	3.646E-04	3.19E-03	1.000	.041	1.002
108	47.59	1.52	1.00	1.00	7.35E+03	7.72E-03	.661	9.840E-03	3.239E-04	3.669E-04	3.19E-03	1.000	.041	1.002
110	47.59	1.52	1.00	1.00	7.35E+03	7.72E-03	.593	9.840E-03	2.637E-04	2.667E-04	3.18E-03	1.000	.053	1.000
111	47.59	1.52	1.00	1.00	7.35E+03	7.72E-03	.640	9.840E-03	2.090E-04	1.979E-04	3.17E-03	1.000	.040	1.000
112	47.59	1.52	1.00	1.00	7.35E+03	7.72E-03	.299	9.840E-03	1.372E-04	1.299E-04	3.19E-03	1.000	.029	1.000
113	47.59	1.52	1.00	1.00	7.35E+03	7.72E-03	.176	9.840E-03	5.016E-05	4.795E-05	3.16E-03	1.000	.016	1.000
114	47.59	1.52	1.00	1.00	7.35E+03	7.72E-03	.027	9.840E-03	1.274E-05	1.297E-05	3.19E-03	1.000	.027	1.000
115	47.59	1.52	1.00	1.00	7.35E+03	7.72E-03	.026	9.840E-03	2.721E-05	2.577E-05	3.19E-03	1.000	.026	1.000
117	47.59	1.52	1.00	1.00	7.35E+03	7.72E-03	.705	9.641E-03	2.293E-04	2.171E-04	3.14E-03	1.000	.085	1.000
118	47.59	1.52	1.00	1.00	7.35E+03	7.72E-03	.773	8.520E-03	3.357E-04	3.170E-04	3.16E-03	1.000	.073	1.000
119	47.59	1.52	1.00	1.00	7.35E+03	7.72E-03	.773	8.520E-03	3.180E-04	3.011E-04	3.19E-03	1.000	.073	1.000
120	47.59	1.52	1.00	1.00	7.35E+03	7.72E-03	.828	8.520E-03	3.247E-04	3.074E-04	3.17E-03	1.000	.079	1.000
203	61.56	1.52	1.00	1.00	5.31E+03	6.39E-03	.816	8.520E-03	3.357E-04	3.170E-04	3.16E-03	1.000	.073	1.000
205	61.56	1.52	1.00	1.00	5.31E+03	6.39E-03	.773	8.520E-03	3.180E-04	3.011E-04	3.19E-03	1.000	.073	1.000
207	61.56	1.52	1.00	1.00	5.31E+03	6.39E-03	.828	8.520E-03	3.247E-04	3.074E-04	3.17E-03	1.000	.079	1.000
210	61.56	1.52	1.00	1.00	5.31E+03	6.39E-03	.657	8.520E-03	2.702E-04	2.599E-04	3.16E-03	1.000	.057	1.000
211	61.56	1.52	1.00	1.00	5.31E+03	6.39E-03	.657	8.520E-03	2.702E-04	2.599E-04	3.16E-03	1.000	.057	1.000
212	61.56	1.52	1.00	1.00	5.31E+03	6.39E-03	.511	8.520E-03	2.100E-04	1.988E-04	3.15E-03	1.000	.051	1.000
213	61.56	1.52	1.00	1.00	5.31E+03	6.39E-03	.623	8.520E-03	1.203E-05	1.296E-05	3.19E-03	1.000	.023	1.000
214	61.56	1.52	1.00	1.00	5.31E+03	6.39E-03	.623	8.520E-03	1.203E-05	1.296E-05	3.19E-03	1.000	.023	1.000
215	61.56	1.52	1.00	1.00	5.31E+03	6.39E-03	.623	8.520E-03	1.203E-05	1.296E-05	3.19E-03	1.000	.023	1.000
216	61.56	1.52	1.00	1.00	5.31E+03	6.39E-03	.623	8.520E-03	1.203E-05	1.296E-05	3.19E-03	1.000	.023	1.000
217	61.56	1.52	1.00	1.00	5.31E+03	6.39E-03	.623	8.520E-03	1.203E-05	1.296E-05	3.19E-03	1.000	.023	1.000
218	61.56	1.52	1.00	1.00	5.31E+03	6.39E-03	.623	8.520E-03	1.203E-05	1.296E-05	3.19E-03	1.000	.023	1.000
219	61.56	1.52	1.00	1.00	5.31E+03	6.39E-03	.623	8.520E-03	1.203E-05	1.296E-05	3.19E-03	1.000	.023	1.000
220	61.56	1.52	1.00	1.00	5.31E+03	6.39E-03	.623	8.520E-03	1.203E-05	1.296E-05	3.19E-03	1.000	.023	1.000
306	85.96	1.52	1.00	1.00	3.36E+03	7.05E-03	1.201	7.147E-03	3.891E-04	3.400E-04	3.15E-03	1.000	1.041	1.000
307	85.96	1.52	1.00	1.00	3.36E+03	7.05E-03	1.201	7.147E-03	3.891E-04	3.400E-04	3.15E-03	1.000	1.041	1.000
308	85.96	1.52	1.00	1.00	3.36E+03	7.05E-03	1.201	7.147E-03	3.891E-04	3.400E-04	3.15E-03	1.000	1.041	1.000
309	85.96	1.52	1.00	1.00	3.36E+03	7.05E-03	1.201	7.147E-03	3.891E-04	3.400E-04	3.15E-03	1.000	1.041	1.000
310	85.96	1.52	1.00	1.00	3.36E+03	7.05E-03	1.201	7.147E-03	3.891E-04	3.400E-04	3.15E-03	1.000	1.041	1.000
311	85.96	1.52	1.00	1.00	3.36E+03	7.05E-03	1.201	7.147E-03	3.891E-04	3.400E-04	3.15E-03	1.000	1.041	1.000
312	85.96	1.52	1.00	1.00	3.36E+03	7.05E-03	1.201	7.147E-03	3.891E-04	3.400E-04	3.15E-03	1.000	1.041	1.000
313	85.96	1.52	1.00	1.00	3.36E+03	7.05E-03	1.201	7.147E-03	3.891E-04	3.400E-04	3.15E-03	1.000	1.041	1.000
314	85.96	1.52	1.00	1.00	3.36E+03	7.05E-03	1.201	7.147E-03	3.891E-04	3.400E-04	3.15E-03	1.000	1.041	1.000

FINAL PAGE IS  
POOR QUALITY



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 109

AMES 3.5 FT HM T-5 (182), C-1, BLUMER, IA-LINE RSI GAP FUN( 5) 1073

T/C	X (CM)	Y (CM)	Z (CM)	ML (MG/MS)	HT (KG/M2-S)	ML/MREF	MREF (KG/M2-S)	STL	STY	T (K)	MLCC (K/M2-S)	ML/MLCC	MLCC/MREF	ML/ME
315	86.96	1.31	0.99	0.19E+12	1.12E-03	0.87	7.47E-03	5.614E-05	5.128E-05	313.7	1.12E-03	1.000	0.197	0.191
316	86.96	1.31	1.14	3.75E+12	4.38E-04	0.65	7.47E-03	2.32E-05	2.114E-05	312.2	4.63E-04	1.000	0.665	0.662
317	86.96	1.31	1.65	2.05E+12	1.87E-05	0.00	7.47E-03	1.71E-06	1.667E-06	312.2	4.00E-05	1.000	0.06	0.06
319	86.96	1.31	1.99											
321	86.96	1.31	2.29											
496	112.36	0.76	0.77	7.19E+13	1.09E-02	1.36E-12	1.639	6.64E-03	5.103E-04	315.0	1.09E-02	1.000	1.699	0.748
497	112.36	0.51	0.77	1.11E+14	1.86E-02	1.35E-12	2.671	6.44E-03	6.685E-04	314.9	1.46E-02	1.000	2.271	1.080
498	112.36	0.26	0.77	1.12E+14	1.46E-02	1.47E-12	2.415	6.43E-03	7.107E-04	314.7	1.56E-02	1.000	2.415	1.063
499	112.36	0.16	0.77	1.12E+14	1.46E-02	1.38E-12	2.268	6.43E-03	6.675E-04	314.5	1.56E-02	1.000	2.268	0.990
511	112.36	0.74	0.74	3.12E+13	1.29E-02	1.29E-12	2.577	6.43E-03	5.915E-04	314.4	1.29E-02	1.000	2.007	0.883
512	112.36	0.74	0.74	3.12E+13	1.29E-02	1.29E-12	1.736	6.43E-03	5.107E-04	314.2	1.29E-02	1.000	1.736	0.764
512	112.36	0.77	0.77	5.82E+13	1.26E-02	7.52E-13	1.252	6.43E-03	3.683E-04	313.7	8.90E-03	1.000	1.252	0.591
513	112.36	0.77	0.77	5.82E+13	1.26E-02	6.72E-13	0.935	6.43E-03	2.928E-04	313.5	6.41E-03	1.000	0.935	0.438
514	112.36	0.77	0.77	2.81E+13	1.20E-02	7.33E-13	0.497	6.43E-03	1.944E-04	313.5	3.20E-03	1.000	0.497	0.219
515	112.36	0.70	0.70	1.64E+13	1.07E-02	1.39E-13	0.228	6.43E-03	6.718E-05	313.5	1.57E-03	1.000	0.228	0.101
516	112.36	0.70	0.70	1.64E+13	1.07E-02	5.46E-14	0.096	6.43E-03	2.645E-05	313.2	5.79E-04	1.000	0.096	0.044
517	112.36	0.70	0.70	3.64E+13	1.81E-02	6.55E-13	0.07	6.43E-03	2.321E-06	313.9	4.81E-04	1.000	0.07	0.033
518	112.36	0.70	0.70											
519	112.36	0.70	1.04											
520	112.36	0.70	1.65											
521	112.36	0.70	2.29											
526	125.06	0.75	0.01	3.78E+13	1.36E-02	1.26E-12	2.079	6.12E-03	6.222E-04	315.1	1.36E-02	1.000	2.079	0.850
527	125.06	0.51	0.01	1.11E+14	1.86E-02	1.42E-12	2.424	6.12E-03	7.632E-04	314.9	1.90E-02	1.000	2.424	1.080
528	125.06	0.25	0.01	1.12E+14	1.46E-02	1.49E-12	2.397	6.12E-03	7.846E-04	314.8	1.56E-02	1.000	2.397	0.989
529	125.06	0.15	0.01	3.71E+13	1.29E-02	1.22E-12	1.979	6.12E-03	6.227E-04	314.6	1.29E-02	1.000	1.979	0.816
530	125.06	0.74	0.04	9.75E+13	1.29E-02	1.29E-12	2.168	6.12E-03	6.528E-04	314.3	1.29E-02	1.000	2.168	0.853
531	125.06	0.74	0.15	2.25E+13	1.20E-02	1.21E-12	1.966	6.12E-03	6.188E-04	314.2	1.20E-02	1.000	1.966	0.811
532	125.06	0.74	0.27	7.20E+13	1.21E-02	0.27E-13	1.350	6.12E-03	4.675E-04	314.2	1.21E-02	1.000	1.350	0.639
533	125.06	0.74	0.44	5.87E+13	1.26E-02	7.26E-13	1.175	6.12E-03	3.698E-04	314.1	1.26E-02	1.000	1.175	0.635
534	125.06	0.74	0.64	2.67E+13	1.26E-02	3.37E-13	0.545	6.12E-03	1.716E-04	313.9	7.00E-03	1.000	0.545	0.225
535	125.06	0.74	0.89	2.65E+12	1.28E-02	1.31E-13	0.211	6.12E-03	6.651E-05	313.6	3.36E-03	1.000	0.211	0.07
536	125.06	0.74	1.16	7.17E+13	1.24E-02	4.11E-14	0.06	6.12E-03	2.044E-05	313.7	4.26E-04	1.000	0.06	0.027
537	125.06	0.74	1.65											
538	125.06	0.74	2.29											

EDGE HEATING USFO FOR ME

X= 4.759E+11 ML /MREF= 6.27E-01  
 X= 6.156E+11 ML /MREF= 7.49E-01  
 X= 8.696E+11 ML /MREF= 1.04E+00  
 X= 1.124E+12 ML /MREF= 2.27E+01  
 X= 1.251E+12 ML /MREF= 2.66E+01  
 P.L. TRANSITION DISTANCE = 11.56 CM  
 FULLY TURBULENT P.L. CONDITIONS AT X=76.01 CM

# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 101

ARES 3.5 FT HWT TEST (1+2), C.S. BLUMER, IN-LINE RSI GAP RUN( 11) 1973

TT = 1.177E+03(K)  
 FT = 1.7257E+06(IN/M2)  
 PT = 1.1595E+06(J/KG)  
 RE/METER = 1.7338E+06  
 MACH = 3.190  
 RHO VEL = 4.1311E+01(KG/M2-S)  
 HAW/MT = 3.997E FOR MT  
 HAW/HT = 9.874 FOR HL  
 MLCC = HL(2ND. ORDER COND.)\*1

T/C	X (CM)	Y (CM)	Z (CM)	G (M/M2)	HL (KG/M2-S)	MT (KG/M2-S)	ML/HREF (KG/M2-S)	HREF (KG/M2-S)	STL	STY	T (K)	MLCC (K/M2-S)	ML/MLCC	MLCC/HREF	ML/HE
173	87.59	1.52	9.82	7.42E+03	1.06E-02	1.31E-02	0.65	1.231E-02	2.947E-04	2.409E-04	323.3	1.06E-02	1.00E	0.65	0.94
174	87.59	1.52	9.82	7.42E+03	1.13E-02	1.37E-02	0.92	1.231E-02	2.711E-04	2.594E-04	323.9	1.13E-02	1.00E	0.92	1.00
175	87.59	1.52	9.82	7.42E+03	1.28E-02	1.44E-02	1.02	1.231E-02	3.813E-04	2.557E-04	323.8	1.28E-02	1.00E	1.02	1.11
176	87.59	1.52	9.82	7.42E+03	1.23E-02	1.41E-02	0.99	1.231E-02	2.933E-04	2.775E-04	322.0	1.23E-02	1.00E	0.99	1.02
177	87.59	1.52	9.82	7.42E+03	1.14E-02	1.35E-02	0.97	1.231E-02	2.732E-04	2.588E-04	321.4	1.14E-02	1.00E	0.97	1.00
178	87.59	1.52	9.82	7.42E+03	9.74E-03	9.22E-03	0.91	1.232E-02	2.330E-04	2.304E-04	320.3	9.74E-03	1.00E	0.91	0.99
179	87.59	1.52	9.82	7.42E+03	7.42E-03	7.02E-03	0.82	1.232E-02	1.774E-04	1.879E-04	319.6	7.42E-03	1.00E	0.82	0.94
180	87.59	1.52	9.82	7.42E+03	3.78E-03	3.50E-03	0.87	1.232E-02	9.451E-05	8.668E-05	318.2	3.78E-03	1.00E	0.87	0.94
181	87.59	1.52	9.82	7.42E+03	1.45E-03	1.38E-03	0.86	1.232E-02	3.878E-05	3.822E-05	317.1	1.45E-03	1.00E	0.86	0.94
182	87.59	1.52	9.82	7.42E+03	2.18E-04	4.98E-04	0.42	1.232E-02	1.230E-05	1.172E-05	315.3	2.18E-04	1.00E	0.42	0.94
183	87.59	1.52	9.82	7.42E+03	1.73E-04	1.63E-04	0.14	1.232E-02	4.113E-06	3.895E-06	315.0	1.73E-04	1.00E	0.14	0.95
184	87.59	1.52	9.82	7.42E+03	5.97E+03	9.39E-03	0.22	1.541E-02	2.844E-04	1.934E-04	321.5	5.97E+03	1.00E	0.22	0.68
185	87.59	1.52	9.82	7.42E+03	9.47E+03	9.02E-03	0.15	1.541E-02	2.027E-04	1.918E-04	321.7	9.47E+03	1.00E	0.15	0.61
186	87.59	1.52	9.82	7.42E+03	9.85E+03	9.32E-03	0.46	1.540E-02	2.355E-04	2.282E-04	321.4	9.85E+03	1.00E	0.46	1.00
187	87.59	1.52	9.82	7.42E+03	1.02E-02	1.34E-02	1.29	1.541E-02	2.635E-04	2.694E-04	320.8	1.02E-02	1.00E	1.29	1.19
188	87.59	1.52	9.82	7.42E+03	1.07E-02	1.31E-02	1.29	1.541E-02	2.562E-04	2.624E-04	319.9	1.07E-02	1.00E	1.29	1.07
189	87.59	1.52	9.82	7.42E+03	9.49E-03	9.90E-03	0.12	1.541E-02	2.269E-04	2.448E-04	319.5	9.49E-03	1.00E	0.12	0.63
190	87.59	1.52	9.82	7.42E+03	8.72E-03	7.59E-03	0.71	1.541E-02	1.919E-04	1.816E-04	318.6	8.72E-03	1.00E	0.71	0.85
191	87.59	1.52	9.82	7.42E+03	1.16E-03	1.10E-03	0.11	1.541E-02	2.772E-05	2.624E-05	316.5	1.16E-03	1.00E	0.11	0.61
192	87.59	1.52	9.82	7.42E+03	2.44E-04	2.31E-04	0.23	1.541E-02	5.839E-06	5.785E-06	323.3	2.44E-04	1.00E	0.23	0.25
193	87.59	1.52	9.82	7.42E+03	1.76E-02	1.69E-02	1.78	9.989E-03	4.269E-04	4.048E-04	320.3	1.76E-02	1.00E	1.78	1.07
194	87.59	1.52	9.82	7.42E+03	2.45E-02	2.37E-02	2.47	1.011E-02	5.331E-04	5.333E-04	319.7	2.45E-02	1.00E	2.47	1.07
195	87.59	1.52	9.82	7.42E+03	2.63E-02	2.52E-02	2.54	1.011E-02	6.377E-04	6.392E-04	319.3	2.63E-02	1.00E	2.54	1.07
196	87.59	1.52	9.82	7.42E+03	2.67E-02	2.53E-02	2.67	1.011E-02	6.394E-04	6.391E-04	319.8	2.67E-02	1.00E	2.67	1.07
197	87.59	1.52	9.82	7.42E+03	2.66E-02	2.51E-02	2.62	1.011E-02	6.354E-04	6.351E-04	319.7	2.66E-02	1.00E	2.62	1.07
198	87.59	1.52	9.82	7.42E+03	2.27E-02	2.15E-02	2.25	1.011E-02	5.425E-04	5.413E-04	318.8	2.27E-02	1.00E	2.25	1.07
199	87.59	1.52	9.82	7.42E+03	1.91E-02	1.91E-02	1.91	1.011E-02	4.975E-04	4.972E-04	317.6	1.91E-02	1.00E	1.91	1.07
200	87.59	1.52	9.82	7.42E+03	1.71E-02	1.24E-02	1.36	1.011E-02	3.123E-04	2.958E-04	316.9	1.71E-02	1.00E	1.36	0.73





RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC 81248  
JMC 00661

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AMES 3.6 FT HWY TEST (1-2), C. BLUMER, IN-LINE RSI GAP RUN 511 1973

Z/C	X (C)	Y (C)	Z (C)	G (W/P)	ML (K/M2-S)	MT (K/M2-S)	ML/HREFF	HREF (K/M2-S)	STL	STT	T (K)	HCC (K/M2-S)	ML/MLCC	MLCC/HREF	ML/HRE
315	86.96	7.00	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	310.4	7.90E-03	1.000	.797	.44E
316	86.96	7.03	3.37E+03	3.37E+03	5.49E-02	5.40	1.002E-02	1.90E-04	1.242E-04	1.242E-04	313.9	5.40E-03	1.000	.564	.30E
317	86.96	7.07	1.62E+02	1.62E+02	2.25E-03	.237	1.17E-02	5.65E-05	5.65E-05	5.303E-05	313.9	2.30E-03	1.000	.237	.13E
318	86.96	7.10	3.00E+02	3.00E+02	4.05E-04	.449	1.37E-02	1.17E-05	1.17E-05	1.113E-05	313.6	4.92E-04	1.388	.069	.02E
319	86.96	7.13	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	317.8	7.90E-03	1.000	.797	.44E
320	86.96	7.16	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	317.5	4.25E-02	1.000	1.927	1.00E
321	86.96	7.19	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	317.2	4.93E-02	1.000	1.823	.94E
322	86.96	7.22	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	316.9	3.81E-02	1.000	1.724	.895
323	86.96	7.25	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	316.6	3.45E-02	1.000	1.568	.81E
324	86.96	7.28	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	316.3	3.04E-02	1.000	1.374	.71E
325	86.96	7.31	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	315.5	2.30E-02	1.000	1.076	.59E
326	86.96	7.34	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	315.1	2.22E-02	1.000	1.005	.52E
327	86.96	7.37	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	314.7	1.42E-02	1.000	.641	.33E
328	86.96	7.40	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	314.2	9.12E-03	1.000	.412	.24E
329	86.96	7.43	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	314.2	5.71E-03	1.000	.250	.13E
330	86.96	7.46	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	313.9	3.37E-03	1.000	.158	.07E
331	86.96	7.49	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	313.5	1.37E-03	1.000	.062	.02E
332	86.96	7.52	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	317.5	4.23E-02	1.000	1.374	1.00E
333	86.96	7.55	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	317.2	4.16E-02	1.000	1.353	.99E
334	86.96	7.58	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	316.9	3.97E-02	1.000	1.298	.95E
335	86.96	7.61	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	316.6	3.67E-02	1.000	.972	.68E
336	86.96	7.64	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	316.3	3.04E-02	1.000	1.816	1.00E
337	86.96	7.67	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	315.6	3.54E-02	1.000	.979	.64E
338	86.96	7.70	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	315.2	3.47E-02	1.000	.649	.37E
339	86.96	7.73	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	315.2	2.96E-02	1.000	.716	.46E
340	86.96	7.76	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	314.9	1.67E-02	1.000	.462	.28E
341	86.96	7.79	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	314.5	1.00E-02	1.000	.380	.26E
342	86.96	7.82	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	314.4	7.89E-03	1.000	.195	.16E
343	86.96	7.85	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	314.2	4.65E-03	1.000	.123	.10E
344	86.96	7.88	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	314.1	1.85E-03	1.000	.051	.04E
345	86.96	7.91	2.57E+04	2.57E+04	4.99E-03	7.95E-03	.70	1.002E-02	1.90E-04	1.086E-04	313.7	4.25E-03	1.000	.012	.01E

EDGE HEATING USED FOR WF

- WF 4.759E+01 ML /HREFF 9.23E+01
  - WF 6.156E+01 ML /HREFF 9.63E+01
  - WF 8.698E+01 ML /HREFF 1.787E+02
  - WF 1.124E+02 ML /HREFF 1.027E+02
  - WF 1.251E+02 ML /HREFF 1.119E+02
- 7-1. TRANSITION DISTANCE = 41.58 CM  
FULLY TURBULENT 3-1. CONDITIONS = 112.36 CM



RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09451

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AMES 3.5 FT HWT TEST (11-21), C.S. BLUMER, IN-LINE RSI GAP PUN (52) 1973

TT = 1.117E+03(K)  
 GAP LENGTH = 191.600(CM)  
 PT = 9.163E+05(W/M2)  
 GAP WIDTH = .363(ICM)  
 MT = 1.1317E+05(J/KG)  
 GAP DEPTH = 2.732(ICM)  
 REFMETER = 1.637E+06  
 ORIENTATION = 0.993(DEG)  
 PACH = 5.11C  
 QS = 8.982E+04(W/M2)  
 PNC VEL = 2.293E+11(KG/M2-S)  
 MOD. POSITION = 1  
 WAM/MT = 0.938 FOR HT  
 WAM/PT = 9.874 FOR ML  
 PLCC = ML(2NC, 03DEP COND.,)

T/C	X (CM)	Y (CM)	ZZ (CPI)	O (G/M2)	ML (KG/M2-S)	PT (KG/M2-S)	ML/MREF (KG/M2-S)	MREF (KG/M2-S)	STL	STT	T (K)	MLCC (KG/M2-S)	ML/MLCC	MLCC/MREF	ML/ME
1	135.24	-51	7.90	6.31E+03	5.70E-03	.090	6.762E-03	.912	6.691E-03	2.920E-04	2.729E-04	313.5	1.000	1.000	1.000
2	132.78	-51	6.96	7.37E+03	5.72E-03	.912	6.691E-03	.954	6.859E-03	3.937E-04	2.765E-04	314.4	1.000	1.000	1.000
3	130.16	-51	6.70	8.44E+03	6.31E-03	.954	6.859E-03	.947	6.620E-03	3.877E-04	2.861E-04	314.8	1.000	1.000	1.000
4	127.43	-51	6.70	9.49E+03	6.31E-03	.947	6.620E-03	.965	6.595E-03	3.811E-04	3.029E-04	314.9	1.000	1.000	1.000
5	125.09	-51	6.76	1.055E+04	6.67E-03	.965	6.595E-03	1.020	6.530E-03	3.197E-04	3.029E-04	315.1	1.000	1.000	1.000
6	122.56	-51	6.76	1.177E+04	6.67E-03	.965	6.595E-03	1.020	6.480E-03	3.189E-04	3.029E-04	315.2	1.000	1.000	1.000
7	117.47	-51	6.90	1.298E+04	6.67E-03	.965	6.595E-03	1.020	6.480E-03	3.189E-04	3.029E-04	315.2	1.000	1.000	1.000
8	112.37	-51	6.90	1.419E+04	6.67E-03	.965	6.595E-03	1.020	6.480E-03	3.189E-04	3.029E-04	315.2	1.000	1.000	1.000
9	107.27	-51	6.90	1.540E+04	6.67E-03	.965	6.595E-03	1.020	6.480E-03	3.189E-04	3.029E-04	315.2	1.000	1.000	1.000
10	102.17	-51	6.90	1.661E+04	6.67E-03	.965	6.595E-03	1.020	6.480E-03	3.189E-04	3.029E-04	315.2	1.000	1.000	1.000
11	97.07	-51	6.96	1.782E+04	6.67E-03	.965	6.595E-03	.971	6.856E-03	3.186E-04	3.086E-04	315.6	1.000	1.000	1.000
12	92.04	-51	6.96	1.903E+04	6.67E-03	.965	6.595E-03	.973	7.031E-03	3.264E-04	3.086E-04	315.9	1.000	1.000	1.000
13	86.96	-51	6.96	2.024E+04	6.67E-03	.965	6.595E-03	.978	7.179E-03	3.326E-04	3.149E-04	316.1	1.000	1.000	1.000
14	81.88	-51	6.96	2.145E+04	6.67E-03	.965	6.595E-03	.978	7.283E-03	3.352E-04	3.149E-04	316.1	1.000	1.000	1.000
15	76.80	-51	6.96	2.266E+04	6.67E-03	.965	6.595E-03	.994	7.388E-03	3.373E-04	3.149E-04	316.6	1.000	1.000	1.000
16	71.72	-51	6.96	2.387E+04	6.67E-03	.965	6.595E-03	.994	7.489E-03	3.373E-04	3.149E-04	316.6	1.000	1.000	1.000
17	66.64	-51	6.96	2.508E+04	6.67E-03	.965	6.595E-03	.993	7.590E-03	3.373E-04	3.149E-04	316.9	1.000	1.000	1.000
18	61.56	-51	6.96	2.629E+04	6.67E-03	.965	6.595E-03	.881	8.537E-03	3.596E-04	3.405E-04	317.8	1.000	1.000	1.000
19	56.48	-51	6.96	2.750E+04	6.67E-03	.965	6.595E-03	.837	9.033E-03	3.616E-04	3.424E-04	316.8	1.000	1.000	1.000
20	51.40	-51	6.96	2.871E+04	6.67E-03	.965	6.595E-03	.884	9.478E-03	3.616E-04	3.424E-04	316.8	1.000	1.000	1.000
21	46.32	-51	6.96	2.992E+04	6.67E-03	.965	6.595E-03	.891	9.726E-03	4.196E-04	3.711E-04	316.5	1.000	1.000	1.000
22	41.24	-51	6.96	3.113E+04	6.67E-03	.965	6.595E-03	.876	1.001E-02	4.196E-04	3.711E-04	316.5	1.000	1.000	1.000
23	36.16	-51	6.96	3.234E+04	6.67E-03	.965	6.595E-03	.880	1.029E-02	4.232E-04	4.075E-04	316.4	1.000	1.000	1.000
24	31.08	-51	6.96	3.355E+04	6.67E-03	.965	6.595E-03	.874	1.057E-02	4.431E-04	4.196E-04	316.2	1.000	1.000	1.000
25	26.00	-51	6.96	3.476E+04	6.67E-03	.965	6.595E-03	.877	1.085E-02	4.551E-04	4.389E-04	315.7	1.000	1.000	1.000
102	47.59	152	6.70	5.51E+03	7.80E-03	7.36E-03	7.91E-03	.791	9.694E-03	3.733E-04	3.532E-04	323.5	1.302	.791	.695
103	47.59	152	6.70	5.97E+03	7.39E-03	7.90E-03	9.053E-03	.947	9.694E-03	3.995E-04	3.782E-04	319.6	1.000	.647	.950
107	47.59	152	6.70	6.43E+03	7.43E-03	7.69E-03	9.064E-03	.824	9.064E-03	3.808E-04	3.680E-04	319.1	1.000	.824	.932
110	47.59	152	6.70	6.89E+03	7.35E-03	6.96E-03	9.064E-03	.713	9.064E-03	3.367E-04	3.487E-04	318.2	1.000	.713	.837
118	47.59	152	6.70	7.35E+03	6.97E-03	6.47E-03	9.064E-03	.634	9.064E-03	2.377E-04	2.250E-04	317.4	1.000	.584	.871
111	47.59	152	6.70	7.81E+03	6.31E-03	5.91E-03	9.064E-03	.478	9.064E-03	1.927E-04	1.824E-04	317.0	1.000	.480	.662
112	47.59	152	6.70	8.27E+03	5.72E-03	5.35E-03	9.064E-03	.294	9.064E-03	1.494E-04	1.466E-04	315.9	1.000	.294	.265
113	47.59	152	6.70	8.73E+03	5.13E-03	4.78E-03	9.064E-03	.115	9.064E-03	9.44E-05	5.159E-05	315.9	1.000	.115	.081
114	47.59	152	6.70	9.19E+03	4.54E-03	4.20E-03	9.064E-03	.012	9.064E-03	5.44E-06	5.152E-06	315.1	1.000	.012	.011
115	47.59	152	6.70	9.65E+03	3.95E-03	3.62E-03	9.064E-03	.012	9.064E-03	3.733E-06	3.532E-06	323.5	1.302	.791	.695
203	61.56	152	6.70	5.26E+03	7.39E-03	7.36E-03	8.544E-03	.355	8.544E-03	3.536E-04	3.347E-04	310.3	1.000	.665	.981
205	61.56	152	6.70	5.72E+03	7.43E-03	7.35E-03	8.544E-03	.870	8.544E-03	3.536E-04	3.347E-04	310.3	1.000	.870	.981
227	61.56	152	6.70	6.18E+03	7.18E-03	6.90E-03	8.544E-03	.811	8.544E-03	3.816E-04	3.251E-04	319.1	1.000	.811	.950
270	61.56	152	6.70	6.64E+03	6.42E-03	6.13E-03	8.544E-03	.258	8.544E-03	3.096E-04	2.931E-04	317.6	1.000	.258	.661
210	61.56	152	6.70	3.61E+03	4.80E-03	4.55E-03	8.544E-03	.843	8.544E-03	2.299E-04	2.176E-04	316.8	1.302	.843	.636

5.3-137

ORIGINAL PAGE IS  
POOR QUALITY



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

AGE 104

AMES 3.5 FT HWT T'S (173), 2.7. BLUMER, IN-LINE RSI GAP RUN (52) 1373

T/C	X (CM)	Y (CM)	Z (CM)	Z7 (CM)	PL (KG/M2-S)	PL (KG/M2-S)	HT (KG/M2-S)	ML/MREF	MREF (KG/M2-S)	STL	STT	T (K)	MLCC (K/M2-S)	ML/MCC	MLCC/MREF	ML/ME
211	61.56	0.99	.15	2.14E+03	3.04E-03	3.77E-03	4.66	8.53E-03	1.973E-04	1.973E-04	1.872E-04	316.3	1.98E-03	1.99	.66	.525
212	61.56	0.99	.15	1.91E+03	2.53E-03	2.54E-03	3.14	8.53E-03	1.292E-04	1.292E-04	1.214E-04	316.2	1.68E-03	1.73	.314	.396
213	61.56	0.99	.12	1.92E+03	2.30E-03	2.17E-03	2.57	8.53E-03	1.399E-04	1.399E-04	1.399E-04	316.7	1.30E-03	1.40	.264	.702
214	61.56	0.99	.09	1.92E+03	2.30E-03	2.17E-03	2.57	8.53E-03	1.399E-04	1.399E-04	1.399E-04	316.7	1.30E-03	1.40	.264	.702
215	61.56	0.99	.09	1.92E+03	2.30E-03	2.17E-03	2.57	8.53E-03	1.399E-04	1.399E-04	1.399E-04	316.7	1.30E-03	1.40	.264	.702
306	86.96	0.75	1.00	4.36E+03	6.12E-03	5.79E-03	6.54	7.16E-03	2.927E-04	2.927E-04	2.771E-04	317.3	6.12E-03	1.00	.654	.881
307	86.96	0.51	1.10	3.10E+03	4.19E-03	4.95E-03	7.23	7.16E-03	2.477E-04	2.477E-04	2.345E-04	316.9	5.18E-03	1.00	.723	.745
308	86.96	0.27	1.20	2.10E+03	2.84E-03	3.08E-03	8.57	7.16E-03	1.957E-04	1.957E-04	1.863E-04	316.7	4.11E-03	1.00	.574	.592
309	86.96	0.17	1.30	1.60E+03	2.14E-03	2.25E-03	9.44	7.16E-03	1.466E-04	1.466E-04	1.372E-04	316.5	3.07E-03	1.00	.449	.469
310	86.96	0.10	1.40	1.20E+03	1.63E-03	1.73E-03	10.32	7.16E-03	1.075E-04	1.075E-04	1.044E-04	316.2	2.05E-03	1.00	.352	.363
311	86.96	0.07	1.50	9.00E+02	1.27E-03	1.37E-03	11.20	7.16E-03	8.279E-05	8.279E-05	8.221E-05	315.1	1.37E-03	1.00	.198	.198
312	86.96	0.05	1.60	6.00E+02	9.51E-04	1.05E-03	12.08	7.16E-03	6.311E-05	6.311E-05	6.061E-05	314.9	9.01E-04	1.00	.126	.130
313	86.96	0.03	1.70	4.00E+02	7.16E-04	7.79E-04	12.96	7.16E-03	4.792E-05	4.792E-05	4.502E-05	315.1	6.66E-04	1.00	.074	.074
314	86.96	0.02	1.80	3.00E+02	5.37E-04	5.83E-04	13.84	7.16E-03	3.623E-05	3.623E-05	3.433E-05	315.1	5.06E-04	1.00	.052	.052
315	86.96	0.01	1.90	2.00E+02	4.00E-04	4.30E-04	14.72	7.16E-03	2.716E-05	2.716E-05	2.592E-05	315.1	3.82E-04	1.00	.038	.038
316	86.96	0.01	2.00	1.50E+02	3.00E-04	3.20E-04	15.60	7.16E-03	2.037E-05	2.037E-05	1.972E-05	314.5	2.83E-04	1.00	.028	.028
317	86.96	0.01	2.10	1.00E+02	2.25E-04	2.40E-04	16.48	7.16E-03	1.527E-05	1.527E-05	1.474E-05	314.4	2.12E-04	1.00	.021	.021
318	86.96	0.01	2.20	7.50E+01	1.69E-04	1.80E-04	17.36	7.16E-03	1.127E-05	1.127E-05	1.080E-05	314.4	1.56E-04	1.00	.016	.016
319	86.96	0.01	2.30	5.00E+01	1.27E-04	1.35E-04	18.24	7.16E-03	8.453E-06	8.453E-06	8.100E-06	314.3	1.14E-04	1.00	.012	.012
320	86.96	0.01	2.40	2.50E+01	7.94E-05	8.40E-05	19.12	7.16E-03	6.311E-06	6.311E-06	6.034E-06	314.3	8.45E-05	1.00	.009	.009
506	125.06	0.75	1.00	9.55E+03	1.30E-03	1.49E-03	17.70	6.62E-03	4.932E-04	4.932E-04	4.641E-04	313.7	1.30E-03	1.00	.770	.812
507	125.06	0.51	1.10	7.16E+03	9.73E-04	1.12E-03	18.58	6.62E-03	4.042E-04	4.042E-04	3.827E-04	313.5	1.09E-03	1.00	.711	.749
508	125.06	0.27	1.20	5.20E+03	7.16E-04	8.12E-04	19.46	6.62E-03	3.252E-04	3.252E-04	3.076E-04	313.1	8.70E-04	1.00	.550	.589
509	125.06	0.17	1.30	3.70E+03	5.20E-04	5.95E-04	20.34	6.62E-03	2.462E-04	2.462E-04	2.334E-04	312.9	6.48E-04	1.00	.426	.444
510	125.06	0.10	1.40	2.70E+03	3.70E-04	4.25E-04	21.22	6.62E-03	1.872E-04	1.872E-04	1.770E-04	312.9	4.79E-04	1.00	.326	.344
511	125.06	0.07	1.50	2.10E+03	2.70E-04	3.08E-04	22.10	6.62E-03	1.462E-04	1.462E-04	1.374E-04	312.9	3.59E-04	1.00	.244	.256
512	125.06	0.05	1.60	1.60E+03	2.00E-04	2.25E-04	22.98	6.62E-03	1.072E-04	1.072E-04	1.000E-04	312.9	2.69E-04	1.00	.184	.191
513	125.06	0.03	1.70	1.20E+03	1.49E-04	1.63E-04	23.86	6.62E-03	8.127E-05	8.127E-05	7.627E-05	312.9	2.03E-04	1.00	.136	.140
514	125.06	0.02	1.80	9.00E+02	1.12E-04	1.20E-04	24.74	6.62E-03	6.123E-05	6.123E-05	5.786E-05	312.9	1.50E-04	1.00	.103	.107
515	125.06	0.01	1.90	6.00E+02	8.45E-05	9.00E-05	25.62	6.62E-03	4.641E-05	4.641E-05	4.234E-05	312.9	1.10E-04	1.00	.078	.082
516	125.06	0.01	2.00	4.00E+02	6.31E-05	6.60E-05	26.50	6.62E-03	3.433E-05	3.433E-05	3.174E-05	312.9	8.12E-05	1.00	.059	.062
517	125.06	0.01	2.10	3.00E+02	4.79E-05	5.00E-05	27.38	6.62E-03	2.592E-05	2.592E-05	2.394E-05	312.9	6.03E-05	1.00	.045	.047
518	125.06	0.01	2.20	2.00E+02	3.62E-05	3.80E-05	28.26	6.62E-03	1.972E-05	1.972E-05	1.834E-05	312.9	4.50E-05	1.00	.034	.035
519	125.06	0.01	2.30	1.50E+02	2.71E-05	2.80E-05	29.14	6.62E-03	1.466E-05	1.466E-05	1.360E-05	312.9	3.34E-05	1.00	.026	.026
520	125.06	0.01	2.40	1.00E+02	2.03E-05	2.10E-05	30.02	6.62E-03	1.075E-05	1.075E-05	1.000E-05	312.9	2.50E-05	1.00	.020	.020

EDGE HEATING USER FOR ME  
 X= 3.07E+01 ML /MREFS 2.771E-01  
 Y= 4.22E+01 ML /MREFS 8.766E-01  
 Z= 4.37E+01 ML /MREFS 6.139E-01  
 X= 6.61E+01 ML /MREFS 6.755E-01  
 Y= 6.88E+01 ML /MREFS 6.979E-01  
 Z= 6.13E+01 ML /MREFS 6.643E-01



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

20	0.000E+01	ML	/NREFF=	0.000E+01
20	0.150E+01	ML	/NREFF=	0.600E+01
20	0.000E+01	ML	/NREFF=	0.234E-01
20	7.172E+01	ML	/NREFF=	9.726E-01
20	7.500E+01	ML	/NREFF=	9.535E-01
20	0.000E+01	ML	/NREFF=	1.027E+00
20	0.000E+01	ML	/NREFF=	9.697E+00
20	0.200E+01	ML	/NREFF=	9.731E-01
20	0.712E+01	ML	/NREFF=	9.712E-01
20	1.022E+02	ML	/NREFF=	1.019E+00
20	1.072E+02	ML	/NREFF=	1.044E+00
20	1.126E+02	ML	/NREFF=	1.128E+00
20	1.175E+02	ML	/NREFF=	1.020E+00
20	1.220E+02	ML	/NREFF=	9.653E-01
20	1.251E+02	ML	/NREFF=	9.674E-01
20	1.276E+02	ML	/NREFF=	9.547E-01
20	1.302E+02	ML	/NREFF=	9.122E-01
20	1.352E+02	ML	/NREFF=	0.000E-01
20	0.700E+01	ML	/NREFF=	0.240E-01
20	0.150E+01	ML	/NREFF=	0.640E-01
20	0.000E+01	ML	/NREFF=	0.37E-01
20	1.201E+02	ML	/NREFF=	7.090E-01

8-4. TRANSITION DISTANCE = 61.56 CM  
 FULLY TURBULENT B.L. CONDITIONS AT = 81.88 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 105

ANES 3.5 FT HWT TEST (1R2), C.B. SLURER, IA-LINE RSI GAP PUM( 53) 1973

TT = 1.137E+03 (TK)  
 PY = 1.029E+06 (N/M2)  
 HT = 1.213E+06 (G/KG)  
 RE/PETER = 9.11E+06  
 MACH = 3.19C  
 RMC VFL = 4.11E+01 (KG/2-S)  
 MAM/MT = 3.97E+03 MT  
 MLCC = HL(2ND. ORDER COND.))

GAP LENGTH = 181.508 (CM)  
 GAP WIDTH = .363 (CM)  
 GAP DEPTH = 2.332 (CM)  
 ORIENTATION = 3.002 (DEG)  
 QS = 1.224E+06 (M/M2)  
 400. POSITION = 1

T/C	X	Y	Z	C	ML	NT	MI	M/	MREF	HREF	STL	STT	I	ML/MLCC	MLCC/MREF	ML/ME
(CH)	(CH)	(CP)	(CP)	(M/M2)	(KG/M2-S)	(KG/2-S)	(KG/2-S)	(M/M2)	(M/M2)	(M/M2)	(KG/2-S)	(KG/2-S)	(IK)	(KG/M2-S)	(KG/2-S)	(KG/2-S)
1	135.24	-51	0.00	2.464E+04	3.615E-02	3.42E-02	.822	4.494E-02	8.765E-04	7.192E-04	317.4	0.302E-04	316.8	1.000	1.000	1.000
2	132.70	-51	0.00	2.429E+04	3.12E-02	2.96E-02	.796	3.524E-02	7.594E-04	6.749E-04	317.6	0.302E-04	317.6	1.000	1.000	1.000
3	130.16	-51	0.00	2.415E+04	2.93E-02	2.78E-02	.806	3.639E-02	7.125E-04	6.048E-04	317.9	0.302E-04	317.9	1.000	1.000	1.000
4	127.63	-51	0.00	2.415E+04	2.62E-02	2.49E-02	.782	3.359E-02	6.377E-04	5.532E-04	317.8	0.302E-04	317.8	1.000	1.000	1.000
5	125.09	-51	0.00	2.415E+04	2.40E-02	2.28E-02	.783	3.177E-02	5.811E-04	4.972E-04	317.9	0.302E-04	317.9	1.000	1.000	1.000
6	122.56	-51	0.00	2.415E+04	1.99E-02	1.88E-02	.778	2.522E-02	4.827E-04	3.603E-04	318.4	0.302E-04	318.4	1.000	1.000	1.000
7	117.67	-51	0.00	2.415E+04	1.60E-02	1.52E-02	.781	1.707E-02	3.222E-04	2.618E-04	318.5	0.302E-04	318.5	1.000	1.000	1.000
8	117.31	-51	0.00	2.415E+04	1.33E-02	1.26E-02	.799	1.425E-02	2.758E-04	2.618E-04	318.5	0.302E-04	318.5	1.000	1.000	1.000
9	112.20	-51	0.00	2.415E+04	1.13E-02	1.07E-02	.787	1.212E-02	2.317E-04	2.317E-04	319.0	0.302E-04	319.0	1.000	1.000	1.000
10	97.12	-51	0.00	2.415E+04	9.53E-03	9.37E-03	.815	1.054E-02	2.009E-04	1.979E-04	319.0	0.302E-04	319.0	1.000	1.000	1.000
11	92.04	-51	0.00	2.415E+04	8.60E-03	8.44E-03	.754	9.705E-03	1.779E-04	1.685E-04	319.5	0.302E-04	319.5	1.000	1.000	1.000
12	84.96	-51	0.00	2.415E+04	7.32E-03	6.33E-03	.754	8.198E-03	1.854E-04	1.756E-04	319.4	0.302E-04	319.4	1.000	1.000	1.000
13	81.00	-51	0.00	2.415E+04	7.63E-03	7.23E-03	.830	9.198E-03	1.849E-04	1.751E-04	319.4	0.302E-04	319.4	1.000	1.000	1.000
14	81.00	-51	0.00	2.415E+04	7.63E-03	7.23E-03	.830	9.198E-03	1.849E-04	1.751E-04	319.4	0.302E-04	319.4	1.000	1.000	1.000
15	76.88	-51	0.00	2.415E+04	7.63E-03	7.23E-03	.830	9.198E-03	1.849E-04	1.751E-04	319.4	0.302E-04	319.4	1.000	1.000	1.000
16	71.72	-51	0.00	2.415E+04	7.63E-03	7.23E-03	.830	9.198E-03	1.849E-04	1.751E-04	319.4	0.302E-04	319.4	1.000	1.000	1.000
17	66.04	-51	0.00	2.415E+04	8.00E-03	8.41E-03	.909	1.077E-02	2.267E-04	2.146E-04	320.1	0.302E-04	320.1	1.000	1.000	1.000
18	61.56	-51	0.00	2.415E+04	8.33E-03	8.43E-03	.911	1.024E-02	2.267E-04	2.146E-04	320.1	0.302E-04	320.1	1.000	1.000	1.000
19	56.48	-51	0.00	2.415E+04	9.51E-03	9.51E-03	.875	1.107E-02	2.312E-04	2.192E-04	320.0	0.302E-04	320.0	1.000	1.000	1.000
20	51.39	-51	0.00	2.415E+04	9.97E-03	9.97E-03	.862	1.157E-02	2.424E-04	2.295E-04	320.0	0.302E-04	320.0	1.000	1.000	1.000
21	48.46	-51	0.00	2.415E+04	9.53E-03	9.53E-03	.798	1.157E-02	2.424E-04	2.295E-04	320.0	0.302E-04	320.0	1.000	1.000	1.000
22	45.31	-51	0.00	2.415E+04	1.00E-02	9.90E-03	.803	1.230E-02	2.430E-04	2.309E-04	320.1	0.302E-04	320.1	1.000	1.000	1.000
23	43.77	-51	0.00	2.415E+04	1.02E-02	9.63E-03	.803	1.267E-02	2.473E-04	2.341E-04	319.0	0.302E-04	319.0	1.000	1.000	1.000
24	41.24	-51	0.00	2.415E+04	1.07E-02	1.02E-02	.824	1.334E-02	2.612E-04	2.473E-04	319.7	0.302E-04	319.7	1.000	1.000	1.000
25	38.70	-51	0.00	2.415E+04	1.10E-02	1.05E-02	.823	1.374E-02	2.608E-04	2.540E-04	319.0	0.302E-04	319.0	1.000	1.000	1.000
102	47.59	1.32	0.00	2.415E+04	9.53E-03	9.53E-03	.788	1.211E-02	2.316E-04	2.316E-04	320.1	0.302E-04	320.1	1.000	1.000	1.000
103	47.59	1.32	0.00	2.415E+04	9.53E-03	9.53E-03	.788	1.211E-02	2.316E-04	2.316E-04	320.1	0.302E-04	320.1	1.000	1.000	1.000
104	47.59	1.32	0.00	2.415E+04	9.53E-03	9.53E-03	.788	1.211E-02	2.316E-04	2.316E-04	320.1	0.302E-04	320.1	1.000	1.000	1.000
105	47.59	1.32	0.00	2.415E+04	9.53E-03	9.53E-03	.788	1.211E-02	2.316E-04	2.316E-04	320.1	0.302E-04	320.1	1.000	1.000	1.000
106	47.59	1.32	0.00	2.415E+04	9.53E-03	9.53E-03	.788	1.211E-02	2.316E-04	2.316E-04	320.1	0.302E-04	320.1	1.000	1.000	1.000
107	47.59	1.32	0.00	2.415E+04	9.53E-03	9.53E-03	.788	1.211E-02	2.316E-04	2.316E-04	320.1	0.302E-04	320.1	1.000	1.000	1.000
108	47.59	1.32	0.00	2.415E+04	9.53E-03	9.53E-03	.788	1.211E-02	2.316E-04	2.316E-04	320.1	0.302E-04	320.1	1.000	1.000	1.000
109	47.59	1.32	0.00	2.415E+04	9.53E-03	9.53E-03	.788	1.211E-02	2.316E-04	2.316E-04	320.1	0.302E-04	320.1	1.000	1.000	1.000
110	47.59	1.32	0.00	2.415E+04	9.53E-03	9.53E-03	.788	1.211E-02	2.316E-04	2.316E-04	320.1	0.302E-04	320.1	1.000	1.000	1.000
111	47.59	1.32	0.00	2.415E+04	9.53E-03	9.53E-03	.788	1.211E-02	2.316E-04	2.316E-04	320.1	0.302E-04	320.1	1.000	1.000	1.000
112	47.59	1.32	0.00	2.415E+04	9.53E-03	9.53E-03	.788	1.211E-02	2.316E-04	2.316E-04	320.1	0.302E-04	320.1	1.000	1.000	1.000
113	47.59	1.32	0.00	2.415E+04	9.53E-03	9.53E-03	.788	1.211E-02	2.316E-04	2.316E-04	320.1	0.302E-04	320.1	1.000	1.000	1.000
114	47.59	1.32	0.00	2.415E+04	9.53E-03	9.53E-03	.788	1.211E-02	2.316E-04	2.316E-04	320.1	0.302E-04	320.1	1.000	1.000	1.000
115	47.59	1.32	0.00	2.415E+04	9.53E-03	9.53E-03	.788	1.211E-02	2.316E-04	2.316E-04	320.1	0.302E-04	320.1	1.000	1.000	1.000
203	61.56	1.62	0.00	2.415E+04	8.56E-03	8.41E-03	.836	1.123E-02	2.003E-04	1.938E-04	321.0	0.302E-04	321.0	1.000	1.000	1.000
204	61.56	1.62	0.00	2.415E+04	8.56E-03	8.41E-03	.836	1.123E-02	2.003E-04	1.938E-04	321.0	0.302E-04	321.0	1.000	1.000	1.000
205	61.56	1.62	0.00	2.415E+04	8.56E-03	8.41E-03	.836	1.123E-02	2.003E-04	1.938E-04	321.0	0.302E-04	321.0	1.000	1.000	1.000
206	61.56	1.62	0.00	2.415E+04	8.56E-03	8.41E-03	.836	1.123E-02	2.003E-04	1.938E-04	321.0	0.302E-04	321.0	1.000	1.000	1.000
207	61.56	1.62	0.00	2.415E+04	8.56E-03	8.41E-03	.836	1.123E-02	2.003E-04	1.938E-04	321.0	0.302E-04	321.0	1.000	1.000	1.000
208	61.56	1.62	0.00	2.415E+04	8.56E-03	8.41E-03	.836	1.123E-02	2.003E-04	1.938E-04	321.0	0.302E-04	321.0	1.000	1.000	1.000
209	61.56	1.62	0.00	2.415E+04	8.56E-03	8.41E-03	.836	1.123E-02	2.003E-04	1.938E-04	321.0	0.302E-04	321.0	1.000	1.000	1.000
210	61.56	1.62	0.00	2.415E+04	8.56E-03	8.41E-03	.836	1.123E-02	2.003E-04	1.938E-04	321.0	0.302E-04	321.0	1.000	1.000	1.000

# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 186

AMES 3.5 FT HMT TEST (182), C-3, BLUMER, IN-LINE RSI GAP RUN( 53) 1973

T/C	X (CM)	Y (CM)	Z (CM)	O (M/2)	ML (KG/M2-S)	WT (KG/M2-S)	ML/NREFF (KG/M2-S)	HREF (KG/M2-S)	STL	STT	T (K)	MLCC (KG/M2-S)	ML/MLCC	MLCC/NREFF	ML/ME
211	61.56	0.39	0.15	3.1E+03	1.1E-03	2.85E-03	1.024E-02	9.378E-05	9.458E-05	9.458E-05	317.6	4.21E-03	1.000	0.01	0.40
212	61.56	0.39	0.25	1.81E+03	2.87E-03	2.34E-03	1.024E-02	5.996E-05	5.661E-05	5.661E-05	317.4	2.67E-03	1.000	0.261	0.265
213	61.56	0.39	0.40	1.81E+03	2.87E-03	2.34E-03	1.024E-02	5.996E-05	5.661E-05	5.661E-05	317.4	2.67E-03	1.000	0.261	0.265
214	61.56	0.39	0.64	1.81E+03	2.87E-03	2.34E-03	1.024E-02	5.996E-05	5.661E-05	5.661E-05	317.4	2.67E-03	1.000	0.261	0.265
215	61.56	0.39	0.89	1.81E+03	2.87E-03	2.34E-03	1.024E-02	5.996E-05	5.661E-05	5.661E-05	317.4	2.67E-03	1.000	0.261	0.265
306	86.96	0.74	0.00	3.28E+03	4.49E-03	4.25E-03	9.651E-03	1.092E-04	1.034E-04	1.034E-04	319.2	4.49E-03	1.000	0.665	0.617
307	86.96	0.51	0.00	2.62E+03	3.59E-03	3.35E-03	9.671E-03	8.694E-05	8.233E-05	8.233E-05	318.7	3.59E-03	1.000	0.370	0.490
308	86.96	0.25	0.00	1.63E+03	2.25E-03	2.12E-03	9.671E-03	5.629E-05	5.142E-05	5.142E-05	318.1	2.25E-03	1.000	0.231	0.286
309	86.96	0.14	0.00	1.63E+03	2.25E-03	2.12E-03	9.671E-03	5.629E-05	5.142E-05	5.142E-05	318.1	2.25E-03	1.000	0.231	0.286
310	86.96	0.04	0.00	1.19E+03	1.63E-03	1.58E-03	9.686E-03	3.954E-05	3.748E-05	3.748E-05	317.9	1.63E-03	1.000	0.168	0.223
311	86.96	0.30	0.15	1.26E+03	1.13E-04	1.071E-04	9.686E-03	2.748E-06	2.603E-06	2.603E-06	317.3	1.13E-04	1.000	0.112	0.155
312	86.96	0.30	0.25	9.69E+02	1.32E-03	1.25E-03	9.686E-03	3.289E-05	3.048E-05	3.048E-05	316.2	1.32E-03	1.000	0.136	0.181
313	86.96	0.30	0.64	1.39E+02	9.71E-05	8.25E-05	9.686E-03	2.116E-06	2.004E-06	2.004E-06	315.9	9.71E-05	1.000	0.019	0.026
314	86.96	0.88	0.89	1.39E+02	9.71E-05	8.25E-05	9.686E-03	2.116E-06	2.004E-06	2.004E-06	315.9	9.71E-05	1.000	0.019	0.026
315	86.96	0.88	0.89	1.39E+02	9.71E-05	8.25E-05	9.686E-03	2.116E-06	2.004E-06	2.004E-06	315.9	9.71E-05	1.000	0.019	0.026
316	86.96	0.88	1.14	1.39E+02	9.71E-05	8.25E-05	9.686E-03	2.116E-06	2.004E-06	2.004E-06	315.9	9.71E-05	1.000	0.019	0.026
317	86.96	0.88	1.40	1.39E+02	9.71E-05	8.25E-05	9.686E-03	2.116E-06	2.004E-06	2.004E-06	315.9	9.71E-05	1.000	0.019	0.026
318	86.96	0.88	1.65	1.39E+02	9.71E-05	8.25E-05	9.686E-03	2.116E-06	2.004E-06	2.004E-06	315.9	9.71E-05	1.000	0.019	0.026
319	86.96	0.88	1.92	1.39E+02	9.71E-05	8.25E-05	9.686E-03	2.116E-06	2.004E-06	2.004E-06	315.9	9.71E-05	1.000	0.019	0.026
320	86.96	0.88	2.29	1.39E+02	9.71E-05	8.25E-05	9.686E-03	2.116E-06	2.004E-06	2.004E-06	315.9	9.71E-05	1.000	0.019	0.026
506	125.06	0.76	0.00	1.95E+04	2.11E-02	2.00E-02	3.321E-02	5.835E-04	4.867E-04	4.867E-04	317.4	2.11E-02	1.000	0.636	0.613
507	125.06	0.51	0.00	1.47E+04	2.11E-02	1.90E-02	3.321E-02	4.867E-04	4.063E-04	4.063E-04	317.1	2.00E-02	1.000	0.601	0.769
508	125.06	0.25	0.00	1.20E+04	1.79E-02	1.66E-02	3.321E-02	4.271E-04	3.649E-04	3.649E-04	316.6	1.79E-02	1.000	0.527	0.744
509	125.06	0.15	0.00	9.40E+03	1.29E-02	1.22E-02	3.321E-02	3.138E-04	2.971E-04	2.971E-04	315.7	1.29E-02	1.000	0.367	0.495
510	125.06	0.14	0.00	9.40E+03	1.29E-02	1.22E-02	3.321E-02	3.138E-04	2.971E-04	2.971E-04	315.7	1.29E-02	1.000	0.367	0.495
511	125.06	0.00	0.15	1.12E+04	1.52E-02	1.44E-02	3.321E-02	3.721E-04	3.506E-04	3.506E-04	315.1	1.52E-02	1.000	0.456	0.604
512	125.06	0.00	0.25	1.12E+04	1.52E-02	1.44E-02	3.321E-02	3.721E-04	3.506E-04	3.506E-04	315.1	1.52E-02	1.000	0.456	0.604
513	125.06	0.00	0.25	6.39E+03	8.70E-03	8.24E-03	3.321E-02	2.115E-04	2.004E-04	2.004E-04	315.4	8.70E-03	1.000	0.261	0.333
514	125.06	0.00	0.25	6.39E+03	8.70E-03	8.24E-03	3.321E-02	2.115E-04	2.004E-04	2.004E-04	315.4	8.70E-03	1.000	0.261	0.333
515	125.06	0.00	0.64	1.41E+03	4.96E-03	4.78E-03	3.321E-02	1.205E-04	1.142E-04	1.142E-04	314.8	4.96E-03	1.000	0.148	0.190
516	125.06	0.00	0.64	1.41E+03	4.96E-03	4.78E-03	3.321E-02	1.205E-04	1.142E-04	1.142E-04	314.8	4.96E-03	1.000	0.148	0.190
517	125.06	0.00	1.14	1.41E+03	4.96E-03	4.78E-03	3.321E-02	1.205E-04	1.142E-04	1.142E-04	314.8	4.96E-03	1.000	0.148	0.190
518	125.06	0.00	1.40	1.41E+03	4.96E-03	4.78E-03	3.321E-02	1.205E-04	1.142E-04	1.142E-04	314.8	4.96E-03	1.000	0.148	0.190
519	125.06	0.00	1.65	1.41E+03	4.96E-03	4.78E-03	3.321E-02	1.205E-04	1.142E-04	1.142E-04	314.8	4.96E-03	1.000	0.148	0.190
520	125.06	0.00	1.92	1.41E+03	4.96E-03	4.78E-03	3.321E-02	1.205E-04	1.142E-04	1.142E-04	314.8	4.96E-03	1.000	0.148	0.190
521	125.06	0.00	2.29	1.41E+03	4.96E-03	4.78E-03	3.321E-02	1.205E-04	1.142E-04	1.142E-04	314.8	4.96E-03	1.000	0.148	0.190

EDGE HEATING USED FOR ME  
 X# 1.87E+01 ML /NREFF# 8.27E-01  
 X# 4.12E+01 ML /NREFF# 8.27E-01  
 X# 3.37E+01 ML /NREFF# 6.73E-01  
 X# 4.03E+01 ML /NREFF# 9.14E-01  
 X# 4.08E+01 ML /NREFF# 7.99E-01  
 X# 5.17E+01 ML /NREFF# 8.61E-01



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

X#	5.640E+01	ML	/MSEFF	6.651E-01
X#	6.156E+01	ML	/MSEFF	9.176E-01
X#	6.644E+01	ML	/MSEFF	5.377E-01
X#	7.172E+01	ML	/MSEFF	8.704E-01
X#	7.688E+01	ML	/MSEFF	6.317E-01
X#	8.188E+01	ML	/MSEFF	6.372E-01
X#	8.696E+01	ML	/MSEFF	7.641E-01
X#	9.204E+01	ML	/MSEFF	6.154E-01
X#	9.712E+01	ML	/MSEFF	7.656E-01
X#	1.022E+02	ML	/MSEFF	7.651E-01
X#	1.073E+02	ML	/MSEFF	7.810E-01
X#	1.124E+02	ML	/MSEFF	7.784E-01
X#	1.175E+02	ML	/MSEFF	7.477E-01
X#	1.226E+02	ML	/MSEFF	7.828E-01
X#	1.277E+02	ML	/MSEFF	7.821E-01
X#	1.328E+02	ML	/MSEFF	8.798E-01
X#	1.379E+02	ML	/MSEFF	7.962E-01
X#	1.430E+02	ML	/MSEFF	8.725E-01
X#	4.799E+01	ML	/MSEFF	7.714E-01
X#	6.146E+01	ML	/MSEFF	7.444E-01
X#	8.696E+01	ML	/MSEFF	4.652E-01
X#	1.281E+02	ML	/MSEFF	6.814E-01

REL. TRANSITION DISTANCE = 46.96 CM  
FULLY TURBULENT 3-D. CONDITIONS AT 8.66.64 CM



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

PAGE 107

AMES 3.5 FT HWT TEST (1A27), C.3. ELUMEN, IN-LINE RSI GAP RUN( 54) 1973

TT = 4.0942E+13 (N)  
 GAP LFNGTH = 191.501 (CM)  
 FT = 5.1739E+05 (M/M2)  
 GAP MICTH = .254 (CM)  
 MT = 1.1544E+16 (J/KG)  
 GAP ORIENT = 3.810 (CM)  
 RE/METER = 1.707E+04  
 ORIENTATION = 0.100 (DEG)  
 JS = 0.3547E+04 (M/M2)  
 MOD. POSITION = 1

RHC VCL = 2.1262E+11 (KG/M2-S)  
 HAM/HT = 3.93E FOR HT  
 HAM/MT = 0.87 FOR HL  
 HLCC = HL(2ND. OFDER CONC.,)

T/C	X	Y	Z	O	H	MT	HL/HREFF	HREF	STL	STT	T	HLCC	HL/HLCC	HLCC/MREF	HL/ME
(CH)	(M/M2)	(M/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(K)	(K)	(K)	(K/ME-S)	(K/ME-S)	(K/ME-S)	(K/ME-S)
1	135.24	0.31	0.00	2.17E+14	2.00E-02	2.72E-02	3.944	7.291E-03	1.951E-03	1.200E-03	301.2				
2	132.78	0.51	0.00		2.54E-02	2.43E-02	3.575	7.167E-03	1.194E-03	1.131E-03	301.6				
3	130.16	0.51	0.00	1.77E+14	2.51E-02	2.37E-02	3.573	7.014E-03	1.178E-03	1.116E-03	301.9				
4	127.83	0.51	0.00	1.73E+14	2.45E-02	2.32E-02	3.541	6.922E-03	1.152E-03	1.091E-03	301.7				
5	125.09	0.51	0.00	1.71E+14	2.43E-02	2.31E-02	3.535	6.901E-03	1.141E-03	1.081E-03	301.7				
6	122.56	0.51	0.00	1.70E+14	2.41E-02	2.29E-02	3.530	6.703E-03	1.133E-03	1.073E-03	301.8				
7	117.57	0.51	0.00	1.68E+14	2.38E-02	2.28E-02	3.502	6.818E-03	1.120E-03	1.061E-03	302.0				
8	112.37	0.51	0.00	1.66E+14	2.36E-02	2.28E-02	3.571	6.573E-03	1.103E-03	1.045E-03	302.1				
9	107.31	0.51	0.00	1.65E+14	2.29E-02	2.19E-02	3.736	6.799E-03	1.095E-03	1.044E-03	302.1				
10	102.20	0.51	0.00	1.64E+14	2.29E-02	1.97E-02	3.001	6.642E-03	9.790E-04	9.274E-04	302.2				
11	97.12	0.51	0.00	1.64E+14	2.28E-02	1.24E-02	1.801	7.082E-03	5.999E-04	5.683E-04	301.3				
12	92.04	0.51	0.00	1.62E+14	1.98E-02	1.51E-02	2.197	7.231E-03	4.003E-04	4.003E-04	302.0				
13	86.96	0.51	0.00	1.62E+14	1.97E-02	1.49E-02	2.149	7.302E-03	4.000E-04	4.000E-04	303.1				
14	81.88	0.51	0.00	1.61E+14	1.97E-02	1.26E-02	1.793	7.831E-03	4.260E-04	4.260E-04	303.2				
15	76.80	0.51	0.00	1.61E+14	1.88E-02	1.19E-02	1.567	7.731E-03	5.566E-04	5.292E-04	303.3				
16	71.72	0.51	0.00	1.60E+14	1.88E-02	1.02E-02	1.350	7.969E-03	5.856E-04	5.789E-04	303.8				
17	66.64	0.51	0.00	1.59E+14	1.88E-02	9.43E-03	1.159	8.579E-03	4.672E-04	4.429E-04	303.8				
18	61.56	0.51	0.00	1.58E+14	1.82E-02	8.52E-03	1.024	9.084E-03	4.284E-04	4.097E-04	304.3				
19	56.48	0.51	0.00	1.57E+14	1.82E-02	8.82E-03	976	9.592E-03	4.374E-04	4.374E-04	304.3				
20	51.40	0.51	0.00	1.56E+14	1.82E-02	9.18E-03	950	9.592E-03	4.534E-04	4.534E-04	304.9				
21	46.32	0.51	0.00	1.55E+14	1.82E-02	9.34E-03	976	1.038E-02	4.618E-04	4.374E-04	304.9				
22	41.24	0.51	0.00	1.54E+14	1.82E-02	9.39E-03	957	1.036E-02	4.656E-04	4.518E-04	304.9				
23	36.16	0.51	0.00	1.53E+14	1.82E-02	9.69E-03	962	1.061E-02	4.973E-04	4.555E-04	304.6				
24	31.08	0.51	0.00	1.52E+14	1.82E-02	9.67E-03	936	1.091E-02	4.739E-04	4.565E-04	304.1				
25	26.00	0.51	0.00	1.51E+14	1.82E-02	7.49E-03	797	9.932E-03	3.720E-04	3.521E-04	311.3				
173	47.59	1.52	0.00	5.85E+13	7.52E-03	7.49E-03	797	9.932E-03	3.521E-04	3.521E-04	311.3				
174	47.59	1.52	0.00	5.85E+13	7.52E-03	7.49E-03	797	9.932E-03	3.521E-04	3.521E-04	311.3				
175	47.59	1.52	0.00	5.85E+13	7.52E-03	7.49E-03	797	9.932E-03	3.521E-04	3.521E-04	311.3				
176	47.59	1.52	0.00	5.85E+13	7.52E-03	7.49E-03	797	9.932E-03	3.521E-04	3.521E-04	311.3				
177	47.59	1.52	0.00	5.85E+13	7.52E-03	7.49E-03	797	9.932E-03	3.521E-04	3.521E-04	311.3				
178	47.59	1.52	0.00	5.85E+13	7.52E-03	7.49E-03	797	9.932E-03	3.521E-04	3.521E-04	311.3				
179	47.59	1.52	0.00	5.85E+13	7.52E-03	7.49E-03	797	9.932E-03	3.521E-04	3.521E-04	311.3				
180	47.59	1.52	0.00	5.85E+13	7.52E-03	7.49E-03	797	9.932E-03	3.521E-04	3.521E-04	311.3				
181	47.59	1.52	0.00	5.85E+13	7.52E-03	7.49E-03	797	9.932E-03	3.521E-04	3.521E-04	311.3				
182	47.59	1.52	0.00	5.85E+13	7.52E-03	7.49E-03	797	9.932E-03	3.521E-04	3.521E-04	311.3				
183	47.59	1.52	0.00	5.85E+13	7.52E-03	7.49E-03	797	9.932E-03	3.521E-04	3.521E-04	311.3				
184	47.59	1.52	0.00	5.85E+13	7.52E-03	7.49E-03	797	9.932E-03	3.521E-04	3.521E-04	311.3				
185	47.59	1.52	0.00	5.85E+13	7.52E-03	7.49E-03	797	9.932E-03	3.521E-04	3.521E-04	311.3				
203	61.56	1.52	0.00	5.16E+13	7.52E-03	6.82E-03	840	8.587E-03	3.387E-04	3.208E-04	304.7				
204	61.56	1.52	0.00	5.16E+13	7.52E-03	6.82E-03	840	8.587E-03	3.387E-04	3.208E-04	304.7				
205	61.56	1.52	0.00	5.16E+13	7.52E-03	6.82E-03	840	8.587E-03	3.387E-04	3.208E-04	304.7				
206	61.56	1.52	0.00	5.16E+13	7.52E-03	6.82E-03	840	8.587E-03	3.387E-04	3.208E-04	304.7				
207	61.56	1.52	0.00	5.16E+13	7.52E-03	6.82E-03	840	8.587E-03	3.387E-04	3.208E-04	304.7				
208	61.56	1.52	0.00	5.16E+13	7.52E-03	6.82E-03	840	8.587E-03	3.387E-04	3.208E-04	304.7				
209	61.56	1.52	0.00	5.16E+13	7.52E-03	6.82E-03	840	8.587E-03	3.387E-04	3.208E-04	304.7				
210	61.56	1.52	0.00	5.16E+13	7.52E-03	6.82E-03	840	8.587E-03	3.387E-04	3.208E-04	304.7				

ORIGINAL PAGE IS  
OF POOR QUALITY





RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 100

ANES 1.5 FT HWT TEST (1-2), C.S. FLUMER, IN-LINE RSI GAP RUN( 54) 1973

T/C	X (CM)	Y (CM)	ZZ (CM)	O (IN/2)	ML (KG/M2-S)	MT (KG/M2-S)	ML/HREF (KG/M2-S)	WREF (KG/M2-S)	STL	STT	T (K)	MLCC (KG/M2-S)	ML/MLCC	MLCC/HREF	ML/HE
211	81.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
212	81.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
213	81.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
306	86.96	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
307	86.96	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
308	86.96	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
309	86.96	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
310	86.96	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
311	86.96	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
312	86.96	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
313	86.96	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
314	86.96	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
315	86.96	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
316	86.96	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
317	86.96	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
318	86.96	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
319	86.96	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
320	86.96	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
506	125.06	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
507	125.06	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
508	125.06	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
509	125.06	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
510	125.06	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
511	125.06	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
512	125.06	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
513	125.06	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
514	125.06	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
515	125.06	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
516	125.06	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
517	125.06	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
518	125.06	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
519	125.06	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	125.06	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

LOG HEATING USED FOR HE  
 X= 3.070E+01 ML /HREF= 5.327E+01  
 X= 4.124E+01 ML /HREF= 9.226E+01  
 X= 4.377E+01 ML /HREF= 9.669E+01  
 X= 4.831E+01 ML /HREF= 9.757E+01  
 X= 4.885E+01 ML /HREF= 9.877E+01  
 X= 5.139E+01 ML /HREF= 9.735E+01  
 X= 5.148E+01 ML /HREF= 1.014E+02

5.3-144



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

XX	6.130E+01	ML	/HREF#	3.125E+00
XX	6.064E+01	ML	/HREF#	1.350E+00
XX	7.572E+01	ML	/HREF#	1.567E+00
XX	7.699E+01	ML	/HREF#	1.733E+00
XX	8.100E+01	ML	/HREF#	2.149E+00
XX	8.696E+01	ML	/HREF#	2.337E+00
XX	9.204E+01	ML	/HREF#	1.511E+00
XX	9.712E+01	ML	/HREF#	3.011E+00
XX	1.022E+02	ML	/HREF#	3.316E+00
XX	1.073E+02	ML	/HREF#	3.571E+00
XX	1.124E+02	ML	/HREF#	3.602E+00
XX	1.175E+02	ML	/HREF#	3.595E+00
XX	1.226E+02	ML	/HREF#	3.558E+00
XX	1.277E+02	ML	/HREF#	3.541E+00
XX	1.328E+02	ML	/HREF#	3.573E+00
XX	1.379E+02	ML	/HREF#	3.575E+00
XX	1.430E+02	ML	/HREF#	3.564E+00
XX	1.481E+02	ML	/HREF#	3.607E+00
XX	1.532E+02	ML	/HREF#	3.679E+00
XX	1.583E+02	ML	/HREF#	1.538E+00
XX	1.634E+02	ML	/HREF#	2.994E+00

P.L. TRANSITION DISTANCE = 0.644 CM  
 FULLY TURBULENT V.L. CONDITIONS AT 0.376 CM





**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

PAGE 110

AMES 3.5 FT HWT TEST (1122), G.P. BLUMER, IN-LINE RSI GAP RUN( 55) 1973

T/C	X	Y	Z	Q	ML	HT	STL	STT	T	MLCC	ML/MLCC	MLCC/MREF	ML/ME
(CM)	(CM)	(CM)	(CM)	(CM)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(K)	(K)	(K)	(K)	(K)	(K)
211	61.56	0.09	0.25	6.93E+03	1.07E-02	1.11E-02	1.025E-02	2.037E-04	2.661E-04	305.6	1.016E-02	1.000	1.120
212	61.56	0.09	0.25	7.93E+03	1.07E-02	1.11E-02	1.025E-02	2.992E-04	2.497E-04	305.1	1.07E-02	1.000	1.042
700	69.79	0.07	0.26							299.81			
214	61.56	0.09	0.25	6.93E+03	1.07E-02	1.11E-02	1.025E-02	0.809E-05	0.428E-05	382.1	1.66E-03	1.000	0.357
215	61.56	0.09	0.25	7.93E+03	1.07E-02	1.11E-02	1.025E-02	0.809E-05	0.428E-05	382.1	1.66E-03	1.000	0.357
306	66.96	0.04	0.08	1.31E+04	1.77E-02	1.68E-02	9.674E-03	4.296E-04	4.072E-04	306.4	1.77E-02	1.000	1.029
307	66.96	0.04	0.08	1.31E+04	1.77E-02	1.68E-02	9.674E-03	4.296E-04	4.072E-04	306.4	1.77E-02	1.000	1.029
308	66.96	0.04	0.08	1.31E+04	1.77E-02	1.68E-02	9.674E-03	4.296E-04	4.072E-04	306.4	1.77E-02	1.000	1.029
309	66.96	0.04	0.08	1.31E+04	1.77E-02	1.68E-02	9.674E-03	4.296E-04	4.072E-04	306.4	1.77E-02	1.000	1.029
310	66.96	0.04	0.08	1.31E+04	1.77E-02	1.68E-02	9.674E-03	4.296E-04	4.072E-04	306.4	1.77E-02	1.000	1.029
311	66.96	0.04	0.08	1.31E+04	1.77E-02	1.68E-02	9.674E-03	4.296E-04	4.072E-04	306.4	1.77E-02	1.000	1.029
312	66.96	0.04	0.08	1.31E+04	1.77E-02	1.68E-02	9.674E-03	4.296E-04	4.072E-04	306.4	1.77E-02	1.000	1.029
313	66.96	0.04	0.08	1.31E+04	1.77E-02	1.68E-02	9.674E-03	4.296E-04	4.072E-04	306.4	1.77E-02	1.000	1.029
314	66.96	0.04	0.08	1.31E+04	1.77E-02	1.68E-02	9.674E-03	4.296E-04	4.072E-04	306.4	1.77E-02	1.000	1.029
315	66.96	0.04	0.08	1.31E+04	1.77E-02	1.68E-02	9.674E-03	4.296E-04	4.072E-04	306.4	1.77E-02	1.000	1.029
316	66.96	0.04	0.08	1.31E+04	1.77E-02	1.68E-02	9.674E-03	4.296E-04	4.072E-04	306.4	1.77E-02	1.000	1.029
317	66.96	0.04	0.08	1.31E+04	1.77E-02	1.68E-02	9.674E-03	4.296E-04	4.072E-04	306.4	1.77E-02	1.000	1.029
318	66.96	0.04	0.08	1.31E+04	1.77E-02	1.68E-02	9.674E-03	4.296E-04	4.072E-04	306.4	1.77E-02	1.000	1.029
319	66.96	0.04	0.08	1.31E+04	1.77E-02	1.68E-02	9.674E-03	4.296E-04	4.072E-04	306.4	1.77E-02	1.000	1.029
320	66.96	0.04	0.08	1.31E+04	1.77E-02	1.68E-02	9.674E-03	4.296E-04	4.072E-04	306.4	1.77E-02	1.000	1.029
506	125.06	0.04	0.08	2.59E+04	4.12E-02	3.81E-02	3.337E-02	9.729E-04	9.252E-04	384.5	4.82E-02	1.000	1.284
507	125.06	0.04	0.08	2.59E+04	4.12E-02	3.81E-02	3.337E-02	9.729E-04	9.252E-04	384.5	4.82E-02	1.000	1.284
508	125.06	0.04	0.08	2.59E+04	4.12E-02	3.81E-02	3.337E-02	9.729E-04	9.252E-04	384.5	4.82E-02	1.000	1.284
509	125.06	0.04	0.08	2.59E+04	4.12E-02	3.81E-02	3.337E-02	9.729E-04	9.252E-04	384.5	4.82E-02	1.000	1.284
510	125.06	0.04	0.08	2.59E+04	4.12E-02	3.81E-02	3.337E-02	9.729E-04	9.252E-04	384.5	4.82E-02	1.000	1.284
511	125.06	0.04	0.08	2.59E+04	4.12E-02	3.81E-02	3.337E-02	9.729E-04	9.252E-04	384.5	4.82E-02	1.000	1.284
512	125.06	0.04	0.08	2.59E+04	4.12E-02	3.81E-02	3.337E-02	9.729E-04	9.252E-04	384.5	4.82E-02	1.000	1.284
513	125.06	0.04	0.08	2.59E+04	4.12E-02	3.81E-02	3.337E-02	9.729E-04	9.252E-04	384.5	4.82E-02	1.000	1.284
514	125.06	0.04	0.08	2.59E+04	4.12E-02	3.81E-02	3.337E-02	9.729E-04	9.252E-04	384.5	4.82E-02	1.000	1.284
515	125.06	0.04	0.08	2.59E+04	4.12E-02	3.81E-02	3.337E-02	9.729E-04	9.252E-04	384.5	4.82E-02	1.000	1.284
516	125.06	0.04	0.08	2.59E+04	4.12E-02	3.81E-02	3.337E-02	9.729E-04	9.252E-04	384.5	4.82E-02	1.000	1.284
517	125.06	0.04	0.08	2.59E+04	4.12E-02	3.81E-02	3.337E-02	9.729E-04	9.252E-04	384.5	4.82E-02	1.000	1.284
518	125.06	0.04	0.08	2.59E+04	4.12E-02	3.81E-02	3.337E-02	9.729E-04	9.252E-04	384.5	4.82E-02	1.000	1.284
519	125.06	0.04	0.08	2.59E+04	4.12E-02	3.81E-02	3.337E-02	9.729E-04	9.252E-04	384.5	4.82E-02	1.000	1.284
520	125.06	0.04	0.08	2.59E+04	4.12E-02	3.81E-02	3.337E-02	9.729E-04	9.252E-04	384.5	4.82E-02	1.000	1.284

EDGE HEATING USED FOR ME

YE	3.073E+01	ML	/MREF	6.13E-01
YE	6.124E+01	ML	/MREF	6.24E-01
YE	4.377E+01	ML	/MREF	9.43E-01
YE	4.631E+01	ML	/MREF	1.01E+01
YE	4.096E+01	ML	/MREF	1.03E+01
YE	5.139E+01	ML	/MREF	1.11E+01
YE	5.633E+01	ML	/MREF	1.17E+01

5.3-147

**ORIGINAL PAGE IS**  
**OF POOR QUALITY**



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

XX	0.170E+01	ML	/HREF=	1.670E+00
XX	0.668E+01	ML	/HREF=	1.495E+00
XX	7.372E+01	ML	/HREF=	1.779E+00
XX	7.688E+01	ML	/HREF=	2.191E+00
XX	0.100E+01	ML	/HREF=	2.610E+00
XX	0.696E+01	ML	/HREF=	2.995E+00
XX	9.233E+01	ML	/HREF=	2.341E+00
XX	9.712E+01	ML	/HREF=	3.032E+00
XX	1.022E+02	ML	/HREF=	2.911E+00
XX	1.177E+02	ML	/HREF=	2.528E+00
XX	1.124E+02	ML	/HREF=	2.379E+00
XX	1.175E+02	ML	/HREF=	1.974E+00
XX	1.225E+02	ML	/HREF=	1.557E+00
XX	1.293E+02	ML	/HREF=	1.472E+00
XX	1.270E+02	ML	/HREF=	1.297E+00
XX	1.372E+02	ML	/HREF=	1.170E+00
XX	1.392E+02	ML	/HREF=	9.966E-01
XX	6.799E+01	ML	/HREF=	6.231E-01
XX	0.350E+01	ML	/HREF=	9.493E-01
XX	0.696E+01	ML	/HREF=	1.029E+00
XX	1.251E+02	ML	/HREF=	1.161E+00

9-L TRANSITION DISTANCE = 38.7" CM  
 FULLY TURBULENT 9-L CONDITIONS AT X = 86.96 CM

AL PAGE 1  
 11/11/51



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 111

AMEC 3.5 FT WMT TEST (1-2), C.E. BLUMER, IN-LINE RSI GAP RUN (4) 1973

TT = 1.1324E+3(K)  
FT = 2.1074E+06(M/M2)  
MT = 1.1982E+06(J/KG)  
RE/METER = 5.5195E+6  
PACH = 5.130  
RHO VEL = 9.4232E+3(KG/M2-S)  
HAM/MT = 3.974 FOR MT  
HAM/WT = 3.874 FOR WL  
MLCC = MLT2AC, ORDER CONC. )

T/C	X	Y	Z	Q	ML	MT	ML/MREF	MREF	STL	STT	T	ML/MLCC	MLCC/MREF	ML/HE
1	135.24	-51	0.00	1.60E+04	1.38E-02	4.73E-02	.732	8.72E-02	7.57E-04	7.179E-04	311.7	1.000	1.000	1.000
2	132.79	-51	0.00	1.75E+01	2.32E-15	2.28E-05	.000	0.40E-02	2.75E-07	2.615E-07	291.3	1.000	1.000	1.000
3	130.16	-51	0.00	4.01E+04	5.50E-12	6.23E-02	.797	6.25E-02	7.01E-04	7.397E-04	312.7	1.000	1.000	1.000
4	127.63	-51	0.00	5.17E+04	7.00E-02	6.63E-02	.874	8.10E-02	8.31E-04	7.077E-04	312.7	1.000	1.000	1.000
5	125.09	-51	0.00	5.28E+04	7.28E-02	6.84E-02	.927	7.78E-02	8.96E-04	8.115E-04	312.9	1.000	1.000	1.000
6	122.56	-51	0.00	5.33E+04	7.53E-02	7.15E-02	1.164	7.54E-02	9.96E-04	9.492E-04	312.7	1.000	1.000	1.000
7	117.47	-51	0.00	6.14E+04	8.39E-02	7.95E-02	1.334	6.94E-02	9.96E-04	9.108E-04	312.6	1.000	1.000	1.000
8	112.37	-51	0.00	7.31E+04	4.61E-02	2.16E-02	1.727	4.98E-02	1.02E-03	9.436E-04	313.0	1.000	1.000	1.000
9	107.27	-51	0.00	4.33E+04	4.68E-02	2.02E-02	2.159	4.03E-02	1.02E-03	9.707E-04	312.9	1.000	1.000	1.000
10	102.20	-51	0.00	6.49E+04	8.38E-02	7.85E-02	2.556	3.25E-02	9.09E-04	9.367E-04	312.9	1.000	1.000	1.000
11	97.12	-51	0.00	1.37E+04	5.55E-12	5.64E-02	2.273	2.63E-02	7.73E-04	6.690E-04	313.7	1.000	1.000	1.000
12	92.04	-51	0.00	5.62E+04	7.67E-02	7.26E-02	3.554	2.15E-02	9.12E-04	8.628E-04	313.7	1.000	1.000	1.000
13	86.96	-51	0.00	5.62E+04	7.67E-02	7.26E-02	3.554	2.15E-02	9.12E-04	8.628E-04	313.7	1.000	1.000	1.000
14	81.88	-51	0.00	5.62E+04	7.67E-02	7.26E-02	3.554	2.15E-02	9.12E-04	8.628E-04	313.7	1.000	1.000	1.000
15	76.80	-51	0.00	4.02E+04	4.02E-02	4.02E-02	4.199	1.76E-02	8.82E-04	8.347E-04	314.1	1.000	1.000	1.000
16	71.72	-51	0.00	3.01E+04	4.78E-02	4.58E-02	3.485	1.38E-02	9.714E-04	9.413E-04	314.4	1.000	1.000	1.000
17	66.64	-51	0.00	2.73E+04	4.78E-02	4.58E-02	3.485	1.38E-02	9.714E-04	9.413E-04	314.4	1.000	1.000	1.000
18	61.56	-51	0.00	2.14E+04	2.99E-02	2.74E-02	2.405	1.43E-02	3.491E-04	3.366E-04	315.5	1.000	1.000	1.000
19	56.48	-51	0.00	1.69E+04	2.31E-02	2.19E-02	1.956	1.48E-02	2.748E-04	2.598E-04	316.0	1.000	1.000	1.000
20	51.39	-51	0.00	1.09E+04	2.02E-02	1.86E-02	1.377	1.53E-02	2.453E-04	2.323E-04	316.5	1.000	1.000	1.000
21	46.31	-51	0.00	1.45E+04	2.02E-12	1.90E-02	1.276	1.62E-02	2.379E-04	2.253E-04	316.7	1.000	1.000	1.000
22	41.23	-51	0.00	1.29E+04	1.76E-02	1.76E-02	1.170	1.63E-02	2.233E-04	2.139E-04	316.7	1.000	1.000	1.000
23	36.15	-51	0.00	1.29E+04	1.76E-02	1.76E-02	1.170	1.63E-02	2.109E-04	1.998E-04	316.8	1.000	1.000	1.000
24	31.07	-51	0.00	1.02E+04	1.62E-12	1.65E-02	1.055	1.71E-02	2.006E-04	1.900E-04	316.9	1.000	1.000	1.000
25	26.00	-51	0.00	1.02E+04	1.62E-02	1.65E-02	1.055	1.71E-02	1.872E-04	1.773E-04	315.4	1.000	1.000	1.000
103	47.59	1.52	0.00	1.72E+04	1.44E-02	1.33E-02	1.051	1.63E-02	1.674E-04	1.584E-04	321.4	1.000	1.000	1.000
104	47.59	1.52	0.00	0.75E+03	1.35E-02	1.24E-02	1.077	1.63E-02	1.674E-04	1.584E-04	321.7	1.000	1.000	1.000
105	47.59	1.52	0.00	1.01E+04	1.35E-02	1.24E-02	1.077	1.63E-02	1.674E-04	1.584E-04	321.7	1.000	1.000	1.000
106	47.59	1.52	0.00	1.01E+04	1.35E-02	1.24E-02	1.077	1.63E-02	1.674E-04	1.584E-04	321.7	1.000	1.000	1.000
107	47.59	1.52	0.00	1.01E+04	1.35E-02	1.24E-02	1.077	1.63E-02	1.674E-04	1.584E-04	321.7	1.000	1.000	1.000
108	47.59	1.52	0.00	1.01E+04	1.35E-02	1.24E-02	1.077	1.63E-02	1.674E-04	1.584E-04	321.7	1.000	1.000	1.000
109	47.59	1.52	0.00	1.01E+04	1.35E-02	1.24E-02	1.077	1.63E-02	1.674E-04	1.584E-04	321.7	1.000	1.000	1.000
110	47.59	1.52	0.00	1.01E+04	1.35E-02	1.24E-02	1.077	1.63E-02	1.674E-04	1.584E-04	321.7	1.000	1.000	1.000
111	47.59	1.52	0.00	1.01E+04	1.35E-02	1.24E-02	1.077	1.63E-02	1.674E-04	1.584E-04	321.7	1.000	1.000	1.000
112	47.59	1.52	0.00	1.01E+04	1.35E-02	1.24E-02	1.077	1.63E-02	1.674E-04	1.584E-04	321.7	1.000	1.000	1.000
113	47.59	1.52	0.00	1.01E+04	1.35E-02	1.24E-02	1.077	1.63E-02	1.674E-04	1.584E-04	321.7	1.000	1.000	1.000
114	47.59	1.52	0.00	1.01E+04	1.35E-02	1.24E-02	1.077	1.63E-02	1.674E-04	1.584E-04	321.7	1.000	1.000	1.000
115	47.59	1.52	0.00	1.01E+04	1.35E-02	1.24E-02	1.077	1.63E-02	1.674E-04	1.584E-04	321.7	1.000	1.000	1.000
203	61.56	1.32	0.00	0.27E+03	1.25E-02	1.20E-02	1.012	1.70E-02	1.519E-04	1.439E-04	315.8	1.000	1.000	1.000
204	61.56	1.32	0.00	1.01E+04	1.43E-02	1.36E-02	1.022	1.38E-02	1.775E-04	1.679E-04	317.0	1.000	1.000	1.000
205	61.56	1.32	0.00	1.01E+04	1.43E-02	1.36E-02	1.022	1.38E-02	1.775E-04	1.679E-04	317.0	1.000	1.000	1.000
206	61.56	1.32	0.00	1.01E+04	1.43E-02	1.36E-02	1.022	1.38E-02	1.775E-04	1.679E-04	317.0	1.000	1.000	1.000
207	61.56	1.32	0.00	1.01E+04	1.43E-02	1.36E-02	1.022	1.38E-02	1.775E-04	1.679E-04	317.0	1.000	1.000	1.000
208	61.56	1.32	0.00	1.01E+04	1.43E-02	1.36E-02	1.022	1.38E-02	1.775E-04	1.679E-04	317.0	1.000	1.000	1.000
209	61.56	1.32	0.00	1.01E+04	1.43E-02	1.36E-02	1.022	1.38E-02	1.775E-04	1.679E-04	317.0	1.000	1.000	1.000
210	61.56	1.32	0.00	1.01E+04	1.43E-02	1.36E-02	1.022	1.38E-02	1.775E-04	1.679E-04	317.0	1.000	1.000	1.000

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**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

PAGE 112

AMES 3x5 FT HWT T-TEST (1-2), T.O. BLUMER, I-LINE RSI GAP PUNCH '66) 1973

T/C	X (CM)	Y (CM)	Z (CM)	C (MW/2)	HL (KG/M2-S)	MT (KG/M2-S)	HL/HREF (KG/M2-S)	HREF (KG/M2-S)	STL	SIT	T (K)	PLCC (IN/M2-S)	HL/MLCC	MLCC/HREF	HL/ME
211	61.56	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.3	3.44E-02	1.000	2.433	1.161
212	61.56	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.2	3.39E-02	1.000	2.419	1.155
700	89.79	0.0	2.76	1.77E+04	1.85E-02	1.75E-02	1.822	1.431E-02	2.199E-04	2.053E-04	305.6	3.85E-02	1.000	1.322	0.31
214	61.56	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.3	3.44E-02	1.000	2.433	1.161
215	61.56	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.2	3.39E-02	1.000	2.419	1.155
306	86.96	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.3	3.44E-02	1.000	2.433	1.161
307	86.96	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.2	3.39E-02	1.000	2.419	1.155
308	86.96	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.3	3.44E-02	1.000	2.433	1.161
309	86.96	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.2	3.39E-02	1.000	2.419	1.155
310	86.96	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.3	3.44E-02	1.000	2.433	1.161
311	86.96	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.2	3.39E-02	1.000	2.419	1.155
312	86.96	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.3	3.44E-02	1.000	2.433	1.161
313	86.96	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.2	3.39E-02	1.000	2.419	1.155
314	86.96	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.3	3.44E-02	1.000	2.433	1.161
315	86.96	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.2	3.39E-02	1.000	2.419	1.155
316	86.96	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.3	3.44E-02	1.000	2.433	1.161
317	86.96	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.2	3.39E-02	1.000	2.419	1.155
318	86.96	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.3	3.44E-02	1.000	2.433	1.161
319	86.96	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.2	3.39E-02	1.000	2.419	1.155
320	86.96	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.3	3.44E-02	1.000	2.433	1.161
506	125.06	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.3	3.44E-02	1.000	2.433	1.161
507	125.06	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.2	3.39E-02	1.000	2.419	1.155
508	125.06	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.3	3.44E-02	1.000	2.433	1.161
509	125.06	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.2	3.39E-02	1.000	2.419	1.155
510	125.06	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.3	3.44E-02	1.000	2.433	1.161
511	125.06	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.2	3.39E-02	1.000	2.419	1.155
512	125.06	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.3	3.44E-02	1.000	2.433	1.161
513	125.06	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.2	3.39E-02	1.000	2.419	1.155
514	125.06	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.3	3.44E-02	1.000	2.433	1.161
515	125.06	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.2	3.39E-02	1.000	2.419	1.155
516	125.06	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.3	3.44E-02	1.000	2.433	1.161
517	125.06	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.2	3.39E-02	1.000	2.419	1.155
518	125.06	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.3	3.44E-02	1.000	2.433	1.161
519	125.06	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.2	3.39E-02	1.000	2.419	1.155
520	125.06	0.0	0.0	2.49E+04	3.19E-02	3.21E-02	2.4419	1.401E-02	4.123E-04	3.812E-04	314.3	3.44E-02	1.000	2.433	1.161

EDGE HEATING USED FOR ME  
 ME 3.07E+02 ML AMREFE 5.129E+01  
 ME 4.12E+01 ML AMREFE 0.440E+01  
 ME 4.37E+01 ML AMREFE 1.156E+01  
 ME 4.63E+01 ML AMREFE 1.133E+01  
 ME 4.89E+01 ML AMREFE 1.236E+01  
 ME 5.15E+01 ML AMREFE 1.337E+01  
 ME 5.41E+01 ML AMREFE 1.438E+01  
 ME 5.67E+01 ML AMREFE 1.539E+01

5.3-150



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

28	0.120E+01	ML	/HREFF=	6.442E+00
28	0.664E+01	ML	/HREFF=	2.736E+00
28	7.372E+01	ML	/HREFF=	3.419E+00
28	7.080E+01	ML	/HREFF=	3.959E+00
28	0.180E+01	ML	/HREFF=	4.199E+00
28	0.696E+01	ML	/HREFF=	7.574E+00
28	9.224E+01	ML	/HREFF=	2.273E+01
28	9.712E+01	ML	/HREFF=	2.596E+00
28	1.022E+02	ML	/HREFF=	2.149E+00
28	1.073E+02	ML	/HREFF=	1.729E+00
28	1.124E+02	ML	/HREFF=	1.384E+00
28	1.175E+02	ML	/HREFF=	1.164E+00
28	1.226E+02	ML	/HREFF=	1.075E+00
28	1.276E+02	ML	/HREFF=	9.270E-01
28	1.327E+02	ML	/HREFF=	6.735E-01
28	1.377E+02	ML	/HREFF=	7.970E-01
28	1.427E+02	ML	/HREFF=	2.730E-04
28	1.477E+02	ML	/HREFF=	7.317E-01
28	4.799E+01	ML	/HREFF=	9.326E-01
28	6.156E+01	ML	/HREFF=	1.567E+00
28	8.096E+01	ML	/HREFF=	3.050E+00
28	1.281E+02	ML	/HREFF=	7.095E-01

B-L TRANSITION DISTANCE = 38.73 CM  
 FULLY TURBULENT A.L. CONDITIONS AT = 61.88 CM





# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 113

AMES 3.5 FT PWT TEST (112), C-3, PLUMER, IN-LINE RSI GAP PUM( 57) 1073

TT = 1.1312E+11(K) GAP LENGTH = 101.523(CM)  
 FT = 1.6222E+03(N/M2) GAP WIDTH = .254(CM)  
 HT = 1.1373E+06(J/KG) GAP DEPTH = 3.511(CM)  
 RE/METER = 3.1767E+06 ORIENTATION = 15.700(DEG)  
 MACH = 5.107 QS = 1.2210E+05(W/M2)  
 RNC VEL = 4.1716E+11(KG/M2-S) YOC-POSITION = 1  
 HAN/HT = 2.5905 FOR HT  
 HAN/HT = 3.574 FOR HL  
 HLCC = HL(2NC, 3PDE: CONC.)\*

T/C	X (C4)	Y (C4)	ZZ (CM)	C (W/M2)	ML (KG/M2-S)	HT (KG/M2-S)	HL/HREF (KG/M2-S)	STL	STT	T (K)	HLCC (KG/M2-S)	ML/MLCC	MLCC/HREF	HL/NE
1	135.24	-51	0.00	2.22E+04	3.03E-02	2.97E-02	0.571	4.514E-02	7.396E-04	6.999E-04	309.4	1.000	1.000	1.000
2	132.70	-51	0.00	1.57E+04	2.29E-02	2.16E-02	0.570	3.541E-02	5.322E-04	5.261E-04	309.7	1.000	1.000	1.000
3	130.16	-51	0.00	1.04E+04	1.59E-02	1.49E-02	0.561	2.455E-02	4.995E-04	4.793E-04	309.7	1.000	1.000	1.000
4	127.63	-51	0.00	7.04E+03	1.09E-02	1.03E-02	0.543	1.699E-02	4.693E-04	4.229E-04	309.8	1.000	1.000	1.000
5	125.09	-51	0.00	4.84E+03	7.65E-03	7.37E-03	0.526	1.183E-02	4.392E-04	3.838E-04	309.7	1.000	1.000	1.000
6	122.56	-51	0.00	3.29E+03	5.17E-03	5.02E-03	0.509	8.032E-03	3.329E-04	3.154E-04	309.9	1.000	1.000	1.000
7	117.47	-51	0.00	2.24E+03	3.49E-03	3.37E-03	0.486	5.533E-03	2.747E-04	2.402E-04	310.0	1.000	1.000	1.000
8	112.37	-51	0.00	1.51E+03	2.38E-03	2.31E-03	0.463	3.745E-03	2.341E-04	2.218E-04	310.2	1.000	1.000	1.000
9	107.31	-51	0.00	1.00E+03	1.59E-03	1.53E-03	0.435	2.532E-03	2.044E-04	2.032E-04	310.3	1.000	1.000	1.000
10	102.24	-51	0.00	6.82E+02	1.09E-03	1.04E-03	0.406	1.745E-03	1.803E-04	1.898E-04	310.5	1.000	1.000	1.000
11	97.12	-51	0.00	4.62E+02	7.41E-04	7.16E-04	0.375	1.215E-03	1.596E-04	1.691E-04	311.0	1.000	1.000	1.000
12	92.04	-51	0.00	3.13E+02	5.07E-04	4.88E-04	0.343	8.210E-04	1.420E-04	1.515E-04	311.4	1.000	1.000	1.000
13	86.96	-51	0.00	2.12E+02	3.49E-04	3.36E-04	0.309	5.699E-04	1.274E-04	1.369E-04	311.9	1.000	1.000	1.000
14	81.88	-51	0.00	1.42E+02	2.41E-04	2.34E-04	0.270	3.934E-04	1.137E-04	1.232E-04	312.6	1.000	1.000	1.000
15	76.80	-51	0.00	9.51E+01	1.62E-04	1.58E-04	0.233	2.634E-04	1.037E-04	1.132E-04	313.5	1.000	1.000	1.000
16	71.72	-51	0.00	6.32E+01	1.09E-04	1.07E-04	0.200	1.779E-04	9.779E-05	1.073E-04	314.5	1.000	1.000	1.000
17	66.64	-51	0.00	4.22E+01	7.27E-05	7.13E-05	0.174	1.225E-04	9.311E-05	1.011E-04	315.9	1.000	1.000	1.000
18	61.56	-51	0.00	2.81E+01	4.81E-05	4.71E-05	0.151	8.180E-05	8.600E-05	9.611E-05	317.4	1.000	1.000	1.000
19	56.48	-51	0.00	1.82E+01	3.18E-05	3.13E-05	0.131	5.499E-05	7.372E-05	8.363E-05	319.0	1.000	1.000	1.000
20	51.40	-51	0.00	1.19E+01	2.12E-05	2.09E-05	0.113	3.735E-05	6.249E-05	7.249E-05	320.7	1.000	1.000	1.000
21	46.32	-51	0.00	8.12E+00	1.42E-05	1.40E-05	0.098	2.578E-05	5.278E-05	6.242E-05	322.5	1.000	1.000	1.000
22	41.24	-51	0.00	5.33E+00	9.41E-06	9.28E-06	0.083	1.742E-05	4.420E-05	5.369E-05	324.4	1.000	1.000	1.000
23	36.16	-51	0.00	3.54E+00	6.28E-06	6.21E-06	0.070	1.185E-05	3.620E-05	4.571E-05	326.4	1.000	1.000	1.000
24	31.08	-51	0.00	2.35E+00	4.19E-06	4.13E-06	0.058	8.152E-06	2.985E-05	3.620E-05	328.5	1.000	1.000	1.000
25	26.00	-51	0.00	1.56E+00	2.82E-06	2.78E-06	0.045	5.495E-06	2.329E-05	2.829E-05	330.7	1.000	1.000	1.000
103	47.59	1.72	0.00	3.77E+03	1.20E-02	1.14E-02	0.597	1.241E-02	2.922E-04	2.767E-04	310.1	1.000	0.99	1.187
104	47.59	1.72	0.00	1.78E+04	1.39E-02	1.31E-02	1.157	1.241E-02	3.146E-04	3.296E-04	319.4	1.000	1.04	1.202
105	47.59	1.72	0.00	1.21E+04	1.05E-02	1.00E-02	1.206	1.242E-02	3.087E-04	3.091E-04	318.6	1.000	1.244	1.395
106	47.59	1.72	0.00	8.15E+03	7.45E-03	7.15E-03	1.215	1.242E-02	3.033E-04	3.009E-04	317.5	1.000	1.218	1.362
107	47.59	1.72	0.00	5.49E+03	5.07E-03	4.88E-03	1.201	1.242E-02	3.015E-04	3.006E-04	316.1	1.000	1.028	1.184
108	47.59	1.72	0.00	3.77E+03	3.49E-03	3.37E-03	0.93	1.242E-02	2.687E-04	2.686E-04	315.3	1.000	0.993	1.084
109	47.59	1.72	0.00	2.51E+03	2.38E-03	2.31E-03	0.87	1.242E-02	2.037E-04	2.033E-04	314.4	1.000	0.87	0.762
110	47.59	1.72	0.00	1.62E+03	1.59E-03	1.53E-03	0.81	1.242E-02	1.424E-04	1.424E-04	313.1	1.000	0.80	0.537
111	47.59	1.72	0.00	1.09E+03	1.09E-03	1.04E-03	0.70	1.242E-02	9.779E-05	9.779E-05	311.9	1.000	0.70	0.377
112	47.59	1.72	0.00	7.41E+02	7.41E-04	7.16E-04	0.63	1.242E-02	6.375E-05	6.375E-05	310.5	1.000	0.63	0.24
113	47.59	1.72	0.00	4.84E+02	5.07E-04	4.88E-04	0.54	1.242E-02	4.420E-05	4.420E-05	309.8	1.000	0.54	0.16
114	47.59	1.72	0.00	3.13E+02	3.49E-04	3.36E-04	0.46	1.242E-02	3.033E-05	3.033E-05	309.7	1.000	0.46	0.11
115	47.59	1.72	0.00	2.12E+02	2.41E-04	2.34E-04	0.39	1.242E-02	2.044E-05	2.044E-05	309.9	1.000	0.39	0.07
203	61.56	1.72	0.00	7.04E+03	1.09E-02	1.03E-02	1.158	1.094E-02	2.642E-04	2.506E-04	314.5	1.000	1.052	1.139
204	61.56	1.72	0.00	4.84E+03	7.65E-03	7.37E-03	1.113	1.094E-02	2.531E-04	2.374E-04	315.2	1.000	1.011	1.074
205	61.56	1.72	0.00	3.29E+03	5.17E-03	5.02E-03	1.019	1.094E-02	2.395E-04	2.174E-04	315.9	1.000	0.919	0.824
206	61.56	1.72	0.00	2.24E+03	3.49E-03	3.37E-03	0.872	1.094E-02	2.177E-04	2.062E-04	316.6	1.000	0.872	0.785
207	61.56	1.72	0.00	1.51E+03	2.38E-03	2.31E-03	0.747	1.094E-02	1.865E-04	1.760E-04	317.4	1.000	0.747	0.665



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

REPORT MDC E1248  
JSC 09651

T/C	X (CM)	Y (CM)	Z (CM)	ZZ (M/M <sup>2</sup> )	HL (KG/M <sup>2</sup> -S)	HT (KG/M <sup>2</sup> -S)	HL/HREF	HREF (KG/M <sup>2</sup> -S)	STL	STT	T (K)	MLCC (K/M <sup>2</sup> -S)	ML/MLCC	MLCC/HREF	HL/ME
211	61.56	7.32	15	1.75E+33	5.49E-03	6.15E-03	6.13	1.25E-02	1.502E-04	1.490E-04	311.4	6.69E-03	1.000	.633	.632
212	61.56	8.09	25	7.87E+33	5.20E-03	4.93E-03	5.08	1.125E-02	1.269E-04	1.272E-04	313.4	5.20E-03	1.000	.508	.668
700	99.79	7.71	2.26								305.31				
214	61.56	7.07	64	3.67E+32	4.98E-14	4.72E-04	0.49	1.225E-12	1.215E-05	1.151E-05	307.9	4.98E-04	1.000	.049	.064
215	61.56	7.32	89	3.55E+30	4.32E-16	4.79E-06	0.48	9.63E-03	1.055E-07	9.379E-08	330.7	4.32E-06	1.000	.000	.001
306	86.96	7.76	2.00	3.24E+32	6.93E-14	4.37E-06	0.48	9.673E-03	1.128E-05	1.066E-05	330.5	4.63E-06	1.000	.000	.009
307	86.96	8.51	2.00	1.75E+34	1.43E-12	1.36E-02	1.461	9.483E-03	3.437E-04	3.313E-04	311.6	1.43E-12	1.000	1.401	1.020
309	86.96	15	2.00	1.75E+34	1.43E-12	1.34E-02	1.456	9.487E-03	3.439E-04	3.280E-04	311.1	1.43E-12	1.000	1.456	1.797
310	86.96	0.04	15	1.75E+34	1.37E-12	1.38E-02	1.416	9.492E-03	3.345E-04	3.170E-04	313.6	1.37E-12	1.000	1.416	1.747
311	86.96	1.03	15	7.85E+33	1.27E-12	1.21E-12	1.315	9.494E-03	3.177E-04	2.944E-04	313.9	1.27E-12	1.000	1.315	1.622
312	86.96	3.39	26	7.85E+33	0.65E-13	9.15E-03	0.996	9.494E-03	2.354E-04	2.338E-04	309.7	9.65E-03	1.000	0.996	1.229
313	86.96	3.77	30	9.94E+33	6.72E-03	6.37E-03	0.693	9.494E-03	1.639E-04	1.522E-04	309.0	6.72E-03	1.000	0.693	0.855
314	86.96	3.77	44	2.92E+33	3.67E-03	3.47E-03	0.378	9.494E-03	0.938E-05	0.470E-05	308.2	3.67E-03	1.000	0.378	0.467
315	86.96	0.71	89	1.73E+33	2.76E-13	2.22E-11	0.242	9.494E-03	5.724E-05	5.426E-05	307.6	2.76E-13	1.000	0.242	0.299
316	86.96	0.71	114	1.82E+33	1.73E-03	1.64E-03	0.179	9.494E-03	4.627E-05	4.806E-05	307.2	1.73E-03	1.000	0.179	0.221
317	86.96	1.13	140	9.35E+32	1.20E-03	1.27E-03	0.130	9.494E-03	3.756E-05	2.915E-05	306.7	1.20E-03	1.000	0.130	0.161
318	86.96	2.71	165	6.29E+32	5.74E-04	6.01E-04	0.087	9.494E-03	1.932E-05	1.954E-05	306.6	0.46E-04	1.000	0.007	0.100
319	86.96	0.71	190	4.79E+32	2.76E-04	2.62E-04	0.129	9.494E-03	6.737E-06	6.385E-06	306.3	2.76E-04	1.000	0.129	0.132
320	86.96	1.13	229	2.74E+32	2.76E-04	2.21E-02	0.730	3.335E-02	5.098E-04	5.389E-04	310.2	2.76E-04	1.000	0.699	1.200
506	125.06	7.76	1.00	1.53E+34	2.22E-02	2.11E-02	0.664	3.341E-02	5.413E-04	5.129E-04	309.8	2.22E-02	1.000	0.664	1.223
508	125.06	2.25	2.00	1.61E+34	2.22E-02	2.38E-02	0.656	3.347E-02	5.353E-04	5.174E-04	309.1	2.22E-02	1.000	0.656	1.208
509	125.06	1.18	3.00	1.41E+34	1.99E-02	1.96E-02	0.585	3.350E-02	4.776E-04	4.522E-04	308.2	1.96E-02	1.000	0.505	1.077
510	125.06	0.74	0.04	1.31E+34	1.74E-02	1.59E-02	0.532	3.352E-02	4.349E-04	4.121E-04	308.5	1.74E-02	1.000	0.532	0.979
511	125.06	0.71	15	1.24E+34	1.69E-02	1.55E-02	0.525	3.353E-02	4.125E-04	3.939E-04	308.5	1.69E-02	1.000	0.505	0.929
512	125.06	0.71	26	1.27E+34	1.39E-02	1.31E-02	0.413	3.353E-02	3.377E-04	3.200E-04	308.5	1.39E-02	1.000	0.413	0.760
513	125.06	0.71	36	7.14E+33	1.49E-02	9.93E-03	0.312	3.353E-02	2.554E-04	2.442E-04	308.6	1.49E-02	1.000	0.312	0.575
514	125.06	0.71	64	7.65E+33	4.92E-03	4.65E-03	0.146	3.353E-02	1.277E-04	1.144E-04	307.3	4.95E-03	1.000	0.148	0.272
515	125.06	0.71	89	2.92E+33	2.32E-03	2.10E-03	0.169	3.353E-02	5.515E-05	5.323E-05	305.5	2.30E-03	1.000	0.169	0.126
516	125.06	0.71	114	1.84E+33	1.60E-03	1.52E-03	0.142	3.353E-02	3.931E-05	3.706E-05	306.4	1.60E-03	1.000	0.142	0.108
517	125.06	0.71	140	5.44E+32	3.44E-04	6.32E-04	0.228	3.353E-02	2.631E-05	2.616E-05	305.2	3.44E-04	1.000	0.228	0.152
518	125.06	0.71	165	5.44E+32	7.42E-04	7.73E-04	0.228	3.353E-02	1.917E-05	1.715E-05	305.2	7.42E-04	1.000	0.228	0.152
519	125.06	0.71	190	7.45E+32	4.67E-04	4.43E-04	0.14	3.353E-02	1.139E-05	1.000E-05	305.6	4.67E-04	1.000	0.14	0.104
520	125.06	0.71	229	2.82E+32	2.92E-04	2.92E-04	0.09	3.353E-02	7.096E-06	6.717E-06	305.1	2.92E-04	1.000	0.09	0.069

EDGE HEATING USED FOR ME  
 PR 3.37E+31 ML /MSFFR 5.23E+31  
 PR 4.02E+31 ML /MSFFR 9.31E+31  
 PR 4.37E+31 ML /MSFFR 9.19E+31  
 PR 4.67E+31 ML /MSFFR 9.37E+31  
 PR 5.03E+31 ML /MSFFR 6.59E+31  
 PR 5.19E+31 ML /MSFFR 6.41E+31  
 PR 5.24E+31 ML /MSFFR 7.31E+31



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

XX	0.170E+01	ML	/MREFF	6.712E-01
XX	0.664E+01	ML	/MREFF	7.437E-01
XX	7.125E+01	ML	/MREFF	7.274E-01
XX	7.697E+01	ML	/MREFF	7.331E-01
XX	0.180E+01	ML	/MREFF	6.136E-01
XX	0.696E+01	ML	/MREFF	6.13E-01
XX	9.274E+01	ML	/MREFF	7.725E-01
XX	9.712E+01	ML	/MREFF	6.793E-01
XX	1.022E+02	ML	/MREFF	6.457E-01
XX	1.073E+02	ML	/MREFF	6.277E-01
XX	1.124E+02	ML	/MREFF	5.461E-01
XX	1.175E+02	ML	/MREFF	5.394E-01
XX	1.226E+02	ML	/MREFF	5.372E-01
XX	1.277E+02	ML	/MREFF	5.433E-01
XX	1.328E+02	ML	/MREFF	5.635E-01
XX	1.379E+02	ML	/MREFF	5.778E-01
XX	1.430E+02	ML	/MREFF	6.712E-01
XX	1.481E+01	ML	/MREFF	1.249E+01
XX	0.156E+01	ML	/MREFF	9.192E-01
XX	0.636E+01	ML	/MREFF	4.702E-02
XX	1.271E+02	ML	/MREFF	6.646E-01

Ball TRANSITION DISTANCE = 76.9" CM  
 FULLY TURBULENT BALL CONDITIONS AT 0.376.63 CM



RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 115

AMES 3.5 FT HMT TEST (1E2), G.E. BLUMER, IN-LINE RSI GAP RUN ( 50) 1973

TT = 1.114E+07 (N) GAP LENGTH = 101.680 (CM)  
 PT = 2.5127E+16 (M/MT) GAP WIDTH = .354 (CM)  
 HT = 1.1322E+06 (G/KG) GAP DEPTH = 3.511 (CM)  
 RE/METER = 5.5E+07 (A) ORIENTATION = 19.380 (DEG)  
 PACH = 5.113 75 = 1.7021E+05 (M/MT)  
 RMO VEL = 3.4272E+11 (KG/PS-S) 400.POSITION = 1  
 HAW/MT = 3.918 FOR HT  
 HAW/MT = R-8% FOR HL  
 HLCC = HL(ENC. 3)OPD COND.,)

T/C	X (CM)	Y (CM)	Z (CM)	G (M/MT)	HL (KG/M2-S)	MT (KG/M2-S)	HL/MREF	MREF (KG/M2-S)	STL	SIT	T (K)	HLCC (KG/M2-S)	HL/MLCG	HLCC/MREF	HL/ML
1	135.24	-51	0.70	5.20E+14	7.39E-02	6.99E-02	.030	2.64E+02	9.75E-01	0.329E-04	315.2	1.97E-02	1.000	1.15E	1.000
2	132.78	-51	0.80	5.32E+14	7.61E-02	7.04E-02	.063	5.50E+02	0.70E-01	0.321E-04	315.5	2.39E-02	1.000	1.450	1.000
3	130.18	-51	1.20	5.21E+14	7.26E-02	5.82E-02	.070	5.34E+02	3.61E-01	0.158E-04	315.3	3.44E-02	1.000	1.907	1.000
4	127.63	-51	1.60	5.35E+14	7.48E-02	7.49E-02	.922	8.11E+02	5.07E-01	0.405E-04	315.1	3.41E-02	1.000	2.169	1.000
5	125.09	-51	2.00	5.39E+14	7.53E-02	7.13E-02	.955	7.50E+02	0.932E-01	0.457E-04	315.3	2.78E-02	1.000	1.835	1.000
6	122.56	-51	2.40	5.33E+14	7.68E-02	7.27E-02	1.004	7.64E+02	3.11E-01	0.627E-04	315.1	2.44E-02	1.000	1.599	1.000
7	119.97	-51	2.80	5.67E+14	7.92E-02	7.53E-02	1.123	7.64E+02	1.394E-01	0.895E-04	315.1	2.44E-02	1.000	1.599	1.000
8	117.37	-51	3.20	5.58E+14	7.98E-02	7.38E-02	1.267	6.154E+02	9.25E-01	0.764E-04	315.2	4.00E-02	1.000	1.847	1.000
9	114.71	-51	3.60	5.37E+14	7.85E-02	7.35E-02	1.472	5.063E+02	8.04E-01	0.571E-04	315.2	4.00E-02	1.000	1.847	1.000
10	112.02	-51	4.00	4.70E+14	6.59E-02	5.34E-02	1.637	4.089E+02	7.54E-01	0.371E-04	315.2	4.00E-02	1.000	1.847	1.000
11	97.12	-51	3.00	4.90E+14	5.45E-02	5.16E-02	1.649	3.306E+02	6.469E-01	0.125E-04	315.5	3.07E-02	1.000	1.450	1.000
12	92.74	-51	3.70	3.17E+14	4.44E-02	4.21E-02	1.672	2.615E+02	5.267E-01	0.987E-04	315.9	3.07E-02	1.000	1.450	1.000
13	86.98	-51	4.00	2.64E+14	3.73E-02	3.51E-02	1.694	2.185E+02	4.391E-01	0.167E-04	316.4	3.07E-02	1.000	1.450	1.000
14	81.11	-51	4.00	2.42E+14	3.39E-02	3.24E-02	1.696	1.787E+02	4.020E-01	3.506E-04	317.0	3.07E-02	1.000	1.450	1.000
15	76.71	-51	4.00	1.82E+14	2.81E-02	2.38E-02	1.429	1.444E+02	2.619E-01	2.479E-04	317.1	3.07E-02	1.000	1.450	1.000
16	71.71	-51	4.00	1.15E+14	1.82E-02	1.35E-02	1.822	1.391E+02	1.667E-01	1.597E-04	317.5	3.07E-02	1.000	1.450	1.000
17	65.71	-51	4.00	6.70E+13	1.22E-02	1.15E-02	.891	1.268E+02	1.447E-01	1.370E-04	317.8	3.07E-02	1.000	1.450	1.000
18	51.56	-51	4.00	9.64E+13	1.31E-02	1.15E-02	.070	1.112E+02	1.457E-01	1.360E-04	318.5	3.07E-02	1.000	1.450	1.000
19	56.08	-51	4.00	9.64E+13	1.16E-02	1.27E-02	.890	1.493E+02	1.591E-01	1.576E-04	319.2	3.07E-02	1.000	1.450	1.000
20	51.39	-51	4.00	1.14E+14	1.46E-02	1.38E-02	.917	1.590E+02	1.731E-01	1.638E-04	319.5	3.07E-02	1.000	1.450	1.000
21	46.05	-51	4.00	1.14E+14	1.61E-02	1.45E-02	.939	1.631E+02	1.817E-01	1.723E-04	319.7	3.07E-02	1.000	1.450	1.000
22	46.31	-51	4.00	1.14E+14	1.61E-02	1.52E-02	.948	1.622E+02	1.909E-01	1.807E-04	320.0	3.07E-02	1.000	1.450	1.000
23	43.77	-51	4.00	1.19E+14	1.87E-02	1.68E-02	.946	1.694E+02	1.992E-01	1.876E-04	320.7	3.07E-02	1.000	1.450	1.000
24	41.24	-51	4.00	1.21E+14	1.75E-02	1.65E-02	1.117	1.725E+02	2.091E-01	1.973E-04	320.6	3.07E-02	1.000	1.450	1.000
25	38.78	-51	4.00	1.24E+14	1.75E-02	1.55E-02	.905	1.756E+02	2.074E-01	1.963E-04	320.8	3.07E-02	1.000	1.450	1.000
26	47.59	1.50	4.00	1.32E+14	1.59E-02	1.91E-02	1.155	1.647E+02	2.259E-01	2.137E-04	320.9	1.97E-02	1.000	1.15E	1.000
27	47.59	1.50	4.00	1.66E+14	2.39E-02	2.26E-02	1.455	1.646E+02	2.337E-01	2.680E-04	320.5	2.39E-02	1.000	1.500	1.000
28	47.59	1.50	4.00	2.21E+14	3.44E-02	2.97E-02	1.937	1.646E+02	3.723E-01	3.525E-04	325.7	3.44E-02	1.000	1.907	1.000
29	47.59	1.50	4.00	2.81E+14	3.42E-02	3.25E-02	2.056	1.646E+02	4.032E-01	3.924E-04	324.2	3.44E-02	1.000	2.169	1.000
30	47.59	1.50	4.00	2.81E+14	3.42E-02	2.58E-02	1.835	1.646E+02	3.535E-01	3.931E-04	323.2	3.07E-02	1.000	1.835	1.000
31	47.59	1.50	4.00	1.92E+14	2.75E-02	2.59E-02	1.630	1.646E+02	3.272E-01	3.031E-04	323.2	2.78E-02	1.000	1.639	1.000
32	47.59	1.50	4.00	1.12E+14	2.44E-02	2.38E-02	1.299	1.646E+02	2.533E-01	2.463E-04	319.3	2.44E-02	1.000	1.299	1.000
33	47.59	1.50	4.00	1.12E+14	1.87E-02	1.48E-02	.951	1.646E+02	1.959E-01	1.713E-04	317.6	1.87E-02	1.000	.951	1.000
34	47.59	1.50	4.00	1.12E+14	1.70E-02	1.36E-02	.672	1.646E+02	9.227E-01	0.737E-04	315.1	1.70E-02	1.000	.672	1.000
35	47.59	1.50	4.00	1.12E+14	1.70E-02	1.36E-02	.674	1.646E+02	1.070E-01	4.514E-05	315.9	4.00E-02	1.000	.674	1.000
36	61.56	1.50	4.00	2.07E+14	1.72E-02	3.57E-02	2.750	1.646E+02	4.575E-01	4.349E-04	325.1	3.07E-02	1.000	2.750	1.000
37	61.56	1.50	4.00	2.07E+14	1.72E-02	3.57E-02	2.750	1.646E+02	4.575E-01	4.349E-04	325.1	3.07E-02	1.000	2.750	1.000
38	61.56	1.50	4.00	2.07E+14	1.72E-02	2.46E-02	1.649	1.646E+02	3.032E-01	3.282E-04	323.9	2.99E-02	1.000	2.177	1.000
39	61.56	1.50	4.00	2.07E+14	1.72E-02	2.46E-02	1.649	1.646E+02	3.032E-01	3.282E-04	323.9	2.99E-02	1.000	2.177	1.000
40	61.56	1.50	4.00	2.07E+14	1.72E-02	2.46E-02	1.649	1.646E+02	3.032E-01	3.282E-04	323.9	2.99E-02	1.000	2.177	1.000
41	61.56	1.50	4.00	2.07E+14	1.72E-02	2.46E-02	1.649	1.646E+02	3.032E-01	3.282E-04	323.9	2.99E-02	1.000	2.177	1.000
42	61.56	1.50	4.00	2.07E+14	1.72E-02	2.46E-02	1.649	1.646E+02	3.032E-01	3.282E-04	323.9	2.99E-02	1.000	2.177	1.000

ORIGINAL PAGE IS  
OF FOUR QUALITY

5.3-155



RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 115

AMEC 1.0 FT HWT TEST (1820), 3.0. BLUMER, IN-LINE RSI GAP KUR( 20) 1373

T/C	Y (CM)	YV (CM)	ZZ (CM)	C (M/M2)	ML (KG/M2-S)	MT (KG/M2-S)	ML/MREF	MREF (KG/M2-S)	STL	IT	T (K)	MLCC (KG/M2-S)	ML/MCC	MCCG/MREF	ML/MC
211	61.56	0.00	0.00	1.02E+04	1.49E-02	1.78E-02	1.330	1.470E-02	2.169E-04	2.073E-04	316.5	1.68E-02	1.000	1.000	1.585
212	61.56	0.00	0.00	1.02E+04	1.49E-02	1.39E-02	1.040	1.409E-02	1.739E-04	1.646E-04	313.8	1.47E-02	1.000	1.000	1.195
213	61.56	0.00	0.00	1.02E+04	1.49E-02	1.38E-02	0.001	1.409E-02	1.300E-07	1.265E-07	334.6	1.15E-05	1.000	0.001	0.001
214	61.56	0.00	0.00	1.02E+04	1.49E-02	3.26E-03	0.244	1.409E-02	4.081E-05	3.666E-05	309.3	1.44E-03	1.000	0.244	0.244
215	61.56	0.00	0.00	1.02E+04	1.49E-02	1.94E-02	0.903	2.016E-02	2.309E-04	2.182E-04	340.3	1.98E-02	1.000	0.903	0.903
216	61.56	0.00	0.00	1.02E+04	1.49E-02	6.07E-02	2.364	2.016E-02	7.807E-04	7.202E-04	315.6	6.41E-02	1.000	2.364	1.750
217	61.56	0.00	0.00	1.02E+04	1.49E-02	5.79E-02	2.426	2.016E-02	7.262E-04	6.677E-04	314.9	6.12E-02	1.000	2.426	1.668
218	61.56	0.00	0.00	1.02E+04	1.49E-02	5.58E-02	2.717	2.016E-02	6.933E-04	6.422E-04	314.4	5.80E-02	1.000	2.717	1.604
219	61.56	0.00	0.00	1.02E+04	1.49E-02	5.21E-02	2.533	2.016E-02	6.330E-04	6.188E-04	313.5	5.52E-02	1.000	2.533	1.492
220	61.56	0.00	0.00	1.02E+04	1.49E-02	3.32E-02	1.940	2.016E-02	4.994E-04	4.793E-04	311.6	4.21E-02	1.000	1.940	1.145
221	61.56	0.00	0.00	1.02E+04	1.49E-02	1.78E-02	1.470	2.016E-02	3.764E-04	3.584E-04	309.4	3.19E-02	1.000	1.470	0.868
222	61.56	0.00	0.00	1.02E+04	1.49E-02	1.78E-02	0.548	2.016E-02	1.412E-04	1.337E-04	308.9	1.19E-02	1.000	0.548	0.324
223	61.56	0.00	0.00	1.02E+04	1.49E-02	7.35E-03	0.185	2.016E-02	9.921E-05	9.399E-05	308.2	0.36E-03	1.000	0.185	0.114
224	61.56	0.00	0.00	1.02E+04	1.49E-02	5.32E-03	0.261	2.016E-02	6.728E-05	6.373E-05	307.5	0.67E-03	1.000	0.261	0.154
225	61.56	0.00	0.00	1.02E+04	1.49E-02	3.78E-03	0.184	2.016E-02	4.732E-05	4.464E-05	307.3	3.98E-03	1.000	0.184	0.108
226	61.56	0.00	0.00	1.02E+04	1.49E-02	3.36E-03	0.115	2.016E-02	2.958E-05	2.802E-05	306.9	2.49E-03	1.000	0.115	0.068
227	61.56	0.00	0.00	1.02E+04	1.49E-02	1.33E-03	0.000	2.016E-02	1.950E-05	1.878E-05	305.8	1.44E-03	1.000	0.000	0.065
228	61.56	0.00	0.00	1.02E+04	1.49E-02	5.21E-02	7.330	7.911E-02	6.929E-04	6.516E-04	315.1	5.84E-02	1.000	7.330	0.772
229	61.56	0.00	0.00	1.02E+04	1.49E-02	5.21E-02	0.596	7.911E-02	6.930E-04	6.516E-04	314.6	5.50E-02	1.000	0.596	0.728
230	61.56	0.00	0.00	1.02E+04	1.49E-02	4.84E-02	0.647	7.911E-02	6.830E-04	6.414E-04	314.6	5.12E-02	1.000	0.647	0.677
231	61.56	0.00	0.00	1.02E+04	1.49E-02	4.19E-02	0.542	7.911E-02	5.876E-04	5.442E-04	312.5	4.28E-02	1.000	0.542	0.567
232	61.56	0.00	0.00	1.02E+04	1.49E-02	3.01E-02	0.489	7.911E-02	4.281E-04	4.008E-04	312.7	3.86E-02	1.000	0.489	0.512
233	61.56	0.00	0.00	1.02E+04	1.49E-02	3.49E-02	0.456	7.911E-02	4.259E-04	4.033E-04	312.6	3.59E-02	1.000	0.456	0.476
234	61.56	0.00	0.00	1.02E+04	1.49E-02	2.71E-02	0.363	7.911E-02	3.196E-04	3.015E-04	312.1	2.68E-02	1.000	0.363	0.379
235	61.56	0.00	0.00	1.02E+04	1.49E-02	2.15E-02	0.266	7.911E-02	2.895E-04	2.553E-04	311.4	2.27E-02	1.000	0.266	0.301
236	61.56	0.00	0.00	1.02E+04	1.49E-02	1.11E-02	0.171	7.911E-02	1.814E-04	1.739E-04	310.1	1.12E-02	1.000	0.171	0.158
237	61.56	0.00	0.00	1.02E+04	1.49E-02	7.11E-03	0.095	7.911E-02	1.326E-05	1.258E-05	308.6	7.99E-03	1.000	0.095	0.100
238	61.56	0.00	0.00	1.02E+04	1.49E-02	5.65E-03	0.075	7.911E-02	7.734E-05	7.564E-05	308.3	5.93E-03	1.000	0.075	0.075
239	61.56	0.00	0.00	1.02E+04	1.49E-02	4.24E-03	0.057	7.911E-02	5.003E-05	5.030E-05	307.9	4.47E-03	1.000	0.057	0.059
240	61.56	0.00	0.00	1.02E+04	1.49E-02	3.51E-03	0.047	7.911E-02	4.131E-05	4.160E-05	307.3	3.76E-03	1.000	0.047	0.049
241	61.56	0.00	0.00	1.02E+04	1.49E-02	3.26E-03	0.044	7.911E-02	4.015E-05	3.889E-05	306.6	3.46E-03	1.000	0.044	0.046
242	61.56	0.00	0.00	1.02E+04	1.49E-02	2.97E-03	0.041	7.911E-02	3.724E-05	3.529E-05	306.3	3.14E-03	1.000	0.041	0.042

EDGE HEATING USED FOR HT

243	3.07E+01	ML	/MREF	5.317E+01
244	4.124E+01	ML	/MREF	1.117E+01
245	4.377E+01	ML	/MREF	9.403E+01
246	4.631E+01	ML	/MREF	6.075E+01
247	4.885E+01	ML	/MREF	9.749E+01
248	5.139E+01	ML	/MREF	5.172E+01
249	5.393E+01	ML	/MREF	2.094E+01



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

24	9.330E+01	ML	/MSEFFS	6.033E-01
25	6.0647E+01	ML	/MSEFFS	6.033E-01
26	7.372E+01	ML	/MSEFFS	1.22E+00
27	7.039E+01	ML	/MSEFFS	1.420E+00
28	8.148E+01	ML	/MSEFFS	1.896E+00
29	8.006E+01	ML	/MSEFFS	1.834E+00
30	9.274E+01	ML	/MSEFFS	1.672E+00
31	9.712E+01	ML	/MSEFFS	1.649E+00
32	1.222E+02	ML	/MSEFFS	1.637E+00
33	1.073E+02	ML	/MSEFFS	1.472E+00
34	1.124E+02	ML	/MSEFFS	1.257E+00
35	1.175E+02	ML	/MSEFFS	1.233E+00
36	1.226E+02	ML	/MSEFFS	1.574E+00
37	1.291E+02	ML	/MSEFFS	9.551E-01
38	1.276E+02	ML	/MSEFFS	9.218E-01
39	1.302E+02	ML	/MSEFFS	8.698E-01
40	1.327E+02	ML	/MSEFFS	8.630E-01
41	1.352E+02	ML	/MSEFFS	8.300E-01
42	4.759E+01	ML	/MSEFFS	1.07E+00
43	6.136E+01	ML	/MSEFFS	2.77E+00
44	8.696E+01	ML	/MSEFFS	9.62E-01
45	1.051E+02	ML	/MSEFFS	6.96E-01

94. TRANSITION DISTANCE = 66.64 CP  
 FULLY TURBULENT R.L. CONDITIONS AT = 81.89 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 117

AVCS 34.5 FT HNT TEST (1-7), C.P. 3LU4FD, IN-LINE PSI GAP FUI ( 3) 1373

VT = 1.113E+13(K)  
 GAP LENGTH = 101.65(CM)  
 GAP WIDTH = .254(CM)  
 GAP DEPTH = 3.81(CM)  
 JOINTATION = 5.04( DEG)  
 JS = 1.224E+5(W/M2)  
 MACH = 5.12  
 PWC VEL = 4.76E+3(KG/M2-S)  
 HAM/HT = 1.99 FOR HT  
 HAM/HT = 0.8% FOR HL  
 HLCC = ML(2ND, OR 3RD CONC.)

T/C	X (C)	Y (C)	Z (C)	G (W/M2)	ML (KG/M2-S)	MT (KG/M2-S)	ML/MREF	HREF (KG/M2-S)	STL	STT	T (K)	HLCC (K/M2-S)	ML/HLCC	HLCC/MREF	HL/HE
1	135.74	-0.1	7.10	1.20E+01	4.31E-02	4.31E-02	.909	4.70E-02	1.74E-03	9.867E-04	309.1	1.12E-02	1.000	1.000	
2	132.70	-0.1	7.10	3.21E+01	4.31E-02	4.31E-02	.965	4.70E-02	1.039E-03	9.862E-04	309.4	1.27E-02	1.000	1.000	
3	130.16	-0.1	7.10	3.91E+01	4.31E-02	4.31E-02	.980	4.40E-02	9.879E-04	9.358E-04	309.4	1.67E-02	1.000	1.000	
4	127.63	-0.1	7.10	3.11E+01	4.25E-02	4.25E-02	1.130	4.09E-02	9.729E-04	9.245E-04	309.3	2.21E-02	1.000	1.000	
5	125.09	-0.1	7.10	2.94E+01	4.11E-02	3.89E-02	1.081	3.79E-02	9.474E-04	8.907E-04	309.4	2.80E-02	1.000	1.000	
6	122.56	-0.1	7.10	2.64E+01	3.66E-02	3.75E-02	1.132	2.90E-02	9.363E-04	8.587E-04	309.2	3.48E-02	1.000	1.000	
7	120.03	-0.1	7.10	2.32E+01	3.23E-02	3.46E-02	1.160	2.37E-02	7.408E-04	7.938E-04	309.2	4.36E-02	1.000	1.000	
8	117.50	-0.1	7.10	2.15E+01	2.86E-02	2.74E-02	1.462	1.95E-02	6.556E-04	6.243E-04	309.1	5.44E-02	1.000	1.000	
9	114.97	-0.1	7.10	1.78E+01	2.49E-02	2.36E-02	1.572	1.62E-02	5.697E-04	5.336E-04	309.1	6.81E-02	1.000	1.000	
10	112.44	-0.1	7.10	1.57E+01	2.09E-02	1.98E-02	1.542	1.35E-02	4.759E-04	4.585E-04	309.1	8.44E-02	1.000	1.000	
11	97.12	-0.1	7.10	1.31E+01	1.59E-02	1.59E-02	1.671	1.16E-02	4.344E-04	4.111E-04	309.3	1.04E-01	1.000	1.000	
12	92.64	-0.1	7.10	1.15E+01	1.57E-02	1.49E-02	1.496	1.05E-02	3.667E-04	3.440E-04	309.6	1.30E-01	1.000	1.000	
13	88.06	-0.1	7.10	9.50E+00	1.35E-02	1.20E-02	1.340	9.76E-03	3.132E-04	2.938E-04	310.1	1.63E-01	1.000	1.000	
14	81.08	-0.1	7.10	7.12E+00	9.66E-03	9.43E-03	1.039	8.59E-03	2.245E-04	2.165E-04	310.3	2.15E-01	1.000	1.000	
15	78.98	-0.1	7.10	6.22E+00	7.87E-03	7.85E-03	.877	9.74E-03	1.802E-04	1.777E-04	310.8	2.79E-01	1.000	1.000	
16	71.72	-0.1	7.10	5.27E+00	7.30E-03	6.99E-03	.731	1.01E-02	1.691E-04	1.601E-04	311.0	3.61E-01	1.000	1.000	
17	66.64	-0.1	7.10	4.72E+00	5.25E-03	7.59E-03	.763	1.65E-02	1.837E-04	1.743E-04	312.2	4.80E-01	1.000	1.000	
18	61.56	-0.1	7.10	4.77E+00	3.64E-03	4.97E-03	.846	1.12E-02	2.171E-04	2.057E-04	313.0	6.44E-01	1.000	1.000	
19	56.48	-0.1	7.10	4.56E+00	1.86E-02	1.81E-02	.890	1.19E-02	2.432E-04	2.373E-04	313.5	8.54E-01	1.000	1.000	
20	51.39	-0.1	7.10	4.75E+00	1.13E-02	1.17E-02	.923	1.22E-02	2.598E-04	2.460E-04	313.5	1.12E-01	1.000	1.000	
21	49.86	-0.1	7.10	4.43E+00	1.14E-02	1.12E-02	.936	1.26E-02	2.712E-04	2.567E-04	314.0	1.44E-01	1.000	1.000	
22	46.31	-0.1	7.10	3.63E+00	1.21E-02	1.15E-02	.930	1.30E-02	2.779E-04	2.638E-04	314.1	1.83E-01	1.000	1.000	
23	43.77	-0.1	7.10	3.65E+00	1.26E-02	1.15E-02	.916	1.74E-02	2.839E-04	2.716E-04	314.3	2.34E-01	1.000	1.000	
24	41.24	-0.1	7.10	3.65E+00	1.26E-02	1.15E-02	.914	1.78E-02	2.899E-04	2.795E-04	313.0	2.94E-01	1.000	1.000	
25	39.73	-0.1	7.10	3.65E+00	1.26E-02	1.15E-02	.914	1.78E-02	2.899E-04	2.795E-04	313.0	3.61E-01	1.000	1.000	
103	47.59	1.32	7.10	3.65E+00	1.12E-02	1.12E-02	.996	1.24E-02	2.361E-04	2.423E-04	317.5	1.12E-02	1.000	.965	
104	47.59	1.32	7.10	3.65E+00	1.27E-02	1.26E-02	1.016	1.24E-02	2.539E-04	2.744E-04	316.4	1.27E-02	1.000	1.000	
105	47.59	1.32	7.10	3.65E+00	1.27E-02	1.27E-02	1.008	1.24E-02	2.539E-04	2.744E-04	317.9	1.67E-02	1.000	1.000	
106	47.59	1.32	7.10	3.65E+00	2.21E-02	2.05E-02	1.760	1.62E-02	5.323E-04	4.732E-04	316.9	2.21E-02	1.000	1.000	
107	47.59	1.32	7.10	3.65E+00	2.55E-02	1.94E-02	1.636	1.24E-02	4.633E-04	4.435E-04	315.9	2.80E-02	1.000	1.000	
108	47.59	1.32	7.10	3.65E+00	1.83E-02	1.74E-02	1.409	1.24E-02	4.203E-04	3.976E-04	314.6	3.48E-02	1.000	1.000	
109	47.59	1.32	7.10	3.65E+00	1.44E-02	1.37E-02	1.157	1.24E-02	3.334E-04	3.131E-04	314.6	4.36E-02	1.000	1.000	
110	47.59	1.32	7.10	3.65E+00	1.02E-02	9.54E-03	.817	1.24E-02	2.779E-04	2.211E-04	312.6	5.44E-02	1.000	1.000	
111	47.59	1.32	7.10	3.65E+00	9.54E-03	9.54E-03	.817	1.24E-02	2.779E-04	2.211E-04	312.6	6.81E-02	1.000	1.000	
112	47.59	1.32	7.10	3.65E+00	9.54E-03	9.54E-03	.817	1.24E-02	2.779E-04	2.211E-04	312.6	8.44E-02	1.000	1.000	
113	47.59	1.32	7.10	3.65E+00	9.54E-03	9.54E-03	.817	1.24E-02	2.779E-04	2.211E-04	312.6	1.04E-01	1.000	1.000	
114	47.59	1.32	7.10	3.65E+00	9.54E-03	9.54E-03	.817	1.24E-02	2.779E-04	2.211E-04	312.6	1.30E-01	1.000	1.000	
115	47.59	1.32	7.10	3.65E+00	9.54E-03	9.54E-03	.817	1.24E-02	2.779E-04	2.211E-04	312.6	1.63E-01	1.000	1.000	
203	61.56	1.32	7.10	3.65E+00	1.97E-02	1.95E-02	1.492	1.03E-02	3.633E-04	3.443E-04	313.0	1.57E-02	1.000	1.000	
204	61.56	1.32	7.10	3.65E+00	1.74E-02	1.65E-02	1.634	1.03E-02	3.233E-04	3.025E-04	313.0	1.74E-02	1.000	1.000	
205	61.56	1.32	7.10	3.65E+00	1.49E-02	1.41E-02	1.441	1.03E-02	3.443E-04	3.225E-04	313.0	1.99E-02	1.000	1.000	
206	61.56	1.32	7.10	3.65E+00	1.34E-02	1.26E-02	1.266	1.03E-02	3.233E-04	2.976E-04	312.9	2.34E-02	1.000	1.000	
207	61.56	1.32	7.10	3.65E+00	1.12E-02	1.03E-02	1.033	1.03E-02	2.573E-04	2.474E-04	311.9	2.94E-02	1.000	1.000	



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 114

AMES 3.5 F HMT TEST (1R2), C.O. PLUMER, IN-LINE RSI GAP RUN( 59) 1973

T/C	V	W	YV	ZZ	O	ML	MT	ML/HREF	HREF	STL	STT	T	MLCC	ML/MLCC	MLCC/HREF	ML/ME
(C/H)	(C/H)	(C/H)	(C/H)	(C/H)	(C/H)	(C/H)	(C/H)	(C/H)	(C/H)	(C/H)	(C/H)	(C/H)	(C/H)	(C/H)	(C/H)	(C/H)
211	61.56	0.99	0.12	0.09	3.16E+03	4.63E+06	4.39E+06	0.00	1.655E+02	1.954E+07	9.95E+00	336.7	4.60E+06	1.000	0.00	0.01
212	61.56	0.99	0.12	0.09	3.16E+03	4.63E+06	4.39E+06	0.00	1.655E+02	1.954E+07	9.95E+00	336.7	4.60E+06	1.000	0.00	0.01
307	66.96	0.91	0.00	0.00	2.62E+04	3.65E+12	3.65E+12	3.650	1.644E+02	8.37E+04	7.92E+04	369.9	3.65E+12	1.000	3.500	0.00
308	66.96	0.91	0.00	0.00	2.62E+04	3.65E+12	3.65E+12	3.650	1.644E+02	8.37E+04	7.92E+04	369.9	3.65E+12	1.000	3.500	0.00
309	66.96	0.91	0.00	0.00	2.62E+04	3.65E+12	3.65E+12	3.650	1.644E+02	8.37E+04	7.92E+04	369.9	3.65E+12	1.000	3.500	0.00
310	66.96	0.91	0.00	0.00	2.62E+04	3.65E+12	3.65E+12	3.650	1.644E+02	8.37E+04	7.92E+04	369.9	3.65E+12	1.000	3.500	0.00
311	66.96	0.91	0.00	0.00	2.62E+04	3.65E+12	3.65E+12	3.650	1.644E+02	8.37E+04	7.92E+04	369.9	3.65E+12	1.000	3.500	0.00
312	66.96	0.91	0.00	0.00	2.62E+04	3.65E+12	3.65E+12	3.650	1.644E+02	8.37E+04	7.92E+04	369.9	3.65E+12	1.000	3.500	0.00
313	66.96	0.91	0.00	0.00	2.62E+04	3.65E+12	3.65E+12	3.650	1.644E+02	8.37E+04	7.92E+04	369.9	3.65E+12	1.000	3.500	0.00
314	66.96	0.91	0.00	0.00	2.62E+04	3.65E+12	3.65E+12	3.650	1.644E+02	8.37E+04	7.92E+04	369.9	3.65E+12	1.000	3.500	0.00
315	66.96	0.91	0.00	0.00	2.62E+04	3.65E+12	3.65E+12	3.650	1.644E+02	8.37E+04	7.92E+04	369.9	3.65E+12	1.000	3.500	0.00
316	66.96	0.91	0.00	0.00	2.62E+04	3.65E+12	3.65E+12	3.650	1.644E+02	8.37E+04	7.92E+04	369.9	3.65E+12	1.000	3.500	0.00
317	66.96	0.91	0.00	0.00	2.62E+04	3.65E+12	3.65E+12	3.650	1.644E+02	8.37E+04	7.92E+04	369.9	3.65E+12	1.000	3.500	0.00
318	66.96	0.91	0.00	0.00	2.62E+04	3.65E+12	3.65E+12	3.650	1.644E+02	8.37E+04	7.92E+04	369.9	3.65E+12	1.000	3.500	0.00
319	66.96	0.91	0.00	0.00	2.62E+04	3.65E+12	3.65E+12	3.650	1.644E+02	8.37E+04	7.92E+04	369.9	3.65E+12	1.000	3.500	0.00
320	66.96	0.91	0.00	0.00	2.62E+04	3.65E+12	3.65E+12	3.650	1.644E+02	8.37E+04	7.92E+04	369.9	3.65E+12	1.000	3.500	0.00
506	125.06	0.91	0.00	0.00	3.11E+04	4.40E+02	4.40E+02	1.120	3.77E+02	9.60E+04	9.17E+04	300.9	4.40E+02	1.000	1.167	1.070
507	125.06	0.91	0.00	0.00	3.11E+04	4.40E+02	4.40E+02	1.120	3.77E+02	9.60E+04	9.17E+04	300.9	4.40E+02	1.000	1.167	1.070
508	125.06	0.91	0.00	0.00	3.11E+04	4.40E+02	4.40E+02	1.120	3.77E+02	9.60E+04	9.17E+04	300.9	4.40E+02	1.000	1.167	1.070
509	125.06	0.91	0.00	0.00	3.11E+04	4.40E+02	4.40E+02	1.120	3.77E+02	9.60E+04	9.17E+04	300.9	4.40E+02	1.000	1.167	1.070
510	125.06	0.91	0.00	0.00	3.11E+04	4.40E+02	4.40E+02	1.120	3.77E+02	9.60E+04	9.17E+04	300.9	4.40E+02	1.000	1.167	1.070
511	125.06	0.91	0.00	0.00	3.11E+04	4.40E+02	4.40E+02	1.120	3.77E+02	9.60E+04	9.17E+04	300.9	4.40E+02	1.000	1.167	1.070
512	125.06	0.91	0.00	0.00	3.11E+04	4.40E+02	4.40E+02	1.120	3.77E+02	9.60E+04	9.17E+04	300.9	4.40E+02	1.000	1.167	1.070
513	125.06	0.91	0.00	0.00	3.11E+04	4.40E+02	4.40E+02	1.120	3.77E+02	9.60E+04	9.17E+04	300.9	4.40E+02	1.000	1.167	1.070
514	125.06	0.91	0.00	0.00	3.11E+04	4.40E+02	4.40E+02	1.120	3.77E+02	9.60E+04	9.17E+04	300.9	4.40E+02	1.000	1.167	1.070
515	125.06	0.91	0.00	0.00	3.11E+04	4.40E+02	4.40E+02	1.120	3.77E+02	9.60E+04	9.17E+04	300.9	4.40E+02	1.000	1.167	1.070
516	125.06	0.91	0.00	0.00	3.11E+04	4.40E+02	4.40E+02	1.120	3.77E+02	9.60E+04	9.17E+04	300.9	4.40E+02	1.000	1.167	1.070
517	125.06	0.91	0.00	0.00	3.11E+04	4.40E+02	4.40E+02	1.120	3.77E+02	9.60E+04	9.17E+04	300.9	4.40E+02	1.000	1.167	1.070
518	125.06	0.91	0.00	0.00	3.11E+04	4.40E+02	4.40E+02	1.120	3.77E+02	9.60E+04	9.17E+04	300.9	4.40E+02	1.000	1.167	1.070
519	125.06	0.91	0.00	0.00	3.11E+04	4.40E+02	4.40E+02	1.120	3.77E+02	9.60E+04	9.17E+04	300.9	4.40E+02	1.000	1.167	1.070
520	125.06	0.91	0.00	0.00	3.11E+04	4.40E+02	4.40E+02	1.120	3.77E+02	9.60E+04	9.17E+04	300.9	4.40E+02	1.000	1.167	1.070

SIZE HEATING USED FOR WF

WF	3.07E+01	ML	HREF	9.17E+11
WF	4.12E+01	ML	HREF	9.17E+11
WF	4.37E+01	ML	HREF	9.17E+11
WF	4.63E+01	ML	HREF	9.17E+11
WF	4.89E+01	ML	HREF	9.17E+11
WF	5.15E+01	ML	HREF	9.17E+11
WF	5.41E+01	ML	HREF	9.17E+11
WF	5.67E+01	ML	HREF	9.17E+11

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# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 119

AMES 1.6 FT HWT TEST (162), C.F. BLUM, IN-LINE RSI GAP (UNK) (6) 1973

TT = 1.175E+01(K)  
 GAP LENGTH = 101.57(CM)  
 PT = 1.137E+02(W/M<sup>2</sup>)  
 GAP WIDTH = .254(CM)  
 MT = 1.311E+01(K/KG)  
 GAP DEPTH = 3.513(CM)  
 RE/METER = 1.857E+01  
 ORIENTATION = 15.191(DFG)  
 MACH = 5.187  
 JS = 1.175E+05(W/M<sup>2</sup>)  
 RHO VEL = 4.222E+01(K/M<sup>2</sup>-S)  
 X00.POSITION = 1  
 MAN/MT = 7.59E-04 FOR MT  
 MLCC = 8.574 FOR ML  
 ML(2ND, ORD) = COND. 1

T/C	X (CM)	Y (CM)	Z (CM)	W (M <sup>2</sup> )	ML (KG/M <sup>2</sup> -S)	MT (KG/M <sup>2</sup> -S)	ML/MREF	MREF (KG/M <sup>2</sup> -S)	STL	STT	T (K)	MLCC (KG/M <sup>2</sup> -S)	ML/MCC	MLCC/MREF	ML/HE
1	135.24	-51	0.0	2.19E+04	1.41E-02	3.23E-02	.694	4.93E-02	8.97E-04	7.647E-04	310.3	1.12E-02	1.000	.986	1.004
2	132.78	-51	0.0	2.20E+04	1.13E-02	2.97E-02	.679	4.63E-02	7.437E-04	6.072E-04	310.6	1.08E-02	1.000	.880	1.003
3	131.16	-51	0.0	1.65E+04	2.71E-02	2.56E-02	.629	4.33E-02	6.435E-04	6.073E-04	310.5	1.07E-02	1.000	.940	1.005
4	127.63	-51	0.0	1.64E+04	2.32E-02	2.20E-02	.579	4.04E-02	5.492E-04	5.208E-04	310.4	1.00E-02	1.000	.722	1.078
5	125.89	-51	0.0	1.76E+04	1.91E-02	1.81E-02	.526	3.74E-02	4.826E-04	4.208E-04	310.4	1.00E-02	1.000	.630	1.000
6	122.66	-51	0.0	1.18E+04	1.68E-02	1.59E-02	.484	3.37E-02	3.971E-04	3.759E-04	313.3	1.00E-02	1.000	.450	1.000
7	117.47	-51	0.0	9.51E+03	1.39E-02	1.28E-02	.403	2.80E-02	3.207E-04	3.036E-04	310.3	1.00E-02	1.000	.305	1.000
8	112.37	-51	0.0	7.93E+03	1.13E-02	1.07E-02	.403	2.28E-02	2.679E-04	2.593E-04	310.4	1.00E-02	1.000	.229	1.000
9	107.31	-51	0.0	6.98E+03	1.04E-02	9.42E-03	.528	1.86E-02	2.335E-04	2.230E-04	310.4	1.00E-02	1.000	.180	1.000
10	102.27	-51	0.0	6.28E+03	7.80E-03	8.22E-03	.578	1.58E-02	2.139E-04	2.017E-04	313.5	1.00E-02	1.000	.137	1.000
11	97.12	-51	0.0	5.80E+03	8.27E-03	7.83E-03	.630	1.33E-02	1.939E-04	1.858E-04	318.0	1.00E-02	1.000	.100	1.000
12	92.06	-51	0.0	5.25E+03	7.90E-03	7.49E-03	.716	1.12E-02	1.870E-04	1.773E-04	311.1	1.00E-02	1.000	.080	1.000
13	86.96	-51	0.0	4.84E+03	7.23E-03	6.86E-03	.776	1.02E-02	1.711E-04	1.629E-04	311.7	1.00E-02	1.000	.070	1.000
14	81.80	-51	0.0	4.48E+03	7.20E-03	6.81E-03	.752	9.57E-03	1.739E-04	1.644E-04	312.6	1.00E-02	1.000	.060	1.000
15	76.60	-51	0.0	4.05E+03	7.07E-03	6.75E-03	.758	9.45E-03	1.675E-04	1.595E-04	312.2	1.00E-02	1.000	.050	1.000
16	71.42	-51	0.0	3.61E+03	7.31E-03	6.32E-03	.708	9.64E-03	1.732E-04	1.648E-04	313.1	1.00E-02	1.000	.040	1.000
17	66.64	-51	0.0	3.43E+03	6.88E-03	7.63E-03	.808	1.02E-02	1.909E-04	1.807E-04	313.7	1.00E-02	1.000	.030	1.000
18	61.56	-51	0.0	3.97E+03	6.46E-03	8.33E-03	.868	1.14E-02	2.364E-04	1.897E-04	314.6	1.00E-02	1.000	.020	1.000
19	56.52	-51	0.0	4.17E+03	6.85E-03	8.38E-03	.796	1.11E-02	2.099E-04	1.983E-04	315.4	1.00E-02	1.000	.010	1.000
20	51.19	-51	0.0	4.57E+03	3.43E-03	8.93E-03	.797	1.10E-02	2.234E-04	2.144E-04	316.0	1.00E-02	1.000	.000	1.000
21	48.46	-51	0.0	7.17E+03	1.14E-02	9.56E-03	.828	1.22E-02	2.393E-04	2.265E-04	316.5	1.00E-02	1.000	.000	1.000
22	46.71	-51	0.0	7.25E+03	1.07E-02	9.85E-03	.869	1.28E-02	2.466E-04	2.354E-04	316.7	1.00E-02	1.000	.000	1.000
23	43.77	-51	0.0	7.61E+03	1.07E-02	1.07E-02	.823	1.29E-02	2.524E-04	2.399E-04	316.9	1.00E-02	1.000	.000	1.000
24	41.24	-51	0.0	7.66E+03	1.13E-02	1.07E-02	.823	1.37E-02	2.677E-04	2.594E-04	317.2	1.00E-02	1.000	.000	1.000
25	38.52	-51	0.0	7.06E+03	1.14E-02	1.08E-02	.816	1.37E-02	2.730E-04	2.544E-04	316.5	1.00E-02	1.000	.000	1.000
103	47.59	112	0.0	7.75E+03	1.12E-02	1.16E-02	.916	1.23E-02	2.656E-04	2.513E-04	313.9	1.12E-02	1.000	.986	1.004
104	47.59	112	0.0	7.75E+03	1.12E-02	1.16E-02	.916	1.23E-02	2.656E-04	2.513E-04	313.9	1.12E-02	1.000	.986	1.004
105	47.59	112	0.0	7.75E+03	1.12E-02	1.16E-02	.916	1.23E-02	2.656E-04	2.513E-04	313.9	1.12E-02	1.000	.986	1.004
106	47.59	112	0.0	7.75E+03	1.12E-02	1.16E-02	.916	1.23E-02	2.656E-04	2.513E-04	313.9	1.12E-02	1.000	.986	1.004
107	47.59	112	0.0	7.75E+03	1.12E-02	1.16E-02	.916	1.23E-02	2.656E-04	2.513E-04	313.9	1.12E-02	1.000	.986	1.004
108	47.59	112	0.0	7.75E+03	1.12E-02	1.16E-02	.916	1.23E-02	2.656E-04	2.513E-04	313.9	1.12E-02	1.000	.986	1.004
109	47.59	112	0.0	7.75E+03	1.12E-02	1.16E-02	.916	1.23E-02	2.656E-04	2.513E-04	313.9	1.12E-02	1.000	.986	1.004
110	47.59	112	0.0	7.75E+03	1.12E-02	1.16E-02	.916	1.23E-02	2.656E-04	2.513E-04	313.9	1.12E-02	1.000	.986	1.004
111	47.59	112	0.0	7.75E+03	1.12E-02	1.16E-02	.916	1.23E-02	2.656E-04	2.513E-04	313.9	1.12E-02	1.000	.986	1.004
112	47.59	112	0.0	7.75E+03	1.12E-02	1.16E-02	.916	1.23E-02	2.656E-04	2.513E-04	313.9	1.12E-02	1.000	.986	1.004
113	47.59	112	0.0	7.75E+03	1.12E-02	1.16E-02	.916	1.23E-02	2.656E-04	2.513E-04	313.9	1.12E-02	1.000	.986	1.004
114	47.59	112	0.0	7.75E+03	1.12E-02	1.16E-02	.916	1.23E-02	2.656E-04	2.513E-04	313.9	1.12E-02	1.000	.986	1.004
115	47.59	112	0.0	7.75E+03	1.12E-02	1.16E-02	.916	1.23E-02	2.656E-04	2.513E-04	313.9	1.12E-02	1.000	.986	1.004
203	61.56	112	0.0	4.17E+03	1.04E-02	9.42E-03	.528	1.58E-02	2.017E-04	1.983E-04	315.2	1.00E-02	1.000	.829	1.000
204	61.56	112	0.0	4.17E+03	1.04E-02	9.42E-03	.528	1.58E-02	2.017E-04	1.983E-04	315.2	1.00E-02	1.000	.829	1.000
205	61.56	112	0.0	4.17E+03	1.04E-02	9.42E-03	.528	1.58E-02	2.017E-04	1.983E-04	315.2	1.00E-02	1.000	.829	1.000
206	61.56	112	0.0	4.17E+03	1.04E-02	9.42E-03	.528	1.58E-02	2.017E-04	1.983E-04	315.2	1.00E-02	1.000	.829	1.000
207	61.56	112	0.0	4.17E+03	1.04E-02	9.42E-03	.528	1.58E-02	2.017E-04	1.983E-04	315.2	1.00E-02	1.000	.829	1.000
208	61.56	112	0.0	4.17E+03	1.04E-02	9.42E-03	.528	1.58E-02	2.017E-04	1.983E-04	315.2	1.00E-02	1.000	.829	1.000
209	61.56	112	0.0	4.17E+03	1.04E-02	9.42E-03	.528	1.58E-02	2.017E-04	1.983E-04	315.2	1.00E-02	1.000	.829	1.000
210	61.56	112	0.0	4.17E+03	1.04E-02	9.42E-03	.528	1.58E-02	2.017E-04	1.983E-04	315.2	1.00E-02	1.000	.829	1.000





**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

REPORT MDC E1248  
 JSC 09651

18	6.178E+01	ML	/MREFF=	6.178E+01
19	6.686E+01	ML	/MREFF=	6.686E+01
20	7.172E+01	ML	/MREFF=	7.172E+01
21	7.681E+01	ML	/MREFF=	7.681E+01
22	8.182E+01	ML	/MREFF=	8.182E+01
23	8.692E+01	ML	/MREFF=	8.692E+01
24	9.204E+01	ML	/MREFF=	9.204E+01
25	9.712E+01	ML	/MREFF=	9.712E+01
26	1.022E+02	ML	/MREFF=	1.022E+02
27	1.073E+02	ML	/MREFF=	1.073E+02
28	1.124E+02	ML	/MREFF=	1.124E+02
29	1.175E+02	ML	/MREFF=	1.175E+02
30	1.226E+02	ML	/MREFF=	1.226E+02
31	1.278E+02	ML	/MREFF=	1.278E+02
32	1.328E+02	ML	/MREFF=	1.328E+02
33	1.379E+02	ML	/MREFF=	1.379E+02
34	1.430E+02	ML	/MREFF=	1.430E+02
35	1.481E+02	ML	/MREFF=	1.481E+02
36	1.532E+02	ML	/MREFF=	1.532E+02
37	1.583E+02	ML	/MREFF=	1.583E+02
38	1.634E+02	ML	/MREFF=	1.634E+02
39	1.685E+02	ML	/MREFF=	1.685E+02
40	1.736E+02	ML	/MREFF=	1.736E+02
41	1.787E+02	ML	/MREFF=	1.787E+02
42	1.838E+02	ML	/MREFF=	1.838E+02
43	1.889E+02	ML	/MREFF=	1.889E+02
44	1.940E+02	ML	/MREFF=	1.940E+02
45	1.991E+02	ML	/MREFF=	1.991E+02
46	2.042E+02	ML	/MREFF=	2.042E+02
47	2.093E+02	ML	/MREFF=	2.093E+02
48	2.144E+02	ML	/MREFF=	2.144E+02
49	2.195E+02	ML	/MREFF=	2.195E+02
50	2.246E+02	ML	/MREFF=	2.246E+02
51	2.297E+02	ML	/MREFF=	2.297E+02
52	2.348E+02	ML	/MREFF=	2.348E+02
53	2.399E+02	ML	/MREFF=	2.399E+02
54	2.450E+02	ML	/MREFF=	2.450E+02
55	2.501E+02	ML	/MREFF=	2.501E+02
56	2.552E+02	ML	/MREFF=	2.552E+02
57	2.603E+02	ML	/MREFF=	2.603E+02
58	2.654E+02	ML	/MREFF=	2.654E+02
59	2.705E+02	ML	/MREFF=	2.705E+02
60	2.756E+02	ML	/MREFF=	2.756E+02
61	2.807E+02	ML	/MREFF=	2.807E+02
62	2.858E+02	ML	/MREFF=	2.858E+02
63	2.909E+02	ML	/MREFF=	2.909E+02
64	2.960E+02	ML	/MREFF=	2.960E+02
65	3.011E+02	ML	/MREFF=	3.011E+02
66	3.062E+02	ML	/MREFF=	3.062E+02
67	3.113E+02	ML	/MREFF=	3.113E+02
68	3.164E+02	ML	/MREFF=	3.164E+02
69	3.215E+02	ML	/MREFF=	3.215E+02
70	3.266E+02	ML	/MREFF=	3.266E+02
71	3.317E+02	ML	/MREFF=	3.317E+02
72	3.368E+02	ML	/MREFF=	3.368E+02
73	3.419E+02	ML	/MREFF=	3.419E+02
74	3.470E+02	ML	/MREFF=	3.470E+02
75	3.521E+02	ML	/MREFF=	3.521E+02
76	3.572E+02	ML	/MREFF=	3.572E+02
77	3.623E+02	ML	/MREFF=	3.623E+02
78	3.674E+02	ML	/MREFF=	3.674E+02
79	3.725E+02	ML	/MREFF=	3.725E+02
80	3.776E+02	ML	/MREFF=	3.776E+02
81	3.827E+02	ML	/MREFF=	3.827E+02
82	3.878E+02	ML	/MREFF=	3.878E+02
83	3.929E+02	ML	/MREFF=	3.929E+02
84	3.980E+02	ML	/MREFF=	3.980E+02
85	4.031E+02	ML	/MREFF=	4.031E+02
86	4.082E+02	ML	/MREFF=	4.082E+02
87	4.133E+02	ML	/MREFF=	4.133E+02
88	4.184E+02	ML	/MREFF=	4.184E+02
89	4.235E+02	ML	/MREFF=	4.235E+02
90	4.286E+02	ML	/MREFF=	4.286E+02
91	4.337E+02	ML	/MREFF=	4.337E+02
92	4.388E+02	ML	/MREFF=	4.388E+02
93	4.439E+02	ML	/MREFF=	4.439E+02
94	4.490E+02	ML	/MREFF=	4.490E+02
95	4.541E+02	ML	/MREFF=	4.541E+02
96	4.592E+02	ML	/MREFF=	4.592E+02
97	4.643E+02	ML	/MREFF=	4.643E+02
98	4.694E+02	ML	/MREFF=	4.694E+02
99	4.745E+02	ML	/MREFF=	4.745E+02
100	4.796E+02	ML	/MREFF=	4.796E+02

9.4. TRANSITION DISTANCE = 122.56 CM  
 FULLY TURBULENT 3.1. CONDITIONS AT = 376.00 CM

**ORIGINAL PAGE IS  
 OF POOR QUALITY**



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 121

AMES 30 FT HWT TEST (122), C.P. BLUVER, IN-LINE RSI GAP SURF (2) 1973

TT = 1.3105A17(K)  
 GAP LENGTH = 19.67 (CM)  
 FT = 1.0296E-01(N/M2)  
 GAP WIDTH = .127 (CM)  
 WT = 1.1222E-01(KG)  
 GAP DEPTH = 3.011 (CM)  
 PC/MHEP = 3.7E-15A0F  
 ORIENTATION = 15.000 (DEG)  
 MACH = 4.10  
 QS = 1.1761E-05(M/W2)  
 RHO VEL = 4.2164E-11(KG/M2-S)  
 400. POSITION = 1  
 MAM/MT = 0.0% FOR MT  
 MAM/WT = 9.87% FOR WL  
 MLCG = 4L(2ND, 3RD, CONC.,)

TAC	X	Y	Z	U	V	W	Z	U	V	W	HL	HT	HL/MHEFF	MREF	STL	STT	T	MLCG	ML/MLCG	MLCG/MREF	ML/ME
1	135.24	-0.51	0.00	2.11E-04	2.09E-02	2.57E-02	2.57E-02	4.907E-02	5.12	4.907E-02	7.170E-04	2.170E-04	2.170E-04	6.722E-04	310.6	1.000	1.000	1.000	1.000	1.000	
2	132.77	-0.51	0.00	1.594E-04	2.02E-02	2.57E-02	2.57E-02	4.643E-02	6.12	4.643E-02	6.873E-04	2.02E-04	2.02E-04	6.324E-04	310.9	1.000	1.000	1.000	1.000	1.000	
3	120.16	-0.51	0.00	1.24E-04	2.02E-02	2.57E-02	2.57E-02	4.299E-02	5.29	4.299E-02	5.74E-04	1.91E-04	1.91E-04	5.689E-04	311.0	1.000	1.000	1.000	1.000	1.000	
4	127.63	-0.51	0.00	1.61E-04	2.02E-02	2.57E-02	2.57E-02	4.595E-02	5.72	4.595E-02	6.46E-04	2.02E-04	2.02E-04	5.545E-04	311.0	1.000	1.000	1.000	1.000	1.000	
5	125.79	-0.51	0.00	1.37E-04	1.89E-02	1.79E-02	1.79E-02	3.92E-02	5.12	3.92E-02	4.61E-04	1.89E-04	1.89E-04	4.242E-04	311.1	1.000	1.000	1.000	1.000	1.000	
6	125.69	-0.51	0.00	1.11E-04	1.65E-02	1.56E-02	1.56E-02	3.28E-02	4.67	3.28E-02	3.91E-04	1.65E-04	1.65E-04	3.774E-04	311.1	1.000	1.000	1.000	1.000	1.000	
7	117.67	-0.51	0.00	2.17E-03	1.79E-02	1.28E-02	1.28E-02	2.79E-02	4.83	2.79E-02	3.20E-04	1.79E-04	1.79E-04	3.032E-04	311.4	1.000	1.000	1.000	1.000	1.000	
8	112.37	-0.51	0.00	7.97E-03	1.82E-02	1.06E-02	1.06E-02	2.28E-02	4.90	2.28E-02	2.64E-04	1.82E-04	1.82E-04	2.577E-04	311.5	1.000	1.000	1.000	1.000	1.000	
9	107.31	-0.51	0.00	2.11E-03	1.92E-02	0.95E-02	0.95E-02	1.67E-02	4.32	1.67E-02	2.35E-04	1.92E-04	1.92E-04	2.243E-04	311.7	1.000	1.000	1.000	1.000	1.000	
10	102.24	-0.51	0.00	5.09E-03	2.00E-02	0.94E-02	0.94E-02	1.57E-02	4.57	1.57E-02	2.22E-04	2.00E-04	2.00E-04	2.118E-04	312.0	1.000	1.000	1.000	1.000	1.000	
11	97.12	-0.51	0.00	3.17E-03	2.00E-02	0.94E-02	0.94E-02	1.57E-02	4.57	1.57E-02	2.22E-04	2.00E-04	2.00E-04	2.118E-04	312.0	1.000	1.000	1.000	1.000	1.000	
12	92.54	-0.51	0.00	6.31E-03	2.02E-02	0.94E-02	0.94E-02	1.57E-02	4.57	1.57E-02	2.22E-04	2.02E-04	2.02E-04	2.118E-04	312.0	1.000	1.000	1.000	1.000	1.000	
13	86.94	-0.51	0.00	9.35E-03	2.02E-02	0.94E-02	0.94E-02	1.57E-02	4.57	1.57E-02	2.22E-04	2.02E-04	2.02E-04	2.118E-04	312.0	1.000	1.000	1.000	1.000	1.000	
14	81.05	-0.51	0.00	5.68E-03	2.02E-02	0.94E-02	0.94E-02	1.57E-02	4.57	1.57E-02	2.22E-04	2.02E-04	2.02E-04	2.118E-04	312.0	1.000	1.000	1.000	1.000	1.000	
15	76.00	-0.51	0.00	1.57E-03	2.02E-02	0.94E-02	0.94E-02	1.57E-02	4.57	1.57E-02	2.22E-04	2.02E-04	2.02E-04	2.118E-04	312.0	1.000	1.000	1.000	1.000	1.000	
16	71.22	-0.51	0.00	5.55E-03	2.02E-02	0.94E-02	0.94E-02	1.57E-02	4.57	1.57E-02	2.22E-04	2.02E-04	2.02E-04	2.118E-04	312.0	1.000	1.000	1.000	1.000	1.000	
17	66.04	-0.51	0.00	5.71E-03	2.02E-02	0.94E-02	0.94E-02	1.57E-02	4.57	1.57E-02	2.22E-04	2.02E-04	2.02E-04	2.118E-04	312.0	1.000	1.000	1.000	1.000	1.000	
18	61.56	-0.51	0.00	2.02E-03	2.02E-02	0.94E-02	0.94E-02	1.57E-02	4.57	1.57E-02	2.22E-04	2.02E-04	2.02E-04	2.118E-04	312.0	1.000	1.000	1.000	1.000	1.000	
19	56.68	-0.51	0.00	2.02E-03	2.02E-02	0.94E-02	0.94E-02	1.57E-02	4.57	1.57E-02	2.22E-04	2.02E-04	2.02E-04	2.118E-04	312.0	1.000	1.000	1.000	1.000	1.000	
20	51.99	-0.51	0.00	6.11E-03	2.02E-02	0.94E-02	0.94E-02	1.57E-02	4.57	1.57E-02	2.22E-04	2.02E-04	2.02E-04	2.118E-04	312.0	1.000	1.000	1.000	1.000	1.000	
21	49.36	-0.51	0.00	2.02E-03	2.02E-02	0.94E-02	0.94E-02	1.57E-02	4.57	1.57E-02	2.22E-04	2.02E-04	2.02E-04	2.118E-04	312.0	1.000	1.000	1.000	1.000	1.000	
22	46.71	-0.51	0.00	6.24E-03	2.02E-02	0.94E-02	0.94E-02	1.57E-02	4.57	1.57E-02	2.22E-04	2.02E-04	2.02E-04	2.118E-04	312.0	1.000	1.000	1.000	1.000	1.000	
23	43.77	-0.51	0.00	6.74E-03	2.02E-02	0.94E-02	0.94E-02	1.57E-02	4.57	1.57E-02	2.22E-04	2.02E-04	2.02E-04	2.118E-04	312.0	1.000	1.000	1.000	1.000	1.000	
24	41.24	-0.51	0.00	2.02E-03	2.02E-02	0.94E-02	0.94E-02	1.57E-02	4.57	1.57E-02	2.22E-04	2.02E-04	2.02E-04	2.118E-04	312.0	1.000	1.000	1.000	1.000	1.000	
25	38.74	-0.51	0.00	2.02E-03	2.02E-02	0.94E-02	0.94E-02	1.57E-02	4.57	1.57E-02	2.22E-04	2.02E-04	2.02E-04	2.118E-04	312.0	1.000	1.000	1.000	1.000	1.000	
173	47.59	1.02	0.00	1.02E-03	3.00E-03	9.36E-03	9.36E-03	1.237E-02	6.90	1.237E-02	2.347E-04	2.347E-04	2.347E-04	2.223E-04	321.3	1.000	1.000	1.000	1.000	1.000	
175	47.59	1.02	0.00	1.02E-03	3.00E-03	9.36E-03	9.36E-03	1.237E-02	6.90	1.237E-02	2.347E-04	2.347E-04	2.347E-04	2.223E-04	321.3	1.000	1.000	1.000	1.000	1.000	
177	47.59	1.02	0.00	1.02E-03	3.00E-03	9.36E-03	9.36E-03	1.237E-02	6.90	1.237E-02	2.347E-04	2.347E-04	2.347E-04	2.223E-04	321.3	1.000	1.000	1.000	1.000	1.000	
178	47.59	1.02	0.00	1.02E-03	3.00E-03	9.36E-03	9.36E-03	1.237E-02	6.90	1.237E-02	2.347E-04	2.347E-04	2.347E-04	2.223E-04	321.3	1.000	1.000	1.000	1.000	1.000	
179	47.59	1.02	0.00	1.02E-03	3.00E-03	9.36E-03	9.36E-03	1.237E-02	6.90	1.237E-02	2.347E-04	2.347E-04	2.347E-04	2.223E-04	321.3	1.000	1.000	1.000	1.000	1.000	
181	47.59	1.02	0.00	1.02E-03	3.00E-03	9.36E-03	9.36E-03	1.237E-02	6.90	1.237E-02	2.347E-04	2.347E-04	2.347E-04	2.223E-04	321.3	1.000	1.000	1.000	1.000	1.000	
182	47.59	1.02	0.00	1.02E-03	3.00E-03	9.36E-03	9.36E-03	1.237E-02	6.90	1.237E-02	2.347E-04	2.347E-04	2.347E-04	2.223E-04	321.3	1.000	1.000	1.000	1.000	1.000	
183	47.59	1.02	0.00	1.02E-03	3.00E-03	9.36E-03	9.36E-03	1.237E-02	6.90	1.237E-02	2.347E-04	2.347E-04	2.347E-04	2.223E-04	321.3	1.000	1.000	1.000	1.000	1.000	
184	47.59	1.02	0.00	1.02E-03	3.00E-03	9.36E-03	9.36E-03	1.237E-02	6.90	1.237E-02	2.347E-04	2.347E-04	2.347E-04	2.223E-04	321.3	1.000	1.000	1.000	1.000	1.000	
185	47.59	1.02	0.00	1.02E-03	3.00E-03	9.36E-03	9.36E-03	1.237E-02	6.90	1.237E-02	2.347E-04	2.347E-04	2.347E-04	2.223E-04	321.3	1.000	1.000	1.000	1.000	1.000	
203	61.56	1.02	0.00	1.02E-03	3.00E-03	9.36E-03	9.36E-03	1.237E-02	6.90	1.237E-02	2.347E-04	2.347E-04	2.347E-04	2.223E-04	321.3	1.000	1.000	1.000	1.000	1.000	
217	61.56	1.02	0.00	1.02E-03	3.00E-03	9.36E-03	9.36E-03	1.237E-02	6.90	1.237E-02	2.347E-04	2.347E-04	2.347E-04	2.223E-04	321.3	1.000	1.000	1.000	1.000	1.000	
220	61.56	1.02	0.00	1.02E-03	3.00E-03	9.36E-03	9.36E-03	1.237E-02	6.90	1.237E-02	2.347E-04	2.347E-04	2.347E-04	2.223E-04	321.3	1.000	1.000	1.000	1.000	1.000	
221	61.56	1.02	0.00	1.02E-03	3.00E-03	9.36E-03	9.36E-03	1.237E-02	6.90	1.237E-02	2.347E-04	2.347E-04	2.347E-04	2.223E-04	321.3	1.000	1.000	1.000	1.000	1.000	





**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

X#	0.170E+01	ML	/MREFF#	0.110E+01
X#	0.660E+01	ML	/MREFF#	0.155E+01
X#	7.17E+01	ML	/MREFF#	3.20E+01
X#	7.89E+01	ML	/MREFF#	6.34E+01
X#	9.19E+01	ML	/MREFF#	8.57E+01
X#	9.69E+01	ML	/MREFF#	8.10E+01
X#	9.20E+01	ML	/MREFF#	7.57E+01
X#	9.71E+01	ML	/MREFF#	6.73E+01
X#	1.02E+02	ML	/MREFF#	6.22E+01
X#	1.09E+02	ML	/MREFF#	5.32E+01
X#	1.12E+02	ML	/MREFF#	4.89E+01
X#	1.17E+02	ML	/MREFF#	4.82E+01
X#	1.27E+02	ML	/MREFF#	4.86E+01
X#	1.29E+02	ML	/MREFF#	5.11E+01
X#	1.37E+02	ML	/MREFF#	5.73E+01
X#	1.37E+02	ML	/MREFF#	5.89E+01
X#	1.32E+02	ML	/MREFF#	6.11E+01
X#	1.35E+02	ML	/MREFF#	6.17E+01
X#	6.79E+01	ML	/MREFF#	7.90E+01
X#	6.15E+01	ML	/MREFF#	6.93E+01
X#	6.69E+01	ML	/MREFF#	9.07E+01
X#	1.29E+02	ML	/MREFF#	5.61E+01

9.0. TRANSITION DISTANCE = 1.39 CM  
 FULLY TURBULENT 9.0. CONDITIONS AT = 81.89 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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AMES 3.5 FT HWT TEST (132), C.B. BLUMER, IN-LIVE RSI GAP RUN( 82) 1373

TT = 1.1086E+13(K) GAP LENGTH = 101.607(ICM)  
 PT = 1.8319E+06(M/M2) GAP WIDTH = .127(ICM)  
 HT = 1.1711E+15(J/KG) GAP DEPTH = 3.810(ICM)  
 WCH/MSYER = 3.314E+06 ORIENTATION = 10.903(DEG)  
 WACH = 5.18E OS = 1.1886E+08(M/M2)  
 RMD VEL = 4.1934E+11(KG/M2-S) MOD. POSITION = 1  
 WAM/MT = 8.993 FOR HT  
 WAM/MT = 8.074 FOR HL  
 MLCC = HL(2ND. ORDER COND.))

T/C	X (CM)	Y (CM)	Z (CM)	Q (M/M2)	ML (KG/M2-S)	HT (KG/M2-S)	HL/MREF (KG/M2-S)	STL	STT (K)	T (K)	MLCC (K/M2-S)	HL/MLCC	MLCC/MREF	HL/HE
1	135.24	-51	1.00	2.38E+04	3.29E-02	3.11E-02	.676	7.025E-04	7.410E-04	3.006	1.161E-02	1.000	.939	1.000
2	132.78	-51	0.00	2.14E+04	3.02E-02	2.86E-02	.662	7.194E-04	7.595E-04	317.9	1.131E-02	1.000	.920	1.000
3	131.16	-51	0.00	1.85E+04	2.75E-02	2.57E-02	.612	6.201E-04	6.675E-04	317.9	1.095E-02	1.000	.807	1.000
4	127.03	-51	0.00	1.68E+04	2.37E-02	2.20E-02	.600	5.649E-04	6.123E-04	317.9	1.014E-02	1.000	.822	1.000
5	125.00	-51	0.00	1.58E+04	2.11E-02	1.99E-02	.578	5.049E-04	5.523E-04	317.9	9.614E-03	1.000	.660	1.000
6	122.56	-51	0.00	1.37E+04	1.93E-02	1.83E-02	.573	4.631E-04	5.105E-04	317.9	8.714E-03	1.000	.544	1.000
7	117.87	-51	0.00	1.12E+04	1.76E-02	1.69E-02	.564	4.230E-04	4.788E-04	317.9	8.014E-03	1.000	.366	1.000
8	112.37	-51	0.00	8.96E+03	1.60E-02	1.56E-02	.564	3.843E-04	4.481E-04	317.9	7.451E-03	1.000	.214	1.000
9	107.31	-51	1.00	7.79E+03	1.48E-02	1.44E-02	.564	3.475E-04	4.184E-04	317.9	6.914E-03	1.000	.056	1.000
10	102.28	-51	1.00	7.11E+03	1.38E-02	1.34E-02	.565	3.132E-04	3.907E-04	317.9	6.404E-03	1.000	.031	1.000
11	97.32	-51	0.00	6.34E+03	1.29E-02	1.25E-02	.565	2.814E-04	3.650E-04	317.9	5.924E-03	1.000	.007	1.000
12	92.04	-51	0.00	5.39E+03	1.21E-02	1.17E-02	.565	2.519E-04	3.413E-04	317.9	5.484E-03	1.000	.000	1.000
13	86.96	-51	0.00	4.54E+03	1.14E-02	1.10E-02	.565	2.244E-04	3.196E-04	317.9	5.084E-03	1.000	.000	1.000
14	81.00	-51	0.00	3.82E+03	1.08E-02	1.04E-02	.565	2.000E-04	2.999E-04	317.9	4.724E-03	1.000	.000	1.000
15	76.00	-51	1.00	3.21E+03	1.03E-02	9.91E-03	.565	1.784E-04	2.822E-04	317.9	4.394E-03	1.000	.000	1.000
16	71.72	-51	0.00	2.71E+03	9.84E-03	9.84E-03	.565	1.594E-04	2.664E-04	317.9	4.094E-03	1.000	.000	1.000
17	66.84	-51	0.00	2.31E+03	9.84E-03	9.84E-03	.565	1.424E-04	2.524E-04	317.9	3.824E-03	1.000	.000	1.000
18	61.96	-51	1.00	1.99E+03	9.84E-03	9.84E-03	.565	1.274E-04	2.404E-04	317.9	3.584E-03	1.000	.000	1.000
19	56.79	-51	1.00	1.74E+03	9.84E-03	9.84E-03	.565	1.144E-04	2.304E-04	317.9	3.364E-03	1.000	.000	1.000
20	51.39	-51	0.00	1.54E+03	9.84E-03	9.84E-03	.565	1.034E-04	2.224E-04	317.9	3.164E-03	1.000	.000	1.000
21	46.06	-51	1.00	1.38E+03	9.84E-03	9.84E-03	.565	9.44E-05	2.164E-04	317.9	2.984E-03	1.000	.000	1.000
22	40.31	-51	0.00	1.25E+03	9.84E-03	9.84E-03	.565	8.74E-05	2.114E-04	317.9	2.824E-03	1.000	.000	1.000
23	43.77	-51	0.00	1.14E+03	9.84E-03	9.84E-03	.565	8.14E-05	2.074E-04	317.9	2.684E-03	1.000	.000	1.000
24	41.24	-51	0.00	1.04E+03	9.84E-03	9.84E-03	.565	7.64E-05	2.044E-04	317.9	2.564E-03	1.000	.000	1.000
25	38.70	-51	1.00	9.74E+02	9.84E-03	9.84E-03	.565	7.24E-05	2.024E-04	317.9	2.454E-03	1.000	.000	1.000
103	47.50	1.72	0.00	6.11E	1.10E-02	1.10E-02	.939	1.232E-02	2.754E-04	320.0	1.161E-02	1.000	.939	1.000
105	47.50	1.72	0.00	7.04E4	1.13E-02	1.17E-02	.920	1.232E-02	2.754E-04	320.0	1.131E-02	1.000	.920	1.000
107	47.50	1.72	0.00	7.88E+03	1.09E-02	1.13E-02	.807	1.231E-02	2.644E-04	320.0	1.095E-02	1.000	.807	1.000
110	47.50	1.72	0.00	7.11E+03	1.01E-02	1.05E-02	.822	1.231E-02	2.432E-04	319.0	1.014E-02	1.000	.822	1.000
111	47.50	1.72	0.00	7.75E+03	1.14E-02	1.18E-02	.600	1.231E-02	1.930E-04	317.0	1.014E-02	1.000	.660	1.000
112	47.50	1.72	0.00	7.25E+03	8.71E-03	9.15E-03	.544	1.231E-02	1.530E-04	317.0	8.714E-03	1.000	.544	1.000
113	47.50	1.72	0.00	3.14E+03	4.51E-03	4.87E-03	.366	1.231E-02	1.074E-04	315.0	4.514E-03	1.000	.366	1.000
114	47.50	1.72	0.00	1.50E+03	2.64E-03	2.89E-03	.214	1.231E-02	6.245E-05	314.0	2.644E-03	1.000	.214	1.000
115	47.50	1.72	0.00	5.0E+02	1.44E-04	1.46E-04	.056	1.231E-02	1.731E-05	313.0	1.444E-04	1.000	.056	1.000
203	61.56	1.72	0.00	6.37E+03	3.04E-03	3.35E-03	.939	1.622E-02	2.192E-04	316.0	3.044E-03	1.000	.939	1.000
205	61.56	1.72	0.00	6.75E+03	3.29E-03	3.67E-03	.920	1.622E-02	2.222E-04	317.0	3.294E-03	1.000	.920	1.000
207	61.56	1.72	0.00	7.00E+03	3.47E-03	3.82E-03	.807	1.622E-02	2.272E-04	316.0	3.474E-03	1.000	.807	1.000
208	61.56	1.72	0.00	7.45E+03	3.80E-03	4.15E-03	.822	1.622E-02	2.322E-04	316.0	3.804E-03	1.000	.822	1.000
210	61.56	1.72	0.00	8.10E+03	4.21E-03	4.53E-03	.600	1.622E-02	1.772E-04	314.0	4.214E-03	1.000	.600	1.000

5.3-167







**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

REPORT MDC E1248  
 JSC 09651

RS	6.066E-01	ML	/MS/FFR	6.066E-01
RS	7.172E-01	ML	/MS/FFR	7.172E-01
RS	8.278E-01	ML	/MS/FFR	8.278E-01
RS	9.384E-01	ML	/MS/FFR	9.384E-01
RS	1.044E-01	ML	/MS/FFR	1.044E-01
RS	1.144E-01	ML	/MS/FFR	1.144E-01
RS	1.244E-01	ML	/MS/FFR	1.244E-01
RS	1.344E-01	ML	/MS/FFR	1.344E-01
RS	1.444E-01	ML	/MS/FFR	1.444E-01
RS	1.544E-01	ML	/MS/FFR	1.544E-01
RS	1.644E-01	ML	/MS/FFR	1.644E-01
RS	1.744E-01	ML	/MS/FFR	1.744E-01
RS	1.844E-01	ML	/MS/FFR	1.844E-01
RS	1.944E-01	ML	/MS/FFR	1.944E-01
RS	2.044E-01	ML	/MS/FFR	2.044E-01
RS	2.144E-01	ML	/MS/FFR	2.144E-01
RS	2.244E-01	ML	/MS/FFR	2.244E-01
RS	2.344E-01	ML	/MS/FFR	2.344E-01
RS	2.444E-01	ML	/MS/FFR	2.444E-01
RS	2.544E-01	ML	/MS/FFR	2.544E-01
RS	2.644E-01	ML	/MS/FFR	2.644E-01
RS	2.744E-01	ML	/MS/FFR	2.744E-01
RS	2.844E-01	ML	/MS/FFR	2.844E-01
RS	2.944E-01	ML	/MS/FFR	2.944E-01
RS	3.044E-01	ML	/MS/FFR	3.044E-01
RS	3.144E-01	ML	/MS/FFR	3.144E-01
RS	3.244E-01	ML	/MS/FFR	3.244E-01
RS	3.344E-01	ML	/MS/FFR	3.344E-01
RS	3.444E-01	ML	/MS/FFR	3.444E-01
RS	3.544E-01	ML	/MS/FFR	3.544E-01
RS	3.644E-01	ML	/MS/FFR	3.644E-01
RS	3.744E-01	ML	/MS/FFR	3.744E-01
RS	3.844E-01	ML	/MS/FFR	3.844E-01
RS	3.944E-01	ML	/MS/FFR	3.944E-01
RS	4.044E-01	ML	/MS/FFR	4.044E-01
RS	4.144E-01	ML	/MS/FFR	4.144E-01
RS	4.244E-01	ML	/MS/FFR	4.244E-01
RS	4.344E-01	ML	/MS/FFR	4.344E-01
RS	4.444E-01	ML	/MS/FFR	4.444E-01
RS	4.544E-01	ML	/MS/FFR	4.544E-01
RS	4.644E-01	ML	/MS/FFR	4.644E-01
RS	4.744E-01	ML	/MS/FFR	4.744E-01
RS	4.844E-01	ML	/MS/FFR	4.844E-01
RS	4.944E-01	ML	/MS/FFR	4.944E-01
RS	5.044E-01	ML	/MS/FFR	5.044E-01
RS	5.144E-01	ML	/MS/FFR	5.144E-01
RS	5.244E-01	ML	/MS/FFR	5.244E-01
RS	5.344E-01	ML	/MS/FFR	5.344E-01
RS	5.444E-01	ML	/MS/FFR	5.444E-01
RS	5.544E-01	ML	/MS/FFR	5.544E-01
RS	5.644E-01	ML	/MS/FFR	5.644E-01
RS	5.744E-01	ML	/MS/FFR	5.744E-01
RS	5.844E-01	ML	/MS/FFR	5.844E-01
RS	5.944E-01	ML	/MS/FFR	5.944E-01
RS	6.044E-01	ML	/MS/FFR	6.044E-01
RS	6.144E-01	ML	/MS/FFR	6.144E-01
RS	6.244E-01	ML	/MS/FFR	6.244E-01
RS	6.344E-01	ML	/MS/FFR	6.344E-01
RS	6.444E-01	ML	/MS/FFR	6.444E-01
RS	6.544E-01	ML	/MS/FFR	6.544E-01
RS	6.644E-01	ML	/MS/FFR	6.644E-01
RS	6.744E-01	ML	/MS/FFR	6.744E-01
RS	6.844E-01	ML	/MS/FFR	6.844E-01
RS	6.944E-01	ML	/MS/FFR	6.944E-01
RS	7.044E-01	ML	/MS/FFR	7.044E-01
RS	7.144E-01	ML	/MS/FFR	7.144E-01
RS	7.244E-01	ML	/MS/FFR	7.244E-01
RS	7.344E-01	ML	/MS/FFR	7.344E-01
RS	7.444E-01	ML	/MS/FFR	7.444E-01
RS	7.544E-01	ML	/MS/FFR	7.544E-01
RS	7.644E-01	ML	/MS/FFR	7.644E-01
RS	7.744E-01	ML	/MS/FFR	7.744E-01
RS	7.844E-01	ML	/MS/FFR	7.844E-01
RS	7.944E-01	ML	/MS/FFR	7.944E-01
RS	8.044E-01	ML	/MS/FFR	8.044E-01
RS	8.144E-01	ML	/MS/FFR	8.144E-01
RS	8.244E-01	ML	/MS/FFR	8.244E-01
RS	8.344E-01	ML	/MS/FFR	8.344E-01
RS	8.444E-01	ML	/MS/FFR	8.444E-01
RS	8.544E-01	ML	/MS/FFR	8.544E-01
RS	8.644E-01	ML	/MS/FFR	8.644E-01
RS	8.744E-01	ML	/MS/FFR	8.744E-01
RS	8.844E-01	ML	/MS/FFR	8.844E-01
RS	8.944E-01	ML	/MS/FFR	8.944E-01
RS	9.044E-01	ML	/MS/FFR	9.044E-01
RS	9.144E-01	ML	/MS/FFR	9.144E-01
RS	9.244E-01	ML	/MS/FFR	9.244E-01
RS	9.344E-01	ML	/MS/FFR	9.344E-01
RS	9.444E-01	ML	/MS/FFR	9.444E-01
RS	9.544E-01	ML	/MS/FFR	9.544E-01
RS	9.644E-01	ML	/MS/FFR	9.644E-01
RS	9.744E-01	ML	/MS/FFR	9.744E-01
RS	9.844E-01	ML	/MS/FFR	9.844E-01
RS	9.944E-01	ML	/MS/FFR	9.944E-01
RS	1.044E-01	ML	/MS/FFR	1.044E-01

**ORIGINAL PAGE IS  
 OF POOR QUALITY**



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 185

AMEC T-6 FT MNT TEST (1823), G-3, BLUMPER, IN-LINE RSI GAP FURN 03) 1973

TT = 5.1431E+07 (4) GAP LENGTH = 101.600 (CM)  
 FT = 2.0278E+06 (1/M2) GAP WIDTH = .127 (CM)  
 HT = 1.2134E+07 (1/M2) GAP DEPTH = 3.811 (CM)  
 RE/METER = 5.643E+06 ORIENTATION = 10.900 (DEG)  
 MACH = 5.177 OS = 1.7718E+05 (M/M2)  
 FHC VEL = 9.375E+03 (KG/M2-S) 100. POSITION = 1  
 MAM/MT = 1.909 FOR HT  
 MAM/MT = 3.874 FOR HL  
 HLCC = HL(2MC, 3PDCR CONC,\*)

TAC	X (CM)	Y (CM)	Z (CM)	G (M/M2)	HL (KG/M2-S)	HT (KG/M2-S)	HL/MHREFF	MREF (KG/M2-S)	STL	STT	T (K)	HLCC (K/(M2-S))	HLCC/MREF	ML/MNE
1	135.24	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	319.6	1.72E-02	1.000	1.000
2	132.70	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
3	129.16	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
4	127.63	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
5	125.09	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
6	122.56	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
7	117.07	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
8	112.37	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
9	107.31	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
10	102.00	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
11	97.12	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
12	92.04	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
13	86.96	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
14	81.88	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
15	76.80	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
16	71.72	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
17	66.64	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
18	61.56	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
19	56.48	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
20	51.40	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
21	46.32	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
22	41.24	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
23	36.16	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
24	31.08	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
25	26.00	0.51	7.00	5.1431E+07	7.36E-02	6.97E-02	0.876	6.59E-02	5.781E-04	6.318E-04	316.4	1.72E-02	1.000	1.000
103	47.59	1.52	1.00	1.265E+04	1.72E-02	1.57E-02	1.061	1.524E-02	2.085E-04	1.947E-04	326.8	1.72E-02	1.000	1.000
104	47.59	1.52	1.00	1.265E+04	1.72E-02	1.57E-02	1.061	1.524E-02	2.085E-04	1.947E-04	326.8	1.72E-02	1.000	1.000
107	47.59	1.52	1.00	1.265E+04	1.72E-02	1.57E-02	1.061	1.524E-02	2.085E-04	1.947E-04	326.8	1.72E-02	1.000	1.000
110	47.59	1.52	1.00	1.265E+04	1.72E-02	1.57E-02	1.061	1.524E-02	2.085E-04	1.947E-04	326.8	1.72E-02	1.000	1.000
111	47.59	1.52	1.00	1.265E+04	1.72E-02	1.57E-02	1.061	1.524E-02	2.085E-04	1.947E-04	326.8	1.72E-02	1.000	1.000
112	47.59	1.52	1.00	1.265E+04	1.72E-02	1.57E-02	1.061	1.524E-02	2.085E-04	1.947E-04	326.8	1.72E-02	1.000	1.000
113	47.59	1.52	1.00	1.265E+04	1.72E-02	1.57E-02	1.061	1.524E-02	2.085E-04	1.947E-04	326.8	1.72E-02	1.000	1.000
114	47.59	1.52	1.00	1.265E+04	1.72E-02	1.57E-02	1.061	1.524E-02	2.085E-04	1.947E-04	326.8	1.72E-02	1.000	1.000
115	47.59	1.52	1.00	1.265E+04	1.72E-02	1.57E-02	1.061	1.524E-02	2.085E-04	1.947E-04	326.8	1.72E-02	1.000	1.000
203	61.56	1.52	1.00	1.265E+04	1.72E-02	1.57E-02	1.061	1.524E-02	2.085E-04	1.947E-04	326.8	1.72E-02	1.000	1.000
205	61.56	1.52	1.00	1.265E+04	1.72E-02	1.57E-02	1.061	1.524E-02	2.085E-04	1.947E-04	326.8	1.72E-02	1.000	1.000
217	61.56	1.52	1.00	1.265E+04	1.72E-02	1.57E-02	1.061	1.524E-02	2.085E-04	1.947E-04	326.8	1.72E-02	1.000	1.000
218	61.56	1.52	1.00	1.265E+04	1.72E-02	1.57E-02	1.061	1.524E-02	2.085E-04	1.947E-04	326.8	1.72E-02	1.000	1.000
219	61.56	1.52	1.00	1.265E+04	1.72E-02	1.57E-02	1.061	1.524E-02	2.085E-04	1.947E-04	326.8	1.72E-02	1.000	1.000
220	61.56	1.52	1.00	1.265E+04	1.72E-02	1.57E-02	1.061	1.524E-02	2.085E-04	1.947E-04	326.8	1.72E-02	1.000	1.000
221	61.56	1.52	1.00	1.265E+04	1.72E-02	1.57E-02	1.061	1.524E-02	2.085E-04	1.947E-04	326.8	1.72E-02	1.000	1.000

C-3

5.3-170



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

REPORT MDC E1248  
JSC 09651

PAGE 126

ANES 3.5 FT HWY TEST (162), C.B. PLUMER, IN-LINE RSI GAP RUN( 53) 1973

T/C	X (CM)	Y (CM)	Z (CM)	O (M/2)	ML (KG/M2-S)	HT (KG/M2-S)	ML/HREFF	HREF (KG/M2-S)	STL	STT	T (K)	MLGC (KG/M2-S)	MLGC/HREFF	ML/NE
211	61.56	0.00	.15	7.51E+03	1.01E-02	9.57E-03	.727	1.309E-02	1.205E-04	1.182E-04	314.2	1.01E-02	1.000	.002
212	61.56	0.00	.25	5.64E+03	7.50E-03	7.10E-03	.546	1.309E-02	9.805E-05	0.971E-05	313.9	7.50E-03	1.000	.047
700	89.79	0.00	2.26							305.16				
214	61.56	0.30	.64											
215	61.56	0.73	.89	3.51E+02	4.44E-04	4.44E-04	.034	1.309E-02	5.593E-06	5.301E-06	309.1	4.69E-04	1.000	.046
306	86.96	.75	2.80											
307	86.96	.51	1.60	2.05E+04	2.34E-02	2.79E-02	1.369	2.093E-02	3.470E-04	3.207E-04	317.5	2.91E-02	1.000	1.209
308	86.96	.25	1.00	1.97E+04	2.60E-02	2.67E-02	1.244	2.093E-02	3.11E-04	2.943E-04	316.4	2.60E-02	1.000	1.131
309	86.96	.15	0.60	1.98E+04	2.10E-02	1.98E-02	.997	2.102E-02	2.51E-04	2.309E-04	315.0	2.10E-02	1.000	.997
310	86.96	.06	.34	1.36E+04	1.08E-02	1.07E-02	.873	2.115E-02	2.12E-04	2.077E-04	315.1	1.08E-02	1.000	.873
311	86.96	0.00	.15	1.11E+04	1.49E-02	1.37E-02	.866	2.116E-02	1.725E-04	1.644E-04	314.1	1.49E-02	1.000	.866
312	86.96	0.00	.28	7.70E+03	1.07E-02	9.79E-03	.690	2.106E-02	1.233E-04	1.160E-04	312.2	1.07E-02	1.000	.690
313	86.96	0.00	.38	6.94E+03	9.75E-03	8.27E-03	.614	2.104E-02	1.041E-04	9.869E-05	308.2	9.75E-03	1.000	.614
314	86.96	0.30	.64	2.44E+03	3.26E-03	3.73E-03	.355	2.116E-02	3.032E-05	3.086E-05	309.7	3.26E-03	1.000	.355
315	86.96	0.73	.89	6.72E+02	8.98E-04	8.51E-04	.043	2.106E-02	1.072E-05	1.116E-05	309.3	8.98E-04	1.000	.043
316	86.96	1.14	1.14											
317	86.96	2.00	1.47											
318	86.96	2.00	1.45											
319	86.96	2.00	1.90											
320	86.96	2.00	2.29											
506	125.06	.75	0.80	4.79E+04	6.49E-02	6.11E-02	.840	7.676E-02	7.699E-04	7.294E-04	315.6	6.49E-02	1.000	.840
507	125.06	.51	0.70	4.63E+04	5.29E-02	5.90E-02	.812	7.670E-02	7.436E-04	7.049E-04	314.9	5.29E-02	1.000	.812
508	125.06	.25	0.40	4.62E+04	6.21E-02	5.95E-02	.810	7.664E-02	7.413E-04	7.024E-04	313.9	6.21E-02	1.000	.810
509	125.06	.15	0.20	4.62E+04	9.08E-02	9.35E-02	.737	7.662E-02	6.735E-04	6.382E-04	312.5	9.08E-02	1.000	.737
510	125.06	.06	.04	4.31E+04	9.92E-02	9.23E-02	.721	7.659E-02	6.906E-04	6.261E-04	312.2	9.92E-02	1.000	.721
511	125.06	0.00	.15	3.94E+04	5.29E-02	5.01E-02	.690	7.658E-02	6.359E-04	5.979E-04	311.7	5.29E-02	1.000	.690
512	125.06	0.00	.25	3.29E+04	4.49E-02	4.17E-02	.690	7.658E-02	5.246E-04	4.971E-04	311.3	4.49E-02	1.000	.690
513	125.06	0.00	.38	2.50E+04	3.47E-02	3.20E-02	.653	7.658E-02	4.136E-04	3.920E-04	310.7	3.47E-02	1.000	.653
514	125.06	0.30	.64	1.36E+04	1.88E-02	1.74E-02	.463	7.658E-02	2.134E-04	2.030E-04	309.7	1.88E-02	1.000	.463
515	125.06	0.73	.89	7.59E+03	9.99E-03	9.47E-03	.331	7.658E-02	1.193E-04	1.131E-04	309.5	9.99E-03	1.000	.331
516	125.06	1.14	1.44	4.77E+03	5.09E-03	5.32E-03	.076	7.658E-02	6.933E-05	6.591E-05	308.6	5.09E-03	1.000	.076
517	125.06	1.90	1.68	2.15E+03	2.07E-03	2.07E-03	.037	7.658E-02	3.405E-05	3.247E-05	306.0	2.07E-03	1.000	.037
518	125.06	2.00	1.92											
519	125.06	2.00	2.29											
520	125.06	2.00	2.29											

EDGE HEATING USED FOR HE

X	Y	Z	ML	HREF
X=	3.07E+01	ML	9.666E-01	
X=	4.12E+01	ML	9.911E-01	
X=	4.37E+01	ML	9.217E-01	
X=	4.631E+01	ML	8.633E-01	
X=	4.895E+01	ML	8.166E-01	
X=	5.139E+01	ML	7.806E-01	
X=	5.668E+01	ML	6.114E-01	



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 00651**

X#	0.170E+01	ML	/HREF#	0.000E+00	1
X#	0.664E+01	ML	/HREF#	0.563E+01	
X#	1.172E+01	ML	/HREF#	2.518E+01	
X#	7.063E+01	ML	/HREF#	2.772E+01	
X#	8.388E+01	ML	/HREF#	9.663E+01	
X#	8.694E+01	ML	/HREF#	1.375E+02	
X#	9.204E+01	ML	/HREF#	1.677E+02	
X#	9.712E+01	ML	/HREF#	1.567E+02	
X#	1.022E+02	ML	/HREF#	1.528E+02	
X#	1.073E+02	ML	/HREF#	1.421E+02	
X#	1.124E+02	ML	/HREF#	1.327E+02	
X#	1.175E+02	ML	/HREF#	1.237E+02	
X#	1.226E+02	ML	/HREF#	9.857E+01	
X#	1.276E+02	ML	/HREF#	9.410E+01	
X#	1.327E+02	ML	/HREF#	9.225E+01	
X#	1.377E+02	ML	/HREF#	8.799E+01	
X#	1.428E+02	ML	/HREF#	8.758E+01	
X#	1.478E+02	ML	/HREF#	8.556E+01	
X#	4.759E+01	ML	/HREF#	1.158E+00	
X#	6.356E+01	ML	/HREF#	1.000E+00	
X#	8.696E+01	ML	/HREF#	1.329E+00	
X#	1.281E+02	ML	/HREF#	8.123E+01	

3-1. TRANSITION DISTANCE = 16.49 CM  
 FULLY TURBULENT 3-L. CONDITIONS AT 1:2.2U CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1240  
JSC 09651

PAGE 127

AMES 3-5 FT. HWT TEST (152), C.B. BLUMER, IN-LINE RSI GAP RUN (34) 1973

TT = 1.24(REF) 3(K)  
GAP LENGTH = 191.57(1CM)  
FT = 1.07(REF) 16(M/H2)  
GAP WIDTH = .127(1CM)  
HT = 1.21(44) 16(LJ/KG)  
GAP DEPTH = 3.810(1CM)  
RE/METER = 3.134(2) 16  
ORIENTATION = 5.20(1DEG)  
MACH = 5.100  
OS = 1.2424E+05 (M/H2)  
RHO MEL = 4.096(3) 16 (KG/M2-S)  
HWT/MHT = 4.085 FOR WT  
MACH/MHT = 9.674 FOR ML  
MLCC = ML12ND. ORDER COND. 1

T/C	X	Y	Z	O	ML	MT	ML/MREF	MREF	STL	STT	T	MLCC	ML/MLCC	MLCC/MREF	ML/HE
(CM)	(CM)	(CM)	(CM)	(M/H2)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(K)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(ML/HE)
1	135.24	-51	2.15E+04	2.88E-02	2.73E-02	.661	4.36E-02	7.437E-04	6.668E-04	314.4	1.000				
2	132.70	-51	1.99E+04	2.68E-02	2.53E-02	.654	4.19E-02	6.531E-04	6.108E-04	314.7	1.000				
3	130.16	-51	1.79E+04	2.39E-02	2.27E-02	.627	3.81E-02	5.843E-04	5.538E-04	314.8	1.000				
4	127.63	-51	1.61E+04	2.22E-02	2.14E-02	.626	3.54E-02	5.441E-04	5.129E-04	314.8	1.000				
5	125.09	-51	1.45E+04	1.98E-02	1.88E-02	.607	3.26E-02	4.938E-04	4.598E-04	314.9	1.000				
6	122.56	-51	1.31E+04	1.81E-02	1.71E-02	.613	2.98E-02	4.399E-04	4.168E-04	314.8	1.000				
7	117.47	-51	1.12E+04	1.22E-02	1.42E-02	.612	2.45E-02	2.667E-04	2.476E-04	313.8	1.000				
8	112.37	-51	9.66E+03	1.22E-02	1.46E-02	.607	2.03E-02	2.977E-04	2.824E-04	313.3	1.000				
9	107.31	-51	7.79E+03	1.05E-02	9.94E-03	.630	1.66E-02	2.551E-04	2.425E-04	315.4	1.000				
10	102.20	-51	6.09E+03	9.36E-03	8.87E-03	.659	1.40E-02	2.239E-04	2.185E-04	315.7	1.000				
11	97.12	-51	4.63E+03	8.11E-03	7.69E-03	.679	1.19E-02	1.981E-04	1.877E-04	316.8	1.000				
12	92.04	-51	3.31E+03	7.44E-03	7.04E-03	.712	1.04E-02	1.813E-04	1.710E-04	316.4	1.000				
13	86.96	-51	2.17E+03	6.98E-03	6.51E-03	.724	9.63E-03	1.703E-04	1.613E-04	317.1	1.000				
14	81.88	-51	1.20E+03	6.37E-03	6.00E-03	.807	9.13E-03	1.799E-04	1.706E-04	317.4	1.000				
15	76.80	-51	5.49E+02	7.32E-03	6.93E-03	.874	8.09E-03	1.785E-04	1.692E-04	317.6	1.000				
16	71.72	-51	2.92E+02	7.87E-03	7.46E-03	.844	6.32E-03	1.922E-04	1.828E-04	317.9	1.000				
17	66.64	-51	1.24E+02	8.44E-03	8.27E-03	.868	4.71E-03	2.059E-04	1.958E-04	318.4	1.000				
18	61.56	-51	5.61E+01	8.52E-03	8.49E-03	.875	4.01E-02	2.176E-04	2.069E-04	319.1	1.000				
19	56.48	-51	2.69E+01	8.27E-03	8.77E-03	.847	3.18E-02	2.268E-04	2.144E-04	319.5	1.000				
20	51.39	-51	1.20E+01	9.52E-03	9.71E-03	.826	1.15E-02	2.323E-04	2.208E-04	320.8	1.000				
21	46.31	-51	5.45E+00	1.00E-02	9.49E-03	.844	1.18E-02	2.444E-04	2.311E-04	321.6	1.000				
22	41.24	-51	2.48E+00	1.03E-02	9.59E-03	.841	1.22E-02	2.513E-04	2.388E-04	320.6	1.000				
23	36.16	-51	1.09E+00	1.05E-02	1.01E-02	.845	1.26E-02	2.599E-04	2.462E-04	323.7	1.000				
24	31.08	-51	5.01E+00	1.13E-02	1.15E-02	.809	1.297E-02	2.815E-04	2.666E-04	323.9	1.000				
25	26.00	-51	2.22E+00	1.23E-02	1.33E-02	.837	1.334E-02	2.923E-04	2.767E-04	323.1	1.000				
103	47.59	132	7.15E+03	9.25E-03	9.25E-03	.516	1.21E-02	2.397E-04	2.269E-04	323.5	.960				
104	47.59	132	6.62E+03	1.03E-02	1.04E-02	.910	1.21E-02	2.674E-04	2.539E-04	326.0	1.000				
105	47.59	132	6.09E+03	1.18E-02	1.18E-02	.976	1.20E-02	2.969E-04	2.717E-04	325.4	.976				
106	47.59	132	5.56E+03	1.31E-02	1.31E-02	.837	1.21E-02	2.494E-04	2.324E-04	324.2	1.000				
107	47.59	132	5.03E+03	1.45E-02	1.45E-02	.622	1.23E-02	1.929E-04	1.732E-04	322.8	.622				
108	47.59	132	4.50E+03	1.58E-02	1.58E-02	.511	1.20E-02	1.570E-04	1.429E-04	322.1	.511				
109	47.59	132	4.07E+03	1.71E-02	1.71E-02	.335	1.23E-02	9.873E-05	9.332E-05	320.6	.335				
110	47.59	132	3.64E+03	1.84E-02	1.84E-02	.196	1.23E-02	5.715E-05	4.848E-05	319.7	.196				
111	47.59	132	3.21E+03	1.97E-02	1.97E-02	.061	1.20E-02	1.513E-05	1.419E-05	319.3	.061				
112	47.59	132	2.78E+03	2.10E-02	2.10E-02	.000	1.20E-02	2.413E-06	2.265E-06	315.9	.000				
203	61.56	132	7.33E+03	1.00E-02	9.94E-03	.993	1.01E-02	2.444E-04	2.315E-04	320.4	1.000				
204	61.56	132	6.80E+03	1.13E-02	1.13E-02	.931	1.01E-02	2.721E-04	2.592E-04	321.0	.931				
205	61.56	132	6.27E+03	1.26E-02	1.26E-02	.870	1.01E-02	2.998E-04	2.878E-04	321.8	.870				
206	61.56	132	5.74E+03	1.39E-02	1.39E-02	.807	1.01E-02	2.191E-04	2.069E-04	320.1	.807				
207	61.56	132	5.21E+03	1.52E-02	1.52E-02	.742	1.01E-02	1.744E-04	1.655E-04	319.1	.742				
208	61.56	132	4.68E+03	1.65E-02	1.65E-02	.672	1.01E-02	1.297E-04	1.244E-04	318.1	.672				
209	61.56	132	4.15E+03	1.78E-02	1.78E-02	.603	1.01E-02	8.50E-05	8.09E-05	317.1	.603				

ORIGINAL PAGE IS  
OF POOR QUALITY





**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

REPORT MDC E1248  
 JSC 09651

X#	6.150E+01	ML	/HREF#	2.172E-01
X#	6.664E+01	ML	/HREF#	8.601E-01
X#	7.172E+01	ML	/HREF#	6.445E-01
X#	7.681E+01	ML	/HREF#	8.744E-01
X#	8.188E+01	ML	/HREF#	8.068E-01
X#	8.696E+01	ML	/HREF#	7.244E-01
X#	9.204E+01	ML	/HREF#	7.118E-01
X#	9.712E+01	ML	/HREF#	6.790E-01
X#	1.022E+02	ML	/HREF#	6.698E-01
X#	1.073E+02	ML	/HREF#	6.333E-01
X#	1.124E+02	ML	/HREF#	6.807E-01
X#	1.175E+02	ML	/HREF#	6.116E-01
X#	1.226E+02	ML	/HREF#	6.831E-01
X#	1.276E+02	ML	/HREF#	6.067E-01
X#	1.327E+02	ML	/HREF#	6.264E-01
X#	1.377E+02	ML	/HREF#	6.272E-01
X#	1.428E+02	ML	/HREF#	6.537E-01
X#	1.478E+02	ML	/HREF#	6.591E-01
X#	4.785E+01	ML	/HREF#	9.739E-01
X#	6.158E+01	ML	/HREF#	9.75E-01
X#	8.650E+01	ML	/HREF#	7.537E-01
X#	1.251E+02	ML	/HREF#	6.077E-01

R.L. TRANSITION DISTANCE = 16.46 CM  
 FULLY TURBULENT 3-L. CONDITIONS AT = 71.72 CM







# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 129

AMES 1.5 FT PWT TEST (1c2), C.O. PLUMER, IN-LINE RSI GAP RUN ( 55) 1973

TT = 1.93E+01 (K)  
 PT = 2.10E+06 (W/M2)  
 WT = 1.15E+06 (J/KG)  
 REAMETER = 6.90E+04  
 MCH = 9.10E  
 RHC VCL = 5.04E+03 (1/G/M2-S)  
 HAN/MT = 1.00E+03 MT  
 HAN/MT = 1.07E+03 ML  
 NLCC = NL(2NC, JSEP COND.1)

GAP LENGTH = 191.6 (CM)  
 GAP WIDTH = .063 (CM)  
 GAP DEPTH = 2.332 (CM)  
 ORIENTATION = 0.70 (DEG)  
 OS = 1.0481E+05 (W/M2)  
 100-POSITION = 1

T/C	X (CM)	YV (CM)	Z7 (CM)	Q (W/M2)	HL (KG/M2-S)	HT (KG/M2-S)	HL/HREF	HREF (KG/M2-S)	STL	STT	T (K)	HLCC (KG/M2-S)	HL/MLCC	HLCC/HREF	ML/HE
1	137.24	-.51	1.97E+04	7.78E+02	6.70E+02	7.77	9.19E+02	9.19E+04	7.752E-04	317.5	1.000	1.32E-02	1.000	.782	.955
2	132.70	-.51	4.98E+04	7.28E+02	6.02E+02	6.54	8.94E+02	8.32E-04	7.832E-04	318.1	1.000	1.32E-02	1.000	.771	.941
3	136.16	-.51	1.35E+04	7.07E+02	6.59E+02	8.59	8.73E+02	8.31E-04	7.740E-04	318.2	1.000	1.22E-02	1.000	.724	.883
4	127.63	-.51	5.71E+04	7.33E+02	7.94E+02	8.62	8.51E+02	8.407E-04	9.030E-04	318.4	1.000	1.60E-02	1.000	.611	.746
5	125.09	-.51	5.44E+04	7.43E+02	6.94E+02	8.85	8.24E+02	8.407E-04	8.029E-04	318.7	1.000	1.60E-02	1.000	.443	.541
6	122.56	-.51	5.41E+04	7.43E+02	7.33E+02	3.23	8.57E+02	8.51E-04	9.137E-04	318.4	1.000	1.60E-02	1.000	.249	.303
7	117.47	-.51	5.31E+04	7.75E+02	7.31E+02	1.036	7.457E+02	8.92E-04	9.459E-04	318.7	1.000	2.73E-03	1.000	.182	.213
8	115.37	-.51	5.39E+04	7.86E+02	7.43E+02	1.204	7.457E+02	9.090E-04	9.599E-04	319.3	1.000	7.00E-04	1.000	.062	.085
9	107.31	-.51	5.33E+04	7.56E+02	7.55E+02	1.437	5.305E+02	9.237E-04	9.738E-04	319.2	1.000	7.44E-05	1.000	.004	.065
10	102.29	-.51	5.38E+04	7.83E+02	7.44E+02	1.870	4.332E+02	9.765E-04	8.576E-04	319.5	1.000	1.31E-04	1.000	.000	.000
11	97.12	-.51	5.70E+04	6.84E+02	6.47E+02	1.957	3.498E+02	7.920E-04	7.492E-04	319.9	1.000	1.31E-04	1.000	.000	.000
12	92.74	-.51	3.77E+04	4.98E+02	5.20E+02	1.951	2.62E+02	6.335E-04	6.312E-04	320.2	1.000	1.31E-04	1.000	.000	.000
13	88.96	-.51	2.81E+04	3.98E+02	3.51E+02	1.651	2.237E+02	4.433E-04	4.176E-04	321.4	1.000	1.31E-04	1.000	.000	.000
14	81.00	-.51	1.87E+04	2.78E+02	2.58E+02	1.462	1.667E+02	3.159E-04	2.988E-04	321.7	1.000	1.31E-04	1.000	.000	.000
15	76.80	-.51	1.37E+04	1.93E+02	1.93E+02	1.137	1.432E+02	2.230E-04	2.301E-04	321.9	1.000	1.31E-04	1.000	.000	.000
16	71.72	-.51	1.07E+04	1.56E+02	1.48E+02	1.021	1.432E+02	1.839E-04	1.740E-04	322.3	1.000	1.31E-04	1.000	.000	.000
17	68.64	-.51	9.67E+03	1.44E+02	1.38E+02	1.026	1.447E+02	1.666E-04	1.575E-04	322.9	1.000	1.31E-04	1.000	.000	.000
18	64.56	-.51	9.22E+03	1.38E+02	1.31E+02	.955	1.447E+02	1.539E-04	1.512E-04	323.9	1.000	1.31E-04	1.000	.000	.000
19	58.48	-.51	9.29E+03	1.36E+02	1.25E+02	.890	1.529E+02	1.574E-04	1.489E-04	324.3	1.000	1.31E-04	1.000	.000	.000
20	51.39	-.51	9.27E+03	1.36E+02	1.25E+02	.835	1.629E+02	1.574E-04	1.488E-04	324.3	1.000	1.31E-04	1.000	.000	.000
21	48.96	-.51	9.27E+03	1.37E+02	1.37E+02	.821	1.621E+02	1.586E-04	1.508E-04	325.3	1.000	1.31E-04	1.000	.000	.000
22	46.31	-.51	9.47E+03	1.39E+02	1.32E+02	.817	1.711E+02	1.619E-04	1.522E-04	324.6	1.000	1.31E-04	1.000	.000	.000
23	43.77	-.51	9.67E+03	1.44E+02	1.31E+02	.833	1.732E+02	1.631E-04	1.541E-04	324.4	1.000	1.31E-04	1.000	.000	.000
24	43.24	-.51	9.97E+03	1.44E+02	1.37E+02	.824	1.732E+02	1.631E-04	1.541E-04	324.4	1.000	1.31E-04	1.000	.000	.000
25	38.74	-.51	1.17E+04	1.44E+02	1.36E+02	.830	1.733E+02	1.637E-04	1.605E-04	323.4	1.000	1.31E-04	1.000	.000	.000
133	47.59	1.02	9.31E+03	1.32E+02	1.25E+02	.780	1.536E+02	1.536E-04	1.442E-04	330.6	1.000	1.32E-02	1.000	.782	.955
165	47.59	1.02	5.76E+03	1.70E+02	1.23E+02	.771	1.686E+02	1.536E-04	1.437E-04	332.6	1.000	1.32E-02	1.000	.771	.941
107	67.59	-.51	8.22E+03	1.22E+02	1.15E+02	.774	1.689E+02	1.411E-04	1.384E-04	331.4	1.000	1.22E-02	1.000	.724	.883
110	72.59	-.25	8.22E+03	1.03E+02	1.15E+02	.611	1.689E+02	1.32E-04	1.32E-04	329.5	1.000	1.60E-02	1.000	.611	.746
119	47.59	.76	4.75E+03	1.03E+02	.76E+02	.611	1.689E+02	8.63E-05	8.17E-05	327.5	1.000	1.60E-02	1.000	.443	.541
111	47.59	.70	4.87E+03	8.15E+01	.73E+02	.365	1.686E+02	7.42E-05	6.71E-05	326.0	1.000	6.15E-03	1.000	.365	.446
112	47.59	.70	2.61E+03	1.19E+02	.73E+02	.249	1.634E+02	4.94E-05	4.54E-05	324.0	1.000	4.19E-03	1.000	.249	.303
113	47.59	.70	2.67E+03	2.33E+01	.72E+02	.112	1.636E+02	2.76E-05	2.65E-05	322.3	1.000	2.73E-03	1.000	.182	.213
114	47.59	.70	2.67E+02	1.93E+01	.72E+02	.062	1.636E+02	9.99E-06	9.59E-06	320.2	1.000	7.00E-04	1.000	.062	.085
115	47.59	.70	1.12E+01	1.93E+01	.72E+02	.014	1.636E+02	5.61E-07	5.12E-07	313.1	1.000	7.44E-05	1.000	.004	.065
273	61.56	1.02	5.76E+03	1.32E+02	1.24E+02	.940	1.436E+02	1.564E-04	1.479E-04	325.6	1.000	1.35E-02	1.000	.940	.940
205	61.56	1.02	5.39E+03	1.31E+02	1.24E+02	.933	1.436E+02	1.571E-04	1.475E-04	326.5	1.000	1.31E-02	1.000	.913	.940
297	61.56	.51	7.22E+03	1.25E+02	1.17E+02	.839	1.442E+02	1.433E-04	1.355E-04	326.1	1.000	1.24E-02	1.000	.859	.900
208	61.56	.25	7.65E+03	1.23E+02	1.16E+02	.779	1.442E+02	1.293E-04	1.259E-04	324.8	1.000	1.12E-02	1.000	.778	.815
211	61.56	.25	7.77E+03	1.14E+01	.73E+02	.652	1.444E+02	9.73E-05	9.223E-05	323.0	1.000	8.45E-03	1.000	.586	.613



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC F1248  
JSC 09651

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(182), C-3. BLUMER, IN-LINE RSI GAP RUN( 65) 1973

3.6 FT MHT TEST

T/C	Y (CM)	WV (CM)	ZZ (CM)	C (M/2)	ML (KG/M2-S)	FT (KG/M2-S)	ML/MREF	MREF (KG/M2-S)	STL	STT	T (K)	MLCC (K/M2-S)	ML/WLCC	MLCC/MREF	ML/WE
211	61.56	0.00	0.15	4.05E+03	5.65E-03	6.29E-03	.460	1.444E-02	7.592E-05	7.279E-05	315.3	1.05E-03	1.000	.460	.482
212	61.56	0.00	0.25	3.21E+03	4.66E-03	4.41E-03	.323	1.444E-02	5.389E-05	5.100E-05	310.7	4.06E-03	1.000	.323	.338
213	61.56	0.00	0.38												
214	61.56	0.00	0.44												
215	61.56	0.00	0.69												
306	86.96	0.75	1.00	2.40E+04	3.51E-02	3.38E-02	1.547	2.265E-02	4.057E-04	3.837E-04	321.1	3.85E-02	1.000	1.547	.932
307	86.96	0.51	0.00	2.11E+04	3.14E-02	2.97E-02	1.361	2.273E-02	3.631E-04	3.435E-04	320.0	3.14E-02	1.000	1.361	.831
308	86.96	0.25	0.00	1.70E+04	2.60E-02	2.48E-02	1.143	2.276E-02	3.017E-04	2.848E-04	319.0	2.60E-02	1.000	1.143	.608
309	86.96	0.04	0.00	1.67E+04	2.32E-02	2.29E-02	1.019	2.279E-02	2.687E-04	2.543E-04	318.6	2.32E-02	1.000	1.019	.614
310	86.96	0.00	0.15	1.37E+04	1.92E-02	1.78E-02	.827	2.281E-02	2.183E-04	2.109E-04	317.4	1.89E-02	1.000	.827	.490
312	86.96	0.00	0.25	7.85E+03	1.39E-02	1.38E-02	.486	2.281E-02	1.256E-04	1.198E-04	315.6	1.39E-02	1.000	.486	.289
313	86.96	0.00	0.38	4.44E+03	7.81E-03	7.39E-03	.342	2.280E-02	9.036E-05	8.559E-05	309.0	7.81E-03	1.000	.342	.286
314	86.96	0.00	0.64	1.57E+03	2.01E-03	1.91E-03	.088	2.280E-02	2.324E-05	2.200E-05	311.0	2.01E-03	1.000	.088	.093
315	86.96	0.00	0.99												
316	86.96	0.00	1.14												
317	86.96	0.00	1.40												
318	86.96	0.00	1.65												
319	86.96	0.00	1.90												
320	86.96	0.00	2.29												
506	125.06	0.76	0.00	3.34E+04	6.30E-02	5.98E-02	.750	8.320E-02	7.294E-04	6.901E-04	318.0	6.30E-02	1.000	.750	.688
507	125.06	0.51	0.00	4.19E+04	5.86E-02	5.55E-02	.731	8.312E-02	7.833E-04	6.655E-04	317.2	6.00E-02	1.000	.731	.625
508	125.06	0.25	0.00	4.74E+04	5.06E-02	4.95E-02	.706	8.304E-02	6.789E-04	6.428E-04	316.2	5.80E-02	1.000	.706	.597
509	125.06	0.15	0.00	3.62E+04	5.23E-02	4.95E-02	.630	8.301E-02	6.159E-04	5.731E-04	314.0	5.23E-02	1.000	.630	.712
510	125.06	0.04	0.00	3.33E+04	4.65E-02	4.50E-02	.584	8.291E-02	5.612E-04	5.312E-04	314.9	4.85E-02	1.000	.584	.668
511	125.06	0.00	0.15	3.11E+04	4.38E-02	4.38E-02	.548	8.291E-02	5.262E-04	4.979E-04	314.7	4.55E-02	1.000	.548	.619
512	125.06	0.00	0.25	2.99E+04	3.65E-02	3.27E-02	.416	8.291E-02	3.999E-04	3.783E-04	314.4	3.65E-02	1.000	.416	.478
513	125.06	0.00	0.38	1.67E+04	2.41E-02	2.28E-02	.291	8.291E-02	2.709E-04	2.643E-04	313.0	2.41E-02	1.000	.291	.328
514	125.06	0.00	0.64	4.77E+03	6.82E-03	6.49E-03	.162	8.291E-02	7.991E-05	7.469E-05	312.7	6.82E-03	1.000	.162	.093
515	125.06	0.00	0.99	4.87E+02	7.01E-04	6.63E-04	.070	8.291E-02	8.109E-06	7.676E-06	311.4	7.01E-04	1.000	.070	.018
516	125.06	0.00	1.14												
517	125.06	0.00	1.40												
518	125.06	0.00	1.65												
519	125.06	0.00	1.90												
520	125.06	0.00	2.29												

EDGE HEATING USED FOR HF  
 X= 3.87E+01 ML /MREF= 8.11E-01  
 X= 4.12E+01 ML /MREF= 8.24E-01  
 X= 4.37E+01 ML /MREF= 8.34E-01  
 X= 4.61E+01 ML /MREF= 8.41E-01  
 X= 4.85E+01 ML /MREF= 8.47E-01  
 X= 5.11E+01 ML /MREF= 8.51E-01

5.3-177

ORIGINAL PAGE IS  
OF POOR QUALITY



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

RS	5.74E+01	ML	/HREFF=	0.71E+01
XS	6.156E+01	ML	/HREFF=	9.52E-01
XS	6.68E+01	ML	/HREFF=	1.136E+01
XS	7.17E+01	ML	/HREFF=	1.041E+00
XS	7.630E+01	ML	/HREFF=	1.187E+00
XS	8.188E+01	ML	/HREFF=	1.462E+00
XS	8.696E+01	ML	/HREFF=	1.661E+00
XS	9.234E+01	ML	/HREFF=	1.993E+00
XS	9.732E+01	ML	/HREFF=	1.957E+00
XS	1.022E+02	ML	/HREFF=	1.849E+00
XS	1.073E+02	ML	/HREFF=	1.497E+00
XS	1.124E+02	ML	/HREFF=	1.216E+00
XS	1.175E+02	ML	/HREFF=	1.036E+00
XS	1.226E+02	ML	/HREFF=	9.225E-01
XS	1.276E+02	ML	/HREFF=	8.833E-01
XS	1.327E+02	ML	/HREFF=	8.619E-01
XS	1.377E+02	ML	/HREFF=	8.432E-01
XS	1.427E+02	ML	/HREFF=	8.242E-01
XS	1.477E+02	ML	/HREFF=	7.705E-01
XS	4.759E+01	ML	/HREFF=	7.235E-01
XS	6.156E+01	ML	/HREFF=	8.737E-01
XS	8.686E+01	ML	/HREFF=	1.547E+00
XS	1.251E+02	ML	/HREFF=	7.313E-01

9.1. TRANSITION DISTANCE = 31.3 CM  
 FULLY TURBULENT 3.1. CONDITIONS AT = 97.12 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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ANALYSIS 3.5 FT WHT TEST (102), C.S. BLUMER, IN-LINE RSI GAP P/INT (55) 1373  
 TT = 1.1721E+03(K) GAP LENGTH = 101.60(1CM)  
 FT = 5.1386E+05(IN/M2) GAP WIDTH = .063(CM)  
 MT = 1.2459E+06(J/KG) GAP DEPTH = 1.016(CM)  
 REAMETER = 1.5331E+06 ORIENTATION = 2.00(DEG)  
 MACH = 5.10C QS = 9.1924E+04(W/M2)  
 RHO VEL = 2.42E+03(KG/M2-S) 403-POSITION# 1  
 HAW/MT = 1.99E FOR MY  
 HAW/MT = 0.87% FOR HL  
 MLCC = MLCC(ND, ORSEP COND.,)

T/C	X (CM)	Y (CM)	ZZ (CM)	Q (W/M2)	HL (KG/M2-S)	MT (KG/M2-S)	ML/HREFF	HREF (KG/M2-S)	STL	STT	T (K)	MLCC (KG/M2-S)	ML/MLCC	MLCC/HREF	ML/ME
1	135.24	-51	1.00	1.28E+03	6.23E-03	5.91E-03	1.104	5.64E-03	3.106E-04	2.947E-04	302.4	0.20E-03	1.000	.982	
2	135.78	-51	1.00	1.92E+03	6.29E-03	5.97E-03	1.096	5.72E-03	3.134E-04	2.973E-04	302.6	0.20E-03	1.000	.980	
3	136.16	-51	1.00	2.81E+03	6.14E-03	5.83E-03	1.076	5.21E-03	3.051E-04	2.903E-04	302.7	0.20E-03	1.000	.980	
4	127.53	-51	1.00	4.09E+03	6.28E-03	5.96E-03	1.078	5.89E-03	3.131E-04	2.971E-04	302.7	0.20E-03	1.000	.980	
5	125.09	-51	1.00	4.61E+03	6.15E-03	5.83E-03	1.028	5.98E-03	3.063E-04	2.908E-04	302.9	0.20E-03	1.000	.980	
6	125.46	-51	1.00	4.87E+03	6.36E-03	6.13E-03	1.027	6.06E-03	3.104E-04	2.945E-04	302.8	0.20E-03	1.000	.980	
7	117.67	-51	1.00	4.92E+03	6.29E-03	6.17E-03	1.014	6.20E-03	3.139E-04	2.975E-04	303.3	0.20E-03	1.000	.980	
8	112.37	-51	1.00	4.94E+03	6.32E-03	6.30E-03	1.015	6.29E-03	3.151E-04	2.991E-04	303.4	0.20E-03	1.000	.980	
9	107.31	-51	1.00	4.99E+03	6.35E-03	6.35E-03	1.015	6.35E-03	3.182E-04	3.017E-04	303.5	0.20E-03	1.000	.980	
10	102.28	-51	1.00	4.84E+03	6.28E-03	6.08E-03	.928	6.67E-03	3.088E-04	2.938E-04	303.7	0.20E-03	1.000	.980	
11	97.12	-51	1.00	4.87E+03	6.35E-03	6.35E-03	.910	6.67E-03	3.107E-04	2.947E-04	303.9	0.20E-03	1.000	.980	
12	92.04	-51	1.00	4.79E+03	6.31E-03	6.31E-03	.894	7.04E-03	2.997E-04	2.884E-04	304.5	0.20E-03	1.000	.980	
13	84.88	-51	1.00	4.92E+03	6.15E-03	6.15E-03	.878	7.18E-03	3.143E-04	2.982E-04	304.7	0.20E-03	1.000	.980	
14	81.00	-51	1.00	4.92E+03	6.26E-03	6.26E-03	.855	7.30E-03	3.111E-04	2.955E-04	304.7	0.20E-03	1.000	.980	
15	76.80	-51	1.00	4.87E+03	6.26E-03	6.26E-03	.855	7.30E-03	3.111E-04	2.955E-04	304.7	0.20E-03	1.000	.980	
16	72.72	-51	1.00	5.17E+03	6.82E-03	6.82E-03	.895	7.40E-03	3.332E-04	3.138E-04	304.9	0.20E-03	1.000	.980	
17	68.64	-51	1.00	5.08E+03	7.17E-03	6.81E-03	.915	7.83E-03	3.578E-04	3.398E-04	305.2	0.20E-03	1.000	.980	
18	63.56	-51	1.00	5.74E+03	7.37E-03	6.35E-03	.872	8.49E-03	3.673E-04	3.482E-04	305.7	0.20E-03	1.000	.980	
19	58.48	-51	1.00	5.97E+03	7.65E-03	7.26E-03	.856	8.52E-03	3.615E-04	3.619E-04	306.0	0.20E-03	1.000	.980	
20	53.39	-51	1.00	6.17E+03	7.92E-03	7.52E-03	.848	9.34E-03	3.946E-04	3.745E-04	306.0	0.20E-03	1.000	.980	
21	48.86	-51	1.00	6.43E+03	8.26E-03	7.83E-03	.841	9.58E-03	4.112E-04	3.902E-04	306.5	0.20E-03	1.000	.980	
22	46.31	-51	1.00	6.57E+03	8.44E-03	8.17E-03	.851	9.86E-03	4.295E-04	3.988E-04	306.3	0.20E-03	1.000	.980	
23	43.77	-51	1.00	6.68E+03	8.57E-03	8.17E-03	.845	1.015E-02	4.272E-04	4.053E-04	306.2	0.20E-03	1.000	.980	
24	41.24	-51	1.00	6.99E+03	8.96E-03	8.50E-03	.859	1.045E-02	4.469E-04	4.235E-04	306.4	0.20E-03	1.000	.980	
25	38.78	-51	1.00	7.11E+03	9.12E-03	8.65E-03	.852	1.071E-02	4.544E-04	4.318E-04	305.7	0.20E-03	1.000	.980	
103	47.59	1.32	1.00	6.36E+03	8.25E-03	7.77E-03	.843	9.719E-03	4.086E-04	3.873E-04	309.0	0.20E-03	1.000	.643	
104	47.59	1.32	1.00	6.21E+03	8.99E-03	7.40E-03	.824	9.719E-03	3.998E-04	3.793E-04	309.7	0.20E-03	1.000	.624	
107	47.59	1.32	1.00	5.97E+03	7.70E-03	7.10E-03	.792	9.719E-03	3.838E-04	3.637E-04	309.1	7.87E-03	1.000	.792	
108	47.59	1.32	1.00	5.17E+03	6.61E-03	6.26E-03	.679	9.719E-03	3.291E-04	3.120E-04	309.4	6.60E-03	1.000	.679	
109	47.59	1.32	1.00	3.47E+03	4.71E-03	4.47E-03	.495	9.722E-03	2.349E-04	2.228E-04	307.3	4.71E-03	1.000	.495	
111	47.59	1.32	1.00	2.99E+03	3.76E-03	3.56E-03	.337	9.722E-03	1.872E-04	1.776E-04	306.9	3.76E-03	1.000	.336	
112	47.59	1.32	1.00	1.77E+03	2.28E-03	2.16E-03	.234	9.722E-03	1.135E-04	1.075E-04	306.8	2.28E-03	1.000	.234	
113	47.59	1.32	1.00	9.18E+02	1.18E-03	1.12E-03	.121	9.722E-03	5.869E-05	5.565E-05	305.6	1.18E-03	1.000	.121	
114	47.59	1.32	1.00	1.67E+02	2.30E-04	2.10E-04	.024	9.722E-03	1.117E-05	1.088E-05	304.5	2.30E-04	1.000	.024	
115	47.59	1.32	1.00	5.68E+03	7.23E-03	6.91E-03	.862	8.452E-03	3.612E-04	3.445E-04	306.3	7.23E-03	1.000	.862	
203	61.56	1.02	1.00	5.68E+03	7.23E-03	6.91E-03	.863	8.452E-03	3.612E-04	3.445E-04	306.7	7.23E-03	1.000	.863	
207	61.56	1.02	1.00	5.41E+03	6.75E-03	6.58E-03	.822	8.448E-03	3.485E-04	3.284E-04	305.6	6.95E-03	1.000	.822	
238	61.56	1.02	1.00	4.82E+03	6.19E-03	5.87E-03	.732	8.448E-03	3.088E-04	2.924E-04	306.1	6.19E-03	1.000	.732	
210	61.56	1.02	1.00	3.45E+03	4.68E-03	4.43E-03	.503	8.448E-03	2.337E-04	2.213E-04	303.4	4.68E-03	1.000	.503	



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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AMES 1.5 FT. HWT TEST (1021), C.E. BLUMER, IN-LINE RSI GAP RUN (00) 1973

T/C	X	Y	Z	Q	ML	HT	ML/HREFF	HREF	STL	STT	T	MLCC	ML/MLCC	MLCC/HREF	ML/HE
(C4)	(C4)	(C4)	(C4)	(W/M2)	(KG/M2-S)	(KG/M2-S)	(ML/HREFF)	(KG/M2-S)	(K)	(K)	(K)	(K)	(K)	(K)	(K)
211	61.96	6.00	.15	2.87E+02	3.45E-03	3.45E-03	.424	8.444E-03	1.774E-04	1.692E-04	303.4	2.58E-03	1.000	.424	.40E
212	61.96	6.00	.25	1.92E+02	2.45E-03	2.33E-03	.290	8.444E-03	1.222E-04	1.159E-04	303.7	1.45E-03	1.000	.290	.383
213	61.96	6.00	.30	1.77E+02	2.30E-03	2.30E-03	.261	8.444E-03	3.132E-07	3.011E-07	330.7	6.30E-06	1.000	.261	.811
214	61.96	6.00	.40	1.62E+02	2.15E-03	2.15E-03	.210	8.444E-03	4.627E-06	3.992E-06	382.0	1.44E-05	1.000	.210	.811
215	61.96	6.00	.50	1.47E+02	2.00E-03	2.00E-03	.160	8.444E-03	1.527E-07	1.446E-07	330.7	3.07E-06	1.000	.160	.811
376	86.96	8.75	.60	2.20E+02	3.77E-03	2.90E-03	.000	7.037E-03	1.527E-07	1.446E-07	330.7	3.07E-06	1.000	.000	.811
377	86.96	8.75	.70	2.05E+02	3.62E-03	2.75E-03	.133	7.037E-03	4.665E-05	4.415E-05	337.4	9.36E-04	1.000	.133	.156
378	86.96	8.75	.80	1.90E+02	3.47E-03	2.60E-03	.266	7.037E-03	2.232E-04	2.184E-04	302.2	4.50E-03	1.000	.266	.762
379	86.96	8.75	.90	1.75E+02	3.32E-03	2.45E-03	.400	7.037E-03	1.846E-04	1.791E-04	302.2	3.70E-03	1.000	.400	.616
411	112.96	11.50	.10	2.45E+02	4.31E-03	3.44E-03	.459	7.037E-03	1.677E-04	1.593E-04	302.2	3.31E-03	1.000	.459	.556
412	112.96	11.50	.20	2.30E+02	4.16E-03	3.29E-03	.366	7.037E-03	1.283E-04	1.217E-04	302.2	2.57E-03	1.000	.366	.428
413	112.96	11.50	.30	2.15E+02	4.01E-03	3.14E-03	.211	7.037E-03	7.394E-05	7.117E-05	302.4	1.48E-03	1.000	.211	.247
414	112.96	11.50	.40	2.00E+02	3.86E-03	2.99E-03	.094	7.037E-03	3.204E-05	3.116E-05	301.4	6.59E-04	1.000	.094	.111
415	112.96	11.50	.50	1.85E+02	3.71E-03	2.84E-03	.071	7.037E-03	2.469E-05	2.342E-05	301.1	4.95E-04	1.000	.071	.082
416	112.96	11.50	.60	1.70E+02	3.56E-03	2.69E-03	.080	7.037E-03	1.523E-07	1.449E-07	301.0	3.86E-06	1.000	.080	.091
417	112.96	11.50	.70	1.55E+02	3.41E-03	2.54E-03	.094	6.211E-03	2.707E-04	2.626E-04	303.1	5.95E-03	1.000	.094	.082
418	112.96	11.50	.80	1.40E+02	3.26E-03	2.39E-03	.084	6.211E-03	2.735E-04	2.595E-04	302.0	5.49E-03	1.000	.084	.072
419	112.96	11.50	.90	1.25E+02	3.11E-03	2.24E-03	.703	6.211E-03	2.161E-04	2.239E-04	302.0	4.74E-03	1.000	.703	.782
420	112.96	11.50	1.00	1.10E+02	2.96E-03	2.09E-03	.642	6.211E-03	2.321E-04	1.898E-04	302.5	4.81E-03	1.000	.642	.638
421	112.96	11.50	1.10	1.00E+02	2.81E-03	1.94E-03	.542	6.211E-03	1.677E-04	1.591E-04	302.5	3.36E-03	1.000	.542	.535
422	112.96	11.50	1.20	9.00E+01	2.66E-03	1.79E-03	.477	6.211E-03	1.474E-04	1.401E-04	302.3	2.96E-03	1.000	.477	.471
423	112.96	11.50	1.30	8.00E+01	2.51E-03	1.64E-03	.281	6.211E-03	8.77E-05	8.262E-05	302.0	1.75E-03	1.000	.281	.278
424	112.96	11.50	1.40	7.00E+01	2.36E-03	1.49E-03	.164	6.211E-03	5.084E-05	4.824E-05	301.5	1.02E-03	1.000	.164	.162
425	112.96	11.50	1.50	6.00E+01	2.21E-03	1.34E-03	.024	6.211E-03	7.229E-06	6.922E-06	300.6	1.66E-04	1.000	.024	.023
576	125.96	12.25	.60	2.45E+02	4.31E-03	3.44E-03	.082	6.211E-03	2.645E-04	2.509E-04	302.4	5.31E-03	1.000	.082	.059
577	125.96	12.25	.70	2.30E+02	4.16E-03	3.29E-03	.044	6.211E-03	2.544E-04	2.411E-04	302.4	5.10E-03	1.000	.044	.026
578	125.96	12.25	.80	2.15E+02	4.01E-03	3.14E-03	.747	6.211E-03	2.233E-04	2.119E-04	302.3	4.48E-03	1.000	.747	.727
579	125.96	12.25	.90	2.00E+02	3.86E-03	2.99E-03	.627	6.211E-03	1.873E-04	1.773E-04	302.2	3.76E-03	1.000	.627	.616
611	125.96	12.25	1.00	1.85E+02	3.71E-03	2.84E-03	.551	6.211E-03	1.674E-04	1.561E-04	301.8	3.31E-03	1.000	.551	.536
612	125.96	12.25	1.10	1.70E+02	3.56E-03	2.69E-03	.470	6.211E-03	1.405E-04	1.333E-04	302.2	2.82E-03	1.000	.470	.458
613	125.96	12.25	1.20	1.55E+02	3.41E-03	2.54E-03	.377	6.211E-03	9.159E-05	8.690E-05	302.0	1.84E-03	1.000	.377	.298
614	125.96	12.25	1.30	1.40E+02	3.26E-03	2.39E-03	.221	6.211E-03	6.611E-05	6.272E-05	301.6	1.33E-03	1.000	.221	.215
615	125.96	12.25	1.40	1.25E+02	3.11E-03	2.24E-03	.044	6.211E-03	1.327E-05	1.260E-05	301.2	2.66E-04	1.000	.044	.043

EDGE HEATING USED FOR ME  
 X= 3.870E+01 ML /HREF= 6.16E-01  
 X= 4.12E+01 ML /HREF= 6.52E-01  
 X= 4.377E+01 ML /HREF= 6.89E-01  
 X= 4.631E+01 ML /HREF= 7.26E-01  
 X= 4.886E+01 ML /HREF= 7.63E-01



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

X	7.135E+01	ML	/MREFF	7.493E+01
X	9.648E+01	ML	/MREFF	6.577E-01
X	6.156E+01	ML	/MREFF	8.717E-01
X	6.644E+01	ML	/MREFF	9.150E-11
X	7.172E+01	ML	/MREFF	8.948E-01
X	7.688E+01	ML	/MREFF	8.534E-01
X	8.198E+01	ML	/MREFF	8.781E-01
X	8.696E+01	ML	/MREFF	8.536E-01
X	9.244E+01	ML	/MREFF	9.114E-11
X	9.712E+01	ML	/MREFF	9.243E-01
X	1.025E+02	ML	/MREFF	9.756E-01
X	1.073E+02	ML	/MREFF	1.033E+00
X	1.124E+02	ML	/MREFF	1.014E+00
X	1.179E+02	ML	/MREFF	1.028E+00
X	1.228E+02	ML	/MREFF	1.027E+00
X	1.251E+02	ML	/MREFF	1.028E+00
X	1.276E+02	ML	/MREFF	1.035E+00
X	1.322E+02	ML	/MREFF	1.056E+00
X	1.327E+02	ML	/MREFF	1.058E+00
X	1.352E+02	ML	/MREFF	1.074E+00
X	4.759E+01	ML	/MREFF	7.919E-01
X	6.156E+01	ML	/MREFF	8.224E-01
X	8.644E+01	ML	/MREFF	1.033E-11
X	1.124E+02	ML	/MREFF	8.437E-01
X	1.251E+02	ML	/MREFF	8.448E-01

8.6. TRANSITION DISTANCE = 61.56 CM  
FULLY TURBULENT 3.6. CONDITIONS AT = 71.72 CM

ORIGINAL PAGE IS  
OF POOR QUALITY





# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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AMEC 3.5 FT NHT TEST (1P2), G.B. BLUMER, IN-LINE RSI GAP RUN( 67) 1973

T/G	X (CH)	Y (CH)	ZZ (CM)	G (W/M2)	HL (KG/M2-S)	HT (KG/M2-S)	HL/HREFF	HREF (KJ/M2-S)	STL	STT	T (K)	MLGC (K/(M2-S))	MLGC/MREF	ML/WHE
211	61.96	0.70	.15	3.44E+03	4.08E-03	4.95E-03	.652	1.041E-02	1.166E-04	1.066E-04	305.9	1.00E-03	.462	.678
212	61.96	0.83	.25	3.44E+03	3.39E-03	3.21E-03	.326	1.041E-02	8.009E-05	7.603E-05	306.1	3.39E-03	.326	.637
213	61.96	0.96	.36	3.44E+03	3.39E-03	3.21E-03	.326	1.041E-02	8.009E-05	7.603E-05	306.1	3.39E-03	.326	.637
214	61.96	0.00	.64	3.44E+03	3.39E-03	3.21E-03	.326	1.041E-02	8.009E-05	7.603E-05	306.1	3.39E-03	.326	.637
215	61.96	0.00	.89	3.44E+03	3.39E-03	3.21E-03	.326	1.041E-02	8.009E-05	7.603E-05	306.1	3.39E-03	.326	.637
306	86.96	.75	.00	8.00E+02	1.10E-03	1.11E-03	.110	9.995E-03	2.813E-05	2.650E-05	337.8	1.10E-03	.110	.338
307	86.96	.51	0.00	8.00E+02	6.52E-03	6.38E-03	.652	1.031E-02	1.553E-04	1.474E-04	337.5	6.52E-03	.652	.720
308	86.96	.25	0.00	8.00E+02	5.27E-03	4.99E-03	.527	1.031E-02	1.259E-04	1.194E-04	336.8	5.27E-03	.527	.582
309	86.96	.15	.00	3.77E+03	4.75E-03	4.50E-03	.474	1.002E-02	1.234E-04	1.074E-04	336.5	4.75E-03	.474	.524
310	86.96	.04	.00	3.44E+03	4.75E-03	4.50E-03	.474	1.002E-02	1.234E-04	1.074E-04	336.5	4.75E-03	.474	.524
311	86.96	0.07	.15	2.82E+03	3.54E-03	3.73E-03	.393	1.002E-02	9.403E-05	8.908E-05	335.9	3.54E-03	.393	.375
312	86.96	0.00	.25	1.77E+03	2.47E-03	2.34E-03	.246	1.002E-02	5.806E-05	5.577E-05	334.9	2.47E-03	.246	.272
313	86.96	0.00	.38	8.12E+02	1.83E-03	1.87E-03	.113	1.002E-02	2.692E-05	2.551E-05	332.6	1.83E-03	.113	.124
314	86.96	0.00	.64	9.15E+01	1.27E-04	1.21E-04	.013	1.002E-02	3.039E-06	2.879E-06	333.5	1.27E-04	.013	.014
315	86.96	0.00	.89	9.15E+01	1.27E-04	1.21E-04	.013	1.002E-02	3.039E-06	2.879E-06	333.5	1.27E-04	.013	.014
406	112.36	.76	.00	5.55E+03	1.34E-02	1.27E-02	.679	2.221E-02	3.196E-04	3.027E-04	336.6	1.34E-02	.679	.884
407	112.36	.51	0.00	9.49E+03	1.93E-02	1.82E-02	.601	2.201E-02	3.163E-04	2.977E-04	336.5	1.93E-02	.601	.873
408	112.36	.25	0.00	2.26E+03	1.57E-02	1.49E-02	.522	2.211E-02	2.722E-04	2.607E-04	336.0	1.57E-02	.522	.760
409	112.36	.15	.00	7.00E+03	9.50E-03	9.30E-03	.447	2.213E-02	2.361E-04	2.237E-04	335.5	9.50E-03	.447	.650
410	112.36	.04	.00	5.37E+03	4.19E-03	7.78E-03	.370	2.215E-02	1.999E-04	1.892E-04	335.4	4.19E-03	.370	.538
411	112.36	0.00	.15	4.97E+03	6.93E-03	6.57E-03	.313	2.216E-02	1.654E-04	1.567E-04	335.0	6.93E-03	.313	.458
412	112.36	0.00	.25	2.52E+03	4.78E-03	3.85E-03	.183	2.216E-02	9.698E-05	9.180E-05	334.4	4.78E-03	.183	.267
413	112.36	0.00	.38	1.57E+03	2.20E-03	2.16E-03	.103	2.216E-02	5.428E-05	5.143E-05	333.7	2.20E-03	.103	.169
414	112.36	0.00	.64	2.74E+02	3.84E-04	3.61E-04	.017	2.216E-02	9.084E-06	8.608E-06	332.3	3.84E-04	.017	.025
415	112.36	0.00	.89	2.74E+02	3.84E-04	3.61E-04	.017	2.216E-02	9.084E-06	8.608E-06	332.3	3.84E-04	.017	.025
506	125.86	.76	0.00	1.57E+04	2.19E-02	2.07E-02	.600	3.603E-02	5.225E-04	4.959E-04	336.2	2.19E-02	.600	.873
507	125.86	.51	0.00	1.57E+04	2.19E-02	2.07E-02	.600	3.603E-02	5.225E-04	4.959E-04	336.2	2.19E-02	.600	.873
508	125.86	.25	0.00	1.42E+04	1.99E-02	1.88E-02	.549	3.614E-02	4.737E-04	4.607E-04	335.0	1.99E-02	.549	.789
509	125.86	.15	0.00	1.18E+04	1.66E-02	1.56E-02	.485	3.616E-02	3.922E-04	3.715E-04	335.5	1.66E-02	.485	.693
510	125.86	.04	0.00	2.07E+04	1.43E-02	1.33E-02	.396	3.616E-02	3.417E-04	2.933E-04	335.2	1.43E-02	.396	.559
511	125.86	0.00	.15	9.24E+03	1.22E-02	1.22E-02	.356	3.619E-02	3.075E-04	2.933E-04	334.7	1.22E-02	.356	.512
512	125.86	0.00	.25	6.11E+03	3.38E-03	7.99E-03	.232	3.619E-02	2.000E-04	1.835E-04	334.3	3.38E-03	.232	.333
513	125.86	0.00	.38	2.90E+03	1.17E-03	3.95E-03	.115	3.619E-02	9.342E-05	9.420E-05	333.3	4.17E-03	.115	.165
514	125.86	0.00	.64	4.29E+02	1.67E-04	4.22E-04	.024	3.619E-02	2.063E-05	1.961E-05	333.3	8.67E-04	.024	.034
515	125.86	0.00	.89	4.29E+02	1.67E-04	4.22E-04	.024	3.619E-02	2.063E-05	1.961E-05	333.3	8.67E-04	.024	.034

EDGE HEATING USED FOR ME  
 X= 3.879E+01 HL /HREFF= 8.969E-01  
 X= 4.124E+01 HL /HREFF= 5.035E-01  
 X= 4.377E+01 HL /HREFF= 2.937E-01  
 X= 4.631E+01 HL /HREFF= 5.127E-01  
 X= 5.896E+01 HL /HREFF= 5.114E-01





**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

X#	9.137E+01	ML	/MREFF#	7.011E-01
X#	9.648E+01	ML	/MREFF#	9.648E-01
X#	6.150E+01	ML	/MREFF#	6.150E-01
X#	6.665E+01	ML	/MREFF#	6.665E-01
X#	7.172E+01	ML	/MREFF#	7.172E-01
X#	7.680E+01	ML	/MREFF#	7.680E-01
X#	8.188E+01	ML	/MREFF#	8.188E-01
X#	8.696E+01	ML	/MREFF#	8.696E-01
X#	9.204E+01	ML	/MREFF#	9.204E-01
X#	9.712E+01	ML	/MREFF#	9.712E-01
X#	1.022E+02	ML	/MREFF#	1.022E-01
X#	1.072E+02	ML	/MREFF#	1.072E-01
X#	1.122E+02	ML	/MREFF#	1.122E-01
X#	1.172E+02	ML	/MREFF#	1.172E-01
X#	1.222E+02	ML	/MREFF#	1.222E-01
X#	1.272E+02	ML	/MREFF#	1.272E-01
X#	1.322E+02	ML	/MREFF#	1.322E-01
X#	1.372E+02	ML	/MREFF#	1.372E-01
X#	1.422E+02	ML	/MREFF#	1.422E-01
X#	1.472E+02	ML	/MREFF#	1.472E-01
X#	1.522E+02	ML	/MREFF#	1.522E-01
X#	1.572E+02	ML	/MREFF#	1.572E-01
X#	1.622E+02	ML	/MREFF#	1.622E-01
X#	1.672E+02	ML	/MREFF#	1.672E-01
X#	1.722E+02	ML	/MREFF#	1.722E-01
X#	1.772E+02	ML	/MREFF#	1.772E-01
X#	1.822E+02	ML	/MREFF#	1.822E-01
X#	1.872E+02	ML	/MREFF#	1.872E-01
X#	1.922E+02	ML	/MREFF#	1.922E-01
X#	1.972E+02	ML	/MREFF#	1.972E-01
X#	2.022E+02	ML	/MREFF#	2.022E-01
X#	2.072E+02	ML	/MREFF#	2.072E-01
X#	2.122E+02	ML	/MREFF#	2.122E-01
X#	2.172E+02	ML	/MREFF#	2.172E-01
X#	2.222E+02	ML	/MREFF#	2.222E-01
X#	2.272E+02	ML	/MREFF#	2.272E-01
X#	2.322E+02	ML	/MREFF#	2.322E-01
X#	2.372E+02	ML	/MREFF#	2.372E-01
X#	2.422E+02	ML	/MREFF#	2.422E-01
X#	2.472E+02	ML	/MREFF#	2.472E-01
X#	2.522E+02	ML	/MREFF#	2.522E-01
X#	2.572E+02	ML	/MREFF#	2.572E-01
X#	2.622E+02	ML	/MREFF#	2.622E-01
X#	2.672E+02	ML	/MREFF#	2.672E-01
X#	2.722E+02	ML	/MREFF#	2.722E-01
X#	2.772E+02	ML	/MREFF#	2.772E-01
X#	2.822E+02	ML	/MREFF#	2.822E-01
X#	2.872E+02	ML	/MREFF#	2.872E-01
X#	2.922E+02	ML	/MREFF#	2.922E-01
X#	2.972E+02	ML	/MREFF#	2.972E-01
X#	3.022E+02	ML	/MREFF#	3.022E-01
X#	3.072E+02	ML	/MREFF#	3.072E-01
X#	3.122E+02	ML	/MREFF#	3.122E-01
X#	3.172E+02	ML	/MREFF#	3.172E-01
X#	3.222E+02	ML	/MREFF#	3.222E-01
X#	3.272E+02	ML	/MREFF#	3.272E-01
X#	3.322E+02	ML	/MREFF#	3.322E-01
X#	3.372E+02	ML	/MREFF#	3.372E-01
X#	3.422E+02	ML	/MREFF#	3.422E-01
X#	3.472E+02	ML	/MREFF#	3.472E-01
X#	3.522E+02	ML	/MREFF#	3.522E-01
X#	3.572E+02	ML	/MREFF#	3.572E-01
X#	3.622E+02	ML	/MREFF#	3.622E-01
X#	3.672E+02	ML	/MREFF#	3.672E-01
X#	3.722E+02	ML	/MREFF#	3.722E-01
X#	3.772E+02	ML	/MREFF#	3.772E-01
X#	3.822E+02	ML	/MREFF#	3.822E-01
X#	3.872E+02	ML	/MREFF#	3.872E-01
X#	3.922E+02	ML	/MREFF#	3.922E-01
X#	3.972E+02	ML	/MREFF#	3.972E-01
X#	4.022E+02	ML	/MREFF#	4.022E-01
X#	4.072E+02	ML	/MREFF#	4.072E-01
X#	4.122E+02	ML	/MREFF#	4.122E-01
X#	4.172E+02	ML	/MREFF#	4.172E-01
X#	4.222E+02	ML	/MREFF#	4.222E-01
X#	4.272E+02	ML	/MREFF#	4.272E-01
X#	4.322E+02	ML	/MREFF#	4.322E-01
X#	4.372E+02	ML	/MREFF#	4.372E-01
X#	4.422E+02	ML	/MREFF#	4.422E-01
X#	4.472E+02	ML	/MREFF#	4.472E-01
X#	4.522E+02	ML	/MREFF#	4.522E-01
X#	4.572E+02	ML	/MREFF#	4.572E-01
X#	4.622E+02	ML	/MREFF#	4.622E-01
X#	4.672E+02	ML	/MREFF#	4.672E-01
X#	4.722E+02	ML	/MREFF#	4.722E-01
X#	4.772E+02	ML	/MREFF#	4.772E-01
X#	4.822E+02	ML	/MREFF#	4.822E-01
X#	4.872E+02	ML	/MREFF#	4.872E-01
X#	4.922E+02	ML	/MREFF#	4.922E-01
X#	4.972E+02	ML	/MREFF#	4.972E-01
X#	5.022E+02	ML	/MREFF#	5.022E-01
X#	5.072E+02	ML	/MREFF#	5.072E-01
X#	5.122E+02	ML	/MREFF#	5.122E-01
X#	5.172E+02	ML	/MREFF#	5.172E-01
X#	5.222E+02	ML	/MREFF#	5.222E-01
X#	5.272E+02	ML	/MREFF#	5.272E-01
X#	5.322E+02	ML	/MREFF#	5.322E-01
X#	5.372E+02	ML	/MREFF#	5.372E-01
X#	5.422E+02	ML	/MREFF#	5.422E-01
X#	5.472E+02	ML	/MREFF#	5.472E-01
X#	5.522E+02	ML	/MREFF#	5.522E-01
X#	5.572E+02	ML	/MREFF#	5.572E-01
X#	5.622E+02	ML	/MREFF#	5.622E-01
X#	5.672E+02	ML	/MREFF#	5.672E-01
X#	5.722E+02	ML	/MREFF#	5.722E-01
X#	5.772E+02	ML	/MREFF#	5.772E-01
X#	5.822E+02	ML	/MREFF#	5.822E-01
X#	5.872E+02	ML	/MREFF#	5.872E-01
X#	5.922E+02	ML	/MREFF#	5.922E-01
X#	5.972E+02	ML	/MREFF#	5.972E-01
X#	6.022E+02	ML	/MREFF#	6.022E-01
X#	6.072E+02	ML	/MREFF#	6.072E-01
X#	6.122E+02	ML	/MREFF#	6.122E-01
X#	6.172E+02	ML	/MREFF#	6.172E-01
X#	6.222E+02	ML	/MREFF#	6.222E-01
X#	6.272E+02	ML	/MREFF#	6.272E-01
X#	6.322E+02	ML	/MREFF#	6.322E-01
X#	6.372E+02	ML	/MREFF#	6.372E-01
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X#	6.472E+02	ML	/MREFF#	6.472E-01
X#	6.522E+02	ML	/MREFF#	6.522E-01
X#	6.572E+02	ML	/MREFF#	6.572E-01
X#	6.622E+02	ML	/MREFF#	6.622E-01
X#	6.672E+02	ML	/MREFF#	6.672E-01
X#	6.722E+02	ML	/MREFF#	6.722E-01
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X#	6.922E+02	ML	/MREFF#	6.922E-01
X#	6.972E+02	ML	/MREFF#	6.972E-01
X#	7.022E+02	ML	/MREFF#	7.022E-01
X#	7.072E+02	ML	/MREFF#	7.072E-01
X#	7.122E+02	ML	/MREFF#	7.122E-01
X#	7.172E+02	ML	/MREFF#	7.172E-01
X#	7.222E+02	ML	/MREFF#	7.222E-01
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X#	7.322E+02	ML	/MREFF#	7.322E-01
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X#	7.472E+02	ML	/MREFF#	7.472E-01
X#	7.522E+02	ML	/MREFF#	7.522E-01
X#	7.572E+02	ML	/MREFF#	7.572E-01
X#	7.622E+02	ML	/MREFF#	7.622E-01
X#	7.672E+02	ML	/MREFF#	7.672E-01
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X#	8.022E+02	ML	/MREFF#	8.022E-01
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X#	8.122E+02	ML	/MREFF#	8.122E-01
X#	8.172E+02	ML	/MREFF#	8.172E-01
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X#	8.922E+02	ML	/MREFF#	8.922E-01
X#	8.972E+02	ML	/MREFF#	8.972E-01
X#	9.022E+02	ML	/MREFF#	9.022E-01
X#	9.072E+02	ML	/MREFF#	9.072E-01
X#	9.122E+02	ML	/MREFF#	9.122E-01
X#	9.172E+02	ML	/MREFF#	9.172E-01
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X#	9.522E+02	ML	/MREFF#	9.522E-01
X#	9.572E+02	ML	/MREFF#	9.572E-01
X#	9.622E+02	ML	/MREFF#	9.622E-01
X#	9.672E+02	ML	/MREFF#	9.672E-01
X#	9.722E+02	ML	/MREFF#	9.722E-01
X#	9.772E+02	ML	/MREFF#	9.772E-01
X#	9.822E+02	ML	/MREFF#	9.822E-01
X#	9.872E+02	ML	/MREFF#	9.872E-01
X#	9.922E+02	ML	/MREFF#	9.922E-01
X#	9.972E+02	ML	/MREFF#	9.972E-01
X#	1.002E+03	ML	/MREFF#	1.002E-01

E.L. TRANSITION DISTANCE = 76.87 CM  
 FULLY TURBULENT 9.1. CONDITION: AT #376.17 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 135

1973

AMES 3.5 FT HWT TEST (1.02), C-3. BLUMER, IN-LINE RSI GAP RUN( 50)

TT = 1.1341E+3(K)  
 PT = 2.0091E+16(N/M2)  
 HT = 1.2733E+22(L/KG)  
 GE/MEYER = 6.4261E+26  
 WACH = 5.17E  
 QNO VEL = 9.2341E+11(KG/P2-S)  
 HAW/HT = 4.905 FOR HT  
 PLCC = ML(2ND. ORDER CONV.))

GAP LENGTH = 191.67(CM)  
 GAP WIDTH = .063(CM)  
 GAP DEPTH = 1.416(CM)  
 ORIENTATION = 0.00(DEG)  
 OS = 1.7570E+05(N/M2)  
 MOD. POSITION = 1

T/C	X (CM)	YV (CM)	Z7 (CM)	G (N/M2)	ML (KG/M2-S)	PT (KG/M2-S)	ML/HREFF	HREF (KG/M2-S)	STL	STT (K)	T (K)	MLCC (KG/M2-S)	ML/MLCC	MLCC/HREF	ML/ME
1	135.24	-.51	3.00	8.55E+04	7.915E-02	7.12E-02	.873	6.611E-02	9.005E-04	8.533E-04	311.4	1.38E-02	1.000	.644	.951
2	132.70	-.51	3.00	5.63E+04	7.625E-02	7.22E-02	.910	6.374E-02	9.120E-04	8.649E-04	312.0	1.38E-02	1.000	.636	.937
3	130.16	-.51	3.00	5.67E+04	7.635E-02	7.25E-02	.916	6.316E-02	8.931E-04	8.562E-04	312.6	1.38E-02	1.000	.671	.68E
4	127.63	-.51	3.00	5.67E+04	7.68E-02	7.27E-02	.972	7.899E-02	9.199E-04	8.716E-04	312.8	1.38E-02	1.000	.671	.762
5	125.09	-.51	3.00	5.67E+04	7.89E-02	7.28E-02	.998	7.662E-02	9.169E-04	8.686E-04	312.3	1.38E-02	1.000	.684	.543
6	122.56	-.51	3.00	5.71E+04	7.74E-02	7.33E-02	1.042	7.442E-02	9.535E-04	8.784E-04	312.3	1.38E-02	1.000	.684	.445
7	117.47	-.51	3.00	5.89E+04	7.98E-02	7.54E-02	1.166	6.626E-02	9.535E-04	9.035E-04	312.6	1.38E-02	1.000	.684	.302
8	112.37	-.51	3.00	5.89E+04	7.98E-02	7.54E-02	1.340	5.925E-02	9.561E-04	9.035E-04	312.6	1.38E-02	1.000	.684	.152
9	117.31	-.51	3.00	5.89E+04	7.98E-02	7.54E-02	1.619	4.892E-02	9.511E-04	9.111E-04	312.7	1.38E-02	1.000	.684	.032
10	112.23	-.51	3.00	5.89E+04	7.98E-02	7.54E-02	1.889	3.957E-02	8.958E-04	8.487E-04	312.9	1.38E-02	1.000	.684	.032
11	97.12	-.51	3.00	4.64E+04	6.29E-02	5.96E-02	1.964	3.281E-02	7.535E-04	7.139E-04	313.1	1.38E-02	1.000	.684	.032
12	92.34	-.51	3.00	3.86E+04	4.86E-02	4.01E-02	1.880	2.175E-02	5.825E-04	5.522E-04	313.5	1.38E-02	1.000	.684	.032
13	86.96	-.51	3.00	2.44E+04	3.32E-02	3.15E-02	1.563	2.124E-02	3.979E-04	3.778E-04	314.3	1.38E-02	1.000	.684	.032
14	81.88	-.51	3.00	1.78E+04	2.82E-02	2.28E-02	1.386	1.744E-02	2.896E-04	2.763E-04	314.7	1.38E-02	1.000	.684	.032
15	76.90	-.51	3.00	1.29E+04	1.75E-02	1.48E-02	1.160	1.512E-02	2.102E-04	1.991E-04	314.6	1.38E-02	1.000	.684	.032
16	71.72	-.51	3.00	1.11E+04	1.31E-02	1.43E-02	1.105	1.369E-02	1.612E-04	1.591E-04	314.6	1.38E-02	1.000	.684	.032
17	66.64	-.51	3.00	1.07E+04	1.46E-02	1.39E-02	1.085	1.393E-02	1.755E-04	1.662E-04	315.3	1.38E-02	1.000	.684	.032
18	61.56	-.51	3.00	1.45E+04	1.42E-02	1.34E-02	1.017	1.393E-02	1.698E-04	1.608E-04	316.2	1.38E-02	1.000	.684	.032
19	56.48	-.51	3.00	1.47E+04	1.41E-02	1.33E-02	.955	1.473E-02	1.696E-04	1.597E-04	316.4	1.38E-02	1.000	.684	.032
20	51.39	-.51	3.00	1.65E+04	1.43E-02	1.35E-02	.910	1.569E-02	1.711E-04	1.621E-04	316.8	1.38E-02	1.000	.684	.032
21	48.86	-.51	3.00	1.65E+04	1.43E-02	1.35E-02	.894	1.639E-02	1.717E-04	1.628E-04	317.6	1.38E-02	1.000	.684	.032
22	46.31	-.51	3.00	1.56E+04	1.47E-02	1.38E-02	.894	1.641E-02	1.758E-04	1.665E-04	317.3	1.38E-02	1.000	.684	.032
23	43.77	-.51	3.00	1.99E+04	1.49E-02	1.44E-02	.888	1.673E-02	1.768E-04	1.686E-04	317.3	1.38E-02	1.000	.684	.032
24	41.24	-.51	3.00	1.13E+04	1.54E-02	1.45E-02	.912	1.704E-02	1.842E-04	1.744E-04	317.6	1.38E-02	1.000	.684	.032
25	38.70	-.51	3.00	1.16E+04	1.55E-02	1.47E-02	.894	1.736E-02	1.863E-04	1.762E-04	318.0	1.38E-02	1.000	.684	.032
103	47.59	1.52	3.00	1.13E+04	1.38E-02	1.31E-02	.848	1.625E-02	1.652E-04	1.556E-04	324.1	1.38E-02	1.000	.644	.951
104	47.59	1.72	3.00	1.13E+04	1.36E-02	1.29E-02	.896	1.625E-02	1.627E-04	1.540E-04	325.5	1.38E-02	1.000	.636	.937
105	47.59	1.92	3.00	9.32E+03	1.28E-02	1.21E-02	.785	1.625E-02	1.536E-04	1.454E-04	323.8	1.38E-02	1.000	.671	.68E
106	47.59	2.12	3.00	7.32E+03	1.03E-02	1.13E-02	.671	1.625E-02	1.315E-04	1.237E-04	321.6	1.38E-02	1.000	.671	.762
107	47.59	2.32	3.00	5.75E+03	7.86E-03	7.45E-03	.684	1.625E-02	9.424E-05	9.925E-05	318.9	1.38E-02	1.000	.684	.543
108	47.59	2.52	3.00	4.27E+03	5.86E-03	6.16E-03	.597	1.625E-02	7.737E-05	7.528E-05	317.6	1.38E-02	1.000	.684	.445
109	47.59	2.72	3.00	3.21E+03	4.37E-03	4.14E-03	.425	1.625E-02	5.237E-05	4.931E-05	315.8	1.38E-02	1.000	.684	.302
110	47.59	2.92	3.00	1.80E+03	2.89E-03	2.17E-03	.211	1.625E-02	2.274E-05	2.597E-05	313.6	1.38E-02	1.000	.684	.152
111	47.59	3.12	3.00	3.48E+02	5.24E-04	4.97E-04	.032	1.625E-02	6.202E-06	5.956E-06	311.0	1.38E-02	1.000	.684	.032
203	61.56	1.52	3.00	9.60E+03	1.32E-02	1.25E-02	.957	1.385E-02	1.559E-04	1.503E-04	318.5	1.32E-02	1.000	.957	.94
204	61.56	1.72	3.00	9.67E+03	1.33E-02	1.26E-02	.957	1.376E-02	1.549E-04	1.503E-04	318.9	1.32E-02	1.000	.957	.941
205	61.56	1.92	3.00	9.27E+03	1.19E-02	1.19E-02	.939	1.386E-02	1.511E-04	1.431E-04	317.0	1.32E-02	1.000	.949	.693
206	61.56	2.12	3.00	8.21E+03	1.12E-02	1.12E-02	.886	1.389E-02	1.341E-04	1.271E-04	317.5	1.32E-02	1.000	.684	.782
207	61.56	2.32	3.00	6.33E+03	9.15E-03	9.15E-03	.622	1.396E-02	1.036E-04	9.611E-05	315.4	1.32E-02	1.000	.622	.611

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RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 136

AMES 3.5 FT. HWT TEST (1P2), G.A. BLUMER, IN-LINE RSI GAP RUM (66) 1973

TAC	X (CM)	Y (CM)	Z (CM)	C (W/M2)	ML (KG/M2-S)	HT (KG/M2-S)	ML/MREF	HREF (KG/M2-S)	STL	STT	T (K)	MLCC (K/M2-S)	ML/MCC	MLCC/MREF	ML/ME
211	61.56	0.00	0.00	6.92E+03	6.64E+03	6.92E+03	.477	1.391E-02	7.935E-05	7.537E-05	339.0	2.644E-03	1.000	.477	.489
212	61.56	0.00	0.00	3.67E+03	4.95E+03	4.95E+03	.356	1.391E-02	7.935E-05	6.622E-05	310.2	4.955E-03	1.000	.356	.489
213	61.56	0.00	0.00	7.91E+03	1.12E+05	1.12E+05	.001	1.391E-02	1.339E-07	1.266E-07	338.6	1.12E+05	1.000	.001	.804
215	61.56	0.00	0.00	7.61E+03	1.07E+05	1.07E+05	.001	2.091E-02	1.291E-07	1.212E-07	338.7	1.07E+05	1.000	.001	.804
306	86.96	.75	0.00	1.71E+04	2.87E+03	2.87E+03	.123	2.103E-02	3.385E-05	2.917E-05	339.9	2.87E+03	1.000	.123	.879
307	86.96	.75	0.00	1.71E+04	2.87E+03	2.87E+03	.123	2.103E-02	3.385E-05	2.917E-05	339.9	2.87E+03	1.000	.123	.879
308	86.96	.75	0.00	1.71E+04	2.87E+03	2.87E+03	.123	2.103E-02	3.385E-05	2.917E-05	339.9	2.87E+03	1.000	.123	.879
309	86.96	.75	0.00	1.71E+04	2.87E+03	2.87E+03	.123	2.103E-02	3.385E-05	2.917E-05	339.9	2.87E+03	1.000	.123	.879
310	86.96	.75	0.00	1.71E+04	2.87E+03	2.87E+03	.123	2.103E-02	3.385E-05	2.917E-05	339.9	2.87E+03	1.000	.123	.879
311	86.96	.75	0.00	1.71E+04	2.87E+03	2.87E+03	.123	2.103E-02	3.385E-05	2.917E-05	339.9	2.87E+03	1.000	.123	.879
312	86.96	.75	0.00	1.71E+04	2.87E+03	2.87E+03	.123	2.103E-02	3.385E-05	2.917E-05	339.9	2.87E+03	1.000	.123	.879
313	86.96	.75	0.00	1.71E+04	2.87E+03	2.87E+03	.123	2.103E-02	3.385E-05	2.917E-05	339.9	2.87E+03	1.000	.123	.879
314	86.96	.75	0.00	1.71E+04	2.87E+03	2.87E+03	.123	2.103E-02	3.385E-05	2.917E-05	339.9	2.87E+03	1.000	.123	.879
315	86.96	.75	0.00	1.71E+04	2.87E+03	2.87E+03	.123	2.103E-02	3.385E-05	2.917E-05	339.9	2.87E+03	1.000	.123	.879
406	112.36	.75	0.00	5.21E+04	7.09E+02	6.72E+02	1.191	5.981E-02	8.512E-04	8.658E-04	312.7	7.09E+02	1.000	1.191	.807
407	112.36	.75	0.00	5.21E+04	7.09E+02	6.72E+02	1.191	5.981E-02	8.512E-04	8.658E-04	312.7	7.09E+02	1.000	1.191	.807
408	112.36	.75	0.00	5.21E+04	7.09E+02	6.72E+02	1.191	5.981E-02	8.512E-04	8.658E-04	312.7	7.09E+02	1.000	1.191	.807
409	112.36	.75	0.00	5.21E+04	7.09E+02	6.72E+02	1.191	5.981E-02	8.512E-04	8.658E-04	312.7	7.09E+02	1.000	1.191	.807
410	112.36	.75	0.00	5.21E+04	7.09E+02	6.72E+02	1.191	5.981E-02	8.512E-04	8.658E-04	312.7	7.09E+02	1.000	1.191	.807
411	112.36	.75	0.00	5.21E+04	7.09E+02	6.72E+02	1.191	5.981E-02	8.512E-04	8.658E-04	312.7	7.09E+02	1.000	1.191	.807
412	112.36	.75	0.00	5.21E+04	7.09E+02	6.72E+02	1.191	5.981E-02	8.512E-04	8.658E-04	312.7	7.09E+02	1.000	1.191	.807
413	112.36	.75	0.00	5.21E+04	7.09E+02	6.72E+02	1.191	5.981E-02	8.512E-04	8.658E-04	312.7	7.09E+02	1.000	1.191	.807
414	112.36	.75	0.00	5.21E+04	7.09E+02	6.72E+02	1.191	5.981E-02	8.512E-04	8.658E-04	312.7	7.09E+02	1.000	1.191	.807
415	112.36	.75	0.00	5.21E+04	7.09E+02	6.72E+02	1.191	5.981E-02	8.512E-04	8.658E-04	312.7	7.09E+02	1.000	1.191	.807
506	125.06	.75	0.00	4.99E+04	6.76E+02	6.40E+02	.879	7.609E-02	8.096E-04	7.671E-04	311.8	6.76E+02	1.000	.879	.879
507	125.06	.75	0.00	4.99E+04	6.76E+02	6.40E+02	.879	7.609E-02	8.096E-04	7.671E-04	311.8	6.76E+02	1.000	.879	.879
508	125.06	.75	0.00	4.99E+04	6.76E+02	6.40E+02	.879	7.609E-02	8.096E-04	7.671E-04	311.8	6.76E+02	1.000	.879	.879
509	125.06	.75	0.00	4.99E+04	6.76E+02	6.40E+02	.879	7.609E-02	8.096E-04	7.671E-04	311.8	6.76E+02	1.000	.879	.879
510	125.06	.75	0.00	4.99E+04	6.76E+02	6.40E+02	.879	7.609E-02	8.096E-04	7.671E-04	311.8	6.76E+02	1.000	.879	.879
511	125.06	.75	0.00	4.99E+04	6.76E+02	6.40E+02	.879	7.609E-02	8.096E-04	7.671E-04	311.8	6.76E+02	1.000	.879	.879
512	125.06	.75	0.00	4.99E+04	6.76E+02	6.40E+02	.879	7.609E-02	8.096E-04	7.671E-04	311.8	6.76E+02	1.000	.879	.879
513	125.06	.75	0.00	4.99E+04	6.76E+02	6.40E+02	.879	7.609E-02	8.096E-04	7.671E-04	311.8	6.76E+02	1.000	.879	.879
514	125.06	.75	0.00	4.99E+04	6.76E+02	6.40E+02	.879	7.609E-02	8.096E-04	7.671E-04	311.8	6.76E+02	1.000	.879	.879
515	125.06	.75	0.00	4.99E+04	6.76E+02	6.40E+02	.879	7.609E-02	8.096E-04	7.671E-04	311.8	6.76E+02	1.000	.879	.879

EDGE HEATING USFC FOR ME

X#	3.07E+01	ML	/MREF#	6.94E-01
X#	4.12E+01	ML	/MREF#	5.13E-01
X#	4.37E+01	ML	/MREF#	7.83E-01
X#	4.63E+01	ML	/MREF#	8.37E-01
X#	5.00E+01	ML	/MREF#	7.31E-01



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

X	9.138E+01	ML	/MREFF	9.138E+01
X	9.648E+01	ML	/MREFF	9.648E+01
X	6.176E+01	ML	/MREFF	6.176E+01
X	6.624E+01	ML	/MREFF	6.624E+01
X	7.172E+01	ML	/MREFF	7.172E+01
X	7.680E+01	ML	/MREFF	7.680E+01
X	8.188E+01	ML	/MREFF	8.188E+01
X	8.696E+01	ML	/MREFF	8.696E+01
X	9.204E+01	ML	/MREFF	9.204E+01
X	9.712E+01	ML	/MREFF	9.712E+01
X	1.022E+02	ML	/MREFF	1.022E+02
X	1.073E+02	ML	/MREFF	1.073E+02
X	1.124E+02	ML	/MREFF	1.124E+02
X	1.175E+02	ML	/MREFF	1.175E+02
X	1.226E+02	ML	/MREFF	1.226E+02
X	1.277E+02	ML	/MREFF	1.277E+02
X	1.328E+02	ML	/MREFF	1.328E+02
X	1.379E+02	ML	/MREFF	1.379E+02
X	1.430E+02	ML	/MREFF	1.430E+02
X	4.759E+01	ML	/MREFF	4.759E+01
X	6.156E+01	ML	/MREFF	6.156E+01
X	8.696E+01	ML	/MREFF	8.696E+01
X	1.124E+02	ML	/MREFF	1.124E+02
X	1.251E+02	ML	/MREFF	1.251E+02

8.4. TRANSITION DISTANCE = 5.039 CM  
FULLY TURBULENT 3-L. CONDITIONS AT = 97.12 CM

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# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 137

AMES 1.5 FT HWY TEST (1-2), C.B. JUMPER, IN-LINE RSI GAP FURN (59) 1973

TT = 1.131E+03 (M)  
 FT = 2.776E+02 (IN/M2)  
 HT = 1.157E+05 (J/KG)  
 SE/METER = 5.661E+04  
 MACH = 3.117  
 RMO VEL = 9.333E+01 (KG/P2-S)  
 WAM/MT = 1.074 FOR HT  
 WAM/PT = 7.874 FOR HL  
 HLCC = HL(2ND, JFCR FOND,\*)

GAP LENGTH = 101.50 (CM)  
 GAP WIDTH = .063 (CM)  
 GAP DEPTH = .038 (CM)  
 ORIENTATION = 0.30 (DEG)  
 QS = 1.7331E+05 (M/M2)  
 MOC POSITION = 1

T/C	X (CM)	Y (CM)	Z (CM)	G (G)	HL (KG/M2-S)	MT (KG/M2-S)	HL/MREF	HREF (KG/M2-S)	STL	STT	T (KG/M2-S)	HL/HLCC	HLCC/MREF	ML/HE
1	132.24	-.51	1.72	5.52E+04	7.57E+02	7.17E+02	.876	2.64E+02	9.09E+04	8.60E+04	314.3	1.000	.664	1.000
2	132.70	-.51	3.39	5.61E+04	7.68E+02	7.20E+02	.914	8.47E+02	9.22E+04	8.73E+04	314.5	1.000	.859	1.000
3	133.16	-.51	5.07	5.70E+04	7.80E+02	7.10E+02	.917	8.17E+02	9.29E+04	8.52E+04	314.6	1.000	.821	1.000
4	127.63	-.51	6.75	5.63E+04	7.73E+02	7.32E+02	.974	7.93E+02	9.27E+04	8.70E+04	314.6	1.000	.697	1.000
5	125.09	-.51	8.43	5.69E+04	7.67E+02	7.26E+02	.996	7.61E+02	9.20E+04	8.71E+04	314.6	1.000	.500	1.000
6	122.56	-.51	10.11	5.67E+04	7.77E+02	7.38E+02	1.041	7.46E+02	9.32E+04	8.83E+04	314.7	1.000	.486	1.000
7	117.47	-.51	11.79	5.68E+04	7.86E+02	7.54E+02	1.169	6.86E+02	9.55E+04	9.04E+04	314.9	1.000	.270	1.000
8	112.37	-.51	13.47	5.61E+04	7.96E+02	7.84E+02	1.330	5.98E+02	9.85E+04	9.05E+04	315.2	1.000	.209	1.000
9	107.27	-.51	15.15	5.67E+04	7.93E+02	7.94E+02	1.504	4.92E+02	9.47E+04	8.97E+04	315.2	1.000	.167	1.000
10	102.17	-.51	16.83	5.67E+04	7.81E+02	7.11E+02	1.687	3.97E+02	9.01E+04	8.53E+04	315.4	1.000	.131	1.000
11	97.07	-.51	18.51	5.69E+04	6.44E+02	6.18E+02	2.002	3.21E+02	7.73E+04	7.32E+04	315.5	1.000	.109	1.000
12	92.04	-.51	20.19	5.61E+04	5.14E+02	4.87E+02	2.525	2.19E+02	6.16E+04	5.04E+04	315.6	1.000	.084	1.000
13	86.94	-.51	21.87	5.63E+04	3.56E+02	3.77E+02	3.669	1.14E+02	4.27E+04	4.04E+04	316.2	1.000	.064	1.000
14	81.88	-.51	23.55	5.61E+04	2.61E+02	2.47E+02	4.490	5.17E+02	3.13E+04	2.96E+04	316.4	1.000	.050	1.000
15	76.81	-.51	25.23	5.63E+04	1.97E+02	1.77E+02	5.237	1.51E+02	2.24E+04	2.12E+04	316.4	1.000	.040	1.000
16	71.72	-.51	26.91	5.61E+04	1.57E+02	1.49E+02	6.145	1.14E+02	1.89E+04	1.70E+04	316.5	1.000	.035	1.000
17	66.64	-.51	28.59	5.60E+04	1.50E+02	1.49E+02	7.177	1.35E+02	1.79E+04	1.70E+04	316.7	1.000	.031	1.000
18	61.56	-.51	30.27	5.62E+04	1.45E+02	1.37E+02	8.664	1.39E+02	1.74E+04	1.65E+04	317.3	1.000	.027	1.000
19	56.48	-.51	31.95	5.67E+04	1.47E+02	1.37E+02	9.936	1.47E+02	1.73E+04	1.64E+04	317.9	1.000	.024	1.000
20	51.39	-.51	33.63	5.67E+04	1.47E+02	1.33E+02	1.135	1.57E+02	1.76E+04	1.67E+04	317.9	1.000	.021	1.000
21	46.31	-.51	35.31	5.61E+04	1.44E+02	1.36E+02	1.292	1.61E+02	1.72E+04	1.63E+04	318.6	1.000	.019	1.000
22	41.23	-.51	36.99	5.61E+04	1.40E+02	1.41E+02	1.462	1.64E+02	1.70E+04	1.68E+04	318.6	1.000	.017	1.000
23	36.15	-.51	38.67	5.61E+04	1.31E+02	1.43E+02	1.635	1.67E+02	1.68E+04	1.71E+04	318.5	1.000	.016	1.000
24	31.07	-.51	40.35	5.63E+04	1.25E+02	1.47E+02	1.811	1.68E+02	1.65E+04	1.76E+04	318.6	1.000	.015	1.000
25	26.00	-.51	42.03	5.62E+04	1.15E+02	1.50E+02	1.939	1.73E+02	1.69E+04	1.79E+04	318.1	1.000	.014	1.000
26	20.92	-.51	43.71	5.61E+04	1.04E+02	1.37E+02	2.064	1.82E+02	1.63E+04	1.59E+04	323.0	1.000	.013	1.000
27	15.84	-.51	45.39	5.61E+04	1.00E+02	1.37E+02	2.189	1.82E+02	1.67E+04	1.56E+04	323.0	1.000	.012	1.000
28	10.76	-.51	47.07	5.61E+04	1.00E+02	1.37E+02	2.314	1.82E+02	1.67E+04	1.56E+04	323.0	1.000	.011	1.000
29	5.68	-.51	48.75	5.61E+04	1.00E+02	1.37E+02	2.439	1.82E+02	1.67E+04	1.56E+04	323.0	1.000	.010	1.000
30	0.60	-.51	50.43	5.61E+04	1.00E+02	1.37E+02	2.564	1.82E+02	1.67E+04	1.56E+04	323.0	1.000	.009	1.000
31	0.52	-.51	52.11	5.61E+04	1.00E+02	1.37E+02	2.689	1.82E+02	1.67E+04	1.56E+04	323.0	1.000	.008	1.000
32	0.44	-.51	53.79	5.61E+04	1.00E+02	1.37E+02	2.814	1.82E+02	1.67E+04	1.56E+04	323.0	1.000	.007	1.000
33	0.36	-.51	55.47	5.61E+04	1.00E+02	1.37E+02	2.939	1.82E+02	1.67E+04	1.56E+04	323.0	1.000	.006	1.000
34	0.28	-.51	57.15	5.61E+04	1.00E+02	1.37E+02	3.064	1.82E+02	1.67E+04	1.56E+04	323.0	1.000	.005	1.000
35	0.20	-.51	58.83	5.61E+04	1.00E+02	1.37E+02	3.189	1.82E+02	1.67E+04	1.56E+04	323.0	1.000	.004	1.000
36	0.12	-.51	60.51	5.61E+04	1.00E+02	1.37E+02	3.314	1.82E+02	1.67E+04	1.56E+04	323.0	1.000	.003	1.000
37	0.04	-.51	62.19	5.61E+04	1.00E+02	1.37E+02	3.439	1.82E+02	1.67E+04	1.56E+04	323.0	1.000	.002	1.000
38	0.00	-.51	63.87	5.61E+04	1.00E+02	1.37E+02	3.564	1.82E+02	1.67E+04	1.56E+04	323.0	1.000	.001	1.000



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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AMES 3.5 FT HWT TEST (112) C.3. BLUMFR, IN-LINE RSI GAP RUH( 69) 1973

T/C	X (CM)	YV (CM)	ZZ (CM)	O (MM)	ML (KG/M2-S)	HT (KG/M2-S)	ML/MREF	MREF (KG/M2-S)	STL	STT	T (K)	MLCC (ML/M2-S)	MLCC/MREF	ML/HE
211	61.86	0.00	0.18	1.42E+03	6.59E-03	6.24E-03	0.473	1.393E-02	7.911E-15	7.499E-05	311.8	6.59E-03	1.000	0.55
212	61.86	0.00	0.25	3.56E+03	4.88E-03	4.50E-03	0.347	1.393E-02	5.803E-05	5.498E-05	311.8	4.88E-03	1.000	0.334
213	61.86	0.00	0.34											
214	61.86	0.00	0.64											
215	61.86	0.00	0.69											
306	86.96	0.75	0.71	1.77E+03	2.48E-03	2.35E-03	0.116	2.106E-02	2.977E-05	2.614E-05	340.8	2.48E-03	1.000	0.871
307	86.96	0.51	0.80	1.95E+04	2.59E-02	2.49E-02	1.225	2.113E-02	3.107E-04	2.942E-04	315.7	2.59E-02	1.000	0.734
308	86.96	0.23	1.00	1.63E+04	2.28E-02	2.12E-02	1.047	2.084E-04	2.884E-04	2.842E-04	314.5	2.28E-02	1.000	0.634
309	86.96	0.18	1.00	1.51E+04	2.07E-02	1.96E-02	0.979	2.119E-02	2.888E-04	2.857E-04	313.9	2.07E-02	1.000	0.587
310	86.96	0.04	1.00	1.52E+04	1.73E-02	1.64E-02	0.916	2.121E-02	2.077E-04	1.967E-04	312.7	1.73E-02	1.000	0.489
311	86.96	0.07	1.00	1.52E+04	1.89E-02	1.80E-02	0.988	2.121E-02	1.296E-04	1.199E-04	310.6	1.89E-02	1.000	0.298
312	86.96	0.14	0.78	4.27E+03	1.07E-02	1.00E-02	0.273	2.120E-02	6.950E-05	6.887E-05	306.7	1.07E-02	1.000	0.164
313	86.96	0.33	0.78	7.72E+02	9.54E-04	9.14E-04	0.045	2.120E-02	1.145E-05	1.085E-05	307.9	9.54E-04	1.000	0.027
314	86.96	0.31	0.77											
315	86.96	0.31	0.80											
406	112.36	0.75	0.71	5.10E+04	7.13E-02	6.75E-02	1.195	5.994E-02	0.535E-04	0.104E-04	313.3	7.13E-02	1.000	0.893
407	112.36	0.51	0.80	5.06E+04	5.98E-02	5.62E-02	1.166	5.992E-02	0.301E-04	7.939E-04	314.6	6.98E-02	1.000	0.876
408	112.36	0.25	0.80	4.57E+04	6.20E-02	5.93E-02	1.046	5.999E-02	7.315E-04	7.119E-04	313.9	6.20E-02	1.000	0.765
409	112.36	0.18	0.78	1.70E+04	5.68E-02	5.31E-02	0.935	5.985E-02	6.722E-04	6.387E-04	313.1	5.68E-02	1.000	0.782
410	112.36	0.04	0.78	3.51E+04	4.81E-02	4.55E-02	0.822	5.988E-02	5.765E-04	5.603E-04	312.9	4.81E-02	1.000	0.682
411	112.36	0.07	0.75	3.43E+04	4.12E-02	3.98E-02	0.688	5.988E-02	4.943E-04	4.603E-04	312.4	4.12E-02	1.000	0.517
412	112.36	0.14	0.25	1.57E+04	2.56E-02	2.42E-02	0.427	5.988E-02	3.082E-04	2.977E-04	311.2	2.56E-02	1.000	0.227
413	112.36	0.33	0.78	1.77E+04	1.46E-02	1.38E-02	0.244	5.988E-02	1.756E-04	1.658E-04	310.1	1.46E-02	1.000	0.103
414	112.36	0.38	0.84	1.77E+03	2.31E-03	2.19E-03	0.039	5.988E-02	2.773E-05	2.628E-05	308.1	2.31E-03	1.000	0.029
415	112.36	0.33	0.89											
506	125.96	0.76	0.71	7.93E+04	6.77E-02	6.49E-02	0.877	7.727E-02	8.127E-04	7.637E-04	315.3	6.77E-02	1.000	0.879
507	125.96	0.51	0.80	7.78E+04	5.53E-02	5.16E-02	0.846	7.721E-02	7.835E-04	7.421E-04	315.1	6.53E-02	1.000	0.849
508	125.96	0.25	0.80	4.60E+04	5.16E-02	5.03E-02	0.798	7.719E-02	7.393E-04	7.039E-04	314.4	6.16E-02	1.000	0.811
509	125.96	0.18	0.78	3.88E+04	5.27E-02	4.98E-02	0.683	7.719E-02	6.323E-04	5.987E-04	313.9	5.27E-02	1.000	0.885
510	125.96	0.04	0.78	3.42E+04	4.68E-02	4.37E-02	0.617	7.719E-02	5.617E-04	5.321E-04	313.0	4.68E-02	1.000	0.689
511	125.96	0.07	0.75	3.41E+04	4.39E-02	4.07E-02	0.557	7.719E-02	5.155E-04	4.944E-04	313.3	4.39E-02	1.000	0.594
512	125.96	0.14	0.75	2.11E+04	2.95E-02	2.80E-02	0.383	7.709E-02	3.543E-04	3.357E-04	312.3	2.95E-02	1.000	0.264
513	125.96	0.33	0.78	1.51E+04	1.89E-02	1.78E-02	0.243	7.709E-02	2.251E-04	2.133E-04	311.4	1.89E-02	1.000	0.241
514	125.96	0.38	0.84	2.67E+03	3.64E-03	3.45E-03	0.047	7.709E-02	4.358E-05	4.138E-05	309.7	3.64E-03	1.000	0.047
515	125.96	0.33	0.89	2.57E+02	3.48E-04	3.36E-04	0.035	7.709E-02	4.179E-06	3.955E-06	308.4	3.48E-04	1.000	0.005

COEF HEATING USCF FOR ME  
 X# 3.870E+01 ML /MREF# 9.037E-01  
 Y# 4.124E+01 ML /MREF# 5.114E-01  
 Z# 4.377E+01 ML /MREF# 9.811E-01  
 X# 4.631E+01 ML /MREF# 5.023E-01  
 Y# 4.924E+01 ML /MREF# 8.023E-01  
 Z# 5.177E+01 ML /MREF# 6.023E-01

ORIGINAL PAGE IS  
OF POOR QUALITY



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1240**  
**JSC 09651**

X#	2.137E+11	ML	/HREFF#	1.130E+11
X#	5.68E+01	ML	/HREFF#	9.410E-01
X#	6.150E+01	ML	/HREFF#	1.741E+37
X#	6.664E+01	ML	/HREFF#	1.017E+00
X#	7.172E+01	ML	/HREFF#	1.145E+00
X#	7.680E+01	ML	/HREFF#	1.231E+00
X#	8.188E+01	ML	/HREFF#	1.449E+00
X#	8.696E+01	ML	/HREFF#	1.659E+00
X#	9.204E+01	ML	/HREFF#	1.985E+10
X#	9.712E+01	ML	/HREFF#	2.000E+00
X#	1.022E+02	ML	/HREFF#	1.602E+00
X#	1.072E+02	ML	/HREFF#	1.631E+00
X#	1.122E+02	ML	/HREFF#	1.337E+00
X#	1.172E+02	ML	/HREFF#	1.150E+00
X#	1.222E+02	ML	/HREFF#	1.041E+00
X#	1.272E+02	ML	/HREFF#	9.957E-01
X#	1.322E+02	ML	/HREFF#	9.730E-01
X#	1.372E+02	ML	/HREFF#	9.175E-01
X#	1.422E+02	ML	/HREFF#	9.130E-01
X#	1.472E+02	ML	/HREFF#	8.672E-01
X#	1.522E+02	ML	/HREFF#	8.0790E-01
X#	6.740E+01	ML	/HREFF#	8.210E-01
X#	6.150E+01	ML	/HREFF#	9.470E-01
X#	6.664E+01	ML	/HREFF#	1.174E-01
X#	7.172E+01	ML	/HREFF#	1.160E+00
X#	7.680E+01	ML	/HREFF#	8.657E-01

9-L TRANSITION DISTANCE = 4.86 CM  
 FULLY TURBULENT 3-L.C. CONDITIONS AT = 97.12 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 139

AMES 3.5 FT HMT TEST (122), C.B. BLUMER, IN-LINE RSI GAP RUN( 73) 1373

TT = 1.0311E+03(K) GAP LENGTH = 101.530(CM)  
PT = 5.1341E+06(W/M2) GAP WIDTH = .53(CM)  
MT = 1.1333E+06(L/KG) GAP DEPTH = .52(CM)  
REPMETER = 1.722E+06 ORIENTATION = 9.700(DEG)  
MACH = 5.10 OS = 8.1369E+04(W/M2)  
RMO VEL = 2.1315E+11(KG/M2-S) MOD.POSITION = 1  
HAM/MT = 9.08 FOR MT  
MLCC = HLI(2ND ORDER COND.,)

T/C	X (CM)	Y (CM)	Z (CM)	C (W/P2)	HL (KG/M2-S)	MT (KG/M2-S)	ML/HREFF (KG/M2-S)	HREF (KG/M2-S)	STL	STT	T (K)	MLCC (KG/M2-S)	ML/MLCC	MLCG/HREF	ML/HE
1	135.24	-0.1	0.0	5.1E+03	5.895E-03	6.49E-03	.916	7.479E-03	3.211E-04	3.843E-04	303.8	0.11E-03	1.000	.615	.981
2	132.78	-0.1	0.0	6.72E+03	6.895E-03	6.89E-03	.911	7.363E-03	3.216E-04	3.845E-04	303.2	0.11E-03	1.000	.615	.981
3	130.32	-0.1	0.0	8.05E+03	7.295E-03	7.29E-03	.911	7.251E-03	3.099E-04	2.934E-04	303.2	0.11E-03	1.000	.615	.981
4	127.86	-0.1	0.0	9.38E+03	7.695E-03	7.69E-03	.939	7.139E-03	3.144E-04	2.977E-04	303.1	0.11E-03	1.000	.615	.981
5	125.40	-0.1	0.0	1.07E+04	8.095E-03	8.09E-03	.927	7.027E-03	3.175E-04	2.694E-04	303.1	0.11E-03	1.000	.615	.981
6	122.94	-0.1	0.0	1.20E+04	8.495E-03	8.49E-03	.952	6.915E-03	3.088E-04	2.528E-04	304.8	0.11E-03	1.000	.615	.981
7	117.47	-0.1	0.0	1.33E+04	8.895E-03	8.89E-03	.963	6.803E-03	3.035E-04	2.891E-04	304.7	0.11E-03	1.000	.615	.981
8	112.01	-0.1	0.0	1.46E+04	9.295E-03	9.29E-03	.962	6.691E-03	3.008E-04	2.848E-04	304.7	0.11E-03	1.000	.615	.981
9	107.55	-0.1	0.0	1.59E+04	9.695E-03	9.69E-03	.979	6.579E-03	3.032E-04	2.871E-04	304.3	0.11E-03	1.000	.615	.981
10	102.09	-0.1	0.0	1.72E+04	1.009E-03	1.00E-03	.953	6.467E-03	3.037E-04	2.871E-04	304.1	0.11E-03	1.000	.615	.981
11	97.63	-0.1	0.0	1.85E+04	1.049E-03	1.04E-03	.916	6.355E-03	2.998E-04	2.835E-04	303.9	0.11E-03	1.000	.615	.981
12	93.17	-0.1	0.0	1.98E+04	1.089E-03	1.08E-03	.900	6.243E-03	3.003E-04	2.845E-04	303.7	0.11E-03	1.000	.615	.981
13	88.71	-0.1	0.0	2.11E+04	1.129E-03	1.12E-03	.842	6.131E-03	2.859E-04	2.712E-04	303.8	0.11E-03	1.000	.615	.981
14	84.25	-0.1	0.0	2.24E+04	1.169E-03	1.16E-03	.842	6.019E-03	2.932E-04	2.748E-04	303.6	0.11E-03	1.000	.615	.981
15	79.79	-0.1	0.0	2.37E+04	1.209E-03	1.20E-03	.842	5.907E-03	2.793E-04	2.645E-04	303.4	0.11E-03	1.000	.615	.981
16	75.33	-0.1	0.0	2.50E+04	1.249E-03	1.24E-03	.865	5.795E-03	3.175E-04	2.899E-04	303.2	0.11E-03	1.000	.615	.981
17	70.87	-0.1	0.0	2.63E+04	1.289E-03	1.28E-03	.871	5.683E-03	3.263E-04	3.698E-04	303.1	0.11E-03	1.000	.615	.981
18	66.41	-0.1	0.0	2.76E+04	1.329E-03	1.32E-03	.847	5.571E-03	3.413E-04	3.234E-04	303.4	0.11E-03	1.000	.615	.981
19	61.95	-0.1	0.0	2.89E+04	1.369E-03	1.36E-03	.833	5.459E-03	3.553E-04	3.387E-04	303.5	0.11E-03	1.000	.615	.981
20	57.49	-0.1	0.0	3.02E+04	1.409E-03	1.40E-03	.823	5.347E-03	3.693E-04	3.497E-04	303.3	0.11E-03	1.000	.615	.981
21	53.03	-0.1	0.0	3.15E+04	1.449E-03	1.44E-03	.822	5.235E-03	3.833E-04	3.638E-04	303.9	0.11E-03	1.000	.615	.981
22	48.57	-0.1	0.0	3.28E+04	1.489E-03	1.48E-03	.829	5.123E-03	3.973E-04	3.728E-04	303.7	0.11E-03	1.000	.615	.981
23	44.11	-0.1	0.0	3.41E+04	1.529E-03	1.52E-03	.825	5.011E-03	4.113E-04	3.802E-04	303.7	0.11E-03	1.000	.615	.981
24	39.65	-0.1	0.0	3.54E+04	1.569E-03	1.56E-03	.839	4.899E-03	4.253E-04	4.194E-04	303.8	0.11E-03	1.000	.615	.981
25	35.19	-0.1	0.0	3.67E+04	1.609E-03	1.60E-03	.837	4.787E-03	4.393E-04	4.585E-04	303.4	0.11E-03	1.000	.615	.981
103	47.59	1.52	0.0	4.78E+03	5.11E-03	7.28E-03	.615	5.258E-03	3.936E-04	3.633E-04	306.0	0.11E-03	1.000	.615	.981
104	47.59	1.52	0.0	5.17E+03	5.51E-03	7.58E-03	.620	5.095E-03	3.778E-04	3.537E-04	306.0	0.11E-03	1.000	.615	.981
107	47.59	1.52	0.0	5.56E+03	5.91E-03	7.98E-03	.762	4.932E-03	3.566E-04	3.371E-04	306.2	0.11E-03	1.000	.615	.981
110	47.59	1.52	0.0	5.95E+03	6.31E-03	8.38E-03	.654	4.769E-03	3.355E-04	2.894E-04	306.5	0.11E-03	1.000	.615	.981
113	47.59	1.52	0.0	6.34E+03	6.71E-03	8.78E-03	.469	4.606E-03	3.144E-04	2.673E-04	304.4	0.11E-03	1.000	.615	.981
116	47.59	1.52	0.0	6.73E+03	7.11E-03	9.18E-03	.373	4.443E-03	2.933E-04	1.649E-04	303.9	0.11E-03	1.000	.615	.981
119	47.59	1.52	0.0	7.12E+03	7.51E-03	9.58E-03	.230	4.280E-03	2.722E-04	1.518E-04	303.0	0.11E-03	1.000	.615	.981
122	47.59	1.52	0.0	7.51E+03	7.91E-03	9.98E-03	.111	4.117E-03	2.511E-04	1.387E-04	302.5	0.11E-03	1.000	.615	.981
125	47.59	1.52	0.0	7.90E+03	8.31E-03	1.03E-03	.020	3.954E-03	2.294E-04	1.256E-04	301.4	0.11E-03	1.000	.615	.981
128	47.59	1.52	0.0	8.29E+03	8.71E-03	1.07E-03	.033	3.791E-03	2.077E-04	1.125E-04	300.9	0.11E-03	1.000	.615	.981
131	47.59	1.52	0.0	8.68E+03	9.11E-03	1.11E-03	.033	3.628E-03	1.860E-04	1.004E-04	300.9	0.11E-03	1.000	.615	.981
203	61.56	1.52	0.0	4.94E+03	7.17E-03	6.79E-03	.633	6.603E-03	3.376E-04	3.184E-04	303.9	0.11E-03	1.000	.615	.981
205	61.56	1.52	0.0	5.33E+03	7.57E-03	7.19E-03	.631	6.440E-03	3.217E-04	3.191E-04	304.3	0.11E-03	1.000	.615	.981
217	61.56	1.52	0.0	5.72E+03	7.97E-03	7.59E-03	.734	6.277E-03	3.058E-04	3.231E-04	304.1	0.11E-03	1.000	.615	.981
208	61.56	1.52	0.0	6.11E+03	8.37E-03	7.99E-03	.773	6.114E-03	2.899E-04	2.684E-04	303.7	0.11E-03	1.000	.615	.981
213	61.56	1.52	0.0	6.50E+03	8.77E-03	8.39E-03	.653	5.951E-03	2.740E-04	1.519E-04	302.9	0.11E-03	1.000	.615	.981

5.3-191







**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

28	0.239E+01	ML	/HSEFF	0.424E+01
28	0.548E+01	ML	/HSEFF	0.329E+01
28	6.184E+01	HL	/HSEFF	6.671E+01
28	0.064E+01	ML	/HSEFF	5.713E+01
28	7.372E+01	ML	/HSEFF	8.648E+01
28	7.050E+01	ML	/HSEFF	7.998E+01
28	0.183E+01	ML	/HSEFF	6.22E+01
28	0.690E+01	ML	/HSEFF	8.422E+01
28	0.274E+01	ML	/HSEFF	9.11E+01
28	0.712E+01	ML	/HSEFF	9.19E+01
28	1.022E+02	ML	/HSEFF	9.52E+01
28	1.073E+02	ML	/HSEFF	9.76E+01
28	1.124E+02	ML	/HSEFF	9.62E+01
28	1.175E+02	ML	/HSEFF	9.627E+01
28	1.226E+02	ML	/HSEFF	9.521E+01
28	1.276E+02	ML	/HSEFF	9.272E+01
28	1.327E+02	ML	/HSEFF	9.308E+01
28	1.377E+02	ML	/HSEFF	9.11E+01
28	1.427E+02	ML	/HSEFF	9.79E+01
28	1.477E+02	ML	/HSEFF	9.104E+01
28	6.799E+01	ML	/HSEFF	7.623E+01
28	0.186E+01	ML	/HSEFF	7.943E+01
28	0.096E+01	ML	/HSEFF	2.501E+01
28	1.124E+02	ML	/HSEFF	8.601E+01
28	1.291E+02	ML	/HSEFF	7.398E+01

9.1. TRANSITION DISTANCE = 76.01 CM  
 FULLY TURBULENT 9.1. CONDITIONS AT x = 127.63 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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AMES 1.6 FT. HWT TEST (1-20) 2.5. BLUMER, IN-LINE ROT GAP (1-1) 1973

TT = 1.161E+07(K) GAP LENGTH = 1.015E+01(IN)  
 PT = 1.037E+04(N/M2) GAP WIDTH = .763(CM)  
 HT = 1.037E+04(L/KC) GAP DEPTH = .509(CM)  
 RE/METER = 3.6E+01E+00 ORIENTATION = 0.000(DEG)  
 PACH = 9.10; JS = 1.2038E+05(N/M2)  
 AHO VFL = 4.0E+01E+01(KG/M2-S) MOD. POSITION = 1  
 HAM/HT = 1.9E+01 FOR ML  
 HAM/HT = 1.97E+01 FOR ML  
 MLCC = 4L(2NC, 3-DEY COMD,\*)

T/C	X (CM)	Y (CM)	Z (CM)	Q (M/M2)	ML (KG/M2-S)	MT (KG/M2-S)	ML/HREFF	MREF (KG/M2-S)	SIL	STT	T (K)	MLCC (K/M2-S)	ML/MLCC	MLCC/MREF	ML/HE
1	135.24	-51	3.91	2.47E+04	1.45E-02	3.22E-02	.639	4.15E-02	9.413E-04	7.978E-04	308.2	1.07E-02	1.000	.499	.982
2	132.70	-51	3.91	2.46E+04	1.45E-02	3.23E-02	.641	3.80E-02	7.976E-04	7.976E-04	308.4	1.05E-02	1.000	.481	.982
3	135.10	-51	3.91	2.46E+04	1.45E-02	2.74E-02	.600	3.54E-02	7.072E-04	6.706E-04	308.3	9.93E-03	1.000	.835	.912
4	127.63	-51	3.91	2.47E+04	1.45E-02	2.53E-02	.611	3.29E-02	6.679E-04	6.263E-04	308.3	8.36E-03	1.000	.570	.766
5	129.09	-51	3.91	1.46E+04	2.62E-02	2.09E-02	.792	3.037E-02	5.976E-04	5.667E-04	308.3	6.04E-03	1.000	.595	.800
6	122.56	-51	3.91	1.47E+04	2.03E-02	1.78E-02	.605	2.29E-02	4.571E-04	4.334E-04	307.9	4.90E-03	1.000	.412	.658
7	117.47	-51	3.91	1.47E+04	1.95E-02	1.44E-02	.602	1.667E-02	3.744E-04	3.551E-04	308.1	3.89E-03	1.000	.260	.284
8	112.37	-51	3.91	1.47E+04	1.81E-02	1.22E-02	.616	1.573E-02	3.176E-04	3.012E-04	307.8	3.09E-03	1.000	.134	.146
9	117.31	-51	3.91	1.46E+04	1.80E-02	1.74E-02	.624	1.335E-02	2.722E-04	2.582E-04	307.8	2.59E-03	1.000	.082	.082
10	112.20	-51	3.91	1.46E+04	1.80E-02	1.74E-02	.613	1.153E-02	2.319E-04	2.199E-04	307.7	1.99E-03	1.000	.050	.050
11	97.12	-51	3.91	1.46E+04	1.80E-02	1.74E-02	.642	1.017E-02	2.113E-04	2.010E-04	307.7	1.66E-03	1.000	.030	.030
12	92.04	-51	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
13	96.96	-51	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
14	81.00	-51	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
15	76.90	-51	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
16	71.72	-51	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
17	66.64	-51	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
18	61.56	-51	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
19	56.48	-51	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
20	51.39	-51	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
21	46.31	-51	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
22	41.23	-51	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
23	36.15	-51	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
24	31.07	-51	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
25	25.99	-51	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
103	47.59	1.52	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
104	47.59	1.52	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
105	47.59	1.52	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
106	47.59	1.52	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
107	47.59	1.52	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
108	47.59	1.52	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
109	47.59	1.52	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
110	47.59	1.52	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
111	47.59	1.52	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
112	47.59	1.52	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
113	47.59	1.52	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
114	47.59	1.52	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
115	47.59	1.52	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
203	61.56	1.52	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
214	61.56	1.52	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
267	61.56	1.52	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
276	61.56	1.52	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
281	61.56	1.52	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030
283	61.56	1.52	3.91	1.46E+04	1.80E-02	1.74E-02	.642	8.442E-03	1.957E-04	1.865E-04	308.1	1.66E-03	1.000	.030	.030



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

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ANFS 3.6 FT HNT TEST (192), C.J. BLUMER, IN-LINE RSI GAP RUN# 71. 1973

T/C	X (CM)	Y (CM)	Z (CM)	Q (W/CM2)	ML (KG/M2-S)	HT (KG/M2-S)	ML/MREF	MREF (KG/M2-S)	STL	STT	T (K)	ML/MCC	MCC/MREF	ML/ME
211	61.56	0.33	0.15	2.0E+03	3.31E-03	4.43E-03	0.401	1.077E-02	1.149E-04	1.095E-04	308.8	1.000	0.461	0.474
212	61.56	0.33	0.25	2.0E+03	3.31E-03	3.14E-03	0.326	1.006E-02	8.178E-05	7.757E-05	308.8	1.000	0.328	0.337
213	61.56	0.33	0.35	2.0E+03	3.31E-03	2.09E-03	0.210	1.006E-02	1.053E-07	1.753E-07	338.7	1.000	0.201	0.201
214	61.56	0.33	0.45	2.0E+03	3.31E-03	1.17E-03	0.071	5.395E-03	2.839E-07	2.658E-07	338.7	1.000	0.071	0.081
215	61.56	0.33	0.55	2.0E+03	3.31E-03	5.35E-04	0.125	5.213E-03	2.914E-05	2.758E-05	338.8	1.000	0.125	0.149
306	61.56	0.33	0.65	2.0E+03	3.31E-03	3.35E-04	0.141	5.213E-03	1.333E-04	1.327E-04	307.5	1.000	0.141	0.159
307	61.56	0.33	0.75	2.0E+03	3.31E-03	2.42E-04	0.106	5.213E-03	1.074E-04	1.074E-04	307.5	1.000	0.106	0.125
308	61.56	0.33	0.85	2.0E+03	3.31E-03	1.81E-04	0.079	5.213E-03	8.647E-05	8.647E-05	336.5	1.000	0.079	0.096
309	61.56	0.33	0.95	2.0E+03	3.31E-03	1.31E-04	0.058	5.213E-03	6.542E-05	6.542E-05	336.5	1.000	0.058	0.071
310	61.56	0.33	1.05	2.0E+03	3.31E-03	9.42E-05	0.043	5.213E-03	4.827E-05	4.827E-05	338.8	1.000	0.043	0.052
311	61.56	0.33	1.15	2.0E+03	3.31E-03	7.04E-05	0.032	5.213E-03	3.577E-05	3.577E-05	338.8	1.000	0.032	0.039
312	61.56	0.33	1.25	2.0E+03	3.31E-03	5.21E-05	0.024	5.213E-03	2.681E-05	2.681E-05	338.8	1.000	0.024	0.028
313	61.56	0.33	1.35	2.0E+03	3.31E-03	3.94E-05	0.018	5.213E-03	1.974E-05	1.974E-05	338.8	1.000	0.018	0.021
314	61.56	0.33	1.45	2.0E+03	3.31E-03	2.91E-05	0.014	5.213E-03	1.481E-05	1.481E-05	338.8	1.000	0.014	0.016
315	61.56	0.33	1.55	2.0E+03	3.31E-03	2.17E-05	0.011	5.213E-03	1.074E-05	1.074E-05	338.8	1.000	0.011	0.013
316	112.36	0.33	0.15	2.0E+03	3.31E-02	1.24E-02	0.704	1.662E-02	3.244E-04	3.076E-04	307.6	1.000	0.704	0.778
317	112.36	0.33	0.25	2.0E+03	3.31E-02	1.22E-02	0.591	1.662E-02	3.033E-04	2.862E-04	307.6	1.000	0.591	0.636
318	112.36	0.33	0.35	2.0E+03	3.31E-02	1.08E-02	0.506	1.662E-02	2.807E-04	2.662E-04	307.6	1.000	0.506	0.542
319	112.36	0.33	0.45	2.0E+03	3.31E-02	9.44E-03	0.532	1.662E-02	2.464E-04	2.335E-04	306.5	1.000	0.532	0.571
320	112.36	0.33	0.55	2.0E+03	3.31E-02	8.07E-03	0.442	1.662E-02	2.333E-04	2.207E-04	306.5	1.000	0.442	0.471
321	112.36	0.33	0.65	2.0E+03	3.31E-02	7.07E-03	0.376	1.662E-02	1.747E-04	1.656E-04	306.5	1.000	0.376	0.401
322	112.36	0.33	0.75	2.0E+03	3.31E-02	6.34E-03	0.310	1.662E-02	1.333E-04	1.270E-04	305.4	1.000	0.310	0.336
323	112.36	0.33	0.85	2.0E+03	3.31E-02	5.79E-03	0.246	1.662E-02	1.074E-04	1.030E-04	304.6	1.000	0.246	0.269
324	112.36	0.33	0.95	2.0E+03	3.31E-02	5.42E-03	0.200	1.662E-02	9.441E-05	9.056E-05	302.8	1.000	0.200	0.216
325	112.36	0.33	1.05	2.0E+03	3.31E-02	5.19E-03	0.166	1.662E-02	8.441E-05	8.056E-05	302.8	1.000	0.166	0.182
326	125.16	0.33	0.15	2.0E+03	3.31E-02	1.99E-02	0.697	3.134E-02	5.192E-04	4.915E-04	307.9	1.000	0.697	0.778
327	125.16	0.33	0.25	2.0E+03	3.31E-02	1.90E-02	0.597	3.134E-02	4.915E-04	4.711E-04	307.9	1.000	0.597	0.636
328	125.16	0.33	0.35	2.0E+03	3.31E-02	1.78E-02	0.519	3.134E-02	4.595E-04	4.459E-04	307.5	1.000	0.519	0.542
329	125.16	0.33	0.45	2.0E+03	3.31E-02	1.66E-02	0.442	3.134E-02	4.304E-04	4.174E-04	307.2	1.000	0.442	0.471
330	125.16	0.33	0.55	2.0E+03	3.31E-02	1.57E-02	0.376	3.134E-02	3.933E-04	3.813E-04	306.7	1.000	0.376	0.401
331	125.16	0.33	0.65	2.0E+03	3.31E-02	1.47E-02	0.310	3.134E-02	3.593E-04	3.473E-04	306.4	1.000	0.310	0.336
332	125.16	0.33	0.75	2.0E+03	3.31E-02	1.38E-02	0.246	3.134E-02	3.222E-04	3.102E-04	305.4	1.000	0.246	0.269
333	125.16	0.33	0.85	2.0E+03	3.31E-02	1.31E-02	0.166	3.134E-02	2.852E-04	2.732E-04	304.6	1.000	0.166	0.182
334	125.16	0.33	0.95	2.0E+03	3.31E-02	1.24E-02	0.106	3.134E-02	2.481E-04	2.361E-04	302.8	1.000	0.106	0.121
335	125.16	0.33	1.05	2.0E+03	3.31E-02	1.17E-02	0.071	3.134E-02	2.110E-04	2.090E-04	302.7	1.000	0.071	0.082

EDGE HEATING USED FOR ME  
 ME 3.87E+01 ML /MREF# 8.97E-01  
 ME 4.02E+01 ML /MREF# 9.22E-01  
 ME 5.377E+01 ML /MREF# 9.54E-01  
 ME 6.835E+01 ML /MREF# 9.81E-01  
 ME 8.400E+01 ML /MREF# 1.01E-01

**MINIMAL PAGE IS  
OF FOUR QUALITY**

5.3-195



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

XX	2.137E+11	ML	HR	EFF	9.09E-01
XX	9.648E+01	ML	HR	EFF	5.716E-01
XX	6.156E+11	ML	HR	EFF	9.943E-01
XX	6.646E+11	ML	HR	EFF	5.657E-01
XX	7.172E+11	ML	HR	EFF	5.494E-01
XX	7.698E+11	ML	HR	EFF	6.511E-01
XX	8.189E+11	ML	HR	EFF	6.421E-01
XX	8.698E+11	ML	HR	EFF	8.423E-01
XX	9.208E+11	ML	HR	EFF	8.174E-01
XX	9.712E+11	ML	HR	EFF	8.242E-01
XX	1.022E+12	ML	HR	EFF	6.12E-01
XX	1.073E+12	ML	HR	EFF	6.72E-01
XX	1.126E+12	ML	HR	EFF	9.746E-01
XX	1.178E+12	ML	HR	EFF	7.617E-01
XX	1.226E+12	ML	HR	EFF	7.954E-01
XX	1.274E+12	ML	HR	EFF	6.111E-01
XX	1.312E+12	ML	HR	EFF	6.162E-01
XX	1.327E+12	ML	HR	EFF	8.608E-01
XX	1.352E+12	ML	HR	EFF	8.387E-01
XX	4.759E+11	ML	HR	EFF	8.753E-01
XX	6.156E+11	ML	HR	EFF	5.08E-01
XX	6.692E+11	ML	HR	EFF	1.253E-01
XX	1.124E+12	ML	HR	EFF	6.914E-01
XX	1.251E+12	ML	HR	EFF	6.671E-01

EOL TRANSITION DISTANCE = 13".16 CM  
 FULLY TURBULENT 3-L. CONDITIONS AT = 376.0R CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 103

AMES 3-5 FT HWY TEST (152), G.O. BLUMER, IN-LINE RSI GAP RUN ( 72) 1973

TT = 1.1624E+03(K)  
PT = 9.2320E+05(N/M2)  
HT = 1.1317E+06(L/J/KG)  
RE/METER = 1.6220E+06  
PACH = 4.11  
RMC MEL = 2.0531E+01(KG/M2-S)  
HAM/MT = 1.918 FOR HT  
HAM/MT = 9.874 FOR HL  
MLCC = ML12NF. ORJED COMD\*\*

GAP LENGTH = 101.6" (CM)  
GAP WIDTH = .127 (CM)  
GAP DEPTH = .508 (CM)  
ORIENTATION = 0.000 (DEG)  
OS = 9.6430E+04 (W/M2)  
MOD. POSITION = 1

T/C	X	Y	Z	ZZ	Q	HL	HT	HL/HREFF	HREF	STL	STT	T	MLCC	HL/MLCC	MLCC/HREF	ML/MNE
1	135.24	-.51	0.00	-.77E+03	2.49E+03	6.14E-03	6.081E-03	.971	6.081E-03	3.099E-04	2.930E-04	319.5	8.10E-03	1.000	.830	1.000
2	132.74	-.51	0.00	-.76E+03	2.57E+03	6.22E-03	6.081E-03	.987	6.081E-03	3.137E-04	2.971E-04	310.6	7.95E-03	1.000	.837	1.000
3	130.16	-.51	0.00	-.75E+03	2.65E+03	6.35E-03	6.081E-03	.954	6.081E-03	3.043E-04	2.902E-04	310.6	7.80E-03	1.000	.844	1.000
4	127.63	-.51	0.00	-.73E+03	2.73E+03	6.48E-03	6.081E-03	.934	6.081E-03	3.113E-04	2.948E-04	310.6	7.65E-03	1.000	.851	1.000
5	125.09	-.51	0.00	-.72E+03	2.81E+03	6.61E-03	6.081E-03	.904	6.081E-03	3.079E-04	2.917E-04	310.6	7.50E-03	1.000	.858	1.000
6	122.56	-.51	0.00	-.71E+03	2.89E+03	6.74E-03	6.081E-03	.896	6.081E-03	3.115E-04	2.951E-04	310.5	7.35E-03	1.000	.865	1.000
7	119.97	-.51	0.00	-.70E+03	2.97E+03	6.87E-03	6.081E-03	.876	6.081E-03	3.165E-04	2.994E-04	310.5	7.20E-03	1.000	.872	1.000
8	117.31	-.51	0.00	-.69E+03	3.05E+03	7.00E-03	6.081E-03	.856	6.081E-03	3.113E-04	2.948E-04	310.5	7.05E-03	1.000	.879	1.000
9	114.64	-.51	0.00	-.68E+03	3.13E+03	7.13E-03	6.081E-03	.836	6.081E-03	3.161E-04	2.992E-04	310.5	6.90E-03	1.000	.886	1.000
10	112.02	-.51	0.00	-.67E+03	3.21E+03	7.26E-03	6.081E-03	.816	6.081E-03	3.109E-04	2.946E-04	310.5	6.75E-03	1.000	.893	1.000
11	109.35	-.51	0.00	-.66E+03	3.29E+03	7.39E-03	6.081E-03	.796	6.081E-03	3.057E-04	2.900E-04	310.5	6.60E-03	1.000	.900	1.000
12	106.68	-.51	0.00	-.65E+03	3.37E+03	7.52E-03	6.081E-03	.776	6.081E-03	3.005E-04	2.854E-04	310.5	6.45E-03	1.000	.907	1.000
13	104.06	-.51	0.00	-.64E+03	3.45E+03	7.65E-03	6.081E-03	.756	6.081E-03	2.953E-04	2.808E-04	310.5	6.30E-03	1.000	.914	1.000
14	101.39	-.51	0.00	-.63E+03	3.53E+03	7.78E-03	6.081E-03	.736	6.081E-03	2.901E-04	2.762E-04	310.5	6.15E-03	1.000	.921	1.000
15	98.72	-.51	0.00	-.62E+03	3.61E+03	7.91E-03	6.081E-03	.716	6.081E-03	2.849E-04	2.716E-04	310.5	6.00E-03	1.000	.928	1.000
16	96.06	-.51	0.00	-.61E+03	3.69E+03	8.04E-03	6.081E-03	.696	6.081E-03	2.797E-04	2.670E-04	310.5	5.85E-03	1.000	.935	1.000
17	93.39	-.51	0.00	-.60E+03	3.77E+03	8.17E-03	6.081E-03	.676	6.081E-03	2.745E-04	2.624E-04	310.5	5.70E-03	1.000	.942	1.000
18	90.72	-.51	0.00	-.59E+03	3.85E+03	8.30E-03	6.081E-03	.656	6.081E-03	2.693E-04	2.578E-04	310.5	5.55E-03	1.000	.949	1.000
19	88.06	-.51	0.00	-.58E+03	3.93E+03	8.43E-03	6.081E-03	.636	6.081E-03	2.641E-04	2.532E-04	310.5	5.40E-03	1.000	.956	1.000
20	85.39	-.51	0.00	-.57E+03	4.01E+03	8.56E-03	6.081E-03	.616	6.081E-03	2.589E-04	2.486E-04	310.5	5.25E-03	1.000	.963	1.000
21	82.72	-.51	0.00	-.56E+03	4.09E+03	8.69E-03	6.081E-03	.596	6.081E-03	2.537E-04	2.440E-04	310.5	5.10E-03	1.000	.970	1.000
22	80.06	-.51	0.00	-.55E+03	4.17E+03	8.82E-03	6.081E-03	.576	6.081E-03	2.485E-04	2.394E-04	310.5	4.95E-03	1.000	.977	1.000
23	77.39	-.51	0.00	-.54E+03	4.25E+03	8.95E-03	6.081E-03	.556	6.081E-03	2.433E-04	2.348E-04	310.5	4.80E-03	1.000	.984	1.000
24	74.72	-.51	0.00	-.53E+03	4.33E+03	9.08E-03	6.081E-03	.536	6.081E-03	2.381E-04	2.302E-04	310.5	4.65E-03	1.000	.991	1.000
25	72.06	-.51	0.00	-.52E+03	4.41E+03	9.21E-03	6.081E-03	.516	6.081E-03	2.329E-04	2.256E-04	310.5	4.50E-03	1.000	.998	1.000
26	69.39	-.51	0.00	-.51E+03	4.49E+03	9.34E-03	6.081E-03	.496	6.081E-03	2.277E-04	2.210E-04	310.5	4.35E-03	1.000	1.005	1.000
27	66.72	-.51	0.00	-.50E+03	4.57E+03	9.47E-03	6.081E-03	.476	6.081E-03	2.225E-04	2.164E-04	310.5	4.20E-03	1.000	1.012	1.000
28	64.06	-.51	0.00	-.49E+03	4.65E+03	9.60E-03	6.081E-03	.456	6.081E-03	2.173E-04	2.118E-04	310.5	4.05E-03	1.000	1.019	1.000
29	61.39	-.51	0.00	-.48E+03	4.73E+03	9.73E-03	6.081E-03	.436	6.081E-03	2.121E-04	2.072E-04	310.5	3.90E-03	1.000	1.026	1.000
30	58.72	-.51	0.00	-.47E+03	4.81E+03	9.86E-03	6.081E-03	.416	6.081E-03	2.069E-04	2.026E-04	310.5	3.75E-03	1.000	1.033	1.000
31	56.06	-.51	0.00	-.46E+03	4.89E+03	9.99E-03	6.081E-03	.396	6.081E-03	2.017E-04	1.980E-04	310.5	3.60E-03	1.000	1.040	1.000
32	53.39	-.51	0.00	-.45E+03	4.97E+03	1.012E-02	6.081E-03	.376	6.081E-03	1.965E-04	1.934E-04	310.5	3.45E-03	1.000	1.047	1.000
33	50.72	-.51	0.00	-.44E+03	5.05E+03	1.025E-02	6.081E-03	.356	6.081E-03	1.913E-04	1.888E-04	310.5	3.30E-03	1.000	1.054	1.000
34	48.06	-.51	0.00	-.43E+03	5.13E+03	1.038E-02	6.081E-03	.336	6.081E-03	1.861E-04	1.842E-04	310.5	3.15E-03	1.000	1.061	1.000
35	45.39	-.51	0.00	-.42E+03	5.21E+03	1.051E-02	6.081E-03	.316	6.081E-03	1.809E-04	1.796E-04	310.5	3.00E-03	1.000	1.068	1.000
36	42.72	-.51	0.00	-.41E+03	5.29E+03	1.064E-02	6.081E-03	.296	6.081E-03	1.757E-04	1.750E-04	310.5	2.85E-03	1.000	1.075	1.000
37	40.06	-.51	0.00	-.40E+03	5.37E+03	1.077E-02	6.081E-03	.276	6.081E-03	1.705E-04	1.704E-04	310.5	2.70E-03	1.000	1.082	1.000
38	37.39	-.51	0.00	-.39E+03	5.45E+03	1.090E-02	6.081E-03	.256	6.081E-03	1.653E-04	1.658E-04	310.5	2.55E-03	1.000	1.089	1.000
39	34.72	-.51	0.00	-.38E+03	5.53E+03	1.103E-02	6.081E-03	.236	6.081E-03	1.601E-04	1.613E-04	310.5	2.40E-03	1.000	1.096	1.000
40	32.06	-.51	0.00	-.37E+03	5.61E+03	1.116E-02	6.081E-03	.216	6.081E-03	1.549E-04	1.566E-04	310.5	2.25E-03	1.000	1.103	1.000
41	29.39	-.51	0.00	-.36E+03	5.69E+03	1.129E-02	6.081E-03	.196	6.081E-03	1.497E-04	1.518E-04	310.5	2.10E-03	1.000	1.110	1.000
42	26.72	-.51	0.00	-.35E+03	5.77E+03	1.142E-02	6.081E-03	.176	6.081E-03	1.445E-04	1.470E-04	310.5	1.95E-03	1.000	1.117	1.000
43	24.06	-.51	0.00	-.34E+03	5.85E+03	1.155E-02	6.081E-03	.156	6.081E-03	1.393E-04	1.422E-04	310.5	1.80E-03	1.000	1.124	1.000
44	21.39	-.51	0.00	-.33E+03	5.93E+03	1.168E-02	6.081E-03	.136	6.081E-03	1.341E-04	1.370E-04	310.5	1.65E-03	1.000	1.131	1.000
45	18.72	-.51	0.00	-.32E+03	6.01E+03	1.181E-02	6.081E-03	.116	6.081E-03	1.289E-04	1.318E-04	310.5	1.50E-03	1.000	1.138	1.000
46	16.06	-.51	0.00	-.31E+03	6.09E+03	1.194E-02	6.081E-03	.096	6.081E-03	1.237E-04	1.266E-04	310.5	1.35E-03	1.000	1.145	1.000
47	13.39	-.51	0.00	-.30E+03	6.17E+03	1.207E-02	6.081E-03	.076	6.081E-03	1.185E-04	1.214E-04	310.5	1.20E-03	1.000	1.152	1.000
48	10.72	-.51	0.00	-.29E+03	6.25E+03	1.220E-02	6.081E-03	.056	6.081E-03	1.133E-04	1.162E-04	310.5	1.05E-03	1.000	1.159	1.000
49	8.06	-.51	0.00	-.28E+03	6.33E+03	1.233E-02	6.081E-03	.036	6.081E-03	1.081E-04	1.110E-04	310.5	9.0E-04	1.000	1.166	1.000
50	5.39	-.51	0.00	-.27E+03	6.41E+03	1.246E-02	6.081E-03	.016	6.081E-03	1.029E-04	1.058E-04	310.5	7.5E-04	1.000	1.173	1.000



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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AMES 7.5 FT HMT TEST (142), 3.3, BLUMER, IN-LINE RSI GAP RUN( 72) 1973

T/C	X (C4)	Y (C4)	Z (C4)	ZZ (C4)	W (W/P2)	ML (KG/M2-S)	MT (KG/M2-S)	ML/HREF (KG/M2-S)	HREF (KG/M2-S)	STL	STT	T (K)	MLCC (KG/M2-S)	ML/MLCC	MLCC/HREF	ML/HE
211	61.56	61.56	61.56	61.56	2.95E+02	2.84E+03	2.53E+03	6.53E-03	6.76	1.93E-04	1.83E-04	310.9	4.08E-03	1.000	.676	.539
212	61.56	61.56	61.56	61.56	2.97E+02	2.84E+03	2.53E+03	6.53E-03	6.33	1.35E-04	1.24E-04	310.8	2.84E-03	1.000	.333	.377
214	61.56	61.56	61.56	61.56	1.58E+02	2.26E+06	2.14E+06	1.11E-03	1.11	1.93E-07	1.82E-07	330.7	2.26E-06	1.000	.080	.002
215	61.56	61.56	61.56	61.56	3.00E+03	5.33E+03	5.33E+03	7.45E-03	7.45	2.54E-04	2.41E-04	311.4	5.33E-03	1.000	.745	.091
307	86.96	86.96	86.96	86.96	3.39E+03	1.65E+03	7.42E-03	7.45E-03	.52	2.23E-04	2.11E-04	311.1	4.65E-03	1.300	.652	.779
308	86.96	86.96	86.96	86.96	2.51E+03	3.87E+03	3.87E+03	3.90E-03	.90	1.87E-04	1.74E-04	310.7	3.87E-03	1.000	.900	.646
309	86.96	86.96	86.96	86.96	2.55E+03	3.50E+03	3.31E+03	3.98E-03	.98	7.39E-04	1.80E-04	310.5	3.98E-03	1.000	.980	.584
310	86.96	86.96	86.96	86.96	2.13E+03	2.78E+03	2.78E+03	4.19E-03	.19	1.30E-04	1.32E-04	313.5	2.93E-03	1.000	.489	.489
311	86.96	86.96	86.96	86.96	1.31E+03	1.79E+03	1.79E+03	2.90E-03	.90	8.53E-05	8.13E-05	309.2	1.79E-03	1.000	.299	.299
312	86.96	86.96	86.96	86.96	6.93E+02	9.49E+04	8.98E+04	8.33E-03	.33	4.93E-05	4.29E-05	308.9	9.49E-04	1.000	.133	.159
313	86.96	86.96	86.96	86.96	1.39E+02	1.93E+04	1.83E+04	1.33E-03	.33	3.03E-06	8.64E-06	308.9	1.93E-04	1.000	.027	.032
314	86.96	86.96	86.96	86.96	1.39E+02	1.93E+04	1.83E+04	1.33E-03	.32	7.35E-03	6.59E-03	308.7	1.93E-04	1.000	.027	.032
315	86.96	86.96	86.96	86.96	2.16E+03	3.74E+03	3.74E+03	5.94E-03	.94	1.46E-03	2.61E-04	310.7	5.74E-03	1.000	.994	.074
406	112.36	112.36	112.36	112.36	4.12E+03	5.65E+03	5.65E+03	7.17E-03	.71	6.45E-03	2.70E-04	310.7	5.65E-03	1.000	.976	.056
407	112.36	112.36	112.36	112.36	3.71E+03	5.08E+03	4.82E+03	4.82E-03	.71	1.46E-03	2.30E-04	310.2	5.08E-03	1.000	.707	.749
408	112.36	112.36	112.36	112.36	3.23E+03	4.43E+03	4.27E+03	4.27E-03	.65	1.46E-03	2.18E-04	310.0	4.43E-03	1.000	.665	.670
409	112.36	112.36	112.36	112.36	2.76E+03	3.95E+03	3.85E+03	3.85E-03	.67	6.46E-03	1.71E-04	310.8	3.95E-03	1.000	.987	.973
410	112.36	112.36	112.36	112.36	2.28E+03	3.43E+03	3.29E+03	3.29E-03	.67	6.46E-03	1.49E-04	309.8	3.29E-03	1.000	.685	.474
411	112.36	112.36	112.36	112.36	1.85E+03	2.93E+03	2.87E+03	2.87E-03	.66	6.46E-03	1.29E-04	309.5	2.87E-03	1.000	.306	.299
412	112.36	112.36	112.36	112.36	7.33E+02	1.02E+03	9.69E+02	9.69E-04	.62	4.59E-05	4.73E-05	309.1	1.02E-03	1.000	.162	.158
413	112.36	112.36	112.36	112.36	3.32E+03	5.45E+03	5.45E+03	7.16E-03	.71	6.96E-03	2.82E-04	310.7	5.45E-03	1.000	.927	.043
507	125.06	125.06	125.06	125.06	3.93E+03	7.35E+03	7.35E+03	1.37E-03	.37	7.33E-03	2.82E-04	310.6	7.35E-03	1.000	.923	.025
508	125.06	125.06	125.06	125.06	3.85E+03	7.90E+03	7.90E+03	1.46E-03	.46	6.10E-03	2.37E-04	310.5	7.90E-03	1.000	.744	.759
509	125.06	125.06	125.06	125.06	3.70E+03	8.24E+03	8.24E+03	1.50E-03	.50	6.87E-03	1.93E-04	310.3	8.24E-03	1.000	.644	.687
510	125.06	125.06	125.06	125.06	2.75E+03	3.77E+03	3.58E+03	3.58E-03	.58	1.73E-03	1.70E-04	310.0	3.77E-03	1.000	.574	.508
511	125.06	125.06	125.06	125.06	2.21E+03	3.45E+03	3.27E+03	3.27E-03	.27	6.57E-03	1.56E-04	311.1	3.45E-03	1.000	.525	.538
512	125.06	125.06	125.06	125.06	1.46E+03	2.71E+03	1.90E+03	1.90E-03	.90	6.57E-03	9.93E-05	309.8	2.71E-03	1.000	.305	.311
513	125.06	125.06	125.06	125.06	1.15E+02	1.29E+03	1.22E+03	1.22E-03	.22	6.57E-03	5.10E-05	309.1	1.29E-03	1.000	.196	.200
514	125.06	125.06	125.06	125.06	2.15E+02	2.79E+04	2.64E+04	1.02E-03	.02	6.17E-03	1.24E-05	309.1	2.79E-04	1.000	.042	.043
515	125.06	125.06	125.06	125.06	3.93E+03	7.35E+03	7.35E+03	1.37E-03	.37	7.33E-03	2.82E-04	310.6	7.35E-03	1.000	.927	.043

EDGE HEATING USED FOR WF  
 X# 3.879E+01 ML /HREF# 6.079E-01  
 X# 4.120E+01 ML /HREF# 6.105E-01  
 X# 4.370E+01 ML /HREF# 6.432E-01  
 X# 4.631E+01 ML /HREF# 6.836E-01  
 X# 4.892E+01 ML /HREF# 7.316E-01



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

**ORIGINAL PAGE IS  
 OF POOR QUALITY**

X#	2.1339E+01	ML	/MSFFF	8.0132E-01
X#	5.0608E+01	ML	/MSFFF	8.5608E-01
X#	6.1565E+01	ML	/MSFFF	6.1565E-01
X#	6.6605E+01	ML	/MSFFF	5.110E-01
X#	7.1728E+01	ML	/MSFFF	6.832E-01
X#	7.680E+01	ML	/MSFFF	6.871E-01
X#	8.1338E+01	ML	/MSFFF	6.44E-01
X#	8.6968E+01	ML	/MSFFF	8.793E-01
X#	9.274E+01	ML	/MSFFF	9.047E-01
X#	9.712E+01	ML	/MSFFF	9.314E-01
X#	1.022E+02	ML	/MSFFF	9.047E-01
X#	1.073E+02	ML	/MSFFF	1.23E+01
X#	1.124E+02	ML	/MSFFF	1.23E+02
X#	1.175E+02	ML	/MSFFF	1.016E+01
X#	1.226E+02	ML	/MSFFF	9.579E-01
X#	1.278E+02	ML	/MSFFF	9.876E-01
X#	1.330E+02	ML	/MSFFF	9.840E-01
X#	1.382E+02	ML	/MSFFF	9.016E-01
X#	1.434E+02	ML	/MSFFF	9.309E-01
X#	1.486E+02	ML	/MSFFF	9.779E-01
X#	4.759E+01	ML	/MSFFF	7.968E-01
X#	6.156E+01	ML	/MSFFF	6.193E-01
X#	8.696E+01	ML	/MSFFF	7.447E-01
X#	1.124E+02	ML	/MSFFF	8.788E-01
X#	1.382E+02	ML	/MSFFF	8.129E-01

9.6. TRANSITION DISTANCE = 1.95 CM  
 FULLY TURBULENT 3.1. CONDITIONS AT = 86.64 CM





# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E12/8  
JSC 09651

PAGE 145

AMES I.R.F. UNIT TEST (1.2), C.S. BLUMER, IN-LINE PSI GAP RUN ( 73) 1973

TT = 1.135E+11(K)  
 FT = 1.101E+10(N/M2)  
 PT = 1.2231E+10(J/KG)  
 Q1/METER = 7.1111E+10  
 MACH = 5.117  
 RHO VEL = 4.771E+11(KG/M2-S)  
 MAM/PT = 1.909 FOR HT  
 PAM/PT = 0.874 FOR HL  
 PLCC = HL(ENCL. ORDER COND. 1)

GAP LENGTH = 101.500(CM)  
 GAP WIDTH = .127(CM)  
 GAP DEPTH = .526(CM)  
 ORIENTATIONS = 0.361(COEF)  
 QS  
 YOD-POSITIONS = 1  
 1.2219E+05(N/M2)

T/C	X (CM)	Y (CM)	Z (CM)	G (M/M2)	HL (KG/M2-S)	HT (KG/M2-S)	HL/HREF	HREF (KG/M2-S)	STL	STT	T (K)	HLCC (K/M2-S)	HL/MLCC	MLCG/HREF	HL/HE
1	135.24	-51	0.00	2.35E+14	1.07E-02	3.63E-12	.972	4.394E-02	9.475E-14	8.919E-04	312.6	1.04E-02	1.000	.065	.962
2	132.70	-51	0.00	2.35E+14	3.70E-02	3.63E-12	.980	4.117E-02	9.022E-04	8.849E-04	312.8	1.03E-02	1.000	.052	.988
3	130.16	-51	0.00	2.49E+14	3.39E-12	3.21E-12	.882	3.236E-02	3.314E-14	7.577E-04	312.8	9.96E-03	1.000	.028	.928
4	127.63	-51	0.00	2.49E+14	1.24E-12	3.37E-12	.919	3.161E-02	7.943E-14	7.527E-04	312.8	8.89E-03	1.000	.037	.882
5	125.09	-51	0.00	2.18E+14	2.97E-12	2.91E-12	.974	3.283E-02	7.295E-04	6.902E-04	312.8	6.47E-03	1.000	.036	.896
6	122.56	-51	0.00	2.28E+14	2.75E-12	2.50E-12	.914	3.115E-02	6.713E-04	6.319E-04	312.7	5.33E-03	1.000	.042	.914
7	117.87	-51	0.00	1.71E+14	2.32E-12	2.20E-12	.939	2.471E-02	6.693E-04	5.393E-04	312.7	3.87E-03	1.000	.029	.823
8	112.37	-51	0.00	1.66E+14	1.89E-12	1.76E-12	.919	2.171E-02	4.594E-04	4.344E-04	312.9	1.87E-03	1.000	.031	.813
9	107.31	-51	0.00	1.11E+14	1.50E-12	1.42E-12	.899	1.671E-02	3.660E-04	3.494E-04	312.8	2.64E-04	1.000	.029	.899
10	102.20	-51	0.00	9.90E+13	1.22E-12	1.16E-12	.899	1.431E-02	2.999E-04	2.841E-04	312.9	2.29E-04	1.000	.029	.899
11	97.12	-51	0.00	7.26E+13	1.87E-12	9.37E-13	.824	1.198E-02	2.423E-04	2.296E-04	313.0	2.05E-04	1.000	.029	.899
12	92.04	-51	0.00	6.05E+13	1.82E-12	9.36E-13	.843	1.186E-02	2.166E-04	2.052E-04	313.0	1.93E-04	1.000	.029	.899
13	86.96	-51	0.00	4.14E+13	1.30E-12	7.17E-13	.861	9.649E-03	2.339E-04	1.931E-04	313.5	2.05E-04	1.000	.029	.899
14	81.88	-51	0.00	6.40E+13	8.82E-13	8.36E-13	.905	9.145E-03	2.166E-04	2.052E-04	313.0	2.05E-04	1.000	.029	.899
15	76.80	-51	0.00	4.47E+13	3.77E-12	5.31E-13	.913	9.104E-03	2.151E-04	2.039E-04	313.0	2.03E-04	1.000	.029	.899
16	71.72	-51	0.00	5.47E+13	9.11E-13	5.56E-13	.913	9.335E-03	2.244E-04	2.126E-04	314.1	2.12E-04	1.000	.029	.899
17	66.64	-51	0.00	7.48E+13	9.63E-13	9.13E-13	.930	9.750E-03	2.365E-04	2.241E-04	314.3	2.24E-04	1.000	.029	.899
18	61.56	-51	0.00	7.15E+13	9.95E-13	9.42E-13	.945	1.220E-02	2.443E-04	2.241E-04	314.7	2.34E-04	1.000	.029	.899
19	56.48	-51	0.00	7.82E+13	1.01E-12	9.95E-13	.945	1.183E-02	2.494E-04	2.343E-04	315.1	2.34E-04	1.000	.029	.899
20	51.40	-51	0.00	7.86E+13	1.04E-12	9.81E-13	.899	1.193E-02	2.544E-04	2.408E-04	315.2	2.40E-04	1.000	.029	.899
21	46.32	-51	0.00	9.55E+13	1.08E-12	1.03E-12	.919	1.185E-02	2.631E-04	2.511E-04	315.5	2.51E-04	1.000	.029	.899
22	41.24	-51	0.00	9.55E+13	1.09E-12	1.03E-12	.892	1.225E-02	2.676E-04	2.535E-04	315.5	2.53E-04	1.000	.029	.899
23	36.16	-51	0.00	8.38E+13	1.10E-12	1.04E-12	.870	1.262E-02	2.696E-04	2.553E-04	315.6	2.55E-04	1.000	.029	.899
24	31.08	-51	0.00	6.35E+13	1.14E-12	1.06E-12	.877	1.299E-02	2.791E-04	2.643E-04	315.6	2.64E-04	1.000	.029	.899
25	26.00	-51	0.00	6.67E+13	1.16E-12	1.12E-12	.893	1.335E-02	2.894E-04	2.743E-04	315.6	2.74E-04	1.000	.029	.899
102	47.19	1.52	0.00	7.56E+13	1.04E-12	9.97E-13	.945	1.235E-02	2.562E-04	2.429E-04	313.6	1.04E-02	1.000	.065	.962
103	47.59	1.52	0.00	7.15E+13	1.03E-12	9.73E-13	.945	1.205E-02	2.522E-04	2.386E-04	313.3	1.03E-02	1.000	.052	.988
104	47.59	1.51	0.00	7.24E+13	9.99E-13	9.45E-13	.828	1.206E-02	2.491E-04	2.328E-04	313.4	9.96E-03	1.000	.028	.928
105	47.59	1.51	0.00	6.07E+13	1.89E-12	5.42E-13	.737	1.214E-02	2.183E-04	2.787E-04	313.1	8.89E-03	1.000	.037	.882
106	47.59	1.51	0.00	5.27E+13	2.47E-12	6.13E-13	.536	1.210E-02	1.593E-04	1.809E-04	316.5	6.47E-03	1.000	.036	.896
107	47.59	1.51	0.00	3.91E+13	5.33E-12	5.73E-13	.442	1.210E-02	1.396E-04	1.239E-04	315.7	5.33E-03	1.000	.042	.914
108	47.59	1.51	0.00	2.73E+13	8.67E-12	3.32E-13	.291	1.210E-02	8.372E-05	8.144E-05	314.4	3.87E-03	1.000	.029	.823
109	47.59	1.51	0.00	1.39E+13	1.87E-12	1.77E-13	.155	1.210E-02	4.612E-05	4.369E-05	313.2	1.87E-03	1.000	.031	.813
110	47.59	1.51	0.00	2.37E+12	3.79E-12	3.45E-14	.041	1.210E-02	9.273E-06	8.793E-06	311.6	3.87E-04	1.000	.031	.813
111	47.59	1.51	0.00	2.11E+12	2.65E-12	2.14E-14	.112	1.210E-02	7.111E-07	6.733E-07	313.7	2.93E-05	1.000	.002	.002
203	61.56	1.52	0.00	7.15E+13	9.62E-13	9.11E-13	.944	1.235E-02	2.301E-04	2.236E-04	316.6	9.62E-03	1.000	.065	.962
204	61.56	1.52	0.00	6.67E+13	9.64E-13	9.11E-13	.944	1.193E-02	2.351E-04	2.242E-04	317.1	9.64E-03	1.000	.052	.988
205	61.56	1.51	0.00	6.07E+13	1.82E-12	1.72E-13	.913	1.206E-02	2.258E-04	2.148E-04	316.6	9.21E-03	1.000	.037	.882
206	61.56	1.51	0.00	5.27E+13	2.46E-12	2.31E-13	.815	1.202E-02	2.351E-04	1.943E-04	315.0	8.36E-03	1.000	.036	.896
207	61.56	1.51	0.00	3.91E+13	5.33E-12	5.06E-13	.648	1.202E-02	1.621E-04	1.621E-04	314.7	5.74E-03	1.000	.042	.914



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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AMES 3.5 FT. HWT TEST (1P2), G.E. BLUMER, IN-LINE RSI GAP RUNI 73) 1973

T/C	X (CM)	Y (CM)	Z (CM)	O (CM)	ML (KG/M2-S)	HT (KG/P2-S)	ML/MREF	MREF (KG/M2-S)	STL	STY	T (K)	HLCC (K/M2-S)	ML/MLCC	HLCC/MREF	ML/ME
211	61.56	7.04	15	3.65E+03	5.02E-03	4.74E-03	.491	1.021E-02	1.222E-04	1.144E-04	312.0	5.00E-03	1.000	.491	.593
212	61.56	0.00	25	2.72E+03	3.75E-03	3.55E-03	.367	1.020E-02	9.199E-05	0.715E-05	311.9	3.75E-03	1.000	.367	.377
213	61.56	0.00	30	3.09E+03	5.58E-06	5.20E-06	.071	1.021E-02	1.371E-07	1.290E-07	330.7	5.58E-06	1.000	.071	.001
214	61.56	0.00	35	1.75E+01	2.36E-05	2.24E-05	.002	1.021E-02	4.794E-07	5.491E-07	309.2	2.36E-05	1.000	.002	.002
306	86.96	.75	0.00	5.11E+03	6.96E-03	6.59E-03	.725	9.603E-03	1.705E-04	1.610E-04	313.9	6.96E-03	1.000	.725	.041
307	86.96	.25	0.00	4.43E+03	6.72E-03	6.41E-03	.627	9.612E-03	1.479E-04	1.403E-04	313.3	6.02E-03	1.000	.627	.728
308	86.96	.00	0.00	3.65E+03	5.40E-03	4.74E-03	.521	9.617E-03	1.229E-04	1.163E-04	312.6	9.00E-03	1.000	.521	.004
309	86.96	.06	0.00	3.55E+03	4.68E-03	4.37E-03	.406	9.621E-03	1.149E-04	1.089E-04	312.1	4.60E-03	1.000	.406	.005
311	86.96	0.00	15	3.13E+03	4.25E-03	4.02E-03	.411	9.621E-03	1.043E-04	9.881E-05	311.2	4.25E-03	1.000	.411	.513
312	86.96	0.00	25	1.97E+03	2.67E-03	2.57E-03	.277	9.623E-03	6.547E-05	6.205E-05	309.0	2.67E-03	1.000	.277	.322
313	86.96	0.00	35	6.57E+02	1.16E-03	1.10E-03	.120	9.623E-03	2.043E-05	2.090E-05	308.9	1.16E-03	1.000	.120	.346
314	86.96	0.00	35	1.38E+02	1.07E-04	1.77E-04	.015	9.623E-03	4.583E-06	4.340E-06	309.4	1.07E-04	1.000	.015	.023
405	112.36	.76	0.00	1.11E+04	1.55E-02	1.47E-02	.781	1.591E-02	3.011E-04	3.012E-04	312.9	1.55E-02	1.000	.781	.044
407	112.36	.51	0.00	1.01E+04	1.57E-02	1.48E-02	.704	1.591E-02	3.084E-04	3.039E-04	312.6	1.56E-02	1.000	.704	.093
408	112.36	.25	0.00	1.17E+04	1.46E-02	1.30E-02	.728	2.003E-02	3.075E-04	3.307E-04	312.2	1.46E-02	1.000	.728	.791
409	112.36	.15	0.00	9.62E+03	1.32E-02	1.05E-02	.657	2.003E-02	3.229E-04	3.059E-04	311.0	1.32E-02	1.000	.657	.714
410	112.36	.06	0.00	8.73E+03	1.13E-02	1.07E-02	.564	2.003E-02	2.779E-04	2.630E-04	311.6	1.13E-02	1.000	.564	.613
411	112.36	0.00	15	7.23E+03	9.81E-03	9.09E-03	.609	2.000E-02	2.479E-04	2.201E-04	311.3	9.81E-03	1.000	.609	.532
412	112.36	0.00	25	4.55E+03	5.16E-03	7.34E-03	.307	2.000E-02	1.511E-04	1.434E-04	310.5	5.16E-03	1.000	.307	.334
413	112.36	0.00	35	2.07E+03	3.77E-03	3.47E-03	.188	2.000E-02	9.252E-05	8.760E-05	309.7	3.77E-03	1.000	.188	.204
414	112.36	0.00	35	5.10E+02	6.95E-04	6.59E-04	.035	2.000E-02	1.707E-05	1.610E-05	309.1	6.95E-04	1.000	.035	.030
506	125.06	.76	0.00	1.45E+04	2.82E-02	2.30E-02	.775	3.240E-02	6.175E-04	5.052E-04	312.8	2.82E-02	1.000	.775	.057
507	125.06	.51	0.00	1.35E+04	2.48E-02	2.15E-02	.763	3.254E-02	6.194E-04	5.774E-04	312.6	2.48E-02	1.000	.763	.044
509	125.06	.25	0.00	1.15E+04	2.39E-02	2.26E-02	.732	3.260E-02	5.051E-04	5.549E-04	312.5	2.39E-02	1.000	.732	.049
510	125.06	.15	0.00	1.03E+04	2.47E-02	1.96E-02	.635	3.263E-02	5.167E-04	4.021E-04	312.2	2.47E-02	1.000	.635	.702
511	125.06	.06	0.00	1.37E+04	1.44E-02	1.74E-02	.564	3.265E-02	4.519E-04	4.201E-04	311.0	1.44E-02	1.000	.564	.623
513	125.06	0.00	15	1.27E+04	1.70E-02	1.61E-02	.521	3.265E-02	4.102E-04	3.962E-04	311.9	1.70E-02	1.000	.521	.577
512	125.06	0.00	25	8.07E+03	1.19E-02	1.13E-02	.365	3.267E-02	2.928E-04	2.774E-04	311.3	1.19E-02	1.000	.365	.403
513	125.06	0.00	35	5.15E+03	7.42E-03	7.71E-03	.427	3.267E-02	1.022E-04	1.726E-04	310.1	7.42E-03	1.000	.427	.251
514	125.06	0.00	35	1.31E+03	1.77E-03	1.59E-03	.054	3.267E-02	4.356E-05	4.129E-05	309.7	1.77E-03	1.000	.054	.068
515	125.06	0.00	35	2.26E+02	3.19E-04	2.92E-04	.009	3.267E-02	7.876E-06	7.179E-06	309.7	3.19E-04	1.000	.009	.010

EDGE HEATING USED FOR HE  
 X= 3.071E+01 ML /MREF= 8.032E-01  
 X= 4.124E+01 ML /MREF= 2.771E-01  
 X= 4.377E+01 ML /MREF= 6.712E-01  
 X= 4.031E+01 ML /MREF= 8.837E-01  
 X= 3.005E+01 ML /MREF= 7.042E-01

5.3-201



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

X#	5.1335E+01	ML	/MREF#	8.7332E-01
X#	5.6649E+01	ML	/MREF#	9.3418E-01
X#	6.1768E+01	ML	/MREF#	9.7225E-01
X#	6.6645E+01	ML	/MREF#	9.9325E-01
X#	7.1725E+01	ML	/MREF#	9.7918E-01
X#	7.6678E+01	ML	/MREF#	9.6133E-01
X#	8.1588E+01	ML	/MREF#	9.4095E-01
X#	8.6966E+01	ML	/MREF#	8.6095E-01
X#	9.2045E+01	ML	/MREF#	8.6383E-01
X#	9.7125E+01	ML	/MREF#	8.2161E-01
X#	1.0222E+02	ML	/MREF#	8.6691E-01
X#	1.0735E+02	ML	/MREF#	8.9375E-01
X#	1.1245E+02	ML	/MREF#	9.1348E-01
X#	1.1755E+02	ML	/MREF#	9.3868E-01
X#	1.2265E+02	ML	/MREF#	9.6141E-01
X#	1.2751E+02	ML	/MREF#	9.8402E-01
X#	1.3276E+02	ML	/MREF#	8.8235E-01
X#	1.3725E+02	ML	/MREF#	8.9352E-01
X#	1.3925E+02	ML	/MREF#	8.7171E-01
X#	4.7595E+01	ML	/MREF#	8.2818E-01
X#	6.1565E+01	ML	/MREF#	9.0298E-01
X#	8.6985E+01	ML	/MREF#	7.2458E-01
X#	1.1245E+02	ML	/MREF#	7.8398E-01
X#	1.2518E+02	ML	/MREF#	7.6627E-01

9-L. TRANSITION DISTANCE = 1.39 CM  
 FULLY TURBULENT 3-L. CONDITIONS AT = 81.84 CM



5.3-202





RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09651

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ANES 3.5 FT HWT TEST (182), 2.3. BLUME, IN-LINE RTI GAP RUN ( 76) 1773

T/C	X (CM)	Y (CM)	ZZ (CM)	W (MM)	ML (KG/M2-S)	HT (KG/M2-S)	ML/MREF	MREF (W/M2-S)	STL	SIT	T (K)	ML/MLCC	MLCC/MREF	ML/ME
211	61.56	61.56	61.56	61.56	2.19E-03	5.51E-03	0.515	1.396E-02	8.540E-05	6.110E-05	312.6	1.000	0.515	0.511
212	61.56	61.56	61.56	61.56	2.19E-03	5.51E-03	0.422	1.396E-02	7.024E-05	6.654E-05	312.6	1.000	0.422	0.419
213	61.56	61.56	61.56	61.56	2.63E-02	2.51E-04	0.619	1.396E-02	3.155E-06	2.991E-06	307.3	1.000	0.619	0.619
214	61.56	61.56	61.56	61.56	1.61E-05	1.52E-05	0.001	2.11E-02	1.919E-07	1.919E-07	336.7	1.000	0.001	0.001
215	61.56	61.56	61.56	61.56	2.92E-02	2.77E-02	1.362	2.11E-02	3.979E-04	3.979E-04	317.7	1.000	1.362	0.775
308	61.56	61.56	61.56	61.56	2.14E-04	2.77E-02	1.362	2.11E-02	3.979E-04	3.979E-04	317.7	1.000	1.362	0.775
309	61.56	61.56	61.56	61.56	2.14E-04	2.77E-02	1.362	2.11E-02	3.979E-04	3.979E-04	317.7	1.000	1.362	0.775
310	61.56	61.56	61.56	61.56	1.62E-04	2.37E-02	1.375	2.12E-02	3.177E-04	2.993E-04	315.3	1.000	1.375	0.659
311	61.56	61.56	61.56	61.56	2.16E-02	2.37E-02	1.375	2.12E-02	2.976E-04	2.819E-04	314.7	1.000	1.375	0.659
312	61.56	61.56	61.56	61.56	1.77E-04	2.05E-02	1.035	2.12E-02	2.572E-04	2.436E-04	313.4	1.000	1.035	0.569
313	61.56	61.56	61.56	61.56	9.81E-03	1.26E-02	0.423	2.12E-02	1.579E-04	1.496E-04	311.0	1.000	0.423	0.369
314	61.56	61.56	61.56	61.56	2.27E-03	9.81E-03	0.461	2.12E-02	1.168E-04	1.107E-04	306.6	1.000	0.461	0.258
315	61.56	61.56	61.56	61.56	1.33E-03	2.04E-03	0.122	2.12E-02	3.065E-05	2.924E-05	337.9	1.000	0.122	0.062
406	112.36	112.36	112.36	112.36	7.00E-02	6.71E-02	1.175	6.12E-02	3.413E-04	7.985E-04	316.2	1.000	1.175	0.884
407	112.36	112.36	112.36	112.36	1.08E-04	5.50E-02	1.174	6.12E-02	9.415E-04	7.971E-04	315.4	1.000	1.174	0.883
408	112.36	112.36	112.36	112.36	6.59E-02	6.24E-02	1.095	6.01E-02	7.831E-04	7.437E-04	314.7	1.000	1.095	0.824
409	112.36	112.36	112.36	112.36	1.05E-04	5.12E-02	1.017	6.01E-02	7.285E-04	6.931E-04	313.9	1.000	1.017	0.764
410	112.36	112.36	112.36	112.36	3.05E-04	3.43E-02	0.922	6.01E-02	5.453E-04	6.133E-04	313.7	1.000	0.922	0.676
411	112.36	112.36	112.36	112.36	4.77E-02	4.52E-02	0.793	6.01E-02	5.631E-04	5.392E-04	313.1	1.000	0.793	0.596
412	112.36	112.36	112.36	112.36	2.35E-04	3.19E-02	0.524	6.15E-02	3.914E-04	3.622E-04	311.7	1.000	0.524	0.399
413	112.36	112.36	112.36	112.36	1.46E-04	1.98E-02	0.329	6.15E-02	2.394E-04	2.208E-04	310.4	1.000	0.329	0.247
414	112.36	112.36	112.36	112.36	2.87E-03	3.78E-03	0.323	6.15E-02	4.498E-05	4.263E-05	307.9	1.000	0.323	0.047
506	125.36	125.36	125.36	125.36	6.62E-02	5.27E-02	0.613	7.75E-02	7.873E-04	7.463E-04	316.3	1.000	0.613	0.374
507	125.36	125.36	125.36	125.36	6.45E-02	5.12E-02	0.513	7.75E-02	7.531E-04	7.207E-04	316.1	1.000	0.513	0.354
508	125.36	125.36	125.36	125.36	6.27E-02	5.34E-02	0.509	7.74E-02	7.417E-04	7.073E-04	315.4	1.000	0.509	0.331
509	125.36	125.36	125.36	125.36	5.56E-02	5.07E-02	0.719	7.74E-02	5.627E-04	6.278E-04	314.6	1.000	0.719	0.237
510	125.36	125.36	125.36	125.36	6.01E-02	7.95E-02	0.653	7.73E-02	6.011E-04	5.714E-04	314.0	1.000	0.653	0.371
511	125.36	125.36	125.36	125.36	4.61E-02	4.76E-02	0.508	7.73E-02	5.435E-04	5.197E-04	314.2	1.000	0.508	0.595
512	125.36	125.36	125.36	125.36	2.44E-03	3.46E-02	0.430	7.73E-02	3.907E-04	3.750E-04	313.1	1.000	0.430	0.441
513	125.36	125.36	125.36	125.36	1.01E-04	2.11E-02	0.272	7.73E-02	2.508E-04	2.376E-04	312.1	1.000	0.272	0.275
514	125.36	125.36	125.36	125.36	2.07E-03	3.78E-03	0.146	7.73E-02	4.259E-05	4.129E-05	310.1	1.000	0.146	0.046

EDGE HEATING LSPD FOR HC  
 X= 3.070E+01 ML /MREF= 9.716E-01  
 Y= 4.124E+01 ML /MREF= 5.023E-01  
 Z= 4.377E+01 ML /MREF= 2.318E-01  
 X= 4.631E+01 ML /MREF= 2.922E-01  
 Y= 4.026E+01 ML /MREF= 2.330E-01



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

X#	7.138E+01	ML	/MREFF#	9.75E-01
X#	9.648E+01	ML	/MREFF#	9.489E-01
X#	6.158E+01	ML	/MREFF#	1.009E+00
X#	6.658E+01	ML	/MREFF#	1.050E+00
X#	7.178E+01	ML	/MREFF#	1.118E+00
X#	7.688E+01	ML	/MREFF#	1.212E+00
X#	8.188E+01	ML	/MREFF#	1.620E+00
X#	8.698E+01	ML	/MREFF#	1.784E+00
X#	9.218E+01	ML	/MREFF#	2.138E+00
X#	9.718E+01	ML	/MREFF#	2.142E+00
X#	1.028E+02	ML	/MREFF#	1.978E+00
X#	1.078E+02	ML	/MREFF#	1.635E+00
X#	1.128E+02	ML	/MREFF#	1.329E+00
X#	1.178E+02	ML	/MREFF#	1.149E+00
X#	1.228E+02	ML	/MREFF#	1.017E+00
X#	1.278E+02	ML	/MREFF#	9.748E-01
X#	1.328E+02	ML	/MREFF#	9.449E-01
X#	1.378E+02	ML	/MREFF#	6.921E-01
X#	1.352E+02	ML	/MREFF#	6.971E-01
X#	6.75E+01	ML	/MREFF#	7.758E-01
X#	6.15E+01	ML	/MREFF#	8.636E-01
X#	6.65E+01	ML	/MREFF#	1.382E+00
X#	1.124E+02	ML	/MREFF#	1.174E+00
X#	1.248E+02	ML	/MREFF#	8.334E-01

P.L. TRANSITION DISTANCE = 51.39 CM  
FULL TURBULENT 3.E. CONDITIONS AT = 97.12 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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AMES 3.5 FT HWT TEST (132), C.B. BLUMER, IN-LINE RSI GAP PUF( 75) 1973

TT = 1.10E+03(K)  
FT = 5.20E+05(N/M2)  
PT = 1.16E+05(J/KG)  
RE/METER = 1.0E+02  
PACH = 5.10E+01  
RHO VEL = 2.12E+01(KG/P2-S)  
HAM/MT = 0.97E+01 FOR HT  
MLCC = ML(2ND, J5, ED COND., 1)

T/C	X (CM)	YV (CM)	ZZ (CM)	Q (M/M2)	HL (KG/M2-S)	HT (KG/M2-S)	HL/M/REFF	HREF (KG/M2-S)	STL	STT	T (K)	HLCC (KG/M2-S)	HL/M/MLCC	MLCC/M/REF	ML/ME
6	122.56	-51	0.00	6.56E+03	6.44E-03	6.10E-03	.953	6.759E-03	3.033E-04	2.873E-04	308.5	9.58E-03	1.000	.006	1.000
7	117.67	-51	0.00	6.56E+03	6.44E-03	6.10E-03	.959	6.955E-03	3.035E-04	2.874E-04	308.7	9.58E-03	1.000	.078	1.000
8	112.77	-51	0.00	6.56E+03	6.44E-03	6.10E-03	.971	6.572E-03	3.037E-04	2.868E-04	308.9	9.58E-03	1.000	.048	1.000
9	107.87	-51	0.00	6.56E+03	6.44E-03	6.10E-03	.977	6.544E-03	2.935E-04	2.830E-04	309.0	9.58E-03	1.000	.068	1.000
10	102.97	-51	0.00	6.56E+03	6.44E-03	6.10E-03	.982	6.736E-03	3.037E-04	2.876E-04	309.2	9.58E-03	1.000	.098	1.000
11	97.12	-51	0.00	6.56E+03	6.44E-03	6.10E-03	.991	7.564E-03	3.037E-04	2.856E-04	309.4	9.58E-03	1.000	.128	1.000
12	92.04	-51	0.00	6.56E+03	6.44E-03	6.10E-03	.995	7.242E-03	3.039E-04	2.878E-04	310.4	9.58E-03	1.000	.158	1.000
13	86.96	-51	0.00	6.56E+03	6.44E-03	6.10E-03	.992	7.314E-03	3.035E-04	2.878E-04	310.6	9.58E-03	1.000	.188	1.000
14	81.88	-51	0.00	6.56E+03	6.44E-03	6.10E-03	.983	7.510E-03	3.034E-04	2.854E-04	311.3	9.58E-03	1.000	.218	1.000
15	76.79	-51	0.00	6.56E+03	6.44E-03	6.10E-03	.965	7.510E-03	3.083E-04	2.908E-04	311.8	9.58E-03	1.000	.248	1.000
16	71.72	-51	0.00	6.56E+03	6.44E-03	6.10E-03	.922	7.926E-03	3.240E-04	3.162E-04	312.9	9.58E-03	1.000	.278	1.000
17	66.64	-51	0.00	6.56E+03	6.44E-03	6.10E-03	.892	8.567E-03	3.645E-04	3.445E-04	314.4	9.58E-03	1.000	.308	1.000
18	61.56	-51	0.00	6.56E+03	6.44E-03	6.10E-03	.889	9.069E-03	3.795E-04	3.645E-04	314.4	9.58E-03	1.000	.338	1.000
19	56.48	-51	0.00	6.56E+03	6.44E-03	6.10E-03	.896	9.524E-03	3.975E-04	3.762E-04	315.2	9.58E-03	1.000	.368	1.000
20	51.39	-51	0.00	6.56E+03	6.44E-03	6.10E-03	.914	9.774E-03	4.235E-04	3.983E-04	315.6	9.58E-03	1.000	.398	1.000
21	46.31	-51	0.00	6.56E+03	6.44E-03	6.10E-03	.916	1.000E-02	4.330E-04	4.106E-04	315.6	9.58E-03	1.000	.428	1.000
22	41.23	-51	0.00	6.56E+03	6.44E-03	6.10E-03	.925	1.034E-02	4.404E-04	4.163E-04	315.6	9.58E-03	1.000	.458	1.000
23	36.15	-51	0.00	6.56E+03	6.44E-03	6.10E-03	.920	1.075E-02	4.633E-04	4.354E-04	316.1	9.58E-03	1.000	.488	1.000
24	31.07	-51	0.00	6.56E+03	6.44E-03	6.10E-03	.918	1.109E-02	4.704E-04	4.456E-04	315.2	9.58E-03	1.000	.518	1.000
25	26.00	-51	0.00	6.56E+03	6.44E-03	6.10E-03	.906	1.075E-02	4.682E-04	4.241E-04	315.4	9.58E-03	1.000	.548	1.000
193	37.97	1.12	0.00	6.56E+03	6.44E-03	6.10E-03	.870	1.075E-02	4.603E-04	4.106E-04	319.3	9.58E-03	1.000	.006	.964
195	39.97	1.12	0.00	6.56E+03	6.44E-03	6.10E-03	.870	1.075E-02	4.603E-04	4.106E-04	319.3	9.58E-03	1.000	.078	.967
197	35.97	1.11	0.00	6.56E+03	6.44E-03	6.10E-03	.846	1.175E-02	4.292E-04	4.262E-04	318.9	9.58E-03	1.000	.048	.923
198	39.97	.93	0.00	6.56E+03	6.20E-03	6.10E-03	.756	1.075E-02	3.889E-04	3.889E-04	318.0	8.26E-03	1.000	.768	.936
110	39.97	.74	0.00	6.56E+03	6.38E-03	6.10E-03	.590	1.075E-02	2.994E-04	2.824E-04	317.0	6.36E-03	1.000	.590	.641
111	39.97	.55	0.00	6.56E+03	6.26E-03	6.10E-03	.489	1.075E-02	2.877E-04	2.844E-04	316.6	5.26E-03	1.000	.489	.532
112	39.97	.35	0.00	6.56E+03	6.17E-03	6.10E-03	.323	1.075E-02	1.635E-04	1.847E-04	315.7	3.46E-03	1.000	.323	.381
113	39.97	.15	0.00	6.56E+03	6.08E-03	6.10E-03	.164	1.075E-02	9.331E-05	8.033E-05	315.1	1.98E-03	1.000	.164	.201
114	39.97	.00	0.00	6.56E+03	6.04E-03	6.10E-03	.000	1.075E-02	2.318E-05	2.403E-05	314.0	4.74E-04	1.000	.000	.044
115	39.97	.00	0.00	6.56E+03	6.04E-03	6.10E-03	.000	1.075E-02	3.332E-06	3.350E-06	313.0	7.00E-05	1.000	.000	.007
203	46.32	1.12	0.00	6.56E+03	6.70E-03	6.23E-03	.365	1.015E-02	4.094E-04	3.875E-04	316.5	8.75E-03	1.000	.055	.944
205	46.32	1.12	0.00	6.56E+03	6.69E-03	6.23E-03	.365	1.015E-02	4.094E-04	3.875E-04	316.5	8.69E-03	1.000	.065	.944
217	46.32	.91	0.00	6.56E+03	6.43E-03	7.35E-03	.332	1.015E-02	3.933E-04	3.742E-04	316.0	8.48E-03	1.000	.035	.911
218	46.32	.71	0.00	6.56E+03	6.65E-03	7.25E-03	.722	1.015E-02	3.613E-04	3.413E-04	319.3	7.66E-03	1.000	.762	.834
219	46.32	.51	0.00	6.56E+03	6.74E-03	7.44E-03	.571	1.015E-02	2.774E-04	2.588E-04	315.5	5.75E-03	1.000	.571	.624
211	46.32	.30	0.00	6.56E+03	6.81E-03	7.65E-03	.478	1.015E-02	2.262E-04	2.441E-04	315.1	4.84E-03	1.000	.478	.521
212	46.32	.10	0.00	6.56E+03	6.82E-03	7.61E-03	.336	1.015E-02	1.841E-04	1.459E-04	314.4	3.27E-03	1.000	.336	.355
213	46.32	.00	0.00	6.56E+03	6.82E-03	7.61E-03	.000	1.015E-02	1.841E-04	1.459E-04	314.4	3.27E-03	1.000	.000	.000
214	46.32	.00	0.00	6.56E+03	6.82E-03	7.61E-03	.000	1.015E-02	1.841E-04	1.459E-04	314.4	3.27E-03	1.000	.000	.000
215	46.32	.00	0.00	6.56E+03	6.82E-03	7.61E-03	.000	1.015E-02	1.841E-04	1.459E-04	314.4	3.27E-03	1.000	.000	.000



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

REPORT MDC E1248  
JSC 09651

PAGE 150

AMES 1.5 FT HWT TEST (132), C-3, BLUMER, IN-LINE PSI GAP RUN ( 75) 1973

T/C	X (CM)	Y (CM)	Z (CM)	G (W/M <sup>2</sup> )	HL (KG/M <sup>2</sup> -S)	PT (KG/M <sup>2</sup> -S)	HL/MSREF	MSREF (KG/M <sup>2</sup> -S)	STL	STT	T (K)	HLCC (K/M <sup>2</sup> -S)	HL/HLCC	HLCC/MSREF	HL/MS
216	45.72	0.00	1.14	2.75E+02	3.95E-04	2.59E-04	0.20	1.79E-02	1.335E-05	1.264E-05	310.0	2.86E-04	1.000	0.26	0.31
217	46.32	0.00	1.00	2.37E+02	3.35E-06	3.18E-06	0.10	1.045E-02	1.503E-07	1.499E-07	313.4	2.36E-06	1.000	0.00	0.00
218	46.32	0.00	1.00	1.76E+01	2.49E-15	2.35E-15	0.02	1.055E-02	1.173E-06	1.111E-06	310.2	2.49E-05	1.000	0.02	0.03
220	46.32	0.00	2.00	5.11E+03	7.28E-23	6.89E-23	0.53	9.07E-03	3.427E-04	3.244E-04	315.4	7.28E-23	1.000	0.03	0.03
307	56.48	0.51	0.00	4.01E+03	1.42E-23	1.38E-23	0.76	9.76E-03	3.125E-04	2.863E-04	314.9	6.42E-23	1.000	0.76	0.76
308	56.48	0.51	0.00	3.63E+07	1.22E-13	1.19E-13	5.74	9.76E-03	2.467E-04	2.379E-04	314.4	5.22E-23	1.000	0.76	0.76
310	56.48	0.16	0.00	3.29E+03	4.68E-03	4.43E-03	0.16	9.06E-03	2.254E-04	2.066E-04	314.0	4.68E-03	1.000	0.16	0.16
311	56.48	0.32	0.00	2.65E+03	3.74E-03	3.54E-03	0.12	9.06E-03	1.759E-04	1.606E-04	313.4	3.74E-03	1.000	0.12	0.12
312	56.48	0.48	0.00	2.05E+03	2.22E-03	2.10E-03	0.24	9.06E-03	1.043E-04	9.076E-05	312.4	2.22E-03	1.000	0.24	0.24
313	56.48	0.64	0.00	7.18E+02	1.02E-03	9.85E-04	0.12	9.06E-03	4.793E-05	4.593E-05	311.5	1.02E-03	1.000	0.12	0.12
314	56.48	0.80	0.00	2.11E+02	3.03E-04	2.89E-04	0.34	9.06E-03	1.437E-05	1.361E-05	311.9	3.03E-04	1.000	0.34	0.34
315	56.48	1.00	0.00	6.43E+00	1.23E-05	1.17E-05	0.71	9.06E-03	5.812E-07	5.493E-07	311.4	1.23E-05	1.000	0.71	0.71
316	56.48	0.00	1.00	3.17E+01	4.49E-06	4.25E-06	0.60	9.06E-03	2.115E-07	2.072E-07	310.5	4.49E-06	1.000	0.60	0.60
317	56.48	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
318	56.48	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
319	56.48	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
320	56.48	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
502	64.10	0.75	0.00	1.76E+03	6.78E-03	6.42E-03	0.20	8.26E-03	1.193E-04	1.023E-04	314.2	6.78E-03	1.000	0.20	0.20
507	64.10	0.51	0.00	4.05E+03	1.42E-23	1.38E-23	0.74	8.26E-03	1.032E-04	9.076E-05	313.9	1.42E-23	1.000	0.74	0.74
508	64.10	0.25	0.00	2.97E+02	4.35E-04	4.18E-04	0.28	8.26E-03	2.822E-04	2.673E-04	313.2	4.35E-04	1.000	0.28	0.28
509	64.10	0.15	0.00	3.57E+03	7.09E-03	6.81E-03	0.15	8.26E-03	2.394E-04	2.267E-04	312.1	7.09E-03	1.000	0.15	0.15
510	64.10	0.00	0.00	2.65E+02	1.24E-03	1.19E-03	0.24	8.26E-03	1.997E-04	1.891E-04	312.7	1.24E-03	1.000	0.24	0.24
511	64.10	0.00	0.00	2.07E+03	3.03E-03	2.92E-03	0.76	8.26E-03	1.951E-04	1.752E-04	312.5	3.03E-03	1.000	0.76	0.76
512	64.10	0.00	0.00	1.054E+03	2.75E-03	2.65E-03	0.32	8.26E-03	1.293E-04	1.225E-04	312.1	2.75E-03	1.000	0.32	0.32
513	64.10	0.00	0.00	1.014E+03	1.57E-03	1.55E-03	0.19	8.26E-03	7.333E-05	6.992E-05	311.0	1.57E-03	1.000	0.19	0.19
514	64.10	0.00	0.00	1.014E+02	3.65E-04	3.57E-04	0.40	8.26E-03	1.455E-05	1.375E-05	311.1	3.65E-04	1.000	0.40	0.40
515	64.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
601	46.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
602	46.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
603	46.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
604	46.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
605	46.22	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

EDGE HEATING USED FOR MS  
 MS 3.07E+01 HL /MSREF 5.17E+01  
 MS 4.124E+01 HL /MSREF 1.27E+01  
 MS 3.37E+01 HL /MSREF 1.00E+01  
 MS 4.631E+01 HL /MSREF 6.10E+01  
 MS 4.000E+01 HL /MSREF 2.14E+01

**ORIGINAL PAGE IS  
OF POOR QUALITY**

5.3-207





# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

X#	7.137E+01	ML	/MRFFF=	6.022E-01
X#	5.648E+01	ML	/MRFFF=	8.07E-01
X#	6.155E+01	ML	/MRFFF=	9.23E-01
X#	5.66E+01	ML	/MRFFF=	2.017E-01
X#	7.172E+01	ML	/MRFFF=	3.053E-01
X#	7.684E+01	ML	/MRFFF=	2.523E-01
X#	8.188E+01	ML	/MRFFF=	9.217E-01
X#	8.690E+01	ML	/MRFFF=	8.90E-01
X#	9.217E+01	ML	/MRFFF=	9.217E-01
X#	9.718E+01	ML	/MRFFF=	9.202E-01
X#	1.022E+02	ML	/MRFFF=	9.573E-01
X#	1.073E+02	ML	/MRFFF=	5.695E-01
X#	1.124E+02	ML	/MRFFF=	9.71E-01
X#	1.175E+02	ML	/MRFFF=	9.456E-01
X#	1.226E+02	ML	/MRFFF=	9.72E-01
X#	3.997E+01	ML	/MRFFF=	8.42E-01
X#	5.632E+01	ML	/MRFFF=	8.354E-01
X#	8.648E+01	ML	/MRFFF=	8.25E-01
X#	8.418E+01	ML	/MRFFF=	7.803E-01

P.L. TRANSITION DISTANCE = 21.39 CM  
FULLY TURBULENT 3.L. CONDITIONS AT 2276.0° C



RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 151

AMES 3.5 FT HWT TEST (1P2), C.P. BLUMED, IN-LINE RSI GAP SUN( 76) 1373

TT = 1.134E+77(K) GAP LENGTH = 3.402(CM)  
 PY = 1.034E+76(N/M2) GAP WIDTH = .127(CM)  
 PT = 1.277E+76(J/KG) GAP DEPTH = 3.810(CM)  
 PE/METER = 3.170E+76 ORIENTATION = 0.200(DEG)  
 MACH = 0.100 OS = 1.2339E+75(W/M2)  
 RHO WFL = 6.129E+71(KG/P2-S) MOD.POSITION = 4  
 WAW/MY = 1.995 FOR WT  
 WAW/MT = 0.474 FOR ML  
 MLCC = ML(2ND. OF DEP COND.)\*

T/C	X (CM)	Y	Z	Q (W/M2)	ML (KG/M2-S)	PT (KG/M2-S)	ML/HREFF	HREF (KG/M2-S)	STL	STT	T (K)	MLCC (K/M2-S)	ML/MLCC	MLCC/HREF	HL/HE
6	122.56	-51	0.00	2.11E+74	2.96E-02	2.31E-02	9.97	2.28E-02	7.35E-04	6.783E-04	312.2	1.16E-02	1.000	.874	.933
7	117.47	-51	0.00	1.79E+74	2.83E-02	2.30E-02	9.97	2.33E-02	5.07E-04	5.599E-04	312.5	1.15E-02	1.000	.874	.932
8	112.37	-51	0.00	1.47E+74	1.94E-02	1.38E-02	9.41	2.56E-02	4.77E-04	4.459E-04	312.9	1.02E-02	1.000	.769	.874
9	107.27	-51	0.00	1.15E+74	1.53E-02	1.05E-02	9.22	1.73E-02	3.83E-04	3.639E-04	313.1	8.16E-03	1.000	.616	.874
10	102.17	-51	0.00	8.27E+73	1.12E-02	9.03E-03	9.33	1.21E-02	3.89E-04	3.627E-04	313.5	6.94E-03	1.000	.574	.874
11	97.07	-51	0.00	5.00E+73	9.47E-03	8.88E-03	9.37	1.05E-02	2.26E-04	2.349E-04	313.9	4.95E-03	1.000	.374	.874
12	91.97	-51	0.00	1.73E+73	5.96E-03	7.33E-03	9.27	9.72E-03	1.34E-04	1.844E-04	314.3	3.15E-03	1.000	.234	.874
13	86.86	-51	0.00	5.92E+72	3.85E-03	4.54E-03	8.98	5.22E-03	9.31E-04	1.844E-04	314.9	2.73E-03	1.000	.205	.874
14	81.76	-51	0.00	1.77E+72	2.85E-03	3.43E-03	8.67	3.45E-03	5.94E-04	1.810E-04	315.7	2.73E-03	1.000	.205	.872
15	76.66	-51	0.00	5.00E+71	2.02E-03	2.53E-03	8.54	2.33E-03	3.94E-04	1.843E-04	316.3	2.42E-03	1.000	.180	.874
16	71.56	-51	0.00	1.47E+71	1.42E-03	1.77E-03	9.46	1.53E-03	2.24E-04	2.123E-04	317.6	2.29E-03	1.000	.160	.874
17	66.46	-51	0.00	4.79E+70	9.02E-04	1.12E-03	9.46	9.78E-04	1.24E-04	2.296E-04	319.2	2.32E-03	1.000	.160	.874
18	61.36	-51	0.00	1.27E+70	6.01E-04	7.45E-04	9.32	6.45E-04	7.45E-05	2.327E-04	320.0	2.391E-03	1.000	.160	.874
19	56.26	-51	0.00	3.22E+69	4.01E-04	4.88E-04	9.34	4.29E-04	4.88E-05	2.599E-04	321.1	2.512E-03	1.000	.160	.874
20	51.16	-51	0.00	8.12E+68	2.62E-04	3.23E-04	9.27	2.89E-04	3.23E-05	2.612E-04	320.8	2.675E-03	1.000	.160	.874
21	46.06	-51	0.00	2.02E+68	1.71E-04	2.18E-04	9.16	1.90E-04	2.18E-05	2.859E-04	321.3	2.823E-03	1.000	.160	.874
22	40.96	-51	0.00	5.00E+67	1.12E-04	1.42E-04	8.98	1.34E-04	1.34E-05	2.923E-04	320.2	2.933E-03	1.000	.160	.874
23	35.86	-51	0.00	1.27E+67	7.45E-05	9.64E-05	8.74	9.12E-05	9.64E-06	2.933E-04	320.6	2.933E-03	1.000	.160	.874
24	30.76	-51	0.00	3.22E+66	4.88E-05	6.45E-05	8.54	6.45E-05	6.45E-06	2.933E-04	320.6	2.933E-03	1.000	.160	.874
25	25.66	-51	0.00	8.12E+65	3.23E-05	4.36E-05	8.21	4.36E-05	4.36E-06	2.933E-04	320.6	2.933E-03	1.000	.160	.874
103	39.97	-51	0.00	1.27E+67	7.45E-05	9.64E-05	8.74	9.12E-05	9.64E-06	2.933E-04	320.6	2.933E-03	1.000	.160	.874
105	39.97	-51	0.00	1.27E+67	7.45E-05	9.64E-05	8.74	9.12E-05	9.64E-06	2.933E-04	320.6	2.933E-03	1.000	.160	.874
107	39.97	-51	0.00	1.27E+67	7.45E-05	9.64E-05	8.74	9.12E-05	9.64E-06	2.933E-04	320.6	2.933E-03	1.000	.160	.874
109	39.97	-51	0.00	1.27E+67	7.45E-05	9.64E-05	8.74	9.12E-05	9.64E-06	2.933E-04	320.6	2.933E-03	1.000	.160	.874
110	39.97	-51	0.00	1.27E+67	7.45E-05	9.64E-05	8.74	9.12E-05	9.64E-06	2.933E-04	320.6	2.933E-03	1.000	.160	.874
111	39.97	-51	0.00	1.27E+67	7.45E-05	9.64E-05	8.74	9.12E-05	9.64E-06	2.933E-04	320.6	2.933E-03	1.000	.160	.874
112	39.97	-51	0.00	1.27E+67	7.45E-05	9.64E-05	8.74	9.12E-05	9.64E-06	2.933E-04	320.6	2.933E-03	1.000	.160	.874
113	39.97	-51	0.00	1.27E+67	7.45E-05	9.64E-05	8.74	9.12E-05	9.64E-06	2.933E-04	320.6	2.933E-03	1.000	.160	.874
114	39.97	-51	0.00	1.27E+67	7.45E-05	9.64E-05	8.74	9.12E-05	9.64E-06	2.933E-04	320.6	2.933E-03	1.000	.160	.874
115	39.97	-51	0.00	1.27E+67	7.45E-05	9.64E-05	8.74	9.12E-05	9.64E-06	2.933E-04	320.6	2.933E-03	1.000	.160	.874
203	46.32	-51	0.00	1.27E+67	7.45E-05	9.64E-05	8.74	9.12E-05	9.64E-06	2.933E-04	320.6	2.933E-03	1.000	.160	.874
205	46.32	-51	0.00	1.27E+67	7.45E-05	9.64E-05	8.74	9.12E-05	9.64E-06	2.933E-04	320.6	2.933E-03	1.000	.160	.874
207	46.32	-51	0.00	1.27E+67	7.45E-05	9.64E-05	8.74	9.12E-05	9.64E-06	2.933E-04	320.6	2.933E-03	1.000	.160	.874
210	46.32	-51	0.00	1.27E+67	7.45E-05	9.64E-05	8.74	9.12E-05	9.64E-06	2.933E-04	320.6	2.933E-03	1.000	.160	.874
213	46.32	-51	0.00	1.27E+67	7.45E-05	9.64E-05	8.74	9.12E-05	9.64E-06	2.933E-04	320.6	2.933E-03	1.000	.160	.874
214	46.32	-51	0.00	1.27E+67	7.45E-05	9.64E-05	8.74	9.12E-05	9.64E-06	2.933E-04	320.6	2.933E-03	1.000	.160	.874
215	46.32	-51	0.00	1.27E+67	7.45E-05	9.64E-05	8.74	9.12E-05	9.64E-06	2.933E-04	320.6	2.933E-03	1.000	.160	.874



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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AMES 3.5 FT PWT TEST (1221), C.B. BLUMER, IN-LINE RSI GAP (UN( 76) 1977

T/C	X (C)	Y (C)	Z (CM)	G (M/MZ)	HL (KG/MZ-S)	HT (KG/MZ-S)	ML/MHREF (KG/MZ-S)	STL	STT	T (K)	MLCC (K/MZ-S)	ML/MGCC	MLCC/MHREF	ML/MHE
216	46.32	0.00	1.14	0.275+03	1.50E-03	6.13E-03	1.687E-02	2.079E-04	1.968E-04	320.8	1.50E-03	1.000	0.799	0.847
217	46.32	0.00	1.47	0.275+03	1.50E-03	7.53E-03	1.687E-02	1.963E-04	1.959E-04	319.9	0.11E-03	1.000	0.796	0.801
218	46.32	0.00	1.80	0.275+03	1.50E-03	8.93E-03	1.687E-02	1.697E-04	1.681E-04	319.0	6.90E-03	1.000	0.642	0.808
219	46.32	0.00	1.85	0.275+03	1.50E-03	9.34E-03	1.687E-02	1.519E-04	1.498E-04	318.5	6.27E-03	1.000	0.577	0.618
220	46.32	0.00	2.29	0.275+03	1.50E-03	1.06E-02	1.687E-02	1.216E-04	1.152E-04	317.6	5.12E-03	1.000	0.462	0.495
306	56.48	0.00	0.00	0.275+03	1.50E-03	1.36E-03	1.687E-02	3.473E-05	3.235E-05	315.9	1.44E-03	1.000	0.239	0.297
307	56.48	0.00	0.00	0.275+03	1.50E-03	1.66E-03	1.687E-02	1.475E-05	1.413E-05	315.1	4.44E-04	1.000	0.132	0.152
308	56.48	0.00	0.00	0.275+03	1.50E-03	1.96E-03	1.687E-02	4.32E-06	4.081E-06	314.1	1.74E-04	1.000	0.041	0.044
309	56.48	0.00	0.00	0.275+03	1.50E-03	2.26E-03	1.687E-02	1.168E-06	1.168E-06	313.3	1.74E-04	1.000	0.016	0.018
310	56.48	0.00	0.00	0.275+03	1.50E-03	2.56E-03	1.687E-02	4.34E-07	4.34E-07	312.7	1.79E-04	1.000	0.016	0.018
311	56.48	0.00	0.00	0.275+03	1.50E-03	2.86E-03	1.687E-02	1.168E-07	1.168E-07	312.3	6.97E-05	1.000	0.016	0.018
312	56.48	0.00	0.00	0.275+03	1.50E-03	3.16E-03	1.687E-02	4.97E-08	4.97E-08	312.1	2.03E-04	1.000	0.019	0.020
313	56.48	0.00	0.00	0.275+03	1.50E-03	3.46E-03	1.687E-02	1.611E-08	1.611E-08	311.9	1.49E-04	1.000	0.014	0.015
314	56.48	0.00	0.00	0.275+03	1.50E-03	3.76E-03	1.687E-02	1.611E-09	1.611E-09	311.9	1.49E-04	1.000	0.014	0.015
315	56.48	0.00	0.00	0.275+03	1.50E-03	4.06E-03	1.687E-02	1.611E-10	1.611E-10	311.9	1.49E-04	1.000	0.014	0.015
316	56.48	0.00	0.00	0.275+03	1.50E-03	4.36E-03	1.687E-02	1.611E-11	1.611E-11	311.9	1.49E-04	1.000	0.014	0.015
317	56.48	0.00	0.00	0.275+03	1.50E-03	4.66E-03	1.687E-02	1.611E-12	1.611E-12	311.9	1.49E-04	1.000	0.014	0.015
318	56.48	0.00	0.00	0.275+03	1.50E-03	4.96E-03	1.687E-02	1.611E-13	1.611E-13	311.9	1.49E-04	1.000	0.014	0.015
319	56.48	0.00	0.00	0.275+03	1.50E-03	5.26E-03	1.687E-02	1.611E-14	1.611E-14	311.9	1.49E-04	1.000	0.014	0.015
320	56.48	0.00	0.00	0.275+03	1.50E-03	5.56E-03	1.687E-02	1.611E-15	1.611E-15	311.9	1.49E-04	1.000	0.014	0.015
321	56.48	0.00	0.00	0.275+03	1.50E-03	5.86E-03	1.687E-02	1.611E-16	1.611E-16	311.9	1.49E-04	1.000	0.014	0.015
322	56.48	0.00	0.00	0.275+03	1.50E-03	6.16E-03	1.687E-02	1.611E-17	1.611E-17	311.9	1.49E-04	1.000	0.014	0.015
323	56.48	0.00	0.00	0.275+03	1.50E-03	6.46E-03	1.687E-02	1.611E-18	1.611E-18	311.9	1.49E-04	1.000	0.014	0.015
324	56.48	0.00	0.00	0.275+03	1.50E-03	6.76E-03	1.687E-02	1.611E-19	1.611E-19	311.9	1.49E-04	1.000	0.014	0.015
325	56.48	0.00	0.00	0.275+03	1.50E-03	7.06E-03	1.687E-02	1.611E-20	1.611E-20	311.9	1.49E-04	1.000	0.014	0.015
326	56.48	0.00	0.00	0.275+03	1.50E-03	7.36E-03	1.687E-02	1.611E-21	1.611E-21	311.9	1.49E-04	1.000	0.014	0.015
327	56.48	0.00	0.00	0.275+03	1.50E-03	7.66E-03	1.687E-02	1.611E-22	1.611E-22	311.9	1.49E-04	1.000	0.014	0.015
328	56.48	0.00	0.00	0.275+03	1.50E-03	7.96E-03	1.687E-02	1.611E-23	1.611E-23	311.9	1.49E-04	1.000	0.014	0.015
329	56.48	0.00	0.00	0.275+03	1.50E-03	8.26E-03	1.687E-02	1.611E-24	1.611E-24	311.9	1.49E-04	1.000	0.014	0.015
330	56.48	0.00	0.00	0.275+03	1.50E-03	8.56E-03	1.687E-02	1.611E-25	1.611E-25	311.9	1.49E-04	1.000	0.014	0.015
331	56.48	0.00	0.00	0.275+03	1.50E-03	8.86E-03	1.687E-02	1.611E-26	1.611E-26	311.9	1.49E-04	1.000	0.014	0.015
332	56.48	0.00	0.00	0.275+03	1.50E-03	9.16E-03	1.687E-02	1.611E-27	1.611E-27	311.9	1.49E-04	1.000	0.014	0.015
333	56.48	0.00	0.00	0.275+03	1.50E-03	9.46E-03	1.687E-02	1.611E-28	1.611E-28	311.9	1.49E-04	1.000	0.014	0.015
334	56.48	0.00	0.00	0.275+03	1.50E-03	9.76E-03	1.687E-02	1.611E-29	1.611E-29	311.9	1.49E-04	1.000	0.014	0.015
335	56.48	0.00	0.00	0.275+03	1.50E-03	1.006E-02	1.687E-02	1.611E-30	1.611E-30	311.9	1.49E-04	1.000	0.014	0.015
336	56.48	0.00	0.00	0.275+03	1.50E-03	1.036E-02	1.687E-02	1.611E-31	1.611E-31	311.9	1.49E-04	1.000	0.014	0.015
337	56.48	0.00	0.00	0.275+03	1.50E-03	1.066E-02	1.687E-02	1.611E-32	1.611E-32	311.9	1.49E-04	1.000	0.014	0.015
338	56.48	0.00	0.00	0.275+03	1.50E-03	1.096E-02	1.687E-02	1.611E-33	1.611E-33	311.9	1.49E-04	1.000	0.014	0.015
339	56.48	0.00	0.00	0.275+03	1.50E-03	1.126E-02	1.687E-02	1.611E-34	1.611E-34	311.9	1.49E-04	1.000	0.014	0.015
340	56.48	0.00	0.00	0.275+03	1.50E-03	1.156E-02	1.687E-02	1.611E-35	1.611E-35	311.9	1.49E-04	1.000	0.014	0.015
341	56.48	0.00	0.00	0.275+03	1.50E-03	1.186E-02	1.687E-02	1.611E-36	1.611E-36	311.9	1.49E-04	1.000	0.014	0.015
342	56.48	0.00	0.00	0.275+03	1.50E-03	1.216E-02	1.687E-02	1.611E-37	1.611E-37	311.9	1.49E-04	1.000	0.014	0.015
343	56.48	0.00	0.00	0.275+03	1.50E-03	1.246E-02	1.687E-02	1.611E-38	1.611E-38	311.9	1.49E-04	1.000	0.014	0.015
344	56.48	0.00	0.00	0.275+03	1.50E-03	1.276E-02	1.687E-02	1.611E-39	1.611E-39	311.9	1.49E-04	1.000	0.014	0.015
345	56.48	0.00	0.00	0.275+03	1.50E-03	1.306E-02	1.687E-02	1.611E-40	1.611E-40	311.9	1.49E-04	1.000	0.014	0.015
346	56.48	0.00	0.00	0.275+03	1.50E-03	1.336E-02	1.687E-02	1.611E-41	1.611E-41	311.9	1.49E-04	1.000	0.014	0.015
347	56.48	0.00	0.00	0.275+03	1.50E-03	1.366E-02	1.687E-02	1.611E-42	1.611E-42	311.9	1.49E-04	1.000	0.014	0.015
348	56.48	0.00	0.00	0.275+03	1.50E-03	1.396E-02	1.687E-02	1.611E-43	1.611E-43	311.9	1.49E-04	1.000	0.014	0.015
349	56.48	0.00	0.00	0.275+03	1.50E-03	1.426E-02	1.687E-02	1.611E-44	1.611E-44	311.9	1.49E-04	1.000	0.014	0.015
350	56.48	0.00	0.00	0.275+03	1.50E-03	1.456E-02	1.687E-02	1.611E-45	1.611E-45	311.9	1.49E-04	1.000	0.014	0.015
351	56.48	0.00	0.00	0.275+03	1.50E-03	1.486E-02	1.687E-02	1.611E-46	1.611E-46	311.9	1.49E-04	1.000	0.014	0.015
352	56.48	0.00	0.00	0.275+03	1.50E-03	1.516E-02	1.687E-02	1.611E-47	1.611E-47	311.9	1.49E-04	1.000	0.014	0.015
353	56.48	0.00	0.00	0.275+03	1.50E-03	1.546E-02	1.687E-02	1.611E-48	1.611E-48	311.9	1.49E-04	1.000	0.014	0.015
354	56.48	0.00	0.00	0.275+03	1.50E-03	1.576E-02	1.687E-02	1.611E-49	1.611E-49	311.9	1.49E-04	1.000	0.014	0.015
355	56.48	0.00	0.00	0.275+03	1.50E-03	1.606E-02	1.687E-02	1.611E-50	1.611E-50	311.9	1.49E-04	1.000	0.014	0.015
356	56.48	0.00	0.00	0.275+03	1.50E-03	1.636E-02	1.687E-02	1.611E-51	1.611E-51	311.9	1.49E-04	1.000	0.014	0.015
357	56.48	0.00	0.00	0.275+03	1.50E-03	1.666E-02	1.687E-02	1.611E-52	1.611E-52	311.9	1.49E-04	1.000	0.014	0.015
358	56.48	0.00	0.00	0.275+03	1.50E-03	1.696E-02	1.687E-02	1.611E-53	1.611E-53	311.9	1.49E-04	1.000	0.014	0.015
359	56.48	0.00	0.00	0.275+03	1.50E-03	1.726E-02	1.687E-02	1.611E-54	1.611E-54	311.9	1.49E-04	1.000	0.014	0.015
360	56.48	0.00	0.00	0.275+03	1.50E-03	1.756E-02	1.687E-02	1.611E-55	1.611E-55	311.9	1.49E-04	1.000	0.014	0.015
361	56.48	0.00	0.00	0.275+03	1.50E-03	1.786E-02	1.687E-02	1.611E-56	1.611E-56	311.9	1.49E-04	1.000	0.014	0.015
362	56.48	0.00	0.00	0.275+03	1.50E-03	1.816E-02	1.687E-02	1.611E-57	1.611E-57	311.9	1.49E-04	1.000	0.014	0.015
363	56.48	0.00	0.00	0.275+03	1.50E-03	1.846E-02	1.687E-02	1.611E-58	1.611E-58	311.9	1.49E-04	1.000	0.014	0.015
364	56.48	0.00	0.00	0.275+03	1.50E-03	1.876E-02	1.687E-02	1.611E-59	1.611E-59	311.9	1.49E-04	1.000	0.014	0.015
365	56.48	0.00	0.00	0.275+03	1.50E-03	1.906E-02	1.687E-02	1.611E-60	1.611E-60	311.9	1.49E-04	1.000	0.014	0.015

EDGE HEATING USED FOR M  
 X= 3.075E+03 ML /MHREF= 6.308E-1  
 Y= 4.125E+01 ML /MHREF= 5.77E-11  
 Z= 4.775E+01 ML /MHREF= 9.135E-11  
 X= 4.631E+01 ML /MHREF= 9.245E-11  
 Y= 5.036E+01 ML /MHREF= 0.345E-11

5.3-210



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

REPORT MDC E1248  
 JSC 09651

XX	5.133E+01	ML	/MREFF	5.133E+01
XX	5.664E+01	ML	/MREFF	9.326E-01
XX	5.156E+01	ML	/MREFF	5.759E-01
XX	6.605E+01	ML	/MREFF	5.552E-01
XX	7.172E+01	ML	/MREFF	6.242E-01
XX	7.689E+01	ML	/MREFF	6.815E-01
XX	8.138E+01	ML	/MREFF	7.377E-01
XX	8.698E+01	ML	/MREFF	8.269E-01
XX	9.245E+01	ML	/MREFF	8.565E-01
XX	9.712E+01	ML	/MREFF	8.731E-01
XX	1.022E+02	ML	/MREFF	9.215E-01
XX	1.073E+02	ML	/MREFF	9.262E-01
XX	1.124E+02	ML	/MREFF	9.476E-01
XX	1.174E+02	ML	/MREFF	9.572E-01
XX	1.226E+02	ML	/MREFF	5.574E-01
XX	1.997E+01	ML	/MREFF	6.338E-01
XX	4.632E+01	ML	/MREFF	8.771E-01
XX	5.649E+01	ML	/MREFF	7.295E-01
XX	6.412E+01	ML	/MREFF	7.746E-01

P.L. TRANSITION DISTANCE = 1.33 CM  
 FULLY TURBULENT 3-L. CONDITIONS AT 8976.7° CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 193

AMES 3-5 P. HWT TEST (1973) C-10. BUMPER IN-LINE RSI GAP FOR (7) 19.1

TT = 1.114E+03 (K) GAP LENGTH = 31.45 (CM)  
 PT = 2.097E+03 (N/M2) GAP WIDTH = .127 (CM)  
 FT = 1.270E+04 (J/KG) GAP DEPTH = 3.310 (CM)  
 REAMETER = 5.42 DEGREE ORIENTATIONS = 0.00 (DEG)  
 OS = 1.7595E+06 (N/M2)  
 MACH = 3.44 TUC-POSITION = 4  
 RHC VEL = 4.77E+04 (M/M2-S)  
 HAW/MT = 3.008 FOR HT  
 HAW/HT = 3.074 FOR HL  
 HLCC = HL(2ND, 3RD, CONC,\*)

T/C	X (CM)	Y (CM)	ZZ (CM)	U (M/2)	HL (KG/M2-S)	HL (KG/M2-S)	HL/MREF	MREF (KG/M2-S)	STL	STT	T (K)	HLCC (KG/M2-S)	HL/MHCC	HLCC/MREF	ML/ME
4	122.58	-51	0.00	1.18E+04	6.94E-02	6.94E-02	1.000	7.43E-02	8.37E-04	7.87E-04	315.4	1.83E-02	1.000	1.000	1.000
7	117.47	-51	0.00	1.18E+04	6.94E-02	6.94E-02	1.000	7.43E-02	8.37E-04	7.87E-04	315.4	1.83E-02	1.000	1.000	1.000
8	112.37	-51	0.00	1.18E+04	6.94E-02	6.94E-02	1.000	7.43E-02	8.37E-04	7.87E-04	315.4	1.83E-02	1.000	1.000	1.000
9	107.27	-51	0.00	1.18E+04	6.94E-02	6.94E-02	1.000	7.43E-02	8.37E-04	7.87E-04	315.4	1.83E-02	1.000	1.000	1.000
10	102.17	-51	0.00	1.18E+04	6.94E-02	6.94E-02	1.000	7.43E-02	8.37E-04	7.87E-04	315.4	1.83E-02	1.000	1.000	1.000
11	97.07	-51	0.00	1.18E+04	6.94E-02	6.94E-02	1.000	7.43E-02	8.37E-04	7.87E-04	315.4	1.83E-02	1.000	1.000	1.000
12	91.97	-51	0.00	1.18E+04	6.94E-02	6.94E-02	1.000	7.43E-02	8.37E-04	7.87E-04	315.4	1.83E-02	1.000	1.000	1.000
13	86.87	-51	0.00	1.18E+04	6.94E-02	6.94E-02	1.000	7.43E-02	8.37E-04	7.87E-04	315.4	1.83E-02	1.000	1.000	1.000
14	81.77	-51	0.00	1.18E+04	6.94E-02	6.94E-02	1.000	7.43E-02	8.37E-04	7.87E-04	315.4	1.83E-02	1.000	1.000	1.000
15	76.67	-51	0.00	1.18E+04	6.94E-02	6.94E-02	1.000	7.43E-02	8.37E-04	7.87E-04	315.4	1.83E-02	1.000	1.000	1.000
16	71.57	-51	0.00	1.18E+04	6.94E-02	6.94E-02	1.000	7.43E-02	8.37E-04	7.87E-04	315.4	1.83E-02	1.000	1.000	1.000
17	66.47	-51	0.00	1.18E+04	6.94E-02	6.94E-02	1.000	7.43E-02	8.37E-04	7.87E-04	315.4	1.83E-02	1.000	1.000	1.000
18	61.37	-51	0.00	1.18E+04	6.94E-02	6.94E-02	1.000	7.43E-02	8.37E-04	7.87E-04	315.4	1.83E-02	1.000	1.000	1.000
19	56.27	-51	0.00	1.18E+04	6.94E-02	6.94E-02	1.000	7.43E-02	8.37E-04	7.87E-04	315.4	1.83E-02	1.000	1.000	1.000
20	51.17	-51	0.00	1.18E+04	6.94E-02	6.94E-02	1.000	7.43E-02	8.37E-04	7.87E-04	315.4	1.83E-02	1.000	1.000	1.000
21	46.07	-51	0.00	1.18E+04	6.94E-02	6.94E-02	1.000	7.43E-02	8.37E-04	7.87E-04	315.4	1.83E-02	1.000	1.000	1.000
22	40.97	-51	0.00	1.18E+04	6.94E-02	6.94E-02	1.000	7.43E-02	8.37E-04	7.87E-04	315.4	1.83E-02	1.000	1.000	1.000
23	35.87	-51	0.00	1.18E+04	6.94E-02	6.94E-02	1.000	7.43E-02	8.37E-04	7.87E-04	315.4	1.83E-02	1.000	1.000	1.000
24	30.77	-51	0.00	1.18E+04	6.94E-02	6.94E-02	1.000	7.43E-02	8.37E-04	7.87E-04	315.4	1.83E-02	1.000	1.000	1.000
25	25.67	-51	0.00	1.18E+04	6.94E-02	6.94E-02	1.000	7.43E-02	8.37E-04	7.87E-04	315.4	1.83E-02	1.000	1.000	1.000
103	39.97	1.72	0.00	1.18E+04	1.83E-02	1.83E-02	0.38	1.72E-02	1.82E-04	1.73E-04	330.5	1.83E-02	1.000	0.06	0.979
105	39.97	1.72	0.00	1.18E+04	1.83E-02	1.83E-02	0.76	1.72E-02	1.82E-04	1.73E-04	330.5	1.83E-02	1.000	0.06	0.979
107	39.97	1.72	0.00	1.18E+04	1.83E-02	1.83E-02	0.91	1.72E-02	1.82E-04	1.73E-04	330.5	1.83E-02	1.000	0.06	0.979
109	39.97	1.72	0.00	1.18E+04	1.83E-02	1.83E-02	0.75	1.72E-02	1.82E-04	1.73E-04	330.5	1.83E-02	1.000	0.06	0.979
110	39.97	1.72	0.00	1.18E+04	1.83E-02	1.83E-02	0.72	1.72E-02	1.82E-04	1.73E-04	330.5	1.83E-02	1.000	0.06	0.979
111	39.97	1.72	0.00	1.18E+04	1.83E-02	1.83E-02	0.22	1.72E-02	1.82E-04	1.73E-04	330.5	1.83E-02	1.000	0.06	0.979
112	39.97	1.72	0.00	1.18E+04	1.83E-02	1.83E-02	0.98	1.72E-02	1.82E-04	1.73E-04	330.5	1.83E-02	1.000	0.06	0.979
113	39.97	1.72	0.00	1.18E+04	1.83E-02	1.83E-02	0.84	1.72E-02	1.82E-04	1.73E-04	330.5	1.83E-02	1.000	0.06	0.979
114	39.97	1.72	0.00	1.18E+04	1.83E-02	1.83E-02	0.51	1.72E-02	1.82E-04	1.73E-04	330.5	1.83E-02	1.000	0.06	0.979
115	39.97	1.72	0.00	1.18E+04	1.83E-02	1.83E-02	0.34	1.72E-02	1.82E-04	1.73E-04	330.5	1.83E-02	1.000	0.06	0.979
173	46.32	1.72	0.00	1.18E+04	1.83E-02	1.83E-02	0.74	1.83E-02	1.83E-04	1.83E-04	325.6	1.83E-02	1.000	0.06	0.979
203	46.32	1.72	0.00	1.18E+04	1.83E-02	1.83E-02	0.74	1.83E-02	1.83E-04	1.83E-04	325.6	1.83E-02	1.000	0.06	0.979
207	46.32	1.72	0.00	1.18E+04	1.83E-02	1.83E-02	0.71	1.83E-02	1.83E-04	1.83E-04	325.6	1.83E-02	1.000	0.06	0.979
208	46.32	1.72	0.00	1.18E+04	1.83E-02	1.83E-02	0.73	1.83E-02	1.83E-04	1.83E-04	325.6	1.83E-02	1.000	0.06	0.979
217	46.32	1.72	0.00	1.18E+04	1.83E-02	1.83E-02	0.74	1.83E-02	1.83E-04	1.83E-04	325.6	1.83E-02	1.000	0.06	0.979
218	46.32	1.72	0.00	1.18E+04	1.83E-02	1.83E-02	0.69	1.83E-02	1.83E-04	1.83E-04	325.6	1.83E-02	1.000	0.06	0.979
219	46.32	1.72	0.00	1.18E+04	1.83E-02	1.83E-02	0.56	1.83E-02	1.83E-04	1.83E-04	325.6	1.83E-02	1.000	0.06	0.979
220	46.32	1.72	0.00	1.18E+04	1.83E-02	1.83E-02	0.63	1.83E-02	1.83E-04	1.83E-04	325.6	1.83E-02	1.000	0.06	0.979
221	46.32	1.72	0.00	1.18E+04	1.83E-02	1.83E-02	0.63	1.83E-02	1.83E-04	1.83E-04	325.6	1.83E-02	1.000	0.06	0.979



**RSI GAP HEATING ANALYSIS - I'**  
**VOLUME II**

REPORT MDC E1248  
JSC 09651

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3.5 FT WMT TEST (1R2), C-7, BLUMER, IN-LINE RSI GAP PUN1 (77) (973)

T/C	X (CM)	Y (CM)	Z (CM)	W (W/M2)	ML (KG/M2-S)	MT (KG/M2-S)	ML/HREF (KG/M2-S)	STL	STT	T (K)	MLCC (K2/M2-S)	ML/MLCC	MLCC/HREF	ML/HE
216	46.32	7.77	1.14	7.55E+01	1.40E-04	9.10E-09	0.70	1.07E-02	1.137E-06	1.134E-06	309.1	1.000	0.986	0.002
217	46.32	0.73	1.47											
218	46.32	0.73	1.65											
219	46.32	0.77	1.70											
220	46.32	0.50	2.29											
306	56.48	0.75	1.00	7.64E+00	1.75E-05	1.38E-09	0.01	1.449E-02	1.275E-07	1.259E-07	339.7	1.000	0.801	0.001
307	56.48	0.51	1.20	1.15E+04	1.46E-02	1.70E-02	0.01	1.470E-02	1.731E-04	1.688E-04	323.3	1.000	0.991	0.009
308	56.48	0.23	1.11	1.17E+04	2.39E-02	1.34E-02	1.33E	1.470E-02	2.46E-04	2.350E-04	321.7	1.000	1.396	0.976
309	56.48	0.15	0.76	1.10E+04	7.18E-02	2.37E-02	1.87E	1.471E-02	2.872E-04	2.802E-04	319.9	1.000	1.477	1.028
310	56.48	0.05	0.76	1.00E+04	2.14E-02	2.03E-02	1.43E	1.471E-02	2.944E-04	2.848E-04	318.8	1.000	1.457	1.032
311	56.48	0.23	0.15	1.01E+04	1.95E-02	1.85E-02	1.32E	1.471E-02	2.334E-04	2.211E-04	316.7	1.000	1.327	0.922
312	56.48	0.73	0.76	2.15E+04	1.59E-02	1.21E-02	1.04E	1.471E-02	1.937E-04	1.879E-04	314.0	1.000	1.004	0.792
313	56.48	0.77	0.76	9.18E+03	1.29E-02	1.23E-02	0.80E	1.471E-02	1.877E-04	1.807E-04	311.4	1.000	0.800	0.611
314	56.48	0.77	0.04	1.39E+03	0.74E-03	0.36E-03	0.00	1.471E-02	0.059E-03	7.639E-05	312.6	1.000	0.458	0.318
315	56.48	0.77	0.04	2.17E+03	2.53E-03	2.76E-03	0.00	1.471E-02	7.94E-05	3.397E-05	311.8	1.000	0.199	0.138
316	56.48	0.77	0.14	1.9E+03	1.40E-03	1.39E-03	0.10	1.471E-02	1.792E-05	1.660E-05	313.8	1.000	0.180	0.099
317	56.48	0.77	0.15	1.7E+02	0.85E-04	2.54E-04	0.00	1.471E-02	0.936E-06	6.630E-06	313.7	1.000	0.043	0.028
318	56.48	0.77	0.15	1.0E+02	1.91E-04	1.81E-04	0.00	1.471E-02	2.235E-06	2.169E-06	309.3	1.000	0.013	0.009
319	56.48	0.77	1.07	1.0E+02	1.34E-04	1.27E-04	0.00	1.471E-02	1.606E-06	1.522E-06	308.8	1.000	0.009	0.006
320	56.48	0.77	2.29											
506	64.10	0.74	0.77	1.77E+04	2.42E-02	2.29E-02	1.77E	1.469E-02	2.893E-04	2.748E-04	322.4	1.000	1.776	0.497
507	64.10	0.51	0.76	2.45E+04	3.23E-02	3.03E-02	2.74E	1.469E-02	3.029E-04	2.829E-04	321.0	1.000	2.346	0.656
508	64.10	0.29	0.76	2.03E+04	4.93E-02	3.72E-02	2.62E	1.469E-02	4.779E-04	4.522E-04	318.9	1.000	2.924	0.818
509	64.10	0.15	0.76	3.03E+04	0.11E-02	3.90E-02	3.03E	1.469E-02	4.919E-04	4.608E-04	316.4	1.000	3.011	0.822
510	64.10	0.76	0.76	2.35E+04	0.17E-02	3.35E-02	2.93E	1.469E-02	7.55E-04	7.059E-04	317.9	1.000	2.975	0.820
511	64.10	0.77	0.15	2.01E+04	0.11E-02	3.91E-02	2.93E	1.469E-02	4.799E-04	4.540E-04	317.8	1.000	2.932	0.744
512	64.10	0.77	0.76	2.01E+04	3.64E-02	3.45E-02	2.61E	1.469E-02	4.331E-04	4.128E-04	316.7	1.000	2.662	0.744
513	64.10	0.77	0.76	2.21E+04	3.75E-02	2.33E-02	2.27E	1.469E-02	3.651E-04	3.465E-04	319.5	1.000	2.234	0.625
514	64.10	0.77	0.04	1.37E+04	1.76E-02	1.57E-02	1.27E	1.469E-02	2.13E-04	1.992E-04	313.5	1.000	1.286	0.360
515	64.10	0.77	0.09	6.77E+03	9.06E-03	6.59E-03	0.603	1.469E-02	1.027E-04	1.027E-04	311.8	1.000	0.663	0.185
601	48.22	0.01	0.26											
602	48.22	0.01	0.00											
603	48.22	0.01	0.01											
604	48.22	0.01	1.37											
605	48.22	0.01	1.59											

EDGE HEATING USED FOR MC  
 X# 3.27E+01 ML /HREF# 6.745E-01  
 X# 6.12E+01 ML /HREF# 5.07E-01  
 X# 6.37E+01 ML /HREF# 0.476E-01  
 X# 4.63E+01 ML /HREF# 6.49E-01  
 X# 4.86E+01 ML /HREF# 6.73E-01

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5.3-213



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

X#	5.015E+01	ML	/MREFF#	9.011E-11
X#	5.646E+01	ML	/MREFF#	1.440E+00
X#	6.16E+01	ML	/MREFF#	2.513E+00
X#	6.654E+01	ML	/MREFF#	4.541E+00
X#	7.272E+01	ML	/MREFF#	4.847E+00
X#	7.683E+01	ML	/MREFF#	4.555E+00
X#	8.145E+01	ML	/MREFF#	4.237E+00
X#	8.686E+01	ML	/MREFF#	3.486E+00
X#	9.245E+01	ML	/MREFF#	3.532E+00
X#	9.712E+01	ML	/MREFF#	2.519E+00
X#	1.022E+02	ML	/MREFF#	2.016E+00
X#	1.073E+02	ML	/MREFF#	1.473E+00
X#	1.124E+02	ML	/MREFF#	1.178E+00
X#	1.175E+02	ML	/MREFF#	1.029E+00
X#	1.226E+02	ML	/MREFF#	9.351E-01
X#	3.997E+01	ML	/MREFF#	8.412E-01
X#	4.832E+01	ML	/MREFF#	7.911E-01
X#	5.668E+01	ML	/MREFF#	6.912E-01
X#	6.410E+01	ML	/MREFF#	2.346E+00

0.1. TRANSITION DISTANCE = 1A.73 CM  
 FULLY TURBULENT 9.0. CONDITIONS AT = 73.72 CM









# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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AMES 3.5 FT HMT TEST (1.02), C.E. BLUMER, IN-LINE RSI GAP RUN( '9) 1973

TT = 1.1393E+01(K)  
 GAP LENGTH = 31.49(CM)  
 PY = 1.0365E+06(M/MZ)  
 GAP WIDTH = .127(CM)  
 MT = 1.2237E+16(J/MG)  
 GAP DEPTH = 3.51(CM)  
 RE/METER = 3.1836E+01  
 ORIENTATION = 9.75(DEG)  
 QS = 5.100  
 MOD. POSITION = 4  
 1.2317E+05(M/MZ)

RHO VEL = 4.1137E+01(KG/MZ-S)  
 HAN/MT = 7.97% FOR MT  
 MLCC = ML(2ND, ORDEP COND.)

T/C	X (CM)	Y (CM)	Z (CM)	ZZ (M/MZ)	ML (KG/MZ-S)	MT (KG/MZ-S)	ML/HREF	HREF (KG/MZ-S)	STL	STT	T (K)	MLCC (K/MZ-S)	ML/MLCC	MLCC/HREF	ML/HE
16	71.92	-31	1.07	5.97E+03	6.43E-03	7.60E-03	.854	5.40E-03	1.941E-04	1.898E-04	316.8	1.235E-02	1.000	.926	1.816
17	66.64	-31	1.07	6.20E+03	6.59E-03	9.10E-03	.873	9.79E-03	2.066E-04	1.957E-04	317.0	1.196E-02	1.000	.988	1.885
18	61.36	-31	1.07	6.43E+03	6.59E-03	2.57E-02	.893	1.02E-02	2.188E-04	2.072E-04	319.3	1.235E-02	1.000	.923	1.816
19	56.08	-31	1.07	6.94E+03	3.44E-03	6.94E-03	.877	1.03E-02	2.282E-04	2.161E-04	319.0	1.222E-02	1.000	.777	.852
20	51.80	-31	1.07	7.25E+03	9.86E-03	9.34E-03	.851	1.159E-02	2.383E-04	2.257E-04	319.9	1.033E-02	1.000	.669	.732
21	46.56	-31	1.07	7.62E+03	1.04E-02	9.35E-03	.871	1.151E-02	2.515E-04	2.382E-04	320.2	1.177E-03	1.000	.481	.527
22	46.31	-31	1.07	7.77E+03	1.04E-02	1.071E-02	.862	1.272E-02	2.654E-04	2.472E-04	320.5	3.493E-03	1.000	.296	.325
23	43.77	-31	1.07	8.07E+03	1.13E-02	1.04E-02	.865	1.272E-02	2.654E-04	2.513E-04	321.1	1.144E-03	1.000	.405	.403
24	41.24	-31	1.07	8.67E+03	1.19E-02	1.12E-02	.974	1.377E-02	2.858E-04	2.716E-04	321.1	1.294E-03	1.000	.517	.597
25	38.70	-31	1.07	9.06E+03	1.23E-02	1.15E-02	.914	1.384E-02	2.970E-04	2.822E-04	320.0	2.944E-04	1.000	.822	.824
41	71.92	-31	1.07	1.20E+03	1.74E-03	1.65E-03	.181	9.194E-03	4.199E-05	3.978E-05	313.9	1.235E-02	1.000	.926	1.816
42	66.64	-31	1.07	1.05E+03	2.42E-03	2.31E-03	.248	9.786E-03	5.956E-05	5.546E-05	314.9	1.196E-02	1.000	.988	1.885
43	61.36	-31	1.07	1.05E+03	2.29E-03	2.13E-03	.210	1.025E-02	5.434E-05	5.147E-05	317.2	1.235E-02	1.000	.923	1.816
44	56.08	-31	1.07	2.45E+03	2.74E-03	2.63E-03	.295	1.084E-02	6.711E-05	6.356E-05	318.0	1.222E-02	1.000	.777	.852
45	51.80	-31	1.07	1.05E+03	2.82E-03	2.88E-03	.226	1.156E-02	6.333E-05	5.988E-05	317.7	1.033E-02	1.000	.669	.732
46	46.56	-31	1.07	1.05E+03	2.82E-03	2.88E-03	.226	1.156E-02	6.211E-05	5.883E-05	317.8	1.177E-03	1.000	.481	.527
47	46.31	-31	1.07	2.15E+03	2.87E-03	2.71E-03	.233	1.232E-02	6.927E-05	6.568E-05	318.4	3.493E-03	1.000	.296	.325
48	43.77	-31	1.07	2.04E+03	3.35E-03	3.18E-03	.284	1.245E-02	8.145E-05	7.677E-05	318.2	1.144E-03	1.000	.405	.403
49	41.24	-31	1.07	2.04E+03	-7.8E-03	4.53E-03	.364	1.377E-02	1.145E-04	1.095E-04	319.9	1.294E-03	1.000	.517	.597
50	38.70	-31	1.07	2.04E+03	3.58E-03	3.19E-03	.286	1.384E-02	8.643E-05	8.182E-05	317.7	2.944E-04	1.000	.822	.824
103	39.97	1.02	1.07	8.91E+03	1.23E-02	1.16E-02	.921	1.325E-02	2.946E-04	2.898E-04	325.5	1.235E-02	1.000	.926	1.816
105	39.97	1.02	1.07	9.63E+03	1.19E-02	1.13E-02	.980	1.325E-02	2.876E-04	2.722E-04	327.6	1.196E-02	1.000	.988	1.885
107	39.97	1.02	1.07	9.25E+03	1.23E-02	1.16E-02	.925	1.325E-02	2.971E-04	2.831E-04	326.3	1.235E-02	1.000	.923	1.816
108	39.97	1.02	1.07	1.06E+03	1.22E-02	1.14E-02	.933	1.325E-02	2.977E-04	2.799E-04	324.9	1.222E-02	1.000	.777	.852
110	39.97	1.02	1.07	7.05E+03	1.03E-02	9.75E-03	.777	1.325E-02	2.435E-04	2.352E-04	323.3	1.033E-02	1.000	.669	.732
111	39.97	1.02	1.07	1.05E+03	8.85E-03	8.36E-03	.680	1.325E-02	2.133E-04	2.052E-04	322.5	8.35E-03	1.000	.481	.527
112	39.97	1.02	1.07	1.05E+03	8.77E-03	8.32E-03	.681	1.325E-02	2.133E-04	1.998E-04	321.0	1.177E-03	1.000	.481	.527
113	39.97	1.02	1.07	2.04E+03	1.93E-03	1.92E-03	.294	1.325E-02	9.448E-05	8.985E-05	319.8	3.493E-03	1.000	.296	.325
114	39.97	1.02	1.07	2.04E+03	1.14E-03	1.18E-03	.286	1.325E-02	2.704E-05	2.618E-05	317.5	1.144E-03	1.000	.405	.403
116	39.97	1.02	1.07	2.04E+03	2.09E-04	2.74E-04	.222	1.325E-02	7.112E-06	6.727E-06	315.3	2.944E-04	1.000	.822	.824
203	46.32	1.02	1.07	1.05E+03	1.13E-02	1.13E-02	.941	1.274E-02	2.675E-04	2.495E-04	321.5	1.196E-02	1.000	.988	1.885
205	46.32	1.02	1.07	1.05E+03	1.14E-02	1.14E-02	.933	1.274E-02	2.775E-04	2.620E-04	322.9	1.151E-02	1.000	.933	1.802
207	46.32	1.02	1.07	1.05E+03	1.20E-02	1.21E-02	1.019	1.274E-02	3.035E-04	2.924E-04	322.5	1.266E-02	1.000	1.038	1.207
208	46.32	1.02	1.07	1.05E+03	1.13E-02	1.17E-02	.965	1.274E-02	2.852E-04	2.531E-04	321.7	1.146E-02	1.000	.895	1.080
211	46.32	1.02	1.07	1.05E+03	1.06E-03	1.07E-03	.623	1.274E-02	1.822E-04	1.744E-04	320.2	7.66E-03	1.000	.622	.722
212	46.32	1.02	1.07	1.05E+03	1.02E-03	1.02E-03	.613	1.274E-02	1.527E-04	1.446E-04	319.6	6.32E-03	1.000	.517	.597
214	46.32	1.02	1.07	1.05E+03	1.02E-03	1.02E-03	.613	1.274E-02	1.527E-04	1.446E-04	319.6	6.32E-03	1.000	.517	.597
215	46.32	1.02	1.07	1.05E+03	1.02E-03	1.02E-03	.613	1.274E-02	1.527E-04	1.446E-04	319.6	6.32E-03	1.000	.517	.597

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# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

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AMES 1.5 FT WHT TEST (152), C.P. NUMBER, IN-LINE RSI GAP RUN ( 79) 1973

T/C	X (CM)	Y (CM)	Z (CM)	N (W/M <sup>2</sup> )	ML (KG/M <sup>2</sup> -S)	HT (KG/M <sup>2</sup> -S)	ML/MR/REF (KG/M <sup>2</sup> -S)	MREF (KG/M <sup>2</sup> -S)	STL	STT	T (K)	MLCC (KG/M <sup>2</sup> -S)	ML/MGCC	MLCC/MREF	ML/HE
216	46.32	2.70	1.15	7.61E+00	1.07E-05	1.71E-05	.021	1.10E-12	2.591E-07	2.459E-07	330.7	1.07E-05	1.000	.001	.001
217	46.32	2.70	1.44	2.01E+03	3.31E-13	8.52E-03	.026	1.00E-12	2.251E-04	2.131E-04	328.7	9.31E-03	1.000	.056	.007
218	46.32	2.70	1.65	5.31E+03	2.72E-13	8.26E-03	.031	1.10E-12	2.177E-04	1.998E-04	319.7	8.72E-03	1.000	.071	.024
219	46.32	2.70	1.90	8.42E+03	7.39E-13	7.37E-03	.039	1.00E-12	1.736E-04	1.691E-04	318.0	7.99E-03	1.000	.079	.083
220	46.32	2.70	2.20	4.77E+13	6.52E-03	6.17E-03	.059	1.00E-12	1.575E-04	1.492E-04	318.1	6.52E-03	1.000	.099	.091
306	56.40	2.70	2.20	2.26E+03	3.10E-03	2.94E-03	.235	1.00E-12	7.493E-05	7.190E-05	315.1	3.10E-03	1.000	.205	.129
307	56.40	2.70	2.50	1.21E+03	1.64E-03	1.95E-03	.151	1.00E-12	3.974E-05	3.709E-05	314.3	1.64E-03	1.000	.151	.174
308	56.40	2.70	2.80	3.15E+02	4.16E-04	3.93E-04	.038	1.00E-12	1.974E-05	9.118E-06	314.4	4.16E-04	1.000	.038	.044
309	56.40	2.70	3.10	1.65E+01	2.29E-05	2.13E-05	.002	1.00E-12	5.436E-07	5.159E-07	313.6	2.29E-05	1.000	.002	.002
310	56.40	2.70	3.40	1.44E+01	1.94E-05	1.84E-05	.002	1.00E-12	4.691E-07	4.445E-07	311.4	1.94E-05	1.000	.002	.002
311	56.40	2.70	3.70	-1.13E+01	3.01E-05	9.10E-05	.009	1.00E-12	2.321E-16	2.200E-06	311.2	9.01E-05	1.000	.009	.010
312	56.40	2.70	4.00	6.57E+03	9.97E-03	6.57E-03	.996	1.00E-12	2.169E-04	2.053E-04	313.7	9.97E-03	1.000	.996	1.020
313	56.40	2.70	4.30	1.53E+03	2.01E-03	2.44E-03	.391	1.00E-12	2.157E-04	2.044E-04	319.6	9.31E-03	1.000	.391	1.013
314	56.40	2.70	4.60	4.01E+03	4.04E-03	7.62E-03	.629	1.00E-12	1.949E-04	1.848E-04	317.7	8.06E-03	1.000	.629	.919
315	56.40	2.70	4.90	3.08E+03	6.30E-03	5.37E-03	.526	1.00E-12	1.923E-04	1.848E-04	316.0	6.38E-03	1.000	.526	.717
316	56.40	2.70	5.20	7.48E+03	5.27E-03	5.37E-03	.496	1.00E-12	1.275E-04	1.207E-04	316.4	5.27E-03	1.000	.496	.689
317	56.40	2.70	5.50	2.86E+03	4.95E-03	4.69E-03	.305	1.00E-12	1.197E-04	1.134E-04	316.4	4.95E-03	1.000	.305	.563
318	56.40	2.70	5.80	2.86E+03	3.47E-03	3.29E-03	.305	1.00E-12	8.391E-05	7.946E-05	313.9	3.47E-03	1.000	.305	.398
319	56.40	2.70	6.10	1.03E+03	2.16E-03	2.14E-03	.235	1.00E-12	7.214E-05	4.941E-05	315.3	2.16E-03	1.000	.235	.245
320	56.40	2.70	6.40	1.68E+02	9.54E-04	8.28E-04	.058	1.00E-12	1.338E-05	1.268E-05	314.2	9.54E-04	1.000	.058	.063
321	56.40	2.70	6.70	9.04E+01	1.27E-04	1.21E-04	.013	1.00E-12	3.079E-06	2.916E-06	313.1	1.27E-04	1.000	.013	.014
601	48.22	2.70	2E								313.66				
602	48.22	2.70	40								312.73				
603	48.22	2.70	51								311.76				
604	48.22	2.70	1.79								311.02				
605	48.22	2.70	1.89								310.14				

SOME HEATING USED FOR HE

XE 3.873E+01 ML /MREFS 9.144E-01  
 XE 5.124E+01 ML /MREFS 7.01E-01  
 XE 4.777E+01 ML /MREFS 5.049E-01  
 XE 6.631E+01 ML /MREFS 8.021E-01  
 XE 4.858E+01 ML /MREFS 5.711E-01  
 XE 5.139E+01 ML /MREFS 5.571E-01  
 XE 5.064E+01 ML /MREFS 5.071E-01  
 XE 6.848E+01 ML /MREFS 8.073E-01  
 XE 7.112E+01 ML /MREFS 8.514E-01  
 XE 3.997E+01 ML /MREFS 6.235E-01  
 XE 6.632E+01 ML /MREFS 1.019E+00  
 XE 5.040E+01 ML /MREFS 7.01E-01  
 XE 5.417E+01 ML /MREFS 6.035E-01

P.L. TRANSITION DISTANCE = 30.93 CM  
FULLY TURBULENT I.L. CONDITION AT X = 10.7 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 159

NCS 3, 6 FT WHT TEST (132), 0.1 BLUMPER, IN-LINE RSI GAP - FUNK ( 80) 1971

TT = 1.01E+01(K)  
 FT = 1.03E+01(CM)  
 GAP LENGTH = 3.044(CM)  
 GAP WIDTH = .127(CM)  
 WT = 1.221E+01(J/KG)  
 GAP JERTH = 3.91(CM)  
 REAMPTFR = 7.1121E+01  
 ORIENTATION = 17.00(DEG)  
 MACH = 3.01  
 JCS = 1.2469E+05(N/M2)  
 100% POSITION = 4  
 RHO VEL = 4.10E+01(K/M2-S)  
 MAN/WHT = 7.50E-01 FOR MT  
 MAN/WHT = 7.87E-01 FOR ML  
 MLCC = 4.112E+01 (3.5E-01 CUNE.0)

T/C	X	Y	Z	W	H	HL	MT	HL/HREF	MREF	STL	STT	T	MLCC	ML/MLCC	MLCC/HREF	HL/ME
16	71.72	0.00	0.00	0.00	7.51E-03	7.51E-03	0.02E-03	0.87	5.09E-03	1.931E-04	1.829E-04	318.1	1.10E-02	1.000	0.899	0.965
17	66.64	0.00	0.00	0.00	4.48E-03	4.48E-03	0.02E-03	0.87	5.09E-03	2.875E-04	2.722E-04	329.3	1.10E-02	1.000	0.897	0.963
18	61.56	0.00	0.00	0.00	3.07E-03	3.07E-03	0.02E-03	0.85	1.17E-02	3.175E-04	3.044E-04	325.6	1.32E-02	1.000	1.033	1.077
19	56.49	0.00	0.00	0.00	1.66E-03	1.66E-03	0.06	1.01E-02	1.01E-02	3.175E-04	3.175E-04	327.0	1.34E-02	1.000	1.024	1.099
20	51.41	0.00	0.00	0.00	9.85E-04	9.85E-04	0.07	1.49E-02	2.07E-02	2.71E-04	2.574E-04	325.3	1.11E-02	1.000	0.846	0.911
21	46.36	0.00	0.00	0.00	3.04E-03	3.04E-03	0.77	1.15E-02	1.15E-02	2.33E-04	2.218E-04	324.1	8.51E-03	1.000	0.727	0.761
22	41.31	0.00	0.00	0.00	1.02E-02	1.02E-02	0.79	1.22E-02	1.22E-02	1.52E-04	1.52E-04	322.9	6.61E-03	1.000	0.583	0.568
23	36.27	0.00	0.00	0.00	2.19E-03	2.19E-03	0.77	1.26E-02	1.26E-02	1.51E-04	1.51E-04	321.7	4.01E-03	1.000	0.395	0.328
24	31.24	0.00	0.00	0.00	1.29E-02	1.29E-02	0.97	1.29E-02	1.29E-02	9.79E-05	9.26E-05	319.7	1.27E-03	1.000	0.174	0.174
25	26.21	0.00	0.00	0.00	1.29E-02	1.29E-02	0.97	1.33E-02	1.33E-02	7.94E-05	7.94E-05	319.7	1.27E-03	1.000	0.174	0.174
26	21.18	0.00	0.00	0.00	1.76E-03	1.76E-03	0.84	9.29E-03	9.29E-03	5.69E-05	5.69E-05	318.4	3.11E-03	1.000	0.074	0.074
27	16.15	0.00	0.00	0.00	2.72E-03	2.72E-03	0.26	1.07E-02	1.07E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
28	11.12	0.00	0.00	0.00	1.85E-03	1.85E-03	0.26	1.07E-02	1.07E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
29	6.09	0.00	0.00	0.00	2.65E-03	2.65E-03	0.26	1.07E-02	1.07E-02	5.82E-05	5.82E-05	319.3	1.10E-02	1.000	0.897	0.963
30	1.06	0.00	0.00	0.00	1.03E-03	1.03E-03	0.25	1.14E-02	1.14E-02	6.31E-05	6.31E-05	319.3	1.10E-02	1.000	0.897	0.963
31	0.03	0.00	0.00	0.00	2.04E-03	2.04E-03	0.23	1.14E-02	1.14E-02	5.43E-05	5.43E-05	319.2	1.10E-02	1.000	0.897	0.963
32	0.00	0.00	0.00	0.00	2.78E-03	2.78E-03	0.22	1.21E-02	1.21E-02	5.79E-05	5.79E-05	319.7	1.10E-02	1.000	0.897	0.963
33	0.00	0.00	0.00	0.00	2.69E-03	2.69E-03	0.22	1.25E-02	1.25E-02	6.94E-05	6.94E-05	319.7	1.10E-02	1.000	0.897	0.963
34	0.00	0.00	0.00	0.00	1.05E-03	1.05E-03	0.33	1.29E-02	1.29E-02	7.94E-05	7.94E-05	319.3	1.10E-02	1.000	0.897	0.963
35	0.00	0.00	0.00	0.00	1.18E-02	1.18E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
36	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
37	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
38	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
39	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
40	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
41	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
42	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
43	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
44	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
45	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
46	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
47	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
48	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
49	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
50	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
51	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
52	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
53	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
54	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
55	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
56	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
57	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
58	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
59	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965
60	0.00	0.00	0.00	0.00	1.31E-02	1.31E-02	0.26	1.33E-02	1.33E-02	2.87E-04	2.87E-04	327.6	1.10E-02	1.000	0.899	0.965





# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 161

AMES 1.5 FT. HWT TEST (1.2), 3.3. BLUMER, IN-LINE RSI GAP RUN ( 5) 1973

TT = 1.277E+3 (K)  
 PY = 5.2033E+5 (N/M2)  
 HT = 1.1460E+7 (J/KG)  
 RE/METER = 1.7264E+6  
 WACH = 5.1E-1  
 RHC WEL = 2.1454E+1 (KG/M2-S)  
 HAW/MT = 0.909 FOR HT  
 HAW/MT = 0.074 FOR ML  
 MLCC = ML(2NC, OPDR COND...)  
 GAP LENGTH = 30.480 (CM)  
 GAP WIDTH = 0.127 (CM)  
 GAP DEPTH = 3.91 (CM)  
 ORIENTATION = 10.0 (DEG)  
 JS = 3.262E+04 (N/M2)  
 100-POSITION = 4

T/C	X (CM)	Y (CM)	Z (CM)	Q (N/M2)	ML (KG/M2-S)	MT (KG/M2-S)	ML/MREFF	MREF (KG/M2-S)	STL	STT	T (K)	MLCC (KG/M2-S)	ML/MLCC	MLCC/MREF	ML/MNE
16	71.72	-51	0.00	1.72E+03	6.79E-03	5.63E-03	0.90	7.54E-03	3.15E-04	2.99E-04	395.0	0.00E-03	1.000	1.000	
17	66.64	-51	0.00	0.98E+03	7.10E-03	6.79E-03	0.89	7.98E-03	3.34E-04	3.16E-04	305.5	0.00E-03	1.000	1.000	
18	61.56	-51	0.00	0.13E+03	7.39E-03	7.30E-03	0.85	8.59E-03	3.44E-04	3.25E-04	306.4	0.00E-03	1.000	1.000	
19	56.48	-51	0.00	0.18E+03	7.48E-03	7.30E-03	0.82	9.17E-03	3.47E-04	3.29E-04	306.6	0.00E-03	1.000	1.000	
20	51.39	-51	0.00	0.34E+03	7.48E-03	7.29E-03	0.85	9.56E-03	3.56E-04	3.39E-04	306.7	0.00E-03	1.000	1.000	
21	46.31	-51	0.00	0.60E+03	8.17E-03	7.4E-03	0.82	9.82E-03	3.8.4E-04	3.60E-04	306.9	0.00E-03	1.000	1.000	
22	41.24	-51	0.00	0.95E+03	8.67E-03	6.92E-03	0.89	1.01E-02	3.94E-04	3.73E-04	307.1	0.00E-03	1.000	1.000	
23	36.16	-51	0.00	1.22E+03	8.95E-03	6.34E-03	0.82	1.03E-02	4.03E-04	3.78E-04	307.4	0.00E-03	1.000	1.000	
24	31.08	-51	0.00	1.48E+03	9.14E-03	5.86E-03	0.64	1.06E-02	4.23E-04	3.85E-04	307.4	0.00E-03	1.000	1.000	
25	26.00	-51	0.00	1.60E+03	9.45E-03	6.39E-03	0.64	1.09E-02	4.39E-04	4.16E-04	306.8	0.00E-03	1.000	1.000	
26	20.92	-51	0.00	1.39E+03	2.00E-03	1.4E-03	0.135	7.55E-03	6.87E-05	6.49E-05	303.4	0.00E-03	1.000	1.000	
27	15.84	-51	0.00	1.33E+03	2.00E-03	1.95E-03	0.250	7.53E-03	9.25E-05	8.02E-05	303.9	0.00E-03	1.000	1.000	
28	10.76	-51	0.00	1.33E+03	2.00E-03	1.77E-03	0.217	8.07E-03	8.63E-05	8.22E-05	305.2	0.00E-03	1.000	1.000	
29	5.68	-51	0.00	1.46E+03	2.10E-03	1.99E-03	0.230	9.10E-03	9.76E-05	9.24E-05	305.8	0.00E-03	1.000	1.000	
30	0.60	-51	0.00	1.46E+03	2.03E-03	1.97E-03	0.217	9.16E-03	9.60E-05	9.14E-05	303.5	0.00E-03	1.000	1.000	
31	4.52	-51	0.00	1.46E+03	2.03E-03	1.92E-03	0.207	9.21E-03	9.45E-05	8.94E-05	305.5	0.00E-03	1.000	1.000	
32	0.44	-51	0.00	1.46E+03	2.32E-03	2.19E-03	0.229	1.01E-02	1.07E-04	1.02E-04	305.8	0.00E-03	1.000	1.000	
33	0.26	-51	0.00	1.46E+03	2.11E-03	2.31E-03	0.174	1.13E-02	9.33E-05	9.31E-05	305.7	0.00E-03	1.000	1.000	
34	0.08	-51	0.00	1.46E+03	2.37E-03	2.25E-03	0.223	1.10E-02	1.10E-04	1.04E-04	306.3	0.00E-03	1.000	1.000	
35	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.229	1.19E-02	1.16E-04	1.10E-04	305.5	0.00E-03	1.000	1.000	
36	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.185	1.17E-02	4.09E-04	3.87E-04	310.4	0.00E-03	1.000	1.000	
37	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.820	1.17E-02	4.12E-04	3.90E-04	311.4	0.00E-03	1.000	1.000	
38	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.850	1.17E-02	4.46E-04	4.22E-04	313.9	0.00E-03	1.000	1.000	
39	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.817	1.17E-02	4.25E-04	4.28E-04	319.1	0.00E-03	1.000	1.000	
40	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.662	1.17E-02	3.33E-04	3.15E-04	308.9	0.00E-03	1.000	1.000	
41	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.554	1.17E-02	2.73E-04	2.63E-04	308.6	0.00E-03	1.000	1.000	
42	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.769	1.17E-02	1.95E-04	1.75E-04	307.6	0.00E-03	1.000	1.000	
43	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.209	1.17E-02	1.85E-04	1.85E-04	306.9	0.00E-03	1.000	1.000	
44	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.131	1.17E-02	2.56E-05	2.43E-05	305.7	0.00E-03	1.000	1.000	
45	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.112	1.17E-02	5.91E-06	5.59E-06	305.7	0.00E-03	1.000	1.000	
46	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.371	1.17E-02	4.03E-04	3.87E-04	305.1	0.00E-03	1.000	1.000	
47	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.920	1.17E-02	4.26E-04	4.04E-04	305.7	0.00E-03	1.000	1.000	
48	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.875	1.17E-02	3.78E-04	3.56E-04	308.6	0.00E-03	1.000	1.000	
49	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.720	1.17E-02	3.42E-04	3.24E-04	307.9	0.00E-03	1.000	1.000	
50	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.583	1.17E-02	2.64E-04	2.50E-04	307.1	0.00E-03	1.000	1.000	
51	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.677	1.17E-02	2.24E-04	2.12E-04	306.7	0.00E-03	1.000	1.000	
52	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.374	1.17E-02	1.58E-04	1.49E-04	306.1	0.00E-03	1.000	1.000	
53	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.120	1.17E-02	5.47E-06	5.14E-06	303.9	0.00E-03	1.000	1.000	
54	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.135	1.17E-02	1.07E-04	1.07E-04	303.9	0.00E-03	1.000	1.000	
55	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.135	1.17E-02	1.07E-04	1.07E-04	303.9	0.00E-03	1.000	1.000	
56	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.135	1.17E-02	1.07E-04	1.07E-04	303.9	0.00E-03	1.000	1.000	
57	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.135	1.17E-02	1.07E-04	1.07E-04	303.9	0.00E-03	1.000	1.000	
58	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.135	1.17E-02	1.07E-04	1.07E-04	303.9	0.00E-03	1.000	1.000	
59	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.135	1.17E-02	1.07E-04	1.07E-04	303.9	0.00E-03	1.000	1.000	
60	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.135	1.17E-02	1.07E-04	1.07E-04	303.9	0.00E-03	1.000	1.000	
61	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.135	1.17E-02	1.07E-04	1.07E-04	303.9	0.00E-03	1.000	1.000	
62	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.135	1.17E-02	1.07E-04	1.07E-04	303.9	0.00E-03	1.000	1.000	
63	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.135	1.17E-02	1.07E-04	1.07E-04	303.9	0.00E-03	1.000	1.000	
64	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.135	1.17E-02	1.07E-04	1.07E-04	303.9	0.00E-03	1.000	1.000	
65	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.135	1.17E-02	1.07E-04	1.07E-04	303.9	0.00E-03	1.000	1.000	
66	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.135	1.17E-02	1.07E-04	1.07E-04	303.9	0.00E-03	1.000	1.000	
67	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.135	1.17E-02	1.07E-04	1.07E-04	303.9	0.00E-03	1.000	1.000	
68	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.135	1.17E-02	1.07E-04	1.07E-04	303.9	0.00E-03	1.000	1.000	
69	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.135	1.17E-02	1.07E-04	1.07E-04	303.9	0.00E-03	1.000	1.000	
70	0.00	-51	0.00	1.46E+03	2.45E-03	2.37E-03	0.135	1.17E-02	1.07E-04	1.07E-04	303.9	0.00E-03	1.000	1.000	

ORIGINAL PAGE IS  
OF POOR QUALITY



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 163

AMES T.E. FI HMT TEST (1P2), C.E. BLUMER, IN-LINE RSI GAP RUN (32) 1973

TT = 1.475E+07(K)  
 TT = 5.1874E+05(W/M2)  
 GAP LENGTH = 3".+6(CM)  
 GAP WIDTH = .127(CM)  
 MT = 1.1721E+05(LJ/MG)  
 GAP DEPTH = 3.81(CM)  
 REF/METRO = 1.665E+04  
 ORIENTATIONS = 5.37(C) (OFC)  
 MACH = 5.19  
 Q5 = 1.4950E+04(W/M2)  
 MDC POSITION = 4  
 KMO VFL = 2.111E+11(KG/M2-S)  
 HAM/MT = 2.9E+02 MT  
 HAM/MT = 9.974E+02 ML  
 FLCC = ML(2NC, DR 50 COVE.,)

T/C	X	Y	Z	Q	ML	WT	HL/HREFF	HREF	STL	STT	T	MLCC	HL/MLCC	MLCC/HREF	HL/NE
(CM)	(CM)	(CM)	(CM)	(W/M2)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(K)	(K)	(KG/M2-S)			
16	71.72	0.00	0.00	7.21E+03	1.15E+02	8.57E+03	1.96	7.09E+03	3.30E-04	3.18E-04	305.4	1.02E-02	1.000	.951	1.034
17	66.64	0.00	0.00	5.37E+03	7.45E-03	7.11E+03	1.94	7.04E+03	3.55E-04	3.36E-04	305.8	1.03E-02	1.000	.959	1.042
18	61.56	0.00	0.00	5.09E+03	7.56E-03	7.54E+03	1.91	6.95E+03	3.75E-04	3.56E-04	316.6	1.11E-02	1.000	1.035	1.124
19	56.48	0.00	0.00	4.81E+03	7.67E-03	7.76E+03	1.89	6.86E+03	3.97E-04	3.67E-04	306.9	1.06E-02	1.000	.968	1.074
20	51.39	0.00	0.00	4.53E+03	7.78E-03	8.12E+03	1.89	6.80E+03	4.10E-04	3.79E-04	307.1	1.06E-02	1.000	.967	1.084
21	46.30	0.00	0.00	4.25E+03	7.89E-03	8.48E+03	1.88	6.74E+03	4.22E-04	4.02E-04	307.3	1.06E-02	1.000	.964	1.094
22	41.21	0.00	0.00	3.97E+03	7.99E-03	8.84E+03	1.88	6.68E+03	4.34E-04	4.14E-04	307.6	1.06E-02	1.000	.961	1.104
23	36.12	0.00	0.00	3.69E+03	8.10E-03	9.20E+03	1.88	6.62E+03	4.46E-04	4.26E-04	307.8	1.06E-02	1.000	.958	1.114
24	31.03	0.00	0.00	3.41E+03	8.20E-03	9.56E+03	1.88	6.56E+03	4.58E-04	4.38E-04	308.1	1.06E-02	1.000	.955	1.124
25	25.94	0.00	0.00	3.13E+03	8.30E-03	9.92E+03	1.88	6.50E+03	4.70E-04	4.50E-04	308.4	1.06E-02	1.000	.952	1.134
26	20.85	0.00	0.00	2.85E+03	8.40E-03	1.028E+04	1.88	6.44E+03	4.82E-04	4.62E-04	308.7	1.06E-02	1.000	.949	1.144
27	15.76	0.00	0.00	2.57E+03	8.50E-03	1.064E+04	1.88	6.38E+03	4.94E-04	4.74E-04	309.0	1.06E-02	1.000	.946	1.154
28	10.67	0.00	0.00	2.29E+03	8.60E-03	1.100E+04	1.88	6.32E+03	5.06E-04	4.86E-04	309.3	1.06E-02	1.000	.943	1.164
29	5.58	0.00	0.00	2.01E+03	8.70E-03	1.136E+04	1.88	6.26E+03	5.18E-04	4.98E-04	309.6	1.06E-02	1.000	.940	1.174
30	0.49	0.00	0.00	1.73E+03	8.80E-03	1.172E+04	1.88	6.20E+03	5.30E-04	5.10E-04	309.9	1.06E-02	1.000	.937	1.184
31	0.00	0.00	0.00	1.45E+03	8.90E-03	1.208E+04	1.88	6.14E+03	5.42E-04	5.22E-04	310.2	1.06E-02	1.000	.934	1.194
32	0.00	0.00	0.00	1.17E+03	9.00E-03	1.244E+04	1.88	6.08E+03	5.54E-04	5.34E-04	310.5	1.06E-02	1.000	.931	1.204
33	0.00	0.00	0.00	9.00E+02	9.10E-03	1.280E+04	1.88	6.02E+03	5.66E-04	5.46E-04	310.8	1.06E-02	1.000	.928	1.214
34	0.00	0.00	0.00	6.20E+02	9.20E-03	1.316E+04	1.88	5.96E+03	5.78E-04	5.58E-04	311.1	1.06E-02	1.000	.925	1.224
35	0.00	0.00	0.00	3.40E+02	9.30E-03	1.352E+04	1.88	5.90E+03	5.90E-04	5.70E-04	311.4	1.06E-02	1.000	.922	1.234
36	0.00	0.00	0.00	6.00E+01	9.40E-03	1.388E+04	1.88	5.84E+03	6.02E-04	5.82E-04	311.7	1.06E-02	1.000	.919	1.244
37	0.00	0.00	0.00	0.00E+00	9.50E-03	1.424E+04	1.88	5.78E+03	6.14E-04	5.94E-04	312.0	1.06E-02	1.000	.916	1.254
38	0.00	0.00	0.00	0.00E+00	9.60E-03	1.460E+04	1.88	5.72E+03	6.26E-04	6.06E-04	312.3	1.06E-02	1.000	.913	1.264
39	0.00	0.00	0.00	0.00E+00	9.70E-03	1.496E+04	1.88	5.66E+03	6.38E-04	6.18E-04	312.6	1.06E-02	1.000	.910	1.274
40	0.00	0.00	0.00	0.00E+00	9.80E-03	1.532E+04	1.88	5.60E+03	6.50E-04	6.30E-04	312.9	1.06E-02	1.000	.907	1.284
41	0.00	0.00	0.00	0.00E+00	9.90E-03	1.568E+04	1.88	5.54E+03	6.62E-04	6.42E-04	313.2	1.06E-02	1.000	.904	1.294
42	0.00	0.00	0.00	0.00E+00	1.00E-02	1.604E+04	1.88	5.48E+03	6.74E-04	6.54E-04	313.5	1.06E-02	1.000	.901	1.304
43	0.00	0.00	0.00	0.00E+00	1.01E-02	1.640E+04	1.88	5.42E+03	6.86E-04	6.66E-04	313.8	1.06E-02	1.000	.898	1.314
44	0.00	0.00	0.00	0.00E+00	1.02E-02	1.676E+04	1.88	5.36E+03	6.98E-04	6.78E-04	314.1	1.06E-02	1.000	.895	1.324
45	0.00	0.00	0.00	0.00E+00	1.03E-02	1.712E+04	1.88	5.30E+03	7.10E-04	6.90E-04	314.4	1.06E-02	1.000	.892	1.334
46	0.00	0.00	0.00	0.00E+00	1.04E-02	1.748E+04	1.88	5.24E+03	7.22E-04	7.02E-04	314.7	1.06E-02	1.000	.889	1.344
47	0.00	0.00	0.00	0.00E+00	1.05E-02	1.784E+04	1.88	5.18E+03	7.34E-04	7.14E-04	315.0	1.06E-02	1.000	.886	1.354
48	0.00	0.00	0.00	0.00E+00	1.06E-02	1.820E+04	1.88	5.12E+03	7.46E-04	7.26E-04	315.3	1.06E-02	1.000	.883	1.364
49	0.00	0.00	0.00	0.00E+00	1.07E-02	1.856E+04	1.88	5.06E+03	7.58E-04	7.38E-04	315.6	1.06E-02	1.000	.880	1.374
50	0.00	0.00	0.00	0.00E+00	1.08E-02	1.892E+04	1.88	5.00E+03	7.70E-04	7.50E-04	315.9	1.06E-02	1.000	.877	1.384
103	39.97	1.02	0.00	7.21E+03	1.15E+02	8.57E+03	1.91	7.09E+03	3.30E-04	3.18E-04	311.5	1.02E-02	1.000	.951	1.034
104	39.97	1.02	0.00	5.37E+03	7.45E-03	7.11E+03	1.89	6.95E+03	3.55E-04	3.36E-04	312.4	1.03E-02	1.000	.959	1.042
105	39.97	1.02	0.00	5.09E+03	7.56E-03	7.54E+03	1.87	6.86E+03	3.75E-04	3.56E-04	311.8	1.11E-02	1.000	1.035	1.124
106	39.97	1.02	0.00	4.81E+03	7.67E-03	7.76E+03	1.85	6.80E+03	3.97E-04	3.67E-04	311.1	1.06E-02	1.000	.968	1.074
107	39.97	1.02	0.00	4.53E+03	7.78E-03	8.12E+03	1.85	6.74E+03	4.10E-04	3.79E-04	310.3	1.06E-02	1.000	.967	1.084
108	39.97	1.02	0.00	4.25E+03	7.89E-03	8.48E+03	1.84	6.68E+03	4.22E-04	4.02E-04	309.5	1.06E-02	1.000	.964	1.094
109	39.97	1.02	0.00	3.97E+03	7.99E-03	8.84E+03	1.84	6.62E+03	4.34E-04	4.14E-04	308.7	1.06E-02	1.000	.961	1.104
110	39.97	1.02	0.00	3.69E+03	8.10E-03	9.20E+03	1.84	6.56E+03	4.46E-04	4.26E-04	307.9	1.06E-02	1.000	.958	1.114
111	39.97	1.02	0.00	3.41E+03	8.20E-03	9.56E+03	1.84	6.50E+03	4.58E-04	4.38E-04	307.1	1.06E-02	1.000	.955	1.124
112	39.97	1.02	0.00	3.13E+03	8.30E-03	9.92E+03	1.84	6.44E+03	4.70E-04	4.50E-04	306.3	1.06E-02	1.000	.952	1.134
113	39.97	1.02	0.00	2.85E+03	8.40E-03	1.028E+04	1.84	6.38E+03	4.82E-04	4.62E-04	305.5	1.06E-02	1.000	.949	1.144
114	39.97	1.02	0.00	2.57E+03	8.50E-03	1.064E+04	1.84	6.32E+03	4.94E-04	4.74E-04	304.7	1.06E-02	1.000	.946	1.154
115	39.97	1.02	0.00	2.29E+03	8.60E-03	1.100E+04	1.84	6.26E+03	5.06E-04	4.86E-04	303.9	1.06E-02	1.000	.943	1.164
201	46.32	1.02	0.00	4.25E+03	7.89E-03	8.48E+03	1.88	6.68E+03	4.34E-04	4.14E-04	307.6	1.06E-02	1.000	.961	1.104
202	46.32	1.02	0.00	3.97E+03	7.99E-03	8.84E+03	1.88	6.62E+03	4.46E-04	4.26E-04	307.8	1.06E-02	1.000	.958	1.114
203	46.32	1.02	0.00	3.69E+03	8.10E-03	9.20E+03	1.88	6.56E+03	4.58E-04	4.38E-04	308.1	1.06E-02	1.000	.955	1.124
204	46.32	1.02	0.00	3.41E+03	8.20E-03	9.56E+03	1.88	6.50E+03	4.70E-04	4.50E-04	308.4	1.06E-02	1.000	.952	1.134
205	46.32	1.02	0.00	3.13E+03	8.30E-03	9.92E+03	1.88	6.44E+03	4.82E-04	4.62E-04	308.7	1.06E-02	1.000	.949	1.144
206	46.32	1.02	0.00	2.85E+03	8.40E-03	1.028E+04	1.88	6.38E+03	4.94E-04	4.74E-04	309.0	1.06E-02	1.000	.946	1.154
207	46.32	1.02	0.00	2.57E+03	8.50E-03	1.064E+04	1.88	6.32E+03	5.06E-04	4.86E-04	309.3	1.06E-02	1.000	.943	1.164
208	46.32	1.02	0.00	2.29E+03	8.60E-03	1.100E+04	1.88	6.26E+03	5.18E-04	4.98E-04	309.6	1.06E-02	1.000	.940	1.174
209	46.32	1.02	0.00	2.01E+03	8.70E-03	1.136E+04	1.88	6.20E+03	5.30E-04	5.10E-04	309.9	1.06E-02	1.000	.937	1.184
210	46.32	1.02	0.00	1.73E+03	8.80E-03	1.172E+04	1.88	6.14E+03	5.42E-04	5.22E-04	310.2	1.06E-02	1.000	.934	1.194
211	46.32	1.02	0.00	1.45E+03	8.90E-03	1.208E+04	1.88	6.08E+03	5.54E-04	5.34E-04	310.5	1.06E-02	1.000	.931	1.204
212	46.32	1.02	0.00	1.17E+03	9.00E-03	1.244E+04	1.88	6.02E+03	5.66E-04	5.46E-04	310.8	1.06E-02	1.000	.928	1.214
213	46.32	1.02	0.00	9.00E+02	9.10E-03	1.280E+04	1.88	5.96E+03	5.78E-04	5.58E-04	311.1	1.06E-02	1.000	.925	1.224
214	46.32	1.02	0.00	6.20E+02	9.20E-03	1.316E+04	1.88	5.90E+03	5.90E-04	5.70E-04	311.4	1.06E-02	1.000	.922	1.234
215	46.32	1.02	0.00	3.40E+02	9.30E-03	1.352E+04	1.88	5.84E+03	6.02E-04	5.82E-04	311.7	1.06E-02	1.000	.919	1.244







# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 165

AMES 3.6 FT HWT TEST (172), 2.3. RUMBER, IN-LINE RSI GAP - J1 ( 13) 19\*3

TT = 1.0433E+01 (K) GAP LENGTH = 3.7442 (CM)  
 FT = 1.0311E+01 (M/2) GAP RICHN = .127 (CM)  
 BT = 1.2116E+01 (M/2) GAP DEPTH = 2.801 (CM)  
 RE/PECTED = 1.1161E+01 (M/2) ORIENTATION = 15.000 (DEG)  
 MACH = 5.1111 OS = 1.2448E+15 (M/M2)  
 RHO VEL = 1.1733E+11 (K/M2-S) MOT. POSITION = 4  
 HAM/MT = 1.974 FC3 HT  
 HR/MT = 1.874 FOR HL  
 HLCC = HL(2ND. OK) (C/D.0.0.)

TAC	X (CM)	Y (CM)	Z (CM)	C (M/M2)	HL (KG/M2-S)	HT (KG/M2-S)	HL/HR/FF (M/HR)	STL (K/M2-S)	STT	T (K)	HLCC (K/M2-S)	HLCC/MREF	HL/HE
16	71.72	0.51	0.00	0.45E+03	7.81E-03	7.81E-03	.637	9.734E-03	1.095E-04	387.8	1.00E-02	1.000	1.000
17	66.04	0.51	0.00	0.28E+03	4.40E-03	7.81E-03	.637	5.733E-03	1.040E-04	308.6	1.00E-02	1.000	1.000
18	61.36	0.51	0.00	0.17E+03	2.49E-03	7.81E-03	.637	3.632E-03	2.114E-04	249.9	1.00E-02	1.000	1.000
19	56.68	0.51	0.00	0.11E+03	1.33E-03	7.81E-03	.637	2.421E-03	2.225E-04	210.4	1.00E-02	1.000	1.000
20	51.39	0.51	0.00	0.07E+03	0.86E-03	7.81E-03	.637	1.519E-03	2.317E-04	180.0	1.00E-02	1.000	1.000
21	46.36	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.018E-03	2.448E-04	151.1	1.00E-02	1.000	1.000
22	46.32	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.022E-03	2.522E-04	151.6	1.00E-02	1.000	1.000
23	43.77	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.026E-03	2.539E-04	151.7	1.00E-02	1.000	1.000
24	41.24	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.030E-03	2.715E-04	151.3	1.00E-02	1.000	1.000
25	38.77	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.033E-03	2.795E-04	151.6	1.00E-02	1.000	1.000
26	36.24	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.036E-03	2.875E-04	151.9	1.00E-02	1.000	1.000
27	33.71	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.039E-03	2.955E-04	152.2	1.00E-02	1.000	1.000
28	31.18	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.042E-03	3.035E-04	152.5	1.00E-02	1.000	1.000
29	28.65	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.045E-03	3.115E-04	152.8	1.00E-02	1.000	1.000
30	26.12	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.048E-03	3.195E-04	153.1	1.00E-02	1.000	1.000
31	23.59	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.051E-03	3.275E-04	153.4	1.00E-02	1.000	1.000
32	21.06	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.054E-03	3.355E-04	153.7	1.00E-02	1.000	1.000
33	18.53	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.057E-03	3.435E-04	154.0	1.00E-02	1.000	1.000
34	16.00	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.060E-03	3.515E-04	154.3	1.00E-02	1.000	1.000
35	13.47	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.063E-03	3.595E-04	154.6	1.00E-02	1.000	1.000
36	10.94	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.066E-03	3.675E-04	154.9	1.00E-02	1.000	1.000
37	8.41	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.069E-03	3.755E-04	155.2	1.00E-02	1.000	1.000
38	5.88	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.072E-03	3.835E-04	155.5	1.00E-02	1.000	1.000
39	3.35	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.075E-03	3.915E-04	155.8	1.00E-02	1.000	1.000
40	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.078E-03	3.995E-04	156.1	1.00E-02	1.000	1.000
41	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.081E-03	4.075E-04	156.4	1.00E-02	1.000	1.000
42	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.084E-03	4.155E-04	156.7	1.00E-02	1.000	1.000
43	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.087E-03	4.235E-04	157.0	1.00E-02	1.000	1.000
44	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.090E-03	4.315E-04	157.3	1.00E-02	1.000	1.000
45	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.093E-03	4.395E-04	157.6	1.00E-02	1.000	1.000
46	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.096E-03	4.475E-04	157.9	1.00E-02	1.000	1.000
47	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.099E-03	4.555E-04	158.2	1.00E-02	1.000	1.000
48	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.102E-03	4.635E-04	158.5	1.00E-02	1.000	1.000
49	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.105E-03	4.715E-04	158.8	1.00E-02	1.000	1.000
50	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.108E-03	4.795E-04	159.1	1.00E-02	1.000	1.000
51	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.111E-03	4.875E-04	159.4	1.00E-02	1.000	1.000
52	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.114E-03	4.955E-04	159.7	1.00E-02	1.000	1.000
53	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.117E-03	5.035E-04	160.0	1.00E-02	1.000	1.000
54	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.120E-03	5.115E-04	160.3	1.00E-02	1.000	1.000
55	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.123E-03	5.195E-04	160.6	1.00E-02	1.000	1.000
56	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.126E-03	5.275E-04	160.9	1.00E-02	1.000	1.000
57	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.129E-03	5.355E-04	161.2	1.00E-02	1.000	1.000
58	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.132E-03	5.435E-04	161.5	1.00E-02	1.000	1.000
59	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.135E-03	5.515E-04	161.8	1.00E-02	1.000	1.000
60	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.138E-03	5.595E-04	162.1	1.00E-02	1.000	1.000
61	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.141E-03	5.675E-04	162.4	1.00E-02	1.000	1.000
62	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.144E-03	5.755E-04	162.7	1.00E-02	1.000	1.000
63	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.147E-03	5.835E-04	163.0	1.00E-02	1.000	1.000
64	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.150E-03	5.915E-04	163.3	1.00E-02	1.000	1.000
65	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.153E-03	5.995E-04	163.6	1.00E-02	1.000	1.000
66	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.156E-03	6.075E-04	163.9	1.00E-02	1.000	1.000
67	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.159E-03	6.155E-04	164.2	1.00E-02	1.000	1.000
68	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.162E-03	6.235E-04	164.5	1.00E-02	1.000	1.000
69	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.165E-03	6.315E-04	164.8	1.00E-02	1.000	1.000
70	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.168E-03	6.395E-04	165.1	1.00E-02	1.000	1.000
71	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.171E-03	6.475E-04	165.4	1.00E-02	1.000	1.000
72	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.174E-03	6.555E-04	165.7	1.00E-02	1.000	1.000
73	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.177E-03	6.635E-04	166.0	1.00E-02	1.000	1.000
74	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.180E-03	6.715E-04	166.3	1.00E-02	1.000	1.000
75	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.183E-03	6.795E-04	166.6	1.00E-02	1.000	1.000
76	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.186E-03	6.875E-04	166.9	1.00E-02	1.000	1.000
77	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.189E-03	6.955E-04	167.2	1.00E-02	1.000	1.000
78	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.192E-03	7.035E-04	167.5	1.00E-02	1.000	1.000
79	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.195E-03	7.115E-04	167.8	1.00E-02	1.000	1.000
80	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.198E-03	7.195E-04	168.1	1.00E-02	1.000	1.000
81	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.201E-03	7.275E-04	168.4	1.00E-02	1.000	1.000
82	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.204E-03	7.355E-04	168.7	1.00E-02	1.000	1.000
83	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.207E-03	7.435E-04	169.0	1.00E-02	1.000	1.000
84	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.210E-03	7.515E-04	169.3	1.00E-02	1.000	1.000
85	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.213E-03	7.595E-04	169.6	1.00E-02	1.000	1.000
86	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.216E-03	7.675E-04	169.9	1.00E-02	1.000	1.000
87	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.219E-03	7.755E-04	170.2	1.00E-02	1.000	1.000
88	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.222E-03	7.835E-04	170.5	1.00E-02	1.000	1.000
89	0.82	0.51	0.00	0.05E+03	0.50E-03	7.81E-03	.637	1.225E-03	7.915E-04	170.8	1.00E-02	1.	





RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 167

AMES 345 FT. PWT TEST (152), 2.3. BLUMER, IN-LINE RSI GAP PLUF (24) 1973

TT = 1.122E+03 (K)  
PT = 1.305E+16 (W/M2)  
HT = 1.219E+01 (J/KS)  
REMYTER = 3.235E+06  
MACH = 5.812  
RHC VEL = 4.813E+01 (KG/M2-S)  
WAW/MT = 0.574 FOR HL  
PAM/HT = 0.574 FOR HL  
MLCC = ML126C. (REF. CORL.)\*

GAP LENGTH = 3.42" (CM)

GAP WIDTH = .254" (CM)

GAP DEPTH = 3.310 (CM)

ORIENTATION = 15.000 (DEG)

OS = 1.215E+05 (W/M2)

MOD. POSITION = 4

ML/HREF = 4

T/C	Y	X	Y	Z	U	HL	HT	ML/HREF	HREF	STL	STT	T	MLCC	ML/MLCC	MLCC/HREF	ML/ME
16	71.82	-571	0.00	0.00	0.00	7.076E+03	7.395E+03	.819	9.461E+03	1.844E-04	1.777E-04	303.5	1.000	1.000	1.000	1.000
17	66.54	-571	0.00	0.00	0.00	9.416E+03	7.735E+03	.427	9.467E+03	1.964E-04	1.869E-04	310.4	1.000	1.000	1.000	1.000
18	61.26	-571	0.00	0.00	0.00	1.172E+04	8.075E+03	.334	1.172E+04	2.075E-04	1.960E-04	311.6	1.000	1.000	1.000	1.000
19	55.98	-571	0.00	0.00	0.00	1.428E+04	8.385E+03	.261	1.428E+04	2.145E-04	2.035E-04	312.1	1.000	1.000	1.000	1.000
20	50.70	-571	0.00	0.00	0.00	1.684E+04	8.695E+03	.196	1.684E+04	2.243E-04	2.124E-04	312.6	1.000	1.000	1.000	1.000
21	45.42	-571	0.00	0.00	0.00	1.940E+04	9.005E+03	.133	1.940E+04	2.413E-04	2.256E-04	312.9	1.000	1.000	1.000	1.000
22	40.14	-571	0.00	0.00	0.00	2.196E+04	9.315E+03	.072	2.196E+04	2.475E-04	2.346E-04	313.3	1.000	1.000	1.000	1.000
23	34.86	-571	0.00	0.00	0.00	2.452E+04	9.625E+03	.012	2.452E+04	2.547E-04	2.411E-04	313.5	1.000	1.000	1.000	1.000
24	29.58	-571	0.00	0.00	0.00	2.708E+04	9.935E+03	.055	2.708E+04	2.717E-04	2.567E-04	313.6	1.000	1.000	1.000	1.000
25	24.30	-571	0.00	0.00	0.00	2.964E+04	1.024E+04	.022	2.964E+04	2.857E-04	2.658E-04	313.6	1.000	1.000	1.000	1.000
26	19.02	-571	0.00	0.00	0.00	3.220E+04	1.055E+04	.017	3.220E+04	2.907E-04	2.708E-04	313.6	1.000	1.000	1.000	1.000
27	13.74	-571	0.00	0.00	0.00	3.476E+04	1.086E+04	.012	3.476E+04	2.957E-04	2.759E-04	313.6	1.000	1.000	1.000	1.000
28	8.46	-571	0.00	0.00	0.00	3.732E+04	1.117E+04	.007	3.732E+04	3.007E-04	2.810E-04	313.6	1.000	1.000	1.000	1.000
29	3.18	-571	0.00	0.00	0.00	3.988E+04	1.148E+04	.002	3.988E+04	3.057E-04	2.861E-04	313.6	1.000	1.000	1.000	1.000
30	-2.10	-571	0.00	0.00	0.00	4.244E+04	1.179E+04	.001	4.244E+04	3.107E-04	2.912E-04	313.6	1.000	1.000	1.000	1.000
31	-7.38	-571	0.00	0.00	0.00	4.500E+04	1.210E+04	.000	4.500E+04	3.157E-04	2.963E-04	313.6	1.000	1.000	1.000	1.000
32	-12.66	-571	0.00	0.00	0.00	4.756E+04	1.241E+04	.000	4.756E+04	3.207E-04	3.014E-04	313.6	1.000	1.000	1.000	1.000
33	-17.94	-571	0.00	0.00	0.00	5.012E+04	1.272E+04	.000	5.012E+04	3.257E-04	3.065E-04	313.6	1.000	1.000	1.000	1.000
34	-23.22	-571	0.00	0.00	0.00	5.268E+04	1.303E+04	.000	5.268E+04	3.307E-04	3.116E-04	313.6	1.000	1.000	1.000	1.000
35	-28.50	-571	0.00	0.00	0.00	5.524E+04	1.334E+04	.000	5.524E+04	3.357E-04	3.167E-04	313.6	1.000	1.000	1.000	1.000
36	-33.78	-571	0.00	0.00	0.00	5.780E+04	1.365E+04	.000	5.780E+04	3.407E-04	3.218E-04	313.6	1.000	1.000	1.000	1.000
37	-39.06	-571	0.00	0.00	0.00	6.036E+04	1.396E+04	.000	6.036E+04	3.457E-04	3.269E-04	313.6	1.000	1.000	1.000	1.000
38	-44.34	-571	0.00	0.00	0.00	6.292E+04	1.427E+04	.000	6.292E+04	3.507E-04	3.320E-04	313.6	1.000	1.000	1.000	1.000
39	-49.62	-571	0.00	0.00	0.00	6.548E+04	1.458E+04	.000	6.548E+04	3.557E-04	3.371E-04	313.6	1.000	1.000	1.000	1.000
40	-54.90	-571	0.00	0.00	0.00	6.804E+04	1.489E+04	.000	6.804E+04	3.607E-04	3.422E-04	313.6	1.000	1.000	1.000	1.000
41	-60.18	-571	0.00	0.00	0.00	7.060E+04	1.520E+04	.000	7.060E+04	3.657E-04	3.473E-04	313.6	1.000	1.000	1.000	1.000
42	-65.46	-571	0.00	0.00	0.00	7.316E+04	1.551E+04	.000	7.316E+04	3.707E-04	3.524E-04	313.6	1.000	1.000	1.000	1.000
43	-70.74	-571	0.00	0.00	0.00	7.572E+04	1.582E+04	.000	7.572E+04	3.757E-04	3.575E-04	313.6	1.000	1.000	1.000	1.000
44	-76.02	-571	0.00	0.00	0.00	7.828E+04	1.613E+04	.000	7.828E+04	3.807E-04	3.626E-04	313.6	1.000	1.000	1.000	1.000
45	-81.30	-571	0.00	0.00	0.00	8.084E+04	1.644E+04	.000	8.084E+04	3.857E-04	3.677E-04	313.6	1.000	1.000	1.000	1.000
46	-86.58	-571	0.00	0.00	0.00	8.340E+04	1.675E+04	.000	8.340E+04	3.907E-04	3.728E-04	313.6	1.000	1.000	1.000	1.000
47	-91.86	-571	0.00	0.00	0.00	8.596E+04	1.706E+04	.000	8.596E+04	3.957E-04	3.779E-04	313.6	1.000	1.000	1.000	1.000
48	-97.14	-571	0.00	0.00	0.00	8.852E+04	1.737E+04	.000	8.852E+04	4.007E-04	3.830E-04	313.6	1.000	1.000	1.000	1.000
49	-102.42	-571	0.00	0.00	0.00	9.108E+04	1.768E+04	.000	9.108E+04	4.057E-04	3.881E-04	313.6	1.000	1.000	1.000	1.000
50	-107.70	-571	0.00	0.00	0.00	9.364E+04	1.799E+04	.000	9.364E+04	4.107E-04	3.932E-04	313.6	1.000	1.000	1.000	1.000
51	-112.98	-571	0.00	0.00	0.00	9.620E+04	1.830E+04	.000	9.620E+04	4.157E-04	3.983E-04	313.6	1.000	1.000	1.000	1.000
52	-118.26	-571	0.00	0.00	0.00	9.876E+04	1.861E+04	.000	9.876E+04	4.207E-04	4.034E-04	313.6	1.000	1.000	1.000	1.000
53	-123.54	-571	0.00	0.00	0.00	1.0132E+05	1.892E+04	.000	1.0132E+05	4.257E-04	4.085E-04	313.6	1.000	1.000	1.000	1.000
54	-128.82	-571	0.00	0.00	0.00	1.0388E+05	1.923E+04	.000	1.0388E+05	4.307E-04	4.136E-04	313.6	1.000	1.000	1.000	1.000
55	-134.10	-571	0.00	0.00	0.00	1.0644E+05	1.954E+04	.000	1.0644E+05	4.357E-04	4.187E-04	313.6	1.000	1.000	1.000	1.000
56	-139.38	-571	0.00	0.00	0.00	1.0900E+05	1.985E+04	.000	1.0900E+05	4.407E-04	4.238E-04	313.6	1.000	1.000	1.000	1.000
57	-144.66	-571	0.00	0.00	0.00	1.1156E+05	2.016E+04	.000	1.1156E+05	4.457E-04	4.289E-04	313.6	1.000	1.000	1.000	1.000
58	-149.94	-571	0.00	0.00	0.00	1.1412E+05	2.047E+04	.000	1.1412E+05	4.507E-04	4.340E-04	313.6	1.000	1.000	1.000	1.000
59	-155.22	-571	0.00	0.00	0.00	1.1668E+05	2.078E+04	.000	1.1668E+05	4.557E-04	4.391E-04	313.6	1.000	1.000	1.000	1.000
60	-160.50	-571	0.00	0.00	0.00	1.1924E+05	2.109E+04	.000	1.1924E+05	4.607E-04	4.442E-04	313.6	1.000	1.000	1.000	1.000
61	-165.78	-571	0.00	0.00	0.00	1.2180E+05	2.140E+04	.000	1.2180E+05	4.657E-04	4.493E-04	313.6	1.000	1.000	1.000	1.000
62	-171.06	-571	0.00	0.00	0.00	1.2436E+05	2.171E+04	.000	1.2436E+05	4.707E-04	4.544E-04	313.6	1.000	1.000	1.000	1.000
63	-176.34	-571	0.00	0.00	0.00	1.2692E+05	2.202E+04	.000	1.2692E+05	4.757E-04	4.595E-04	313.6	1.000	1.000	1.000	1.000
64	-181.62	-571	0.00	0.00	0.00	1.2948E+05	2.233E+04	.000	1.2948E+05	4.807E-04	4.646E-04	313.6	1.000	1.000	1.000	1.000
65	-186.90	-571	0.00	0.00	0.00	1.3204E+05	2.264E+04	.000	1.3204E+05	4.857E-04	4.697E-04	313.6	1.000	1.000	1.000	1.000
66	-192.18	-571	0.00	0.00	0.00	1.3460E+05	2.295E+04	.000	1.3460E+05	4.907E-04	4.748E-04	313.6	1.000	1.000	1.000	1.000
67	-197.46	-571	0.00	0.00	0.00	1.3716E+05	2.326E+04	.000	1.3716E+05	4.957E-04	4.799E-04	313.6	1.000	1.000	1.000	1.000
68	-202.74	-571	0.00	0.00	0.00	1.3972E+05	2.357E+04	.000	1.3972E+05	5.007E-04	4.850E-04	313.6	1.000	1.000	1.000	1.000
69	-208.02	-571	0.00	0.00	0.00	1.4228E+05	2.388E+04	.000	1.4228E+05	5.057E-04	4.901E-04	313.6	1.000	1.000	1.000	1.000
70	-213.30	-571	0.00	0.00	0.00	1.4484E+05	2.419E+04	.000	1.4484E+05	5.107E-04	4.952E-04	313.6	1.000	1.000	1.000	1.000
71	-218.58	-571	0.00	0.00	0.00	1.4740E+05	2.450E+04	.000	1.4740E+05	5.157E-04	5.003E-04	313.6	1.000	1.000	1.000	1.000
72	-223.86	-571	0.00	0.00	0.00	1.4996E+05	2.481E+04	.000	1.4996E+05	5.207E-04	5.054E-04	313.6	1.000	1.000	1.000	1.000
73	-229.14	-571	0.00	0.00	0.00	1.5252E+05	2.512E+04	.000	1.5252E+05	5.257E-04	5.105E-04	313.6	1.000	1.000	1.000	1.000
74	-234.42	-571	0.00	0.00	0.00	1.5508E+05	2.543E+04	.000	1.5508E+05	5.307E-04	5.156E-04	313.6	1.000	1.000	1.000	1.000
75	-239.70	-571	0.00	0.00	0.00	1.5764E+05	2.574E+04	.000	1.5764E+05	5.357E-04	5.207E-04	313.6	1.000	1.000	1.000	1.000
76	-244.98	-571	0.00	0.00	0.00	1.6020E+05	2.605E+04	.000	1.6020E+05	5.407E-04	5.258E-04	313.6	1.000	1.000	1.000	1.000
77	-250.26	-571	0.00	0.00	0.00</											



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 168

AMES 7.65 FT HWT TEST (1.2), C.O. BLUMER, IN-LINE RSI GAP RUK (94) 1973

T/C	X (CH)	Y (CH)	Z (CH)	G (47#2)	ML (KG/M2-S)	HT (KG/M2-S)	HL/MREF (KG/M2-S)	STL	STT (K)	Y (KG/M2-S)	ML/MGCC	MLCC/MREF	HL/ME		
216	46.32	0.73	1.24	1.19E+02	1.63E-04	1.55E-04	0.13	1.241E-02	3.923E-06	3.723E-06	3.07.7	1.63E-04	1.000	.013	.016
217	46.32	0.73	1.24	5.31E+02	9.04E-04	6.55E-04	0.93	1.095E-02	2.176E-05	2.057E-05	337.6	9.84E-04	1.000	.003	.101
218	46.32	0.73	1.24	7.71E+03	4.71E-03	8.25E-03	7.45	1.191E-02	2.097E-04	1.906E-04	312.7	8.71E-03	1.000	.795	.577
219	46.32	0.73	1.24	7.65E+03	7.63E-03	7.52E-03	6.96	1.090E-02	1.835E-04	1.739E-04	311.7	7.63E-03	1.000	.696	.855
220	46.32	0.73	1.24	5.16E+03	7.11E-03	6.74E-03	6.49	1.090E-02	1.712E-04	1.622E-04	311.1	7.11E-03	1.000	.649	.797
306	56.48	0.75	1.24	2.00E+02	3.95E-03	3.75E-03	7.51	1.091E-02	4.529E-05	9.029E-05	308.1	3.96E-03	1.000	.361	.444
307	56.48	0.75	1.24	1.45E+03	1.99E-03	1.98E-03	1.82	1.196E-02	4.796E-05	4.546E-05	306.9	1.99E-03	1.000	.102	.223
308	56.48	0.75	1.24	7.25E+02	7.63E-04	7.44E-04	6.72	1.196E-02	1.835E-05	1.791E-05	307.2	7.63E-04	1.000	.072	.086
309	56.48	0.75	1.24	9.55E+01	1.16E-04	1.15E-04	0.11	1.196E-02	2.800E-06	2.693E-06	306.6	1.16E-04	1.000	.011	.013
310	56.48	0.75	1.24	1.27E+01	1.65E-05	1.56E-05	0.02	1.196E-02	3.961E-07	3.754E-07	303.9	1.65E-05	1.000	.002	.002
311	56.48	0.75	1.24	5.99E+02	3.27E-03	7.93E-03	6.19	1.090E-02	1.990E-04	1.884E-04	312.6	8.27E-03	1.000	.619	.966
312	56.48	0.75	1.24	5.75E+03	9.31E-03	7.97E-03	8.23	1.196E-02	2.003E-04	1.895E-04	312.0	8.31E-03	1.000	.823	.991
313	56.48	0.75	1.24	4.12E+03	4.63E-03	7.98E-03	6.35	1.196E-02	2.024E-04	1.921E-04	310.6	8.31E-03	1.000	.635	1.005
314	56.48	0.75	1.24	5.53E+03	7.60E-03	7.50E-03	6.75	1.090E-02	1.829E-04	1.732E-04	309.4	7.60E-03	1.000	.753	.806
315	56.48	0.75	1.24	4.91E+03	5.75E-03	6.40E-03	6.69	1.090E-02	1.626E-04	1.540E-04	309.9	5.75E-03	1.000	.669	.805
316	56.48	0.75	1.24	4.58E+03	6.70E-03	5.97E-03	6.24	1.090E-02	1.517E-04	1.437E-04	309.9	6.70E-03	1.000	.624	.792
317	56.48	0.75	1.24	3.47E+03	4.77E-03	4.52E-03	4.72	1.090E-02	1.414E-04	1.407E-04	309.1	4.77E-03	1.000	.472	.568
318	56.48	0.75	1.24	2.44E+03	3.17E-03	3.52E-03	3.34	1.090E-02	8.113E-05	7.691E-05	308.5	3.17E-03	1.000	.334	.432
319	56.48	0.75	1.24	6.25E+02	1.13E-03	1.37E-03	0.12	1.090E-02	2.724E-05	2.580E-05	307.3	1.13E-03	1.000	.112	.135
320	56.48	0.75	1.24	1.99E+02	2.66E-04	2.52E-04	0.26	1.090E-02	6.410E-06	6.074E-06	306.1	2.66E-04	1.000	.026	.032
601	48.22	0.75	1.24								307.13				
602	48.22	0.75	1.24								305.64				
603	48.22	0.75	1.24								0.00				
604	48.22	0.75	1.24								304.34				
605	48.22	0.75	1.24								303.36				

EDGE HEATING USER FOR ME

X#	3.879E+01	HL	MREF	8.219E-01
X#	4.124E+01	HL	MREF	8.451E-01
X#	4.277E+01	HL	MREF	8.257E-01
X#	4.631E+01	HL	MREF	8.238E-01
X#	4.886E+01	HL	MREF	8.136E-01
X#	5.139E+01	HL	MREF	7.834E-01
X#	5.648E+01	HL	MREF	8.142E-01
X#	5.145E+01	HL	MREF	8.334E-01
X#	6.654E+01	HL	MREF	8.247E-01
X#	7.172E+01	HL	MREF	8.135E-01
X#	3.899E+01	HL	MREF	8.477E-01
X#	4.632E+01	HL	MREF	8.246E-01
X#	5.145E+01	HL	MREF	8.244E-01
X#	6.615E+01	HL	MREF	8.244E-01

9-L. TRANSITION DISTANCE = 34.7 CM  
FULLY TURBULENT 3-L. CONDITIONS AT = 1.24 CM

5.3-227





# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 179

AMCS 3, F FT INT TEST (173), 2, 1, BLUMER, IN-LINE RSI GAP RUN( 35) 1973

T/C	X (CM)	Y (CM)	Z (CM)	G (G/M2)	ML (KG/M2-S)	MT (KG/M2-S)	HL/HREF (KG/M2-S)	HREF (KG/M2-S)	STL	SIT (K)	T (K)	HLCC (KG/M2-S)	ML/HLCC	HLCC/HREF	ML/HF
216	46.32	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
217	46.32	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
218	46.32	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
219	46.32	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
220	46.32	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
306	56.48	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
307	56.48	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
308	56.48	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
309	56.48	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
310	56.48	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
311	56.48	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
312	56.48	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
313	56.48	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
314	56.48	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
315	56.48	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
316	56.48	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
317	56.48	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
318	56.48	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
319	56.48	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
320	56.48	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
500	64.10	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
501	64.10	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
502	64.10	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
503	64.10	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
504	64.10	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001
505	64.10	1.11	1.14	1.00	1.00E-06	1.00E-06	1.00E-06	1.00E-06	2.56E-07	2.43E-07	307.5	5.33E-06	1.000	1.000	.001

**ORIGINAL PAGE IS  
OF POOR QUALITY**

5.3-229



RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 171

AMES 7.5 FT HWT TWT (1:2), 2.0. BLUMER, IN-LINE RSI GAP PUI ( 36) 1973

TT = 1.11E+01(K)  
FT = 5.20E+01(M/M2)  
HT = 1.173E+01(J/WG)  
RL/METER = 1.6E+01  
WACH = 3.1E+01  
DHO VCL = 2.11E+01(KG/M2-S)  
HAM/HT = 2.0E+01 FOR HT  
HAM/HT = 7.074 FOR HL  
MLCC = HL(242, 7.0E CONC.3)

T/C	X (CM)	Y (CM)	Z (CM)	G (W/M2)	HL (KG/M2-S)	HT (KG/M2-S)	HL/HREF (KG/M2-S)	HREF (KG/M2-S)	STL	STT	T (K)	HLCC (KG/M2-S)	HL/MLCC	MLCC/HREF	ML/ME
6	122.56	-51	7.31E+03	1.35E-02	6.72E-03	1.51E	6.72E-03	4.62E-04	4.62E-04	4.59E-04	300.5	1.00E-02	1.000	1.000	
7	112.47	-51	7.31E+03	1.02E-02	5.09E-03	1.02E	5.09E-03	4.03E-04	4.03E-04	4.55E-04	318.4	1.00E-02	1.000	1.000	
8	112.37	-51	7.31E+03	1.11E-02	5.75E-03	1.04E	5.75E-03	4.77E-04	4.77E-04	4.52E-04	319.5	1.00E-02	1.000	1.000	
9	112.71	-51	7.31E+03	1.21E-02	6.49E-03	1.06E	6.49E-03	4.96E-04	4.96E-04	4.57E-04	309.4	1.00E-02	1.000	1.000	
10	112.24	-51	7.31E+03	1.05E-02	6.34E-03	1.05E	6.34E-03	4.96E-04	4.96E-04	4.699E-04	308.5	1.00E-02	1.000	1.000	
11	97.12	-51	7.31E+03	1.05E-02	6.34E-03	1.05E	6.34E-03	4.96E-04	4.96E-04	4.721E-04	308.5	1.00E-02	1.000	1.000	
12	97.74	-51	7.31E+03	1.09E-02	6.46E-03	1.05E	6.46E-03	5.17E-04	5.17E-04	4.697E-04	308.6	1.00E-02	1.000	1.000	
13	86.96	-51	8.31E+03	1.19E-02	7.19E-03	1.19E	7.19E-03	5.41E-04	5.41E-04	5.132E-04	308.8	1.00E-02	1.000	1.000	
14	74.98	-51	8.31E+03	1.23E-02	7.41E-03	1.23E	7.41E-03	5.61E-04	5.61E-04	5.507E-04	309.0	1.00E-02	1.000	1.000	
15	76.84	-51	8.31E+03	1.22E-02	7.35E-03	1.22E	7.35E-03	5.61E-04	5.61E-04	5.450E-04	309.0	1.00E-02	1.000	1.000	
16	71.72	-51	8.31E+03	1.28E-02	7.85E-03	1.28E	7.85E-03	5.74E-04	5.74E-04	5.448E-04	309.1	1.00E-02	1.000	1.000	
17	65.64	-51	7.31E+03	1.17E-02	6.91E-03	1.17E	6.91E-03	5.04E-04	5.04E-04	4.779E-04	309.8	1.00E-02	1.000	1.000	
18	61.55	-51	7.31E+03	1.06E-02	6.26E-03	1.13E	6.26E-03	4.62E-04	4.62E-04	4.379E-04	310.9	1.00E-02	1.000	1.000	
19	58.49	-51	8.31E+03	1.14E-02	6.86E-03	1.14E	6.86E-03	4.32E-04	4.32E-04	4.094E-04	311.4	1.00E-02	1.000	1.000	
20	58.39	-51	8.31E+03	1.23E-02	7.47E-03	1.23E	7.47E-03	4.35E-04	4.35E-04	4.120E-04	311.5	1.00E-02	1.000	1.000	
21	48.66	-51	7.31E+03	1.08E-02	6.36E-03	1.08E	6.36E-03	4.67E-04	4.67E-04	4.422E-04	311.7	1.00E-02	1.000	1.000	
22	46.31	-51	7.31E+03	1.14E-02	6.95E-03	1.08E	6.95E-03	4.76E-04	4.76E-04	4.516E-04	311.9	1.00E-02	1.000	1.000	
23	43.77	-51	7.31E+03	1.13E-02	6.78E-03	1.04E	6.78E-03	4.38E-04	4.38E-04	4.62E-04	312.1	1.00E-02	1.000	1.000	
24	43.24	-51	7.31E+03	1.09E-02	6.49E-03	1.04E	6.49E-03	4.07E-04	4.07E-04	4.743E-04	312.2	1.00E-02	1.000	1.000	
25	38.74	-51	7.31E+03	1.06E-02	6.30E-03	0.97E	6.30E-03	3.86E-04	3.86E-04	4.743E-04	312.0	1.00E-02	1.000	1.000	
173	39.97	-51	7.31E+03	1.07E-02	6.45E-03	0.93E	6.45E-03	3.93E-04	3.93E-04	4.491E-04	315.2	1.00E-02	1.000	0.935	
175	39.97	-51	7.31E+03	1.13E-02	6.91E-03	0.93E	6.91E-03	4.68E-04	4.68E-04	4.433E-04	316.1	1.00E-02	1.000	0.936	
177	39.97	-51	7.31E+03	1.19E-02	7.40E-03	0.93E	7.40E-03	4.73E-04	4.73E-04	4.336E-04	316.7	1.00E-02	1.000	0.915	
179	39.97	-51	7.31E+03	1.25E-02	7.89E-03	0.82E	7.89E-03	4.12E-04	4.12E-04	3.908E-04	315.0	1.00E-02	1.000	0.812	
181	39.97	-51	7.31E+03	1.31E-02	8.38E-03	0.82E	8.38E-03	3.51E-04	3.51E-04	2.908E-04	314.0	1.00E-02	1.000	0.622	
183	39.97	-51	7.31E+03	1.37E-02	8.87E-03	0.71E	8.87E-03	2.90E-04	2.90E-04	2.401E-04	313.0	1.00E-02	1.000	0.517	
185	39.97	-51	7.31E+03	1.43E-02	9.36E-03	0.71E	9.36E-03	2.29E-04	2.29E-04	1.679E-04	312.0	1.00E-02	1.000	0.346	
187	39.97	-51	7.31E+03	1.49E-02	9.85E-03	0.71E	9.85E-03	1.68E-04	1.68E-04	9.805E-05	311.9	1.00E-02	1.000	0.204	
189	39.97	-51	7.31E+03	1.55E-02	1.03E-02	0.71E	1.03E-02	1.07E-04	1.07E-04	2.928E-05	311.8	1.00E-02	1.000	0.062	
191	39.97	-51	7.31E+03	1.61E-02	1.08E-02	0.67E	1.08E-02	5.66E-05	5.66E-05	9.203E-06	309.8	1.00E-02	1.000	0.017	
203	40.32	-51	6.31E+03	1.03E-02	6.50E-03	0.95E	6.50E-03	4.29E-04	4.29E-04	4.063E-04	313.0	1.00E-02	1.000	0.905	
205	40.32	-51	6.31E+03	1.09E-02	6.99E-03	0.90E	6.99E-03	4.24E-04	4.24E-04	4.073E-04	313.0	1.00E-02	1.000	0.694	
207	40.32	-51	6.31E+03	1.15E-02	7.48E-03	0.84E	7.48E-03	4.23E-04	4.23E-04	4.13E-04	313.0	1.00E-02	1.000	0.894	
210	40.32	-51	6.31E+03	1.21E-02	7.97E-03	0.79E	7.97E-03	4.17E-04	4.17E-04	3.943E-04	313.1	1.00E-02	1.000	0.876	
212	40.32	-51	6.31E+03	1.27E-02	8.46E-03	0.79E	8.46E-03	4.11E-04	4.11E-04	3.721E-04	312.1	1.00E-02	1.000	0.736	
214	40.32	-51	6.31E+03	1.33E-02	8.95E-03	0.67E	8.95E-03	3.11E-04	3.11E-04	2.945E-04	311.8	1.00E-02	1.000	0.656	
216	40.32	-51	6.31E+03	1.39E-02	9.44E-03	0.67E	9.44E-03	2.37E-04	2.37E-04	2.246E-04	311.8	1.00E-02	1.000	0.494	
218	40.32	-51	6.31E+03	1.45E-02	9.93E-03	0.67E	9.93E-03	1.62E-04	1.62E-04	1.579E-04	309.0	1.20E-02	1.800	0.124	



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 172

AMES 3.6 FT HMT TEST (142), T.S. BLUMER, IN-LINE RSI GAP PUN( 9b) 1973

T/C	X (CM)	WY (CM)	ZZ (CM)	U (IN/W2)	ML (KG/M2-S)	MT (KG/M2-S)	ML/HREF	HREF (KG/M2-S)	STL	STT	T (K)	MLCC (KG/M2-S)	MLCC/HREF	ML/MLCC	MLCC/HREF	ML/HE
216	46.32	0.75	1.04	2.95E-01	1.24E-04	1.04E-02	.012	9.057E-03	5.472E-04	5.583E-06	387.8	1.24E-04	1.000	.612	.012	
217	46.32	0.75	1.04	7.11E-01	1.60E-05	3.97E-06	.031	1.00E-02	6.76E-07	4.476E-07	389.4	1.00E-05	1.000	.001	.001	
218	46.32	0.75	1.04	2.01E-01	3.85E-06	3.41E-06	.014	1.00E-02	2.69E-07	2.51E-07	386.6	3.50E-06	1.000	.001	.001	
219	46.32	0.75	1.04	2.01E-01	3.85E-06	3.41E-06	.014	1.00E-02	1.94E-06	1.645E-06	386.5	3.50E-06	1.000	.004	.004	
220	46.32	0.75	1.04	9.02E-01	1.45E-05	1.37E-05	.072	9.057E-03	6.054E-07	6.481E-07	390.7	1.45E-05	1.000	.002	.002	
306	56.48	0.51	1.00	5.48E-01	7.68E-03	7.82E-03	.040	9.057E-03	3.632E-04	3.439E-04	311.0	7.68E-03	1.000	.040	.040	
307	56.48	0.51	1.00	5.48E-01	7.68E-03	7.82E-03	.040	9.057E-03	3.925E-04	3.717E-04	311.4	8.30E-03	1.000	.917	.917	
308	56.48	0.51	1.00	5.48E-01	7.68E-03	7.82E-03	.040	9.057E-03	3.677E-04	3.483E-04	310.9	7.70E-03	1.000	.059	.059	
309	56.48	0.51	1.00	5.48E-01	7.68E-03	7.82E-03	.040	9.057E-03	3.400E-04	3.304E-04	310.6	7.30E-03	1.000	.015	.015	
310	56.48	0.51	1.00	5.48E-01	7.68E-03	7.82E-03	.040	9.057E-03	2.284E-04	2.103E-04	308.9	4.83E-03	1.000	.533	.533	
311	56.48	0.51	1.00	5.48E-01	7.68E-03	7.82E-03	.040	9.057E-03	1.639E-04	1.604E-04	308.3	3.58E-03	1.000	.396	.396	
312	56.48	0.51	1.00	5.48E-01	7.68E-03	7.82E-03	.040	9.057E-03	8.063E-05	7.638E-05	308.1	1.71E-03	1.000	.106	.106	
313	56.48	0.51	1.00	5.48E-01	7.68E-03	7.82E-03	.040	9.057E-03	1.677E-05	1.493E-05	307.6	7.70E-04	1.000	.005	.005	
314	56.48	0.51	1.00	5.48E-01	7.68E-03	7.82E-03	.040	9.057E-03	1.472E-05	1.394E-05	307.1	3.11E-04	1.000	.034	.034	
315	56.48	0.51	1.00	5.48E-01	7.68E-03	7.82E-03	.040	9.057E-03	1.017E-05	2.858E-06	306.7	6.10E-05	1.000	.007	.007	
316	56.48	0.51	1.00	5.48E-01	7.68E-03	7.82E-03	.040	9.057E-03	3.345E-06	1.995E-06	306.5	4.37E-05	1.000	.005	.005	
317	56.48	0.51	1.00	5.48E-01	7.68E-03	7.82E-03	.040	9.057E-03	6.395E-07	6.020E-07	306.3	1.34E-05	1.000	.001	.001	
318	56.48	0.51	1.00	5.48E-01	7.68E-03	7.82E-03	.040	9.057E-03	1.323E-06	1.254E-06	305.3	2.60E-05	1.000	.003	.003	
319	56.48	0.51	1.00	5.48E-01	7.68E-03	7.82E-03	.040	9.057E-03	1.031E-04	2.870E-04	311.1	6.41E-03	1.000	.777	.777	
320	56.48	0.51	1.00	5.48E-01	7.68E-03	7.82E-03	.040	9.057E-03	3.462E-04	3.278E-04	310.7	7.32E-03	1.000	.057	.057	
506	64.10	0.76	1.00	1.22E-01	4.32E-03	6.34E-03	.037	8.253E-03	3.936E-04	3.789E-04	389.2	8.45E-03	1.000	1.024	1.024	
507	64.10	0.76	1.00	1.22E-01	4.32E-03	6.34E-03	.037	8.253E-03	3.884E-04	3.679E-04	388.7	8.22E-03	1.000	.995	.995	
508	64.10	0.76	1.00	1.22E-01	4.32E-03	6.34E-03	.037	8.253E-03	3.523E-04	3.341E-04	389.2	7.46E-03	1.000	.904	.904	
509	64.10	0.76	1.00	1.22E-01	4.32E-03	6.34E-03	.037	8.253E-03	3.523E-04	3.295E-04	389.2	7.23E-03	1.000	.876	.876	
510	64.10	0.76	1.00	1.22E-01	4.32E-03	6.34E-03	.037	8.253E-03	2.830E-04	2.588E-04	388.9	6.00E-03	1.000	.728	.728	
511	64.10	0.76	1.00	1.22E-01	4.32E-03	6.34E-03	.037	8.253E-03	2.224E-04	2.058E-04	388.6	4.66E-03	1.000	.565	.565	
512	64.10	0.76	1.00	1.22E-01	4.32E-03	6.34E-03	.037	8.253E-03	1.126E-04	1.067E-04	387.9	2.30E-03	1.000	.282	.282	
513	64.10	0.76	1.00	1.22E-01	4.32E-03	6.34E-03	.037	8.253E-03	6.934E-05	6.678E-05	387.1	1.04E-03	1.000	.126	.126	
514	64.10	0.76	1.00	1.22E-01	4.32E-03	6.34E-03	.037	8.253E-03	3.073E-03	3.073E-03	387.0	3.073E-03	1.000	307.0	307.0	
515	64.10	0.76	1.00	1.22E-01	4.32E-03	6.34E-03	.037	8.253E-03	3.367E-03	3.367E-03	387.0	3.367E-03	1.000	336.7	336.7	
601	48.22	0.75	1.00	1.22E-01	4.32E-03	6.34E-03	.037	8.253E-03	3.073E-03	3.073E-03	387.0	3.073E-03	1.000	307.0	307.0	
602	48.22	0.75	1.00	1.22E-01	4.32E-03	6.34E-03	.037	8.253E-03	3.367E-03	3.367E-03	387.0	3.367E-03	1.000	336.7	336.7	
603	48.22	0.75	1.00	1.22E-01	4.32E-03	6.34E-03	.037	8.253E-03	3.073E-03	3.073E-03	387.0	3.073E-03	1.000	307.0	307.0	
604	48.22	0.75	1.00	1.22E-01	4.32E-03	6.34E-03	.037	8.253E-03	3.367E-03	3.367E-03	387.0	3.367E-03	1.000	336.7	336.7	
605	48.22	0.75	1.00	1.22E-01	4.32E-03	6.34E-03	.037	8.253E-03	3.073E-03	3.073E-03	387.0	3.073E-03	1.000	307.0	307.0	

307.71  
307.03  
336.72  
306.43  
305.69

EDGE HEATING USED FOR HE  
 X# 3.073E-01 ML /HREF# 5.473E-01  
 Y# 4.124E-01 ML /HREF# 6.034E-01  
 Z# 1.377E-01 ML /HREF# 1.701E-01  
 X# 4.811E-01 ML /HREF# 1.156E-01  
 Y# 1.655E-01 ML /HREF# 1.131E-01





**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 69651**

XX	7.137E+01	ML	/HREFF=	7.031E+01
XX	5.648E+01	ML	/HREFF=	1.011E+00
XX	6.186E+01	ML	/HREFF=	1.017E+00
XX	6.668E+01	ML	/HREFF=	1.347E+00
XX	7.172E+01	ML	/HREFF=	1.618E+00
XX	7.690E+01	ML	/HREFF=	1.016E+00
XX	8.189E+01	ML	/HREFF=	1.014E+00
XX	8.698E+01	ML	/HREFF=	1.592E+00
XX	9.249E+01	ML	/HREFF=	1.552E+00
XX	9.712E+01	ML	/HREFF=	1.521E+00
XX	1.022E+02	ML	/HREFF=	1.562E+00
XX	1.073E+02	ML	/HREFF=	1.557E+00
XX	1.124E+02	ML	/HREFF=	1.543E+00
XX	1.175E+02	ML	/HREFF=	1.547E+00
XX	1.226E+02	ML	/HREFF=	1.532E+00
XX	3.997E+01	ML	/HREFF=	9.032E-01
XX	5.612E+01	ML	/HREFF=	8.915E-01
XX	5.648E+01	ML	/HREFF=	8.432E-01
XX	6.410E+01	ML	/HREFF=	6.671E-01

B.L. TRANSITION DISTANCE = 21.39 CM  
 FULLY TURBULENT T.O.L. CONDITIONS AT X=376.09 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 173

AMES 3.5 FT HWT TEST (1:3), C. J. MUMER, IN-LINE RSI GAP RUN( 37) 1973

TT = 1.2165E+02 (K)  
FT = 1.6317E+06 (N/M2)  
MT = 1.1117E+06 (N/KG)  
RF/METER = 7.2713E+04  
PACH = 3.41E-1  
RMC W/L = 4.17E+01 (KG/M2-S)  
HAM/MT = 7.37E-01 FOR ML  
MLCC = ML(2ND, 3, DEP CONC. 1)  
GAP LENGTH = 35.680 (CM)  
GAP WIDTH = .254 (CM)  
GAP JETIN = 3.31 (CM)  
ORIENTATION = 9.000 (DEG)  
OS = 1.2015E+05 (N/M2)  
YOC POSITION = 4

T/C	X (CM)	Y (CM)	Z (CM)	Z7 (CM)	G (N/M2)	ML (KG/M2-S)	MT (KG/M2-S)	ML/HREFF	MREF (KG/M2-S)	STL	STT	T (K)	HLCC (KG/M2-S)	ML/MLCC	MLCC/MREF	ML/ME
6	122.56	-51	0.00	0.00	3.17E+04	1.65E-02	4.31E-02	1.415	2.089E-02	1.114E-03	1.055E-03	310.2	1.000	1.000	1.000	1.000
7	117.47	-51	0.00	0.00	3.49E+04	1.78E-02	4.51E-02	1.773	2.090E-02	1.145E-03	1.084E-03	313.3	1.000	1.000	1.000	1.000
8	112.37	-51	0.00	0.00	3.81E+04	1.93E-02	4.64E-02	2.043	2.091E-02	1.124E-03	1.072E-03	310.4	1.000	1.000	1.000	1.000
9	107.31	-51	0.00	0.00	3.10E+04	1.73E-02	4.40E-02	2.022	1.933E-02	1.132E-03	1.077E-03	310.6	1.000	1.000	1.000	1.000
10	102.20	-51	0.00	0.00	2.40E+04	1.52E-02	4.10E-02	3.164	1.815E-02	1.137E-03	1.077E-03	310.7	1.000	1.000	1.000	1.000
11	97.12	-51	0.00	0.00	1.70E+04	1.32E-02	3.80E-02	3.167	1.622E-02	1.114E-03	1.055E-03	310.7	1.000	1.000	1.000	1.000
12	92.04	-51	0.00	0.00	1.00E+04	1.12E-02	3.50E-02	3.270	1.487E-02	1.115E-03	1.043E-03	310.8	1.000	1.000	1.000	1.000
13	86.96	-51	0.00	0.00	3.15E+04	1.41E-02	3.91E-02	4.435	1.942E-03	1.070E-03	1.070E-03	311.1	1.000	1.000	1.000	1.000
14	81.88	-51	0.00	0.00	2.45E+04	1.21E-02	3.61E-02	4.448	1.936E-03	1.070E-03	1.070E-03	311.1	1.000	1.000	1.000	1.000
15	76.80	-51	0.00	0.00	1.75E+04	1.01E-02	3.31E-02	3.943	1.930E-03	1.070E-03	1.070E-03	311.3	1.000	1.000	1.000	1.000
16	71.72	-51	0.00	0.00	1.05E+04	8.1E-03	3.01E-02	3.425	1.924E-03	1.070E-03	1.070E-03	311.3	1.000	1.000	1.000	1.000
17	66.64	-51	0.00	0.00	3.75E+04	1.21E-02	3.31E-02	3.425	1.924E-03	1.070E-03	1.070E-03	311.6	1.000	1.000	1.000	1.000
18	61.56	-51	0.00	0.00	1.22E+04	1.01E-02	3.01E-02	3.425	1.924E-03	1.070E-03	1.070E-03	312.5	1.000	1.000	1.000	1.000
19	56.48	-51	0.00	0.00	3.43E+04	1.21E-02	3.31E-02	4.448	1.936E-03	1.070E-03	1.070E-03	313.1	1.000	1.000	1.000	1.000
20	51.35	-51	0.00	0.00	2.73E+04	1.01E-02	3.01E-02	3.943	1.930E-03	1.070E-03	1.070E-03	313.7	1.000	1.000	1.000	1.000
21	46.26	-51	0.00	0.00	2.03E+04	8.1E-03	2.71E-02	3.425	1.924E-03	1.070E-03	1.070E-03	315.2	1.000	1.000	1.000	1.000
22	41.13	-51	0.00	0.00	1.33E+04	6.1E-03	2.41E-02	3.425	1.924E-03	1.070E-03	1.070E-03	315.6	1.000	1.000	1.000	1.000
23	36.01	-51	0.00	0.00	6.12E+03	4.1E-03	2.11E-02	3.425	1.924E-03	1.070E-03	1.070E-03	315.9	1.000	1.000	1.000	1.000
24	30.89	-51	0.00	0.00	3.42E+03	2.1E-03	1.81E-02	3.425	1.924E-03	1.070E-03	1.070E-03	316.3	1.000	1.000	1.000	1.000
25	25.78	-51	0.00	0.00	1.72E+03	1.1E-03	1.51E-02	3.425	1.924E-03	1.070E-03	1.070E-03	316.3	1.000	1.000	1.000	1.000
173	39.97	173	0.00	0.00	9.11E+03	1.29E-02	1.29E-02	0.951	1.342E-02	3.049E-04	2.924E-04	320.2	1.000	1.000	1.000	1.000
189	39.97	173	0.00	0.00	3.13E+03	1.08E-02	1.08E-02	0.951	1.342E-02	3.049E-04	2.924E-04	320.2	1.000	1.000	1.000	1.000
107	39.97	173	0.00	0.00	1.76E+03	1.04E-02	1.04E-02	0.922	1.342E-02	2.924E-04	2.804E-04	321.4	1.000	1.000	1.000	1.000
108	39.97	173	0.00	0.00	1.05E+03	1.11E-02	1.11E-02	0.922	1.342E-02	2.924E-04	2.804E-04	319.6	1.000	1.000	1.000	1.000
110	39.97	173	0.00	0.00	3.15E+03	1.08E-02	1.08E-02	0.922	1.342E-02	2.924E-04	2.804E-04	318.6	1.000	1.000	1.000	1.000
111	39.97	173	0.00	0.00	1.11E+03	1.13E-02	1.13E-02	0.922	1.342E-02	2.924E-04	2.804E-04	317.8	1.000	1.000	1.000	1.000
112	39.97	173	0.00	0.00	3.12E+03	1.07E-02	1.07E-02	0.922	1.342E-02	2.924E-04	2.804E-04	316.8	1.000	1.000	1.000	1.000
113	39.97	173	0.00	0.00	1.09E+03	1.12E-02	1.12E-02	0.922	1.342E-02	2.924E-04	2.804E-04	316.1	1.000	1.000	1.000	1.000
114	39.97	173	0.00	0.00	3.12E+03	1.07E-02	1.07E-02	0.922	1.342E-02	2.924E-04	2.804E-04	314.9	1.000	1.000	1.000	1.000
115	39.97	173	0.00	0.00	1.08E+03	1.12E-02	1.12E-02	0.922	1.342E-02	2.924E-04	2.804E-04	313.1	1.000	1.000	1.000	1.000
203	46.12	173	0.00	0.00	3.15E+03	1.08E-02	1.08E-02	0.934	1.342E-02	2.924E-04	2.804E-04	317.3	1.000	1.000	1.000	1.000
205	46.12	173	0.00	0.00	1.09E+03	1.12E-02	1.12E-02	0.922	1.342E-02	2.924E-04	2.804E-04	315.2	1.000	1.000	1.000	1.000
207	46.12	173	0.00	0.00	3.15E+03	1.08E-02	1.08E-02	0.932	1.342E-02	2.924E-04	2.804E-04	317.8	1.000	1.000	1.000	1.000
208	46.12	173	0.00	0.00	1.10E+03	1.13E-02	1.13E-02	0.922	1.342E-02	2.924E-04	2.804E-04	317.1	1.000	1.000	1.000	1.000
211	46.12	173	0.00	0.00	3.15E+03	1.08E-02	1.08E-02	0.922	1.342E-02	2.924E-04	2.804E-04	315.2	1.000	1.000	1.000	1.000
212	46.12	173	0.00	0.00	1.10E+03	1.13E-02	1.13E-02	0.922	1.342E-02	2.924E-04	2.804E-04	315.2	1.000	1.000	1.000	1.000
214	46.12	173	0.00	0.00	3.15E+03	1.08E-02	1.08E-02	0.922	1.342E-02	2.924E-04	2.804E-04	315.1	1.000	1.000	1.000	1.000
215	46.12	173	0.00	0.00	1.10E+03	1.13E-02	1.13E-02	0.922	1.342E-02	2.924E-04	2.804E-04	315.1	1.000	1.000	1.000	1.000
216	46.12	173	0.00	0.00	3.15E+03	1.08E-02	1.08E-02	0.922	1.342E-02	2.924E-04	2.804E-04	315.1	1.000	1.000	1.000	1.000
217	46.12	173	0.00	0.00	1.10E+03	1.13E-02	1.13E-02	0.922	1.342E-02	2.924E-04	2.804E-04	315.1	1.000	1.000	1.000	1.000
218	46.12	173	0.00	0.00	3.15E+03	1.08E-02	1.08E-02	0.922	1.342E-02	2.924E-04	2.804E-04	315.1	1.000	1.000	1.000	1.000
219	46.12	173	0.00	0.00	1.10E+03	1.13E-02	1.13E-02	0.922	1.342E-02	2.924E-04	2.804E-04	315.1	1.000	1.000	1.000	1.000
220	46.12	173	0.00	0.00	3.15E+03	1.08E-02	1.08E-02	0.922	1.342E-02	2.924E-04	2.804E-04	315.1	1.000	1.000	1.000	1.000
221	46.12	173	0.00	0.00	1.10E+03	1.13E-02	1.13E-02	0.922	1.342E-02	2.924E-04	2.804E-04	315.1	1.000	1.000	1.000	1.000
222	46.12	173	0.00	0.00	3.15E+03	1.08E-02	1.08E-02	0.922	1.342E-02	2.924E-04	2.804E-04	315.1	1.000	1.000	1.000	1.000
223	46.12	173	0.00	0.00	1.10E+03	1.13E-02	1.13E-02	0.922	1.342E-02	2.924E-04	2.804E-04	315.1	1.000	1.000	1.000	1.000
224	46.12	173	0.00	0.00	3.15E+03	1.08E-02	1.08E-02	0.922	1.342E-02	2.924E-04	2.804E-04	315.1	1.000	1.000	1.000	1.000
225	46.12	173	0.00	0.00	1.10E+03	1.13E-02	1.13E-02	0.922	1.342E-02	2.924E-04	2.804E-04	315.1	1.000	1.000	1.000	1.000

AMES 10 FT HNT TEST (102), C-30 BLUMER, IA-LINE RSI GAP KUP1 071 1373

T/C	X (CM)	Y (CM)	Z (CM)	G (A/M2)	HL (KG/M2-S)	HT (KG/M2-S)	ML/MREF	MREF (KG/M2-S)	STL	STT	T (K)	MLCC (KG/M2-S)	ML/MCC	MLCC/MREF	ML/MFE
216	46.32	7.77	1.14	3.7E-02	1.26E-04	3.38E-04	0.334	1.247E-02	1.037E-05	9.537E-06	397.7	4.29E-04	1.000	0.834	0.831
217	46.32	7.77	1.04	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
219	46.72	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
220	46.72	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
306	56.48	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
307	56.48	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
308	56.48	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
309	56.48	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
310	56.48	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
311	56.48	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
312	56.48	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
313	56.48	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
314	56.48	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
315	56.48	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
316	56.48	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
317	56.48	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
318	56.48	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
319	56.48	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
320	56.48	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
506	64.17	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
507	64.17	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
508	64.17	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
509	64.17	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
510	64.17	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
511	64.17	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
512	64.17	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
513	64.17	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
514	64.17	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810
515	64.17	7.77	1.03	3.5E-01	1.38E-04	1.31E-04	0.311	1.247E-02	3.299E-06	3.125E-06	319.1	1.34E-04	1.000	0.811	0.810

EDGE HEATING US'D FOR HE  
 X# 3.07E+01 ML /MREFS 9.02E-11  
 X# 6.12E+01 ML /MREFS 1.02E+00  
 X# 6.37E+01 ML /MREFS 1.00E+00  
 X# 6.31E+01 ML /MREFS 1.00E+00  
 X# 6.04E+01 ML /MREFS 1.01E+00

**REN GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC 81248**  
**JSC 89681**

20	7.137E+01	ML	/MREFFS	1.0121E+01
20	9.648E+01	ML	/MREFFS	1.271E+00
20	6.157E+01	ML	/MREFFS	1.635E+01
20	6.648E+01	ML	/MREFFS	3.436E+01
20	7.172E+01	ML	/MREFFS	3.425E+00
20	7.680E+01	ML	/MREFFS	3.951E+00
20	8.188E+01	ML	/MREFFS	4.438E+00
20	8.696E+01	ML	/MREFFS	4.921E+01
20	9.204E+01	ML	/MREFFS	5.407E+01
20	9.712E+01	ML	/MREFFS	5.894E+01
20	1.022E+02	ML	/MREFFS	6.381E+01
20	1.073E+02	ML	/MREFFS	6.868E+01
20	1.124E+02	ML	/MREFFS	7.355E+01
20	1.175E+02	ML	/MREFFS	7.842E+01
20	1.226E+02	ML	/MREFFS	8.329E+01
20	3.997E+01	ML	/MREFFS	9.218E+01
20	4.632E+01	ML	/MREFFS	9.321E+01
20	5.267E+01	ML	/MREFFS	9.424E+01
20	5.902E+01	ML	/MREFFS	9.527E+01

8.0. TRANSITION DISTANCE = 30.70 CM  
 FULLY TURBULENT 3.0. CONDITIONS AT 0.376.98 CM

**ORIGINAL PARTS  
 OF POOR QUALITY**



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 175

AMPS 1.5 FT HWT TEST (1-2), 2.3. BLUMER, IN-LINE RSI GAP RUN( 38) 1973

TT = 1.1795977(K) GAP LENGTH = 30.480(1CM)  
 FT = 2.1119E+01(N/M2) GAP WIDTH = .254(1CM)  
 HT = 1.2164E+01(L/KG) GAP DEPTH = 3.31(1CM)  
 RE/METER = 6.349E+01 ORIENTATION = 0.900(DFG)  
 PACH = 5.11P RS = 1.7770E+01(N/M2)  
 RHO VEL = 4.3371E+01(KG/P2-S) 400.POSITION = 6  
 HAM/HT = 4.97E FOR HT  
 HAM/HT = 7.874 FOR HL  
 PLCC = HL(2ND. 3RD. CONC.,)

Y/C	X	Y	Z	Q	HL	MT	HL/MREF	MREF	STL	STT	T	MLCC	ML/MLCC	PLCC/MREF	HL/WE
(C4)	(C4)	(C4)	(C4)	(C4)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(K)	(K)	(K/M2-S)	(K/M2-S)	(K/M2-S)	(K/M2-S)
6	122.06	0.00	0.00	0.00	6.935E-02	6.935E-02	0.942	7.252E-02	9.305E-04	7.071E-04	310.7	1.000	1.000	1.000	1.000
7	117.07	0.00	0.00	0.00	6.752E-02	6.752E-02	1.051	6.752E-02	8.512E-04	8.065E-04	310.9	1.000	1.000	1.000	1.000
8	112.07	0.00	0.00	0.00	6.585E-02	6.585E-02	1.193	6.585E-02	8.424E-04	7.981E-04	311.2	1.000	1.000	1.000	1.000
9	107.07	0.00	0.00	0.00	6.424E-02	6.424E-02	1.495	6.424E-02	8.679E-04	8.223E-04	311.4	1.000	1.000	1.000	1.000
10	102.07	0.00	0.00	0.00	7.108E-02	7.108E-02	1.914	7.108E-02	8.993E-04	8.512E-04	311.5	1.000	1.000	1.000	1.000
11	97.12	0.00	0.00	0.00	7.155E-02	7.155E-02	2.384	7.155E-02	9.253E-04	8.574E-04	311.6	1.000	1.000	1.000	1.000
12	92.04	0.00	0.00	0.00	7.238E-02	7.238E-02	2.995	7.238E-02	9.156E-04	8.674E-04	311.6	1.000	1.000	1.000	1.000
13	86.96	0.00	0.00	0.00	7.882E-02	7.882E-02	3.551	7.882E-02	8.961E-04	8.489E-04	311.6	1.000	1.000	1.000	1.000
14	81.88	0.00	0.00	0.00	7.655E-02	7.655E-02	4.422	7.655E-02	9.173E-04	8.690E-04	311.6	1.000	1.000	1.000	1.000
15	76.91	0.00	0.00	0.00	6.968E-02	6.968E-02	4.990	6.968E-02	8.814E-04	8.346E-04	311.7	1.000	1.000	1.000	1.000
16	71.72	0.00	0.00	0.00	6.952E-02	6.952E-02	5.391	6.952E-02	1.361E-02	8.346E-04	311.7	1.000	1.000	1.000	1.000
17	66.04	0.00	0.00	0.00	1.195E-01	1.195E-01	8.432	1.195E-01	1.366E-02	1.294E-03	311.7	1.000	1.000	1.000	1.000
18	61.56	0.00	0.00	0.00	8.472E-02	8.472E-02	6.111	8.472E-02	1.015E-03	9.623E-04	321.6	1.000	1.000	1.000	1.000
19	56.48	0.00	0.00	0.00	7.938E-02	7.938E-02	9.469	7.938E-02	8.618E-04	9.105E-04	321.6	1.000	1.000	1.000	1.000
20	51.39	0.00	0.00	0.00	6.582E-02	6.582E-02	4.448	6.582E-02	8.257E-04	7.819E-04	321.5	1.000	1.000	1.000	1.000
21	46.31	0.00	0.00	0.00	5.628E-02	5.628E-02	3.759	5.628E-02	7.121E-04	6.743E-04	321.6	1.000	1.000	1.000	1.000
22	41.24	0.00	0.00	0.00	3.705E-02	3.705E-02	2.499	3.705E-02	4.899E-04	4.638E-04	321.4	1.000	1.000	1.000	1.000
23	36.17	0.00	0.00	0.00	2.705E-02	2.705E-02	1.304	2.705E-02	2.666E-04	2.467E-04	321.9	1.000	1.000	1.000	1.000
24	31.10	0.00	0.00	0.00	1.222E-02	1.222E-02	0.761	1.222E-02	1.566E-04	1.486E-04	321.6	1.000	1.000	1.000	1.000
25	26.03	0.00	0.00	0.00	1.346E-02	1.346E-02	0.632	1.346E-02	1.311E-04	1.242E-04	321.2	1.000	1.000	1.000	1.000
103	39.97	1.02	1.02	1.02	1.275E-02	1.275E-02	0.701	1.275E-02	1.605E-04	1.528E-04	331.9	1.000	1.000	1.000	1.000
104	39.97	1.02	1.02	1.02	1.198E-02	1.198E-02	0.733	1.198E-02	1.507E-04	1.426E-04	331.6	1.000	1.000	1.000	1.000
105	39.97	1.02	1.02	1.02	9.382E-03	9.382E-03	0.779	9.382E-03	1.491E-04	1.427E-04	331.2	1.000	1.000	1.000	1.000
106	39.97	1.02	1.02	1.02	8.322E-03	8.322E-03	0.828	8.322E-03	1.471E-04	1.427E-04	331.2	1.000	1.000	1.000	1.000
107	39.97	1.02	1.02	1.02	7.448E-03	7.448E-03	0.872	7.448E-03	1.471E-04	1.427E-04	331.2	1.000	1.000	1.000	1.000
108	39.97	1.02	1.02	1.02	6.745E-03	6.745E-03	0.914	6.745E-03	1.471E-04	1.427E-04	331.2	1.000	1.000	1.000	1.000
109	39.97	1.02	1.02	1.02	6.195E-03	6.195E-03	0.942	6.195E-03	1.471E-04	1.427E-04	331.2	1.000	1.000	1.000	1.000
110	39.97	1.02	1.02	1.02	5.775E-03	5.775E-03	0.958	5.775E-03	1.471E-04	1.427E-04	331.2	1.000	1.000	1.000	1.000
111	39.97	1.02	1.02	1.02	5.465E-03	5.465E-03	0.964	5.465E-03	1.471E-04	1.427E-04	331.2	1.000	1.000	1.000	1.000
112	39.97	1.02	1.02	1.02	5.235E-03	5.235E-03	0.964	5.235E-03	1.471E-04	1.427E-04	331.2	1.000	1.000	1.000	1.000
113	39.97	1.02	1.02	1.02	5.065E-03	5.065E-03	0.964	5.065E-03	1.471E-04	1.427E-04	331.2	1.000	1.000	1.000	1.000
114	39.97	1.02	1.02	1.02	4.945E-03	4.945E-03	0.964	4.945E-03	1.471E-04	1.427E-04	331.2	1.000	1.000	1.000	1.000
115	39.97	1.02	1.02	1.02	4.865E-03	4.865E-03	0.964	4.865E-03	1.471E-04	1.427E-04	331.2	1.000	1.000	1.000	1.000
203	60.72	1.02	1.02	1.02	1.346E-02	1.346E-02	0.754	1.346E-02	1.471E-04	1.399E-04	321.6	1.000	1.000	1.000	1.000
204	60.72	1.02	1.02	1.02	1.275E-02	1.275E-02	0.754	1.275E-02	1.471E-04	1.399E-04	321.6	1.000	1.000	1.000	1.000
205	60.72	1.02	1.02	1.02	1.198E-02	1.198E-02	0.754	1.198E-02	1.471E-04	1.399E-04	321.6	1.000	1.000	1.000	1.000
206	60.72	1.02	1.02	1.02	1.127E-02	1.127E-02	0.754	1.127E-02	1.471E-04	1.399E-04	321.6	1.000	1.000	1.000	1.000
207	60.72	1.02	1.02	1.02	1.056E-02	1.056E-02	0.754	1.056E-02	1.471E-04	1.399E-04	321.6	1.000	1.000	1.000	1.000
208	60.72	1.02	1.02	1.02	9.85E-03	9.85E-03	0.754	9.85E-03	1.471E-04	1.399E-04	321.6	1.000	1.000	1.000	1.000
209	60.72	1.02	1.02	1.02	9.145E-03	9.145E-03	0.754	9.145E-03	1.471E-04	1.399E-04	321.6	1.000	1.000	1.000	1.000
210	60.72	1.02	1.02	1.02	8.44E-03	8.44E-03	0.754	8.44E-03	1.471E-04	1.399E-04	321.6	1.000	1.000	1.000	1.000
211	60.72	1.02	1.02	1.02	7.735E-03	7.735E-03	0.754	7.735E-03	1.471E-04	1.399E-04	321.6	1.000	1.000	1.000	1.000
212	60.72	1.02	1.02	1.02	7.03E-03	7.03E-03	0.754	7.03E-03	1.471E-04	1.399E-04	321.6	1.000	1.000	1.000	1.000
213	60.72	1.02	1.02	1.02	6.325E-03	6.325E-03	0.754	6.325E-03	1.471E-04	1.399E-04	321.6	1.000	1.000	1.000	1.000
214	60.72	1.02	1.02	1.02	5.62E-03	5.62E-03	0.754	5.62E-03	1.471E-04	1.399E-04	321.6	1.000	1.000	1.000	1.000
215	60.72	1.02	1.02	1.02	4.915E-03	4.915E-03	0.754	4.915E-03	1.471E-04	1.399E-04	321.6	1.000	1.000	1.000	1.000



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC U9651

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AMES 3.5 FT HWT TEST (182), J. P. BLUMER, IN-LINE RSI GAP RUN( 83) 1373

T/C	X (CM)	Y (CM)	Z (CM)	Q (W/M2)	ML (KG/M2-S)	MT (KG/M2-S)	ML/MREF	MREF (KG/M2-S)	STL	SIT	T (K)	PLCC (KG/M2-S)	ML/MLCC	MLCC/MREF	ML/ME
216	46.32	7.03	1.14	1.22E+13	1.34E-03	1.34E-03	1.0	1.34E-02	1.95E-05	1.048E-05	309.7	1.63E-03	1.900	1.000	.048
217	46.32	7.03	1.40	1.53E+13	2.05E-03	1.94E-03	1.25	1.63E-02	2.45E-05	2.32E-05	311.6	1.08E-03	1.000	1.000	.050
218	46.32	7.03	1.65	1.85E+13	3.04E-03	2.18E-03	1.37	1.83E-02	2.68E-05	2.54E-05	317.9	2.20E-03	1.000	1.000	.055
219	46.32	7.03	1.91	2.17E+13	4.08E-03	2.54E-03	1.66	1.63E-02	3.21E-05	3.24E-05	307.4	2.60E-03	1.000	1.000	.054
220	46.32	7.03	2.29	2.57E+13	5.06E-03	2.52E-03	1.63	1.63E-02	3.191E-05	3.025E-05	307.0	3.06E-03	1.000	1.000	.063
306	56.48	7.03	1.00	5.10E+14	7.03E-02	6.53E-02	4.726	1.464E-02	6.432E-04	7.556E-04	323.6	1.08E-02	1.000	1.000	4.766
307	56.48	7.03	1.25	5.31E+14	7.27E-02	6.68E-02	4.965	1.464E-02	6.710E-04	6.256E-04	322.5	7.27E-02	1.000	1.000	4.964
308	56.48	7.03	1.50	5.48E+14	6.87E-02	6.50E-02	4.669	1.464E-02	6.237E-04	7.001E-04	321.2	6.87E-02	1.000	1.000	4.669
309	56.48	7.03	1.75	5.60E+14	6.59E-02	6.28E-02	4.510	1.465E-02	7.303E-04	7.607E-04	320.3	6.59E-02	1.000	1.000	4.510
310	56.48	7.03	2.00	5.65E+14	6.24E-02	4.59E-02	3.338	1.465E-02	5.811E-04	5.266E-04	315.6	4.81E-02	1.000	1.000	3.338
311	56.48	7.03	2.25	5.65E+14	2.39E-02	2.27E-02	1.633	1.465E-02	2.463E-04	2.718E-04	313.6	2.39E-02	1.000	1.000	1.633
312	56.48	7.03	2.50	5.65E+14	1.39E-02	1.31E-02	0.946	1.465E-02	1.662E-04	1.575E-04	311.5	1.39E-02	1.000	1.000	0.946
313	56.48	7.03	2.75	5.65E+14	5.59E-03	4.11E-03	0.504	1.465E-02	1.825E-04	9.726E-05	318.8	0.55E-03	1.000	1.000	0.504
314	56.48	7.03	3.00	5.65E+14	3.75E-03	4.51E-03	0.746	1.465E-02	6.395E-05	5.769E-05	308.5	5.87E-03	1.000	1.000	0.746
315	56.48	7.03	3.25	5.65E+14	3.76E-03	3.56E-03	0.257	1.465E-02	4.909E-05	4.875E-05	308.5	3.76E-03	1.000	1.000	0.257
316	56.48	7.03	3.50	5.65E+14	3.45E-03	3.27E-03	0.235	1.465E-02	4.135E-05	3.928E-05	307.6	3.45E-03	1.000	1.000	0.235
317	56.48	7.03	3.75	5.65E+14	3.22E-03	3.12E-03	0.238	1.465E-02	5.053E-05	4.796E-05	307.6	4.22E-03	1.000	1.000	0.238
318	56.48	7.03	4.00	5.65E+14	7.13E-02	6.75E-02	5.250	1.356E-02	8.655E-04	6.102E-04	321.9	7.13E-02	1.000	1.000	5.250
319	56.48	7.03	4.25	5.65E+14	7.02E-02	6.68E-02	5.359	1.356E-02	8.729E-04	6.267E-04	320.6	7.02E-02	1.000	1.000	5.359
320	56.48	7.03	4.50	5.65E+14	7.41E-02	7.21E-02	5.597	1.359E-02	9.125E-04	6.645E-04	314.5	7.41E-02	1.000	1.000	5.597
321	56.48	7.03	4.75	5.65E+14	7.85E-02	7.38E-02	5.874	1.360E-02	8.932E-04	6.651E-04	314.8	7.85E-02	1.000	1.000	5.874
322	56.48	7.03	5.00	5.65E+14	7.37E-02	6.78E-02	5.267	1.361E-02	8.597E-04	6.344E-04	319.1	7.37E-02	1.000	1.000	5.267
323	56.48	7.03	5.25	5.65E+14	7.22E-02	6.78E-02	5.158	1.361E-02	8.417E-04	7.974E-04	317.8	7.22E-02	1.000	1.000	5.158
324	56.48	7.03	5.50	5.65E+14	5.59E-02	5.24E-02	4.842	1.361E-02	7.903E-04	7.409E-04	316.7	6.59E-02	1.000	1.000	4.842
325	56.48	7.03	5.75	5.65E+14	5.62E-02	5.32E-02	4.375	1.361E-02	7.144E-04	6.767E-04	315.6	5.95E-02	1.000	1.000	4.375
326	56.48	7.03	6.00	5.65E+14	1.36E-02	4.12E-02	3.751	1.361E-02	7.471E-04	5.184E-04	313.4	4.56E-02	1.000	1.000	3.751
327	56.48	7.03	6.25	5.65E+14	1.33E-02	3.16E-02	2.647	1.361E-02	3.994E-04	3.785E-04	311.5	3.33E-02	1.000	1.000	2.647
328	56.48	7.03	6.50	5.65E+14	6.27E-03	6.27E-03	0.000	6.27E-03	6.27E-03	6.27E-03	313.73	6.27E-03	1.000	1.000	0.000
329	56.48	7.03	6.75	5.65E+14	7.41E-03	7.41E-03	0.000	7.41E-03	7.41E-03	7.41E-03	310.58	7.41E-03	1.000	1.000	0.000
330	56.48	7.03	7.00	5.65E+14	8.54E-03	8.54E-03	0.000	8.54E-03	8.54E-03	8.54E-03	330.72	8.54E-03	1.000	1.000	0.000
331	56.48	7.03	7.25	5.65E+14	9.67E-03	9.67E-03	0.000	9.67E-03	9.67E-03	9.67E-03	367.42	9.67E-03	1.000	1.000	0.000
332	56.48	7.03	7.50	5.65E+14	1.08E-02	1.08E-02	0.000	1.08E-02	1.08E-02	1.08E-02	385.60	1.08E-02	1.000	1.000	0.000

EDGE HEATING USED FOR ME  
 ME 3.07E+01 ML /MREF 6.12E+01  
 ME 6.12E+01 ML /MREF 7.41E+01  
 ME 6.12E+01 ML /MREF 7.41E+01  
 ME 6.12E+01 ML /MREF 7.41E+01  
 ME 6.12E+01 ML /MREF 7.41E+01



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09631**

28	5.133E+01	ML	/NREFF	5.655E+00
28	5.048E+01	ML	/NREFF	5.059E+00
28	6.156E+01	ML	/NREFF	6.111E+00
28	6.664E+01	ML	/NREFF	6.492E+00
28	7.372E+01	ML	/NREFF	6.931E+00
28	7.680E+01	ML	/NREFF	6.992E+00
28	8.188E+01	ML	/NREFF	6.722E+00
28	8.696E+01	ML	/NREFF	6.591E+00
28	9.204E+01	ML	/NREFF	2.995E+00
28	9.712E+01	ML	/NREFF	2.386E+00
28	1.022E+02	ML	/NREFF	1.914E+00
28	1.073E+02	ML	/NREFF	1.635E+00
28	1.124E+02	ML	/NREFF	1.433E+00
28	1.175E+02	ML	/NREFF	1.275E+00
28	1.226E+02	ML	/NREFF	9.421E-01
28	3.497E+01	ML	/NREFF	5.75E-01
28	4.072E+01	ML	/NREFF	1.37E+00
28	5.648E+01	ML	/NREFF	4.75E+00
28	6.610E+01	ML	/NREFF	5.835E+00

B-L. TRANSITION DISTANCE = 36.7" CM  
 FULLY TURBULENT 9-L. CONDITIONS AT 8.376.00 CM



RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09651

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ORIGINAL PAGE IS  
OF POOR QUALITY

AMES 7.5 FT HWT TEST (1822), C.7. SUMMER, IN-LINE RSI GAP RUN (99) 1973

TT = 1.117E+01 (K)  
FT = 5.233E+05 (N/MT)  
MT = 1.181E+06 (G/J/KG)  
RE/METER = 1.45E+06  
MACH VEL = 5.110  
RUC VEL = 2.15E+03 (KG/MT-S)  
MAN/HY = 7.99E FOR WT  
HLCC = MLC2ND, JVDJR COND. 4

T/C	X (CM)	Y (CM)	ZZ (CM)	G (W/MT)	HL (KG/MT-S)	MT (KG/MT-S)	HL/MREF	MREF (KG/MT-S)	STL	STT	T (K)	MLCC (KG/MT-S)	ML/MLCC	MLCC/MREF	ML/HE
6	122.56	-51	2.88	4.87E+03	6.34E-03	6.15E-03	.955	6.36E-03	3.917E-04	2.695E-04	312.4	1.02E-02	1.000	.954	.970
7	117.47	-51	2.88	4.87E+03	6.49E-03	6.15E-03	.968	6.57E-03	3.908E-04	2.691E-04	312.5	1.01E-02	1.000	.954	.974
8	112.37	-51	2.88	4.87E+03	6.53E-03	6.15E-03	1.013	6.51E-03	3.115E-04	2.938E-04	312.7	9.85E-03	1.000	.934	.934
9	107.21	-51	2.88	4.87E+03	6.74E-03	6.22E-03	1.018	6.50E-03	3.115E-04	2.938E-04	312.7	9.85E-03	1.000	.934	.934
10	102.20	-51	2.88	4.87E+03	6.74E-03	6.38E-03	1.005	6.70E-03	3.193E-04	3.029E-04	312.8	9.66E-03	1.000	.926	.936
11	97.12	-51	2.88	4.87E+03	6.82E-03	6.26E-03	.952	6.87E-03	3.141E-04	2.974E-04	312.8	9.66E-03	1.000	.926	.935
12	92.04	-51	2.88	4.87E+03	6.87E-03	6.47E-03	.952	7.02E-03	3.205E-04	3.008E-04	313.0	9.47E-03	1.000	.918	.938
13	86.96	-51	2.88	4.87E+03	6.84E-03	6.47E-03	.936	7.29E-03	1.423E-04	3.274E-04	313.2	9.28E-03	1.000	.910	.938
14	81.38	-51	2.88	4.87E+03	7.21E-03	6.33E-03	.936	7.29E-03	1.423E-04	3.274E-04	313.3	9.28E-03	1.000	.910	.938
15	76.68	-51	2.88	4.87E+03	7.16E-03	6.70E-03	.909	7.39E-03	1.423E-04	3.221E-04	313.5	9.09E-03	1.000	.902	.938
16	71.82	-51	2.88	4.87E+03	7.24E-03	6.85E-03	.965	7.49E-03	3.436E-04	3.294E-04	313.7	8.90E-03	1.000	.894	.938
17	66.66	-51	2.88	4.87E+03	7.31E-03	7.32E-03	.974	7.63E-03	3.673E-04	3.479E-04	314.1	8.71E-03	1.000	.886	.938
18	61.56	-51	2.88	4.87E+03	7.55E-03	8.11E-03	1.072	8.54E-03	4.765E-04	3.648E-04	314.7	8.52E-03	1.000	.878	.938
19	56.48	-51	2.88	4.87E+03	8.65E-03	8.19E-03	.957	9.04E-03	4.108E-04	3.808E-04	315.0	8.33E-03	1.000	.870	.938
20	51.39	-51	2.88	4.87E+03	9.38E-03	8.31E-03	.957	9.49E-03	4.268E-04	4.041E-04	315.0	8.14E-03	1.000	.862	.938
21	46.31	-51	2.88	4.87E+03	9.84E-03	8.13E-03	.957	9.74E-03	4.573E-04	4.336E-04	315.1	7.95E-03	1.000	.854	.938
22	43.77	-51	2.88	4.87E+03	9.75E-03	8.24E-03	.974	1.008E-02	4.633E-04	4.368E-04	315.1	7.76E-03	1.000	.846	.938
23	41.24	-51	2.88	4.87E+03	1.04E-02	9.47E-03	.967	1.036E-02	4.723E-04	4.477E-04	315.2	7.57E-03	1.000	.838	.938
24	38.70	-51	2.88	4.87E+03	1.07E-02	1.01E-02	.903	1.066E-02	5.073E-04	4.689E-04	315.6	7.38E-03	1.000	.830	.938
25	38.70	-51	2.88	4.87E+03	1.07E-02	1.01E-02	.903	1.066E-02	5.073E-04	4.689E-04	315.6	7.38E-03	1.000	.830	.938
103	39.97	-51	2.88	4.87E+03	1.07E-02	9.68E-03	.954	1.071E-02	4.958E-04	4.598E-04	318.3	1.02E-02	1.000	.954	.970
104	39.97	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
105	39.97	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
106	39.97	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
107	39.97	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
108	39.97	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
109	39.97	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
110	39.97	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
111	39.97	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
112	39.97	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
113	39.97	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
114	39.97	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
115	39.97	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
203	46.32	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
204	46.32	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
205	46.32	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
206	46.32	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
207	46.32	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
208	46.32	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
209	46.32	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
210	46.32	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
211	46.32	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
212	46.32	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
213	46.32	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
214	46.32	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974
215	46.32	-51	2.88	4.87E+03	1.07E-02	9.82E-03	.939	1.071E-02	4.775E-04	4.528E-04	319.1	1.01E-02	1.000	.939	.974





RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 178

AMES 1.5 FT HMT TEST (222), C.A.E. 3LUMES, IA-LINE RSI GAP RUKI (3) 1973

T/C	X (CM)	Y (CM)	Z (CM)	G (IN/M2)	ML (KG/M2-S)	HT (KG/M2-S)	ML/MR/REF (KG/M2-S)	MR/REF (KG/M2-S)	STL	STT	T (K)	MLCC (KG/M2-S)	ML/MLCC	MLCC/MR/REF	ML/ME
216	46.32	0.00	1.04	7.66E+00	1.11E-05	1.38E-05	0.01	9.644E-03	5.253E-07	4.965E-07	338.7	1.11E-05	1.000	0.001	0.091
217	46.32	0.00	1.04	7.66E+00	7.35E-03	7.35E-03	0.01	9.644E-03	3.679E-04	3.679E-04	315.7	7.35E-03	1.000	0.001	0.096
218	46.32	0.00	1.04	7.66E+00	6.52E-03	6.52E-03	0.01	9.644E-03	3.325E-04	3.325E-04	315.2	6.52E-03	1.000	0.001	0.089
219	46.32	0.00	1.04	7.66E+00	5.83E-03	5.83E-03	0.01	9.644E-03	2.777E-04	2.777E-04	314.7	5.83E-03	1.000	0.001	0.074
220	46.32	0.00	1.04	7.66E+00	5.30E-03	5.30E-03	0.01	9.644E-03	2.513E-04	2.513E-04	314.4	5.30E-03	1.000	0.001	0.066
306	56.48	0.00	1.04	7.66E+00	2.82E-03	2.82E-03	0.01	9.644E-03	1.199E-04	1.199E-04	313.6	2.82E-03	1.000	0.001	0.079
307	56.48	0.00	1.04	7.66E+00	1.38E-03	1.38E-03	0.01	9.644E-03	6.868E-05	6.868E-05	312.3	1.38E-03	1.000	0.001	0.155
308	56.48	0.00	1.04	7.66E+00	3.38E-04	3.38E-04	0.01	9.644E-03	1.732E-05	1.732E-05	312.2	3.38E-04	1.000	0.001	0.048
309	56.48	0.00	1.04	7.66E+00	4.38E-05	4.38E-05	0.01	9.644E-03	2.203E-06	2.203E-06	311.7	4.38E-05	1.000	0.001	0.005
310	56.48	0.00	1.04	7.66E+00	1.00E-05	1.00E-05	0.01	9.644E-03	4.757E-07	4.757E-07	311.6	1.00E-05	1.000	0.001	0.001
506	64.10	0.00	1.04	7.66E+00	7.26E-03	6.87E-03	0.01	8.242E-03	3.446E-04	3.263E-04	315.4	7.26E-03	1.000	0.001	0.091
507	64.10	0.00	1.04	7.66E+00	6.79E-03	6.79E-03	0.01	8.242E-03	3.125E-04	3.024E-04	315.0	6.79E-03	1.000	0.001	0.078
508	64.10	0.00	1.04	7.66E+00	6.39E-03	6.39E-03	0.01	8.242E-03	2.856E-04	2.757E-04	314.2	6.39E-03	1.000	0.001	0.080
509	64.10	0.00	1.04	7.66E+00	5.62E-03	5.30E-03	0.01	8.242E-03	2.056E-04	2.017E-04	313.6	5.62E-03	1.000	0.001	0.079
510	64.10	0.00	1.04	7.66E+00	4.51E-03	4.51E-03	0.01	8.242E-03	2.311E-04	2.288E-04	313.6	4.51E-03	1.000	0.001	0.079
511	64.10	0.00	1.04	7.66E+00	4.38E-03	4.38E-03	0.01	8.242E-03	2.045E-04	1.972E-04	313.2	4.38E-03	1.000	0.001	0.079
512	64.10	0.00	1.04	7.66E+00	2.82E-03	2.72E-03	0.01	8.242E-03	1.364E-04	1.292E-04	312.2	2.82E-03	1.000	0.001	0.210
513	64.10	0.00	1.04	7.66E+00	1.71E-03	1.62E-03	0.01	8.242E-03	8.124E-05	7.693E-05	312.0	1.71E-03	1.000	0.001	0.090
514	64.10	0.00	1.04	7.66E+00	5.02E-04	4.94E-04	0.01	8.242E-03	1.927E-05	1.825E-05	312.2	5.02E-04	1.000	0.001	0.049
515	64.10	0.00	1.04	7.66E+00	1.00E-05	1.00E-05	0.01	8.242E-03	5.129E-07	4.857E-06	311.6	1.00E-05	1.000	0.001	0.013
601	48.22	0.00	1.04	7.66E+00	9.31E-01	9.31E-01	0.01	9.644E-03	311.6	311.6	311.6	9.31E-01	1.000	0.001	0.013
602	48.22	0.00	1.04	7.66E+00	9.31E-01	9.31E-01	0.01	9.644E-03	311.6	311.6	311.6	9.31E-01	1.000	0.001	0.013
603	48.22	0.00	1.04	7.66E+00	9.31E-01	9.31E-01	0.01	9.644E-03	311.6	311.6	311.6	9.31E-01	1.000	0.001	0.013
604	48.22	0.00	1.04	7.66E+00	9.31E-01	9.31E-01	0.01	9.644E-03	311.6	311.6	311.6	9.31E-01	1.000	0.001	0.013
605	48.22	0.00	1.04	7.66E+00	9.31E-01	9.31E-01	0.01	9.644E-03	311.6	311.6	311.6	9.31E-01	1.000	0.001	0.013

EDGE HEATING USED FOR ME  
 XE J.027E+01 ML /MR/REF 9.31E-01  
 XE 4.12E+01 ML /MR/REF 9.31E-01  
 XE 4.77E+01 ML /MR/REF 9.31E-01  
 XE 4.831E+01 ML /MR/REF 9.31E-01  
 XE 4.83E+01 ML /MR/REF 9.31E-01



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

X#	5.013E+01	ML	/MREFF#	9.041E-01
X#	5.669E+01	ML	/MREFF#	9.041E-01
X#	6.158E+01	ML	/MREFF#	1.012E+01
X#	6.646E+01	ML	/MREFF#	9.715E-01
X#	7.178E+01	ML	/MREFF#	9.632E-01
X#	7.635E+01	ML	/MREFF#	9.595E-01
X#	8.185E+01	ML	/MREFF#	9.535E-01
X#	8.698E+01	ML	/MREFF#	9.582E-01
X#	9.204E+01	ML	/MREFF#	9.715E-01
X#	9.712E+01	ML	/MREFF#	9.623E-01
X#	1.022E+02	ML	/MREFF#	1.015E+00
X#	1.073E+02	ML	/MREFF#	1.011E+00
X#	1.123E+02	ML	/MREFF#	1.017E+00
X#	1.173E+02	ML	/MREFF#	1.017E+00
X#	1.223E+02	ML	/MREFF#	9.879E-01
X#	1.273E+02	ML	/MREFF#	9.633E-01
X#	3.997E+01	ML	/MREFF#	9.132E-01
X#	4.632E+01	ML	/MREFF#	9.012E-01
X#	5.649E+01	ML	/MREFF#	8.108E-01
X#	6.418E+01	ML	/MREFF#	8.071E-01

R-L TRANSITION DISTANCE = 34.7 CM  
 FULLY TURBULENT R-L CONDITIONS AT = 48.84 CM



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 179

ANES 3.65 FT PWT TEST (1-2), 2.3. BLINER, IN-LINE RSI GAP RUNI 90) 1973

TT = 1.3778E+13(KG)  
PT = 1.317E+05(M/M2)  
PI = 1.133E+06(L/KG)  
RE/METER = 1.1221E+04  
MACH = 5.13  
RHO WEL = 1.2241E+05(M/M2)  
HAM/HT = 1.95E+03 FOR HL  
MAM/HT = 1.47E+04 FOR HL  
PLCC = HL12NC, OP15E, COND, 0.1

T/C	K	CV	ZZ	O	HL	MT	HL/HREFF	MREF	STL	STT	T	ML/MLCC	MLCC/HREF	ML/ME
(C)	(C)	(C)	(M/M2)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(K)	(K)	(KG/M2-S)	(KG/M2-S)	(K)
6	122.56	-51	0.07	2.87E+04	3.45E-02	3.66E-02	1.239	3.11E-02	9.3E-05	8.85E-04	313.2	1.000		1.000
7	117.47	-51	0.11	2.40E+04	3.36E-02	3.49E-02	1.315	2.85E-02	8.17E-04	7.71E-04	313.3	1.000		1.000
8	112.37	-51	0.12	2.20E+04	2.75E-02	2.91E-02	1.322	2.54E-02	6.67E-04	6.32E-04	313.5	1.000		1.000
9	107.31	-51	0.16	1.63E+04	2.22E-02	2.31E-02	1.292	1.72E-02	5.39E-04	5.10E-04	313.6	1.000		1.000
10	102.20	-51	0.20	1.33E+04	1.61E-02	1.62E-02	1.239	1.44E-02	4.39E-04	4.16E-04	313.7	1.000		1.000
11	97.12	-51	0.24	1.11E+04	1.47E-02	1.39E-02	1.199	1.22E-02	3.54E-04	3.36E-04	313.7	1.000		1.000
12	92.04	-51	0.30	9.25E+03	1.26E-02	1.20E-02	1.191	1.06E-02	3.05E-04	2.89E-04	313.9	1.000		1.000
13	86.96	-51	0.37	7.62E+03	1.04E-02	9.66E-03	1.060	9.75E-03	2.52E-04	2.36E-04	314.2	1.000		1.000
14	81.88	-51	0.45	6.19E+03	8.52E-03	8.26E-03	1.032	9.22E-03	2.13E-04	2.10E-04	314.3	1.000		1.000
15	76.80	-51	0.54	4.95E+03	7.09E-03	6.82E-03	0.988	8.17E-03	2.12E-04	2.01E-04	314.3	1.000		1.000
16	71.72	-51	0.63	3.87E+03	6.12E-03	6.04E-03	0.969	7.43E-03	2.20E-04	2.09E-04	314.5	1.000		1.000
17	66.64	-51	0.72	2.95E+03	5.04E-03	5.15E-03	1.014	6.63E-03	2.43E-04	2.27E-04	315.3	1.000		1.000
18	61.5	-51	0.82	2.20E+03	4.04E-03	4.22E-03	1.014	5.27E-03	2.61E-04	2.46E-04	316.6	1.000		1.000
19	56.4	-51	0.93	1.61E+03	3.07E-03	3.16E-03	0.903	4.09E-03	2.85E-04	2.45E-04	317.0	1.000		1.000
20	51.3	-51	1.04	1.10E+03	2.17E-03	2.16E-03	0.766	3.16E-03	2.65E-04	2.51E-04	317.9	1.000		1.000
21	46.2	-51	1.15	8.15E+02	1.61E-03	1.57E-03	0.972	2.41E-03	2.81E-04	2.66E-04	317.1	1.000		1.000
22	41.1	-51	1.27	6.07E+02	1.19E-03	1.11E-03	0.934	1.82E-03	2.84E-04	2.69E-04	317.4	1.000		1.000
23	36.0	-51	1.40	4.57E+02	8.21E-04	8.15E-04	0.954	1.27E-03	2.93E-04	2.78E-04	317.4	1.000		1.000
24	30.9	-51	1.54	3.22E+02	5.29E-04	5.29E-04	0.970	8.30E-04	3.17E-04	2.93E-04	317.9	1.000		1.000
25	25.8	-51	1.68	2.17E+02	3.26E-04	3.19E-04	0.935	5.34E-04	3.04E-04	2.80E-04	316.9	1.000		1.000
103	39.97	1.32	0.09	3.02E+03	1.22E-02	1.15E-02	0.917	1.32E-02	2.69E-04	2.79E-04	321.7	1.000	0.917	0.999
104	39.97	1.32	0.10	2.86E+03	1.20E-02	1.13E-02	0.903	1.32E-02	2.69E-04	2.74E-04	323.0	1.000	0.903	0.944
107	39.97	1.31	0.11	2.65E+03	1.15E-02	1.11E-02	0.893	1.32E-02	2.67E-04	2.69E-04	323.7	1.000	0.893	0.926
108	39.97	1.31	0.12	2.45E+03	1.09E-02	1.07E-02	0.910	1.32E-02	2.63E-04	2.69E-04	324.7	1.000	0.910	0.896
110	39.97	1.30	0.14	2.05E+03	8.73E-03	8.32E-03	0.930	1.32E-02	2.42E-04	2.61E-04	319.2	1.000	0.930	0.893
111	39.97	1.31	0.15	1.85E+03	8.32E-03	8.14E-03	0.945	1.32E-02	2.41E-04	2.61E-04	319.5	1.000	0.945	0.891
112	39.97	1.31	0.16	1.65E+03	7.74E-03	7.47E-03	0.903	1.32E-02	2.29E-04	2.61E-04	317.1	1.000	0.903	0.819
113	39.97	1.30	0.16	1.45E+03	7.34E-03	7.16E-03	0.925	1.32E-02	2.29E-04	2.62E-04	316.0	1.000	0.925	0.263
114	39.97	1.31	0.17	1.25E+02	6.15E-03	6.15E-03	0.747	1.32E-02	2.27E-04	2.65E-04	316.2	1.000	0.747	0.891
115	39.97	1.30	0.19	1.05E+02	5.75E-03	5.51E-03	0.721	1.32E-02	2.66E-04	2.93E-04	316.7	1.000	0.721	0.822
203	46.32	1.62	0.17	3.01E+03	1.11E-02	1.05E-02	0.937	1.23E-02	2.67E-04	2.53E-04	314.6	1.000	0.937	0.941
204	46.32	1.62	0.18	2.81E+03	1.09E-02	1.03E-02	0.911	1.23E-02	2.62E-04	2.49E-04	315.9	1.000	0.911	0.924
207	46.32	1.61	0.19	2.61E+03	1.05E-02	9.95E-03	0.882	1.23E-02	2.54E-04	2.45E-04	319.1	1.000	0.882	0.897
210	46.32	1.61	0.20	2.41E+03	1.01E-02	9.55E-03	0.853	1.23E-02	2.39E-04	2.26E-04	314.2	1.000	0.853	0.817
213	46.32	1.60	0.21	2.21E+03	9.44E-03	9.25E-03	0.834	1.23E-02	2.39E-04	2.19E-04	315.8	1.000	0.834	0.667
214	46.32	1.60	0.22	2.01E+03	8.75E-03	8.46E-03	0.844	1.23E-02	1.62E-04	1.79E-04	316.2	1.000	0.844	0.577
217	46.32	1.60	0.23	1.81E+03	8.05E-03	7.95E-03	0.819	1.23E-02	1.61E-04	1.54E-04	316.1	1.000	0.819	0.406
218	46.32	1.60	0.24	1.61E+03	7.35E-03	7.25E-03	0.811	1.23E-02	1.61E-04	1.47E-04	316.7	1.000	0.811	0.011
219	46.32	1.60	0.25	1.41E+03	6.65E-03	6.55E-03	0.811	1.23E-02	1.61E-04	1.40E-04	316.7	1.000	0.811	0.011

5.3-242



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

PAGE 100

AMES 1.5 FT HWT TOST (142), G.E. BLUMER, IA-LINE RSI GAP RUNI 90) 1973

T/C	Y	YV	YV	Q	HL	HT	ML/MREFF	MREF	STL	STT	T	MLCC	ML/MLCC	MLCC/MREF	ML/W
	(C)	(C)	(C)	(W/M2)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)		(K)	(K)	(KG/M2-S)			
216	46.32	0.03	1.16	0.36E+03	0.73E-03	0.27E-03	0.01	1.009E-02	2.014E-04	2.302E-04	317.3	0.73E-03	1.000	0.01	0.018
217	46.32	0.03	1.46	0.31E+03	0.09E-03	0.19E-03	0.794	1.009E-02	2.095E-04	1.984E-04	316.3	0.65E-03	1.000	0.794	0.000
218	46.32	0.03	1.88	0.26E+03	0.01E-03	0.21E-03	0.699	1.009E-02	1.937E-04	1.746E-04	315.4	7.61E-03	1.000	0.699	0.711
219	46.32	0.03	1.90	0.10E+03	0.10E-03	0.72E-03	0.651	1.009E-02	1.719E-04	1.620E-04	316.9	7.10E-03	1.000	0.651	0.663
220	46.32	0.00	2.20	0.23E+03	3.02E-03	3.62E-03	0.350	1.009E-02	9.042E-05	0.796E-05	312.9	3.02E-03	1.000	0.350	0.396
306	56.08	0.03	0.25	0.62E+03	2.17E-03	1.36E-03	0.193	1.009E-02	5.010E-05	4.747E-05	311.6	2.07E-03	1.000	0.193	0.193
307	56.08	0.03	0.25	0.18E+03	0.13E-04	4.33E-04	0.048	1.009E-02	1.255E-05	1.109E-05	311.2	5.10E-04	1.000	0.048	0.048
308	56.08	0.03	1.16	0.23E+03	0.09E-03	0.09E-03	0.000	1.009E-02	1.255E-05	1.255E-05	311.2	5.10E-04	1.000	0.000	0.048
309	56.08	0.03	1.46	0.23E+03	0.09E-03	0.09E-03	0.000	1.009E-02	1.255E-05	1.255E-05	311.2	5.10E-04	1.000	0.000	0.048
310	56.08	0.03	1.88	0.23E+03	0.09E-03	0.09E-03	0.000	1.009E-02	1.255E-05	1.255E-05	311.2	5.10E-04	1.000	0.000	0.048
311	56.08	0.03	1.90	0.23E+03	0.09E-03	0.09E-03	0.000	1.009E-02	1.255E-05	1.255E-05	311.2	5.10E-04	1.000	0.000	0.048
312	56.08	0.03	2.20	0.23E+03	0.09E-03	0.09E-03	0.000	1.009E-02	1.255E-05	1.255E-05	311.2	5.10E-04	1.000	0.000	0.048
506	64.10	0.03	0.75	0.07E+03	7.02E-03	7.21E-03	0.759	1.003E-02	1.044E-04	1.747E-04	316.7	7.02E-03	1.000	0.759	0.737
507	64.10	0.03	0.75	0.07E+03	7.02E-03	7.02E-03	0.759	1.003E-02	1.044E-04	1.747E-04	316.7	7.02E-03	1.000	0.759	0.737
508	64.10	0.03	0.75	0.07E+03	7.02E-03	7.02E-03	0.759	1.003E-02	1.044E-04	1.747E-04	316.7	7.02E-03	1.000	0.759	0.737
509	64.10	0.03	0.75	0.07E+03	7.02E-03	7.02E-03	0.759	1.003E-02	1.044E-04	1.747E-04	316.7	7.02E-03	1.000	0.759	0.737
510	64.10	0.03	0.75	0.07E+03	7.02E-03	7.02E-03	0.759	1.003E-02	1.044E-04	1.747E-04	316.7	7.02E-03	1.000	0.759	0.737
511	64.10	0.03	0.75	0.07E+03	7.02E-03	7.02E-03	0.759	1.003E-02	1.044E-04	1.747E-04	316.7	7.02E-03	1.000	0.759	0.737
512	64.10	0.03	0.75	0.07E+03	7.02E-03	7.02E-03	0.759	1.003E-02	1.044E-04	1.747E-04	316.7	7.02E-03	1.000	0.759	0.737
513	64.10	0.03	0.75	0.07E+03	7.02E-03	7.02E-03	0.759	1.003E-02	1.044E-04	1.747E-04	316.7	7.02E-03	1.000	0.759	0.737
514	64.10	0.03	0.75	0.07E+03	7.02E-03	7.02E-03	0.759	1.003E-02	1.044E-04	1.747E-04	316.7	7.02E-03	1.000	0.759	0.737
515	64.10	0.03	0.75	0.07E+03	7.02E-03	7.02E-03	0.759	1.003E-02	1.044E-04	1.747E-04	316.7	7.02E-03	1.000	0.759	0.737
601	46.22	0.03	0.28	0.07E+03	0.07E-03	0.07E-03	0.000	1.003E-02	1.044E-04	1.747E-04	316.7	7.02E-03	1.000	0.000	0.000
602	46.22	0.03	0.46	0.07E+03	0.07E-03	0.07E-03	0.000	1.003E-02	1.044E-04	1.747E-04	316.7	7.02E-03	1.000	0.000	0.000
603	46.22	0.03	0.31	0.07E+03	0.07E-03	0.07E-03	0.000	1.003E-02	1.044E-04	1.747E-04	316.7	7.02E-03	1.000	0.000	0.000
604	46.22	0.03	1.47	0.07E+03	0.07E-03	0.07E-03	0.000	1.003E-02	1.044E-04	1.747E-04	316.7	7.02E-03	1.000	0.000	0.000
605	46.22	0.03	1.99	0.07E+03	0.07E-03	0.07E-03	0.000	1.003E-02	1.044E-04	1.747E-04	316.7	7.02E-03	1.000	0.000	0.000

EDGE HEATING URCN FOR MF

Y	YV	YV	Q	HL	HT	ML/MREFF	MREF
(C)	(C)	(C)	(W/M2)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)	(KG/M2-S)
Y	3.07E+01	0.03	0.25	0.34E+03	0.01E-03	0.01E-03	0.000
Y	4.12E+01	0.03	0.25	0.31E+03	0.01E-03	0.01E-03	0.000
Y	4.37E+01	0.03	0.25	0.31E+03	0.01E-03	0.01E-03	0.000
Y	4.63E+01	0.03	0.25	0.31E+03	0.01E-03	0.01E-03	0.000
Y	4.80E+01	0.03	0.25	0.31E+03	0.01E-03	0.01E-03	0.000

310.10  
309.67  
308.02  
307.24

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**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

48	7.139E+01	ML	/MSEFFS	1.000E+01
49	5.848E+01	ML	/MSEFFS	9.829E-01
50	6.376E+01	ML	/MSEFFS	1.000E+00
51	6.664E+01	ML	/MSEFFS	1.000E+00
52	7.372E+01	ML	/MSEFFS	9.656E-01
53	7.692E+01	ML	/MSEFFS	9.572E-01
54	8.188E+01	ML	/MSEFFS	1.000E+00
55	8.696E+01	ML	/MSEFFS	1.000E+00
56	9.204E+01	ML	/MSEFFS	1.000E+00
57	9.712E+01	ML	/MSEFFS	1.000E+00
58	1.022E+02	ML	/MSEFFS	1.000E+00
59	1.072E+02	ML	/MSEFFS	1.000E+00
60	1.122E+02	ML	/MSEFFS	1.000E+00
61	1.172E+02	ML	/MSEFFS	1.000E+00
62	1.222E+02	ML	/MSEFFS	1.000E+00
63	3.997E+01	ML	/MSEFFS	6.957E-01
64	4.632E+01	ML	/MSEFFS	8.521E-01
65	5.267E+01	ML	/MSEFFS	8.016E-01
66	5.902E+01	ML	/MSEFFS	7.796E-01

P-4. TRANSITION DISTANCE = 30.7 CM  
 FULLY TURBULENT 3-L. CONDITIONS AT 2 61.86 CM



5.3-244



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

REPORT MDC E1248  
JSC 09651

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AMES 3.5 FT HNT TEST (152), C-3, BLUMER, IN-LINE PSI GAP RUN( 31) 1973

TT = 1.1 304714  
 PY = 2033E+6 (W/M2)  
 HT = 1.039E+6 (W/M2)  
 REACTOR = 4.24 3047  
 MACH = 5.190  
 RRC VEL = 3.493 3047 (K/M2-S)  
 HAN/MT = 1.993 FOS HT  
 HAN/MT = 3.974 FOR HT  
 MLCG = MLC2NC, ORJEP COND. 3

T/C	X (CM)	Y (CM)	ZZ (CM)	R (W/M2)	ML (KG/M2-S)	HT (KG/P2-S)	ML/HREF (KG/M2-S)	HREF (KG/M2-S)	STL	STT	T (K)	MLCG (MG/M2-S)	ML/MLCG	MLCG/HREF	ML/HE
1	135.24	-51	1.37	5.45E+04	7.47E+02	7.19E+02	0.86	9.76E-02	5.92E-04	6.361E-04	311.4	1.000	1.000	1.000	1.000
2	132.70	-51	1.37	5.01E+04	7.59E+02	7.19E+02	0.86	6.57E-02	6.97E-04	6.37E-04	311.9	1.000	1.000	1.000	1.000
3	130.16	-51	1.37	4.52E+04	7.71E+02	7.19E+02	0.86	5.78E-02	8.03E-04	6.37E-04	311.9	1.000	1.000	1.000	1.000
4	127.63	-51	1.37	4.03E+04	7.83E+02	7.19E+02	0.86	4.99E-02	9.10E-04	6.37E-04	311.9	1.000	1.000	1.000	1.000
5	125.09	-51	1.37	3.54E+04	7.95E+02	7.19E+02	0.86	4.20E-02	1.02E-03	6.37E-04	311.9	1.000	1.000	1.000	1.000
6	122.56	-51	1.37	3.05E+04	8.07E+02	7.19E+02	0.86	3.41E-02	1.14E-03	6.37E-04	311.9	1.000	1.000	1.000	1.000
7	117.47	-51	1.37	2.07E+04	8.19E+02	7.19E+02	0.86	2.62E-02	1.26E-03	6.37E-04	311.9	1.000	1.000	1.000	1.000
8	112.37	-51	1.37	1.09E+04	8.31E+02	7.19E+02	0.86	1.83E-02	1.38E-03	6.37E-04	311.9	1.000	1.000	1.000	1.000
9	107.27	-51	1.37	0.11E+04	8.43E+02	7.19E+02	0.86	1.04E-02	1.50E-03	6.37E-04	311.9	1.000	1.000	1.000	1.000
10	102.17	-51	1.37	0.12E+04	8.55E+02	7.19E+02	0.86	0.25E-02	1.62E-03	6.37E-04	311.9	1.000	1.000	1.000	1.000
11	97.07	-51	1.37	0.13E+04	8.67E+02	7.19E+02	0.86	0.46E-02	1.74E-03	6.37E-04	311.9	1.000	1.000	1.000	1.000
12	92.04	-51	1.37	0.14E+04	8.79E+02	7.19E+02	0.86	0.67E-02	1.86E-03	6.37E-04	311.9	1.000	1.000	1.000	1.000
13	86.96	-51	1.37	0.15E+04	8.91E+02	7.19E+02	0.86	0.88E-02	1.98E-03	6.37E-04	311.9	1.000	1.000	1.000	1.000
14	81.88	-51	1.37	0.16E+04	9.03E+02	7.19E+02	0.86	1.09E-02	2.10E-03	6.37E-04	311.9	1.000	1.000	1.000	1.000
15	76.80	-51	1.37	0.17E+04	9.15E+02	7.19E+02	0.86	1.30E-02	2.22E-03	6.37E-04	311.9	1.000	1.000	1.000	1.000
103	111.99	1.52	1.37	5.69E+04	7.58E+02	7.46E+02	1.339	5.88E-02	9.31E-04	8.86E-04	316.2	1.000	1.339	1.000	0.96
105	111.79	1.12	1.37	5.25E+04	7.70E+02	7.29E+02	1.379	5.44E-02	9.11E-04	8.62E-04	316.9	1.000	1.379	1.000	0.99
107	111.59	0.71	1.37	4.80E+04	7.82E+02	7.12E+02	1.421	5.00E-02	8.91E-04	8.37E-04	317.6	1.000	1.421	1.000	1.01
109	111.39	0.31	1.37	4.35E+04	7.94E+02	6.94E+02	1.463	4.56E-02	8.71E-04	8.12E-04	318.3	1.000	1.463	1.000	1.03
111	111.19	0.14	1.37	3.90E+04	8.06E+02	6.76E+02	1.505	4.12E-02	8.51E-04	7.87E-04	319.0	1.000	1.505	1.000	1.05
113	111.09	0.04	1.37	3.45E+04	8.18E+02	6.58E+02	1.547	3.68E-02	8.31E-04	7.62E-04	319.7	1.000	1.547	1.000	1.07
115	111.09	0.00	1.37	3.00E+04	8.30E+02	6.40E+02	1.589	3.24E-02	8.11E-04	7.37E-04	320.4	1.000	1.589	1.000	1.09
117	111.09	0.00	1.37	2.55E+04	8.42E+02	6.22E+02	1.631	2.80E-02	7.91E-04	7.12E-04	321.1	1.000	1.631	1.000	1.11
119	111.09	0.00	1.37	2.10E+04	8.54E+02	6.04E+02	1.673	2.36E-02	7.71E-04	6.87E-04	321.8	1.000	1.673	1.000	1.13
121	111.09	0.00	1.37	1.65E+04	8.66E+02	5.86E+02	1.715	1.92E-02	7.51E-04	6.62E-04	322.5	1.000	1.715	1.000	1.15
123	117.64	0.74	1.37	5.27E+04	7.29E+02	6.93E+02	1.032	7.64E-02	9.61E-04	8.16E-04	316.4	1.000	1.032	1.000	0.79
125	117.64	0.51	1.37	4.82E+04	7.41E+02	6.75E+02	1.074	7.20E-02	8.67E-04	8.16E-04	316.4	1.000	1.074	1.000	0.83
127	117.64	0.28	1.37	4.37E+04	7.53E+02	6.57E+02	1.116	6.76E-02	7.73E-04	8.16E-04	316.4	1.000	1.116	1.000	0.87
129	117.64	0.05	1.37	3.92E+04	7.65E+02	6.39E+02	1.158	6.32E-02	6.79E-04	8.16E-04	316.4	1.000	1.158	1.000	0.91
131	117.64	0.00	1.37	3.47E+04	7.77E+02	6.21E+02	1.200	5.88E-02	5.85E-04	8.16E-04	316.4	1.000	1.200	1.000	0.95
133	117.64	0.00	1.37	3.02E+04	7.89E+02	6.03E+02	1.242	5.44E-02	4.91E-04	8.16E-04	316.4	1.000	1.242	1.000	0.99
135	117.64	0.00	1.37	2.57E+04	8.01E+02	5.85E+02	1.284	5.00E-02	3.97E-04	8.16E-04	316.4	1.000	1.284	1.000	1.03
137	117.64	0.00	1.37	2.12E+04	8.13E+02	5.67E+02	1.326	4.56E-02	3.03E-04	8.16E-04	316.4	1.000	1.326	1.000	1.07
139	117.64	0.00	1.37	1.67E+04	8.25E+02	5.49E+02	1.368	4.12E-02	2.09E-04	8.16E-04	316.4	1.000	1.368	1.000	1.11
141	117.64	0.00	1.37	1.22E+04	8.37E+02	5.31E+02	1.410	3.68E-02	1.15E-04	8.16E-04	316.4	1.000	1.410	1.000	1.15
143	117.64	0.00	1.37	0.77E+04	8.49E+02	5.13E+02	1.452	3.24E-02	0.21E-04	8.16E-04	316.4	1.000	1.452	1.000	1.19
145	117.64	0.00	1.37	0.32E+04	8.61E+02	4.95E+02	1.494	2.80E-02	0.27E-04	8.16E-04	316.4	1.000	1.494	1.000	1.23
147	117.64	0.00	1.37	0.17E+04	8.73E+02	4.77E+02	1.536	2.36E-02	0.33E-04	8.16E-04	316.4	1.000	1.536	1.000	1.27
149	117.64	0.00	1.37	0.12E+04	8.85E+02	4.59E+02	1.578	1.92E-02	0.39E-04	8.16E-04	316.4	1.000	1.578	1.000	1.31
151	117.64	0.00	1.37	0.07E+04	8.97E+02	4.41E+02	1.620	1.48E-02	0.45E-04	8.16E-04	316.4	1.000	1.620	1.000	1.35
153	117.64	0.00	1.37	0.02E+04	9.09E+02	4.23E+02	1.662	1.04E-02	0.51E-04	8.16E-04	316.4	1.000	1.662	1.000	1.39
155	117.64	0.00	1.37	0.00E+04	9.21E+02	4.05E+02	1.704	0.60E-02	0.57E-04	8.16E-04	316.4	1.000	1.704	1.000	1.43
157	117.64	0.00	1.37	0.00E+04	9.33E+02	3.87E+02	1.746	0.16E-02	0.63E-04	8.16E-04	316.4	1.000	1.746	1.000	1.47
159	117.64	0.00	1.37	0.00E+04	9.45E+02	3.69E+02	1.788	0.72E-02	0.69E-04	8.16E-04	316.4	1.000	1.788	1.000	1.51
161	117.64	0.00	1.37	0.00E+04	9.57E+02	3.51E+02	1.830	0.28E-02	0.75E-04	8.16E-04	316.4	1.000	1.830	1.000	1.55
163	117.64	0.00	1.37	0.00E+04	9.69E+02	3.33E+02	1.872	0.84E-02	0.81E-04	8.16E-04	316.4	1.000	1.872	1.000	1.59
165	117.64	0.00	1.37	0.00E+04	9.81E+02	3.15E+02	1.914	0.40E-02	0.87E-04	8.16E-04	316.4	1.000	1.914	1.000	1.63
167	117.64	0.00	1.37	0.00E+04	9.93E+02	2.97E+02	1.956	0.96E-02	0.93E-04	8.16E-04	316.4	1.000	1.956	1.000	1.67
169	117.64	0.00	1.37	0.00E+04	1.005E+03	2.79E+02	1.998	0.52E-02	0.99E-04	8.16E-04	316.4	1.000	1.998	1.000	1.71
171	117.64	0.00	1.37	0.00E+04	1.017E+03	2.61E+02	2.040	0.08E-02	1.05E-04	8.16E-04	316.4	1.000	2.040	1.000	1.75
173	117.64	0.00	1.37	0.00E+04	1.029E+03	2.43E+02	2.082	0.64E-02	1.11E-04	8.16E-04	316.4	1.000	2.082	1.000	1.79
175	117.64	0.00	1.37	0.00E+04	1.041E+03	2.25E+02	2.124	0.20E-02	1.17E-04	8.16E-04	316.4	1.000	2.124	1.000	1.83
177	117.64	0.00	1.37	0.00E+04	1.053E+03	2.07E+02	2.166	0.76E-02	1.23E-04	8.16E-04	316.4	1.000	2.166	1.000	1.87
179	117.64	0.00	1.37	0.00E+04	1.065E+03	1.89E+02	2.208	0.32E-02	1.29E-04	8.16E-04	316.4	1.000	2.208	1.000	1.91
181	117.64	0.00	1.37	0.00E+04	1.077E+03	1.71E+02	2.250	0.88E-02	1.35E-04	8.16E-04	316.4	1.000	2.250	1.000	1.95
183	117.64	0.00	1.37	0.00E+04	1.089E+03	1.53E+02	2.292	0.44E-02	1.41E-04	8.16E-04	316.4	1.000	2.292	1.000	1.99
185	117.64	0.00	1.37	0.00E+04	1.101E+03	1.35E+02	2.334	0.00E-02	1.47E-04	8.16E-04	316.4	1.000	2.334	1.000	2.03
187	117.64	0.00	1.37	0.00E+04	1.113E+03	1.17E+02	2.376	0.56E-02	1.53E-04	8.16E-04	316.4	1.000	2.376	1.000	2.07
189	117.64	0.00	1.37	0.00E+04	1.125E+03	9.9E+01	2.418	0.12E-02	1.59E-04	8.16E-04	316.4	1.000	2.418	1.000	2.11
191	117.64	0.00	1.37	0.00E+04	1.137E+03	8.1E+01	2.460	0.68E-02	1.65E-04	8.16E-04	316.4	1.000	2.460	1.000	2.15
193	117.64	0.00	1.37	0.00E+04	1.149E+03	6.3E+01	2.502	0.24E-02	1.71E-04	8.16E-04	316.4	1.000	2.502	1.000	2.19
195	117.64	0.00	1.37	0.00E+04	1.161E+03	4.5E+01	2.544	0.80E-02	1.77E-04	8.16E-04	316.4	1.000	2.544	1.000	2.23
197	117.64	0.00	1.37	0.00E+04	1.173E+03	2.7E+01	2.586	0.36E-02	1.83E-04	8.16E-04	316.4	1.000	2.586	1.000	2.27
199	117.64	0.00	1.37	0.00E+04	1.185E+03	9E+00	2.628	0.92E-02	1.89E-04	8.16E-04	316.4	1.000	2.628	1.000	2.31
201	117.64	0.00	1.37	0.00E+04	1.197E+03	0.00E+00	2.670	0.48E-02	1.95E-04	8.16E-04	316.4	1.000	2.670	1.000	2.35
203	117.64	0.00	1.37	0.00E+04	1.209E+03	0.00E+00	2.712	0.04E-02							



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 39651

PAGE 182

AMES 305 FT. HWY TEST (1-22), ... BLUMER, IN-LINE RSI GAP FUR ( 31) 1973

T/C	Y (CM)	WY (CM)	ZZ (CM)	Q (CM/2)	HL (KG/M2-S)	HT (KG/M2-S)	HL/MRFF (KG/M2-S)	HREF (KG/M2-S)	STL	STT	T (C)	HLCC (K/M2-S)	HL/MRFF	MLCC/MREF	ML/MHE
476	127.60	476	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
477	127.60	477	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
478	127.60	478	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
479	127.60	479	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
480	127.60	480	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
481	127.60	481	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
482	127.60	482	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
483	127.60	483	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
484	127.60	484	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
485	127.60	485	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
486	127.60	486	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
487	127.60	487	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
488	127.60	488	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
489	127.60	489	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
490	127.60	490	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
491	127.60	491	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
492	127.60	492	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
493	127.60	493	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
494	127.60	494	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
495	127.60	495	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
496	127.60	496	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
497	127.60	497	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
498	127.60	498	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
499	127.60	499	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500	127.60	500	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
501	127.60	501	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
502	127.60	502	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
503	127.60	503	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
504	127.60	504	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
505	127.60	505	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
506	127.60	506	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
507	127.60	507	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
508	127.60	508	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
509	127.60	509	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
510	127.60	510	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
511	127.60	511	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
512	127.60	512	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
513	127.60	513	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
514	127.60	514	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
515	127.60	515	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
516	127.60	516	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
517	127.60	517	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
518	127.60	518	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
519	127.60	519	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	127.60	520	127.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
671	119.74	671	119.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
672	119.74	672	119.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
673	119.74	673	119.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
674	119.74	674	119.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
675	119.74	675	119.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

EDGE HEATING USED FOR HL  
 X# 7.487E+01 HL /HREFEF 1.172E+02  
 X# 0.219E+01 HL /HREFEF 1.258E+02  
 X# 8.659E+01 HL /HREFEF 1.432E+02  
 X# 9.274E+01 HL /HREFEF 1.767E+02  
 X# 9.712E+01 HL /HREFEF 1.896E+02  
 X# 1.122E+02 HL /HREFEF 1.772E+02  
 X# 1.171E+02 HL /HREFEF 1.678E+02  
 X# 1.124E+02 HL /HREFEF 1.385E+02  
 X# 1.171E+02 HL /HREFEF 1.413E+02  
 X# 1.224E+02 HL /HREFEF 1.452E+02  
 X# 1.251E+02 HL /HREFEF 1.922E+02  
 X# 1.275E+02 HL /HREFEF 9.518E+01  
 X# 1.373E+02 HL /HREFEF 8.629E+01  
 X# 1.332E+02 HL /HREFEF 8.852E+01  
 X# 1.372E+02 HL /HREFEF 8.611E+01

2-ALL TRANSITION DISTANCE = 38.47 CM  
 FULLY TURBULENT 0.11 CONDITIONS AT R = 97.12 CM



RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09451

PAGE 183

ORIGINAL PAGE  
OF POOR QUALITY

AMES 3.5 FT HWT TEST (182), C-3, BLUMER, IN-LINE RSI GAP FUN ( 32) 1973

TT = 1.109E+04 (TK)  
PT = 2.135E+07 (N/M<sup>2</sup>)  
HT = 1.213E+06 (L/KG)  
RE/MFTER = 6.4739EFC  
MACH = 5.197  
QHO VEL = 5.352E+03 (KG/M<sup>2</sup>-S)  
MAN/MT = 1.9E+ FOR MT  
MLCC = ML12ND, DRUPEP (CONDU...)

T/C	X (CM)	YV (CM)	ZZ (CM)	G (M/M <sup>2</sup> )	ML (KG/M <sup>2</sup> -S)	MT (KG/MP <sup>2</sup> -S)	ML/MREF	MREF (KG/M <sup>2</sup> -S)	STL	STT	T (K)	MLCC (KG/M <sup>2</sup> -S)	ML/MLCC	MLCC/MREF	ML/ME
1	137.24	-51	0.00	5.47E+04	7.32E-02	5.93E-02	0.856	6.14E-02	9.74E-04	8.37E-04	319.7	7.74E-02	1.000	1.000	1.000
2	137.20	-51	0.00	5.61E+04	7.58E-02	7.11E-02	0.913	6.31E-02	8.98E-04	8.50E-04	319.1	8.91E-02	1.000	1.000	1.000
3	138.16	-51	0.00	5.85E+04	7.94E-02	7.41E-02	0.928	6.47E-02	9.27E-04	8.59E-04	319.1	9.27E-02	1.000	1.000	1.000
4	127.63	-51	0.00	5.76E+04	7.72E-02	7.31E-02	0.905	6.33E-02	9.23E-04	8.59E-04	319.1	9.23E-02	1.000	1.000	1.000
5	125.09	-51	0.00	5.63E+04	7.54E-02	7.15E-02	0.943	6.59E-02	9.03E-04	8.58E-04	319.2	9.03E-02	1.000	1.000	1.000
6	122.86	-51	0.00	5.62E+04	7.22E-02	7.11E-02	1.022	7.35E-02	8.02E-04	8.53E-04	319.1	8.02E-02	1.000	1.000	1.000
7	117.44	-51	0.00	5.67E+04	7.81E-02	7.11E-02	1.111	8.75E-02	6.99E-04	8.51E-04	319.5	6.99E-02	1.000	1.000	1.000
8	112.97	-51	0.00	5.48E+04	7.37E-02	6.98E-02	1.251	8.89E-02	6.02E-04	8.35E-04	316.0	6.02E-02	1.000	1.000	1.000
9	107.31	-51	0.00	5.35E+04	6.94E-02	6.15E-02	1.339	8.24E-02	5.24E-04	7.36E-04	314.7	5.24E-02	1.000	1.000	1.000
10	102.27	-51	0.00	4.82E+04	5.94E-02	5.74E-02	1.844	6.91E-02	4.27E-04	6.80E-04	314.1	4.27E-02	1.000	1.000	1.000
11	97.12	-51	0.00	3.94E+04	4.61E-02	4.37E-02	1.455	5.16E-02	3.16E-04	5.23E-04	314.6	3.16E-02	1.000	1.000	1.000
12	92.84	-51	0.00	2.48E+04	3.24E-02	3.07E-02	1.270	3.05E-02	2.03E-04	3.67E-04	319.5	2.03E-02	1.000	1.000	1.000
13	86.86	-51	0.00	1.78E+04	2.24E-02	2.16E-02	1.003	2.10E-02	1.33E-04	2.50E-04	319.7	1.33E-02	1.000	1.000	1.000
14	81.88	-51	0.00	1.26E+04	1.69E-02	1.58E-02	0.974	1.73E-02	2.01E-04	1.91E-04	316.6	1.91E-02	1.000	1.000	1.000
15	76.80	-51	0.00	1.07E+04	1.35E-02	1.20E-02	0.977	1.53E-02	1.61E-04	1.52E-04	316.4	1.52E-02	1.000	1.000	1.000
133	111.09	1.82	0.00	5.98E+04	7.38E-02	6.99E-02	1.331	8.63E-02	6.87E-04	8.37E-04	319.7	7.38E-02	1.000	1.000	1.000
135	111.09	1.82	0.00	5.82E+04	7.45E-02	7.36E-02	1.323	8.35E-02	6.92E-04	8.45E-04	320.9	7.45E-02	1.000	1.000	1.000
187	111.09	1.81	0.00	6.98E+04	8.97E-02	8.55E-02	1.432	9.63E-02	8.64E-04	9.18E-04	320.4	8.97E-02	1.000	1.000	1.000
188	111.09	1.81	0.00	6.42E+04	8.65E-02	8.19E-02	1.535	8.13E-02	1.03E-03	9.81E-04	319.4	8.65E-02	1.000	1.000	1.000
189	111.09	1.81	0.00	7.77E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
190	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
191	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
192	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
193	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
194	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
195	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
196	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
197	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
198	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
199	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
200	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
201	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
202	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
203	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
204	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
205	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
206	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
207	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
208	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
209	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
210	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
211	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
212	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
213	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
214	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
215	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
216	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
217	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
218	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
219	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
220	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
221	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
222	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
223	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
224	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
225	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
226	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
227	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
228	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
229	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
230	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
231	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
232	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
233	111.09	1.81	0.00	7.65E+04	9.73E-02	9.32E-02	1.372	9.31E-02	9.21E-04	9.77E-04	317.9	9.73E-02	1.000	1.000	1.000
234	111.														





# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 104

AMES 1.5 FT HWY TEST (182), C.B. BLUMER, IN-LINE RSI GAP RUN ( 32) 1973

T/C	X (CM)	Y (CM)	Z (CM)	Q (W/IN)	ML (KG/M <sup>2</sup> -S)	HT (KG/M <sup>2</sup> -S)	HL/HREF (KG/M <sup>2</sup> -S)	HREF (KG/M <sup>2</sup> -S)	STL	STT	T (K)	MLCC (KG/M <sup>2</sup> -S)	MLCC/HREF	ML/ME
400	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.75	1.00E+02	8.182E-04	7.750E-04	313.1	6.03E-02	1.000	0.803
401	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.87	1.00E+02	8.437E-04	7.998E-04	316.0	7.05E-02	1.000	0.911
402	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.91	1.00E+02	9.011E-04	8.577E-04	318.4	7.52E-02	1.000	0.972
403	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.94	1.00E+02	9.545E-04	9.090E-04	321.9	7.40E-02	1.000	0.954
404	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.82	1.00E+02	8.281E-04	7.840E-04	311.6	6.91E-02	1.000	0.882
405	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.78	1.00E+02	7.447E-04	7.000E-04	311.5	6.24E-02	1.000	0.804
406	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.84	1.00E+02	7.641E-04	7.180E-04	313.7	6.42E-02	1.000	0.872
407	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.93	1.00E+02	7.641E-04	7.498E-04	309.9	3.80E-02	1.000	0.399
408	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	1.17	1.00E+02	1.559E-04	1.573E-04	328.4	1.39E-02	1.000	0.179
409	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.96	1.00E+02	9.217E-04	8.546E-04	307.1	7.35E-03	1.000	0.097
410	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.94	1.00E+02	9.217E-04	8.946E-04	305.5	7.45E-03	1.000	0.086
411	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.90	1.00E+02	8.281E-04	7.685E-04	303.9	2.16E-03	1.000	0.031
412	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.71	1.00E+02	5.545E-04	1.449E-04	324.2	1.25E-03	1.000	0.016
413	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.00	1.00E+02	7.326E-04	6.943E-04	324.9	6.12E-04	1.000	0.000
414	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.72	1.00E+02	7.925E-04	7.508E-04	314.3	6.62E-02	1.000	0.902
415	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.83	1.00E+02	8.598E-04	8.170E-04	317.0	4.80E-02	1.000	0.677
416	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.83	1.00E+02	8.598E-04	8.372E-04	313.8	2.25E-02	1.000	0.263
417	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.77	1.00E+02	7.693E-04	7.270E-04	306.7	1.39E-02	1.000	0.197
418	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.78	1.00E+02	7.693E-04	7.352E-04	305.9	9.42E-03	1.000	0.110
419	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.78	1.00E+02	7.693E-04	7.352E-04	305.7	4.10E-03	1.000	0.076
420	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.49	1.00E+02	5.368E-04	4.888E-04	305.5	4.23E-03	1.000	0.049
421	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.34	1.00E+02	1.511E-04	1.328E-04	325.6	2.93E-03	1.000	0.034
422	127.50	0.75	0.00	1.00	1.00E+02	1.00E+02	0.13	1.00E+02	1.344E-04	1.298E-04	325.2	1.16E-03	1.900	0.013
501	119.34	0.00	0.00	1.00	1.00E+02	1.00E+02	0.72	1.00E+02	7.925E-04	7.508E-04	314.3	6.62E-02	1.000	0.902
502	119.34	0.00	0.00	1.00	1.00E+02	1.00E+02	0.83	1.00E+02	8.598E-04	8.170E-04	317.0	4.80E-02	1.000	0.677
503	119.34	0.00	0.00	1.00	1.00E+02	1.00E+02	0.83	1.00E+02	8.598E-04	8.372E-04	313.8	2.25E-02	1.000	0.263
504	119.34	0.00	0.00	1.00	1.00E+02	1.00E+02	0.77	1.00E+02	7.693E-04	7.270E-04	306.7	1.39E-02	1.000	0.197
505	119.34	0.00	0.00	1.00	1.00E+02	1.00E+02	0.78	1.00E+02	7.693E-04	7.352E-04	305.9	9.42E-03	1.000	0.110
506	119.34	0.00	0.00	1.00	1.00E+02	1.00E+02	0.78	1.00E+02	7.693E-04	7.352E-04	305.7	4.10E-03	1.000	0.076
507	119.34	0.00	0.00	1.00	1.00E+02	1.00E+02	0.49	1.00E+02	5.368E-04	4.888E-04	305.5	4.23E-03	1.000	0.049
508	119.34	0.00	0.00	1.00	1.00E+02	1.00E+02	0.34	1.00E+02	1.511E-04	1.328E-04	325.6	2.93E-03	1.000	0.034
509	119.34	0.00	0.00	1.00	1.00E+02	1.00E+02	0.13	1.00E+02	1.344E-04	1.298E-04	325.2	1.16E-03	1.900	0.013

EDGE HEATING USED FOR ME

X 7.64E+01 ML /HREF 8.637E-01  
 Y 8.10E+01 ML /HREF 9.742E-01  
 Z 8.63E+01 ML /HREF 1.143E+01  
 X 9.27E+01 ML /HREF 2.27E+01  
 Y 9.71E+01 ML /HREF 1.46E+01  
 Z 1.02E+01 ML /HREF 1.74E+01  
 X 1.07E+01 ML /HREF 1.37E+01  
 Y 1.12E+01 ML /HREF 1.25E+01  
 Z 1.17E+01 ML /HREF 1.21E+01  
 X 1.22E+01 ML /HREF 1.62E+01  
 Y 1.27E+01 ML /HREF 6.84E+01  
 Z 1.32E+01 ML /HREF 9.24E+01  
 X 1.37E+01 ML /HREF 8.03E+01  
 Y 1.42E+01 ML /HREF 8.10E+01  
 Z 1.47E+01 ML /HREF 8.17E+01

FULLY TRANSPARENT DISTANCE  
 FULLY TRANSPARENT ALL POINTS TO BE AT 1.000



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

PAGE 185

AMES 3.6 FT HWT TEST (1F2), G.P.R. BLUMER, IN-LINE RSI GAP RUN (93) 1373

TT = 1.1157E+11(K)  
 PY = 2.1721E+08(N/M2)  
 HT = 1.1626E+03(L/KG)  
 WF/METER = 4.4526E+04  
 MACH = 5.110  
 GHO VEL = 3.2533E+11(KG/M2-S)  
 HAM/HT = 9.97E FOR HT  
 HAM/HT = 0.87E FOR ML  
 MLCC = ML(CNC. OFCZ: COMD.)\*

T/C	X (CM)	Y (CM)	Z (CM)	G (N/M2)	ML (KG/M2-S)	HT (KG/M2-S)	ML/NREF	MREF (KG/M2-S)	STL	STT	T (K)	MLCC (KG/M2-S)	ML/MLCC	MLCC/MREF	ML/MH
1	135.24	-51	0.00	5.23E+04	7.74E-02	6.94E-02	0.25	6.88E-02	0.623E-04	0.165E-04	310.6	0.165E-04	1.000	1.000	1.000
2	132.77	-51	0.00	5.24E+04	7.35E-02	6.96E-02	0.49	6.65E-02	0.641E-04	0.168E-04	310.6	0.168E-04	1.000	1.000	1.000
3	132.16	-51	0.00	5.23E+04	7.33E-02	5.94E-02	0.71	6.42E-02	0.623E-04	0.163E-04	310.4	0.163E-04	1.000	1.000	1.000
4	127.53	-51	0.00	5.41E+04	7.59E-02	7.13E-02	0.92	7.19E-02	0.927E-04	0.444E-04	314.4	0.444E-04	1.000	1.000	1.000
5	125.09	-51	0.00	5.39E+04	7.65E-02	7.16E-02	0.96	7.95E-02	0.891E-04	0.416E-04	318.5	0.416E-04	1.000	1.000	1.000
6	122.56	-51	0.00	5.45E+04	7.65E-02	7.24E-02	0.90	7.27E-02	0.991E-04	0.518E-04	318.2	0.518E-04	1.000	1.000	1.000
7	117.67	-51	0.00	5.45E+04	7.79E-02	7.37E-02	1.03	7.12E-02	9.157E-04	0.668E-04	318.4	0.668E-04	1.000	1.000	1.000
8	112.37	-51	0.00	5.40E+04	7.50E-02	7.17E-02	1.217	6.22E-02	8.907E-04	0.432E-04	318.9	0.432E-04	1.000	1.000	1.000
9	117.31	-51	0.00	5.12E+04	7.16E-02	6.78E-02	1.339	5.12E-02	9.423E-04	7.94E-04	316.8	7.94E-04	1.000	1.000	1.000
10	117.20	-51	0.00	5.35E+04	7.41E-02	6.82E-02	1.792	4.13E-02	8.713E-04	6.251E-04	319.3	6.251E-04	1.000	1.000	1.000
11	97.12	-51	0.00	4.75E+04	6.63E-02	6.20E-02	1.943	3.34E-02	7.794E-04	7.388E-04	315.6	7.388E-04	1.000	1.000	1.000
12	92.14	-51	0.00	3.97E+04	4.82E-02	4.56E-02	1.794	2.64E-02	5.623E-04	5.367E-04	316.0	5.367E-04	1.000	1.000	1.000
13	81.96	-51	0.00	1.04E+04	2.74E-02	2.65E-02	1.243	2.20E-02	3.244E-04	3.453E-04	316.6	3.453E-04	1.000	1.000	1.000
14	81.08	-51	0.00	1.027E+04	1.78E-02	1.59E-02	0.987	1.89E-02	2.893E-04	1.981E-04	317.2	1.981E-04	1.000	1.000	1.000
15	76.80	-51	0.00	9.05E+03	1.74E-02	1.59E-02	0.859	1.59E-02	2.571E-04	1.487E-04	317.2	1.487E-04	1.000	1.000	1.000
103	111.79	1.32	0.00	5.43E+04	7.65E-02	7.24E-02	1.284	5.96E-02	8.936E-04	8.514E-04	321.6	7.65E-02	1.000	1.284	1.016
105	111.75	1.32	0.00	5.43E+04	7.67E-02	7.25E-02	1.287	5.61E-02	9.201E-04	8.536E-04	322.4	7.67E-02	1.000	1.287	1.019
107	111.70	1.31	0.00	5.40E+04	8.19E-02	7.75E-02	1.373	5.98E-02	9.685E-04	9.109E-04	322.7	8.19E-02	1.000	1.373	1.007
108	111.69	1.29	0.00	5.67E+04	7.99E-02	7.96E-02	1.341	5.98E-02	9.396E-04	8.893E-04	321.8	7.99E-02	1.000	1.341	1.001
116	111.79	1.34	0.00	5.02E+04	5.30E-02	5.22E-02	1.057	5.95E-02	7.479E-04	7.079E-04	323.5	5.30E-02	1.000	1.057	0.845
111	111.70	1.31	0.00	5.45E+04	7.42E-02	6.13E-02	0.91	5.51E-02	6.376E-04	6.035E-04	320.1	5.42E-02	1.000	0.91	0.729
112	111.19	1.00	0.00	2.65E+04	3.98E-02	3.77E-02	0.60	4.91E-02	4.682E-04	4.432E-04	318.9	3.98E-02	1.000	0.60	0.529
113	111.70	1.31	0.00	5.25E+04	2.59E-02	2.46E-02	0.435	3.38E-02	3.333E-04	2.587E-04	318.1	2.59E-02	1.000	0.435	0.345
114	111.79	1.31	0.00	5.24E+04	4.79E-03	5.32E-03	0.157	5.51E-02	1.374E-04	9.796E-05	315.2	4.79E-03	1.000	0.157	0.117
115	111.79	1.31	0.00	1.62E+03	2.12E-03	2.31E-03	0.236	5.96E-02	2.432E-05	2.368E-05	314.8	2.12E-03	1.000	0.236	0.228
106	117.64	1.31	0.00	5.25E+04	7.18E-02	6.99E-02	1.172	7.15E-02	8.632E-04	8.218E-04	313.9	7.18E-02	1.000	1.172	0.944
107	117.64	1.31	0.00	5.16E+04	7.33E-02	7.57E-02	1.173	7.18E-02	9.437E-04	8.933E-04	319.2	7.33E-02	1.000	1.173	1.027
109	117.64	1.31	0.00	5.25E+04	7.22E-02	7.14E-02	1.074	7.14E-02	9.511E-04	9.403E-04	318.5	7.22E-02	1.000	1.074	0.976
111	117.64	1.31	0.00	5.21E+04	7.31E-02	6.92E-02	1.024	7.14E-02	8.933E-04	8.135E-04	318.5	7.31E-02	1.000	1.024	0.936
112	117.64	1.31	0.00	3.75E+04	5.22E-02	4.94E-02	0.731	7.13E-02	6.137E-04	5.807E-04	316.8	5.22E-02	1.000	0.731	0.660
113	117.64	1.31	0.00	3.84E+04	4.99E-02	4.77E-02	0.598	7.13E-02	4.684E-04	4.435E-04	315.7	4.99E-02	1.000	0.598	0.514
114	117.64	1.31	0.00	5.01E+04	2.15E-02	2.44E-02	0.32	7.13E-02	2.573E-04	2.433E-04	314.7	2.15E-02	1.000	0.32	0.276
115	117.64	1.31	0.00	5.16E+04	1.12E-02	1.16E-02	0.16	7.13E-02	1.313E-04	1.243E-04	313.4	1.12E-02	1.000	0.16	0.143
116	117.64	1.31	0.00	4.76E+04	5.19E-03	5.77E-03	0.41	7.13E-02	7.179E-05	6.779E-05	312.6	5.19E-03	1.000	0.41	0.37
117	117.64	1.31	0.00	4.12E+04	1.64E-03	1.58E-03	0.33	7.13E-02	3.574E-05	3.405E-05	311.7	1.64E-03	1.000	0.33	0.313
118	117.64	1.31	0.00	4.12E+04	1.64E-03	1.58E-03	0.33	7.13E-02	1.925E-05	1.825E-05	311.5	1.64E-03	1.000	0.33	0.313
119	117.64	1.31	0.00	3.61E+02	1.22E-03	1.16E-03	0.15	7.13E-02	1.388E-05	1.302E-05	311.1	1.22E-03	1.000	0.15	0.117
120	117.64	1.31	0.00	3.64E+02	1.10E-03	1.04E-03	0.15	7.13E-02	1.273E-05	1.228E-05	311.7	1.10E-03	1.000	0.15	0.114

5.3-249



# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09631

PAGE 186

SMES 3.6 FT HWT TEST (182), C-3, BLUME, In-LINE RSI GAP RUA ( 33) 1973

T/C	X (CM)	Y (CM)	ZZ (CM)	G (W/M <sup>2</sup> )	ML (KG/M <sup>2</sup> -S)	MT (KG/M <sup>2</sup> -S)	ML/MREFF	MREF (K <sup>1/2</sup> /M <sup>2</sup> -S)	STL	STT	T (K)	HLCC (KG/M <sup>2</sup> -S)	ML/MLCC	MLCC/MREF	ML/ME
486	127.60	74	1.00	1.59E+04	5.44E+02	5.47E+02	.872	8.221E+02	8.179E+04	7.612E+04	315.2	6.044E-02	1.000	.632	.888
487	127.60	51	1.00	5.22E+04	7.33E+02	6.94E+02	.892	8.214E+02	8.617E+04	8.157E+04	316.6	7.33E-02	1.000	.892	.963
488	127.60	25	1.00	6.40E+04	8.65E+02	8.56E+02	1.104	8.205E+02	1.050E+05	1.000E+05	317.1	9.16E-02	1.000	1.104	1.191
489	127.60	15	1.00	7.08E+04	9.90E+02	9.37E+02	1.214	8.206E+02	1.164E+05	1.102E+05	314.7	9.30E-02	1.000	1.204	1.382
410	127.60	14	1.00	8.95E+04	9.73E+02	9.81E+02	1.186	8.203E+02	1.144E+05	1.083E+05	314.5	9.73E-02	1.000	1.186	1.288
411	127.60	11	1.00	9.15E+04	7.19E+02	7.19E+02	1.121	8.202E+02	1.091E+05	1.023E+05	314.3	9.19E-02	1.000	1.121	1.218
412	127.60	10	1.00	9.15E+04	7.19E+02	6.77E+02	.872	8.202E+02	8.413E+04	7.965E+04	313.6	7.19E-02	1.000	.872	.941
413	127.60	10	1.00	9.15E+04	7.19E+02	6.77E+02	.872	8.202E+02	8.413E+04	7.965E+04	313.6	7.19E-02	1.000	.872	.941
414	127.60	10	1.00	9.15E+04	7.19E+02	6.77E+02	.872	8.202E+02	8.413E+04	7.965E+04	313.6	7.19E-02	1.000	.872	.941
415	127.60	10	1.00	9.15E+04	7.19E+02	6.77E+02	.872	8.202E+02	8.413E+04	7.965E+04	313.6	7.19E-02	1.000	.872	.941
416	127.60	10	1.00	9.15E+04	7.19E+02	6.77E+02	.872	8.202E+02	8.413E+04	7.965E+04	313.6	7.19E-02	1.000	.872	.941
417	127.60	10	1.00	9.15E+04	7.19E+02	6.77E+02	.872	8.202E+02	8.413E+04	7.965E+04	313.6	7.19E-02	1.000	.872	.941
418	127.60	10	1.00	9.15E+04	7.19E+02	6.77E+02	.872	8.202E+02	8.413E+04	7.965E+04	313.6	7.19E-02	1.000	.872	.941
419	127.60	10	1.00	9.15E+04	7.19E+02	6.77E+02	.872	8.202E+02	8.413E+04	7.965E+04	313.6	7.19E-02	1.000	.872	.941
420	127.60	10	1.00	9.15E+04	7.19E+02	6.77E+02	.872	8.202E+02	8.413E+04	7.965E+04	313.6	7.19E-02	1.000	.872	.941
506	135.22	75	1.00	4.54E+04	3.36E+02	6.12E+02	.714	8.091E+02	7.479E+04	7.881E+04	316.8	6.36E-02	1.000	.714	.865
507	135.22	51	1.00	3.1E+04	1.11E+02	5.78E+02	.636	8.050E+02	7.197E+04	6.793E+04	316.3	6.11E-02	1.000	.636	.831
508	135.22	25	1.00	4.05E+04	5.55E+02	6.21E+02	.737	8.001E+02	7.719E+04	7.304E+04	316.2	6.56E-02	1.000	.737	.893
509	135.22	15	1.00	4.82E+04	5.73E+02	6.17E+02	.756	8.049E+02	7.912E+04	7.592E+04	315.4	6.73E-02	1.000	.756	.916
510	135.22	14	1.00	4.82E+04	5.47E+02	6.12E+02	.727	8.097E+02	7.675E+04	7.261E+04	315.0	6.47E-02	1.000	.727	.881
511	135.22	11	1.00	4.82E+04	4.29E+02	5.77E+02	.597	8.096E+02	7.236E+04	6.899E+04	314.8	6.20E-02	1.000	.597	.844
512	135.22	10	1.00	4.82E+04	4.08E+02	5.61E+02	.571	8.096E+02	5.967E+04	5.651E+04	311.7	5.07E-02	1.000	.571	.811
513	135.22	10	1.00	4.82E+04	3.92E+02	3.72E+02	.441	8.096E+02	4.612E+04	4.369E+04	319.5	3.92E-02	1.000	.441	.534
514	135.22	10	1.00	4.82E+04	3.52E+02	2.79E+02	.293	8.096E+02	2.962E+04	2.807E+04	306.8	2.52E-02	1.000	.293	.363
515	135.22	10	1.00	4.82E+04	2.26E+02	2.12E+02	.252	8.096E+02	2.633E+04	2.495E+04	309.7	2.26E-02	1.000	.252	.309
516	135.22	10	1.00	4.82E+04	1.94E+02	1.83E+02	.218	8.096E+02	2.277E+04	2.157E+04	319.0	1.94E-02	1.000	.218	.269
517	135.22	10	1.00	4.82E+04	1.42E+02	1.93E+02	.142	8.096E+02	1.697E+04	1.670E+04	318.9	1.42E-02	1.000	.142	.179
518	135.22	10	1.00	4.82E+04	1.29E+02	1.29E+02	.145	8.096E+02	1.514E+04	1.434E+04	308.5	1.29E-02	1.000	.145	.175
519	135.22	10	1.00	4.82E+04	1.01E+02	9.66E+01	.114	8.096E+02	1.191E+04	1.129E+04	308.5	1.01E-02	1.000	.114	.148
520	135.22	10	1.00	4.82E+04	1.37E+01	4.37E+01	.072	8.096E+02	7.605E+03	7.092E+03	308.8	6.37E-03	1.000	.072	.087
601	119.74	100	1.00	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	312.14	1.00E-01	1.000	1.00E+01	1.00E+01
602	119.74	100	1.00	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	309.78	1.00E-01	1.000	1.00E+01	1.00E+01
603	119.74	100	1.00	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	307.78	1.00E-01	1.000	1.00E+01	1.00E+01
604	119.74	100	1.00	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	306.42	1.00E-01	1.000	1.00E+01	1.00E+01
605	119.74	100	1.00	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	304.94	1.00E-01	1.000	1.00E+01	1.00E+01

EDGE HEATING USED FOR HF  
 W 7.0E+01 ML AMREFF  
 X 8.50E+01 ML AMREFF  
 Y 8.50E+01 ML AMREFF  
 Z 9.24E+01 ML AMREFF  
 W 9.71E+01 ML AMREFF  
 X 1.07E+02 ML AMREFF  
 Y 1.07E+02 ML AMREFF  
 Z 1.12E+02 ML AMREFF  
 W 1.22E+02 ML AMREFF  
 X 1.22E+02 ML AMREFF  
 Y 1.27E+02 ML AMREFF  
 Z 1.31E+02 ML AMREFF  
 W 1.37E+02 ML AMREFF  
 X 1.37E+02 ML AMREFF  
 Y 1.37E+02 ML AMREFF  
 Z 1.37E+02 ML AMREFF

9.0L TRANSMISSION DISTANCE = 24.7 CM  
 FULLY TURBULENT 3AL CONDITIONS AT 3.612 CM

5.3-250





























**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

REPORT MDC E1248  
JSC 09651

PAGE 8

AMES 3.5 FT MINI TEST	SUB-T	QELS	MLC	MLC/REF	IN-LINE RSI GAP	MSYT	TW/TE	RUN	9.L.	NTOL
100021.011	0.334	0.24	6.034E-03	0.7823	3.537E-04	1.612E-01	1.612E-01	3	1373	10
100021.021	0.334	0.24	7.074E-03	0.7561	5.070E-04	1.624E-01	1.624E-01	2	21	10
100001.203	0.334	0.24	6.950E-03	0.8090	6.397E-04	1.626E-01	1.626E-01	2	30	10
100001.306	0.334	0.24	7.886E-03	0.7335	6.92E-04	1.610E-01	1.610E-01	3	48	10
100001.506	0.334	0.24	5.827E-03	0.7419	3.333E-04	1.633E-01	1.633E-01	3	50	10
100002.006	0.334	0.24	5.724E-03	0.6317	3.494E-04	1.612E-01	1.612E-01	3	60	10
100002.006	0.334	0.24	3.946E-02	0.7344	7.030E-04	1.475E-01	1.475E-01	3	70	10
100002.016	0.334	0.24	3.331E-02	0.8398	2.247E-04	1.485E-01	1.485E-01	2	90	10
100002.103	0.334	0.24	1.233E-02	0.8324	2.898E-04	1.516E-01	1.516E-01	1	98	10
100002.301	0.334	0.24	0.972E-03	0.6519	2.338E-04	1.483E-01	1.483E-01	3	100	10
100002.401	0.334	0.24	2.322E-02	0.6364	5.135E-04	1.469E-01	1.469E-01	3	113	10
100002.501	0.334	0.24	3.597E-02	0.7065	8.418E-04	1.467E-01	1.467E-01	3	120	10
100003.001	0.334	0.24	6.229E-03	1.0955	3.034E-04	1.511E-01	1.511E-01	3	130	10
100003.012	0.334	0.24	1.933E-02	0.7821	3.177E-04	1.513E-01	1.513E-01	3	140	10
100003.012	0.334	0.24	0.961E-03	0.7424	6.041E-04	1.523E-01	1.523E-01	1	150	10
100003.012	0.334	0.24	0.937E-03	0.8237	6.138E-04	1.518E-01	1.518E-01	2	160	10
100003.203	0.334	0.24	0.937E-03	0.6630	3.465E-04	1.526E-01	1.526E-01	3	170	10
100003.307	0.334	0.24	7.835E-03	0.7379	3.095E-04	1.510E-01	1.510E-01	3	180	10
100003.507	0.334	0.24	6.354E-03	0.7055	3.084E-04	1.509E-01	1.509E-01	3	190	10
100004.010	0.334	0.24	6.569E-03	0.8315	3.031E-04	1.513E-01	1.513E-01	3	210	10
100004.010	0.334	0.24	0.877E-03	0.7856	6.030E-04	1.508E-01	1.508E-01	1	210	10
100004.107	0.334	0.24	9.917E-03	0.7428	6.630E-04	1.506E-01	1.506E-01	1	220	10
100004.303	0.334	0.24	7.215E-03	0.8307	3.374E-04	1.501E-01	1.501E-01	3	230	10
100004.407	0.334	0.24	6.597E-03	0.9905	3.082E-04	1.572E-01	1.572E-01	3	240	10
100004.503	0.334	0.24	6.063E-03	0.9244	3.210E-04	1.569E-01	1.569E-01	3	250	10
100005.004	0.334	0.24	3.051E-02	0.7933	8.067E-04	1.533E-01	1.533E-01	3	260	10
100005.004	0.334	0.24	5.232E-03	0.7352	2.234E-04	1.535E-01	1.535E-01	3	270	10
100005.004	0.334	0.24	1.396E-02	0.8253	3.178E-04	1.535E-01	1.535E-01	1	280	10
100005.208	0.334	0.24	1.221E-02	0.6397	2.680E-04	1.540E-01	1.540E-01	2	290	10
100005.309	0.334	0.24	0.691E-03	0.3986	2.393E-04	1.526E-01	1.526E-01	3	300	10
100005.009	0.334	0.24	2.052E-02	0.4686	6.931E-04	1.526E-01	1.526E-01	3	310	10
100005.009	0.334	0.24	3.335E-02	0.3388	8.149E-04	1.526E-01	1.526E-01	3	320	10
100005.010	0.334	0.24	6.072E-03	1.0578	3.712E-04	1.522E-01	1.522E-01	2	330	10
100006.002	0.334	0.24	0.665E-03	0.8279	4.694E-04	1.550E-01	1.550E-01	1	340	10
100006.002	0.334	0.24	6.561E-03	0.4736	2.054E-04	1.520E-01	1.520E-01	2	350	10
100006.002	0.334	0.24	7.331E-03	0.3279	2.925E-04	1.516E-01	1.516E-01	2	360	10
100006.002	0.334	0.24	1.073E-02	0.2923	5.062E-04	1.536E-01	1.536E-01	1	370	10
100006.002	0.334	0.24	6.061E-03	0.5361	6.222E-04	1.523E-01	1.523E-01	2	380	10
100006.002	0.334	0.24	1.055E-02	0.7281	5.994E-04	1.535E-01	1.535E-01	1	390	10
100007.010	0.334	0.24	1.497E-02	1.7183	3.584E-04	1.531E-01	1.531E-01	2	400	10
100007.010	0.334	0.24	1.222E-02	0.6689	2.823E-04	1.515E-01	1.515E-01	1	410	10
100007.010	0.334	0.24	7.575E-02	0.8277	6.387E-04	1.548E-01	1.548E-01	2	420	10
100007.010	0.334	0.24	9.872E-03	0.6481	3.989E-04	1.542E-01	1.542E-01	2	430	10
100007.010	0.334	0.24	1.351E-02	0.5311	2.236E-04	1.534E-01	1.534E-01	1	440	10
100007.010	0.334	0.24	1.026E-02	0.5152	3.375E-04	1.533E-01	1.533E-01	2	450	10
100007.010	0.334	0.24	1.206E-02	0.9611	2.634E-04	1.537E-01	1.537E-01	1	460	10
100007.010	0.334	0.24	0.872E-02	1.3395	7.622E-04	1.548E-01	1.548E-01	2	470	10

**ORIGINAL PAGE IS  
OF POOR QUALITY**















**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

**ORIGINAL PAGE IS**  
**OF POOR QUALITY**

16047.10	1.941	2.436E-04	1.552E-01	2.300
16047.025	0.850	3.301E-04	1.541E-01	1.300
16047.035	2.7159	3.355E-04	1.527E-01	2.300
16047.045	0.127	2.796E-04	1.526E-01	2.300
16047.155	5.315	7.375E-04	1.513E-01	2.300
16047.165	1.0034	2.055E-04	1.512E-01	2.300
16047.091	1.7524	1.025E-04	1.575E-01	2.300
16047.012	3.2103	3.133E-04	1.583E-01	2.310
16047.022	1.0511	1.963E-04	1.571E-01	2.310
16047.032	5.529	8.149E-04	1.571E-01	2.310
16047.042	1.5228	1.810E-04	1.575E-01	2.310
16047.052	1.3018	5.312E-04	1.547E-01	2.310
16047.062	1.6756	2.968E-04	1.546E-01	2.310
16047.072	2.2951	2.800E-04	1.561E-01	2.310
16047.082	3.423	1.955E-04	1.573E-01	2.310
16047.092	6.944	1.674E-04	1.597E-01	2.310
16047.102	2.1373	2.678E-04	1.579E-01	2.310
16047.112	0.857	7.635E-04	1.576E-01	2.320
16047.122	7.8094	5.312E-04	1.473E-01	3.320
16047.132	1.151	9.487E-04	1.585E-01	3.320
16047.142	2.889	4.749E-04	1.567E-01	1.320
16047.152	6.577	4.113E-04	1.561E-01	1.320
16047.162	9.641	3.449E-04	1.592E-01	2.320
16047.172	2.0361	3.407E-04	1.551E-01	2.320
16047.182	2.3374	2.944E-04	1.555E-01	2.320
16047.192	6.215	2.688E-04	1.511E-01	1.320
16047.202	2.4669	2.392E-04	1.501E-01	2.320
16047.212	0.891	2.395E-04	1.573E-01	2.310
16047.222	4.115	5.294E-04	1.575E-01	2.310
16047.232	8.868	6.650E-04	1.524E-01	3.310
16047.242	9.540	3.884E-04	1.522E-01	3.310
16047.252	1.0196	3.684E-04	1.574E-01	2.310
16047.262	8.164	5.055E-04	1.571E-01	1.310
16047.272	0.818	4.719E-04	1.566E-01	1.310
16047.282	7.225	3.629E-04	1.571E-01	3.310
16047.292	7.826	7.661E-04	1.552E-01	3.310
16047.302	4.364	2.800E-04	1.561E-01	3.340
16047.312	7.944	2.940E-04	1.573E-01	1.340
16047.322	7.444	2.808E-04	1.574E-01	2.340
16047.332	1.164	2.333E-04	1.544E-01	3.340
16047.342	0.610	6.115E-04	1.535E-01	3.340
16047.352	3.0011	3.362E-04	1.535E-01	2.340
16047.362	9.627	4.672E-04	1.545E-01	1.340
16047.372	1.620	4.657E-04	1.571E-01	1.340
16047.382	8.784	4.072E-04	1.538E-01	2.340
16047.392	8.739	3.356E-04	1.529E-01	2.350
16047.402	2.939	3.352E-04	1.524E-01	2.350
16047.412	1.1500	9.577E-04	1.492E-01	3.350
16047.422	2.9317	2.361E-04	1.555E-01	2.350
16047.432	2.9317	2.361E-04	1.555E-01	2.350















# RSI GAP HEATING ANALYSIS - II

## VOLUME II

REPORT MDC E1248  
JSC 09651

AMES 3.5 FT WHI TEST ( )	G-CF	LOC	Y	X	Z	ALUMINUM	IN-LINE RSI GAP	FUMI	OTHERWISE	1973	FLUOR-L	USED	USED	PATN	MACH	RE/M	M-TMK
CONDUCTION CORRECTED PL USED IN HLCC/HREF AND HLG/MEC WHEN AVAILABLE, OTHERWISE	CONDUCTION CORRECTED PL USED IN HLCC/HREF AND HLG/MEC WHEN AVAILABLE, OTHERWISE	CONDUCTION CORRECTED PL USED IN HLCC/HREF AND HLG/MEC WHEN AVAILABLE, OTHERWISE	CONDUCTION CORRECTED PL USED IN HLCC/HREF AND HLG/MEC WHEN AVAILABLE, OTHERWISE	CONDUCTION CORRECTED PL USED IN HLCC/HREF AND HLG/MEC WHEN AVAILABLE, OTHERWISE	CONDUCTION CORRECTED PL USED IN HLCC/HREF AND HLG/MEC WHEN AVAILABLE, OTHERWISE	CONDUCTION CORRECTED PL USED IN HLCC/HREF AND HLG/MEC WHEN AVAILABLE, OTHERWISE	CONDUCTION CORRECTED PL USED IN HLCC/HREF AND HLG/MEC WHEN AVAILABLE, OTHERWISE	CONDUCTION CORRECTED PL USED IN HLCC/HREF AND HLG/MEC WHEN AVAILABLE, OTHERWISE	CONDUCTION CORRECTED PL USED IN HLCC/HREF AND HLG/MEC WHEN AVAILABLE, OTHERWISE	CONDUCTION CORRECTED PL USED IN HLCC/HREF AND HLG/MEC WHEN AVAILABLE, OTHERWISE	CONDUCTION CORRECTED PL USED IN HLCC/HREF AND HLG/MEC WHEN AVAILABLE, OTHERWISE	CONDUCTION CORRECTED PL USED IN HLCC/HREF AND HLG/MEC WHEN AVAILABLE, OTHERWISE	CONDUCTION CORRECTED PL USED IN HLCC/HREF AND HLG/MEC WHEN AVAILABLE, OTHERWISE	CONDUCTION CORRECTED PL USED IN HLCC/HREF AND HLG/MEC WHEN AVAILABLE, OTHERWISE	CONDUCTION CORRECTED PL USED IN HLCC/HREF AND HLG/MEC WHEN AVAILABLE, OTHERWISE	CONDUCTION CORRECTED PL USED IN HLCC/HREF AND HLG/MEC WHEN AVAILABLE, OTHERWISE	CONDUCTION CORRECTED PL USED IN HLCC/HREF AND HLG/MEC WHEN AVAILABLE, OTHERWISE
160001.011	1	3	37.42	-51	0.00	6.965	1.304	0.00	0.00	0.00	60.97	0.000	1	5.10	1.650E+06	.029	
160001.021	1	3	48.96	-51	0.00	12.795	1.000	0.00	0.00	0.00	12.71	0.000	1	5.10	1.650E+06	.020	
160001.203	1	3	01.56	152	0.00	25.471	1.030	0.00	0.00	0.00	25.40	0.000	1	5.10	1.650E+06	.022	
160001.316	1	3	01.96	175	0.00	50.408	0.959	0.00	0.00	0.00	50.00	0.000	1	5.10	1.650E+06	.026	
160001.406	1	3	112.36	175	0.00	76.200	0.967	0.00	0.00	0.00	76.20	0.000	1	5.10	1.650E+06	.034	
160001.506	1	3	125.36	175	0.00	88.900	0.968	0.00	0.00	0.00	88.90	0.000	1	5.10	1.650E+06	.041	
160002.006	1	3	122.36	175	0.00	96.398	1.030	0.00	0.00	0.00	96.40	0.000	1	5.10	1.650E+06	.042	
160002.016	1	3	71.72	-51	0.00	35.565	1.030	0.00	0.00	0.00	35.57	0.000	1	5.10	3.310E+06	.032	
160002.103	1	3	47.59	152	0.00	11.432	1.075	0.00	0.00	0.00	11.43	0.000	1	5.10	3.310E+06	.032	
160002.301	1	3	84.96	203	0.00	57.304	0.966	0.00	0.00	0.00	57.00	0.000	1	5.10	3.310E+06	.026	
160002.401	1	3	112.36	203	0.00	76.200	0.944	0.00	0.00	0.00	76.20	0.000	1	5.10	3.310E+06	.036	
160002.501	1	3	125.36	203	0.00	88.900	0.975	0.00	0.00	0.00	88.90	0.000	1	5.10	3.310E+06	.041	
160003.001	1	3	135.24	-51	0.00	99.003	1.000	0.00	0.00	0.00	99.00	0.000	1	5.10	3.310E+06	.043	
160003.012	1	3	32.14	-51	0.00	58.000	1.000	0.00	0.00	0.00	55.09	0.000	1	5.10	1.574E+06	.047	
160003.022	1	3	46.31	-51	0.00	10.450	1.000	0.00	0.00	0.00	10.15	0.000	1	5.10	1.574E+06	.027	
160003.205	1	3	51.25	152	0.00	25.400	1.077	0.00	0.00	0.00	25.40	0.000	1	5.10	1.574E+06	.019	
160003.307	1	3	86.36	151	0.00	50.000	0.928	0.00	0.00	0.00	50.00	0.000	1	5.10	1.574E+06	.026	
160003.407	1	3	112.36	151	0.00	76.200	0.959	0.00	0.00	0.00	76.20	0.000	1	5.10	1.574E+06	.034	
160003.507	1	3	125.36	151	0.00	88.900	0.972	0.00	0.00	0.00	88.90	0.000	1	5.10	1.574E+06	.041	
160004.010	1	3	112.37	-51	0.00	76.200	1.000	0.00	0.00	0.00	76.20	0.000	1	5.10	1.687E+06	.034	
160004.110	1	3	51.26	-51	0.00	25.400	1.000	0.00	0.00	0.00	25.40	0.000	1	5.10	1.687E+06	.022	
160004.117	1	3	47.59	151	0.00	11.430	0.923	0.00	0.00	0.00	11.43	0.000	1	5.10	1.687E+06	.019	
160004.303	1	3	86.36	152	0.00	50.000	1.061	0.00	0.00	0.00	50.00	0.000	1	5.10	1.687E+06	.026	
160004.403	1	3	112.36	152	0.00	76.200	1.021	0.00	0.00	0.00	76.20	0.000	1	5.10	1.687E+06	.034	
160004.503	1	3	125.36	152	0.00	88.900	1.024	0.00	0.00	0.00	88.90	0.000	1	5.10	1.687E+06	.041	
160005.004	1	3	127.63	-51	0.00	91.700	1.000	0.00	0.00	0.00	91.47	0.000	1	5.10	1.687E+06	.034	
160005.104	1	3	137.93	-51	0.00	45.725	1.030	0.00	0.00	0.00	45.73	0.000	1	5.10	3.179E+06	.024	
160005.204	1	3	112.36	-51	0.00	50.000	0.971	0.00	0.00	0.00	50.00	0.000	1	5.10	3.179E+06	.029	
160005.300	1	3	36.30	151	0.00	50.000	0.951	0.00	0.00	0.00	50.00	0.000	1	5.10	3.179E+06	.035	
160005.409	1	3	112.36	151	0.00	76.200	0.964	0.00	0.00	0.00	76.20	0.000	1	5.10	3.179E+06	.040	
160005.509	1	3	125.36	151	0.00	88.900	0.944	0.00	0.00	0.00	88.90	0.000	1	5.10	3.179E+06	.042	
160006.010	1	3	122.36	-51	0.00	66.445	1.000	0.00	0.00	0.00	66.45	2.032	1	5.10	1.624E+06	.030	
160006.110	1	3	122.36	-51	0.00	11.430	1.000	0.00	0.00	0.00	11.43	2.032	1	5.10	1.624E+06	.020	
160006.202	1	3	51.30	-51	0.00	25.400	0.992	0.00	0.00	0.00	25.40	2.032	1	5.10	1.624E+06	.020	
160006.300	1	3	76.37	151	0.00	50.000	0.992	0.00	0.00	0.00	50.00	2.032	1	5.10	1.624E+06	.020	
160006.400	1	3	112.36	151	0.00	76.200	0.968	0.00	0.00	0.00	76.20	2.032	1	5.10	1.624E+06	.024	
160006.500	1	3	125.36	151	0.00	88.900	0.944	0.00	0.00	0.00	88.90	2.032	1	5.10	1.624E+06	.024	
160006.600	1	3	137.93	151	0.00	45.725	1.000	0.00	0.00	0.00	45.73	2.032	1	5.10	1.624E+06	.017	
160006.700	1	3	122.36	151	0.00	66.445	0.992	0.00	0.00	0.00	66.45	2.032	1	5.10	1.624E+06	.030	
160006.800	1	3	122.36	151	0.00	11.430	1.000	0.00	0.00	0.00	11.43	2.032	1	5.10	1.624E+06	.010	
160006.900	1	3	132.42	-51	0.00	66.445	1.000	0.00	0.00	0.00	66.45	2.032	1	5.10	1.624E+06	.030	
160007.000	1	3	51.30	-51	0.00	15.235	1.000	0.00	0.00	0.00	15.23	2.032	1	5.10	3.270E+06	.030	
160007.100	1	3	76.37	151	0.00	25.400	0.992	0.00	0.00	0.00	25.40	2.032	1	5.10	3.270E+06	.027	
160007.200	1	3	125.36	151	0.00	50.000	0.930	0.00	0.00	0.00	50.00	2.032	1	5.10	3.270E+06	.042	
160007.300	1	3	125.36	151	0.00	88.900	0.930	0.00	0.00	0.00	88.90	2.032	1	5.10	3.270E+06	.042	
160007.400	1	3	137.93	151	0.00	45.725	1.000	0.00	0.00	0.00	45.73	2.032	1	5.10	3.270E+06	.033	
160007.500	1	3	122.36	151	0.00	66.445	0.992	0.00	0.00	0.00	66.45	2.032	1	5.10	3.270E+06	.024	
160007.600	1	3	137.93	151	0.00	11.430	1.000	0.00	0.00	0.00	11.43	2.032	1	5.10	3.270E+06	.030	



























**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

PAGE 8

**ORIGINAL PAGE IS**  
**OF POOR QUALITY**

AMES 2.5 FT	HTM TEST	( ) C.G.	BLUVER, IN-LINE RSI	GAP RUNI	R.A.L. NTOL	0) 1973
DELS	SUR-T	MLC	MLC/MREF	NSVT	TWATE	
160001.011	.224	6.804E-13	.7823	3.537E-14	1.612E-01	3
160001.021	.224	9.741E-13	.7861	5.048E-14	1.621E-01	2
160001.031	.187	9.558E-13	.8198	4.397E-14	1.628E-01	2
160001.046	.221	6.738E-13	.7735	3.692E-14	1.618E-01	3
160001.400	.249	6.527E-13	.7419	3.333E-14	1.613E-01	3
160001.506	.201	6.724E-13	.6311	3.484E-14	1.612E-01	3
160002.006	.351	3.346E-12	.7344	7.836E-14	1.675E-01	3
160002.016	.274	3.591E-12	.8399	2.247E-14	1.405E-01	2
160002.103	.228	1.233E-12	.8321	2.886E-14	1.516E-01	1
160002.201	.340	9.972E-13	.6519	2.335E-14	1.483E-01	3
160002.401	.342	2.195E-12	.6564	5.135E-14	1.469E-01	3
160002.501	.353	3.595E-12	.7645	8.414E-14	1.467E-01	3
160003.001	.327	6.225E-12	1.0955	3.034E-14	1.511E-01	3
160003.012	.219	4.931E-13	.7822	3.377E-14	1.513E-01	3
160003.022	.141	4.964E-13	.7424	4.041E-14	1.527E-01	1
160003.205	.183	6.690E-13	.8237	4.138E-14	1.528E-01	2
160003.307	.217	6.330E-13	.6591	3.460E-14	1.526E-01	3
160003.407	.246	4.355E-13	.7279	3.895E-14	1.510E-01	3
160003.507	.289	6.332E-13	.7905	3.804E-14	1.509E-01	3
160004.008	.268	6.539E-13	.8915	3.801E-14	1.573E-01	3
160004.108	.164	9.575E-13	.7696	4.087E-14	1.533E-01	1
160004.187	.166	9.917E-13	.7428	4.638E-14	1.596E-01	1
160004.403	.223	7.211E-13	.8261	3.374E-14	1.581E-01	3
160004.403	.247	4.501E-13	.9797	3.332E-14	1.571E-01	3
160004.503	.291	6.853E-13	.9244	3.210E-14	1.569E-01	3
160005.004	.346	3.651E-12	.7393	6.887E-14	1.533E-01	3
160005.014	.281	4.227E-13	.7952	2.234E-14	1.533E-01	3
160005.024	.284	1.376E-12	.8253	3.170E-14	1.535E-01	1
160005.208	.244	1.022E-12	.6396	2.488E-14	1.541E-01	2
160005.309	.292	9.691E-13	.3366	2.393E-14	1.526E-01	3
160005.409	.332	2.092E-12	.4406	4.981E-14	1.526E-01	3
160005.509	.344	3.355E-12	.3366	8.145E-14	1.521E-01	3
160006.107	.227	6.672E-13	1.0377	3.012E-14	1.532E-01	2
160006.020	.169	9.465E-13	.8279	4.404E-14	1.555E-01	1
160006.030	.294	1.561E-12	.4790	2.604E-14	1.526E-01	2
160006.041	.211	7.391E-13	.3278	2.624E-14	1.531E-01	2
160006.050	.152	1.043E-12	.2323	5.062E-14	1.536E-01	1
160006.060	.222	1.605E-13	.6261	4.222E-14	1.537E-01	2
160006.074	.174	1.075E-12	.7286	4.304E-14	1.537E-01	1
160007.010	.326	1.491E-12	1.7403	3.804E-14	1.591E-01	2
160007.020	.231	1.172E-12	.8084	2.623E-14	1.575E-01	1
160007.030	.344	7.579E-12	.8277	8.387E-14	1.546E-01	2
160007.040	.277	9.272E-13	.6401	1.989E-14	1.545E-01	2
160007.050	.210	1.352E-12	.2311	3.226E-14	1.531E-01	1
160007.060	.324	1.442E-12	.5152	3.227E-14	1.531E-01	2
160007.071	.228	1.274E-12	.6661	3.634E-14	1.531E-01	1
160008.000	.379	5.374E-12	1.3376	7.052E-14	1.546E-01	2













**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 09651**

16003.514	0.97	1.125E-02	1.237	1.040E-04	1.874E-01	3 2530
16004.006	0.97	6.152E-02	1.237	7.276E-04	1.874E-01	3 2530
16004.107	0.97	6.890E-02	1.2727	6.966E-04	1.874E-01	3 2540
16004.118	0.97	5.091E-02	0.305	6.966E-04	1.574E-01	3 2550
16004.215	0.97	6.057E-02	1.0445	6.346E-04	1.560E-01	3 2560
16004.311	0.97	8.123E-02	0.177	6.574E-04	1.502E-01	3 2570
16004.421	0.97	8.123E-02	0.177	6.606E-04	1.552E-01	3 2580
16004.515	0.97	9.821E-02	0.939	1.043E-03	1.566E-01	3 2590
16004.606	0.97	7.362E-02	1.1321	8.632E-04	1.490E-01	3 2600
16004.703	0.97	6.616E-02	1.3231	6.763E-04	1.515E-01	3 2610
16004.816	0.97	5.645E-02	2.253	6.767E-04	1.474E-01	3 2620
16004.921	0.97	6.772E-02	1.2143	8.124E-04	1.491E-01	3 2630
16004.008	0.97	7.852E-02	0.726	6.419E-04	1.484E-01	3 2640
16004.103	0.97	7.852E-02	0.726	6.413E-04	1.451E-01	3 2650
16004.204	0.97	6.561E-02	2.246	1.027E-03	1.466E-01	3 2660
16004.307	0.97	7.917E-02	0.910	9.451E-04	1.416E-01	3 2670
16004.411	0.97	1.747E-02	1.5166	2.086E-04	1.513E-01	2 2680
16004.515	0.97	5.713E-02	3.173	6.823E-04	1.507E-01	3 2690
16004.618	0.97	6.852E-02	1.712	8.183E-04	1.517E-01	3 2700
16004.721	0.97	7.930E-02	0.834	9.475E-04	1.512E-01	3 2710
16004.824	0.97	9.648E-02	0.729	1.037E-03	1.512E-01	3 2720
16004.927	0.97	8.635E-02	0.919	1.037E-03	1.483E-01	3 2730
16004.010	0.97	6.716E-03	1.5330	3.164E-04	1.563E-01	2 2740
16004.107	0.97	7.972E-03	0.661	3.256E-04	1.571E-01	1 2750
16004.210	0.97	9.932E-03	0.823	4.082E-04	1.582E-01	1 2760
16004.315	0.97	8.585E-03	0.844	4.045E-04	1.577E-01	1 2770
16004.420	0.97	7.232E-03	0.756	3.438E-04	1.563E-01	2 2780
16004.525	0.97	3.624E-03	1.142	3.121E-04	1.550E-01	2 2790
16004.630	0.97	6.942E-03	1.0787	3.271E-04	1.556E-01	2 2800
16004.735	0.97	2.131E-02	1.913	5.662E-04	1.487E-01	3 2810
16004.840	0.97	0.443E-01	1.121	2.420E-04	1.482E-01	2 2820
16004.945	0.97	1.173E-02	0.874	3.808E-04	1.515E-01	2 2830
16004.050	0.97	5.934E-03	0.736	2.548E-04	1.470E-01	2 2840
16004.155	0.97	9.229E-03	0.474	2.367E-04	1.470E-01	2 2850
16004.260	0.97	1.752E-02	0.874	4.494E-04	1.469E-01	2 2860
16004.365	0.97	2.732E-02	0.907	7.150E-04	1.471E-01	3 2870
16004.470	0.97	0.131E-01	1.314	7.267E-04	1.549E-01	3 2880
16004.575	0.97	1.416E-02	1.926	1.671E-04	1.522E-01	2 2890
16004.680	0.97	1.664E-02	0.910	1.948E-04	1.575E-01	2 2900
16004.785	0.97	2.416E-02	2.3134	2.544E-04	1.524E-01	3 2910
16004.890	0.97	0.131E-01	0.310	7.270E-04	1.526E-01	3 2920
16004.995	0.97	7.466E-02	0.195	6.324E-04	1.584E-01	3 2930
16004.000	0.97	6.773E-02	2.612	3.074E-04	1.590E-01	3 2940
16004.105	0.97	7.338E-02	0.964	3.729E-04	1.592E-01	2 2950
16004.210	0.97	7.338E-02	0.964	3.452E-04	1.588E-01	2 2960
16004.315	0.97	7.116E-03	1.234	3.192E-04	1.574E-01	2 2970
16004.420	0.97	0.131E-01	0.610	4.780E-04	1.584E-01	2 2980
16004.525	0.97	4.459E-03	0.167	4.091E-04	1.581E-01	2 2990
16004.630	0.97	3.272E-03	1.471	7.910E-04	1.582E-01	2 3000











**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

**REPORT MDC E1248**  
**JSC 00651**

160674.0147	1.217	7.490E-03	4.871E-04	1.532E-01	1.4780
160675.0151	1.217	9.959E-03	4.871E-04	1.532E-01	1.4780
160676.0155	1.217	6.596E-03	4.033E-04	1.503E-01	1.4580
160677.0159	1.217	7.249E-03	4.657E-04	1.579E-01	1.4995
160678.0163	1.217	6.640E-03	3.184E-04	1.480E-01	1.4680
160679.0167	1.217	7.023E-03	3.239E-04	1.503E-01	1.4810
160680.0171	1.217	2.291E-02	9.631E-04	1.487E-01	1.4620
160681.0175	1.217	6.308E-03	2.378E-04	1.468E-01	1.4430
160682.0179	1.217	1.139E-02	2.841E-04	1.504E-01	1.4650
160683.0183	1.217	1.018E-02	2.492E-04	1.481E-01	1.4450
160684.0187	1.217	9.618E-03	2.398E-04	1.482E-01	1.4650
160685.0191	1.217	1.675E-02	4.639E-04	1.482E-01	1.4670
160686.0195	1.217	3.522E-02	7.476E-04	1.493E-01	1.4880
160687.0199	1.217	6.847E-03	3.188E-04	1.531E-01	1.4690
160688.0203	1.217	7.483E-03	3.579E-04	1.537E-01	1.4780
160689.0207	1.217	9.453E-03	4.797E-04	1.598E-01	1.4710
160690.0211	1.217	8.537E-03	4.879E-04	1.568E-01	1.4720
160691.0215	1.217	7.159E-03	3.483E-04	1.532E-01	1.4730
160692.0219	1.217	5.464E-03	3.888E-04	1.529E-01	1.4740
160693.0223	1.217	6.577E-03	3.142E-04	1.529E-01	1.4760
160694.0227	1.217	2.471E-02	5.081E-04	1.529E-01	1.4760
160695.0231	1.217	9.724E-03	3.380E-04	1.537E-01	1.4770
160696.0235	1.217	6.000E-03	2.930E-04	1.564E-01	1.4780
160697.0239	1.217	1.233E-02	4.930E-04	1.531E-01	1.4780
160698.0243	1.217	1.631E-02	6.801E-04	1.531E-01	1.4800
160699.0247	1.217	9.617E-03	2.361E-04	1.589E-01	1.4800
160700.0251	1.217	3.267E-02	5.234E-04	1.526E-01	1.4820
160701.0255	1.217	7.693E-03	8.924E-04	1.524E-01	1.4830
160702.0259	1.217	1.376E-02	1.810E-04	1.567E-01	1.4830
160703.0263	1.217	1.376E-02	1.810E-04	1.567E-01	1.4840
160704.0267	1.217	1.832E-02	3.892E-04	1.588E-01	1.4850
160705.0271	1.217	1.832E-02	3.892E-04	1.588E-01	1.4850
160706.0275	1.217	1.832E-02	3.892E-04	1.588E-01	1.4860
160707.0279	1.217	2.126E-02	1.244E-04	1.542E-01	1.4870
160708.0283	1.217	6.018E-02	7.168E-04	1.542E-01	1.4880
160709.0287	1.217	7.738E-03	9.217E-04	1.437E-01	1.4890
160710.0291	1.217	7.864E-03	3.327E-04	1.499E-01	1.4900
160711.0295	1.217	1.878E-02	4.734E-04	1.587E-01	1.4910
160712.0299	1.217	1.878E-02	4.734E-04	1.587E-01	1.4920
160713.0303	1.217	1.878E-02	4.734E-04	1.587E-01	1.4930
160714.0307	1.217	1.878E-02	4.734E-04	1.587E-01	1.4940
160715.0311	1.217	1.878E-02	4.734E-04	1.587E-01	1.4950
160716.0315	1.217	1.878E-02	4.734E-04	1.587E-01	1.4960
160717.0319	1.217	1.878E-02	4.734E-04	1.587E-01	1.4970
160718.0323	1.217	1.878E-02	4.734E-04	1.587E-01	1.4980
160719.0327	1.217	1.878E-02	4.734E-04	1.587E-01	1.4990
160720.0331	1.217	1.878E-02	4.734E-04	1.587E-01	1.5000
160721.0335	1.217	1.878E-02	4.734E-04	1.587E-01	1.5010
160722.0339	1.217	1.878E-02	4.734E-04	1.587E-01	1.5020
160723.0343	1.217	1.878E-02	4.734E-04	1.587E-01	1.5030
160724.0347	1.217	1.878E-02	4.734E-04	1.587E-01	1.5040
160725.0351	1.217	1.878E-02	4.734E-04	1.587E-01	1.5050
160726.0355	1.217	1.878E-02	4.734E-04	1.587E-01	1.5060
160727.0359	1.217	1.878E-02	4.734E-04	1.587E-01	1.5070
160728.0363	1.217	1.878E-02	4.734E-04	1.587E-01	1.5080
160729.0367	1.217	1.878E-02	4.734E-04	1.587E-01	1.5090
160730.0371	1.217	1.878E-02	4.734E-04	1.587E-01	1.5100
160731.0375	1.217	1.878E-02	4.734E-04	1.587E-01	1.5110
160732.0379	1.217	1.878E-02	4.734E-04	1.587E-01	1.5120
160733.0383	1.217	1.878E-02	4.734E-04	1.587E-01	1.5130
160734.0387	1.217	1.878E-02	4.734E-04	1.587E-01	1.5140
160735.0391	1.217	1.878E-02	4.734E-04	1.587E-01	1.5150
160736.0395	1.217	1.878E-02	4.734E-04	1.587E-01	1.5160
160737.0399	1.217	1.878E-02	4.734E-04	1.587E-01	1.5170
160738.0403	1.217	1.878E-02	4.734E-04	1.587E-01	1.5180
160739.0407	1.217	1.878E-02	4.734E-04	1.587E-01	1.5190
160740.0411	1.217	1.878E-02	4.734E-04	1.587E-01	1.5200
160741.0415	1.217	1.878E-02	4.734E-04	1.587E-01	1.5210
160742.0419	1.217	1.878E-02	4.734E-04	1.587E-01	1.5220
160743.0423	1.217	1.878E-02	4.734E-04	1.587E-01	1.5230
160744.0427	1.217	1.878E-02	4.734E-04	1.587E-01	1.5240
160745.0431	1.217	1.878E-02	4.734E-04	1.587E-01	1.5250
160746.0435	1.217	1.878E-02	4.734E-04	1.587E-01	1.5260
160747.0439	1.217	1.878E-02	4.734E-04	1.587E-01	1.5270
160748.0443	1.217	1.878E-02	4.734E-04	1.587E-01	1.5280
160749.0447	1.217	1.878E-02	4.734E-04	1.587E-01	1.5290
160750.0451	1.217	1.878E-02	4.734E-04	1.587E-01	1.5300
160751.0455	1.217	1.878E-02	4.734E-04	1.587E-01	1.5310
160752.0459	1.217	1.878E-02	4.734E-04	1.587E-01	1.5320
160753.0463	1.217	1.878E-02	4.734E-04	1.587E-01	1.5330
160754.0467	1.217	1.878E-02	4.734E-04	1.587E-01	1.5340
160755.0471	1.217	1.878E-02	4.734E-04	1.587E-01	1.5350
160756.0475	1.217	1.878E-02	4.734E-04	1.587E-01	1.5360
160757.0479	1.217	1.878E-02	4.734E-04	1.587E-01	1.5370
160758.0483	1.217	1.878E-02	4.734E-04	1.587E-01	1.5380
160759.0487	1.217	1.878E-02	4.734E-04	1.587E-01	1.5390
160760.0491	1.217	1.878E-02	4.734E-04	1.587E-01	1.5400
160761.0495	1.217	1.878E-02	4.734E-04	1.587E-01	1.5410
160762.0499	1.217	1.878E-02	4.734E-04	1.587E-01	1.5420
160763.0503	1.217	1.878E-02	4.734E-04	1.587E-01	1.5430
160764.0507	1.217	1.878E-02	4.734E-04	1.587E-01	1.5440
160765.0511	1.217	1.878E-02	4.734E-04	1.587E-01	1.5450
160766.0515	1.217	1.878E-02	4.734E-04	1.587E-01	1.5460
160767.0519	1.217	1.878E-02	4.734E-04	1.587E-01	1.5470
160768.0523	1.217	1.878E-02	4.734E-04	1.587E-01	1.5480
160769.0527	1.217	1.878E-02	4.734E-04	1.587E-01	1.5490
160770.0531	1.217	1.878E-02	4.734E-04	1.587E-01	1.5500
160771.0535	1.217	1.878E-02	4.734E-04	1.587E-01	1.5510
160772.0539	1.217	1.878E-02	4.734E-04	1.587E-01	1.5520
160773.0543	1.217	1.878E-02	4.734E-04	1.587E-01	1.5530
160774.0547	1.217	1.878E-02	4.734E-04	1.587E-01	1.5540
160775.0551	1.217	1.878E-02	4.734E-04	1.587E-01	1.5550
160776.0555	1.217	1.878E-02	4.734E-04	1.587E-01	1.5560
160777.0559	1.217	1.878E-02	4.734E-04	1.587E-01	1.5570
160778.0563	1.217	1.878E-02	4.734E-04	1.587E-01	1.5580
160779.0567	1.217	1.878E-02	4.734E-04	1.587E-01	1.5590
160780.0571	1.217	1.878E-02	4.734E-04	1.587E-01	1.5600
160781.0575	1.217	1.878E-02	4.734E-04	1.587E-01	1.5610
160782.0579	1.217	1.878E-02	4.734E-04	1.587E-01	1.5620
160783.0583	1.217	1.878E-02	4.734E-04	1.587E-01	1.5630
160784.0587	1.217	1.878E-02	4.734E-04	1.587E-01	1.5640
160785.0591	1.217	1.878E-02	4.734E-04	1.587E-01	1.5650
160786.0595	1.217	1.878E-02	4.734E-04	1.587E-01	1.5660
160787.0599	1.217	1.878E-02	4.734E-04	1.587E-01	1.5670
160788.0603	1.217	1.878E-02	4.734E-04	1.587E-01	1.5680
160789.0607	1.217	1.878E-02	4.734E-04	1.587E-01	1.5690
160790.0611	1.217	1.878E-02	4.734E-04	1.587E-01	1.5700
160791.0615	1.217	1.878E-02	4.734E-04	1.587E-01	1.5710
160792.0619	1.217	1.878E-02	4.734E-04	1.587E-01	1.5720
160793.0623	1.217	1.878E-02	4.734E-04	1.587E-01	1.5730
160794.0627	1.217	1.878E-02	4.734E-04	1.587E-01	1.5740
160795.0631	1.217	1.878E-02	4.734E-04	1.587E-01	1.5750
160796.0635	1.217	1.878E-02	4.734E-04	1.587E-01	1.5760
160797.0639	1.217	1.878E-02	4.734E-04	1.587E-01	1.5770
160798.0643	1.217	1.878E-02	4.734E-04	1.587E-01	1.5780
160799.0647	1.217	1.878E-02	4.734E-04	1.587E-01	1.5790
160800.0651	1.217	1.878E-02	4.734E-04	1.587E-01	1.5800
160801.0655	1.217	1.878E-02	4.734E-04	1.587E-01	1.5810
160802.0659	1.217	1.878E-02	4.734E-04	1.587E-01	1.5820
160803.0663	1.217	1.878E-02	4.734E-04	1.587E-01	1.5830
160804.0667	1.217	1.878E-02	4.734E-04	1.587E-01	1.5840
160805.0671	1.217	1.878E-02	4.734E-04	1.587E-01	1.5850
160806.0675	1.217	1.878E-02	4.734E-04	1.587E-01	1.5860
160807.0679	1.217	1.878E-02	4.734E-04	1.587E-01	1.5870
160808.0683	1.217	1.878E-02	4.734E-04	1.587E-01	1.5880
160809.0687	1.217	1.878E-02	4.734E-04	1.587E-01	1.5890
160810.0691	1.217	1.878E-02	4.734E-04	1.587E-01	1.5900
160811.0695	1.217	1.878E-02	4.734E-04	1.587E-01	1.5910
160812.0699	1.217	1.878E-02	4.734E-04	1.587E-01	1.5920
160813.0703	1.217	1.878E-02	4.734E-04	1.587E-01	1.5930
160814.0707	1.217	1.878E-02	4.734E-04	1.587E-01	1.5940
160815.0711	1.217	1.878E-02	4.734E-04	1.587E-01	1.5950
160816.0715	1.217	1.878E-02	4.734E-04	1.587E-01	1.5960
160817.0719	1.217	1.878E-02	4.734E-04	1.587E-01	1.5970
160818.0723	1.217	1.878E-02	4.734E-04	1.587E-01	1.5980



**RSI GAP HEATING ANALYSIS - II**  
**VOLUME II**

REPORT MDC E1248  
 JSC 09651

**ORIGINAL PAGE IS  
 OF POOR QUALITY**

160778.815	0.200	1.352E-02	0.012	1.039E-04	4.291E-04	4.291E-04	1.593E-01	2.5080
160778.816	0.200	9.009E-03	0.231	4.238E-04	1.593E-01	1.593E-01	1.593E-01	2.5080
160778.817	0.200	9.009E-03	0.231	4.238E-04	1.593E-01	1.593E-01	1.593E-01	2.5080
160778.818	0.200	1.027E-02	0.333	5.024E-04	1.602E-01	1.602E-01	1.602E-01	1.5120
160778.819	0.200	0.005E-03	0.134	4.238E-04	1.593E-01	1.593E-01	1.593E-01	1.5120
160778.820	0.200	8.595E-03	0.267	4.131E-04	1.563E-01	1.563E-01	1.563E-01	2.5130
160778.821	0.200	1.277E-02	0.666	3.888E-04	1.563E-01	1.563E-01	1.563E-01	3.5168
160779.040	0.200	1.259E-02	0.262	3.008E-04	1.561E-01	1.561E-01	1.561E-01	3.5168
160779.041	0.200	1.325E-02	0.263	3.203E-04	1.561E-01	1.561E-01	1.561E-01	1.5168
160779.042	0.200	1.086E-02	0.110	2.629E-04	1.562E-01	1.562E-01	1.562E-01	3.5178
160779.043	0.200	1.882E-02	0.058	2.630E-04	1.577E-01	1.577E-01	1.577E-01	3.5180
160779.044	0.200	1.072E-02	0.127	2.422E-04	1.577E-01	1.577E-01	1.577E-01	3.5190
160779.045	0.200	1.331E-02	0.305	3.298E-04	1.577E-01	1.577E-01	1.577E-01	3.5190
160779.046	0.200	1.331E-02	0.242	3.298E-04	1.577E-01	1.577E-01	1.577E-01	1.5210
160779.047	0.200	1.313E-02	0.237	3.298E-04	1.577E-01	1.577E-01	1.577E-01	1.5228
160779.048	0.200	1.879E-02	0.734	2.639E-04	1.585E-01	1.585E-01	1.585E-01	2.5230
160779.049	0.200	9.932E-03	0.545	2.428E-04	1.585E-01	1.585E-01	1.585E-01	3.5240
160779.050	0.200	9.568E-03	0.801	4.429E-04	1.597E-01	1.597E-01	1.597E-01	1.5250
160779.051	0.200	9.568E-03	0.210	4.429E-04	1.597E-01	1.597E-01	1.597E-01	1.5260
160779.052	0.200	1.040E-02	0.650	3.262E-04	1.578E-01	1.578E-01	1.578E-01	1.5278
160781.211	0.200	1.810E-02	0.580	4.781E-04	1.595E-01	1.595E-01	1.595E-01	1.5280
160781.212	0.200	1.810E-02	0.241	4.781E-04	1.595E-01	1.595E-01	1.595E-01	1.5280
160781.213	0.200	2.293E-03	0.510	3.888E-04	1.595E-01	1.595E-01	1.595E-01	2.5300
160782.722	0.200	9.507E-03	0.800	4.928E-04	1.626E-01	1.626E-01	1.626E-01	1.5310
160782.723	0.200	9.507E-03	0.228	4.928E-04	1.626E-01	1.626E-01	1.626E-01	1.5320
160782.724	0.200	1.073E-02	0.782	5.082E-04	1.626E-01	1.626E-01	1.626E-01	1.5330
160782.725	0.200	1.873E-02	0.673	4.792E-04	1.626E-01	1.626E-01	1.626E-01	1.5340
160782.726	0.200	9.856E-03	0.010	4.288E-04	1.626E-01	1.626E-01	1.626E-01	1.5350
160782.727	0.200	8.253E-03	0.858	3.978E-04	1.626E-01	1.626E-01	1.626E-01	1.5360
160782.728	0.200	1.021E-02	0.626	2.488E-04	1.626E-01	1.626E-01	1.626E-01	2.5370
160783.083	0.200	1.872E-02	0.287	2.487E-04	1.626E-01	1.626E-01	1.626E-01	2.5380
160783.084	0.200	1.318E-02	0.955	3.211E-04	1.626E-01	1.626E-01	1.626E-01	1.5390
160783.085	0.200	1.222E-02	0.707	2.493E-04	1.626E-01	1.626E-01	1.626E-01	1.5400
160783.086	0.200	1.083E-02	0.260	2.639E-04	1.626E-01	1.626E-01	1.626E-01	1.5410
160783.087	0.200	9.967E-03	0.548	2.429E-04	1.626E-01	1.626E-01	1.626E-01	2.5420
160783.088	0.200	1.167E-02	0.738	2.809E-04	1.626E-01	1.626E-01	1.626E-01	3.5430
160784.055	0.200	1.166E-02	0.238	2.809E-04	1.626E-01	1.626E-01	1.626E-01	3.5440
160784.056	0.200	1.335E-02	0.822	3.214E-04	1.626E-01	1.626E-01	1.626E-01	2.5450
160784.057	0.200	1.241E-02	0.704	2.977E-04	1.626E-01	1.626E-01	1.626E-01	3.5460
160784.058	0.200	1.796E-02	0.188	2.637E-04	1.626E-01	1.626E-01	1.626E-01	3.5470
160784.059	0.200	1.339E-02	0.272	2.430E-04	1.626E-01	1.626E-01	1.626E-01	3.5480
160784.060	0.200	1.938E-03	0.738	4.798E-04	1.626E-01	1.626E-01	1.626E-01	1.5490
160784.061	0.200	9.954E-03	0.261	4.798E-04	1.626E-01	1.626E-01	1.626E-01	1.5500
160784.062	0.200	1.062E-02	0.674	5.131E-04	1.626E-01	1.626E-01	1.626E-01	1.5510
160784.063	0.200	5.952E-03	0.318	4.798E-04	1.626E-01	1.626E-01	1.626E-01	1.5520
160784.064	0.200	8.993E-03	0.852	4.372E-04	1.626E-01	1.626E-01	1.626E-01	1.5530
160784.065	0.200	8.993E-03	0.418	3.300E-04	1.626E-01	1.626E-01	1.626E-01	2.5540
160784.066	0.200	7.047E-03	1.352	3.331E-04	1.626E-01	1.626E-01	1.626E-01	1.5550
160784.067	0.200	1.034E-02	1.009	4.746E-04	1.626E-01	1.626E-01	1.626E-01	1.5560
160784.068	0.200	1.073E-02	0.346	5.074E-04	1.626E-01	1.626E-01	1.626E-01	1.5570





#### 6.0 NASA/LaRC, 8 FOOT HTST TESTS OF LARGE GAP PANEL

Gap heating tests were performed in the LaRC 8 Foot High Temperature Structure Tunnel (HTST) to obtain heating data on a large gap panel in the presence of a turbulent boundary layer. The test program at LaRC was under the direction of I. Weinstien. The test panel consisted of eleven LI 900 silica tiles with an interchangeable thin skin metallic center tile. Testing was planned for both the center LI 900 tile and the center metallic tile, but time permitted testing only of the metallic tile. The panel size was 46 x 46 x 6.5 cm. Both the LI 900 and the metallic tiles were heavily instrumented as discussed in Section 6.1. The RSI panel was mounted in a large test sled for free stream testing and permitted variation of angle of attack relative to the tile array. The panel was tested in both the in-line and staggered tile configurations.

The test matrix for the 8 Foot HTST program is summarized in Figure 6.0-1. Five gap settings were employed (0, 0.10, 0.18, 0.30, and 0.41 cm) with the tile thickness of 6.35 cm. Step heights investigated were 0 and +0.254 cm. Tests were run at Reynolds number per meter of  $1.9 \times 10^6$  and  $4.8 \times 10^6$ , while the test sled angle of attack was varied from 0 to 15 degrees.

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RSI GAP HEATING ANALYSIS - II  
VOLUME II

REPORT MDC E1248  
JSC 09651

TEST CONDITIONS AND MODEL CONFIGURATIONS FOR  
GAP HEATING TESTS IN 8 FOOT HTST

TEST NO.	RUN NO.	MODEL CONFIG.	NOMINAL GAP SETTING, cm	STEP, cm	$\alpha$ DEG.	TOTAL TEMP., $^{\circ}$ K	COMBUSTOR PRESSURE, $N/m^2$	MACH NO.	Re/m	TAM. OK
57	4	STAGGERED	.178	0.00	7.34	1533	$7.1016 \times 10^6$	6.35	$2.069 \times 10^6$	1423
	5				-0.14	1656	7.1706	6.54	2.001	1529
	6				15.15	1700	7.2050	6.61	2.001	1591
	7				7.63	1733	18.0643	6.50	4.823	1608
	8				-0.10	1822	17.9264	6.65	4.692	1691
	9		.102		7.64	1833	7.2050	6.87	1.969	1700
	10		.305		7.40	1639	7.3774	6.60	2.1	1520
	11		.406		7.49	1667	7.1706	6.58	2.001	1545
	12				0.14	1831	18.0643	6.64	4.692	1699
	13	IN-LINE			7.56	1706	7.1706	6.65	2.001	1582
	14		.305		7.53	1711	7.2050	6.65	2.001	1587
	15		.178		7.66	1772	7.1706	6.76	1.969	1643
	16				-0.15	1844	7.0327	6.90	1.903	1702
	18				14.96	1722	7.1361	6.70	2.001	1610
	19			.254	7.63	1886	7.1361	7.00	1.870	1749
	20	STAGGERED		.254	7.49	1767	7.2740	6.76	2.034	1638
	21		0	0.0	7.53	1492	7.1016	6.21	2.001	1385
	22		0	0.0	7.30	1689	7.1706	6.60	2.034	1566
	1	CAL. PLATE			7.70	1694	7.1016	6.60	1.969	1572
	3				0.10	1722	6.5500	6.70	1.870	1590
	4				0.08	1719	17.8574	6.45	4.692	1588



## RSI GAP HEATING ANALYSIS - II VOLUME II

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6.1 Model Description - A large gap panel was fabricated for performing heating tests in the presence of a turbulent boundary layer. The same test panel was to be used in both the HTST and the AFFDL 50 MW Arc Tunnel Tests. The panel was originally scheduled for testing at AFFDL but was switched to the LaRC HTST due to fabrication difficulties with the test fixture by the vendor. The 50 MW tests were intended to determine the effects of higher enthalpy on the heating in a field of RSI gaps, and would have also provided a comparison of arc and wind tunnel gap heating data. The AFFDL test program was subsequently cancelled.

The test panel as shown in Figure 6.1-1 consisted of eleven LI 900 silica tiles with an interchangeable thin skin metallic center tile. Testing was planned for both the center LI 900 tile and the center metallic tile, but time permitted testing only of the metallic tile. The panel size was 46 x 46 x 6.5 cm.

Both the LI 900 and the metallic tiles were heavily instrumented with the thermocouple locations for the thin wall metallic center tile shown in Figure 6.1-2. The RSI panel was mounted in a large test sled for free stream testing and permitted variation of angle of attack relative to the tile array. The panel was tested in both the in-line and staggered tile configurations. Figure 6.1-3 shows the flow orientation for the RSI tile array. Tile numbers affixed to the tiles are also shown. Gaps between the tiles were adjustable to study the effects of gap width, and shims were used under the tiles to study the effects of step heights. A companion plate that fitted into the same opening as the test panel was used for calibration purposes.

The following drawings (Figures 6.1-4 thru 6.1-10) were prepared to define the various detail parts and assemblies:

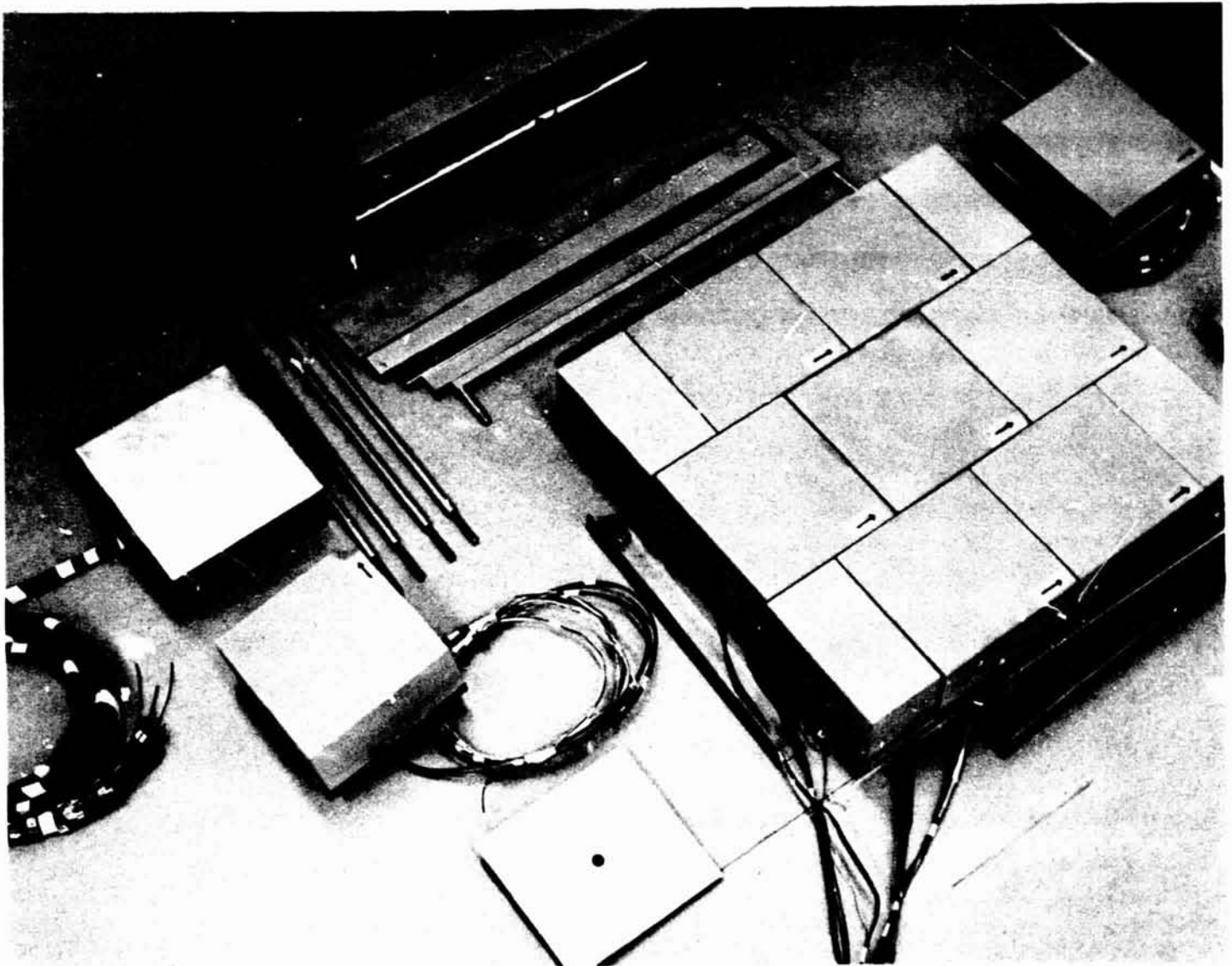
- a. 70J037004 50 MW Arc Tunnel Plasma Wedge/RSI Tile Interface
- b. 70J037005 Study Enclosure of Fwd End in 50 MW Plasma Wedge Test Compartment
- c. 70T037039 RSI/Sponge Assy 50 MW Plasma Wedge
- d. 70T037040 Tile Assy - 50 MW Plasma Wedge
- e. 70T037041 Shim & Spacers 50 MW Arc Tunnel Plasma Wedge
- f. 70T037042 Support Assy - 50 MW Plasma Wedge
- g. 70T037043 Installation Assy - 50 MW Arc Plasma Wedge Sheets 1 and 2

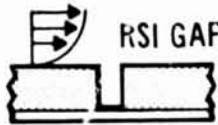
Thermocouple locations were confirmed and/or determined with the use of x-rays of the instrumented tiles. When x-rays were used, the effects of parallax were accounted for in the measurement. The x-rays are documented in Figures 6.1-11 thru 6.1-19.



46x46 CM RSI GAP HEATING EVALUATION PANEL  
MINIMUM GAP SETTING

LaRC 8 - FOOT HTST TESTS





# 46x46 CM RSI GAP HEATING EVALUATION PANEL MAXIMUM GAP SETTING

LaRC 8 - FOOT HTST TESTS

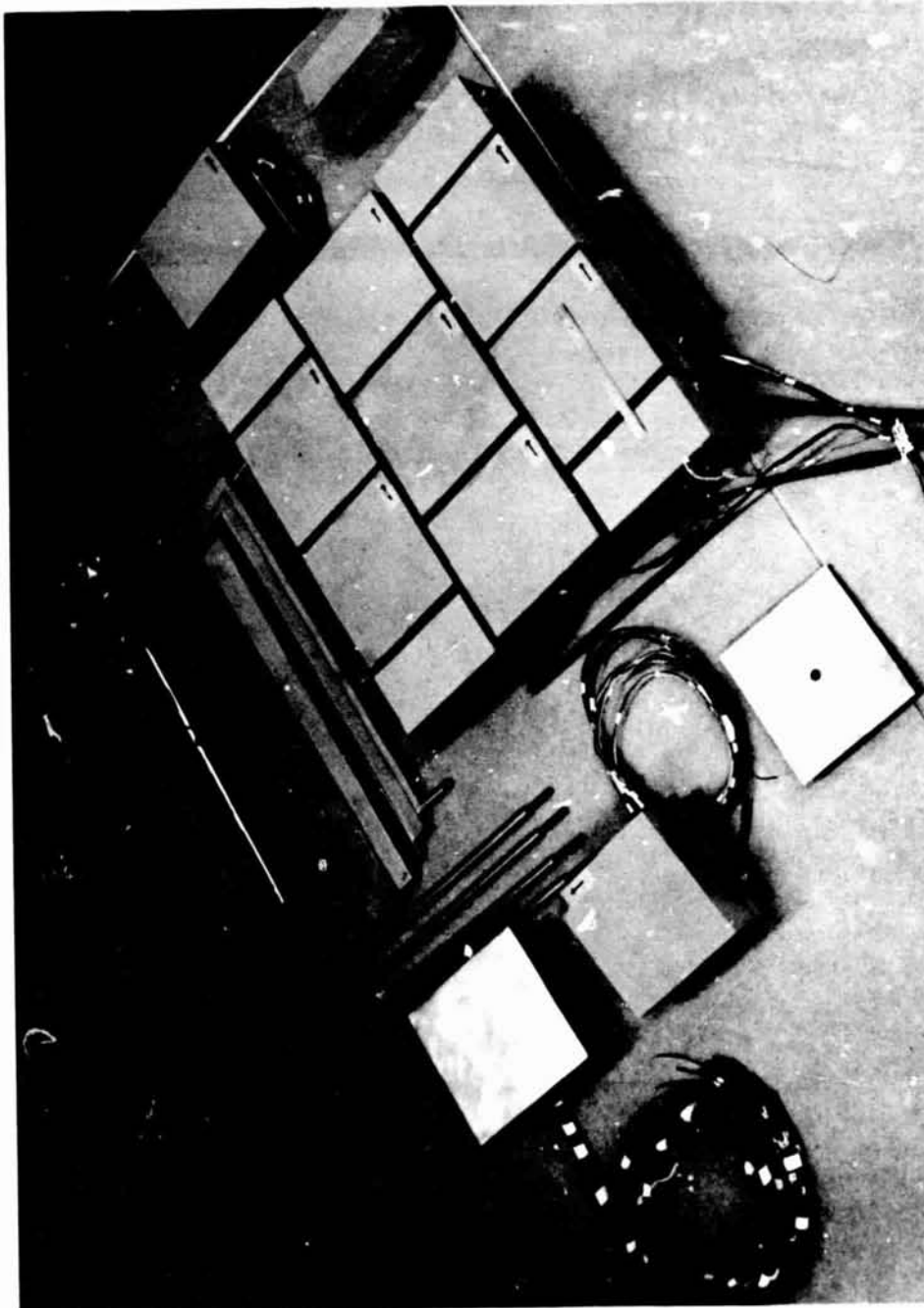
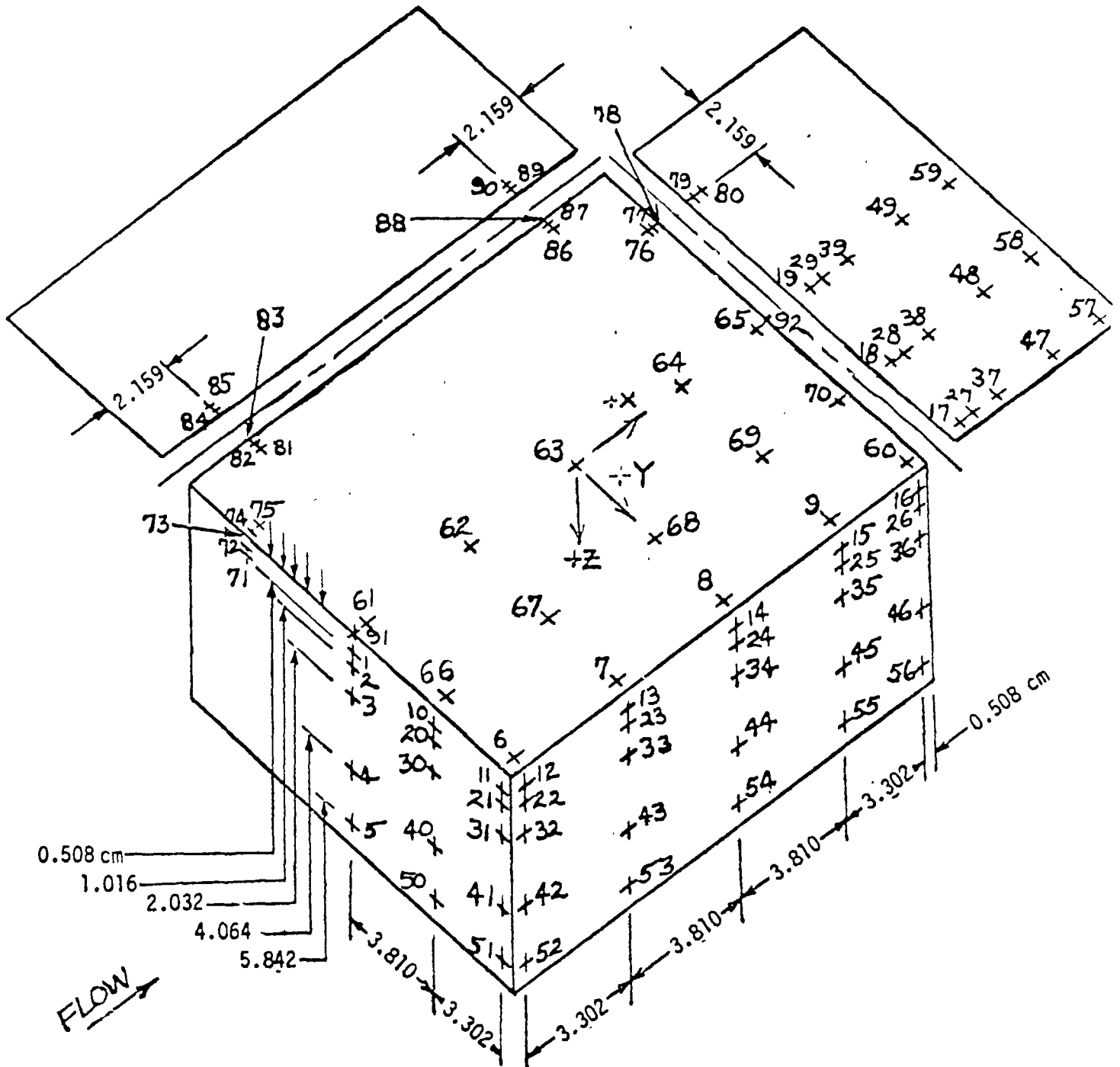


FIGURE 6.1-1 CONC.





### THERMOCOUPLE LOCATIONS ON THIN WALL METALLIC CENTER TILE



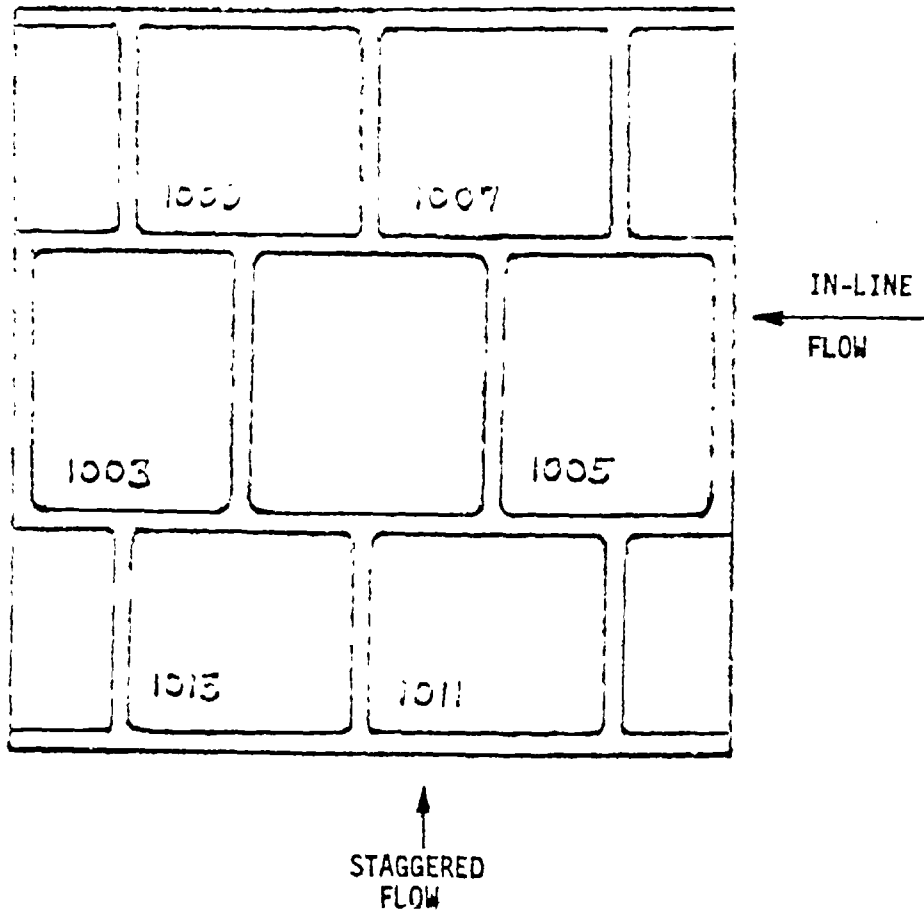
6.1-4

FIGURE 6.1-2



# FLOW ORIENTATION FOR TESTS OF RSI TILE ARRAY

(TILE NUMBERS ARE SHOWN ON SKETCH.)



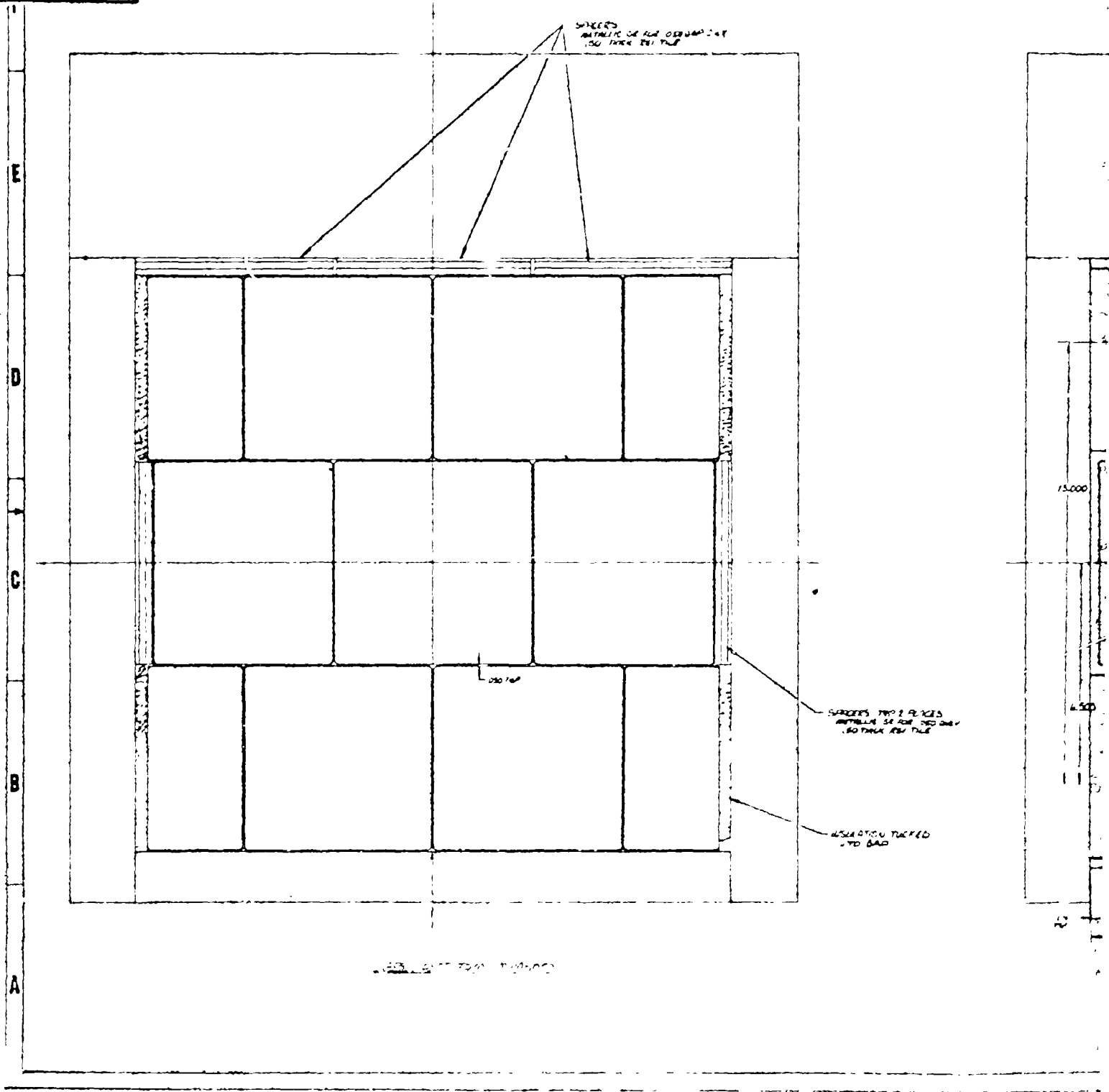
6.1-5

FIGURE 6.1-3

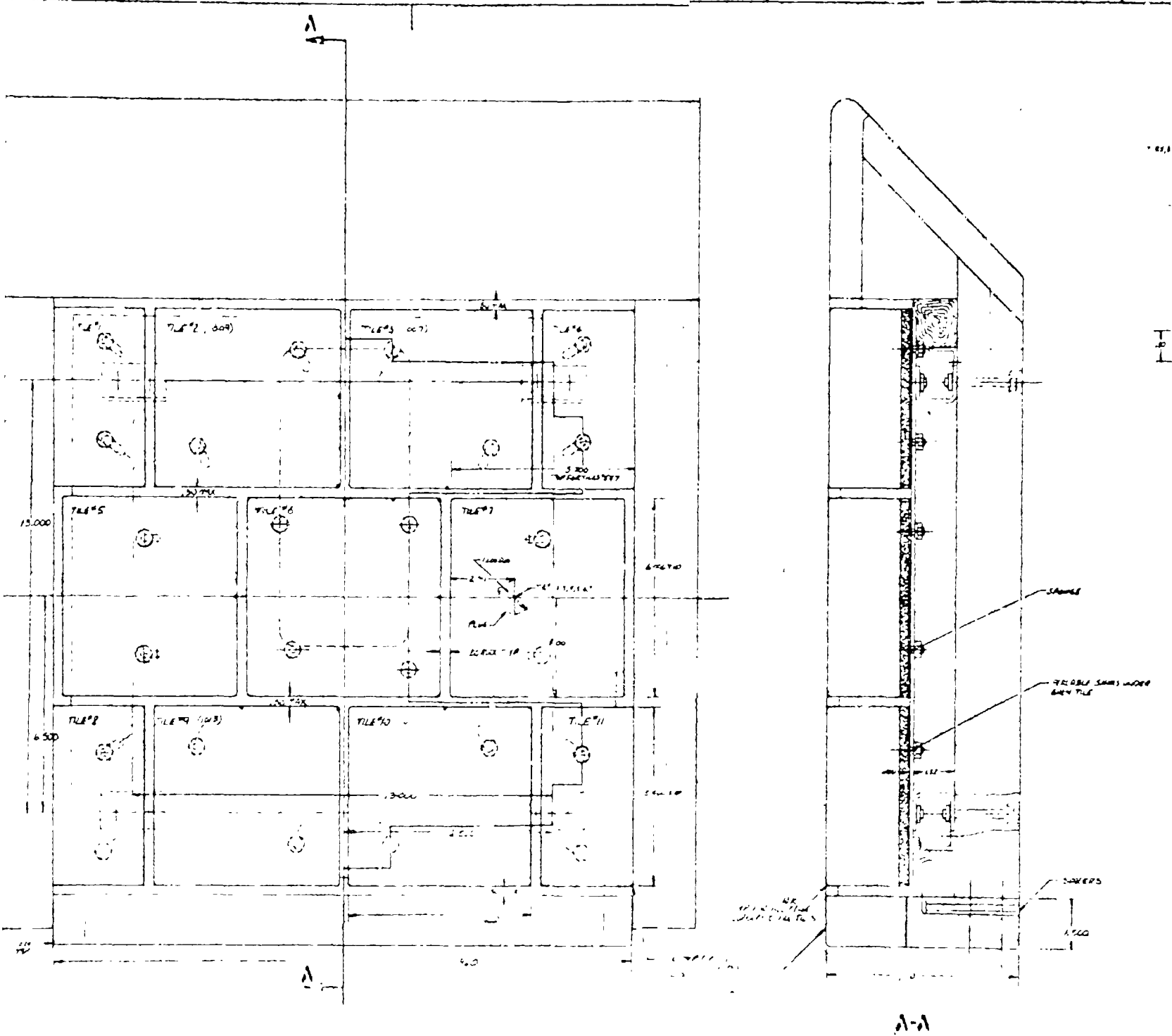


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FOLDCUT



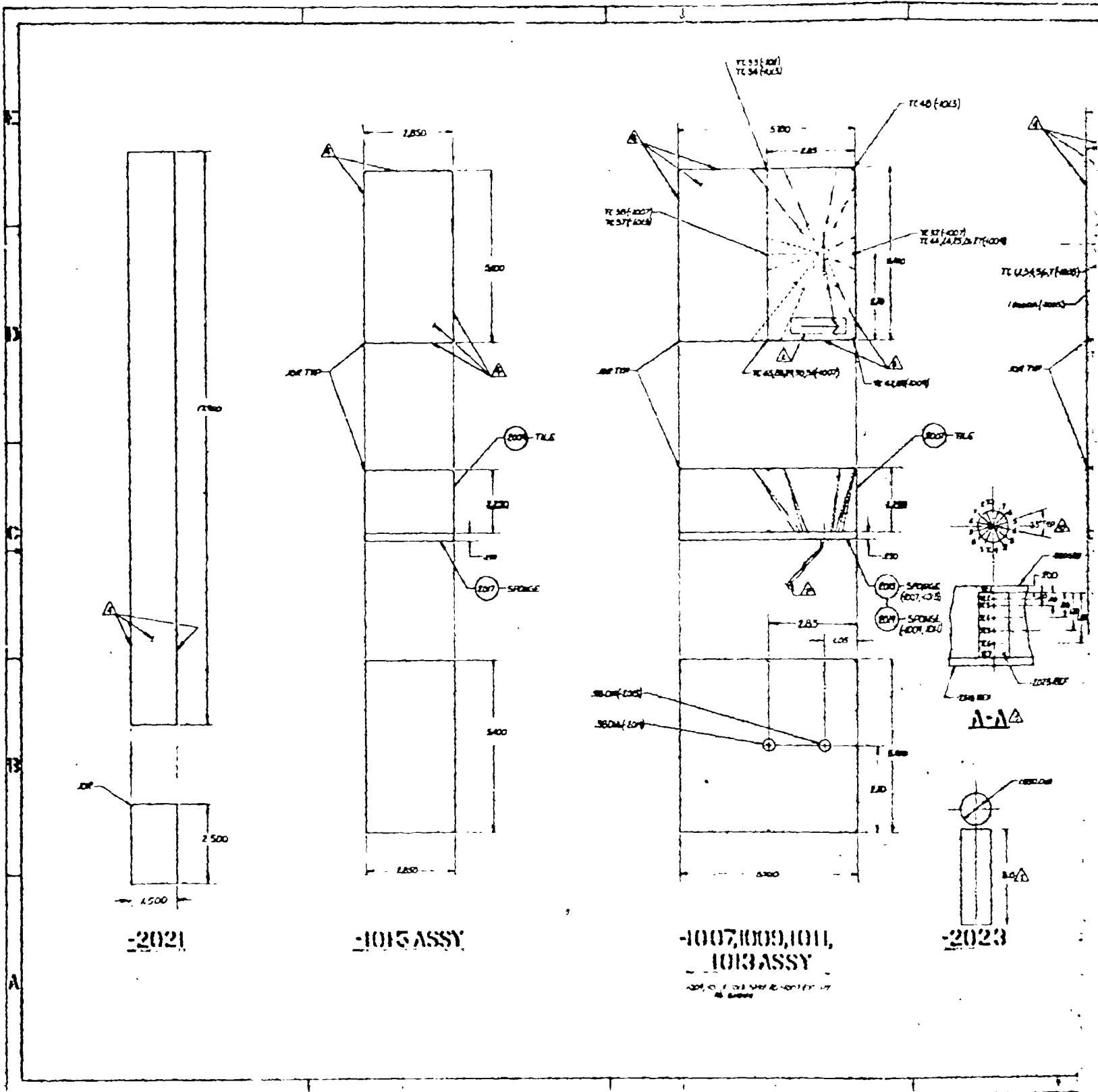
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6.1-8









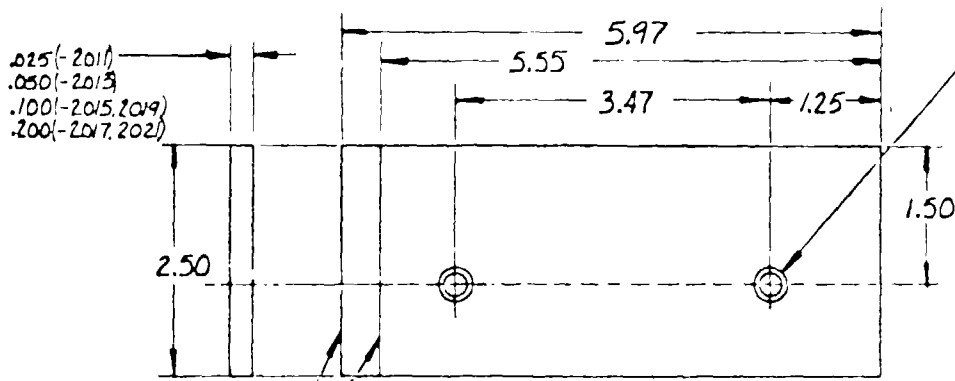






RSI GAP HEATING ANALYSIS - II  
VOLUME II

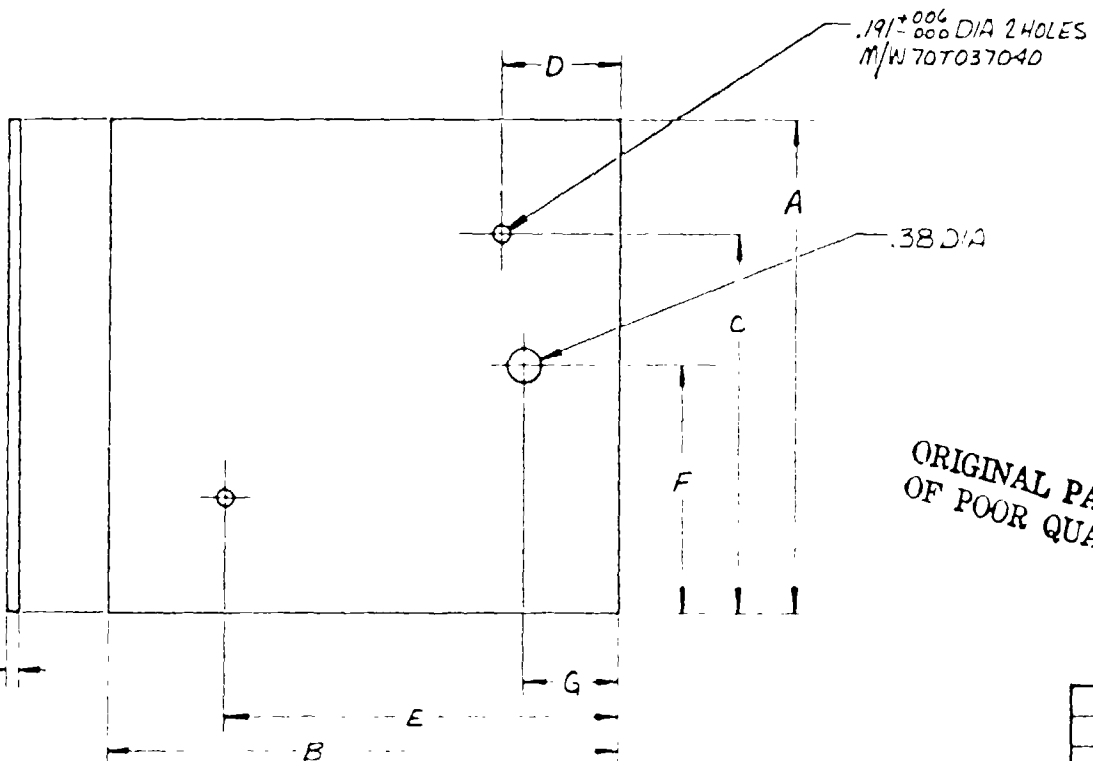
REPORT MDC E1248  
JSC 09651



.191<sup>+000</sup>/<sub>000</sub> DIA 2 HOLES (ONLY ON 2015 & 2017)  
M/W L D-524209 WATER COOLED PANEL  
CHK FOR FLUSH FIT OF WAS33FAB BOLT

E.O.P. 2011, 2013, 2015, 2017  
E.O.P. 2019, 2021

**-2011, -2013, -2019**  
**-2015, -2017, -2021**



.191<sup>+000</sup>/<sub>000</sub> DIA 2 HOLES  
M/W 70T037040

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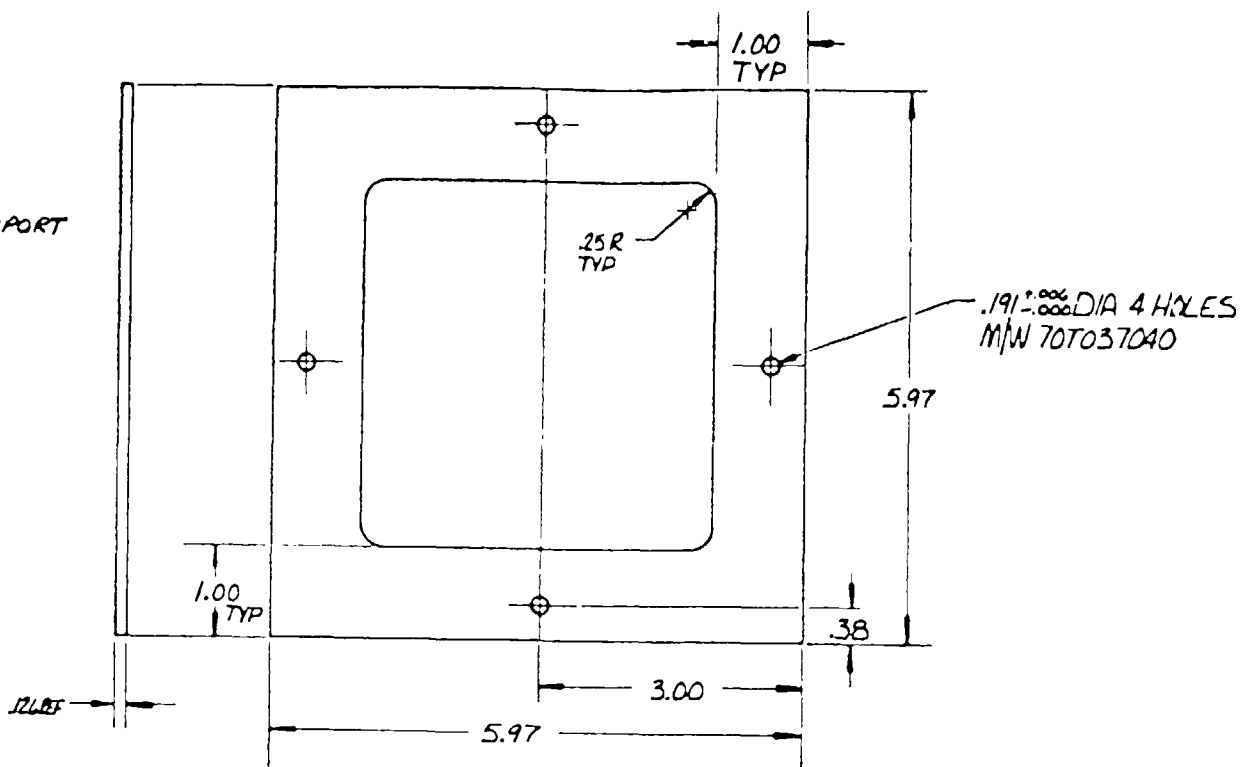
**-2003, -2005**  
**-2007, -2009**

	A	B	C	D	E	F	G
-2003	5.97	5.55	3.47	1.25	1.50		
-2005	5.97	5.55	3.47	1.25	1.50		
-2007	5.97	5.55	3.47	1.25	1.50		
-2009	5.97	5.55	3.47	1.25	1.50		

	B	2011	

FOLDOUT FRAME

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED



**-2001**

QTY	QTY	CODE	PART OR	NOMENCLATURE	STOCK	MATERIAL OR	DRAWING OR	NOTE	ZONE
REQD	REQD	IDENT NO	IDENTIFYING NO	OR DESCRIPTION		MATERIAL CODE	SPECIFICATION NO	NO	
8		-2021	SPACER	.188 X .50 X .570	30 5" ST		11L-5-2721 COMPTI		
2		-2019	SPACER	.170 X .50 X .570					
10		-2017	SPACER	.188 X .50 X .570					
6		-2015	SPACER	.100 X .50 X .50					
2		-2013	SPACER	.050 X .50 X .50					
2		-2011	SPACER	.025 X .50 X .50					
4		-2009	SHIM	.126 X 5.7 X 6.3		301 LAM SHIM STK	11L-5-2247-5 61-11 11-14-11		
2		-2007	SHIM	.126 X 5.7 X 6.3					
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2		-2003	SHIM	.126 X 5.7 X 6.0					
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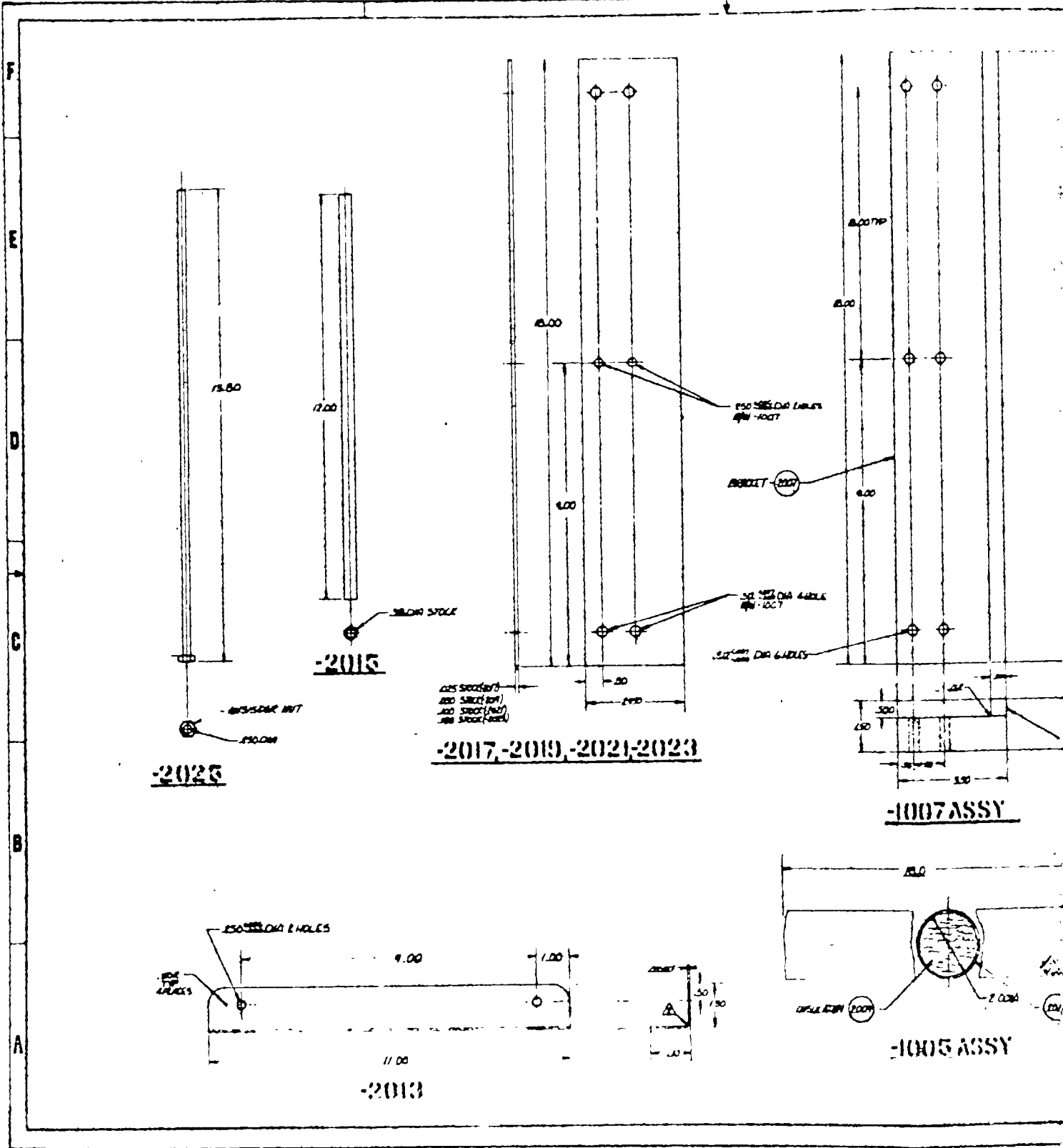
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2001	2	7073143		LOFT DATA					
2011	2	7073144		LAYOUT					
2007	4	7073142		NO					
2007	2			TOLEANCE UNLESS NOTED					
	2			XX = ± .03					
	4			XXA = ± .00					
	1			FINISH					
				SPEC					
				CONTR					

MCDONNELL DOUGLAS AERONAUTICS COMPANY LEASBY  
 SAINT LOUIS MISSOURI  
**MCDONNELL DOUGLAS CORPORATION**

SHIM & SPACERS -  
 50mm Arc Tunnel Plastic Wedge

SIZE: D CODE IDENT NO: 707301  
 707037041

**FOLDOUT FRAME** **FIGURE 6.1-8**



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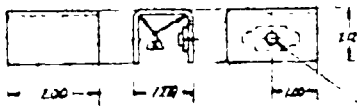


PLATE

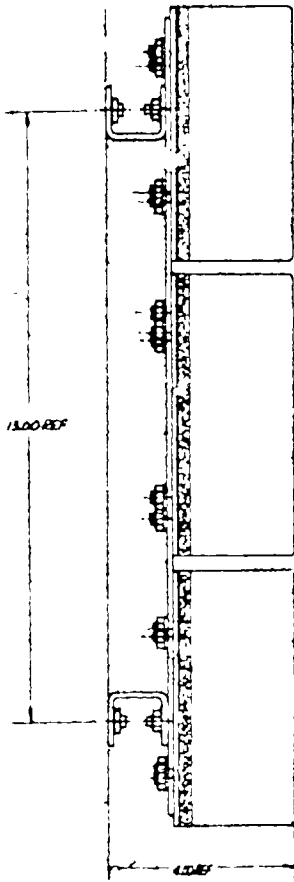
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6 PLACES

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ASSEMBLY BAR  
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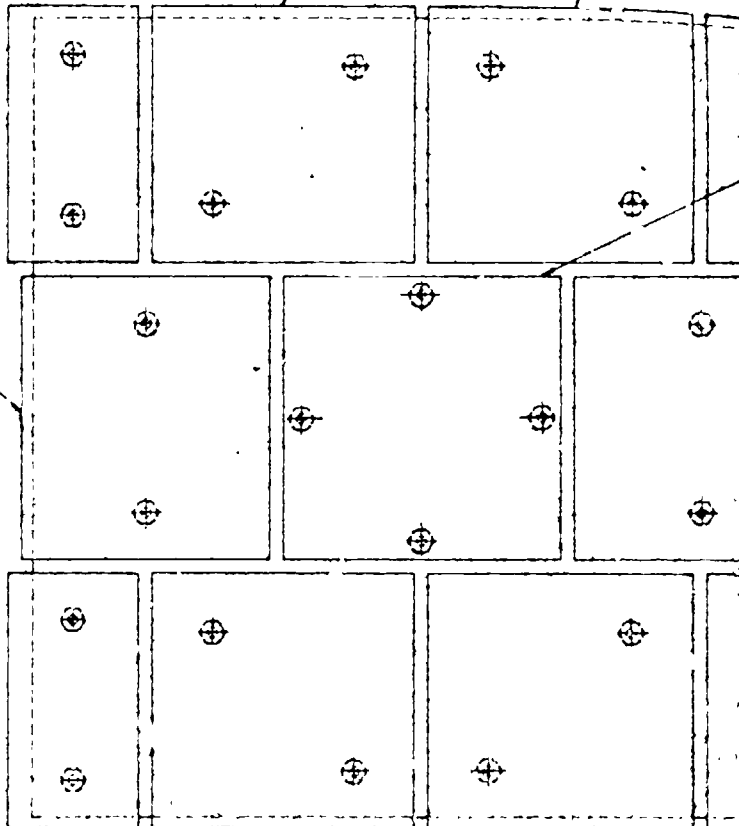
-2005



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707037040-1003 SUB  
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ANODE NUT LEGD

707037040-1004 TILE ASSY  
707037040-1004 SUB  
44% W/SHR 1 P/CO  
ANODE NUT LEGD

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ANODE NUT LEGD



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-1001 ASSY

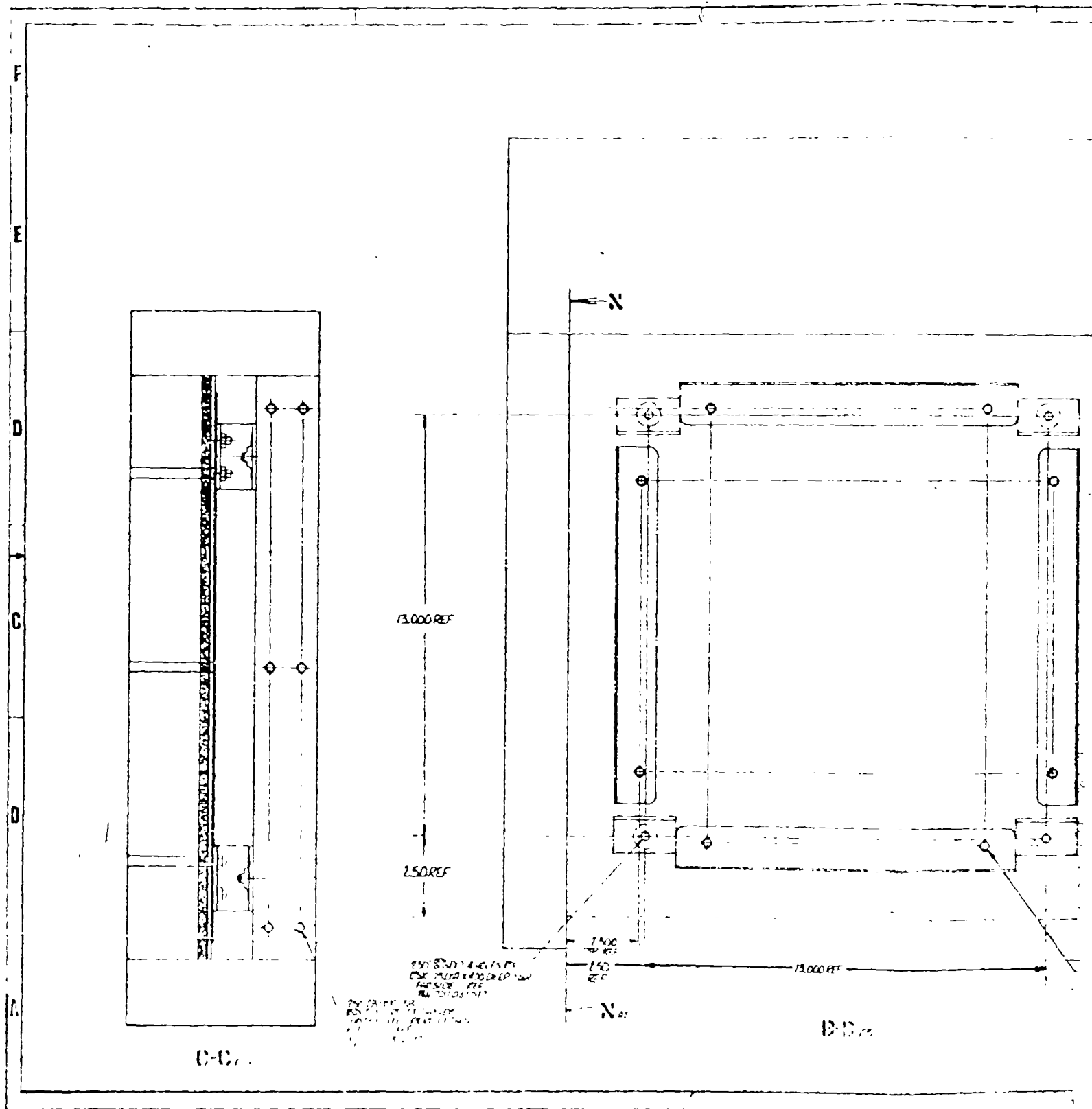
\*1003 ASSY SAME AS 1004 ASSY  
& REPT AS 540 MM

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707037040-1005 SUB  
44% W/SHR 1 P/CO  
ANODE NUT LEGD



OLDOUT FRAME

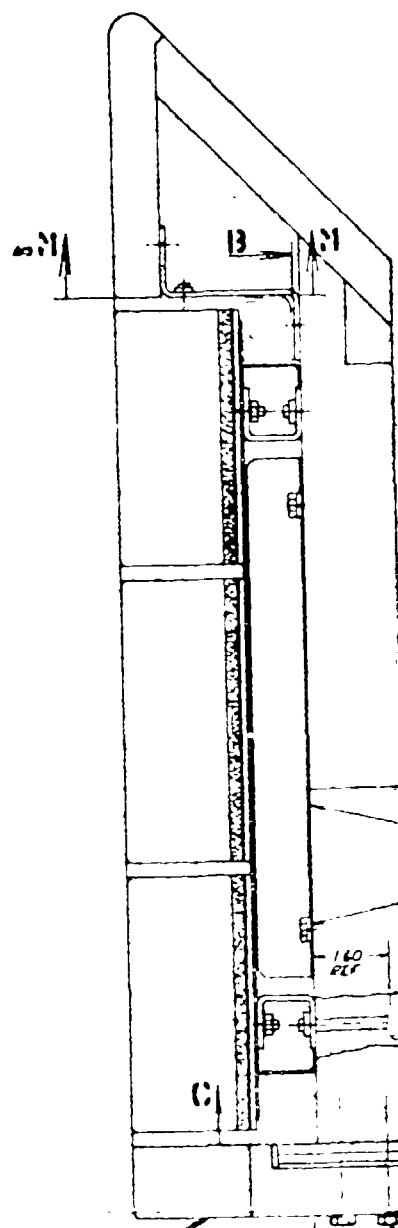
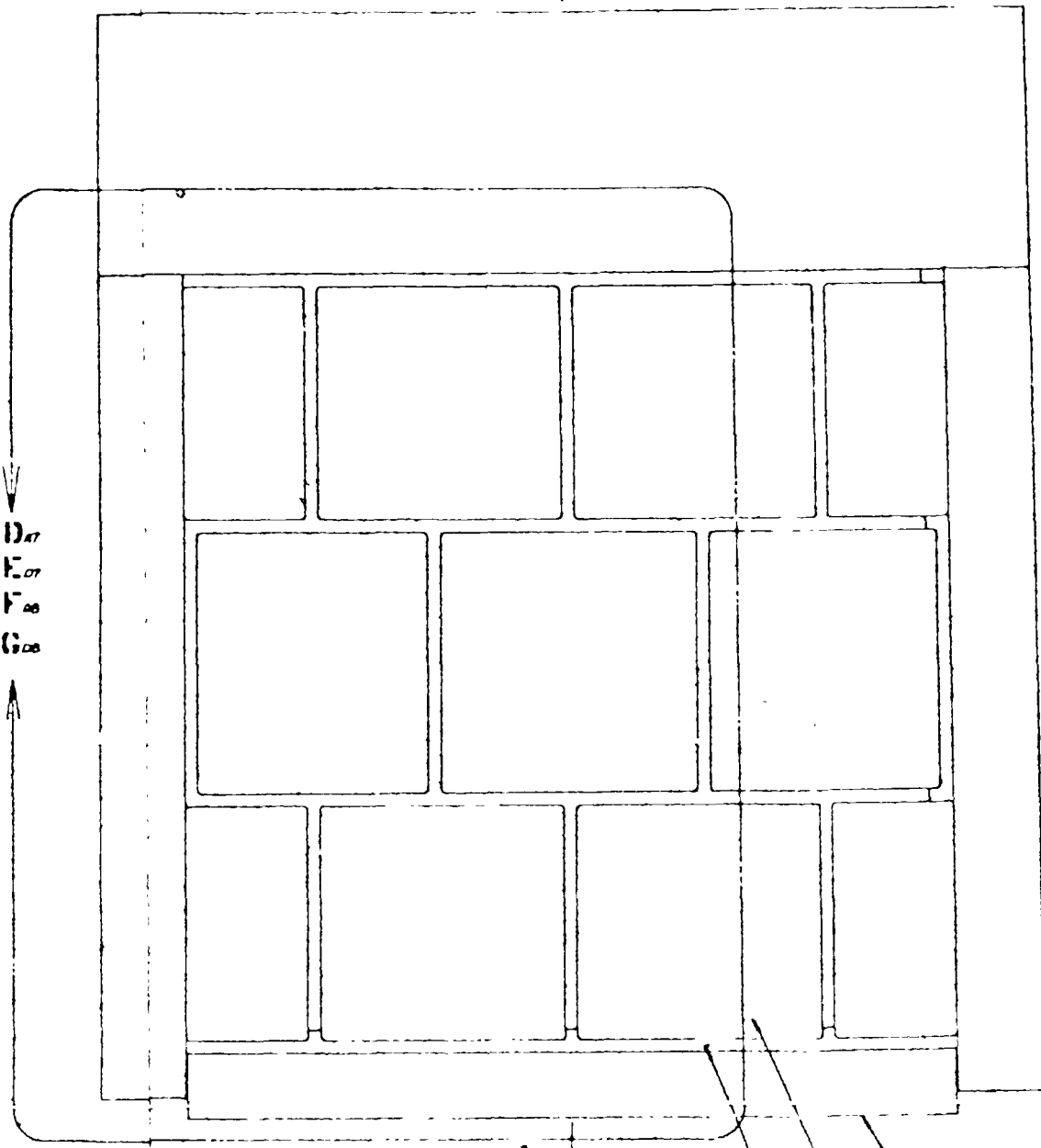




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6.1-12





D 07  
 E 07  
 F 06  
 G 06

ALL GAPS SHALL BE 0.010

-1011, -1009 ASSY  
 -1003, -1001 ASSY

737037042-1007 BOTTLE - SV  
 707037042-1001 SLEEVE RT ASSY (400, 1009)  
 707037042-1002 SLEEVE ASSY (400, 1009)

A-A  
 05





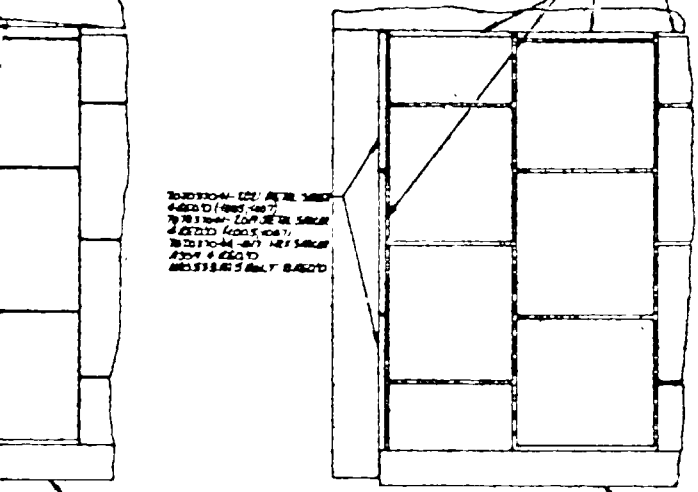




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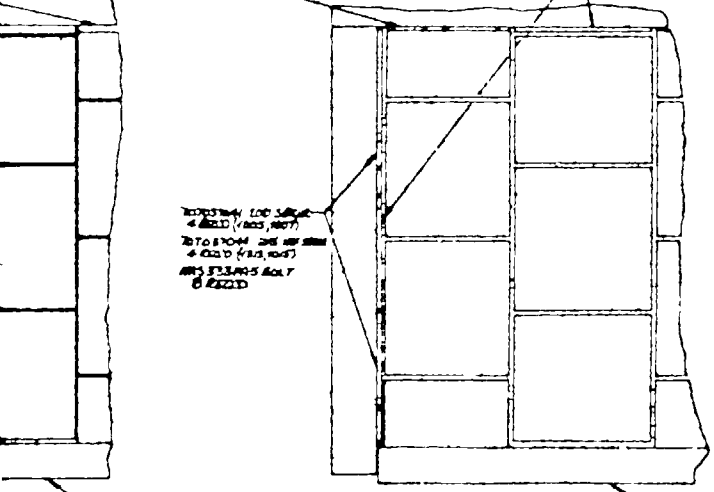
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 10/1/72

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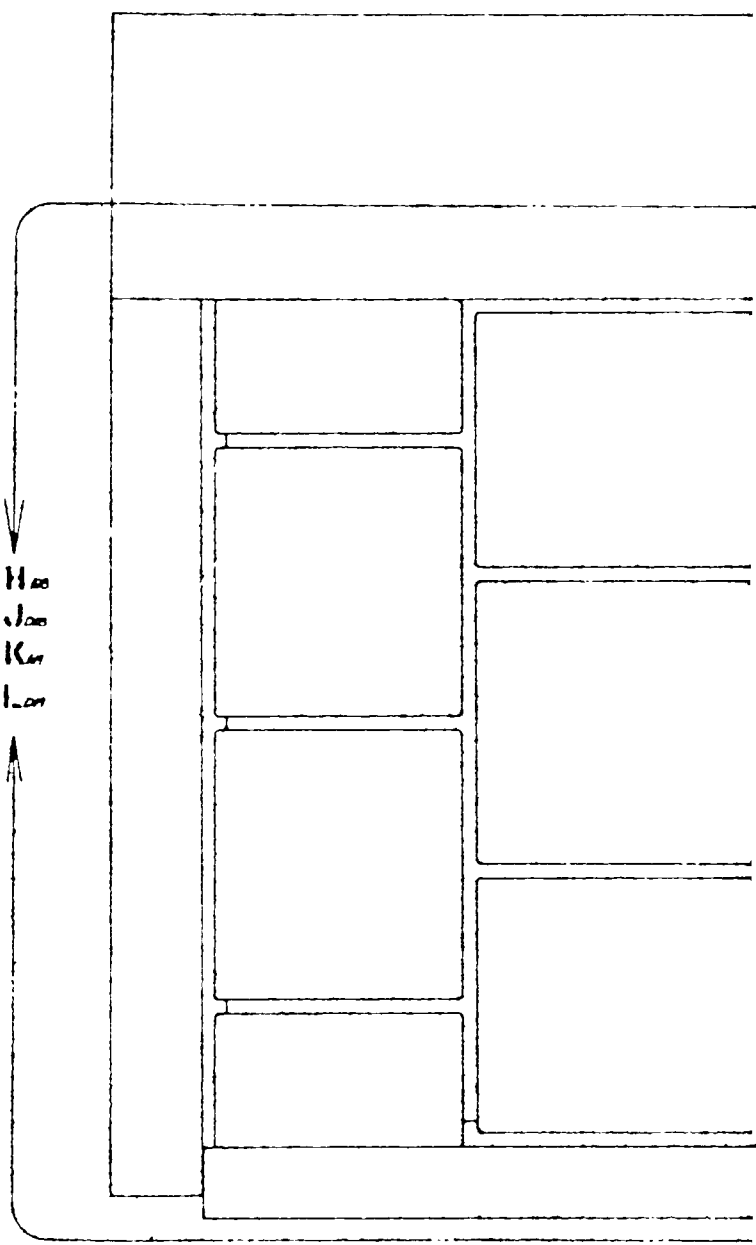


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 7073204-103 METAL SHIELD & GASKET (400, 407)  
 7073204-104 METAL SHIELD & GASKET (400, 407)  
 7073204-105 METAL SHIELD & GASKET (400, 407)

ALL GAPS SHOULD BE 1/16"

7073204-107 METAL SHIELD & GASKET (400, 407)  
 7073204-108 METAL SHIELD & GASKET (400, 407)  
 7073204-109 METAL SHIELD & GASKET (400, 407)  
 7073204-110 METAL SHIELD & GASKET (400, 407)

-II-07  
 10/1/72

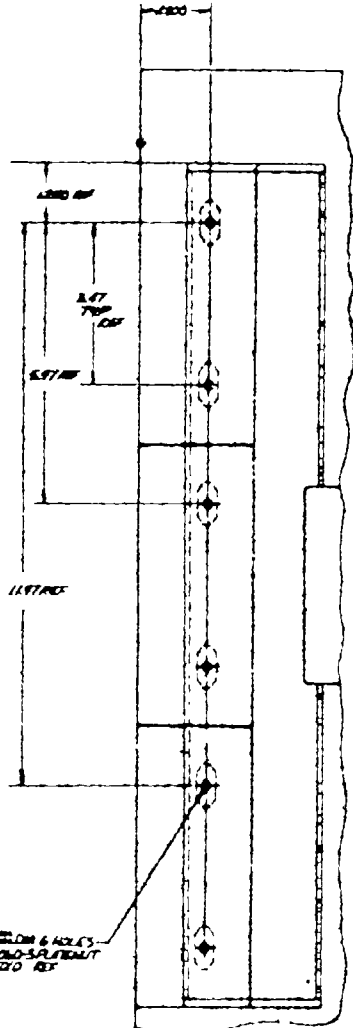
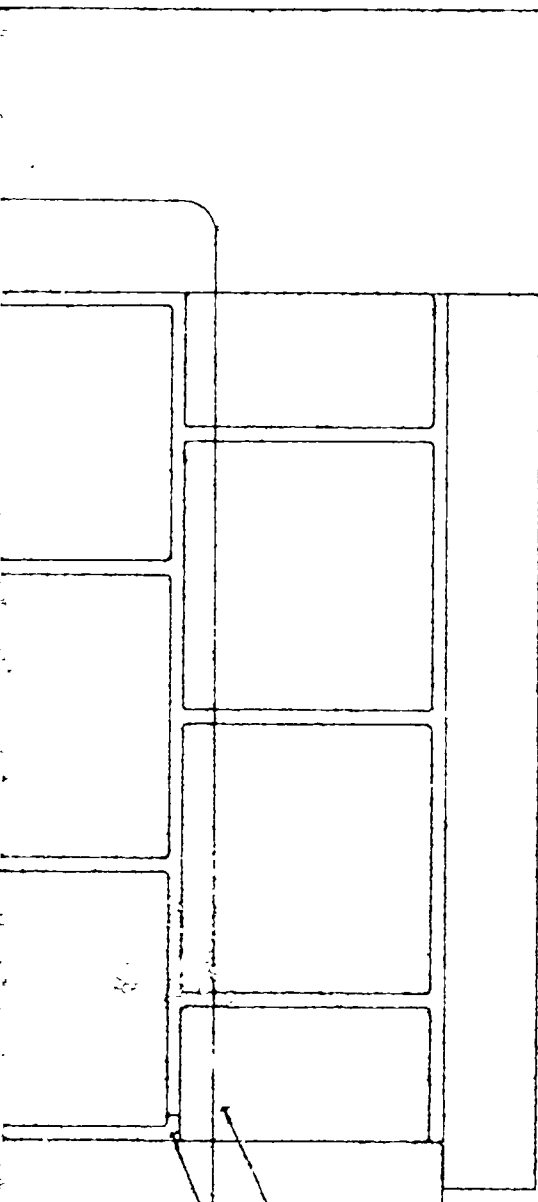


ALL GAPS SHOULD BE 1/16"

-1013-1013 ASSY  
 -1007-1005 ASSY

7073204-107 METAL SHIELD & GASKET (400, 407)  
 7073204-108 METAL SHIELD & GASKET (400, 407)  
 7073204-109 METAL SHIELD & GASKET (400, 407)  
 7073204-110 METAL SHIELD & GASKET (400, 407)

FOLDOUT PAGE 3



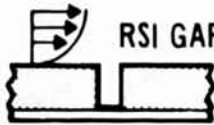
151.00

ASSY ASSY  
 PART 05-1005  
 24

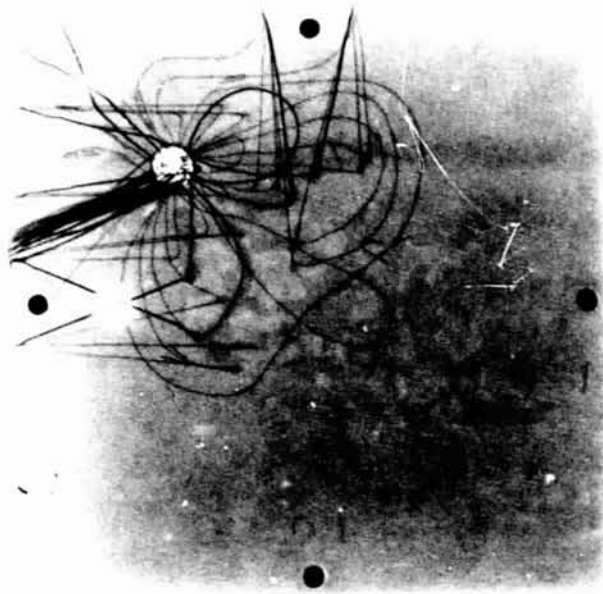
- 707037042-1007 END TIE ASSY
- 707037042-1025 SPRING (2) (200)
- 707037042-1021 SPRING
- 707037042-1001 SUPPORT ASSY (1005, 1018)
- 707037042-1008 SUPPORT ASSY (1007, 1005)
- 707037042-1005 INSULATION ASSY (1005)

REV	DATE	BY	CHKD	DESCRIPTION	QUANTITY	UNIT	REVISIONS
1				INSTALLATION ASSY			
2				50mm ARC PLASMA WEDGE			
							707037043

FIGURE 6.1-10  
 CONC.



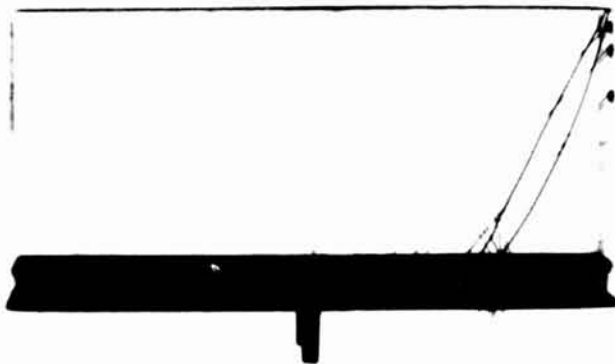
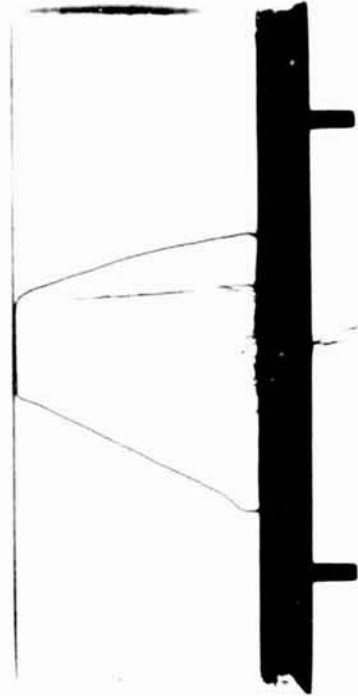
RADIOGRAPH OF TILE ASSEMBLY 1001-31  
46x46 CM RSI GAP HEATING EVALUATION PANEL

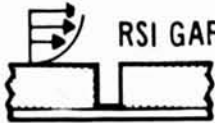




RADIOGRAPH OF TILE ASSEMBLY 1003-29  
46x46 CM RSI GAP HEATING EVALUATION PANEL

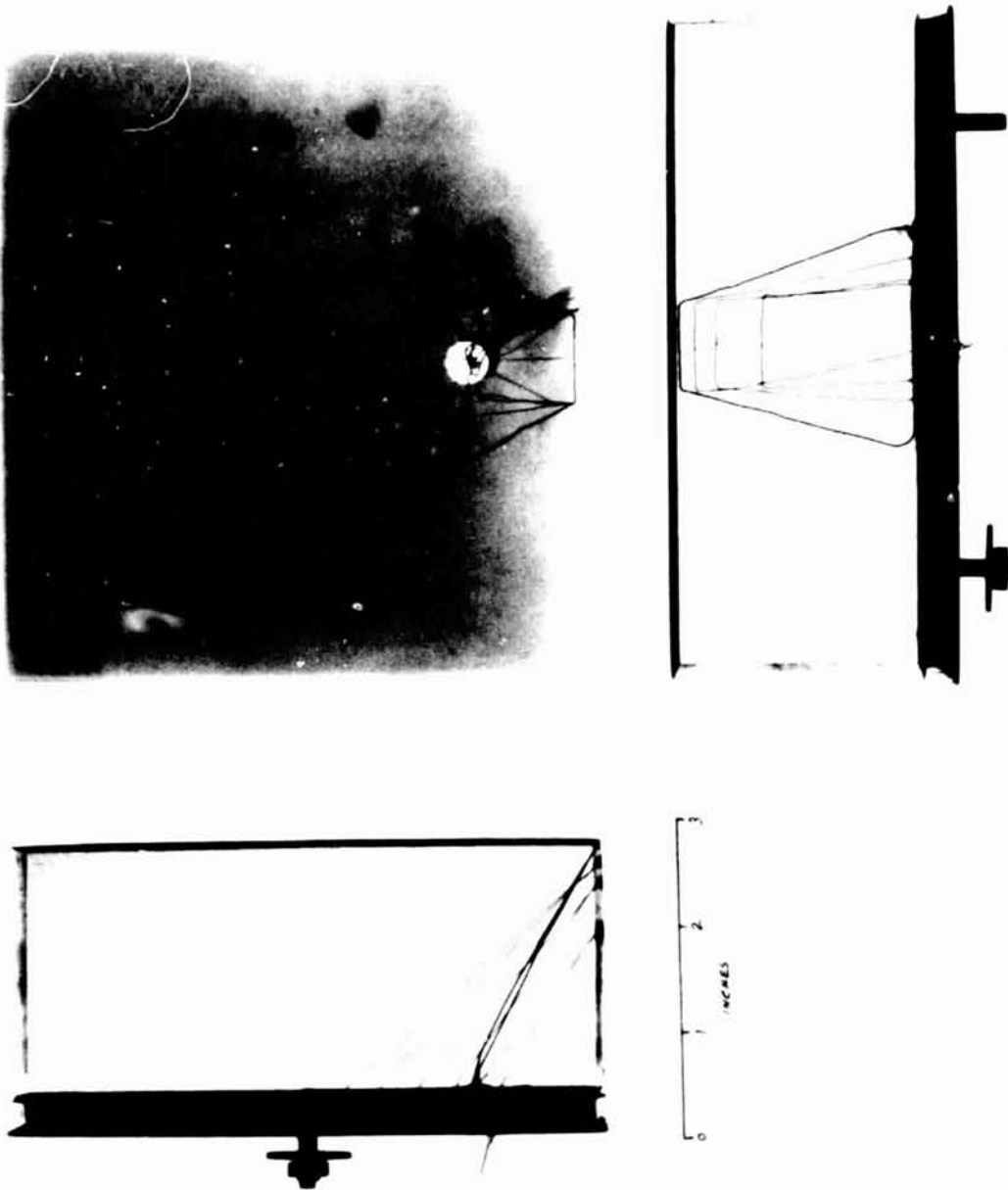
1003-29





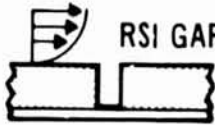
RADIOGRAPH OF TILE ASSEMBLY 1003-35  
46x46 CM RSI GAP HEATING EVALUATION PANEL

1003-35



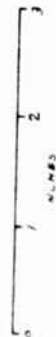
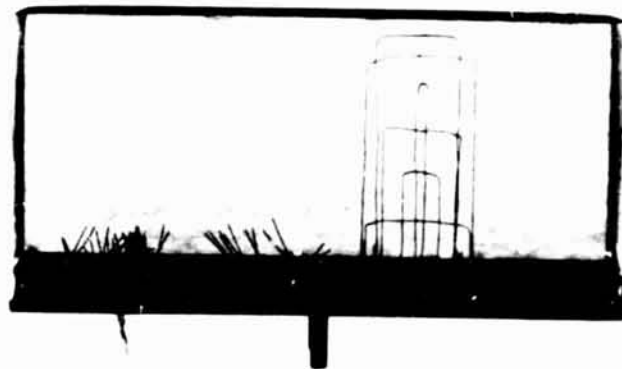
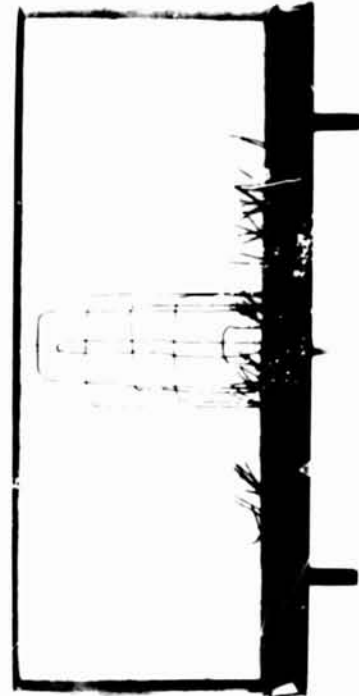
6.1-16

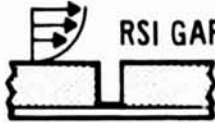
FIGURE 6.1-13



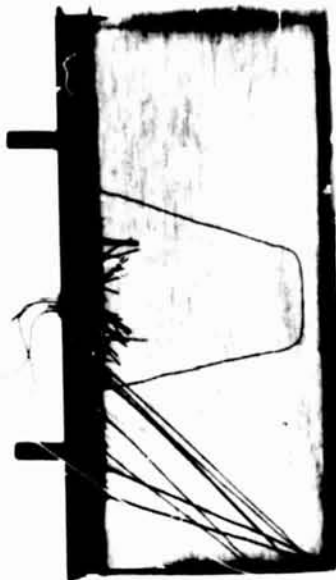
RADIOGRAPH OF TILE ASSEMBLY 1005-20  
46x46 CM RSI GAP HEATING EVALUATION PANEL

1005-20

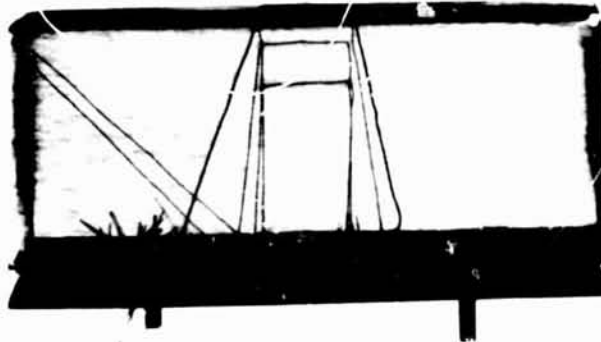




RADIOGRAPH OF TILE ASSEMBLY 1007-30  
46x46CM RSI GAP HEATING EVALUATION PANEL

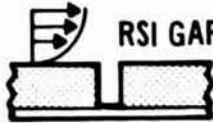


0  
1  
2  
INCHES



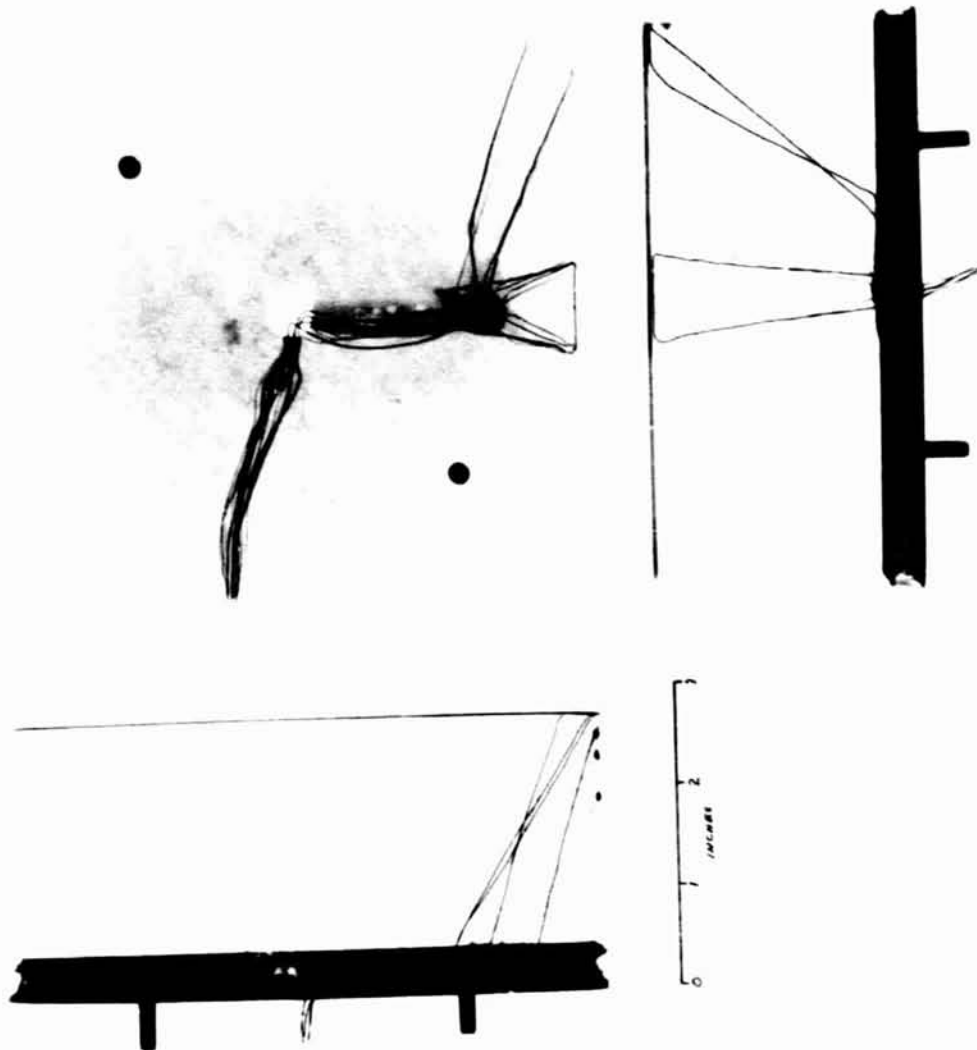
1007-30

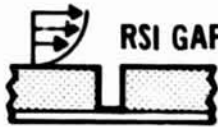




RADIOGRAPH OF TILE ASSEMBLY 1009-28  
46x46 CM RSI GAP HEATING EVALUATION PANEL

1009-28

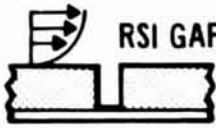




RADIOGRAPH OF TILE ASSEMBLY 1011-26  
46x46 CM RSI GAP HEATING EVALUATION PANEL

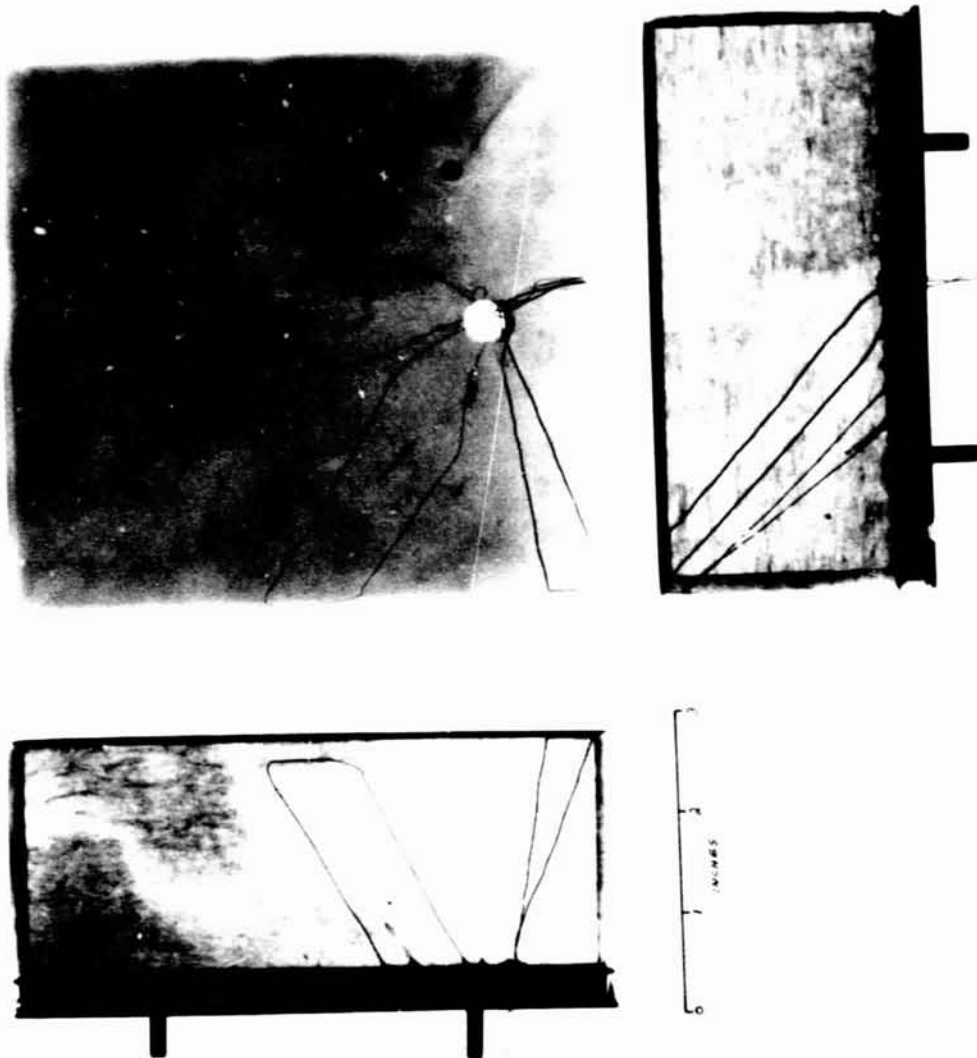
1011-26





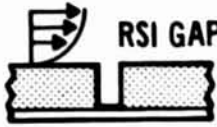
RADIOGRAPH OF TILE ASSEMBLY 1013-19  
46x46 CM RSI GAP HEATING EVALUATION PANEL

1013-19

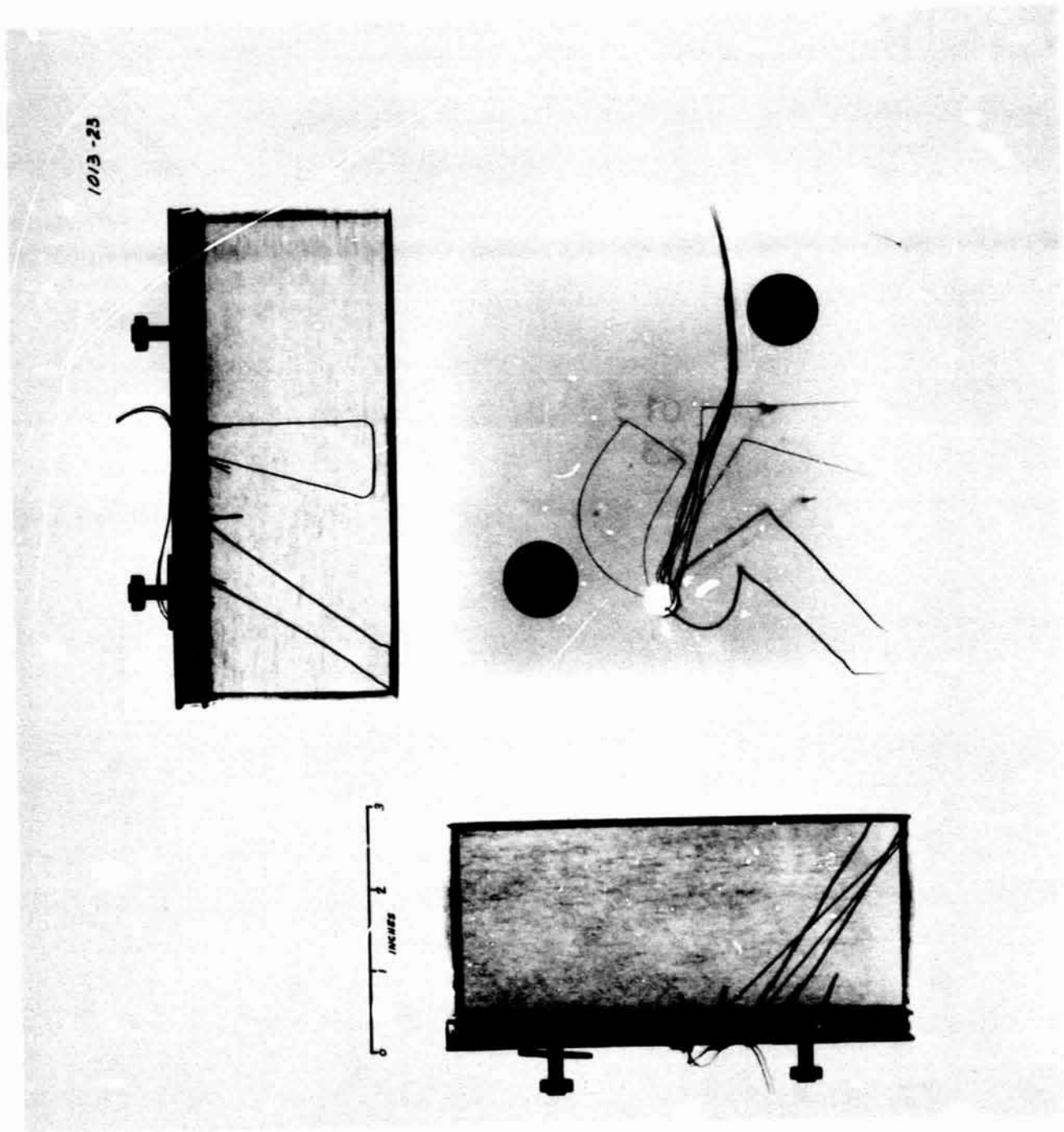


6.1-21

FIGURE 6.1-18



RADIOGRAPH OF TILE ASSEMBLY 1013-23  
46x46 CM RSI GAP HEATING EVALUATION PANEL



6.1-22

FIGURE 6.1-19



6.2 Explanation of Terminology Used in Data Listing - Results from the HTST tests presented in Section 6.3 are organized by run number and contain information about test conditions, model configuration and thermocouple location, heat transfer parameters and boundary layer parameters. The data listing was prepared by analyzing and combining information recorded during calibration and test runs with boundary layer information.

The terminology used in the data listing is as follows:

TT	=	Free stream total temperature
PTC	=	Combustor pressure
TAW	=	Adiabatic wall temperature
MACH	=	Mach number
PT(I)	=	Total pressure ahead of normal shock
P(F)	=	Free stream pressure
T(FS)	=	Free stream temperature
D-PRESS(FS)	=	Free stream dynamic pressure
(RHO-V)FS	=	Product of free stream density and velocity
(CP-RHO-V)FS	=	Product of free stream specific heat, density, and velocity
(RHO-TAU-CP)M	=	Product of metal tile density, thickness, and specific heat
RE/METER	=	Free stream Reynolds number
H(FLAT PLATE)	=	Tunnel reference flat plate heat transfer coefficient
TTIME	=	Test time at which computations were obtained
STEP	=	Step height
GAP	=	Gap width
CP(GAS)	=	Gas specific heat
RECOVERY FACTOR	=	TAW/TT
T/C	=	Thermocouple number
CH	=	Channel number
X	=	X-coordinate of instrumentation point, origin at center of tile
Y	=	Y-coordinate of instrumentation point, origin at center of tile
Z	=	Distance from top of tile (X, Y, Z for right hand coordinate system)
XBAR	=	Surface distance from tile center
YBAR	=	Lateral surface distance from tile center
Q	=	Convective heating rate

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- HT                    = Turbulent convective heat transfer coefficient (0.912 recovery factor), uncorrected
- HTDHP               = Heat transfer ratioed to theoretical flat plate heat transfer coefficient, uncorrected.
- HT/HF               = Convective heat transfer ratioed to calibration plate heating
- NSTT                 = Stanton number based on free stream conditions and HT
- T                     = Local temperature recorded on the thin skin tile at TTIME
- HTC/HF              = Conduction corrected HT ratioed to calibration plate heating
- HTC/HEC             = Conduction corrected HT ratioed to heat transfer coefficient on tile surface near gap (conduction corrected)
- HT/H-CNTR          = Heat transfer coefficient ratioed to heat transfer coefficient at center of tile



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6.3 Data Tabulation for LaRC 8 Foot HTST Gap Heating Tests - This section contains the program for transcribing data from the HTST into the Data Bank and the tabulation generated by the program. The program listing is included for completeness and also documents those steps necessary to process the data into the Data Bank. The data listing begins on Page 6.3-26. This listing employs the "24 Attribute Word List" (described in Volume I, Section 5) used in the data selection and data correlation programs.

































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PAGE 1

LARC 8 FOOT HTSI, RSI GAP HEATING TEST 57 RUMI 4) 1974

CONFIGURATION = STAGED CH  
ANGLE OF ATTACK = 7.378 DEG  
RECOVERY FACTOR = 0.912 J/RG-K

ITC  
K/M2  
K  
K/M2  
K/M2  
K/M2  
K/M2-S  
J/M2-S  
J/M2-S  
K/M2-S  
SEC  
SEC

SPECIFIC HEAT CORRECTED

T/C	CH	XBAR	YBAR	Y (CM)	XBAR (CM)	YBAR (CM)	HT (K/M2-S)	HTDHP	HT/MF	MST	Y (K)	HTC/MF	HTC/MEC	HT/H-CMFR
1	1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8	8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10	10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11	11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	15	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	16	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	17	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	18	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	19	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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24	24	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25	25	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
26	26	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
27	27	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28	28	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
29	29	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	30	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	31	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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34	34	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.3-26







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I/C	UM	LCR	FOOT	HIST.	RSI GAP	HEATING	TEST	57	Q (M/M-S)	MTDMP	1974	PAG.	MSIT	T (K)	MTL/HF	HTC/HEC	HT/M-CNTR	
33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39
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41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
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65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67
68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68
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74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80

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T/C	CH	LARC 8 FOOT HTST, RSI GAP HEATING TES: 57	RUM (8) 1974	PAGE 10	HT/HP	MT/HT	MSTT	T (K)	MTC/MF	MTC/SEC	HT/M-CRTR
32	53	7.12	7.12	7.12	7.12	7.12	7.12	7.12	7.12	7.12	7.12
37	54	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
40	55	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
41	56	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
42	57	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
43	58	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
44	59	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
45	60	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
46	61	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
47	62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
48	63	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
49	64	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
50	65	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
51	66	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
52	67	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
53	68	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
54	69	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
55	70	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
56	71	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
57	72	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
58	73	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
59	74	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
60	75	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
61	76	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
62	77	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
63	78	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
64	79	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
65	80	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
66	81	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
67	82	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
68	83	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
69	84	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
70	85	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
71	86	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
72	87	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
73	88	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
74	89	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
75	90	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
76	91	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
77	92	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
78	93	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
79	94	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
80	95	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
81	96	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
82	97	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
83	98	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
84	99	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
85	100	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62

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RSI GAP HEATING ANALYSIS - II  
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LARC 8 FOOT HTST, MRSI GAP HEATING TEST 57 RUN( 9) 1974 PAGE 11

T/C  
 MACH  
 P(1)  
 P(2)  
 P(3)  
 P(4)  
 P(5)  
 P(6)  
 P(7)  
 P(8)  
 P(9)  
 P(10)  
 P(11)  
 P(12)

CONFIGURATION = STAGGERED  
 STEP = 0.000 IN  
 ANGLE OF ATTACK = 7.00 DEG  
 RECOVERY FACTOR = 0.912  
 SPECIFIC HEAT CORRECTED

X (CM) Y (CM) Z (CM) XBAR (CM) YBAR (CM) ZBAR (CM) HT (CM/M2-S) HTDHP HT/HF MSTT T (K) MTC/HF MTC/SEC HT/H-CMTR

T/C	CH	X (CM)	Y (CM)	Z (CM)	XBAR (CM)	YBAR (CM)	ZBAR (CM)	HT (CM/M2-S)	HTDHP	HT/HF	MSTT	T (K)	MTC/HF	MTC/SEC	HT/H-CMTR
1	1	7.62	-0.5	4.63	7.993	-0.51	1.310E+05	0.057	2.184	1.749	3.781E-03	369.466	1.600	1.790	0.000
2	2	7.62	-0.5	1.961	8.492	-0.51	4.477E+03	0.011	0.822	0.822	6.786E-03	267.358	1.562	1.866	0.000
3	3	7.62	7.109	0.000	7.112	7.099	1.320E+04	0.245	0.499	0.499	1.091E-03	224.110	1.313	1.900	0.000
4	4	7.62	7.109	0.000	7.109	7.097	8.390E+04	0.373	1.259	1.070	2.076E-03	347.973	1.600	1.900	0.000
5	5	7.62	7.109	0.000	7.109	7.094	1.148E+04	0.147	1.334	1.074	2.076E-03	347.973	1.600	1.900	0.000
6	6	7.62	7.109	0.000	7.109	7.094	1.306E+03	0.024	0.883	0.883	2.076E-03	347.973	1.600	1.900	0.000
7	7	7.62	7.62	0.000	7.62	7.62	2.288E+04	0.137	3.305	2.70	6.072E-03	208.114	1.265	1.774	0.000
8	8	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
9	9	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
10	10	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
11	11	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
12	12	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
13	13	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
14	14	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
15	15	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
16	16	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
17	17	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
18	18	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
19	19	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
20	20	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
21	21	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
22	22	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
23	23	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
24	24	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
25	25	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
26	26	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
27	27	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
28	28	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
29	29	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000
30	30	7.62	7.62	0.000	7.62	7.62	1.000E+04	0.249	0.922	0.922	1.091E-03	224.110	1.313	1.900	0.000













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T/C	CM	LARG 8 FOOT	HYST.	MRSI	GAP	HEATING	TEST	57	RUM( 11)	1974	HTDMP	MT/HP	MSIT	T (K)	HTC/MF	MTC/MEC	MT/M-CMTR
35	54	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
36	55	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
37	56	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
38	57	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
39	58	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
40	59	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
41	60	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
42	61	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
43	62	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
44	63	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
45	64	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
46	65	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
47	66	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
48	67	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
49	68	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
50	69	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
51	70	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
52	71	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
53	72	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
54	73	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
55	74	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
56	75	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
57	76	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
58	77	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
59	78	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
60	79	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
61	80	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
62	81	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
63	82	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
64	83	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
65	84	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
66	85	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
67	86	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
68	87	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
69	88	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
70	89	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
71	90	7.02	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

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RSI GAP HEATING ANALYSIS - II  
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CM	Y (CM)	HIST (CM)	HRSI GAP HEATING TEST (CM)	HTDMP (K/M2-S)	MT/HF	MST	T (K)	MTC/MF	MTC/MEC	HT/M-CATR
35	7.82	2.032	1.960E+04	.337	.264	5.667E-04	30.671	.261	.224	
36	7.82	2.032	1.960E+04							
37	7.82	2.032	1.960E+04							
38	7.82	2.032	1.960E+04							
39	7.82	2.032	1.960E+04							
40	7.82	2.032	1.960E+04							
41	7.82	2.032	1.960E+04							
42	7.82	2.032	1.960E+04							
43	7.82	2.032	1.960E+04							
44	7.82	2.032	1.960E+04							
45	7.82	2.032	1.960E+04							
46	7.82	2.032	1.960E+04							
47	7.82	2.032	1.960E+04							
48	7.82	2.032	1.960E+04							
49	7.82	2.032	1.960E+04							
50	7.82	2.032	1.960E+04							
51	7.82	2.032	1.960E+04							
52	7.82	2.032	1.960E+04							
53	7.82	2.032	1.960E+04							
54	7.82	2.032	1.960E+04							
55	7.82	2.032	1.960E+04							
56	7.82	2.032	1.960E+04							
57	7.82	2.032	1.960E+04							
58	7.82	2.032	1.960E+04							
59	7.82	2.032	1.960E+04							
60	7.82	2.032	1.960E+04							
61	7.82	2.032	1.960E+04							
62	7.82	2.032	1.960E+04							
63	7.82	2.032	1.960E+04							
64	7.82	2.032	1.960E+04							
65	7.82	2.032	1.960E+04							
66	7.82	2.032	1.960E+04							
67	7.82	2.032	1.960E+04							
68	7.82	2.032	1.960E+04							
69	7.82	2.032	1.960E+04							
70	7.82	2.032	1.960E+04							
71	7.82	2.032	1.960E+04							
72	7.82	2.032	1.960E+04							
73	7.82	2.032	1.960E+04							
74	7.82	2.032	1.960E+04							
75	7.82	2.032	1.960E+04							
76	7.82	2.032	1.960E+04							
77	7.82	2.032	1.960E+04							
78	7.82	2.032	1.960E+04							
79	7.82	2.032	1.960E+04							
80	7.82	2.032	1.960E+04							
81	7.82	2.032	1.960E+04							
82	7.82	2.032	1.960E+04							
83	7.82	2.032	1.960E+04							
84	7.82	2.032	1.960E+04							
85	7.82	2.032	1.960E+04							
86	7.82	2.032	1.960E+04							
87	7.82	2.032	1.960E+04							
88	7.82	2.032	1.960E+04							
89	7.82	2.032	1.960E+04							
90	7.82	2.032	1.960E+04							
91	7.82	2.032	1.960E+04							
92	7.82	2.032	1.960E+04							
93	7.82	2.032	1.960E+04							
94	7.82	2.032	1.960E+04							
95	7.82	2.032	1.960E+04							
96	7.82	2.032	1.960E+04							
97	7.82	2.032	1.960E+04							
98	7.82	2.032	1.960E+04							
99	7.82	2.032	1.960E+04							
100	7.82	2.032	1.960E+04							

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I/C = 1872-15 K/MZ  
 TACM = 7171-81 K  
 PTF1 = 1-88E-01 N/MZ  
 PTF2 = 2-32E-02 K/MZ  
 PTF3 = 3-38E-01 J/MZ-S  
 PTF4 = 1-0E+00 J/MZ-S  
 PTF5 = 1-0E+00 J/MZ-S  
 PTF6 = 2-11E-02 K/MZ-S  
 PTF7 = 3-13E-02 SEC  
 CONFIGURATION = 16-TILE CM  
 LABEL OF ATTACK = -168 DEG  
 RECOVERY FACTOR = 0.000-912

SPECIFIC HEAT CORRECTED

I/C	CM	X	Y	Z	XBAR	YBAR	ZBAR	HT	HTDMP	HT/HTF	MSST	T	HTC/NF	HTC/NEC	MT/N-CNTR
1	1	7.62	-0.05	-0.05	7.62	-0.05	-0.05	0.0002	0.000	0.000	1.74E-03	301.52	0.000	0.000	0.000
1	2	7.62	-0.05	0.000	7.62	-0.05	0.000	0.000	0.000	0.000	1.74E-03	301.52	0.000	0.000	0.000
1	3	7.62	-0.05	0.000	7.62	0.000	0.000	0.000	0.000	0.000	1.74E-03	301.52	0.000	0.000	0.000
1	4	7.62	0.000	0.000	7.62	0.000	0.000	0.000	0.000	0.000	1.74E-03	301.52	0.000	0.000	0.000
1	5	7.62	0.000	0.000	7.62	0.000	0.000	0.000	0.000	0.000	1.74E-03	301.52	0.000	0.000	0.000
1	6	7.62	0.000	0.000	7.62	0.000	0.000	0.000	0.000	0.000	1.74E-03	301.52	0.000	0.000	0.000
1	7	7.62	0.000	0.000	7.62	0.000	0.000	0.000	0.000	0.000	1.74E-03	301.52	0.000	0.000	0.000
1	8	7.62	0.000	0.000	7.62	0.000	0.000	0.000	0.000	0.000	1.74E-03	301.52	0.000	0.000	0.000
1	9	7.62	0.000	0.000	7.62	0.000	0.000	0.000	0.000	0.000	1.74E-03	301.52	0.000	0.000	0.000
1	10	7.62	0.000	0.000	7.62	0.000	0.000	0.000	0.000	0.000	1.74E-03	301.52	0.000	0.000	0.000
1	11	7.62	0.000	0.000	7.62	0.000	0.000	0.000	0.000	0.000	1.74E-03	301.52	0.000	0.000	0.000
1	12	7.62	0.000	0.000	7.62	0.000	0.000	0.000	0.000	0.000	1.74E-03	301.52	0.000	0.000	0.000
1	13	7.62	0.000	0.000	7.62	0.000	0.000	0.000	0.000	0.000	1.74E-03	301.52	0.000	0.000	0.000
1	14	7.62	0.000	0.000	7.62	0.000	0.000	0.000	0.000	0.000	1.74E-03	301.52	0.000	0.000	0.000
1	15	7.62	0.000	0.000	7.62	0.000	0.000	0.000	0.000	0.000	1.74E-03	301.52	0.000	0.000	0.000
1	16	7.62	0.000	0.000	7.62	0.000	0.000	0.000	0.000	0.000	1.74E-03	301.52	0.000	0.000	0.000
1	17	7.62	0.000	0.000	7.62	0.000	0.000	0.000	0.000	0.000	1.74E-03	301.52	0.000	0.000	0.000
1	18	7.62	0.000	0.000	7.62	0.000	0.000	0.000	0.000	0.000	1.74E-03	301.52	0.000	0.000	0.000
1	19	7.62	0.000	0.000	7.62	0.000	0.000	0.000	0.000	0.000	1.74E-03	301.52	0.000	0.000	0.000
1	20	7.62	0.000	0.000	7.62	0.000	0.000	0.000	0.000	0.000	1.74E-03	301.52	0.000	0.000	0.000



















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TIC = 1092.88 K/MZ  
 TAC = 7.192.88 K  
 TAP = 1568.11 K  
 TAPL = 1.88.88 M/MZ  
 TAPR = 1.88.88 M/MZ  
 TAPL = 2.38.88 K/MZ  
 TAPR = 2.38.88 K/MZ  
 TAPL = 2.78.88 J/MZ-S  
 TAPR = 2.78.88 J/MZ-S  
 TAPL = 1.88.88 J/MZ-S  
 TAPR = 1.88.88 J/MZ-S  
 TAPL = 0.12.22 SEC  
 TAPR = 0.12.22 SEC

CONFIGURATION = STAGGEREA  
 SREP = 0.888 EA  
 ANGL OF ATTACK = 9.880 DEG  
 RECOVERY FACTOR = 1.08872 J/KG-K

SPECIFIC HEAT CORRECTED

XBAR ARG YBAR ARE SURFACE DISTANCES FROM TILE CENTER

T/C	CH	X (CM)	Y (CM)	Z (CM)	XBAR (CM)	YBAR (CM)	Z (CM)	HTIMP (K/MZ)	HT/MF	MSTT	T (K)	HTC/MF	HTC/MEC	HT/M-CNTR
1	1	7.62	-0.5	-0.5	-7.993	-0.91	0.744E+02	.0006	.015	.012	300.51	.005	.007	5.000
1	2	7.62	-0.5	0.5	-7.993	-0.91	0.744E+02	.0006	.015	.012	300.51	.005	.007	5.000
1	3	7.62	0.5	-0.5	-7.993	-0.91	0.744E+02	.0006	.015	.012	300.51	.005	.007	5.000
1	4	7.62	0.5	0.5	-7.993	-0.91	0.744E+02	.0006	.015	.012	300.51	.005	.007	5.000
1	5	7.62	-0.5	0.5	-7.993	-0.91	0.744E+02	.0006	.015	.012	300.51	.005	.007	5.000
1	6	7.62	0.5	0.5	-7.993	-0.91	0.744E+02	.0006	.015	.012	300.51	.005	.007	5.000
1	7	7.62	-0.5	-0.5	-7.993	-0.91	0.744E+02	.0006	.015	.012	300.51	.005	.007	5.000
1	8	7.62	-0.5	0.5	-7.993	-0.91	0.744E+02	.0006	.015	.012	300.51	.005	.007	5.000
1	9	7.62	0.5	-0.5	-7.993	-0.91	0.744E+02	.0006	.015	.012	300.51	.005	.007	5.000
1	10	7.62	0.5	0.5	-7.993	-0.91	0.744E+02	.0006	.015	.012	300.51	.005	.007	5.000
1	11	7.62	-0.5	0.5	-7.993	-0.91	0.744E+02	.0006	.015	.012	300.51	.005	.007	5.000
1	12	7.62	0.5	0.5	-7.993	-0.91	0.744E+02	.0006	.015	.012	300.51	.005	.007	5.000
1	13	7.62	-0.5	-0.5	-7.993	-0.91	0.744E+02	.0006	.015	.012	300.51	.005	.007	5.000
1	14	7.62	-0.5	0.5	-7.993	-0.91	0.744E+02	.0006	.015	.012	300.51	.005	.007	5.000
1	15	7.62	0.5	-0.5	-7.993	-0.91	0.744E+02	.0006	.015	.012	300.51	.005	.007	5.000
1	16	7.62	0.5	0.5	-7.993	-0.91	0.744E+02	.0006	.015	.012	300.51	.005	.007	5.000
1	17	7.62	-0.5	0.5	-7.993	-0.91	0.744E+02	.0006	.015	.012	300.51	.005	.007	5.000
1	18	7.62	0.5	0.5	-7.993	-0.91	0.744E+02	.0006	.015	.012	300.51	.005	.007	5.000
1	19	7.62	-0.5	-0.5	-7.993	-0.91	0.744E+02	.0006	.015	.012	300.51	.005	.007	5.000
1	20	7.62	-0.5	0.5	-7.993	-0.91	0.744E+02	.0006	.015	.012	300.51	.005	.007	5.000





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CONFIGURATION = 31A00000  
 CAB = 0.000 CM  
 AREA OF ATTACK = 9.880 SQ  
 RECOVERY FACTOR = 1000.012 J/RG-K

1/2 INZ  
 138 6.00  
 2.18E-06 W/MZ  
 2.12E-06 W/MZ  
 2.04E-06 W/MZ  
 1.96E-06 W/MZ  
 1.88E-06 W/MZ  
 1.80E-06 W/MZ  
 1.72E-06 W/MZ  
 1.64E-06 W/MZ  
 1.56E-06 W/MZ  
 1.48E-06 W/MZ  
 1.40E-06 W/MZ  
 1.32E-06 W/MZ  
 1.24E-06 W/MZ  
 1.16E-06 W/MZ  
 1.08E-06 W/MZ  
 1.00E-06 W/MZ  
 0.92E-06 W/MZ  
 0.84E-06 W/MZ  
 0.76E-06 W/MZ  
 0.68E-06 W/MZ  
 0.60E-06 W/MZ  
 0.52E-06 W/MZ  
 0.44E-06 W/MZ  
 0.36E-06 W/MZ  
 0.28E-06 W/MZ  
 0.20E-06 W/MZ  
 0.12E-06 W/MZ  
 0.04E-06 W/MZ

SPECIFIC HEAT CORRECTED

REAR AND VBAR ARE SURFACE DISTANCES FROM TILE CENTER

T/C	CM	X	Y	Z	REAR (CM)	VBAR (CM)	Q (W/MZ)	HT (K/MZ-S)	HTDMP	HT/HF	HSTY	T (K)	HTC/HF	HTC/SEC	HT/M-CMTR
1	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
29	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
32	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
33	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000





















7.0 NASA-JSC 10 MW ARC TUNNEL EDGE RADIUS TESTS

Gap heating tests were conducted by C. D. Scott (NASA, Johnson Space Center) in the JSC 10 MW Arc Tunnel to provide heating data in the presence of a high enthalpy laminar boundary layer. The test parameters, model description and data were obtained from Reference 4. The 50.8 cm diameter conical nozzle produced the flow field. The test parameters are shown below and conditions on the wedge are shown on Figure 7.0-1. The primary purpose of the tests was to investigate the effect of tile edge radius on gap heating.

The tests employed sets of thin skin metallic tiles mounted in a wedge test fixture shown on Figure 7.0-2. Four edge radii (0.157, 0.3175, 0.635, and 1.27 cm) were parametrically tested at gap widths of 0.127, 0.254, and 0.381 cm, at 15° angle of attack. The joint configuration was an in-line butt, and the tile height was 4.1275 cm for all tests. During each run the model was inserted three times into the flow for approximately three seconds each while the thermocouple responded to the incident heating. The reported data are averages of the three measurements. The reference model and pitot pressure probe were inserted into the flow during each run to determine the repeatability of the test condition. A run schedule is shown on Figure 7.0-3. The reference model, flat surface without gaps, instrumented with Gardon gauge calorimeters was used to measure reference heating rates.

TEST PARAMETERS

MACH NO.	9.6
ANGLE OF ATTACK, DEG.	15.0
TOTAL ENTHALPY, $M_j/K_g$	13.9
REYNOLDS NO./METER	1741.0
PITOT PRESSURE, $N/M^2$	145.0

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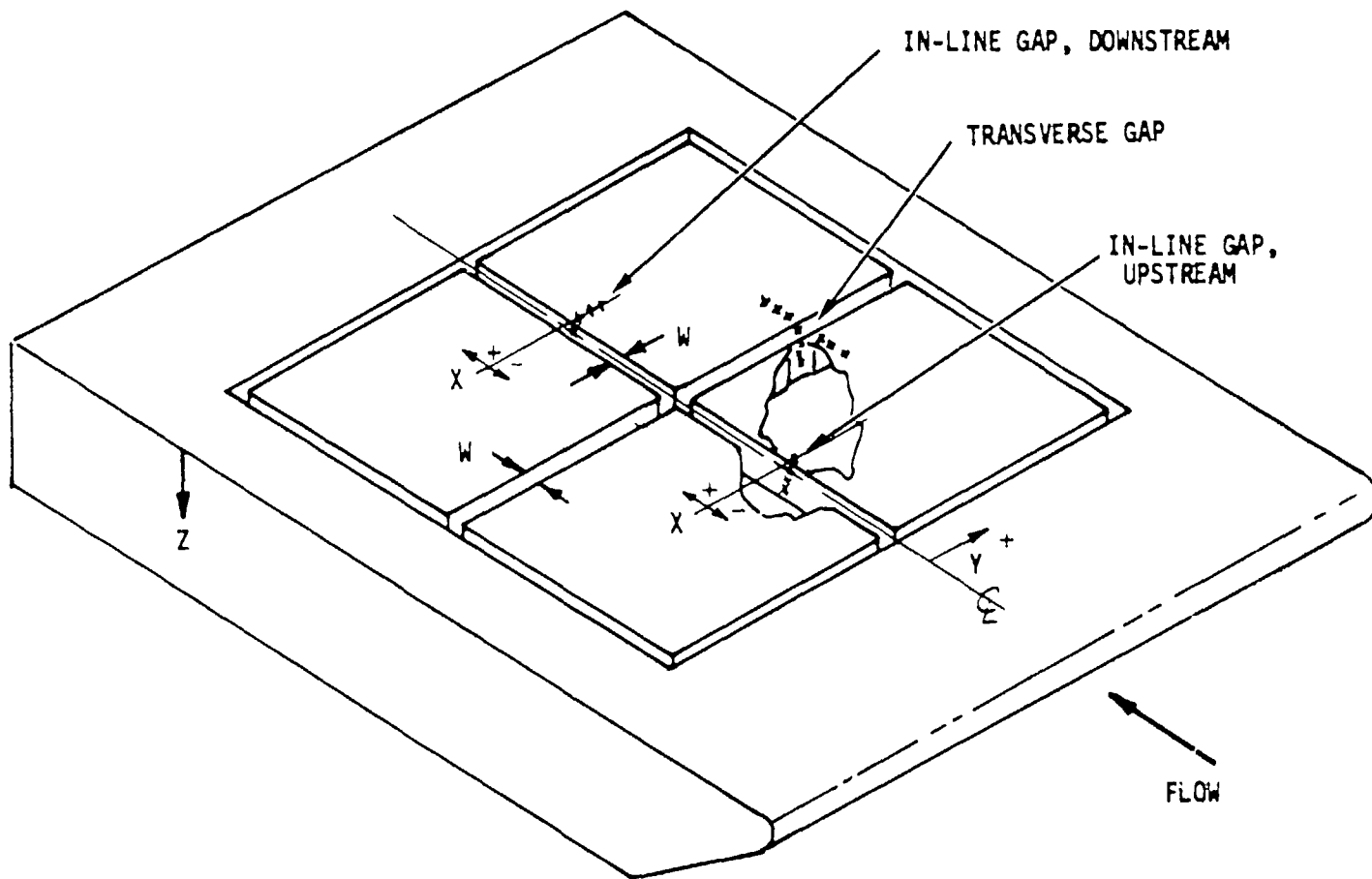
CONDITIONS ON WEDGE

Distance from Leading Edge* of Wedge	Distance from Leading Edge* of Tiles	Calculated Pressure	Calculated Heat Flux	Measured Heat Flux	Displacement Thickness
cm	cm	N/m <sup>2</sup>	W/cm <sup>2</sup>	W/cm <sup>2</sup>	cm
10.92	0	265.	11.12		.77
16.15	5.04	242.	9.06	10.44	.95
26.4	7.62	220.	7.02	8.62	1.22
36.6	22.86	208.	5.95	7.49	1.44
41.7	25.40	204.	5.57		1.54
	30.48				

\*Leading Edge Radius = 0.95 cm



### TEST PANEL CONFIGURATION, EDGE RADIUS STUDY AT NASA JSC 10 MW ARC TUNNEL





### JSC 10 MW RUN SCHEDULE FOR EDGE RADIUS TESTS

RUN	EDGE RADIUS (cm)	GAP WIDTH (cm)
779	0.1575	0.127
780	↓	0.381
781	↓	0.254
782	0.3175	0.127
783	↓	0.254
784	↓	0.381
785	0.635	0.127
786	↓	0.254
787	↓	0.381
788	1.27	0.127
789	↓	0.254
790	↓	0.381



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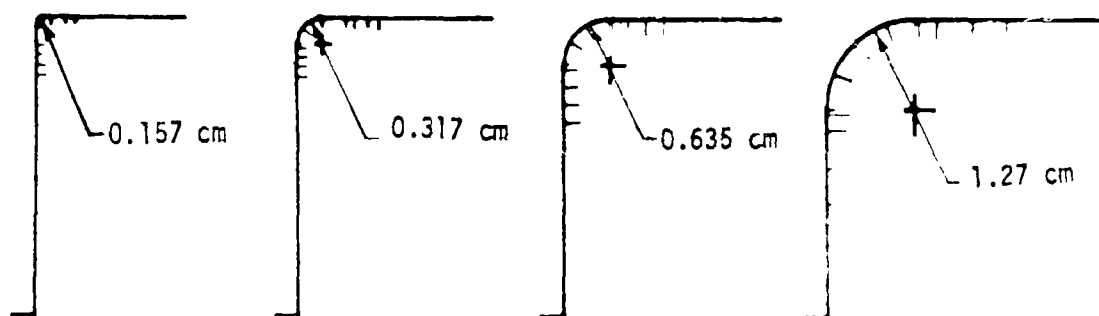
7.1 Model Description - The test article consists of 15.24 cm square stainless steel tiles with various edge radii mounted in a wedge ( $15^\circ$  angle-of-attack), Figure 7.0-2. The parametric variation of edge radii was 0.1575, 0.3175, 0.635, and 1.27 centimeters with gap widths of 0.127, 0.254, and 0.381 centimeters. The tiles were aligned in an "in-line" arrangement, thereby creating gaps both perpendicular and parallel to the flow direction. Thermocouples were attached to the inner surface of the tiles in a row around the gap shown in Figure 7.0-2. Figure 7.1-1 shows the nominal locations of Sets of instrumentation on the gaps and also shows the locations of thermocouples on a Set for various edge radii.

The thickness of the skin is about .029 inch on the upper surface and rounded edge of the tiles, while it is about .010 inch on the sides of the tiles. Forty-gauge iron-constantan thermocouples were attached to the thin areas and 36-gauge chromel-alumel were attached to the thicker areas. The ratio of wire diameter to skin thickness was chosen to minimize the effects of conduction along the wires. The inside of the tiles were packed with fibrous silica to minimize cross radiative effects.



## NOMINAL LOCATIONS OF SETS OF INSTRUMENTATION ON THE GAPS

Description	X CM	Y CM
Longitudinal Gap (upstream)	7.62	0
Longitudinal Gap (Downstream)	22.86	0
Transverse Gap Upstream Side	15.34	7.62
Transverse Gap Downstream Side	15.34	7.62



NOMINAL T/C LOCATIONS INDICATED BY TICK MARKS



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7.2 Explanation of Terminology Used in Data Listing - Results from the 10 MW Arc Tunnel edge radius tests presented in Section 7.3 are organized by instrumentation location and within each location are segregated by edge radius and gap width. The data listing was prepared by analyzing and combining information recorded during calibration and test runs.

The terminology used in the data listing is as follows:

TEST-RUN-T/C	=	Test, run and thermocouple numbers
G-CF	=	Gap configuration
LOC	=	Instrumentation location
X	=	X coordinate of instrumentation point, origin at center of tile (see Figure 7.0-2)
Y	=	Y coordinate of instrumentation point, origin at centerline between tiles (see Figure 7.0-2)
Z	=	Distance from top of tile (see Figure 7.0-2)
X(BAR)	=	Distance from leading edge of tile
E	=	Tile edge radius
GAMMA	=	Flow orientation
GAP	=	Gap width
STEP	=	Step height
FLOW	=	Gap flow length
PATN	=	Tile pattern (0=staggered, 1=in-line)
M	=	Mach number
RE/METER	=	Unit Reynolds number
DELS	=	Displacement thickness
Q/QREF	=	Convective heating in gap ratioed to convective heating on flat plate at the same location
BL	=	Boundary layer state (1=laminar)



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7.3 Data Tabulation for 10 MW Arc Tunnel Edge Radius Gap Heating Tests - This section contains the data from the 10 MW Arc Tunnel which is stored in the Data Bank. The data listing begins on Page 7.3-2.

This listing employs the "24 Attribute Word List" (described in Volume 1, Section 5) used in the data selection and data correlation programs.











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BL  
Q/DREF  
DELS  
RE/METER  
M  
PATM  
FLOW  
STEP  
GAP  
GAPMA  
E  
X (GAP)  
Z  
Y  
TRANSVERSE GAP - DOWNSREAM WALL  
X  
LOC  
G-CF  
TEST-RUN-T/C



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**8.0 REFERENCES**

1. MDC E1003, Final Report, Data Correlation and Analyses of Arc Tunnel and Wind Tunnel Tests of RSI Joints and Gaps, Volume II, 29 January 1974.
2. D. A. Throckmorton, "Data Man Report on the CFHT Tests," NASA TMX 71945 "Heat Transfer to Surface in Gaps of RSI Tile Arrays in Turbulent Flow at  $M = 10.3$ ," April 1974.
3. Data Man DMS-DR 2035 NAS CR 134,007, "Thermal Protection System Gap Heating Rates of the Rockwell International Flat Plate Heat Transfer Model (OH2A and OH2B), by Thomas F. Foster (RI), William K. Lockman (NASA AMES) and William J. Grifall (RI).
4. C. D. Scott, "Convective Heating to Rounded Edge Gaps in Arc Jet Flow," NASA Test Report, Structure and Mechanics Division, NASA Johnson Space Center.