INTERMOUNTAIN

UNIT NO. 1 BALANCING

REPORT

for

Intermountain Power Service Corporation
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Attn: Mr. Aaron Nissen

Reliability and performance solutions

Project No. 921397
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Ipscada1.rep/s

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1.0 INTRODUCTION

The Intermountain Power Service Corporation (IPSC) has requested that RJM Corporation (RJM) perform an airflow balancing program on IPSC's Unit No. 1. This unit is an 850 MW Babcock & Wilcox coal-fired boiler with 48 burners. The unit is opposed-fired with 24 burners on the front wall and 24 burners on the rear wall. There are four elevations of burners on both the front and back walls. The unit has 8 pulverizers. Each pulverizer feeds six burners. Each elevation of burners is split and compartmentalized with dampers at both ends supplying secondary air to the burners. Each coal burner has primary and secondary air zones. The secondary air zone has an inner and outer zone. The inner secondary air zone has RJM flame stabilizers and was tested with the flame stabilizers in place. The outer zone has register doors to control swirl.

On April 21, 1992 RJM performed a baseline air distribution analysis on all 48 burners. Balancing work on the 48 burners was conducted on April 22, 23 and 24, 1992. Work was discontinued on April 25, 1992 because of schedule requirements to bring the unit back on line. This report presents the results of this effort.

2.0 AIRFLOW CRITERIA

Proper operation of utility power boilers for economic, pollution control, maintenance and safety reasons requires that the secondary combustion airflows to the burners meet the following criteria:

- Total airflow to each burner should be within ±5% of the average airflow for all the burners in the unit. If NO_X control or low excess air operation are not critical requirements, total airflow to each burner within a ±10% range would be acceptable.

- The perimeter loading (around the radius of the burner) for an individual burner should fall within ±10% of the average perimeter loading value for the burner.

- Individual data point high velocities should not vary from the burner peak velocity by more than 10%. Exceeding this limit can indicate a blockage in flow to the burner.

- The minimum velocity at a data point should not vary by more than 20% from the peak velocity for a data point. Data which exceeds this limit indicates severely disturbed flow of the secondary air to the burner. This is generally caused by vortex eddies.

3.0 CONCLUSIONS

With the above criteria in mind, the following conclusions are drawn from the air distribution analysis and balancing test data collected on Unit No. 1:

1. Airflow balance on the unit for both inner and outer air zones is within the acceptable criteria of ±10% with the exception of Burners G5 and G6 outer zones which are slightly outside this criteria. A total of 39 of 48 inner zone airflows and 35 of 48 outer zone airflows meet the low NO_X, low excess air balancing criteria of ±5%.

2. Airflow balancing has reduced the total flow deviation between the highest flow and lowest flow burners to 18.7% (+6.6%, -12.1%) for the outer zone airflows from a starting value of 35.78%. Inner zone total airflow deviations have dropped from 23.07% to 16.84% (+8.6%, -8.2%).

3. Front-to-rear windbox comparison shows that the front-to-rear difference in outer zone flows has dropped from a high of 6% difference to a 1% difference with the rear windbox being slightly higher in flow that the front windbox. Inner zone airflow differences between windboxes increased slightly front to back from 4.4% to 6% with the rear windbox being slightly lower in flow than the front windbox.

4. Baseline tests (Test 1) showed that four of the eight windboxes experienced burner flow deviations within the windbox exceeding 10%, as follows:

   - D Windbox - 10.61%
   - G Windbox - 13.6%
   - E Windbox - 15.29%
   - H Windbox - 19.64%

   After balancing, only two windboxes had burner flow deviations exceeding 10%, as follows:

   - C Windbox - 10.11%
   - E Windbox - 12.52%

   For inner zone airflows, baseline tests showed two windboxes exceeded burner deviations of 10%, as follows:

   - E Windbox - 12.60%
   - G Windbox - 17.61%

   After windbox balancing only the F Windbox exceeded a burner flow deviation of 10% with a total burner-to-burner flow deviation of 11.06%.

5. The secondary airflows to both the inner and outer zones of all burners are severely disturbed. Almost all test data points within each burner show clear evidence of severely disturbed flow. It is suspected that airflow entering each windbox from the ductwork is experiencing flow separation at the inner corners. This flow separation is resulting in large vortex eddies which appear to be cascading through the windbox.

6. The magnitude of the disturbed flow is also indicated by the perimeter loading of the secondary air to both zones of the burners. Inner zone perimeter loading deviations (PLD's) (final test) ranged from a best case of +17%, -14% to a worst case of +47%, -59%. Outer zone PLD's ranged from a best case of +10%, -11% to a worst case of +27%, -47%. Typical PLD's were approximately twice the values of the best case examples for both inner and outer zones. Both inner and outer zones have clear indications of interrupted flow across the air door and air vanes.

7. Data indicates a slight rear windbox bias toward the west side burners having low flow. The front windbox bias is for the east side to be the low flow side.

8. There appears to be dynamic interaction between inner and outer zone air flows on a point-by-point basis. If flow increases at one point in the outer zone, the corresponding inner zone point usually shows a reduction in flow. RJM Corporation does not have an explanation for this phenomena at this time. However, this trend indicates that decoupling the airflows to each zone by installing perforated shrouds at the inlets and outlets might help balance burner airflows and perimeter loading distributions.

4.0 RECOMMENDATIONS

1. It is recommended that the severely disturbed airflow conditions on the IPSC units be corrected using an airflow model of the unit from the air heater outlet to the furnace nose. The model should be used to locate and correct the flow separations and vortex eddies which are causes of the severely disturbed windbox flow patterns. A proposal for airflow modeling has already been issued to IPSC.

2. IPSC should review FD fan performance capabilities to determine whether or not perforated shrouds can be installed on the inlets to both the inner and outer zones of each burner. The perforated shrouds should have a minimum of 50% open area. In any case, open area should not exceed 70%. The same percent open area perforated metal shrouds should be used on both inner and outer zones on all registers. Installing perforated metal shrouds would have two benefits for the burners:

    a. Improved Perimeter Loading Distributions - Vortex eddies cascading down on two burners are destroyed as the airflow enters through the perforated metal shroud. Therefore, air entry to the burners is smoother and more uniform. Also, the pressure drop across the shrouds will raise the total windbox pressure on the order of an additional one inch water column. Thus, windbox velocities are dropped slightly and airflow distributions to each burner are improved.

    b. The Coupling Effect - The pressure drop across the shroud should decouple the inner zone airflows from the outer

zone airflows. Therefore, perimeter loading deviations which are due to the coupling effect might be eliminated.

5.0 DISCUSSION

5.1 Report Overview

Tables 1-8 summarize the air distribution and balancing data for each of the four tests performed on IPSC Unit No. 1. Tables 1-8 summarize the data collected at 2304 data points in the 48 burner unit.

The following definitions apply to the Air Distribution Analysis Tables:

Burner Average - The Point Average velocities (24 for each burner) are integrated averages over time for the individual point. It is not the average of the maximum and minimum values.

Deviation - This is the difference between the Average Velocity For All the Burners (shown on the upper left hand corner of the Air Distribution Analysis Tables) and the Burner Average for the specific burner being analyzed.

Average Velocity For All Burners - This average is calculated from the values in the Burner Average Column.

Maximum High Flow Deviation - The percentage, maximum high flow deviation is the greatest difference between the highest positive Burner Average and the Average Velocity for All Burners.

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 1 (BASELINE)

TABLE 1

Summary	
Average Velocity All Burners =	2838.21 fpm
Maximum High Flow Deviation =	12.44 %
Minimum Low Flow Deviation =	-10.63 %
Total Flow Deviation =	23.07 %

Condition	Code	Trigger Level %
Blocked Flow	*****	10
Vortex Action	VVVVV	20
Flow & Vortex Action	*V*V*	

Test Point Velocities (Feet/Minute)

Test Point (deg)	)	30	60	90	120	150	180	210	240	270	300	330	Burner Average	% Deviation	Velocity Peak
BURNER FE6															
High -	2377	2264	4033	2388	2733	2757	3211	2877	3648	2952	3144	2792			
Low -	2185	1970	3707	2244	2451	2528	3002	2710	3445	2804	3028	2698			
Average -	2281	2098	3889	2304	2626	2644	3096	2781	3564	2889	3091	2743	2834	-0.16	3889
PLD% -	-20	-26	37	-19	-7	-7	9	-2	26	2	9	-3	High/Low:	+37 /	-26
Code -	****	****		****	****	****	****	****		****	****	****			
BURNER FE5															
High -	3066	3015	4033	2792	2583	3648	3375	4017	3516	3118	3118	3347			
Low -	2769	2528	3738	2686	2325	3238	3265	3692	3375	2927	3002	3158			
Average -	2928	2874	3849	2744	2452	3466	3322	3925	3433	3009	3052	3240	3191	12.44	3925
PLD% -	-8	-10	21	-14	-23	9	4	23	8	-6	-4	2	High/Low:	+23 /	-23
Code -	****	****		****	****	****	****		****	****	****	****			
BURNER FE4															
High -	2964	2244	3171	2914	3265	3738	3531	3238	3516	3053	2698	3015			
Low -	2841	1934	2792	2780	3092	3403	3184	3079	3265	2902	2506	2495			
Average -	2908	2082	2988	2840	3203	3541	3324	3181	3362	2971	2603	2705	2976	4.84	3541
PLD% -	-2	-30	0	-5	8	19	12	7	13	-0	-13	-9	High/Low:	+19 /	-30
Code -	****	****	****	****				****		****	****	****			
BURNER FE3															
High -	3265	3333	3375	3197	3040	3053	2829	3131	3224	3224	3403	3184			
Low -	3144	3158	3278	3040	2816	2914	2663	2964	3105	2757	3184	3079			
Average -	3198	3226	3308	3124	2925	2985	2749	3055	3159	2968	3331	3127	3096	9.09	3331
PLD% -	3	4	7	1	-6	-4	-11	-1	2	-4	8	1	High/Low:	+8 /	-11
Code -					****	****	****			****					
BURNER FE2															
High -	2757	2640	3144	3347	3403	3589	3633	3375	2098	2595	3347	3292			
Low -	2663	2572	2964	3211	3292	3459	3375	3224	1926	2441	3211	3092			
Average -	2702	2608	3064	3288	3351	3504	3495	3300	2004	2549	3265	3145	3023	6.51	3504
PLD% -	-11	-14	1	9	11	16	16	9	-34	-16	8	4	High/Low:	+16 /	-34
Code -	****	****	****						****	****		****			
BURNER FE1															
High -	2377	2841	2865	3079	3265	3431	2652	3502	2804	2686	4065	2721			
Low -	2244	2675	2733	2914	3092	3333	2506	3319	2710	2561	3860	2652			
Average -	2310	2760	2785	3020	3171	3384	2575	3399	2763	2618	3973	2679	2953	4.04	3973
PLD% -	-22	-7	-6	2	7	15	-13	15	-6	-11	35	-9	High/Low:	+35 /	-22
Code -	****	****	****	****	****	****	****	****	****	****		****			

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AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 1 (BASELINE)

TABLE 1

Test Point Velocities (Feet/Minute)

Test Point (deg)	)	30	60	90	120	150	180	210	240	270	300	330	Burner Average	% Deviation	Velocity Peak
BURNER FA6															
High -	2914	2583	4113	3158	3361	3375	3224	3502	3211	2686	2462	2473			
Low -	2745	2346	3531	3053	3171	3184	2964	3403	3105	2561	2325	2367			
Average -	2835	2453	3852	3117	3234	3275	3134	3449	3161	2635	2385	2418	2996	5.55	3852
PLD% -	-5	-18	29	4	8	9	5	15	6	-12	-20	-19	High/Low:	+29 /	-20
Code -	****	****		****	****	****	****	****	****	****	****	****			
BURNER FA5															
High -	2528	2484	3875	3040	2977	3278	3306	3829	3131	3144	3306	2792			
Low -	2335	2214	3211	2939	2877	2977	3015	3574	2902	3053	3118	2663			
Average -	2426	2368	3547	2977	2924	3083	3149	3706	2991	3108	3224	2706	3017	6.31	3706
PLD% -	-20	-22	18	-1	-3	2	4	23	-1	3	7	-10	High/Low:	+23 /	-22
Code -	****	****		****	****	****	****		****	****	****	****			
BURNER FA4															
High -	2473	2792	3829	2769	3040	2710	3417	3459	3545	2964	2816	2606			
Low -	2335	2506	3375	2629	2877	2595	3105	3292	3224	2841	2606	2441			
Average -	2405	2655	3591	2706	2968	2656	3264	3358	3370	2896	2727	2530	2927	3.14	3591
PLD% -	-18	-9	23	-8	1	-9	12	15	15	-1	-7	-14	High/Low:	+23 /	-18
Code -	****	****		****	****	****				****	****	****			
BURNER FA3															
High -	2710	2640	3066	3015	3278	3459	3092	3306	1766	2606	3618	2721			
Low -	2550	2484	2890	2927	3158	3347	2952	3197	1517	2473	3375	2367			
Average -	2638	2547	2989	2964	3205	3410	3015	3266	1583	2531	3510	2500	2847	0.29	3510
PLD% -	-7	-11	5	4	13	20	6	15	-44	-11	23	-12	High/Low:	+23 /	-44
Code -	****	****	****	****			****		****	****		****			
BURNER FA2															
High -	2964	2595	3319	3079	3211	3516	3015	3389	2409	2629	3844	2629			
Low -	2804	2462	3079	2914	3144	3375	2629	3028	2294	2550	3633	2517			
Average -	2876	2519	3244	2990	3186	3453	2824	3189	2356	2582	3736	2585	2962	4.35	3736
PLD% -	-3	-15	10	1	8	17	-5	8	-20	-13	26	-13	High/Low:	+26 /	-20
Code -	****	****	****	****	****		****	****	****	****		****			
BURNER FA1															
High -	2561	2829	3171	3224	3445	3431	2977	3144	2902	2550	3985	3028			
Low -	2441	2675	3028	3015	3306	3333	2865	2890	2652	2388	3663	2792			
Average -	2494	2744	3116	3135	3367	3376	2927	2964	2830	2503	3898	2908	3022	6.47	3898
PLD% -	-17	-9	3	4	11	12	-3	-2	-6	-17	29	-4	High/Low:	+29 /	-17
Code -	****	****	****	****	****	****	****	****	****	****		****			
BURNER FF6															
High -	2117	2451	4033	2952	3417	3403	3347	4097	3389	2841	2710	2780			
Low -	1997	2214	3692	2816	3292	3144	3158	3938	3211	2652	2606	2583			
Average -	2053	2364	3878	2897	3353	3237	3268	4011	3308	2718	2657	2661	3034	6.89	4011
PLD% -	-32	-22	28	-4	11	7	8	32	9	-10	-12	-12	High/Low:	+32 /	-32
Code -	****	****		****	****	****	****		****	****	****	****			
BURNER FF5															
High -	2757	2061	3158	2325	3040	3306	3333	3922	3131	3118	2939	2675			
Low -	2550	1798	2829	2214	2841	3002	3105	3707	2977	2964	2780	2561			
Average -	2654	1914	3029	2285	2947	3191	3210	3834	3053	3041	2872	2608	2887	1.70	3834
PLD% -	-8	-34	5	-21	2	11	11	33	6	5	-0	-10	High/Low:	+33 /	-34
Code -	****	****	****	****	****	****	****		****	****	****	****			

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AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 1 (BASELINE)

TABLE 1

Test Point Velocities (Feet/Minute)

Test Point (deg)	)	30	60	90	120	150	180	210	240	270	300	330	Burner Average	% Deviation	Velocity Peak
BURNER FF4															
High -	2595	2792	3197	3079	3292	3265	2757	3431	3265	2952	3131	3488			
Low -	2451	2640	2769	2042	3079	3053	2561	3347	2952	2733	2977	3238			
Average -	2533	2708	3040	2733	3203	3151	2663	3395	3086	2820	3048	3389	2981	5.02	3395
PLD% -	-15	-9	2	-8	7	6	-11	14	4	-5	2	14	High/Low:	+14 /	-15
Code -	****	****	****	*V*V			****			****	****				
BURNER FF3															
High -	3251	3015	3389	3066	3028	3238	3171	3171	3079	3131	3574	3184			
Low -	3144	2769	3197	2964	2877	2939	2792	2927	2663	2952	3306	2952			
Average -	3208	2897	3294	2988	2954	3064	2950	3031	2903	3032	3463	3079	3072	8.23	3463
PLD% -	4	-6	7	-3	-4	-0	-4	-1	-5	-1	13	0	High/Low:	+13 /	-6
Code -		****		****	****	****	****	****	****	****		****			
BURNER FF2															
High -	3079	3375	3361	3361	3319	3814	3361	3171	2528	2419	3197	2698			
Low -	2914	3066	3197	3238	3171	3707	3105	2989	2315	2335	2629	2595			
Average -	3040	3197	3272	3279	3237	3762	3248	3078	2425	2379	2837	2648	3033	6.88	3762
PLD% -	0	5	8	8	7	24	7	1	-20	-22	-6	-13	High/Low:	+24 /	-22
Code -	****	****	****	****	****		****	****	****	****	****	****			
BURNER FF1															
High -	2629	2710	3028	2792	3306	3604	3224	3333	2939	3040	4261	2792			
Low -	2528	2561	2865	2733	3158	3488	3066	3211	2792	2841	4081	2550			
Average -	2571	2629	2951	2758	3233	3562	3112	3257	2863	2943	4171	2631	3057	7.70	4171
PLD% -	-16	-14	-3	-10	6	17	2	7	-6	-4	36	-14	High/Low:	+36 /	-16
Code -	****	****	****	****	****	****	****	****	****	****		****			
BURNER FB6															
High -	2572	2284	3875	2977	3053	3347	3265	3403	2964	2315	2175	2305			
Low -	2409	1934	3589	2865	2721	3171	3118	3251	2377	2185	2098	2194			
Average -	2508	2057	3745	2925	2875	3243	3185	3332	2658	2238	2140	2263	2764	-2.61	3745
PLD% -	-9	-26	35	6	4	17	15	21	-4	-19	-23	-18	High/Low:	+35 /	-26
Code -	****	****		****	****	****	****	****	****	****	****	****			
BURNER FB5															
High -	2517	2595	3860	2675	2780	3783	3251	3361	2927	2804	3118	3028			
Low -	2356	2367	3618	2484	2640	3502	3118	3224	2757	2710	2890	2927			
Average -	2445	2448	3747	2577	2726	3647	3190	3277	2849	2746	3013	2977	2970	4.65	3747
PLD% -	-18	-18	26	-13	-8	23	7	10	-4	-8	1	0	High/Low:	+26 /	-18
Code -	****	****		****	****		****	****	****	****	****	****			
BURNER FB4															
High -	2367	2698	3144	2419	3053	3445	3066	3361	3319	2675	2663	2234			
Low -	2254	2539	2902	2346	2927	3131	2865	3158	3197	2325	2473	2185			
Average -	2321	2619	3045	2376	2998	3308	2970	3252	3279	2417	2583	2211	2782	-2.00	3308
PLD% -	-17	-6	9	-15	8	19	7	17	18	-13	-7	-21	High/Low:	+19 /	-21
Code -	****	****		****			****			****	****	****			
BURNER FB3															
High -	2745	2853	3066	2914	3347	3158	3002	2877	2127	2617	3092	2829			
Low -	2595	2675	2952	2780	3265	2977	2780	2629	1997	2356	2865	2583			
Average -	2663	2769	3002	2838	3302	3037	2901	2720	2045	2447	2961	2704	2782	-1.97	3302
PLD% -	-4	-0	8	2	19	9	4	-2	-26	-12	6	-3	High/Low:	+19 /	-26
Code -	****	****		****			****	****	****	****	****	****			

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AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 1 (BASELINE)

TABLE 1

Test Point Velocities (Feet/Minute)

Test Point (deg)	)	30	60	90	120	150	180	210	240	270	300	330	Burner Average	% Deviation	Velocity Peak
BURNER FB2															
High -	2441	2388	3040	3211	3092	3251	3319	3171	2733	3028	2927	2377			
Low -	2335	2204	2816	3131	2977	3158	3105	3079	2234	2877	2841	2264			
Average -	2390	2317	2940	3172	3033	3208	3182	3124	2449	2963	2886	2323	2832	-0.21	3208
PLD% -	-16	-18	4	12	7	13	12	10	-14	5	2	-18	High/Low:	+13 /	-18
Code -	****	****							****		****	****			
BURNER FB1															
High -	2595	2804	2745	3105	3648	3306	3238	3238	2264	3066	4362	2952			
Low -	2473	2698	2606	2952	3417	3118	2964	3015	2146	2853	4179	2721			
Average -	2546	2756	2684	3013	3542	3201	3121	3102	2210	2956	4302	2840	3023	6.50	4302
PLD% -	-16	-9	-11	-0	17	6	3	3	-27	-2	42	-6	High/Low:	+42 /	-27
Code -	****	****	****	****	****	****	****	****	****	****		****			
BURNER RD1															
High -	2325	2572	3445	2927	3278	3502	2733	3922	3445	2902	2583	2388			
Low -	2080	2284	3238	2792	3144	3361	2606	3738	3319	2780	2419	2244			
Average -	2194	2381	3326	2856	3230	3437	2676	3819	3382	2835	2488	2305	2911	2.55	3819
PLD% -	-25	-18	14	-2	11	18	-8	31	16	-3	-15	-21	High/Low:	+31 /	-25
Code -	****	****	****	****	****	****	****		****	****	****	****			
BURNER RD2															
High -	2462	2721	3707	2473	3002	3403	3265	2890	3118	2816	3040	2745			
Low -	2325	2572	3431	2315	2853	2927	2841	2721	2890	2663	2484	2640			
Average -	2398	2633	3602	2384	2925	3196	3015	2839	2996	2749	2843	2679	2855	0.59	3602
PLD% -	-16	-8	26	-16	2	12	6	-1	5	-4	-0	-6	High/Low:	+26 /	-16
Code -	****	****		****	****	****	****	****	****	****	****	****			
BURNER RD3															
High -	3092	2964	3692	2757	2710	3002	3079	2952	3040	2710	3211	2745			
Low -	2865	2698	3028	2617	2377	2745	2853	2686	2495	2419	2829	2595			
Average -	2949	2814	3364	2682	2475	2886	2955	2832	2793	2595	2982	2669	2833	-0.18	3364
PLD% -	4	-1	19	-5	-13	2	4	-0	-1	-8	5	-6	High/Low:	+19 /	-13
Code -	****	****		****	****	****	****	****	****	****	****	****			
BURNER RD4															
High -	3131	3224	2989	2877	3028	3333	2902	3002	3118	3224	3306	3118			
Low -	2841	3066	2780	2745	2902	3105	2528	2769	2964	2841	2964	2780			
Average -	3012	3142	2893	2801	2970	3194	2684	2860	3041	2979	3131	2951	2972	4.70	3194
PLD% -	1	6	-3	-6	-0	7	-10	-4	2	0	5	-1	High/Low:	+7 /	-10
Code -				****			****	****							
BURNER RD5															
High -	3092	2745	2939	3516	2804	3753	2952	3211	3292	2528	3403	3015			
Low -	2865	2617	2757	3319	2550	3516	2829	3015	3131	2419	3238	2853			
Average -	2957	2678	2835	3410	2662	3610	2883	3097	3208	2459	3319	2918	3003	5.80	3610
PLD% -	-2	-11	-6	14	-11	20	-4	3	7	-18	11	-3	High/Low:	+20 /	-18
Code -	****	****	****		****		****	****	****	****		****			
BURNER RD6															
High -	2335	2583	2757	3053	3459	3361	2964	3224	3144	2430	3333	2652			
Low -	2185	2430	2640	2927	3292	3118	2829	3053	2952	2335	2939	2517			
Average -	2249	2504	2695	2989	3383	3211	2897	3142	3044	2378	3043	2580	2843	0.17	3383
PLD% -	-21	-12	-5	5	19	13	2	11	7	-16	7	-9	High/Low:	+19 /	-21
Code -	****	****	****	****			****		****	****	****	****			

IP7_001180

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 1 (BASELINE)

TABLE 1

Test Point Velocities (Feet/Minute)

Test Point (deg)	)	30	60	90	120	150	180	210	240	270	300	330	Burner Average	% Deviation	Velocity Peak
BURNER RH1															
High -	2419	2398	3768	2816	2816	3445	3265	3474	3105	2780	2757	2398			
Low -	2244	2244	3545	2686	2583	3171	3118	3306	2977	2629	2629	2254			
Average -	2342	2333	3651	2749	2673	3328	3204	3366	3031	2719	2693	2345	2869	1.10	3651
PLD% -	-18	-19	27	-4	-7	16	12	17	6	-5	-6	-18	High/Low:	+27 /	-19
Code -	****	****		****	****		****		****	****	****	****			
BURNER RH2															
High -	2686	2528	3238	2733	3292	3445	2652	3333	3197	2780	2675	2305			
Low -	2561	2335	3092	2686	3144	3224	2441	3171	2877	2675	2325	2214			
Average -	2622	2432	3177	2716	3213	3306	2557	3271	3132	2724	2462	2258	2823	-0.55	3306
PLD% -	-7	-14	13	-4	14	17	-9	16	11	-3	-13	-20	High/Low:	+17 /	-20
Code -	****	****		****			****			****	****	****			
BURNER RH3															
High -	2663	2539	3860	2745	2335	2721	3431	2914	3197	2989	3118	2572			
Low -	2517	2356	3516	2652	2204	2640	3118	2780	3079	2841	2989	2506			
Average -	2588	2423	3736	2693	2264	2669	3256	2858	3124	2934	3056	2545	2845	0.25	3736
PLD% -	-9	-15	31	-5	-20	-6	14	0	10	3	7	-11	High/Low:	+31 /	-20
Code -	****	****		****	****	****	****	****	****	****	****	****			
BURNER RH4															
High -	3184	3197	3251	2964	3265	3488	3251	3053	2204	2441	3184	2914			
Low -	2989	3015	3092	2877	3144	3278	2877	2853	2061	2335	3028	2841			
Average -	3100	3120	3177	2900	3206	3388	3097	2961	2115	2374	3114	2872	2952	4.01	3388
PLD% -	5	6	8	-2	9	15	5	0	-28	-20	5	-3	High/Low:	+15 /	-28
Code -				****				****	****	****		****			
BURNER RH5															
High -	2675	2528	3079	2977	3040	3604	3251	3251	2745	2804	3860	2902			
Low -	2451	2284	2816	2829	2663	3403	2989	3053	2244	2629	3516	2733			
Average -	2595	2411	2943	2890	2846	3495	3097	3137	2530	2709	3646	2813	2926	3.10	3646
PLD% -	-11	-18	1	-1	-3	19	6	7	-14	-7	25	-4	High/Low:	+25 /	-18
Code -	****	****	****	****	****		****	****	****	****		****			
BURNER RH6															
High -	2710	2550	2675	2710	3459	3678	2853	3347	2675	2441	3445	2528			
Low -	2606	2388	2484	2572	3197	3545	2617	3184	2462	2356	3171	2346			
Average -	2655	2470	2585	2621	3336	3611	2728	3271	2561	2398	3322	2417	2831	-0.25	3611
PLD% -	-6	-13	-9	-7	18	28	-4	16	-10	-15	17	-15	High/Low:	+28 /	-15
Code -	****	****	****	****			****		****	****		****			
BURNER RC1															
High -	2224	2234	3875	2780	2346	3333	3040	3860	3445	2841	2398	2377			
Low -	2061	2042	3574	2640	2175	3066	2952	3722	3278	2710	2284	2234			
Average -	2132	2125	3725	2712	2270	3200	2998	3788	3370	2759	2343	2290	2809	-1.01	3788
PLD% -	-24	-24	33	-3	-19	14	7	35	20	-2	-17	-18	High/Low:	+35 /	-24
Code -	****	****		****	****	****	****		****	****	****	****			
BURNER RC2															
High -	2356	2914	2829	2733	2451	2964	2640	3002	3184	2710	2816	3092			
Low -	2185	2698	2583	2572	2204	2792	2419	2617	2964	2550	2686	2914			
Average -	2264	2786	2687	2648	2301	2876	2525	2755	3096	2626	2756	2995	2693	-5.12	3096
PLD% -	-16	3	-0	-2	-15	7	-6	2	15	-2	2	11	High/Low:	+15 /	-16
Code -	****	****	****	****	****		****	****		****	****				

IP7_001181

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 1 (BASELINE)

TABLE 1

Test Point Velocities (Feet/Minute)

Test Point (deg)	)	30	60	90	120	150	180	210	240	270	300	330	Burner Average	% Deviation	Velocity Peak
BURNER RC3															
High -	2745	2964	3375	2733	2136	3265	3053	2745	2517	2780	3015	2877			
Low -	2495	2769	3184	2550	1961	3118	2939	2561	2377	2595	2539	2721			
Average -	2629	2869	3311	2649	2031	3173	2985	2660	2453	2685	2876	2804	2761	-2.74	3311
PLD% -	-5	4	20	-4	-26	15	8	-4	-11	-3	4	2	High/Low:	+20 /	-26
Code -	****	****		****	****			****	****	****	****	****			
BURNER RC4															
High -	2757	2927	3002	2841	3131	3224	2757	2927	2506	2698	3118	2733			
Low -	2561	2640	2816	2733	2829	3002	2451	2780	2284	2388	2902	2550			
Average -	2627	2804	2881	2791	2991	3108	2589	2857	2402	2520	3021	2632	2768	-2.46	3108
PLD% -	-5	1	4	1	8	12	-6	3	-13	-9	9	-5	High/Low:	+12 /	-13
Code -	****			****			****		****	****		****			
BURNER RC5															
High -	2185	2473	2890	3105	3066	3238	2964	3389	2388	2473	3251	2572			
Low -	2061	2315	2710	3028	2914	3066	2769	3211	2274	2305	3144	2377			
Average -	2135	2363	2771	3066	3022	3169	2844	3307	2307	2368	3196	2457	2750	-3.09	3307
PLD% -	-22	-14	1	11	10	15	3	20	-16	-14	16	-11	High/Low:	+20 /	-22
Code -	****	****	****				****		****	****		****			
BURNER RG1															
High -	2294	3002	4195	2733	3278	3798	3347	3738	3488	2816	2583	2264			
Low -	2136	2853	3969	2617	3144	3560	3144	3604	3333	2506	2346	2108			
Average -	2228	2914	4101	2663	3207	3696	3258	3670	3414	2634	2460	2189	3036	6.98	4101
PLD% -	-27	-4	35	-12	6	22	7	21	12	-13	-19	-28	High/Low:	+35 /	-28
Code -	****	****		****	****		****	****	****	****	****	****			
BURNER RG2															
High -	2698	2098	3488	2757	3171	3251	2829	3197	3092	2335	3092	2430			
Low -	2528	1742	3184	2595	2877	2977	2663	2902	2816	2165	2816	2274			
Average -	2604	1919	3316	2642	3031	3100	2751	3075	2964	2249	2949	2357	2746	-3.24	3316
PLD% -	-5	-30	21	-4	10	13	0	12	8	-18	7	-14	High/Low:	+21 /	-30
Code -	****	****		****			****		****	****	****	****			
BURNER RG3															
High -	2377	2165	3459	2652	2902	3445	3144	3171	3118	3131	3158	2398			
Low -	2117	1926	3158	2539	2484	3105	2890	2952	2989	3002	2890	2284			
Average -	2233	2052	3298	2591	2637	3315	2966	3060	3048	3061	3037	2351	2804	-1.20	3315
PLD% -	-20	-27	18	-8	-6	18	6	9	9	9	8	-16	High/Low:	+18 /	-27
Code -	****	****		****	****		****					****			
BURNER RG4															
High -	2506	2769	3105	3105	3118	3319	2927	3333	2841	2652	3417	2865			
Low -	2419	2583	2841	3040	3002	3158	2721	3184	2675	2517	3224	2721			
Average -	2460	2673	2969	3070	3065	3230	2823	3264	2760	2568	3331	2772	2915	2.72	3331
PLD% -	-16	-8	2	5	5	11	-3	12	-5	-12	14	-5	High/Low:	+14 /	-16
Code -	****	****	****				****		****	****		****			
BURNER RG5															
High -	2606	2606	3015	3292	2583	2595	1671	2473	2495	2495	3184	2617			
Low -	2462	2484	2890	3131	2294	2473	1468	2234	2214	2441	2939	2451			
Average -	2539	2554	2949	3199	2381	2517	1551	2341	2352	2467	3066	2521	2537	-10.63	3199
PLD% -	0	1	16	26	-6	-1	-39	-8	-7	-3	21	-1	High/Low:	+26 /	-39
Code -	****	****			****	****	****	****	****	****		****			

IP7_001182

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 1 (BASELINE)

TABLE 1

Test Point Velocities (Feet/Minute)

Test Point (deg)	)	30	60	90	120	150	180	210	240	270	300	330	Burner Average	% Deviation	Velocity Peak
BURNER RG6															
High -	2572	2185	2388	2495	2780	3238	3040	2989	2663	2606	3663	2780			
Low -	2484	2061	2254	2315	2663	2989	2902	2853	2346	2398	3459	2617			
Average -	2522	2097	2340	2431	2729	3123	2971	2907	2449	2483	3563	2689	2692	-5.15	3563
PLD% -	-6	-22	-13	-10	1	16	10	8	-9	-8	32	-0	High/Low:	+32 /	-22
Code -	****	****	****	****	****	****	****	****	****	****		****			

IP7_001183

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 1 (BASELINE)

TABLE 2

Summary		Condition	Code	Trigger Level %
Average Velocity All Burners =	3876.39 fpm	Blocked Flow	*****	10
Maximum High Flow Deviation =	16.48 %	Vortex Action	VVVVV	20
Minimum Low Flow Deviation =	-19.30 %	Flow & Vortex Action	*V*V*	
Total Flow Deviation =	35.78 %			

Test Point Velocities (Feet/Minute)

Test Point (deg)	)	30	60	90	120	150	180	210	240	270	300	330	Burner Average	% Deviation	Velocity Peak
BURNER FE6															
High -	4083	4388	3645	4041	3765	3580	3806	3984	3632	3806	3685	3833			
Low -	3685	4111	3426	3860	2786	2967	3619	3632	3363	3567	3477	3645			
Average -	3969	4279	3543	3975	3331	3316	3713	3812	3506	3693	3594	3746	3706	-4.38	4279
PLD% -	7	15	-4	7	-10	-11	0	3	-5	-0	-3	1	High/Low:	+15 /	-11
Code -			****		*V*V	****	****	****	****	****	****	****			
BURNER FE5															
High -	4026	4012	3107	3957	4069	2731	3619	3464	3658	3833	3846	3672			
Low -	3819	3413	1711	3738	3252	2108	3388	3191	3426	3645	3502	3477			
Average -	3928	3780	2266	3835	3729	2399	3510	3329	3535	3756	3676	3600	3445	-11.12	3928
PLD% -	14	10	-34	11	8	-30	2	-3	3	9	7	4	High/Low:	+14 /	-34
Code -			*V*V		VVVV	*V*V	****	****	****						
BURNER FE4															
High -	3725	4083	3711	3806	3606	3413	3502	3632	3528	3593	3806	3658			
Low -	3301	3593	3227	3580	3107	2853	3239	3119	3119	3191	3606	3013			
Average -	3593	3929	3571	3709	3353	3224	3358	3432	3379	3481	3701	3482	3518	-9.25	3929
PLD% -	2	12	2	5	-5	-8	-5	-2	-4	-1	5	-1	High/Low:	+12 /	-8
Code -					****	****	****	****	****	****		****			
BURNER FE3															
High -	3672	3685	3388	3645	3632	3477	3672	3350	3288	3528	3313	3438			
Low -	3464	2386	3131	3413	3502	2898	3413	2944	3036	3227	3083	3227			
Average -	3566	3471	3281	3534	3578	3151	3539	3272	3164	3333	3178	3312	3365	-13.19	3578
PLD% -	6	3	-2	5	6	-6	5	-3	-6	-1	-6	-2	High/Low:	+6 /	-6
Code -		VVVV				****			****		****				
BURNER FE2															
High -	3685	3765	3658	3580	3464	3363	3438	3567	3833	3632	3313	3464			
Low -	3554	3606	3464	3375	3338	3167	3227	3313	2571	2808	3119	3239			
Average -	3626	3676	3571	3448	3396	3284	3335	3433	3201	3335	3215	3381	3408	-12.07	3676
PLD% -	6	8	5	1	-0	-4	-2	1	-6	-2	-6	-1	High/Low:	+8 /	-6
Code -						****			*V*V	VVVV	****				
BURNER FE1															
High -	3554	3313	3252	3179	3155	2990	3338	3072	3276	3301	2990	3325			
Low -	3167	3107	3083	3013	2944	2819	3155	2898	3107	3131	2742	3072			
Average -	3379	3205	3149	3092	3083	2899	3235	2977	3175	3239	2862	3244	3128	-19.30	3379
PLD% -	8	2	1	-1	-1	-7	3	-5	2	4	-9	4	High/Low:	+8 /	-9
Code -						****		****			****				

IP7_001184

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 1 (BASELINE)

TABLE 2

Test Point Velocities (Feet/Minute)

Test Point (deg)	)	30	60	90	120	150	180	210	240	270	300	330	Burner Average	% Deviation	Velocity Peak
BURNER FA6															
High -	5108	5125	4226	4929	4771	4285	4755	4802	4661	4212	4041	5410			
Low -	4661	4786	3400	4630	4329	3725	4329	4373	3943	3167	3083	4978			
Average -	4907	4987	3832	4796	4587	3946	4594	4620	4334	3654	3663	5187	4426	14.17	5187
PLD% -	11	13	-13	8	4	-11	4	4	-2	-17	-17	17	High/Low:	+17 /	-17
Code -			****		****	****	****	****	****	*V*V	*V*V				
BURNER FA5															
High -	4169	4154	4600	4708	4786	4226	4373	4041	4994	4212	4026	4373			
Low -	3239	3725	3239	4256	4433	3167	3792	3227	4539	3489	3083	4026			
Average -	3591	3930	4031	4505	4609	3621	3989	3650	4724	3816	3531	4177	4015	3.56	4724
PLD% -	-11	-2	0	12	15	-10	-1	-9	18	-5	-12	4	High/Low:	+18 /	-12
Code -	*V*V	****	*V*V			*V*V	****	*V*V		****	*V*V	****			
BURNER FA4															
High -	4771	4865	3915	4615	4069	2288	4897	4358	4802	4069	3288	4523			
Low -	3929	4448	3143	3698	3036	1703	4630	3984	4418	3167	2498	4270			
Average -	4311	4653	3581	4274	3455	1976	4780	4168	4588	3612	2835	4416	3887	0.29	4780
PLD% -	11	20	-8	10	-11	-49	23	7	18	-7	-27	14	High/Low:	+23 /	-49
Code -			****	****	*V*V	*V*V		****		*V*V	*V*V				
BURNER FA3															
High -	4630	4373	4897	4929	4554	4154	4630	4677	4569	4126	4850	4569			
Low -	4069	4083	4373	4493	3778	3276	3901	4478	3060	3167	4388	4314			
Average -	4402	4257	4739	4727	4285	3758	4193	4586	3776	3687	4603	4434	4287	10.60	4739
PLD% -	3	-1	11	10	-0	-12	-2	7	-12	-14	7	3	High/Low:	+11 /	-14
Code -		****				*V*V	****		*V*V	*V*V					
BURNER FA2															
High -	4539	4865	4755	4739	4403	3426	3438	4448	4403	2775	4373	4929			
Low -	4256	4493	4111	4463	3943	2775	2764	3929	3943	2080	3515	4677			
Average -	4399	4705	4565	4605	4136	2982	3134	4267	4232	2347	4147	4788	4026	3.85	4788
PLD% -	9	17	13	14	3	-26	-22	6	5	-42	3	19	High/Low:	+19 /	-42
Code -					****	****	****	****	****	*V*V	****				
BURNER FA1															
High -	4600	4802	4126	3363	3957	3426	4834	4724	4373	4554	4388	4646			
Low -	4241	4554	3477	2602	3451	2819	4539	4463	1920	3833	4083	4041			
Average -	4370	4691	3781	3054	3706	3100	4656	4598	3924	4132	4205	4449	4055	4.62	4691
PLD% -	8	16	-7	-25	-9	-24	15	13	-3	2	4	10	High/Low:	+16 /	-25
Code -			****	*V*V	****	****			*V*V	****	****				
BURNER FF6															
High -	4755	4945	4083	4433	3874	4646	4802	4554	4755	3698	3672	4615			
Low -	4403	4708	3227	3901	3179	4373	4508	4388	4600	2990	3143	4344			
Average -	4600	4831	3519	4187	3609	4517	4653	4467	4681	3358	3532	4483	4203	8.43	4831
PLD% -	9	15	-16	-0	-14	7	11	6	11	-20	-16	7	High/Low:	+15 /	-20
Code -			*V*V	****	****					****	****				
BURNER FF5															
High -	4897	4508	5108	5092	4285	4140	4539	4388	4569	4897	4881	5207			
Low -	4198	4226	4771	4708	3658	3072	4069	4012	4256	4329	4523	4818			
Average -	4506	4358	4947	4953	4099	3660	4302	4160	4432	4653	4735	4997	4484	15.66	4997
PLD% -	0	-3	10	10	-9	-18	-4	-7	-1	4	6	11	High/Low:	+11 /	-18
Code -		****			****	*V*V	****	****	****						

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 1 (BASELINE)

TABLE 2

Test Point Velocities (Feet/Minute)

Test Point (deg)	)	30	60	90	120	150	180	210	240	270	300	330	Burner Average	% Deviation	Velocity Peak
BURNER FF4															
High -	4329	4097	4661	4771	4850	4111	4373	4661	4508	4493	4755	4285			
Low -	3325	3464	3929	4463	4569	3711	4041	4241	4111	3083	4154	3567			
Average -	3904	3750	4391	4614	4721	3959	4180	4411	4314	3642	4535	3931	4196	8.24	4721
PLD% -	-7	-11	5	10	13	-6	-0	5	3	-13	8	-6	High/Low:	+13 /	-13
Code -	*V*V	****				****	****			*V*V		****			
BURNER FF3															
High -	4646	4677	3619	4786	4418	3301	4850	4929	4012	4834	4850	3738			
Low -	3464	4111	2376	4478	4069	2337	4126	4661	3685	4241	3929	2955			
Average -	4113	4391	3086	4638	4265	2963	4641	4768	3826	4555	4525	3361	4094	5.62	4768
PLD% -	0	7	-25	13	4	-28	13	16	-7	11	11	-18	High/Low:	+16 /	-28
Code -	*V*V		*V*V		****	*V*V			****			*V*V			
BURNER FF2															
High -	4584	4865	5010	4897	4418	3998	5092	5125	3502	3580	4241	4226			
Low -	3725	3998	4539	4493	3943	3426	4771	4739	2259	2108	3013	3738			
Average -	4145	4445	4748	4687	4161	3770	4890	4983	2894	2705	3632	4026	4091	5.53	4983
PLD% -	1	9	16	15	2	-8	20	22	-29	-34	-11	-2	High/Low:	+22 /	-34
Code -	****	****			****	****			*V*V	*V*V	*V*V	****			
BURNER FF1															
High -	4373	5026	2786	4212	4241	4069	5207	5092	4646	4615	4708	4358			
Low -	4041	4329	1920	3227	3738	3541	4945	4771	4041	3606	4448	3426			
Average -	4190	4663	2352	3501	4017	3900	5089	4932	4362	4127	4568	3903	4134	6.63	5089
PLD% -	1	13	-43	-15	-3	-6	23	19	6	-0	11	-6	High/Low:	+23 /	-43
Code -	****		*V*V	*V*V	****	****			****	*V*V	****	*V*V			
BURNER FB6															
High -	4786	4771	3567	4962	4913	4241	4026	4802	4661	4212	4646	5043			
Low -	4111	4478	2909	4344	4012	3833	3833	4329	3860	3288	4169	4508			
Average -	4406	4635	3208	4583	4432	3953	3958	4640	4260	3711	4416	4819	4252	9.68	4819
PLD% -	4	9	-25	8	4	-7	-7	9	0	-13	4	13	High/Low:	+13 /	-25
Code -			****			****	****		****	*V*V					
BURNER FB5															
High -	4388	4646	4539	4865	3970	3819	3778	4212	4646	4600	4285	4865			
Low -	3901	4329	3901	4270	3276	3325	3143	3606	4212	3554	3528	4630			
Average -	4184	4508	4243	4524	3615	3563	3448	3905	4418	4114	4061	4746	4111	6.04	4746
PLD% -	2	10	3	10	-12	-13	-16	-5	7	0	-1	15	High/Low:	+15 /	-16
Code -	****		****		****	****	****	****		*V*V	****				
BURNER FB4															
High -	3593	4615	4881	4818	4945	4755	4493	4478	3477	3388	3752	3846			
Low -	2550	4403	4478	4373	4463	3998	3554	4154	2786	2592	2560	3363			
Average -	2993	4515	4676	4608	4684	4427	4037	4311	3082	3008	3155	3652	3929	1.35	4684
PLD% -	-24	15	19	17	19	13	3	10	-22	-23	-20	-7	High/Low:	+19 /	-24
Code -	*V*V						*V*V		****	*V*V	*V*V	****			
BURNER FB3															
High -	3725	4388	4818	4755	4508	4661	3984	4850	4126	3887	3943	4373			
Low -	2955	3970	4270	4241	4140	3502	2427	4140	3711	2090	2467	4111			
Average -	3265	4180	4605	4539	4343	4259	3081	4423	3942	3303	2911	4262	3926	1.28	4605
PLD% -	-17	6	17	16	11	8	-22	13	0	-16	-26	9	High/Low:	+17 /	-26
Code -	*V*V					VVVV	*V*V		****	*V*V	*V*V				

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AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 1 (BASELINE)

TABLE 2

Test Point Velocities (Feet/Minute)

Test Point (deg)	)	30	60	90	120	150	180	210	240	270	300	330	Burner Average	% Deviation	Velocity Peak
BURNER FB2															
High -	4463	5010	4724	4818	4373	4818	4978	4724	4945	4692	4569	4554			
Low -	4198	4600	3765	4226	4041	4646	4661	4433	4012	4403	4241	3998			
Average -	4338	4810	4331	4635	4196	4727	4836	4579	4577	4546	4416	4191	4515	16.48	4836
PLD% -	-4	7	-4	3	-7	5	7	1	1	1	-2	-7	High/Low:	+7 /	-7
Code -	****		*V*V		****							****			
BURNER FB1															
High -	4433	4478	3792	4055	4111	3477	4198	5043	4226	4299	4493	5010			
Low -	4041	4212	2560	3489	3528	3013	3502	4850	3957	3970	4329	4677			
Average -	4264	4337	2979	3786	3801	3212	3935	4941	4092	4134	4438	4845	4064	4.83	4941
PLD% -	5	7	-27	-7	-6	-21	-3	22	1	2	9	19	High/Low:	+22 /	-27
Code -	****	****	*V*V	****	****	****	****		****	****	****				
BURNER RD1															
High -	4508	4554	4285	4850	4554	4299	4478	4270	4026	3477	4569	4433			
Low -	3632	4241	3325	4600	4285	3833	3887	3957	2864	2592	4285	4183			
Average -	4123	4439	3889	4745	4482	4132	4278	4121	3507	3000	4466	4301	4124	6.38	4745
PLD% -	-0	8	-6	15	9	0	4	-0	-15	-27	8	4	High/Low:	+15 /	-27
Code -	****		*V*V			****		****	*V*V	*V*V					
BURNER RD2															
High -	3645	4083	3901	4373	4256	4169	4226	4169	4069	4226	4403	4183			
Low -	2008	3672	3143	3984	4041	3819	3887	3606	3874	3998	3984	3998			
Average -	2931	3827	3554	4186	4129	3991	4070	3771	3972	4071	4133	4095	3894	0.46	4186
PLD% -	-25	-2	-9	7	6	2	5	-3	2	5	6	5	High/Low:	+7 /	-25
Code -	*V*V		****												
BURNER RD3															
High -	3698	4344	4097	4285	4523	3984	4126	3984	4026	3860	4041	4198			
Low -	2764	4069	3685	4026	4241	3645	3887	3388	2437	2357	2864	3998			
Average -	3261	4189	3938	4159	4382	3865	4034	3658	3366	3142	3497	4116	3801	-1.96	4382
PLD% -	-14	10	4	9	15	2	6	-4	-11	-17	-8	8	High/Low:	+15 /	-17
Code -	*V*V		****			****		****	*V*V	*V*V	*V*V				
BURNER RD4															
High -	3833	4111	4083	4198	3984	3998	4183	4111	4026	3901	3929	3929			
Low -	3606	3887	3846	3915	3846	3752	3943	3887	3860	3632	3711	3645			
Average -	3754	3994	3962	4022	3925	3883	4083	4006	3932	3764	3816	3804	3912	0.92	4083
PLD% -	-4	2	1	3	0	-1	4	2	1	-4	-2	-3	High/Low:	+4 /	-4
Code -															
BURNER RD5															
High -	3874	3984	3970	3765	3929	2220	3580	3765	3778	4111	3711	3806			
Low -	3619	3765	3806	3541	2775	1886	3131	3554	3515	3887	3515	3619			
Average -	3744	3894	3891	3633	3344	2098	3383	3658	3642	4000	3586	3696	3547	-8.49	4000
PLD% -	6	10	10	2	-6	-41	-5	3	3	13	1	4	High/Low:	+13 /	-41
Code -					*V*V	****	****				****				
BURNER RD6															
High -	4373	4212	4154	4041	3887	3451	3970	3929	3874	3725	3685	3984			
Low -	3887	4069	3580	3846	3685	2775	3645	3685	3672	2386	2677	3792			
Average -	4216	4134	3922	3947	3776	3024	3819	3762	3766	3178	3084	3918	3712	-4.24	4216
PLD% -	14	11	6	6	2	-19	3	1	1	-14	-17	6	High/Low:	+14 /	-19
Code -					****	****		****	****	*V*V	*V*V				

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 1 (BASELINE)

TABLE 2

Test Point Velocities (Feet/Minute)

Test Point (deg)	)	30	60	90	120	150	180	210	240	270	300	330	Burner Average	% Deviation	Velocity Peak
BURNER RH1															
High -	4403	5092	4881	4802	3792	4241	4478	4646	4154	3752	2656	4755			
Low -	4083	4708	4314	4358	2853	3528	4241	4329	3554	2317	1671	4403			
Average -	4201	4927	4669	4550	3385	3946	4381	4440	3858	2868	2081	4576	3990	2.93	4927
PLD% -	5	23	17	14	-15	-1	10	11	-3	-28	-48	15	High/Low:	+23 /	-48
Code -	****				*V*V	****	****		****	*V*V	*V*V				
BURNER RH2															
High -	4012	4615	4493	4226	4786	4724	5075	4299	4388	4198	4198	4739			
Low -	3672	4344	4083	3451	4539	4478	4630	3901	3778	3036	2688	4493			
Average -	3879	4494	4292	3874	4661	4636	4896	4159	4014	3634	3484	4625	4221	8.88	4896
PLD% -	-8	6	2	-8	10	10	16	-1	-5	-14	-17	10	High/Low:	+16 /	-17
Code -	****		****	****				****	****	*V*V	*V*V				
BURNER RH3															
High -	3792	4270	4055	2688	4508	4285	4388	4140	4478	4329	3477	4448			
Low -	3580	3580	3338	2062	4041	3143	3025	3752	4140	3711	2571	4097			
Average -	3695	3904	3718	2395	4257	3736	3671	3955	4379	4024	2995	4306	3753	-3.18	4379
PLD% -	-2	4	-1	-36	13	-0	-2	5	17	7	-20	15	High/Low:	+17 /	-36
Code -	****	****	****	*V*V		*V*V	*V*V				*V*V				
BURNER RH4															
High -	3711	4329	4097	3765	4463	3672	4493	4646	4646	3426	3998	3970			
Low -	2327	3984	2887	3025	4154	3013	3606	4463	4448	2062	3001	3451			
Average -	3065	4203	3576	3379	4347	3343	4103	4538	4558	2744	3355	3762	3748	-3.32	4558
PLD% -	-18	12	-5	-10	16	-11	9	21	22	-27	-10	0	High/Low:	+22 /	-27
Code -	*V*V		*V*V	****		****				*V*V	*V*V	****			
BURNER RH5															
High -	4041	4403	3313	3765	4493	4097	4929	4897	4083	4285	4169	4226			
Low -	2192	3970	2406	3036	4270	2875	4012	4661	3567	3350	3388	3752			
Average -	2759	4234	2881	3354	4382	3325	4568	4819	3802	3913	3808	4055	3825	-1.32	4819
PLD% -	-28	11	-25	-12	15	-13	19	26	-1	2	-0	6	High/Low:	+26 /	-28
Code -	*V*V	****	*V*V	****		*V*V			****	*V*V	****	****			
BURNER RH6															
High -	4373	4433	4978	4600	4418	4097	4083	5092	4615	4111	3388	4661			
Low -	3400	3970	4373	3778	3554	3502	3203	4881	4026	2775	2230	4314			
Average -	4052	4263	4658	4150	3965	3727	3692	4986	4321	3465	2717	4450	4037	4.15	4986
PLD% -	0	6	15	3	-2	-8	-9	24	7	-14	-33	10	High/Low:	+24 /	-33
Code -	*V*V	****		****	****	****	*V*V		****	*V*V	*V*V	****			
BURNER RC1															
High -	3887	4154	3155	3998	4493	3619	4285	4508	4270	3541	4140	4523			
Low -	2753	3711	2090	2990	4126	3060	4069	4126	3752	2645	3698	4140			
Average -	3392	3996	2447	3432	4327	3366	4181	4285	4004	2989	3927	4335	3723	-3.94	4335
PLD% -	-9	7	-34	-8	16	-10	12	15	8	-20	5	16	High/Low:	+16 /	-34
Code -	*V*V		*V*V	*V*V		****				*V*V					
BURNER RC2															
High -	2268	3672	4661	4584	3915	4569	4708	3711	4069	4677	2853	4140			
Low -	1578	3143	3874	3887	3658	4403	4388	3215	3528	4256	2126	3632			
Average -	1968	3370	4265	4297	3799	4483	4571	3442	3763	4514	2481	3907	3738	-3.56	4571
PLD% -	-47	-10	14	15	2	20	22	-8	1	21	-34	5	High/Low:	+22 /	-47
Code -	*V*V	****			****			****	****		*V*V	****			

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AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 1 (BASELINE)

TABLE 2

Test Point Velocities (Feet/Minute)

Test Point (deg)	)	30	60	90	120	150	180	210	240	270	300	330	Burner Average	% Deviation	Velocity Peak
BURNER RC3															
High -	3489	4241	4569	4478	4508	4493	3515	3338	4646	4041	4041	4373			
Low -	2666	3264	4241	3874	4169	3970	1826	2164	4373	3765	2709	4026			
Average -	3237	3809	4440	4135	4303	4300	2771	2735	4529	3902	3302	4185	3804	-1.87	4529
PLD% -	-15	0	17	9	13	13	-27	-28	19	3	-13	10	High/Low:	+19 /	-28
Code -	*V*V	*V*V					*V*V	*V*V		****	*V*V				
BURNER RC4															
High -	3606	2853	3970	4539	4373	3819	4646	4388	4646	3451	2488	4069			
Low -	3119	1894	2932	4083	3984	3426	4241	4198	4344	2581	1735	3388			
Average -	3394	2335	3679	4337	4181	3658	4494	4316	4501	3077	2040	3782	3650	-5.85	4501
PLD% -	-7	-36	1	19	15	0	23	18	23	-16	-44	4	High/Low:	+23 /	-44
Code -	****	*V*V	*V*V			****				*V*V	*V*V	****			
BURNER RC5															
High -	2831	4041	2240	4299	4183	3632	4358	4083	4083	4539	4069	4083			
Low -	1429	3632	1695	4111	3970	3325	4097	3887	3672	4285	3887	3698			
Average -	1921	3846	1908	4203	4074	3525	4235	3974	3912	4390	3970	3947	3659	-5.61	4390
PLD% -	-47	5	-48	15	11	-4	16	9	7	20	9	8	High/Low:	+20 /	-48
Code -	*V*V	****	*V*V			****			****			****			
BURNER RC6															
High -	4314	4600	4198	3819	4111	3191	4299	4554	4083	3464	4314	4463			
Low -	3792	4433	3738	2819	3833	2560	3778	4373	3451	2720	4069	4241			
Average -	4075	4506	4002	3294	4011	2887	4072	4483	3745	3078	4226	4338	3893	0.43	4506
PLD% -	5	16	3	-15	3	-26	5	15	-4	-21	9	11	High/Low:	+16 /	-26
Code -			****	*V*V	****	****			****	*V*V					
BURNER RG1															
High -	3215	4285	3957	4523	2742	2967	4154	4012	3943	3036	4126	4183			
Low -	2201	3887	3685	4403	2427	2498	4041	3874	3593	1687	2498	3901			
Average -	2576	4059	3816	4474	2579	2733	4098	3965	3791	2220	3449	4060	3485	-10.10	4474
PLD% -	-26	16	10	28	-26	-22	18	14	9	-36	-1	16	High/Low:	+28 /	-36
Code -	*V*V		****		****	****		****	****	*V*V	*V*V				
BURNER RG2															
High -	3806	4771	4373	4493	4433	4270	4212	3943	3698	2864	3072	4083			
Low -	2645	4358	4083	4329	4212	3567	3943	3350	3203	1671	1903	3765			
Average -	3255	4564	4266	4395	4323	3893	4086	3731	3504	1975	2388	3968	3696	-4.66	4564
PLD% -	-12	23	15	19	17	5	11	1	-5	-47	-35	7	High/Low:	+23 /	-47
Code -	*V*V					****	****	****	****	*V*V	*V*V	****			
BURNER RG3															
High -	4256	4630	4198	4478	3711	1711	2099	3833	4692	4126	3593	4508			
Low -	3901	4183	3239	4069	1937	1304	1142	2797	4493	3792	2666	4111			
Average -	4067	4357	3613	4285	2633	1524	1622	3484	4596	3955	3099	4268	3459	-10.78	4596
PLD% -	18	26	4	24	-24	-56	-53	1	33	14	-10	23	High/Low:	+33 /	-56
Code -	****		*V*V		*V*V	*V*V	*V*V	*V*V		****	*V*V				
BURNER RG4															
High -	3860	4554	2944	4388	4692	4226	4329	4646	3672	3792	4344	3725			
Low -	3131	4212	1999	4154	4508	3426	3738	4433	2437	2347	4083	3025			
Average -	3592	4414	2498	4299	4610	3814	3976	4525	2982	2934	4214	3307	3764	-2.91	4610
PLD% -	-5	17	-34	14	22	1	6	20	-21	-22	12	-12	High/Low:	+22 /	-34
Code -	****		*V*V			****	****		*V*V	*V*V		****			

IP7_001189

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 1 (BASELINE)

TABLE 2

Test Point Velocities (Feet/Minute)

Test Point (deg)	)	30	60	90	120	150	180	210	240	270	300	330	Burner Average	% Deviation	Velocity Peak
BURNER RG5															
High -	4929	4692	4493	4539	3711	3179	2477	2307	4708	4739	4569	4677			
Low -	4708	4403	3792	4241	3072	2192	1663	1809	4241	4388	3874	4299			
Average -	4812	4522	4101	4376	3462	2595	2063	2012	4455	4607	4133	4488	3802	-1.92	4812
PLD% -	27	19	8	15	-9	-32	-46	-47	17	21	9	18	High/Low:	+27 /	-47
Code -			****		****	*V*V	*V*V	*V*V			****				
BURNER RG6															
High -	2887	4041	3792	3554	4198	3901	4299	4771	3752	3606	3957	3957			
Low -	1955	3632	2307	2853	3672	3288	3943	4508	3426	2932	3179	3048			
Average -	2372	3842	3022	3211	3944	3621	4118	4645	3592	3357	3667	3402	3566	-8.00	4645
PLD% -	-33	8	-15	-10	11	2	15	30	1	-6	3	-5	High/Low:	+30 /	-33
Code -	*V*V	****	*V*V	****	****	****	****		****	****	****	*V*V			

IP7_001190

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 2

TABLE 3

Summary

Average Velocity All Burners =	3112.51 fpm
Maximum High Flow Deviation =	28.04 %
Minimum Low Flow Deviation =	-18.98 %
Total Flow Deviation =	47.01 %

Condition	Code	Trigger Level %
Blocked Flow	*****	10
Vortex Action	VVVVV	20
Flow & Vortex Action	*V*V*	

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FE6																											
High -	3782	4190	3717	4646	4608	4085	3766	2312	3313	4172	3701	4332	4155	3733	5279	4916	4684	4722	4243	4016	4172	3434	3284	3685			
Low -	3685	4016	3574	4386	4423	3799	2221	2069	3095	3965	3449	4085	3948	3558	5055	4760	4552	4571	4051	3865	4034	3269	3167	3449			
Average -	3725	4098	3654	4539	4539	3916	3191	2202	3199	4087	3552	4209	4051	3638	5176	4835	4619	4625	4168	3937	4095	3353	3219	3542	3924	26.07	5176
PLD% -	-5	4	-7	16	16	-0	-19	-44	-18	4	-9	7	3	-7	32	23	18	18	6	0	4	-15	-18	-10	High/Low:	+32 /	-44
Code -	****	****	****	****	****	****	*V*V	****	****	****	****	****	****	****			****	****	****	****	****	****	****	****			
BURNER FE5																											
High -	3915	4137	3701	3284	4857	3685	3480	1924	2780	3653	4703	4533	4155	4314	4533	4261	4190	4137	3766	3815	3948	3881	4034	4102			
Low -	3701	3832	3449	3095	4571	3434	3358	1658	2638	3480	4350	4172	3948	4155	4386	3965	4068	3999	3511	3685	3733	3605	3881	3815			
Average -	3761	4000	3575	3183	4714	3528	3405	1734	2720	3585	4520	4297	4057	4242	4454	4109	4124	4051	3623	3738	3813	3747	3964	3968	3788	21.70	4714
PLD% -	-1	6	-6	-16	24	-7	-10	-54	-28	-5	19	13	7	12	18	8	9	7	-4	-1	1	-1	5	5	High/Low:	+24 /	-54
Code -	****	****	****	****		****	****	****	****	****			****	****		****	****	****	****	****	****	****	****	****			
BURNER FE4																											
High -	3750	3881	3527	4423	3915	3717	2860	3558	4207	4896	4441	4646	4478	3965	4423	4034	4423	4120	4034	3511	3733	3881	3605	3782			
Low -	3542	3621	3109	4137	3574	3434	2677	3254	3999	4571	3982	4207	3815	3542	4278	3848	4051	3932	3848	3298	3434	3685	3388	3621			
Average -	3675	3733	3328	4255	3788	3556	2761	3414	4088	4753	4224	4418	4189	3732	4349	3960	4263	3997	3902	3418	3595	3777	3493	3704	3849	23.66	4753
PLD% -	-5	-3	-14	11	-2	-8	-28	-11	6	23	10	15	9	-3	13	3	11	4	1	-11	-7	-2	-9	-4	High/Low:	+23 /	-28
Code -	****	****	****	****	****	****	****	****	****		****		****	****		****	****	****	****	****	****	****	****	****			
BURNER FE3																											
High -	3527	3669	2942	3328	3239	3404	3358	2955	3025	2702	3404	2199	1884	1740	2101	1835	2188	1452	3152	3915	3269	3465	3328	3404			
Low -	3388	3388	2715	3011	3109	3025	3152	2807	2928	2453	3138	1874	1676	1460	1797	1667	2058	1327	2983	3496	2914	3225	3095	3152			
Average -	3446	3526	2800	3183	3171	3200	3255	2867	2980	2536	3272	2034	1763	1606	1872	1742	2129	1404	3064	3673	3100	3316	3188	3277	2767	-11.11	3673
PLD% -	25	27	1	15	15	16	18	4	8	-8	18	-26	-36	-42	-32	-37	-23	-49	11	33	12	20	15	18	High/Low:	+33 /	-49
Code -			****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****		****		****	****			
BURNER FE2																											
High -	2080	3025	3039	2969	3254	3496	3123	4137	3733	3965	3653	3373	3589	3358	3750	3269	1703	3138	3465	3574	4190	3053	3496	3011			
Low -	1904	2847	2901	2807	3081	3328	2901	3832	3589	3653	3434	2997	3298	3123	3574	3123	1587	2860	3239	3298	3915	2651	2955	2576			
Average -	1982	2959	2975	2879	3158	3423	3027	4016	3682	3817	3537	3226	3456	3251	3675	3206	1650	3009	3368	3397	4053	2858	3329	2730	3194	2.62	4053
PLD% -	-38	-7	-7	-10	-1	7	-5	26	15	19	11	1	8	2	15	0	-48	-6	5	6	27	-11	4	-15	High/Low:	+27 /	-48
Code -	****	****	****	****	****	****	****				****	****	****	****		****	****	****	****	****		****	****	****			
BURNER FE1																											
High -	2613	2502	2767	2955	2914	3225	2807	2860	2942	3343	3669	4207	2715	3239	4068	3480	2874	2122	3449	3865	3496	4261	3181	3039			
Low -	2539	2359	2601	2860	2820	3053	2715	2794	2588	3167	3419	4085	2221	3025	3701	3210	2715	1934	3284	3782	3225	4102	2942	2807			
Average -	2579	2430	2704	2916	2857	3126	2764	2827	2798	3270	3533	4160	2362	3108	3937	3330	2800	2010	3355	3827	3369	4181	3083	2909	3093	-0.62	4181
PLD% -	-17	-21	-13	-6	-8	1	-11	-9	-10	6	14	34	-24	0	27	8	-9	-35	8	24	9	35	-0	-6	High/Low:	+35 /	-35
Code -	****	****	****	****	****	****	****	****	****	****	****		****	****		****	****	****	****		****		****	****			

IP7_001191

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 2

TABLE 3

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FA6																											
High -	3328	3815	3434	4589	4552	3881	3685	4172	4155	4478	4314	4102	4405	4034	4496	4261	4137	4016	3669	3685	3542	3053	3480	2969			
Low -	3152	3465	3343	4386	4332	3621	3542	3898	3965	4172	4016	3932	4243	3898	4314	4102	3982	3865	3558	3152	3328	2887	3313	2847			
Average -	3257	3580	3390	4514	4495	3781	3609	4017	4085	4343	4168	4032	4299	3944	4419	4172	4047	3920	3608	3308	3425	2980	3393	2919	3821	22.77	4514
PLD% -	-15	-6	-11	18	18	-1	-6	5	7	14	9	6	13	3	16	9	6	3	-6	-13	-10	-22	-11	-24	High/Low:	+18 /	-24
Code -	****	****	****			****	****	****				****		****			****	****	****	****	****	****	****	****			
BURNER FA5																											
High -	3542	3898	3388	3669	4741	5015	3449	2601	3637	4137	4460	4478	4034	3999	4368	4068	4190	3965	3815	4207	3999	3373	3685	3733			
Low -	3373	3669	3210	3373	4552	4741	3358	2477	3434	3915	4278	4172	3848	3815	4172	3932	4085	3832	3701	3898	3782	3152	3574	3589			
Average -	3458	3789	3296	3510	4651	4905	3388	2537	3563	4042	4375	4331	3958	3930	4267	4011	4145	3883	3749	4048	3866	3295	3632	3646	3845	23.53	4905
PLD% -	-10	-1	-14	-9	21	28	-12	-34	-7	5	14	13	3	2	11	4	8	1	-2	5	1	-14	-6	-5	High/Low:	+28 /	-34
Code -	****	****	****	****			****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****			
BURNER FA4																											
High -	3358	3766	3343	4296	3915	3574	3210	2370	3181	3881	3733	4405	4172	3948	4386	4314	4172	4441	3815	3799	3932	3404	3419	3669			
Low -	3152	3621	3167	3848	3733	3449	3123	2090	2997	3733	3589	4102	3915	3733	4278	4155	3948	4225	3637	3653	3750	3196	3269	3496			
Average -	3284	3681	3246	4068	3839	3499	3171	2199	3084	3810	3656	4304	4059	3840	4349	4231	4061	4369	3718	3712	3851	3260	3345	3591	3676	18.11	4369
PLD% -	-11	0	-12	11	4	-5	-14	-40	-16	4	-1	17	10	4	18	15	10	19	1	1	5	-11	-9	-2	High/Low:	+19 /	-40
Code -	****	****	****		****	****	****	****	****	****	****			****					****	****	****	****	****	****			
BURNER FA3																											
High -	3053	2767	3558	2780	3298	3542	2728	3717	3685	2847	4799	3358	3511	3815	3750	2780	2767	1797	3167	3865	4405	3328	3254	3123			
Low -	2887	2626	3373	2526	3053	3269	2576	3558	3589	2664	4627	3138	3225	3542	2847	2626	2601	1527	2820	3434	4102	2914	2860	2887			
Average -	2966	2696	3445	2615	3155	3393	2670	3634	3645	2727	4706	3243	3374	3673	3230	2696	2680	1641	3051	3601	4247	3146	2986	2980	3175	2.00	4706
PLD% -	-7	-15	9	-18	-1	7	-16	14	15	-14	48	2	6	16	2	-15	-16	-48	-4	13	34	-1	-6	-6	High/Low:	+48 /	-48
Code -	****	****	****	****	****	****	****	****	****	****		****	****	****	*V*V	****	****	****	****	****		****	****	****			
BURNER FA2																											
High -	2539	2901	2860	3298	2997	3358	3039	3848	3685	3313	4296	3898	3095	3915	3717	3328	2465	2069	3225	3558	2928	4780	3123	2767			
Low -	2394	2741	2715	3123	2860	3138	2928	3685	3589	3025	4102	3733	2651	3480	3465	3138	2278	1924	2997	3269	2754	4405	2860	2526			
Average -	2484	2826	2768	3228	2929	3250	2969	3749	3637	3115	4239	3805	2854	3675	3604	3221	2366	2010	3123	3417	2856	4659	2936	2643	3182	2.23	4659
PLD% -	-22	-11	-13	1	-8	2	-7	18	14	-2	33	20	-10	15	13	1	-26	-37	-2	7	-10	46	-8	-17	High/Low:	+46 /	-37
Code -	****	****	****	****	****	****	****	****	****	****		****	****	****	****	****	****	****	****	****	****		****	****			
BURNER FA1																											
High -	3527	2754	2887	3067	2833	3167	3167	2969	3558	3932	4386	2767	3284	3653	3067	2754	2914	2027	3527	3733	4261	3254	3138	3358			
Low -	3269	2539	2794	2942	2601	2780	2942	2794	3373	3832	4243	2514	2887	3123	2887	2576	2728	1722	3123	3496	3865	2997	3011	3181			
Average -	3377	2609	2834	2986	2708	2884	3045	2869	3497	3876	4304	2641	3119	3502	2987	2647	2798	1817	3320	3616	4094	3142	3066	3284	3126	0.43	4304
PLD% -	8	-17	-9	-4	-13	-8	-3	-8	12	24	38	-16	-0	12	-4	-15	-10	-42	6	16	31	1	-2	5	High/Low:	+38 /	-42
Code -	****	****	****	****	****	****	****	****	****			****	****	****	****	****	****	****	****	****		****	****	****			
BURNER FF6																											
High -	3404	3782	3404	5321	4460	4068	3898	1934	4207	4085	4533	4496	4533	5095	4741	4368	4137	3848	3373	3358	3269	3782	3434	3152			
Low -	3298	3669	3210	5075	4243	3898	3733	1806	3999	3948	4314	4225	4423	4955	4515	4190	3999	3750	3225	3225	3081	3589	3225	2983			
Average -	3345	3712	3329	5171	4355	3998	3799	1870	4112	4008	4433	4371	4473	5037	4668	4286	4063	3800	3293	3290	3170	3694	3342	3066	3862	24.08	5171
PLD% -	-13	-4	-14	34	13	4	-2	-52	6	4	15	13	16	30	21	11	5	-2	-15	-15	-18	-4	-13	-21	High/Low:	+34 /	-52
Code -	****	****	****		****	****	****	****	****	****	****	****	****			****	****	****	****	****	****	****	****	****			
BURNER FF5																											
High -	3637	3701	3653	4068	4051	3766	3039	3750	4016	3915	4571	3932	4760	4936	4955	4799	4627	4703	4225	4665	4207	3605	3701	3239			
Low -	3465	3527	3419	3898	3815	3653	2613	3527	3815	3496	4172	3404	4533	4780	4646	4665	4332	4478	4068	4225	4051	3434	3574	3123			
Average -	3570	3607	3569	3984	3909	3713	2753	3657	3928	3728	4379	3683	4659	4842	4799	4730	4468	4576	4151	4457	4128	3521	3643	3191	3985	28.04	4842
PLD% -	-10	-9	-10	-0	-2	-7	-31	-8	-1	-6	10	-8	17	21	20	19	12	15	4	12	4	-12	-9	-20	High/Low:	+21 /	-31
Code -	****	****	****	****	****	****	****	****	****	****		****							****		****	****	****	****			

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 2

TABLE 3

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FF4																											
High -	3717	3848	3832	3605	4423	4261	3782	3434	4278	3782	4571	3701	4172	3881	3766	4278	3766	4478	4261	4314	4665	3574	4172	4350			
Low -	3574	3685	3621	3269	4102	4016	3449	3298	4051	3605	4278	3404	3898	3605	3511	4102	3358	4332	4016	4190	4296	3449	3948	4155			
Average -	3632	3777	3720	3455	4219	4102	3596	3350	4146	3672	4433	3526	4028	3786	3596	4183	3554	4390	4119	4255	4505	3495	4040	4245	3909	25.60	4505
PLD% -	-7	-3	-5	-12	8	5	-8	-14	6	-6	13	-10	3	-3	-8	7	-9	12	5	9	15	-11	3	9	High/Low:	+15 /	-14
Code -	****	****	****	****			****	****		****		****	****	****	****		****					****	****				
BURNER FF3																											
High -	2955	3210	2626	2955	3848	3542	2997	3881	3542	2983	2874	2677	3225	3081	3685	3298	2144	3181	4068	4225	4646	2514	3225	3404			
Low -	2728	2942	2382	2794	3542	3358	2874	3717	3123	2874	2651	2394	2969	2794	3419	3138	1855	2874	3373	3766	4386	2133	3053	2914			
Average -	2868	3057	2497	2889	3719	3438	2931	3793	3219	2913	2734	2504	3106	2927	3572	3213	1975	3127	3888	4033	4512	2251	3169	3205	3147	1.12	4512
PLD% -	-9	-3	-21	-8	18	9	-7	21	2	-7	-13	-20	-1	-7	13	2	-37	-1	24	28	43	-28	1	2	High/Low:	+43 /	-37
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****		****	****	****			
BURNER FF2																											
High -	2807	3053	3039	3039	3865	3766	3210	4460	3948	3766	4460	3685	4627	3653	4051	3717	2037	2847	3574	2638	3750	2847	2914	2689			
Low -	2626	2741	2741	2874	3605	3589	3011	4190	3685	3496	4314	3298	3915	3465	3589	3605	1722	2651	3343	2370	3542	2638	2780	2539			
Average -	2716	2918	2879	2948	3728	3685	3107	4343	3835	3656	4390	3485	4365	3562	3873	3653	1812	2758	3454	2531	3613	2711	2852	2616	3312	6.41	4390
PLD% -	-18	-12	-13	-11	13	11	-6	31	16	10	33	5	32	8	17	10	-45	-17	4	-24	9	-18	-14	-21	High/Low:	+33 /	-45
Code -	****	****	****	****	****	****	****		****	****		****		****	****	****	****	****	****	****	****	****	****	****			
BURNER FF1																											
High -	2651	3011	2429	2780	3284	3138	2465	3210	2874	3298	3799	2847	3313	3313	2983	3558	2677	2502	3542	4368	5341	3948	3181	3081			
Low -	2526	2847	2233	2626	3081	2794	2347	3039	2794	3210	3669	2588	3123	3167	2820	3039	2539	2324	3343	4034	4460	3750	2955	2928			
Average -	2577	2917	2304	2689	3191	2950	2397	3134	2838	3257	3744	2695	3215	3236	2890	3397	2610	2403	3402	4148	4945	3847	3050	2998	3118	0.18	4945
PLD% -	-17	-6	-26	-14	2	-5	-23	1	-9	4	20	-14	3	4	-7	9	-16	-23	9	33	59	23	-2	-4	High/Low:	+59 /	-26
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****		****	****	****			
BURNER FB6																											
High -	3733	3637	3254	4955	4684	3898	3669	1865	3999	3965	4190	3542	4016	4589	4533	4102	3898	3465	3328	3589	3225	2983	3511	3373			
Low -	3343	3465	2983	4608	4478	3750	3558	1613	3733	3799	3982	3388	3915	4368	4350	3948	3782	3328	3138	3419	3025	2860	3254	3196			
Average -	3616	3550	3072	4832	4590	3814	3605	1732	3912	3872	4082	3451	3953	4489	4419	4020	3833	3397	3245	3500	3137	2922	3364	3299	3654	17.41	4832
PLD% -	-1	-3	-16	32	26	4	-1	-53	7	6	12	-6	8	23	21	10	5	-7	-11	-4	-14	-20	-8	-10	High/Low:	+32 /	-53
Code -	****	****	****			****	****	****	****	****	****	****	****			****	****	****	****	****	****	****	****	****			
BURNER FB5																											
High -	3298	3750	3527	3419	4296	4722	3328	2955	3210	4051	4137	4332	3653	3982	4190	3574	4016	4085	3542	4034	3701	3011	3527	3269			
Low -	3123	3527	3167	3167	4120	4496	3152	2780	3067	3848	3915	3982	3465	3766	3982	3434	3848	3915	3373	3766	3404	2914	3373	3067			
Average -	3199	3668	3349	3301	4226	4631	3231	2859	3162	3936	3998	4153	3562	3878	4111	3503	3942	4005	3453	3938	3525	2960	3450	3170	3634	16.74	4631
PLD% -	-12	1	-8	-9	16	27	-11	-21	-13	8	10	14	-2	7	13	-4	8	10	-5	8	-3	-19	-5	-13	High/Low:	+27 /	-21
Code -	****	****	****	****			****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****			
BURNER FB4																											
High -	3637	3669	3799	2901	4034	3574	3284	2754	4102	3815	4441	4405	3932	3832	4225	3733	3848	4137	3717	3832	3865	3449	3527	3750			
Low -	3388	3511	3574	2754	3637	3404	3039	2539	3766	3685	4225	4225	3669	3589	4068	3542	3717	3999	3558	3669	3733	3298	3388	3527			
Average -	3503	3585	3719	2845	3912	3471	3144	2632	3984	3756	4358	4323	3799	3716	4147	3678	3789	4057	3635	3751	3797	3370	3450	3626	3669	17.87	4358
PLD% -	-5	-2	1	-22	7	-5	-14	-28	9	2	19	18	4	1	13	0	3	11	-1	2	3	-8	-6	-1	High/Low:	+19 /	-28
Code -	****	****	****	****	****	****	****	****		****			****	****		****	****		****	****	****	****	****	****			
BURNER FB3																											
High -	2833	3181	3343	3138	3881	2955	3167	3284	4386	4102	4571	3313	3605	2847	3558	2715	3210	2266	3358	4120	3284	3637	3284	3832			
Low -	2638	3053	3167	2997	3637	2794	2983	3138	4034	3965	4278	3210	3480	2651	3328	2551	3025	2122	3025	3915	2942	3388	3167	3388			
Average -	2706	3130	3253	3064	3736	2864	3040	3218	4166	4031	4403	3269	3542	2763	3457	2614	3113	2192	3186	4021	3084	3516	3236	3603	3300	6.03	4403
PLD% -	-18	-5	-1	-7	13	-13	-8	-3	26	22	33	-1	7	-16	5	-21	-6	-34	-3	22	-7	7	-2	9	High/Low:	+33 /	-34
Code -	****	****	****	****	****	****	****	****				****	****	****	****	****	****	****	****		****	****	****	****			

IP7_001193

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 2

TABLE 3

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FB2																											
High -	2429	2312	2417	2794	2833	3123	2715	3669	2754	2901	4225	2741	4068	3328	4207	3167	2638	3343	3965	4296	4051	2144	2601	2233			
Low -	2255	2177	2312	2576	2677	2969	2613	3496	2563	2807	3915	2588	3782	3067	3733	3053	2514	3167	3799	3915	3948	1865	2244	2069			
Average -	2347	2228	2371	2706	2770	3049	2663	3572	2641	2864	4019	2652	3989	3171	3963	3118	2590	3280	3888	4086	4014	1998	2453	2144	3024	-2.84	4086
PLD% -	-22	-26	-22	-11	-8	1	-12	18	-13	-5	33	-12	32	5	31	3	-14	8	29	35	33	-34	-19	-29	High/Low:	+35 /	-34
Code -	****	****	****	****	****	****	****	****	****	****		****		****		****	****	****				****	****	****			
BURNER FB1																											
High -	2289	2914	3388	3123	2887	2689	2767	2526	4016	3095	3404	3865	3343	3621	3011	2728	2715	2429	3782	3373	4016	2638	3081	3081			
Low -	2188	2588	3239	2928	2754	2514	2601	2324	3782	2914	3284	3653	3011	3298	2901	2576	2563	1955	3621	3167	3750	2441	2741	2942			
Average -	2229	2739	3304	3012	2824	2581	2673	2430	3897	3009	3357	3750	3162	3402	2964	2669	2636	2298	3697	3261	3866	2530	2921	3019	3010	-3.31	3897
PLD% -	-26	-9	10	0	-6	-14	-11	-19	29	-0	12	25	5	13	-2	-11	-12	-24	23	8	28	-16	-3	0	High/Low:	+29 /	-26
Code -	****	****	****	****	****	****	****	****		****	****		****	****	****	****	****	****		****		****	****	****			
BURNER RD1																											
High -	2315	2305	2890	2484	2804	3197	2640	1848	2430	2939	3333	3144	2964	3738	3474	3251	3459	2853	2652	2902	2274	2042	2146	2335			
Low -	2127	2033	2606	2294	2451	2939	2550	1663	2274	2792	3171	2841	2841	3403	3292	3092	3292	2733	2495	2721	2156	1900	2024	2015			
Average -	2202	2165	2768	2397	2674	3045	2589	1757	2344	2875	3261	3006	2891	3608	3351	3152	3390	2783	2577	2797	2204	1959	2092	2141	2668	-14.29	3608
PLD% -	-17	-19	4	-10	0	14	-3	-34	-12	8	22	13	8	35	26	18	27	4	-3	5	-17	-27	-22	-20	High/Low:	+35 /	-34
Code -	****	****	****	****	****	****	****	****	****	****		****	****			****		****	****	****	****	****	****	****			
BURNER RD2																											
High -	3028	3224	3251	2550	3906	2733	2451	1155	2274	3171	3474	3459	3144	3251	3144	3692	3589	3002	3224	3389	2952	2816	3306	3197			
Low -	2804	3079	3131	2346	3516	2539	2356	989	2070	2841	3224	3002	2939	3131	2989	3431	3431	2698	3028	3079	2780	2583	3118	3015			
Average -	2903	3163	3188	2423	3711	2638	2412	1045	2175	3005	3378	3223	3014	3179	3074	3556	3525	2863	3148	3259	2874	2702	3239	3112	2950	-5.21	3711
PLD% -	-2	7	8	-18	26	-11	-18	-65	-26	2	14	9	2	8	4	21	19	-3	7	10	-3	-8	10	5	High/Low:	+26 /	-65
Code -	****	****	****	****		****	****	****	****	****		****	****	****	****			****	****	****	****	****	****	****			
BURNER RD3																											
High -	3066	3066	2865	2377	3347	3040	2780	2146	2629	3040	3560	2890	2952	3131	2952	2675	2495	3347	2721	2640	3015	2441	3144	3118			
Low -	2829	2914	2675	2089	2877	2927	2617	1857	2441	2804	3251	2675	2663	2745	2698	2234	2356	3066	2517	2506	2865	2284	2914	2914			
Average -	2964	3018	2761	2242	3057	2983	2703	1952	2548	2941	3392	2777	2824	2952	2833	2475	2419	3213	2606	2578	2915	2359	3036	3011	2773	-10.90	3392
PLD% -	7	9	-0	-19	10	8	-3	-30	-8	6	22	0	2	6	2	-11	-13	16	-6	-7	5	-15	9	9	High/Low:	+22 /	-30
Code -	****	****	****	****		****	****	****	****	****		****	****	****	****	****	****		****	****	****	****	****	****			
BURNER RD4																											
High -	2757	2853	2745	2595	2780	2629	2745	2877	2721	2865	3319	2952	3092	3319	3238	3079	2595	2506	2890	3144	3144	2780	2865	3184			
Low -	2583	2572	2595	2409	2617	2398	2629	2710	2606	2721	3028	2484	2865	2877	2952	2853	2325	2409	2710	2877	2939	2617	2698	3015			
Average -	2673	2691	2653	2507	2695	2495	2672	2807	2655	2792	3168	2642	3006	3070	3105	2934	2428	2465	2777	3017	3070	2706	2795	3106	2789	-10.40	3168
PLD% -	-4	-4	-5	-10	-3	-11	-4	1	-5	0	14	-5	8	10	11	5	-13	-12	-0	8	10	-3	0	11	High/Low:	+14 /	-13
Code -	****	****	****	****	****	****	****	****	****	****		****					****	****	****			****	****				
BURNER RD5																											
High -	3053	2792	3079	2769	3002	2853	2484	2964	2441	2640	2977	3053	2652	3053	3375	3105	2686	2224	2315	3028	3265	2254	2977	2902			
Low -	2853	2595	2853	2583	2952	2629	2224	2792	2264	2346	2841	2890	2398	2841	3251	2977	2583	1970	2185	2721	3158	1979	2745	2804			
Average -	2971	2695	2986	2664	2981	2756	2335	2879	2351	2506	2911	2980	2529	2953	3320	3036	2631	2131	2243	2878	3202	2054	2886	2838	2738	-12.03	3320
PLD% -	8	-2	9	-3	9	1	-15	5	-14	-8	6	9	-8	8	21	11	-4	-22	-18	5	17	-25	5	4	High/Low:	+21 /	-25
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****			****	****	****	****		****	****	****			
BURNER RD6																											
High -	2595	2675	2377	2652	2890	3092	2757	3197	3389	3306	3589	3184	3118	3040	3238	3417	3211	1357	2175	2841	3333	2939	2780	3184			
Low -	2528	2473	2294	2254	2595	2952	2640	3118	3333	3224	3474	2977	2977	2865	3053	3079	2606	1118	1943	2663	3197	2780	2561	3079			
Average -	2560	2557	2329	2313	2739	3030	2706	3158	3367	3274	3548	3041	3072	2949	3175	3218	2939	1192	2103	2761	3253	2841	2679	3125	2831	-9.06	3548
PLD% -	-10	-10	-18	-18	-3	7	-4	12	19	16	25	7	9	4	12	14	4	-58	-26	-2	15	0	-5	10	High/Low:	+25 /	-58
Code -	****	****	****	****	****	****	****	****				****	****	****	****		****	****	****	****		****	****	****			

IP7_001194

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 2

TABLE 3

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER RH1																											
High -	2462	2721	2484	3459	3574	3319	2757	2663	3092	3171	3040	2927	2804	2528	3265	2698	2914	2710	2640	2780	2745	2024	2462	2325			
Low -	2335	2583	2335	2902	3502	3118	2663	2367	2977	2977	2829	2757	2675	2367	3092	2561	2745	2214	2561	2617	2606	1926	2315	2224			
Average -	2393	2658	2402	3338	3536	3227	2702	2548	3037	3096	2918	2861	2737	2440	3196	2626	2836	2464	2610	2681	2676	1974	2397	2277	2735	-12.14	3536
PLD% -	-12	-3	-12	22	29	18	-1	-7	11	13	7	5	0	-11	17	-4	4	-10	-5	-2	-2	-28	-12	-17	High/Low:	+29 /	-28
Code -	****	****	****				****	****	****	****	****	****	****	****		****	****	****	****	****	****	****	****	****			
BURNER RH2																											
High -	2561	2769	2264	2356	3292	3531	2816	2305	2419	3105	3131	3604	2964	3197	2989	3131	3211	2902	2710	2780	2939	2640	2346	2583			
Low -	2473	2473	2156	2234	3171	3389	2757	2070	2315	2927	2989	3333	2710	3028	2816	2977	3066	2757	2617	2652	2804	2409	2264	2462			
Average -	2502	2683	2196	2286	3232	3473	2783	2174	2375	3044	3064	3484	2843	3133	2894	3072	3152	2826	2664	2704	2871	2525	2311	2523	2784	-10.56	3484
PLD% -	-10	-4	-21	-18	16	25	-0	-22	-15	9	10	25	2	13	4	10	13	2	-4	-3	3	-9	-17	-9	High/Low:	+25 /	-22
Code -	****	****	****	****			****	****	****	****	****		****	****	****	****		****	****	****	****	****	****	****			
BURNER RH3																											
High -	2583	2686	2419	2146	3860	3545	2698	1857	2136	2877	2561	3403	3171	2841	2804	3319	3333	3333	2927	2927	3028	2346	2686	2629			
Low -	2409	2484	2264	1961	3574	3361	2629	1545	1979	2652	2398	3105	2939	2698	2583	3171	3158	3144	2804	2769	2914	2214	2583	2451			
Average -	2499	2579	2327	2031	3760	3461	2664	1626	2058	2785	2491	3282	3035	2752	2688	3257	3250	3242	2847	2839	2975	2285	2642	2523	2746	-11.78	3760
PLD% -	-9	-6	-15	-26	37	26	-3	-41	-25	1	-9	20	11	0	-2	19	18	18	4	3	8	-17	-4	-8	High/Low:	+37 /	-41
Code -	****	****	****	****			****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****			
BURNER RH4																											
High -	3319	3131	3265	2816	2914	3502	3040	3417	3028	3066	3211	2780	2902	3184	2710	2841	2325	1596	2254	2675	3211	2325	2663	2977			
Low -	2853	3002	3158	2686	2745	3306	2952	3211	2804	2939	3066	2539	2769	2939	2550	2721	2070	1475	2127	2484	3040	2194	2595	2890			
Average -	3039	3075	3222	2731	2848	3394	2989	3300	2885	2991	3142	2678	2857	3121	2628	2775	2139	1537	2200	2572	3130	2246	2618	2931	2794	-10.24	3394
PLD% -	9	10	15	-2	2	21	7	18	3	7	12	-4	2	12	-6	-1	-23	-45	-21	-8	12	-20	-6	5	High/Low:	+21 /	-45
Code -	****			****	****		****		****	****		****	****		****	****	****	****	****	****		****	****	****			
BURNER RH5																											
High -	2595	2451	2284	2244	2890	2451	2745	3211	2757	2927	3333	2769	2977	3002	2853	2816	3040	2617	2865	3238	3488	2506	2865	2721			
Low -	2409	2335	2185	2156	2517	2274	2617	2733	2652	2841	3184	2617	2640	2841	2745	2686	2890	2495	2710	3015	3028	2274	2617	2550			
Average -	2509	2403	2220	2204	2724	2364	2671	3091	2705	2876	3249	2693	2784	2909	2796	2745	2952	2563	2786	3130	3344	2390	2769	2643	2730	-12.29	3344
PLD% -	-8	-12	-19	-19	-0	-13	-2	13	-1	5	19	-1	2	7	2	1	8	-6	2	15	22	-12	1	-3	High/Low:	+22 /	-19
Code -	****	****	****	****	****	****	****		****	****		****	****	****	****	****	****	****	****			****	****	****			
BURNER RH6																											
High -	2698	2451	2462	2484	2595	3015	2473	2710	3361	3028	3692	2902	2804	3028	3144	3118	2506	1798	2388	2952	3502	3417	2495	2853			
Low -	2561	2346	2367	2398	2484	2902	2398	2629	3171	2952	3459	2733	2629	2853	2989	2914	2388	1567	2234	2721	3053	3158	2367	2721			
Average -	2612	2398	2412	2441	2541	2965	2436	2669	3266	2991	3597	2806	2709	2943	3070	3012	2430	1627	2309	2861	3307	3297	2409	2794	2746	-11.78	3597
PLD% -	-5	-13	-12	-11	-7	8	-11	-3	19	9	31	2	-1	7	12	10	-11	-41	-16	4	20	20	-12	2	High/Low:	+31 /	-41
Code -	****	****	****	****	****	****	****	****		****		****	****	****	****	****	****	****	****	****			****	****			
BURNER RC1																											
High -	2367	2441	2617	3158	3829	3040	2780	1718	2234	2816	2841	3092	2977	2698	3707	3531	3224	2733	2686	2595	2853	2234	2419	2804			
Low -	2146	2244	2294	3040	3545	2890	2595	1618	2127	2698	2698	2877	2733	2606	3574	3306	2952	2595	2550	2419	2721	2108	2284	2528			
Average -	2251	2318	2478	3095	3669	2951	2668	1674	2167	2761	2765	2955	2864	2642	3633	3435	3092	2645	2625	2489	2793	2180	2351	2657	2715	-12.77	3669
PLD% -	-17	-15	-9	14	35	9	-2	-38	-20	2	2	9	6	-3	34	27	14	-3	-3	-8	3	-20	-13	-2	High/Low:	+35 /	-38
Code -	****	****	****	****		****	****	****	****	****	****	****	****	****			****	****	****	****	****	****	****	****			
BURNER RC2																											
High -	2325	2890	2890	2640	2952	2816	2583	2185	2356	3002	3333	2989	3092	3292	3092	2927	2927	2939	2451	2853	2550	2484	2495	2914			
Low -	2264	2721	2686	2473	2769	2745	2517	2061	2234	2890	3131	2769	2927	3144	2952	2829	2745	2745	2335	2640	2441	2294	2398	2757			
Average -	2293	2811	2794	2542	2864	2782	2550	2109	2300	2946	3241	2901	2987	3201	3044	2886	2826	2853	2401	2766	2504	2408	2446	2829	2720	-12.61	3241
PLD% -	-16	3	3	-7	5	2	-6	-22	-15	8	19	7	10	18	12	6	4	5	-12	2	-8	-11	-10	4	High/Low:	+19 /	-22
Code -	****	****	****	****	****	****	****	****	****			****				****	****	****	****	****	****	****	****	****			

IP7_001195

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 2

TABLE 3

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER RC3																											
High -	2769	2733	2721	2506	2952	3028	2686	1611	2595	2769	3184	3066	3105	2792	3347	2792	3184	2877	2757	2769	2939	2698	2745	2698			
Low -	2561	2561	2595	2089	2816	2792	2462	1468	2346	2583	2964	2902	2952	2675	3053	2561	2939	2652	2528	2595	2629	2335	2595	2561			
Average -	2691	2658	2653	2216	2890	2918	2600	1549	2454	2686	3060	2976	3029	2727	3189	2676	3067	2733	2631	2685	2785	2471	2665	2631	2693	-13.47	3189
PLD% -	-0	-1	-1	-18	7	8	-3	-42	-9	-0	14	10	12	1	18	-1	14	1	-2	-0	3	-8	-1	-2	High/Low:	+18 /	-42
Code -	****	****	****	****			****	****	****	****				****		****		****	****	****	****	****	****	****			
BURNER RC4																											
High -	2419	2698	2927	2583	2686	2877	2663	2780	3092	2890	2952	3197	2733	2977	2927	3158	2710	2473	2675	2629	3389	2927	2640	3053			
Low -	2264	2583	2539	2451	2539	2721	2517	2640	2927	2686	2792	3092	2572	2733	2816	2952	2572	2185	2409	2462	3105	2652	2254	2539			
Average -	2338	2655	2680	2510	2633	2797	2576	2719	3011	2772	2876	3138	2652	2870	2865	3052	2645	2354	2566	2552	3182	2818	2397	2858	2730	-12.30	3182
PLD% -	-14	-3	-2	-8	-4	2	-6	-0	10	2	5	15	-3	5	5	12	-3	-14	-6	-7	17	3	-12	5	High/Low:	+17 /	-14
Code -	****	****	****	****	****	****	****	****		****			****				****	****	****	****		****	****	****			
BURNER RC5																											
High -	2409	2274	2089	2430	2989	3158	2877	3066	3158	2977	3171	3265	3040	3066	3459	3211	2841	2024	2388	3238	3319	2890	2517	2769			
Low -	2274	2136	1988	2305	2721	2977	2769	2964	2939	2865	3053	3144	2853	2710	3238	3066	2710	1663	2244	2853	3105	2528	2419	2595			
Average -	2329	2177	2041	2351	2841	3091	2827	3022	3029	2918	3107	3198	2958	2865	3353	3137	2768	1776	2307	3055	3186	2611	2469	2692	2754	-11.50	3353
PLD% -	-15	-21	-26	-15	3	12	3	10	10	6	13	16	7	4	22	14	0	-36	-16	11	16	-5	-10	-2	High/Low:	+22 /	-36
Code -	****	****	****	****	****		****			****			****	****			****	****	****			****	****	****			
BURNER RC6																											
High -	2517	2294	2315	2388	2652	2686	2606	2710	3040	3238	3092	2877	2156	3040	3053	2757	2927	1524	2377	3015	3531	2829	2517	2927			
Low -	2398	2194	2194	2234	2528	2506	2528	2629	2829	3015	2977	2733	1926	2572	2617	2550	2829	1462	2294	2877	3171	2686	2388	2804			
Average -	2466	2259	2241	2307	2580	2575	2564	2667	2906	3127	3050	2797	2024	2807	2910	2648	2874	1493	2350	2944	3335	2733	2447	2861	2624	-15.71	3335
PLD% -	-6	-14	-15	-12	-2	-2	-2	2	11	19	16	7	-23	7	11	1	10	-43	-10	12	27	4	-7	9	High/Low:	+27 /	-43
Code -	****	****	****	****	****	****	****	****	****			****	****	****	****	****	****	****	****	****		****	****	****			
BURNER RG1																											
High -	2264	2675	2550	2841	3814	2853	2698	1766	2572	2377	3389	3053	2792	2927	3171	2914	2686	2409	2224	2550	2214	2419	2117	2165			
Low -	2185	2194	2033	2640	3474	2780	2606	1567	2398	2294	3053	2902	2517	2284	3028	2733	2517	2284	2108	2419	2052	2224	1917	2061			
Average -	2222	2422	2237	2744	3665	2821	2645	1620	2451	2338	3198	2961	2674	2406	3101	2819	2599	2345	2172	2477	2138	2335	2025	2106	2522	-18.98	3665
PLD% -	-12	-4	-11	9	45	12	5	-36	-3	-7	27	17	6	-5	23	12	3	-7	-14	-2	-15	-7	-20	-16	High/Low:	+45 /	-36
Code -	****	****	*V*V	****		****	****	****	****	****	****	****	****	*V*V	****	****	****	****	****	****	****	****	****	****			
BURNER RG2																											
High -	2274	2346	2325	2367	3211	3002	2572	1462	2136	2890	3251	2914	2964	3118	2977	2902	3238	3319	2865	2710	2804	2244	2398	2234			
Low -	2033	2194	2136	2194	3002	2877	2441	1278	1934	2698	2989	2640	2853	3002	2757	2769	3066	3184	2757	2528	2473	2108	2294	2080			
Average -	2206	2271	2224	2279	3139	2955	2514	1326	2066	2809	3112	2765	2915	3056	2879	2836	3141	3258	2825	2608	2605	2188	2356	2172	2604	-16.33	3258
PLD% -	-15	-13	-15	-13	21	13	-3	-49	-21	8	20	6	12	17	11	9	21	25	8	0	0	-16	-10	-17	High/Low:	+25 /	-49
Code -	****	****	****	****			****	****	****	****		****	****		****	****			****	****	****	****	****	****			
BURNER RG3																											
High -	3053	3131	3002	3648	4295	3531	2108	2595	3403	3545	4017	3663	3663	3738	3722	3618	3753	3474	3389	3375	3347	3144	3105	3171			
Low -	2890	3015	2816	3445	3969	3389	1815	2451	3224	3431	3798	3459	3574	3604	3604	3431	3488	3333	3292	3238	3224	3053	2977	3066			
Average -	2974	3067	2915	3540	4128	3454	1895	2546	3332	3483	3924	3570	3612	3682	3672	3514	3620	3417	3351	3285	3298	3100	3028	3116	3314	6.46	4128
PLD% -	-10	-7	-12	7	25	4	-43	-23	1	5	18	8	9	11	11	6	9	3	1	-1	-0	-6	-9	-6	High/Low:	+25 /	-43
Code -	****	****	****	****		****	****	****	****	****		****	****	****	****	****	****	****	****	****	****	****	****	****			
BURNER RG4																											
High -	2517	2877	2829	2804	3265	3105	3092	3333	3002	2927	3488	2989	2927	2964	3079	3002	2733	2462	2853	3158	3459	2550	2989	2757			
Low -	2305	2686	2606	2663	3040	2902	2853	3144	2698	2829	3211	2640	2710	2853	2804	2902	2595	2305	2629	2952	3251	2356	2757	2629			
Average -	2433	2801	2711	2715	3142	2993	2967	3263	2812	2876	3330	2742	2813	2923	2946	2953	2676	2418	2747	3062	3361	2449	2872	2697	2863	-8.03	3361
PLD% -	-15	-2	-5	-5	10	5	4	14	-2	0	16	-4	-2	2	3	3	-7	-16	-4	7	17	-14	0	-6	High/Low:	+17 /	-16
Code -	****	****	****	****		****	****		****	****		****	****	****	****	****	****	****	****			****	****	****			

IP7_001196

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 2

TABLE 3

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER RG5																											
High -	2865	2989	2595	2517	3211	2902	2927	3361	3211	2792	2473	2733	1679	2254	2902	2902	3092	2473	2506	3066	3648	3604	2539	2877			
Low -	2769	2829	2484	2398	3105	2745	2710	3251	3040	2595	2244	2595	1603	1943	2663	2745	2927	2234	2194	2939	3292	3431	2325	2698			
Average -	2820	2885	2526	2460	3138	2837	2802	3310	3091	2708	2297	2663	1638	2063	2787	2810	3040	2311	2401	3001	3459	3525	2415	2776	2740	-11.97	3525
PLD% -	3	5	-8	-10	15	4	2	21	13	-1	-16	-3	-40	-25	2	3	11	-16	-12	10	26	29	-12	1	High/Low:	+29 /	-40
Code -	****	****	****	****	****	****	****		****	****	****	****	****	****	****	****	****	****	****	****			****	****			
BURNER RG6																											
High -	3011	2359	2144	2689	2702	2441	2301	2820	2255	2613	3388	4225	1731	2576	3480	3210	2780	2166	3095	3865	3621	3965	2969	2754			
Low -	2928	2133	1965	2514	2465	2301	2155	2588	2101	2370	3196	3881	1428	2122	3239	3011	2526	1904	2969	3685	3419	3782	2780	2626			
Average -	2972	2233	2044	2580	2557	2358	2228	2688	2185	2515	3274	4088	1573	2410	3367	3121	2665	1979	3044	3763	3492	3890	2881	2696	2775	-10.84	4088
PLD% -	7	-20	-26	-7	-8	-15	-20	-3	-21	-9	18	47	-43	-13	21	12	-4	-29	10	36	26	40	4	-3	High/Low:	+47 /	-43
Code -	****	****	****	****	****	****	****	****	****	****	****		****	****	****	****	****	****	****		****		****	****			

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 2

TABLE 4

Summary	
Average Velocity All Burners =	3955.31 fpm
Maximum High Flow Deviation =	10.46 %
Minimum Low Flow Deviation =	-19.16 %
Total Flow Deviation =	29.62 %

Condition	Code	Trigger Level %
Blocked Flow	*****	10
Vortex Action	VVVVV	20
Flow & Vortex Action	*V*V*	

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FE6																											
High -	3943	3874	4026	3672	3632	3915	4508	4554	3929	3901	3887	3806	3806	3887	3426	3489	3567	3580	3632	3752	3738	3929	3998	3943			
Low -	3725	3567	3874	3203	3350	3658	3725	3725	3313	3489	3698	3541	3685	3685	3239	3363	3350	3477	2427	3554	3515	3725	3860	3738			
Average -	3812	3737	3940	3520	3521	3797	4055	4320	3613	3742	3791	3668	3736	3775	3303	3431	3468	3524	3243	3653	3608	3854	3929	3830	3703	-6.38	4320
PLD% -	3	1	6	-5	-5	3	10	17	-2	1	2	-1	1	2	-11	-7	-6	-5	-12	-1	-3	4	6	3	High/Low:	+17 /	-12
Code -	****	****		****	****	****			****	****	****	****	****	****	****	****	****	****	*V*V	****	****	****		****			
BURNER FE5																											
High -	3725	3998	4069	4226	3464	4097	4140	4994	4493	4126	3752	3778	3929	3915	3778	3792	3806	3806	3970	3901	3970	3957	3765	3778			
Low -	2447	3860	3846	4055	1695	3765	3984	2467	4226	3901	3528	3554	3685	3698	3554	3606	3541	3606	3711	3698	3698	3698	3619	3632			
Average -	3181	3916	3953	4134	2204	3914	4065	3854	4356	3989	3636	3684	3792	3806	3661	3706	3693	3732	3891	3778	3811	3787	3695	3706	3748	-5.25	4356
PLD% -	-15	4	5	10	-41	4	8	3	16	6	-3	-2	1	2	-2	-1	-1	-0	4	1	2	1	-1	-1	High/Low:	+16 /	-41
Code -	*V*V	****			*V*V	****		*V*V			****	****	****	****	****	****	****	****	****	****	****	****	****	****			
BURNER FE4																											
High -	4097	4055	4329	3860	4169	4026	4403	4069	3738	3658	3860	3725	3915	3819	3645	3806	3515	3819	3711	3929	3957	3929	3984	3874			
Low -	3887	3887	3929	3738	3943	3765	4169	3860	2367	3515	3554	3541	3528	2230	3515	3375	2875	3711	3107	3738	3698	3698	3711	3606			
Average -	3998	3969	4123	3794	4053	3920	4287	3947	2798	3582	3688	3601	3695	2693	3578	3698	3258	3783	3565	3829	3785	3795	3887	3729	3711	-6.19	4287
PLD% -	8	7	11	2	9	6	16	6	-25	-3	-1	-3	-0	-27	-4	-0	-12	2	-4	3	2	2	5	1	High/Low:	+16 /	-27
Code -				****					*V*V	****	****	****	****	*V*V	****	****	****	****	****	****	****	****		****			
BURNER FE3																											
High -	4126	4183	4448	4403	4358	4388	4285	4344	4344	4508	2887	4708	5010	4418	4771	4418	4569	5174	4169	3998	4344	4198	4256	4183			
Low -	3915	4055	4183	4097	4026	4140	4041	4140	4097	4241	2211	4140	4692	2090	4493	3155	4344	4994	3672	3846	4126	4041	4012	3998			
Average -	4038	4101	4373	4293	4247	4282	4158	4277	4268	4381	2505	4518	4873	3074	4677	3913	4454	5095	4003	3935	4234	4113	4156	4102	4170	5.42	5095
PLD% -	-3	-2	5	3	2	3	-0	3	2	5	-40	8	17	-26	12	-6	7	22	-4	-6	2	-1	-0	-2	High/Low:	+22 /	-40
Code -	****	****	****	****	****	****	****	****	****	****	*V*V	****		*V*V		*V*V	****		****	****	****	****	****	****			
BURNER FE2																											
High -	5108	4523	4523	4539	4403	4285	4433	3998	4083	3984	4097	4478	4241	4388	4111	4358	3413	4373	3658	4329	4140	4523	4344	4539			
Low -	4677	4329	4329	4270	4212	4069	4270	3874	3929	3685	3901	4083	3860	4097	3819	4140	2550	4241	2560	4097	3915	4285	4041	4270			
Average -	4949	4436	4434	4402	4301	4174	4340	3943	4005	3886	3996	4254	4105	4222	3966	4268	2940	4290	3162	4203	4043	4396	4165	4404	4137	4.59	4949
PLD% -	20	7	7	6	4	1	5	-5	-3	-6	-3	3	-1	2	-4	3	-29	4	-24	2	-2	6	1	6	High/Low:	+20 /	-29
Code -		****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	*V*V	****	*V*V	****	****	****	****	****			
BURNER FE1																											
High -	4897	4897	4755	4569	4569	4463	4569	3752	4554	4358	3338	4041	4615	4403	4055	4126	4523	4358	4241	4154	4212	3915	4358	4388			
Low -	4630	4661	4508	4403	4083	4270	4373	3276	4083	4140	2753	3874	3252	4270	3860	2887	4344	2764	4069	3929	4012	3752	4055	4212			
Average -	4752	4800	4654	4493	4410	4340	4475	3537	4324	4265	3000	3932	3892	4312	3968	3497	4446	3491	4159	4035	4114	3813	4191	4279	4132	4.48	4800
PLD% -	15	16	13	9	7	5	8	-14	5	3	-27	-5	-6	4	-4	-15	8	-16	1	-2	-0	-8	1	4	High/Low:	+16 /	-27
Code -								****		****	****	****	*V*V	****	****	*V*V		*V*V	****	****	****	****	****	****			

IP7_001198

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 2

TABLE 4

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FA6																											
High -	4358	4448	4508	4154	4154	4373	4373	4183	4126	4126	4126	4154	4083	2864	3984	3060	3901	3179	3001	3806	3313	3819	4358	4523			
Low -	4140	4285	4329	3901	3929	4154	4183	3957	3887	3860	3901	3970	3874	2136	3765	2498	3554	2337	1973	3375	2406	3464	4169	4403			
Average -	4282	4343	4413	4034	4027	4263	4282	4083	3997	3963	3999	4062	3951	2415	3882	2727	3755	2812	2318	3630	2894	3629	4279	4463	3771	-4.66	4463
PLD% -	14	15	17	7	7	13	14	8	6	5	6	8	5	-36	3	-28	-0	-25	-39	-4	-23	-4	13	18	High/Low:	+18 /	-39
Code -									****	****	****		****	*V*V	****	****	****	*V*V	*V*V	****	*V*V	****					
BURNER FA5																											
High -	3901	4329	3593	2990	3606	4373	4834	4433	4539	4493	4358	4403	4508	4508	4169	4329	4212	4358	4373	4329	4314	3970	4329	4358			
Low -	3363	4097	2887	2164	2268	4154	4493	3451	4329	4198	4111	4212	4329	4314	3239	3957	4083	4226	4154	4111	4097	2898	4140	4069			
Average -	3675	4238	3136	2662	2733	4274	4647	4000	4449	4382	4244	4298	4429	4431	3546	4214	4148	4293	4278	4227	4177	3416	4225	4205	4014	1.47	4647
PLD% -	-8	6	-22	-34	-32	6	16	-0	11	9	6	7	10	10	-12	5	3	7	7	5	4	-15	5	5	High/Low:	+16 /	-34
Code -	****		****	*V*V	*V*V			*V*V							*V*V		****				****	*V*V					
BURNER FA4																											
High -	4646	4739	4739	4478	4600	4724	3887	2192	4945	4554	3313	4418	3901	4554	4344	4358	4493	4344	4508	4554	4523	4418	4677	4569			
Low -	3887	4448	3915	3901	4226	4569	2775	1801	4554	3929	2367	4198	2099	4373	3792	3698	4299	4026	4226	4344	4329	4226	4478	4373			
Average -	4500	4598	4182	4307	4471	4648	3269	1956	4721	4325	2779	4319	2913	4478	4135	4209	4396	4162	4360	4468	4428	4310	4563	4470	4124	4.26	4721
PLD% -	9	12	1	4	8	13	-21	-53	14	5	-33	5	-29	9	0	2	7	1	6	8	7	5	11	8	High/Low:	+14 /	-53
Code -			****				*V*V	****			*V*V		*V*V		****	****		****									
BURNER FA3																											
High -	4600	4448	4198	4270	4708	3632	4615	3792	3048	4630	2602	3998	3593	4448	4881	4929	4600	4584	4897	4600	4418	4913	4771	4418			
Low -	4314	3901	3619	3819	4256	2967	4212	3119	2347	4198	2126	2581	2560	3874	4463	4554	4097	4299	4661	4373	4226	4584	4344	3901			
Average -	4459	4199	3880	4013	4578	3336	4371	3494	2725	4435	2401	3219	2862	4262	4706	4721	4406	4413	4779	4505	4321	4722	4583	4198	4066	2.80	4779
PLD% -	10	3	-5	-1	13	-18	7	-14	-33	9	-41	-21	-30	5	16	16	8	9	18	11	6	16	13	3	High/Low:	+18 /	-41
Code -		****	****	****		****		****	*V*V		****	*V*V	*V*V	****										****			
BURNER FA2																											
High -	5010	4881	4755	4478	4994	4962	4945	4692	4314	4913	4126	4692	4270	4630	4463	3464	4584	3833	3819	4600	3375	4198	4834	4493			
Low -	4198	4554	4448	4169	4344	4661	4755	4169	3915	3943	3338	4270	3426	4418	3426	2786	4212	3191	2539	4097	2457	3438	4630	4026			
Average -	4649	4720	4601	4291	4715	4816	4823	4516	4125	4711	3744	4532	3782	4514	3873	3131	4407	3539	3189	4430	2799	3903	4708	4211	4197	6.11	4823
PLD% -	11	12	10	2	12	15	15	8	-2	12	-11	8	-10	8	-8	-25	5	-16	-24	6	-33	-7	12	0	High/Low:	+15 /	-33
Code -				****					****		****		****		*V*V	****		****	*V*V		*V*V	****		****			
BURNER FA1																											
High -	4834	4818	5224	4523	4724	4661	4677	3833	4198	4929	3725	4865	5191	4493	5376	3658	4226	5092	3426	5043	4478	4630	4913	4771			
Low -	4403	4241	4913	4154	3984	4111	3970	3252	3685	4508	3131	4418	4865	4154	4945	2853	3860	4739	2797	4523	3806	3970	3887	4615			
Average -	4595	4644	5077	4349	4347	4408	4483	3528	3976	4748	3496	4659	5012	4317	5230	3331	4042	4959	3018	4799	4143	4350	4256	4671	4352	10.02	5230
PLD% -	6	7	17	-0	-0	1	3	-19	-9	9	-20	7	15	-1	20	-23	-7	14	-31	10	-5	-0	-2	7	High/Low:	+20 /	-31
Code -	****	****		****	****	****	****	****	****		****	****		****		*V*V	****		****		****	****	*V*V	****			
BURNER FF6																											
High -	5291	4661	4850	4834	3593	4508	5026	2808	3119	4929	2753	5258	4630	5274	5043	4802	4897	3711	4212	4584	4913	5075	4646	5393			
Low -	4978	4314	4646	4554	2831	3874	4256	1735	2396	4373	2136	4913	4212	5059	4314	4241	4126	2699	3350	4226	4154	4881	4344	5241			
Average -	5122	4478	4772	4688	3242	4321	4541	2197	2718	4647	2382	5079	4404	5157	4554	4534	4597	3366	3793	4389	4503	4971	4534	5308	4262	7.76	5308
PLD% -	20	5	12	10	-24	1	7	-48	-36	9	-44	19	3	21	7	6	8	-21	-11	3	6	17	6	25	High/Low:	+25 /	-48
Code -		****	****	****	*V*V	****	****	*V*V	*V*V	****	*V*V		****		****	****	****	*V*V	*V*V	****	****		****				
BURNER FF5																											
High -	4418	4448	4554	4226	4739	4600	4771	4198	4569	4600	4373	4569	4329	3338	3929	3580	3901	4212	2967	4154	2808	3915	4314	4677			
Low -	3998	3998	3580	3698	4183	4403	4523	3887	4403	4299	4097	4358	4069	2417	3203	3107	3438	3929	2026	3901	2183	3363	4083	4299			
Average -	4204	4232	4142	3982	4540	4500	4667	4051	4483	4448	4233	4454	4179	2803	3613	3363	3680	4075	2412	4020	2519	3715	4196	4545	3961	0.13	4667
PLD% -	6	7	5	1	15	14	18	2	13	12	7	12	6	-29	-9	-15	-7	3	-39	1	-36	-6	6	15	High/Low:	+18 /	-39
Code -			*V*V	****				****					****	*V*V	****	****	****	****	*V*V	****	*V*V	****	****				

IP7_001199

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 2

TABLE 4

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FF4																											
High -	4329	4041	3929	4615	4344	4493	4539	4724	4493	3725	4299	4508	3155	4448	3957	3984	4026	3072	4241	4169	4126	4554	4329	4344			
Low -	4097	3477	3276	4373	4055	4285	3765	4569	4241	3264	4069	4285	2376	3984	3438	3554	3698	2211	4012	4041	3929	4270	3943	4083			
Average -	4214	3710	3633	4497	4162	4370	4172	4653	4346	3573	4153	4405	2649	4288	3767	3797	3879	2512	4135	4105	4051	4390	4126	4220	3992	0.93	4653
PLD% -	6	-7	-9	13	4	9	5	17	9	-10	4	10	-34	7	-6	-5	-3	-37	4	3	1	10	3	6	High/Low:	+17 /	-37
Code -		****	****		****		****			****	****		*V*V		****	****	****	*V*V	****	****	****		****				
BURNER FF3																											
High -	4584	4554	4786	4881	4226	4539	4945	3567	4403	4630	3860	4708	4945	4508	4539	4724	5075	4523	4478	4523	4226	5075	4097	4478			
Low -	3792	3846	4448	4358	2831	3451	4692	2457	3765	4111	2967	4388	4554	3711	4388	4539	4169	3970	4270	4285	4041	4026	3685	4055			
Average -	4305	4166	4595	4695	3393	3945	4820	2976	4135	4361	3368	4575	4780	4106	4474	4657	4510	4106	4373	4383	4136	4677	3901	4263	4238	7.13	4820
PLD% -	2	-2	8	11	-20	-7	14	-30	-2	3	-21	8	13	-3	6	10	6	-3	3	3	-2	10	-8	1	High/Low:	+14 /	-30
Code -	****	****			*V*V	*V*V		*V*V	****		*V*V			****				****			****	VVVV	****	****			
BURNER FF2																											
High -	4329	2808	4786	4646	4256	4388	4897	4388	4539	4358	4212	4523	4256	4508	4329	4241	5174	4584	4329	4615	4169	4256	3593	4111			
Low -	3095	2008	4554	4344	3502	3887	4692	4212	4403	3765	4055	4344	3957	4055	4083	4055	4865	4358	4154	3338	4012	3711	2613	3593			
Average -	4011	2512	4670	4476	4017	4193	4779	4296	4473	4072	4135	4452	4105	4319	4167	4146	5079	4494	4248	3904	4099	3997	2974	3880	4146	4.81	5079
PLD% -	-3	-39	13	8	-3	1	15	4	8	-2	-0	7	-1	4	1	0	23	8	2	-6	-1	-4	-28	-6	High/Low:	+23 /	-39
Code -	*V*V	*V*V		****	****	****		****	****	****	****	****	****	****	****	****		****	****	*V*V	****	****	*V*V	****			
BURNER FF1																											
High -	4739	4755	4978	4929	4388	4373	4226	3191	4418	4554	2797	4478	4554	4554	4646	4554	4344	4945	4433	4140	4055	4256	4554	4508			
Low -	4539	4344	4802	4661	3901	3685	3833	2808	3725	4418	2259	4183	4388	4388	4448	3288	3413	4677	4256	3887	3711	4069	4344	4314			
Average -	4659	4627	4881	4810	4176	3997	4046	3008	4206	4482	2519	4382	4500	4469	4543	3905	4004	4799	4333	4003	3839	4149	4458	4428	4218	6.63	4881
PLD% -	10	10	16	14	-1	-5	-4	-29	-0	6	-40	4	7	6	8	-7	-5	14	3	-5	-9	-2	6	5	High/Low:	+16 /	-40
Code -					****	****	****	****	****		****	****				*V*V	*V*V		****	****	****	****					
BURNER FB6																											
High -	4463	4881	5241	4929	4600	4929	4646	4140	4881	4865	4539	5075	4183	4478	4478	3375	4554	4041	3107	4097	3957	4226	4285	5291			
Low -	4069	4554	4913	4433	3765	4569	4041	3619	4463	4508	4212	4850	3901	3943	4055	2764	3738	3155	2164	3685	3001	3819	4097	5092			
Average -	4248	4709	5073	4633	4218	4678	4290	3952	4629	4691	4352	4970	3999	4247	4223	3019	4090	3694	2644	3917	3556	4058	4197	5180	4219	6.68	5180
PLD% -	1	12	20	10	-0	11	2	-6	10	11	3	18	-5	1	0	-28	-3	-12	-37	-7	-16	-4	-1	23	High/Low:	+23 /	-37
Code -	****			****	****		****	****	****		****		****	****	****	****	****	*V*V	*V*V	****	*V*V	****	****				
BURNER FB5																											
High -	3792	4448	3013	3252	4344	4945	4630	5158	4850	4661	5092	4661	4463	5059	3874	4708	4771	4739	4615	4945	4111	2666	4677	3083			
Low -	2376	3957	2249	2539	3554	4677	4026	4708	4554	4388	4739	4373	3874	4724	3060	3901	4140	4270	2990	4285	2978	1894	4448	2327			
Average -	3103	4274	2584	2948	3842	4828	4372	5028	4688	4528	4916	4541	4234	4935	3514	4230	4477	4483	3888	4596	3621	2302	4570	2782	4053	2.48	5028
PLD% -	-23	5	-36	-27	-5	19	8	24	16	12	21	12	4	22	-13	4	10	11	-4	13	-11	-43	13	-31	High/Low:	+24 /	-43
Code -	*V*V	****	*V*V	*V*V	****		****						****		*V*V	****	****	****	*V*V		*V*V	*V*V		*V*V			
BURNER FB4																											
High -	3313	4418	4881	3957	3060	4661	4945	4802	4881	4850	4865	4850	4584	5059	4615	5092	4978	4865	4373	4724	4554	4299	4299	4692			
Low -	2367	4183	4539	2560	2288	4358	4493	3984	4493	4600	4554	4554	3998	4865	4169	4478	4493	4508	3685	4183	3711	3167	3943	4083			
Average -	2892	4315	4699	3043	2593	4526	4680	4465	4712	4731	4699	4677	4271	4954	4358	4879	4709	4732	4022	4551	4210	3867	4109	4497	4300	8.71	4954
PLD% -	-33	0	9	-29	-40	5	9	4	10	10	9	9	-1	15	1	13	10	10	-6	6	-2	-10	-4	5	High/Low:	+15 /	-40
Code -	*V*V	****		*V*V	*V*V								****		****				****		****	*V*V	****				
BURNER FB3																											
High -	4523	4786	4448	4478	4692	4978	4802	4661	4834	5258	4270	4945	2688	4212	4802	4554	4661	5191	5043	5191	4994	4493	4523	4539			
Low -	3915	4493	4198	4226	4344	4646	3502	4069	4418	4865	3489	4403	1964	3792	4554	3167	4140	4661	3929	4834	3860	3806	4055	4140			
Average -	4183	4630	4339	4350	4538	4798	4326	4300	4599	5067	3854	4656	2266	4020	4670	4051	4404	4931	4677	4976	4482	4143	4263	4333	4369	10.46	5067
PLD% -	-4	6	-1	-0	4	10	-1	-2	5	16	-12	7	-48	-8	7	-7	1	13	7	14	3	-5	-2	-1	High/Low:	+16 /	-48
Code -	****		****	****	****		*V*V	****			****		*V*V	****		*V*V	****		VVVV		*V*V	****	****	****			

IP7_001200

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 2

TABLE 4

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FB2																											
High -	4026	4508	4584	4661	3943	4373	4169	3658	4126	3874	4041	3725	4692	3943	4569	4850	4256	4584	4724	4493	4433	4241	4802	4183			
Low -	3711	2932	4183	4314	3025	3901	3426	2842	3833	3048	3363	3413	4344	3338	4041	4646	3833	4069	4055	3984	4140	4026	3860	3806			
Average -	3901	3732	4420	4507	3563	4126	4012	3246	3939	3443	3720	3536	4487	3557	4363	4744	3972	4374	4466	4283	4305	4124	4377	3975	4049	2.36	4744
PLD% -	-4	-8	9	11	-12	2	-1	-20	-3	-15	-8	-13	11	-12	8	17	-2	8	10	6	6	2	8	-2	High/Low:	+17 /	-20
Code -	****	*V*V			*V*V	****	****	*V*V	****	*V*V	****	****		****			****					****		****			
BURNER FB1																											
High -	4373	4897	4646	4945	4241	4183	4329	3528	3915	4739	4111	4771	5125	4677	5092	5141	4285	4834	4508	4739	4708	4523	4493	4677			
Low -	4126	4344	3792	4448	3400	3711	3792	2921	3426	4463	3375	4329	4881	4270	4786	4818	3725	4478	3929	4226	4329	4198	3874	4358			
Average -	4264	4641	4274	4688	3871	3923	4105	3300	3583	4616	3834	4615	5023	4464	4962	4916	4025	4651	4189	4444	4522	4369	4270	4549	4337	9.66	5023
PLD% -	-2	7	-1	8	-11	-10	-5	-24	-17	6	-12	6	16	3	14	13	-7	7	-3	2	4	1	-2	5	High/Low:	+16 /	-24
Code -	****		****		****	****	****	****	****		****			****			****		****	****		****	****				
BURNER RD1																											
High -	4448	4493	4661	4314	3725	4270	4646	3658	4834	4554	4344	4523	4523	4285	4358	3929	4111	3541	3301	3970	4329	4962	4344	4755			
Low -	3929	4270	4344	3792	2688	3819	4256	2539	3143	4388	4012	4140	4055	4055	4140	3191	3515	2731	2498	3515	3451	4646	4026	4433			
Average -	4190	4360	4480	4130	3297	4057	4476	3138	4548	4468	4210	4380	4253	4160	4254	3646	3762	3203	2775	3726	3901	4815	4165	4615	4042	2.20	4815
PLD% -	4	8	11	2	-18	0	11	-22	13	11	4	8	5	3	5	-10	-7	-21	-31	-8	-3	19	3	14	High/Low:	+19 /	-31
Code -	****			****	*V*V	****		*V*V	VVVV		****		****	****	****	****	****	*V*V	*V*V	****	*V*V		****				
BURNER RD2																											
High -	3438	4226	4183	4012	2932	5026	4373	4212	4771	4523	4708	4661	4198	4661	4069	4183	4508	4478	4418	4584	4270	4299	4388	4069			
Low -	2396	3806	3738	3528	2173	4448	3738	2921	4539	4241	4463	4448	3765	4448	3515	3155	4373	4041	4241	4329	3541	3738	4041	2853			
Average -	3015	3993	3957	3862	2534	4757	4138	3739	4665	4414	4592	4549	4030	4553	3735	3658	4446	4295	4331	4431	3991	3962	4191	3670	4063	2.72	4757
PLD% -	-26	-2	-3	-5	-38	17	2	-8	15	9	13	12	-1	12	-8	-10	9	6	7	9	-2	-2	3	-10	High/Low:	+17 /	-38
Code -	*V*V	****	****	****	*V*V		****	*V*V					****		****	*V*V					****	****	****	*V*V			
BURNER RD3																											
High -	4169	4677	4358	4241	4270	4929	4285	4448	4881	4677	4463	4198	4314	4358	4097	2396	4448	3998	4198	5059	3887	4344	4630	4388			
Low -	3179	3619	3874	3658	3502	3619	3580	3846	4329	4069	3464	2944	2376	3215	3451	1616	4026	3350	3131	4724	3227	3276	4169	3915			
Average -	3841	4275	4058	3956	3933	4300	3960	4113	4619	4477	3970	3737	3470	3830	3752	1994	4225	3635	3960	4915	3595	3803	4378	4111	3954	-0.02	4915
PLD% -	-3	8	3	0	-1	9	0	4	17	13	0	-6	-12	-3	-5	-50	7	-8	0	24	-9	-4	11	4	High/Low:	+24 /	-50
Code -	*V*V	*V*V	****	****	****	*V*V	****	****			*V*V	*V*V	*V*V	*V*V	****	*V*V	****	****	*V*V		****	*V*V	****	****			
BURNER RD4																											
High -	2447	3554	4493	3819	2477	4600	4388	3901	4388	3901	4069	4069	4646	3915	4388	4724	4285	4569	4344	4358	4692	2864	4026	4270			
Low -	1593	2677	3998	3060	1818	3957	4198	3155	3970	3580	3252	3672	4241	3400	3984	4241	3778	4270	3239	3874	4069	2062	3264	3619			
Average -	2021	3136	4224	3530	2116	4387	4299	3620	4158	3714	3676	3852	4423	3726	4217	4552	4066	4456	3902	4156	4357	2491	3654	3956	3779	-4.46	4552
PLD% -	-47	-17	12	-7	-44	16	14	-4	10	-2	-3	2	17	-1	12	20	8	18	3	10	15	-34	-3	5	High/Low:	+20 /	-47
Code -	*V*V	*V*V		****	*V*V			****		****	*V*V	****		****			****		*V*V			*V*V	****	****			
BURNER RD5																											
High -	4026	4285	4329	4739	3426	4270	4508	1946	4026	4226	2099	4418	4786	4834	4724	4241	4584	5241	4692	4802	4834	4600	4403	4169			
Low -	3131	3957	4111	4478	2327	3227	4126	1616	3363	3658	1903	3887	4140	3929	3819	3606	4256	4994	3541	4478	4493	3819	3929	3711			
Average -	3578	4140	4208	4600	2903	3695	4307	1765	3768	3947	2009	4155	4538	4367	4440	3971	4442	5110	4211	4638	4693	4314	4144	3908	3994	0.97	5110
PLD% -	-10	4	5	15	-27	-7	8	-56	-6	-1	-50	4	14	9	11	-1	11	28	5	16	18	8	4	-2	High/Low:	+28 /	-56
Code -	*V*V	****	****		*V*V	*V*V	****	****	****	****	****	****	****	****	****	****	****		*V*V			****	****	****			
BURNER RD6																											
High -	4539	5010	4929	4600	4241	4285	4508	3846	4493	3887	4256	4818	4478	5043	4994	3567	4708	4418	3438	4818	3998	3593	4646	4539			
Low -	4226	4539	4418	3413	2921	4026	3698	3095	3929	3363	3765	4554	3901	4692	4285	2666	4388	3036	2307	4523	2192	2467	4226	4285			
Average -	4391	4760	4762	4354	3571	4170	4102	3453	4238	3598	4019	4719	4193	4912	4700	3130	4563	3879	2856	4642	3148	3089	4424	4391	4086	3.30	4912
PLD% -	7	17	17	7	-13	2	0	-15	4	-12	-2	15	3	20	15	-23	12	-5	-30	14	-23	-24	8	7	High/Low:	+20 /	-30
Code -	****			*V*V	*V*V	****	****	****	****	****	****		****			*V*V		*V*V	*V*V		*V*V	*V*V		****			

IP7_001201

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 2

TABLE 4

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER RH1																											
High -	4373	4615	5026	4881	4865	4818	4433	4388	4463	4994	4226	4755	4600	2921	4600	4344	3874	3833	3325	3887	3001	4140	4786	5125			
Low -	4126	4241	4755	4523	4344	4358	3874	3887	4026	4771	3957	4344	4226	2457	4183	3593	3155	3215	2201	3288	1973	3833	4463	4881			
Average -	4245	4406	4897	4748	4540	4610	4082	4144	4280	4888	4109	4598	4371	2713	4376	4025	3554	3459	2651	3652	2430	3994	4619	5008	4100	3.66	5008
PLD% -	4	7	19	16	11	12	-0	1	4	19	0	12	7	-34	7	-2	-13	-16	-35	-11	-41	-3	13	22	High/Low:	+22 /	-41
Code -	****	****					****	****	****		****		****	****	****	****	****	****	*V*V	****	*V*V	****					
BURNER RH2																											
High -	3957	4285	3998	3915	4329	4493	3846	4724	4478	3998	4692	4055	4600	4418	3672	3929	3619	3451	4256	4463	3698	3929	4508	3426			
Low -	3606	4069	3388	3363	3819	4183	2875	4373	4212	3645	4493	3738	4358	4256	3338	3502	3119	3060	4041	4169	2742	3606	4169	2376			
Average -	3814	4189	3735	3667	4124	4337	3381	4576	4348	3868	4606	3889	4483	4333	3497	3733	3386	3268	4137	4316	3158	3737	4392	2914	3912	-1.10	4606
PLD% -	-3	7	-5	-6	5	11	-14	17	11	-1	18	-1	15	11	-11	-5	-13	-16	6	10	-19	-4	12	-26	High/Low:	+18 /	-26
Code -	****		****	****	****		*V*V			****		****			****	****	****	****	****		*V*V	****		*V*V			
BURNER RH3																											
High -	3819	4478	4523	4463	4041	4154	3276	4818	4539	4126	4270	4140	3765	4183	4226	3957	3943	3957	4083	3943	3957	4041	4055	4012			
Low -	3554	4285	4126	3846	3593	3901	2259	4433	4299	3239	3619	3887	2357	3998	4012	3725	3685	3752	3874	3738	3698	3645	3725	3725			
Average -	3674	4392	4322	4167	3916	4037	2669	4626	4471	3691	3981	4030	3273	4100	4069	3846	3830	3871	3972	3859	3829	3924	3890	3866	3929	-0.65	4626
PLD% -	-6	12	10	6	-0	3	-32	18	14	-6	1	3	-17	4	4	-2	-3	-1	1	-2	-3	-0	-1	-2	High/Low:	+18 /	-32
Code -	****				****	****	*V*V			*V*V	****	****	*V*V	****	****	****	****	****	****	****	****	****	****	****			
BURNER RH4																											
High -	3489	3593	3451	3632	3502	3438	3619	3288	3619	3515	3477	3711	3632	3515	3645	3580	3998	4358	3943	3725	3606	3957	3725	3477			
Low -	3119	3025	3179	3400	3131	3227	3400	2978	3276	3239	3227	3375	3375	3350	3072	3363	3765	3915	2786	3541	3363	3752	3375	3155			
Average -	3328	3347	3321	3544	3324	3303	3529	3179	3515	3384	3365	3568	3506	3442	3385	3460	3892	4107	3543	3622	3488	3854	3602	3332	3498	-11.57	4107
PLD% -	-5	-4	-5	1	-5	-6	1	-9	0	-3	-4	2	0	-2	-3	-1	11	17	1	4	-0	10	3	-5	High/Low:	+17 /	-9
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****			*V*V	****	****		****	****			
BURNER RH5																											
High -	2797	3752	4012	3901	3464	3619	3792	3464	3685	3645	3325	3580	3606	3554	3580	3580	3400	3541	3477	3426	3325	3632	3464	3515			
Low -	1835	2613	3765	2775	2117	3227	3645	3179	3477	3413	3179	3301	3227	3203	3363	3179	3227	3276	3191	3131	3072	3388	3001	3239			
Average -	2203	3386	3880	3365	2724	3458	3714	3304	3569	3547	3258	3452	3427	3395	3459	3408	3307	3400	3338	3251	3164	3523	3260	3400	3341	-15.52	3880
PLD% -	-34	1	16	1	-18	4	11	-1	7	6	-3	3	3	2	4	2	-1	2	-0	-3	-5	5	-2	2	High/Low:	+16 /	-34
Code -	*V*V	*V*V		*V*V	*V*V	****		****			****	****	****	****	****	****	****	****	****	****	****		****	****			
BURNER RH6																											
High -	4154	4403	4329	4226	4198	3984	4270	3833	3752	3984	3778	3970	4012	3929	3806	3645	3970	4111	3860	3778	3645	3580	4012	3833			
Low -	3363	4097	4069	4026	3915	3738	3874	3083	3363	3860	2764	3725	3874	3725	3515	3426	3672	2108	3388	3541	3301	3264	3874	3672			
Average -	3871	4281	4193	4144	4067	3895	4154	3499	3564	3939	3244	3845	3945	3794	3622	3547	3838	2558	3658	3682	3489	3426	3944	3775	3749	-5.22	4281
PLD% -	3	14	12	11	8	4	11	-7	-5	5	-13	3	5	1	-3	-5	2	-32	-2	-2	-7	-9	5	1	High/Low:	+14 /	-32
Code -								****	****		*V*V	****		****	****	****	****	*V*V	****	****	****	****		****			
BURNER RC1																											
High -	4270	4183	4154	3915	3580	3929	4154	4724	4584	4026	3943	3778	3901	3929	3477	3438	3632	3792	3765	3929	3765	4140	4111	4026			
Low -	3957	3929	3970	3738	2278	3711	3874	4388	4226	3874	3738	2797	3698	3725	3252	2921	3413	3567	3464	3725	3554	3778	3833	3489			
Average -	4117	4062	4070	3846	2795	3813	4033	4574	4481	3936	3848	3395	3773	3824	3394	3257	3555	3711	3631	3814	3650	3957	3981	3826	3806	-3.78	4574
PLD% -	8	7	7	1	-27	0	6	20	18	3	1	-11	-1	0	-11	-14	-7	-2	-5	0	-4	4	5	1	High/Low:	+20 /	-27
Code -		****	****	****	*V*V	****	****			****	****	*V*V	****	****	****	****	****	****	****	****	****	****	****	****			
BURNER RC2																											
High -	2508	4111	3915	3943	4169	4344	4448	4692	4373	4169	4154	3998	3984	3929	3943	3915	4097	3984	4198	3998	4097	3658	3819	3929			
Low -	1624	3725	3313	3413	3957	4083	4012	4433	3901	3645	3943	3489	3819	3711	3711	3264	3806	3725	3998	3725	3806	2656	2990	3400			
Average -	1954	3996	3583	3669	4069	4221	4309	4569	4160	4042	4032	3883	3917	3826	3839	3577	3961	3876	4102	3847	3962	3172	3457	3781	3825	-3.29	4569
PLD% -	-49	4	-6	-4	6	10	13	19	9	6	5	2	2	0	0	-6	4	1	7	1	4	-17	-10	-1	High/Low:	+19 /	-49
Code -	*V*V	****	****	****	****					****	****	****	****	****	****	****	****	****	****	****	****	*V*V	*V*V	****			

IP7_001202

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 2

TABLE 4

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER RC3																											
High -	3672	4403	4154	4448	4523	4584	4083	4493	4508	4270	4270	4169	3957	4270	4083	4154	4169	4256	4344	4299	3943	4126	4212	4198			
Low -	2786	3984	3489	3860	4388	4388	3554	4111	4256	3901	3901	3915	1920	4041	3711	3338	3901	3984	3970	4083	3203	3438	4055	4026			
Average -	3321	4222	3778	4131	4472	4482	3860	4304	4404	4030	4123	4029	2452	4152	3922	3764	4039	4151	4210	4179	3671	3888	4151	4120	3994	0.98	4482
PLD% -	-17	6	-5	3	12	12	-3	8	10	1	3	1	-39	4	-2	-6	1	4	5	5	-8	-3	4	3	High/Low:	+12 /	-39
Code -	*V*V		****				****			****		****	*V*V		****	****					****	****					
BURNER RC4																											
High -	2898	4314	3215	3685	4523	4508	4433	4508	4493	4026	3929	4373	4646	4569	4508	4373	4433	4739	4433	4569	3833	4314	4478	2978			
Low -	1784	3957	2044	2427	4041	4198	3943	4111	4285	3025	3155	4241	4463	4126	4329	3325	4256	4493	3567	4403	1937	4097	4069	1877			
Average -	2497	4126	2736	2836	4318	4388	4267	4327	4448	3586	3618	4306	4544	4246	4399	3872	4340	4623	3941	4494	2728	4196	4317	2241	3891	-1.61	4623
PLD% -	-36	6	-30	-27	11	13	10	11	14	-8	-7	11	17	9	13	-1	12	19	1	15	-30	8	11	-42	High/Low:	+19 /	-42
Code -	*V*V	****	*V*V	*V*V						*V*V	****					*V*V			****		*V*V			*V*V			
BURNER RC5																											
High -	2677	3528	4256	4554	2898	4786	4834	3915	4314	4140	4724	3887	4646	4478	4478	4523	4539	4256	4646	4256	4433	4344	4169	4285			
Low -	1727	2539	3929	3846	1784	4433	4584	2887	4026	3554	4478	3554	4403	3685	4285	4344	4140	3765	4373	3593	4126	3350	3846	3984			
Average -	2214	3163	4066	4231	2172	4644	4685	3252	4195	3800	4606	3728	4531	4016	4388	4461	4444	3973	4487	4022	4303	3773	4032	4178	3974	0.46	4685
PLD% -	-44	-20	2	6	-45	17	18	-18	6	-4	16	-6	14	1	10	12	12	-0	13	1	8	-5	1	5	High/Low:	+18 /	-45
Code -	*V*V	*V*V	****		*V*V			*V*V	****	****		****		****				****		****		*V*V	****	****			
BURNER RC6																											
High -	4739	4724	4539	4329	3957	4140	4154	3752	3943	3489	3778	4448	4403	4615	4270	3929	4523	3915	4677	4677	4169	4448	4493	4111			
Low -	4403	4329	4198	3943	3143	3874	3685	3227	3541	2831	3313	3970	3502	4169	2447	3477	4212	3239	3725	4314	3658	3606	4041	3778			
Average -	4572	4494	4323	4069	3494	4010	3924	3506	3775	3129	3506	4200	3755	4378	3460	3720	4382	3609	4063	4524	3934	4174	4313	3977	3970	0.38	4572
PLD% -	15	13	9	2	-12	1	-1	-12	-5	-21	-12	6	-5	10	-13	-6	10	-9	2	14	-1	5	9	0	High/Low:	+15 /	-21
Code -				****	*V*V	****	****	****	****	****	****		*V*V		*V*V	****		****	*V*V		****			****			
BURNER RG1																											
High -	3806	4344	4646	4329	2898	3725	3711	3711	4646	4083	4329	4554	4508	4584	4270	3375	4448	4463	4463	4358	4569	4463	4584	4508			
Low -	3765	3191	3502	3792	2008	2731	2656	3119	4418	3264	2967	4358	4012	3846	3915	2477	4126	3943	3765	4140	4212	3929	4299	4256			
Average -	3785	4037	4288	4097	2356	3126	3149	3379	4536	3729	3496	4472	4176	4421	4100	2946	4288	4264	4161	4264	4436	4211	4451	4382	3940	-0.40	4536
PLD% -	-4	2	9	4	-40	-21	-20	-14	15	-5	-11	14	6	12	4	-25	9	8	6	8	13	7	13	11	High/Low:	+15 /	-40
Code -	****	*V*V	VVVV		*V*V	*V*V	*V*V	****		*V*V	*V*V					*V*V											
BURNER RG2																											
High -	4241	4388	4403	4403	3998	3984	3943	4771	4314	3929	3792	3874	3752	3672	3792	2550	3489	3451	3060	3672	3001	3915	3819	3929			
Low -	3957	4198	4055	4154	3752	3567	3685	3846	4140	3711	3400	3711	3580	3554	3606	2090	3338	3252	2154	3541	1911	3738	3672	2978			
Average -	4124	4283	4273	4299	3898	3923	3816	4523	4217	3797	3610	3786	3667	3617	3699	2301	3422	3375	2515	3592	2424	3814	3758	3753	3687	-6.78	4523
PLD% -	12	16	16	17	6	6	4	23	14	3	-2	3	-1	-2	0	-38	-7	-8	-32	-3	-34	3	2	2	High/Low:	+23 /	-38
Code -					****	****	****			****	****	****	****	****	****	****	****	****	*V*V	****	*V*V	****	****	*V*V			
BURNER RG3																											
High -	3593	3619	3632	3388	3203	3301	4026	3711	3001	3313	3131	3215	3155	1911	3203	3252	3215	3413	3313	3413	3464	3580	3438	3464			
Low -	3239	3464	3252	3239	3013	3107	3806	3528	1955	3131	2909	3060	3060	1480	3072	3072	3013	3072	3036	3252	3252	3350	3203	3252			
Average -	3419	3532	3472	3291	3108	3224	3939	3601	2418	3205	3003	3122	3115	1673	3144	3158	3108	3189	3197	3338	3348	3445	3328	3364	3197	-19.16	3939
PLD% -	7	10	9	3	-3	1	23	13	-24	0	-6	-2	-3	-48	-2	-1	-3	-0	-0	4	5	8	4	5	High/Low:	+23 /	-48
Code -	****	****	****	****	****	****			*V*V	****	****	****	****	*V*V	****	****	****	****	****	****	****	****	****	****			
BURNER RG4																											
High -	3792	3325	3645	3528	3301	3325	3541	3313	3580	3489	3301	3567	3477	3413	3451	3451	3528	3606	3477	3264	3179	3698	3489	3426			
Low -	3606	2347	3502	3215	3179	2488	3350	3191	3375	3338	3095	3338	3338	3239	3191	3227	3338	3426	3227	3060	2709	3515	3227	3227			
Average -	3699	2624	3577	3358	3255	2981	3443	3262	3472	3404	3214	3470	3413	3334	3299	3336	3421	3543	3354	3141	3066	3603	3312	3340	3330	-15.81	3699
PLD% -	11	-21	7	1	-2	-10	3	-2	4	2	-3	4	2	0	-1	0	3	6	1	-6	-8	8	-1	0	High/Low:	+11 /	-21
Code -		*V*V			****	*V*V		****			****				****					****	****		****				

IP7_001203

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 2

TABLE 4

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER RG5																											
High -	3658	3658	3819	3806	3567	3632	3658	3413	3593	3632	2808	3593	2406	3998	2955	3515	3451	3806	3765	3554	3338	3325	3765	3619			
Low -	3502	3489	3645	3658	3375	3528	3426	1860	3400	3350	1818	3388	1760	3711	2367	3325	3264	3606	3554	3375	3167	3131	3580	3375			
Average -	3588	3571	3717	3748	3491	3580	3572	2301	3501	3533	2326	3506	2044	3855	2666	3433	3363	3724	3670	3453	3246	3221	3687	3542	3347	-15.37	3855
PLD% -	7	7	11	12	4	7	7	-31	5	6	-31	5	-39	15	-20	3	0	11	10	3	-3	-4	10	6	High/Low:	+15 /	-39
Code -								*V*V			*V*V		*V*V		****	****	****			****	****	****					
BURNER RG6																											
High -	4724	4739	4802	4615	4615	4569	4373	3698	3765	3502	4478	4786	3528	4739	4755	3658	4344	4692	4344	5092	4850	4786	4755	4724			
Low -	4299	4493	4478	4198	3833	3725	3860	3095	2887	2731	4126	4463	2753	3792	4083	3276	3901	3970	3593	4539	3943	4270	4493	4433			
Average -	4501	4625	4603	4377	4201	4131	4116	3478	3411	3139	4290	4642	3166	4424	4466	3439	4098	4341	3916	4778	4464	4511	4638	4544	4179	5.66	4778
PLD% -	8	11	10	5	1	-1	-2	-17	-18	-25	3	11	-24	6	7	-18	-2	4	-6	14	7	8	11	9	High/Low:	+14 /	-25
Code -					****	****	****	****	*V*V	*V*V	****		*V*V			****	****		****								

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 3

TABLE 5

Summary

Average Velocity All Burners =	3268.45 fpm
Maximum High Flow Deviation =	12.23 %
Minimum Low Flow Deviation =	-15.70 %
Total Flow Deviation =	27.93 %

Condition	Code	Trigger Level %
Blocked Flow	*****	10
Vortex Action	VVVVV	20
Flow & Vortex Action	*V*V*	

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FE6																											
High -	3081	3419	3269	3480	4332	3589	3095	2347	3269	3605	4102	4034	3766	3298	4102	4368	4332	4386	3881	3701	3669	3123	3123	3196			
Low -	2928	3269	3095	3254	4102	3419	2874	2122	2928	3480	3865	3733	3589	3123	3701	4207	4225	4243	3766	3449	3527	2955	2997	3053			
Average -	3013	3349	3196	3361	4206	3496	2977	2229	3111	3527	3981	3868	3691	3239	3833	4285	4269	4273	3827	3549	3610	3040	3055	3121	3504	7.22	4285
PLD% -	-14	-4	-9	-4	20	-0	-15	-36	-11	1	14	10	5	-8	9	22	22	22	9	1	3	-13	-13	-11	High/Low:	+22 /	-36
Code -	****	****	****	****		****	****	****	****	****			****	****	****				****	****	****	****	****	****			
BURNER FE5																											
High -	3496	3419	3039	3511	4190	3480	3343	1965	2477	3815	4207	3915	3605	3948	4120	3558	3848	3669	3419	3621	3511	3542	3574	3480			
Low -	3225	3225	2860	3239	3965	3239	3196	1658	2312	3419	4051	3653	3496	3865	3733	3358	3653	3542	3254	3284	3388	3358	3328	3254			
Average -	3356	3296	2924	3384	4068	3375	3273	1739	2418	3619	4113	3751	3562	3899	4010	3440	3760	3602	3327	3509	3456	3467	3442	3362	3423	4.73	4113
PLD% -	-2	-4	-15	-1	19	-1	-4	-49	-29	6	20	10	4	14	17	0	10	5	-3	3	1	1	1	-2	High/Low:	+20 /	-49
Code -	****	****	****	****		****	****	****	****	****			****			****		****	****	****	****	****	****	****			
BURNER FE4																											
High -	3419	3388	3095	4155	4368	3750	3269	2847	3915	4627	4589	4068	3932	3328	4243	3965	4172	3701	3589	3343	3621	3196	3328	3685			
Low -	3196	3181	2754	3799	3685	3328	3053	2664	3637	4155	4278	3558	3196	3152	3999	3750	3865	3574	3404	2969	3298	3053	3095	3328			
Average -	3291	3277	2915	3942	3998	3562	3137	2749	3790	4377	4425	3797	3629	3253	4098	3845	4035	3641	3487	3057	3454	3092	3202	3548	3567	9.13	4425
PLD% -	-8	-8	-18	11	12	-0	-12	-23	6	23	24	6	2	-9	15	8	13	2	-2	-14	-3	-13	-10	-1	High/Low:	+24 /	-23
Code -	****	****	****	****		****	****	****	****			****	****	****		****		****	****	****	****	****	****	****			
BURNER FE3																											
High -	3527	4155	3982	3848	3605	3898	3419	3605	3388	3239	3733	2820	3025	3081	3039	3449	2741	2601	3653	3898	3225	4172	3637	4350			
Low -	3298	3915	3865	3637	3404	3717	3181	3480	3269	3025	3465	2514	2563	2417	2847	3123	2429	2244	3210	3637	2969	3881	3404	3982			
Average -	3409	4089	3928	3750	3510	3826	3301	3524	3327	3126	3609	2600	2764	2767	2951	3270	2596	2419	3457	3731	3094	3994	3511	4193	3364	2.94	4193
PLD% -	1	22	17	11	4	14	-2	5	-1	-7	7	-23	-18	-18	-12	-3	-23	-28	3	11	-8	19	4	25	High/Low:	+25 /	-28
Code -	****			****	****		****	****	****	****	****	****	****	*V*V	****	****	****	****	****	****	****		****				
BURNER FE2																											
High -	3053	2638	2928	3109	3239	3511	3881	3527	3815	3669	3298	3701	3589	3388	3932	3254	3053	3343	3558	3527	4760	3095	3109	3480			
Low -	2221	2441	2715	2874	3095	3373	3685	3210	3605	3574	3109	3496	3343	3138	3733	2887	2860	3109	3449	3298	4120	2441	2754	3123			
Average -	2762	2520	2862	3017	3164	3448	3817	3305	3765	3618	3177	3610	3512	3264	3837	2990	2980	3266	3505	3412	4579	2634	2941	3329	3305	1.11	4579
PLD% -	-16	-24	-13	-9	-4	4	15	0	14	9	-4	9	6	-1	16	-10	-10	-1	6	3	39	-20	-11	1	High/Low:	+39 /	-24
Code -	*V*V	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****		*V*V	****	****			
BURNER FE1																											
High -	2526	2887	3123	3095	3388	3621	3081	3067	3527	3637	3542	4207	3095	3388	4102	3496	2874	2278	3373	4016	3358	4314	3239	3542			
Low -	2382	2780	2860	2955	2794	3373	2955	2860	3313	3358	3404	3948	2741	3225	3511	3328	2638	2048	3167	3766	2942	3799	2767	3039			
Average -	2459	2839	2984	3011	3018	3536	3017	2948	3420	3496	3470	4086	2924	3287	3835	3405	2737	2164	3313	3920	3074	4150	2904	3397	3225	-1.33	4150
PLD% -	-24	-12	-7	-7	-6	10	-6	-9	6	8	8	27	-9	2	19	6	-15	-33	3	22	-5	29	-10	5	High/Low:	+29 /	-33
Code -	****	****	****	****	****	****	****	****	****	****	****		****	****		****	****	****	****		****		****	****			

IP7_001205

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 3

TABLE 5

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FA6																											
High -	3434	3465	2914	4478	4155	3574	3123	3053	3574	4332	4102	3388	4589	4350	3948	3766	3685	3480	3181	3419	3109	3239	2969	3328			
Low -	3284	3269	2613	3999	4016	3404	2874	2794	3434	4102	3782	3152	4137	4207	3832	3669	3343	3298	2887	3181	2942	2874	2780	3067			
Average -	3362	3379	2726	4335	4085	3464	3004	2930	3517	4222	3895	3279	4493	4278	3891	3703	3548	3385	2969	3303	3052	3050	2871	3207	3498	7.02	4493
PLD% -	-4	-3	-22	24	17	-1	-14	-16	1	21	11	-6	28	22	11	6	1	-3	-15	-6	-13	-13	-18	-8	High/Low:	+28 /	-22
Code -	****	****	****			****	****	****	****		****	****			****	****	****	****	****	****	****	****	****	****			
BURNER FA5																											
High -	3496	3328	3081	4155	4589	3766	3225	2502	3480	3982	3782	4034	3621	4368	4034	3881	3574	4120	3419	3388	3653	3239	3152	3404			
Low -	3254	3210	2942	3815	4386	3589	3109	2155	3167	3865	3621	3815	3419	4190	3815	3685	3449	3932	3298	3269	3480	2874	2955	3254			
Average -	3349	3272	3019	4001	4472	3679	3176	2303	3331	3918	3687	3921	3525	4317	3907	3796	3507	4025	3325	3313	3579	3001	3026	3341	3533	8.09	4472
PLD% -	-5	-7	-15	13	27	4	-10	-35	-6	11	4	11	-0	22	11	7	-1	14	-6	-6	1	-15	-14	-5	High/Low:	+27 /	-35
Code -	****	****	****	****		****	****	****	****	****	****	****	****		****	****	****		****	****	****	****	****	****			
BURNER FA4																											
High -	2914	3527	3388	3313	3832	4225	3081	2539	3039	3637	3733	4278	3589	4172	4225	3982	4332	4016	3685	3932	3589	3123	3419	3358			
Low -	2794	3284	3152	3081	3419	3782	2901	2335	2887	3419	3637	3965	3196	3799	3605	3832	4155	3733	3527	3685	3388	3025	3210	3196			
Average -	2859	3431	3269	3180	3612	4064	2994	2432	2964	3568	3674	4087	3372	4066	3983	3902	4239	3894	3595	3776	3491	3068	3320	3307	3506	7.27	4239
PLD% -	-18	-2	-7	-9	3	16	-15	-31	-15	2	5	17	-4	16	14	11	21	11	3	8	-0	-12	-5	-6	High/Low:	+21 /	-31
Code -	****	****	****	****	****		****	****	****	****	****		****						****	****	****	****	****	****			
BURNER FA3																											
High -	2847	3358	2887	3138	3799	3558	3434	4314	3574	3496	4496	3095	3449	3496	4102	2969	2901	3404	3449	3527	4120	3254	3480	3511			
Low -	2741	3109	2689	2955	3589	3284	3081	3915	3123	3239	4172	2677	3181	3196	3750	2551	2677	3095	3239	3313	3982	2969	3067	3095			
Average -	2818	3214	2784	3044	3711	3386	3206	4175	3290	3309	4381	2789	3347	3387	3972	2698	2797	3335	3337	3396	4059	3120	3301	3307	3340	2.19	4381
PLD% -	-16	-4	-17	-9	11	1	-4	25	-1	-1	31	-17	0	1	19	-19	-16	-0	-0	2	22	-7	-1	-1	High/Low:	+31 /	-19
Code -	****	****	****	****	****	****	****		****	****		****	****	****		****	****	****	****	****		****	****	****			
BURNER FA2																											
High -	2539	2847	2289	2441	3138	3167	3527	3574	3685	3589	4207	3388	3848	4665	4368	3254	3449	3496	3799	3284	4975	3589	3181	3181			
Low -	2394	2526	2090	2324	2794	2820	3373	3225	3109	3196	4051	3181	3511	4261	4172	3011	3254	3313	3574	2983	4386	3167	3025	2588			
Average -	2485	2653	2167	2365	2949	2962	3479	3376	3200	3414	4137	3303	3692	4465	4270	3119	3349	3396	3647	3112	4835	3306	3097	2879	3319	1.55	4835
PLD% -	-25	-20	-35	-29	-11	-11	5	2	-4	3	25	-0	11	35	29	-6	1	2	10	-6	46	-0	-7	-13	High/Low:	+46 /	-35
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****		****	****	****	****	****	****		****	****	****			
BURNER FA1																											
High -	3109	2728	2969	2741	2955	3109	2928	3496	2969	2997	3343	4051	2794	3480	3766	3637	2833	2914	3373	4278	4571	2702	3039	3605			
Low -	3011	2514	2754	2601	2807	2955	2754	3328	2780	2794	3181	3832	2514	3210	3358	3373	2613	2741	3123	4034	4405	2453	2860	3343			
Average -	3075	2608	2870	2650	2875	3045	2823	3435	2864	2863	3246	3980	2622	3317	3552	3511	2680	2836	3309	4162	4493	2570	2926	3485	3158	-3.37	4493
PLD% -	-3	-17	-9	-16	-9	-4	-11	9	-9	-9	3	26	-17	5	12	11	-15	-10	5	32	42	-19	-7	10	High/Low:	+42 /	-19
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****			****	****	****			
BURNER FF6																											
High -	3210	3284	3123	4137	4243	3932	3558	3025	3848	4225	4102	3717	3948	3965	4478	4068	4016	3815	3284	3527	3313	2780	2983	3067			
Low -	2651	3138	2942	3404	4034	3701	3419	2914	3269	4034	3881	3480	3782	3881	3982	3782	3750	3343	3123	3358	3123	2651	2847	2942			
Average -	2780	3235	3041	3984	4115	3852	3471	2979	3571	4108	3992	3590	3879	3926	4353	3927	3931	3434	3217	3427	3207	2711	2923	2998	3527	7.91	4353
PLD% -	-21	-8	-14	13	17	9	-2	-16	1	16	13	2	10	11	23	11	11	-3	-9	-3	-9	-23	-17	-15	High/Low:	+23 /	-23
Code -	****	****	****			****	****	****	****			****	****					****	****	****	****	****	****	****			
BURNER FF5																											
High -	3167	3167	2969	3434	3766	3196	3123	2539	3373	3685	3766	3637	3653	4589	4243	3965	3999	3915	3653	3701	3465	3081	2914	3343			
Low -	3095	2997	2807	3067	3621	3081	2997	2406	3210	3480	3558	3465	3373	4332	4085	3815	3799	3733	3465	3496	3313	2942	2780	3239			
Average -	3131	3073	2903	3234	3688	3146	3053	2481	3311	3612	3675	3556	3493	4506	4168	3891	3910	3804	3547	3575	3387	3015	2843	3287	3429	4.90	4506
PLD% -	-9	-10	-15	-6	8	-8	-11	-28	-3	5	7	4	2	31	22	13	14	11	3	4	-1	-12	-17	-4	High/Low:	+31 /	-28
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****			****	****	****	****	****	****	****	****	****			

IP7_001206

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 3

TABLE 5

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FF4																											
High -	3269	3511	3419	4051	3915	3733	3388	3039	3621	3782	3982	3542	3815	4068	3815	3685	3685	3881	3496	4278	3733	3558	3511	3766			
Low -	3081	3298	3181	3637	3605	3480	3225	2728	3123	3496	3605	3388	3404	3832	3637	3434	3465	3574	3313	3982	3465	3404	3313	3669			
Average -	3152	3402	3269	3869	3741	3570	3300	2888	3530	3655	3816	3476	3618	3907	3702	3529	3570	3752	3409	4158	3566	3477	3378	3726	3561	8.95	4158
PLD% -	-11	-4	-8	9	5	0	-7	-19	-1	3	7	-2	2	10	4	-1	0	5	-4	17	0	-2	-5	5	High/Low:	+17 /	-19
Code -	****	****	****		****	****	****	****	****	****		****	****		****	****	****		****		****	****	****	****			
BURNER FF3																											
High -	3434	3239	2997	2860	3965	3181	2754	3373	2465	1816	2278	2664	2651	3067	3284	3480	2914	2289	4085	4423	4665	3750	3480	3653			
Low -	3196	2997	2576	2715	3621	2997	2563	3067	2058	1667	2090	2441	2312	2833	2901	3254	2702	1874	3388	3542	4405	3167	3254	3269			
Average -	3329	3138	2849	2768	3846	3081	2633	3211	2187	1718	2195	2559	2478	2982	3053	3348	2802	2163	3881	3854	4544	3433	3395	3416	3036	-7.11	4544
PLD% -	10	3	-6	-9	27	1	-13	6	-28	-43	-28	-16	-18	-2	1	10	-8	-29	28	27	50	13	12	13	High/Low:	+50 /	-43
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****		****	****	****			
BURNER FF2																											
High -	2807	3527	2887	2767	3574	3434	2914	3832	3284	3782	3865	3932	3210	3865	3284	3496	2664	2090	2807	3685	4405	3239	3621	3313			
Low -	2601	3343	2417	2613	3167	2741	2794	3589	3138	3527	3558	3832	2767	3496	2969	3225	2359	1894	2576	3496	3388	2983	3284	3167			
Average -	2701	3464	2539	2686	3438	2905	2852	3773	3184	3706	3650	3881	2939	3652	3036	3336	2453	1989	2741	3613	4088	3061	3460	3241	3183	-2.62	4088
PLD% -	-15	9	-20	-16	8	-9	-10	19	0	16	15	22	-8	15	-5	5	-23	-38	-14	14	28	-4	9	2	High/Low:	+28 /	-38
Code -	****	****	****	****	****	*V*V	****		****		****		****	****	****	****	****	****	****	****	VVVV	****	****	****			
BURNER FF1																											
High -	2465	2502	2689	2820	3138	2901	2651	3574	3782	3750	3701	3669	3123	3373	3865	2997	3637	3239	4120	3881	4838	2997	2370	3669			
Low -	2370	2359	2526	2638	2955	2780	2417	3196	3605	3589	3404	3449	2914	2860	3574	2613	3388	3138	3948	3701	4608	2417	2199	3138			
Average -	2418	2409	2588	2731	3037	2834	2546	3443	3665	3664	3501	3544	2994	3035	3772	2723	3535	3187	4029	3804	4742	2634	2255	3449	3189	-2.43	4742
PLD% -	-24	-24	-19	-14	-5	-11	-20	8	15	15	10	11	-6	-5	18	-15	11	-0	26	19	49	-17	-29	8	High/Low:	+49 /	-29
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****		****	****	****			
BURNER FB6																											
High -	3196	3434	3152	4608	4589	3653	3542	2058	3605	4085	4405	4034	4207	4589	4225	3932	3717	3733	3254	3167	3269	2833	2860	3123			
Low -	2997	3254	2914	4102	4350	3465	3343	1527	2588	3832	3815	3766	3782	4368	4016	3733	3574	3605	3025	3011	3067	2728	2728	2874			
Average -	3086	3358	3026	4479	4415	3519	3450	1668	3055	3974	4117	3845	4136	4512	4102	3810	3629	3659	3110	3125	3132	2785	2790	3018	3492	6.83	4512
PLD% -	-12	-4	-13	28	26	1	-1	-52	-13	14	18	10	18	29	17	9	4	5	-11	-11	-10	-20	-20	-14	High/Low:	+29 /	-52
Code -	****	****	****			****	****	*V*V	*V*V	****		****				****	****	****	****	****	****	****	****	****			
BURNER FB5																											
High -	3196	3685	3358	4068	4608	3621	3313	2860	3225	3669	3982	3999	3701	3848	3605	3637	3750	3815	3343	3669	3284	3254	3025	3328			
Low -	2983	3328	2807	3733	4261	3527	3123	2613	3067	3511	3832	3750	3419	3701	3465	3404	3589	3574	3167	3496	3181	2969	2847	3152			
Average -	3090	3554	3030	3861	4452	3585	3223	2682	3143	3587	3913	3873	3586	3760	3534	3526	3665	3722	3236	3579	3227	3136	2932	3258	3465	6.00	4452
PLD% -	-11	3	-13	11	28	3	-7	-23	-9	4	13	12	3	9	2	2	6	7	-7	3	-7	-9	-15	-6	High/Low:	+28 /	-23
Code -	****	****	****	****		****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****			
BURNER FB4																											
High -	3419	3496	3527	2794	4225	3419	3109	2887	3750	4034	4368	4068	3865	4533	4278	3832	3832	4332	3815	4278	3419	3343	3542	3419			
Low -	3225	3225	3313	2502	3865	3313	2983	2689	3269	3799	4172	3881	3669	4172	4102	3527	3637	4034	3589	3999	3181	3138	3373	3298			
Average -	3315	3380	3417	2604	4045	3370	3036	2788	3643	3917	4269	4006	3753	4446	4167	3628	3742	4199	3715	4141	3251	3230	3449	3374	3620	10.76	4446
PLD% -	-8	-7	-6	-28	12	-7	-16	-23	1	8	18	11	4	23	15	0	3	16	3	14	-10	-11	-5	-7	High/Low:	+23 /	-28
Code -	****	****	****	****		****	****	****	****	****			****			****	****		****		****	****	****	****			
BURNER FB3																											
High -	3081	2715	2677	3815	3269	2874	3685	2969	3999	4137	2638	3589	3138	3449	2901	3419	2955	1965	3621	4034	4684	2324	3637	3167			
Low -	2702	2539	2576	3328	3025	2767	3558	2677	3589	3932	2266	3167	2429	3225	2626	3109	2728	1826	3181	3766	4243	1884	2860	2807			
Average -	2975	2606	2618	3626	3102	2827	3621	2782	3855	4037	2386	3321	2887	3353	2721	3287	2856	1915	3541	3904	4587	1998	3355	3018	3132	-4.16	4587
PLD% -	-5	-17	-16	16	-1	-10	16	-11	23	29	-24	6	-8	7	-13	5	-9	-39	13	25	46	-36	7	-4	High/Low:	+46 /	-39
Code -	****	****	****	****	****	****	****	****	****	****	****	****	*V*V	****	****	****	****	****	****	****		****	*V*V	****			

IP7_001207

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 3

TABLE 5

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FB2																											
High -	2477	2741	3039	2626	3067	2847	3225	3269	1975	2539	4155	3181	3496	4261	3782	2969	3358	3527	3815	4818	4423	2514	2780	2664			
Low -	2359	2613	2901	2394	2741	2370	2997	2477	1640	2335	3542	2820	3269	3717	3653	2741	3123	3210	3589	4386	4225	1934	2429	2382			
Average -	2416	2702	2959	2495	2920	2489	3160	2868	1748	2465	3938	2909	3388	4109	3720	2803	3260	3451	3704	4672	4307	2088	2655	2513	3072	-6.00	4672
PLD% -	-21	-12	-4	-19	-5	-19	3	-7	-43	-20	28	-5	10	34	21	-9	6	12	21	52	40	-32	-14	-18	High/Low:	+52 /	-43
Code -	****	****	****	****	****	****	****	*V*V	****	****	****	****	****	****	****	****	****	****	****			*V*V	****	****			
BURNER FB1																											
High -	2820	3095	3196	3067	2942	2539	3313	3095	2715	2539	2490	1985	3152	3574	2860	3152	2741	2155	3999	4589	4571	3343	3011	2677			
Low -	2576	2860	2983	2928	2741	2266	2689	2820	2588	2394	1965	1740	2767	3210	2664	2928	2601	1944	3181	3621	3982	2144	2887	2563			
Average -	2647	3011	3062	3005	2852	2387	3108	2974	2648	2458	2074	1788	2985	3405	2712	3064	2661	2054	3834	3836	4439	2380	2946	2607	2872	-12.12	4439
PLD% -	-8	5	7	5	-1	-17	8	4	-8	-14	-28	-38	4	19	-6	7	-7	-28	33	34	55	-17	3	-9	High/Low:	+55 /	-38
Code -	****	****	****	****	****	****	****	****	****	****	*V*V	****	****	****	****	****	****	****	*V*V	*V*V		*V*V	****	****			
BURNER RD1																											
High -	3343	3766	3167	4261	4225	3328	3011	4034	3999	4368	4296	4172	4034	4838	4608	4207	4051	3766	3637	3269	3465	3284	3081	3196			
Low -	3123	3343	2955	3685	3766	3210	2101	3404	3782	4207	4137	4051	3685	4155	4296	3948	3782	3653	3434	3067	3210	3123	2969	2942			
Average -	3225	3606	3063	4116	4024	3280	2337	3824	3882	4309	4206	4127	3817	4705	4389	4133	3931	3696	3519	3149	3395	3206	3028	3071	3668	12.23	4705
PLD% -	-12	-2	-17	12	10	-11	-36	4	6	17	15	13	4	28	20	13	7	1	-4	-14	-7	-13	-17	-16	High/Low:	+28 /	-36
Code -	****	****	****	****	****	****	*V*V	****	****		****	****	****			****	****	****	****	****	****	****	****	****			
BURNER RD2																											
High -	3558	3542	3815	3419	4441	3605	2997	1561	3574	3621	3881	3313	3605	3701	3465	3750	3982	3932	3496	3653	3589	3558	3898	3782			
Low -	3210	3404	3496	3210	4172	3343	2860	1134	2847	3527	3733	3196	3480	3449	3269	3574	3782	3701	3254	3496	3434	3388	3766	3511			
Average -	3392	3451	3623	3311	4301	3441	2916	1276	3446	3571	3811	3256	3540	3589	3370	3659	3898	3850	3360	3566	3498	3493	3836	3683	3464	5.98	4301
PLD% -	-2	-0	5	-4	24	-1	-16	-63	-1	3	10	-6	2	4	-3	6	13	11	-3	3	1	1	11	6	High/Low:	+24 /	-63
Code -	****	****	****	****		****	****	*V*V	*V*V	****	****	****	****	****	****	****		****	****	****	****	****	****	****			
BURNER RD3																											
High -	3685	3717	3589	3196	3999	3701	3388	3328	3465	3832	4016	4016	3848	3750	3881	3542	3669	3733	3496	3965	3449	3269	3701	3898			
Low -	3343	3558	3373	3025	3434	3373	3181	3025	3254	3605	3701	3637	3527	3589	3511	3196	3558	3589	3313	3605	3181	3095	3496	3717			
Average -	3562	3634	3497	3111	3708	3568	3277	3149	3404	3713	3839	3804	3722	3671	3664	3352	3621	3668	3397	3772	3266	3166	3595	3815	3541	8.33	3839
PLD% -	1	3	-1	-12	5	1	-7	-11	-4	5	8	7	5	4	3	-5	2	4	-4	7	-8	-11	2	8	High/Low:	+8 /	-12
Code -				****			****	****	****							****			****		****	****					
BURNER RD4																											
High -	2754	3152	2382	2767	3095	2370	2780	2794	2453	3269	3167	3138	3138	3081	3011	2901	2490	3210	3449	4278	3574	3733	3898	3025			
Low -	2453	2860	2048	2514	2780	2133	2588	2601	2221	2847	2638	2741	2767	2754	2780	2732	2166	2780	3011	3358	3298	3225	3589	2244			
Average -	2557	2981	2156	2608	2911	2183	2683	2691	2318	3077	2903	2906	2962	2862	2871	2753	2383	3113	3236	4032	3436	3420	3752	2372	2882	-11.83	4032
PLD% -	-11	3	-25	-10	1	-24	-7	-7	-20	7	1	1	3	-1	-0	-4	-17	8	12	40	19	19	30	-18	High/Low:	+40 /	-25
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	VVVV	****	****		*V*V			
BURNER RD5																											
High -	2969	2780	2794	2702	2651	2551	3269	2942	3480	3419	3196	2969	3239	3225	3465	2874	3210	2847	3254	3653	3717	2997	3465	3025			
Low -	2794	2613	2651	2576	2465	2441	2983	2780	3298	3313	3109	2833	3053	3025	3269	2715	3025	2347	3067	3419	3496	2563	3254	2807			
Average -	2890	2715	2725	2642	2568	2501	3171	2835	3419	3369	3160	2895	3153	3123	3373	2817	3104	2698	3150	3563	3615	2718	3382	2931	3021	-7.56	3615
PLD% -	-4	-10	-10	-13	-15	-17	5	-6	13	12	5	-4	4	3	12	-7	3	-11	4	18	20	-10	12	-3	High/Low:	+20 /	-17
Code -	****	****	****	****	****	****	****	****			****	****	****	****		****	****	****	****			****		****			
BURNER RD6																											
High -	2406	2514	2820	2833	3239	3152	3109	3589	3269	3343	4515	3948	3815	3254	3766	3637	2820	1996	2833	3284	3328	2833	2794	3465			
Low -	2289	2335	2551	2588	2983	3025	2702	3358	2847	3210	4120	3685	3589	3011	3480	3358	2394	1731	2576	3067	3081	2588	2638	3181			
Average -	2347	2418	2698	2712	3109	3085	2809	3504	3002	3266	4430	3804	3688	3121	3619	3517	2467	1826	2723	3178	3180	2709	2716	3319	3052	-6.62	4430
PLD% -	-23	-21	-12	-11	2	1	-8	15	-2	7	45	25	21	2	19	15	-19	-40	-11	4	4	-11	-11	9	High/Low:	+45 /	-40
Code -	****	****	****	****	****	****	****	****	****	****		****	****	****	****	****	****	****	****	****	****	****	****	****			

IP7_001208

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 3

TABLE 5

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER RH1																											
High -	3269	3782	3358	3328	4877	3848	3465	2874	3766	3717	3832	3621	3766	4818	4225	3574	3766	3109	3210	3605	3343	2887	3109	2997			
Low -	3196	3449	3011	3053	4350	3685	3109	2626	3511	3511	3542	3496	3637	4172	3982	3373	3574	2942	3053	3328	3181	2794	2901	2887			
Average -	3241	3670	3118	3218	4740	3756	3382	2736	3683	3651	3695	3536	3699	4655	4070	3446	3665	3011	3118	3489	3248	2829	3002	2950	3484	6.59	4740
PLD% -	-7	5	-11	-8	36	8	-3	-21	6	5	6	1	6	34	17	-1	5	-14	-10	0	-7	-19	-14	-15	High/Low:	+36 /	-21
Code -	****	****	****	****		****	****	****	****	****	****	****	****		****	****	****	****	****	****	****	****	****	****			
BURNER RH2																											
High -	3210	3025	3343	2887	4857	4515	3388	3053	3465	3898	4190	4190	3832	3898	3669	3733	4120	3799	3313	3558	3480	3298	2833	3480			
Low -	3081	2807	3095	2406	4225	4350	3269	2928	3343	3766	3982	3999	3685	3750	3542	3605	3717	3388	3254	3358	3358	3167	2588	3313			
Average -	3140	2895	3208	2574	4659	4430	3304	3010	3401	3840	4100	4080	3753	3832	3624	3666	3978	3505	3279	3448	3430	3209	2698	3400	3519	7.67	4659
PLD% -	-11	-18	-9	-27	32	26	-6	-14	-3	9	17	16	7	9	3	4	13	-0	-7	-2	-3	-9	-23	-3	High/Low:	+32 /	-27
Code -	****	****	****	****			****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****			
BURNER RH3																											
High -	3358	3449	3298	3123	4818	4478	3373	2347	2780	3782	3574	4102	3915	3915	3717	4016	3766	3766	3865	3653	3848	3298	3373	3388			
Low -	3225	3254	2928	2613	4368	4243	3254	2080	2651	3419	3404	3898	3653	3799	3574	3848	3653	3605	3621	3527	3621	3181	3298	3181			
Average -	3286	3327	3093	2849	4702	4354	3296	2205	2723	3662	3480	3985	3779	3866	3620	3920	3696	3683	3714	3572	3727	3215	3347	3315	3517	7.61	4702
PLD% -	-7	-5	-12	-19	34	24	-6	-37	-23	4	-1	13	7	10	3	11	5	5	6	2	6	-9	-5	-6	High/Low:	+34 /	-37
Code -	****	****	****	****			****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****			
BURNER RH4																											
High -	3404	3465	3434	3109	2874	2874	3637	3210	3898	3011	3653	2601	3025	3313	2983	3196	2465	1703	2847	2969	4102	2767	3511	3025			
Low -	3123	3254	3239	2969	2689	2664	3358	2969	3637	2780	3449	2370	2689	3109	2576	2754	2324	1420	2453	2780	3605	2441	3239	2833			
Average -	3262	3384	3307	3025	2786	2747	3526	3054	3773	2879	3573	2447	2845	3220	2739	3086	2410	1510	2703	2861	3953	2608	3370	2899	2999	-8.25	3953
PLD% -	9	13	10	1	-7	-8	18	2	26	-4	19	-18	-5	7	-9	3	-20	-50	-10	-5	32	-13	12	-3	High/Low:	+32 /	-50
Code -	****	****	****	****	****	****	****	****		****		****	****	****	****	****	****	****	****	****		****	****	****			
BURNER RH5																											
High -	2144	2266	2058	2278	2335	2613	2780	2526	3328	3239	2955	3653	2914	3152	3095	3449	2874	1778	3025	3152	4296	2728	3196	3181			
Low -	2016	2155	1894	2177	2177	2335	2551	2417	3095	3011	2833	3328	2490	2860	2928	3210	2677	1493	2728	2833	3733	2347	2887	2887			
Average -	2074	2205	1948	2222	2262	2482	2682	2467	3241	3120	2919	3577	2595	2993	3011	3325	2800	1563	2917	3001	4103	2553	3058	3013	2755	-15.70	4103
PLD% -	-25	-20	-29	-19	-18	-10	-3	-10	18	13	6	30	-6	9	9	21	2	-43	6	9	49	-7	11	9	High/Low:	+49 /	-43
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****		****	****	****			
BURNER RH6																											
High -	2741	2833	2689	3081	2677	2874	2820	3011	3832	3196	4261	2983	2514	3239	3388	3095	2638	2465	2807	3388	3465	3653	4296	2689			
Low -	2563	2370	2576	2833	2465	2728	2626	2874	3388	2901	3766	2626	2359	2983	3138	2928	2465	1604	2539	3167	3254	3419	4085	2370			
Average -	2659	2621	2638	2946	2563	2795	2734	2929	3744	3012	4136	2737	2429	3096	3243	2987	2550	1724	2707	3293	3384	3534	4170	2513	2964	-9.30	4170
PLD% -	-10	-12	-11	-1	-14	-6	-8	-1	26	2	40	-8	-18	4	9	1	-14	-42	-9	11	14	19	41	-15	High/Low:	+41 /	-42
Code -	****	****	****	****	****	****	****	****	****	****		****	****	****	****	****	****	*V*V	****	****	****	****		****			
BURNER RC1																											
High -	3239	3239	3313	3832	4496	3717	3419	2860	3449	3637	3782	3542	3621	3621	4243	3799	3750	3701	3269	3653	3284	3605	3465	3449			
Low -	3081	3067	2887	3011	4137	3527	3181	2453	3123	3496	3589	3404	3434	3210	4085	3605	3605	3465	3123	3343	3025	3373	3109	3225			
Average -	3161	3145	3133	3635	4279	3597	3330	2702	3333	3565	3655	3476	3525	3469	4167	3705	3682	3622	3204	3557	3142	3466	3276	3323	3465	6.00	4279
PLD% -	-9	-9	-10	5	24	4	-4	-22	-4	3	6	0	2	0	20	7	6	5	-8	3	-9	0	-5	-4	High/Low:	+24 /	-22
Code -	****	****	****	*V*V		****	****	****	****	****	****	****	****	****		****	****	****	****	****	****	****	****	****			
BURNER RC2																											
High -	3388	3328	3717	3109	4665	4137	3269	2942	3449	3733	4051	3782	3669	3999	3932	3574	3605	3766	3419	3782	3558	3210	4225	3782			
Low -	3210	3025	3574	2874	4261	3898	3067	2767	3284	3605	3605	3589	3542	3865	3574	3373	3496	3605	3239	3511	3404	2997	3750	3621			
Average -	3291	3193	3646	3008	4505	4008	3183	2838	3389	3672	3914	3655	3582	3948	3736	3457	3551	3711	3351	3670	3488	3109	4040	3716	3569	9.20	4505
PLD% -	-8	-11	2	-16	26	12	-11	-20	-5	3	10	2	0	11	5	-3	-1	4	-6	3	-2	-13	13	4	High/Low:	+26 /	-20
Code -	****	****	****	****		****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****			

IP7_001209

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 3

TABLE 5

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER RC3																											
High -	3434	3388	3717	3284	4051	3574	3284	2588	3025	3621	4120	3982	3815	3766	3621	3589	3254	3717	3480	3254	3782	3465	3558	3733			
Low -	3313	3225	3605	3053	3605	3358	3081	2221	2728	3373	3782	3653	3605	3496	3373	3373	3109	3527	3284	3067	3527	3081	3284	3527			
Average -	3359	3307	3645	3165	3762	3469	3176	2387	2867	3486	3932	3827	3731	3576	3513	3483	3187	3623	3381	3169	3625	3216	3385	3631	3413	4.41	3932
PLD% -	-2	-3	7	-7	10	2	-7	-30	-16	2	15	12	9	5	3	2	-7	6	-1	-7	6	-6	-1	6	High/Low:	+15 /	-30
Code -	****	****		****		****	****	****	****	****					****	****	****		****	****		****	****				
BURNER RC4																											
High -	2754	2490	3025	2728	2601	2847	2453	3025	3419	2833	2754	3621	2741	2955	3081	3480	2767	2199	3181	3152	2741	3480	2677	2664			
Low -	2601	2312	2794	2514	2490	2664	2255	2613	3181	2702	2664	3269	2324	2728	2860	3239	2502	2048	2820	2847	2563	3167	2465	2526			
Average -	2672	2388	2930	2639	2546	2753	2323	2875	3338	2767	2702	3451	2499	2856	2978	3395	2585	2126	3009	3036	2664	3286	2568	2586	2791	-14.62	3451
PLD% -	-4	-14	5	-5	-9	-1	-17	3	20	-1	-3	24	-10	2	7	22	-7	-24	8	9	-5	18	-8	-7	High/Low:	+24 /	-24
Code -	****	****	****	****	****	****	****	****		****	****		****	****	****		****	****	****	****	****		****	****			
BURNER RC5																											
High -	1985	2429	2502	2539	2613	3527	3109	2767	3496	3527	2955	3527	3404	2780	3881	3373	2677	2058	2997	3196	4051	2551	2626	2526			
Low -	1884	2255	2233	2453	2465	3388	2901	2576	3109	3313	2677	3239	2754	2563	3496	3123	2477	1722	2689	2588	3542	2199	2324	2312			
Average -	1949	2343	2341	2491	2544	3458	2993	2673	3389	3404	2777	3413	2876	2655	3712	3206	2549	1911	2907	2748	3944	2360	2462	2442	2814	-13.89	3944
PLD% -	-31	-17	-17	-11	-10	23	6	-5	20	21	-1	21	2	-6	32	14	-9	-32	3	-2	40	-16	-13	-13	High/Low:	+40 /	-32
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****		****	****	****	****	****		****	****	****			
BURNER RC6																											
High -	2741	2539	2177	2551	2997	2702	2860	3081	2638	3511	3011	3269	3053	2820	3558	3067	2741	1578	2874	3717	3298	3313	2860	3225			
Low -	2588	2289	2058	2417	2794	2514	2715	2820	2417	3167	2651	3109	2780	2677	3138	2833	2278	1238	2266	3373	2807	3210	2526	2874			
Average -	2686	2399	2101	2478	2916	2599	2797	2986	2494	3375	2751	3205	2914	2745	3414	2943	2461	1336	2679	3565	2978	3264	2698	3086	2786	-14.75	3565
PLD% -	-4	-14	-25	-11	5	-7	0	7	-10	21	-1	15	5	-1	23	6	-12	-52	-4	28	7	17	-3	11	High/Low:	+28 /	-52
Code -	****	****	****	****	****	****	****	****	****		****	****	****	****		****	****	*V*V	*V*V		****		****	****			
BURNER RG1																											
High -	3621	3465	3196	4533	4760	3848	3388	2441	3605	3948	3965	3948	3465	4441	4261	3799	3799	3637	3298	3081	3210	2955	2807	3388			
Low -	3496	3358	2983	3388	4533	3574	3167	1975	2969	3815	3848	3782	3254	3965	3965	3685	3653	3511	3039	2928	2833	2702	2551	3181			
Average -	3565	3419	3077	4220	4621	3689	3266	2092	3307	3881	3920	3876	3336	4320	4101	3731	3725	3566	3126	2997	2932	2797	2640	3299	3479	6.45	4621
PLD% -	2	-2	-12	21	33	6	-6	-40	-5	12	13	11	-4	24	18	7	7	2	-10	-14	-16	-20	-24	-5	High/Low:	+33 /	-40
Code -	****	****	****	VVVV		****	****	****	****	****	****	****	****		****	****	****	****	****	****	****	****	****	****			
BURNER RG2																											
High -	3181	3589	3343	4857	4741	3574	2301	2601	3685	4533	4278	3637	3865	3915	3999	3766	4120	3750	3685	3605	3373	3605	3181	3404			
Low -	2928	3254	3081	4190	4515	3239	1649	2255	3527	4190	4085	3419	3701	3815	3815	3605	3832	3621	3373	3313	3239	3419	2942	3181			
Average -	3062	3421	3186	4645	4603	3328	1821	2489	3621	4399	4222	3515	3773	3857	3926	3677	3959	3669	3488	3490	3313	3516	3020	3257	3552	8.68	4645
PLD% -	-14	-4	-10	31	30	-6	-49	-30	2	24	19	-1	6	9	11	4	11	3	-2	-2	-7	-1	-15	-8	High/Low:	+31 /	-49
Code -	****	****	****			****	*V*V	****	****			****	****	****	****	****	****	****	****	****	****	****	****	****			
BURNER RG3																											
High -	2860	2702	2626	3898	3865	3181	2715	2233	3313	3210	3527	3465	3358	3881	3637	3109	3404	3388	3053	3196	3181	3152	2794	2677			
Low -	2702	2502	2394	3239	3558	2997	2441	2016	3081	3081	3328	3298	3181	3701	3388	2901	3269	3138	2901	3039	3025	3039	2613	2526			
Average -	2782	2582	2464	3661	3765	3096	2572	2125	3239	3168	3438	3402	3272	3801	3515	2961	3324	3276	2977	3133	3102	3097	2680	2606	3085	-5.62	3801
PLD% -	-10	-16	-20	19	22	0	-17	-31	5	3	11	10	6	23	14	-4	8	6	-3	2	1	0	-13	-16	High/Low:	+23 /	-31
Code -	****	****	****			****	****	****	****	****		****	****			****	****	****	****	****	****	****	****	****			
BURNER RG4																											
High -	2453	3025	3081	2767	3465	3999	3313	3067	3343	3284	2664	3653	3496	3480	2820	3419	2626	2188	3152	3313	4423	2955	2807	2997			
Low -	2278	2651	2833	2638	3095	3511	3039	2780	3109	2983	2465	3254	2551	3123	2677	2807	2255	1975	2887	2983	3865	1985	2502	2728			
Average -	2363	2939	2951	2687	3279	3813	3210	2916	3231	3166	2536	3504	2769	3263	2755	3248	2442	2115	3043	3085	4279	2341	2646	2876	2977	-8.91	4279
PLD% -	-21	-1	-1	-10	10	28	8	-2	9	6	-15	18	-7	10	-7	9	-18	-29	2	4	44	-21	-11	-3	High/Low:	+44 /	-29
Code -	****	****	****	****	****	****	****	****	****	****	****	****	*V*V	****	****	****	****	****	****	****		*V*V	****	****			

IP7_001210

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 3

TABLE 5

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER RG5																											
High -	2551	2741	2702	2874	3081	3025	3343	2901	3284	2576	3053	2278	2526	3685	2942	3328	2677	2453	3239	4120	4571	4172	2741	2969			
Low -	2370	2539	2539	2626	2780	2860	3152	2551	3095	2347	2874	2155	2289	3298	2780	3095	2429	2289	2983	3898	4102	3196	2465	2715			
Average -	2446	2637	2614	2755	2954	2971	3276	2654	3202	2455	2973	2199	2388	3505	2850	3217	2533	2375	3142	4027	4372	3410	2571	2845	2932	-10.29	4372
PLD% -	-17	-10	-11	-6	1	1	12	-9	9	-16	1	-25	-19	20	-3	10	-14	-19	7	37	49	16	-12	-3	High/Low:	+49 /	-25
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****			*V*V	****	****			
BURNER RG6																											
High -	2702	2465	1996	2177	2651	2370	2166	2874	2394	2551	3434	3982	2689	3542	3419	3621	2942	2677	3225	3717	4818	3152	3053	2741			
Low -	2588	2301	1797	2037	2382	2177	2069	2551	2090	2359	3284	3815	2347	3254	3138	3404	2551	2394	2983	3496	4102	2278	2728	2514			
Average -	2649	2366	1908	2112	2542	2290	2119	2774	2191	2466	3372	3914	2451	3448	3217	3500	2669	2533	3150	3626	4663	2514	2906	2633	2834	-13.29	4663
PLD% -	-7	-17	-33	-25	-10	-19	-25	-2	-23	-13	19	38	-14	22	14	23	-6	-11	11	28	65	-11	3	-7	High/Low:	+65 /	-33
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****		*V*V	****	****			

IP7_001211

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 3

TABLE 6

Summary	
Average Velocity All Burners =	4047.78 fpm
Maximum High Flow Deviation =	6.46 %
Minimum Low Flow Deviation =	-8.07 %
Total Flow Deviation =	14.53 %

Condition	Code	Trigger Level %
Blocked Flow	*****	10
Vortex Action	VVVVV	20
Flow & Vortex Action	*V*V*	

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FE6																											
High -	4739	4554	4692	4615	4314	4508	4708	5059	4569	4463	4256	4270	4329	4418	4299	4140	3792	4111	3288	4344	4285	4569	4692	4646			
Low -	4584	4433	4584	4448	4111	4285	4539	3698	4418	4256	4083	4111	4169	3400	4126	3984	2634	3593	2467	4212	3451	4448	4463	4418			
Average -	4669	4502	4629	4509	4205	4413	4625	4613	4511	4342	4170	4195	4242	3869	4232	4068	2961	4006	2878	4300	3945	4506	4569	4509	4228	4.45	4669
PLD% -	10	6	9	7	-1	4	9	9	7	3	-1	-1	0	-8	0	-4	-30	-5	-32	2	-7	7	8	7	High/Low:	+10 /	-32
Code -								VVVV			****	****		*V*V		****	*V*V	****	*V*V		****						
BURNER FE5																											
High -	3252	4677	4897	4630	2376	4508	4661	3438	5092	4493	4212	4433	4418	4373	4329	4373	4241	4314	4373	4358	4299	4270	4226	4314			
Low -	2417	4433	4677	4388	1585	4373	4433	2367	4755	4055	3107	4212	4285	4183	4169	4226	4097	4198	4226	4140	4111	4055	4041	4083			
Average -	2790	4582	4784	4517	1895	4462	4522	2860	4933	4291	3789	4297	4349	4286	4249	4322	4168	4249	4316	4205	4230	4157	4129	4197	4107	1.47	4933
PLD% -	-32	12	16	10	-54	9	10	-30	20	4	-8	5	6	4	3	5	1	3	5	2	3	1	1	2	High/Low:	+20 /	-54
Code -	*V*V				*V*V			*V*V		****	*V*V	****	****	****	****	****	****	****	****	****	****	****	****	****			
BURNER FE4																											
High -	4344	4344	4523	4083	4055	4126	4299	4388	3887	3792	3765	3943	3819	3806	3619	3645	3619	3819	3792	4012	3901	4154	4097	4026			
Low -	4083	4012	4212	3846	3819	3860	4097	4097	3179	3645	3554	3711	3325	2357	3264	3252	3131	3426	3338	3752	3685	3887	3874	3725			
Average -	4196	4193	4332	3951	3943	3972	4185	4280	3673	3727	3676	3816	3643	3446	3444	3533	3413	3668	3680	3933	3790	4016	3983	3899	3850	-4.89	4332
PLD% -	9	9	13	3	2	3	9	11	-5	-3	-5	-1	-5	-10	-11	-8	-11	-5	-4	2	-2	4	3	1	High/Low:	+13 /	-11
Code -									****	****	****	****	****	*V*V	****	****	****	****	****		****			****			
BURNER FE3																											
High -	4111	4012	3929	3846	3943	3792	3984	3860	4012	3943	3711	4169	4097	4140	4140	3874	4270	4388	3970	3792	4083	3765	3658	3593			
Low -	3901	3698	3685	3400	3658	3567	3672	3606	3698	3685	2508	3901	3887	3567	3874	2108	3752	4069	3685	3541	3887	3301	3060	3072			
Average -	4008	3789	3788	3687	3799	3683	3847	3738	3874	3841	3068	4053	3993	3894	4014	2954	4068	4212	3797	3668	3954	3643	3539	3375	3762	-7.06	4212
PLD% -	7	1	1	-2	1	-2	2	-1	3	2	-18	8	6	3	7	-21	8	12	1	-2	5	-3	-6	-10	High/Low:	+12 /	-21
Code -		****	****	****		****		****			*V*V					*V*V				****		****	****	****			
BURNER FE2																											
High -	4183	4140	4055	4041	4012	3846	3778	3819	3658	3752	3819	3685	3738	3765	3685	3860	3778	3833	3632	3658	3451	4154	3833	3819			
Low -	3792	3929	3887	3874	3765	3672	3567	3672	3502	3554	3658	3489	3528	3528	3502	3203	3502	3489	3426	3464	3167	3725	3645	3593			
Average -	3950	4057	3952	3949	3881	3734	3655	3742	3576	3646	3740	3597	3615	3663	3576	3760	3661	3642	3531	3574	3352	4013	3756	3688	3721	-8.07	4057
PLD% -	6	9	6	6	4	0	-2	1	-4	-2	1	-3	-3	-2	-4	1	-2	-2	-5	-4	-10	8	1	-1	High/Low:	+9 /	-10
Code -									****	****		****	****		****			****	****	****	****						
BURNER FE1																											
High -	4241	4083	4012	3957	4097	3874	4069	4069	3819	3874	3819	3698	4083	3970	3792	3833	4083	4256	3929	3672	3970	3698	4026	3765			
Low -	4083	3887	3489	3778	3725	3685	3901	3860	3658	3698	3672	3528	3060	3738	3567	2699	3874	2688	3685	3528	3778	3426	3179	3515			
Average -	4164	3986	3885	3880	3930	3773	3997	3938	3759	3767	3763	3609	3709	3850	3662	3443	3969	3692	3771	3605	3886	3539	3850	3594	3792	-6.31	4164
PLD% -	10	5	2	2	4	-1	5	4	-1	-1	-1	-5	-2	2	-3	-9	5	-3	-1	-5	2	-7	2	-5	High/Low:	+10 /	-9
Code -												****	*V*V		****	*V*V		*V*V		****		****	VVVV	****			

IP7_001212

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 3

TABLE 6

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FA6																											
High -	4661	4802	5026	4478	4478	4554	4929	4881	3048	3502	4493	4554	4154	3929	4478	4463	3048	3252	3227	4154	4661	4724	4584	4630			
Low -	4285	4615	4834	4241	4299	3752	4646	4478	2519	3013	4299	3060	3957	2831	4314	4285	2357	2357	2797	3477	4299	4358	4448	4433			
Average -	4519	4700	4903	4333	4390	4099	4792	4728	2823	3280	4378	3578	4099	3396	4373	4387	2611	2829	3078	3871	4495	4584	4524	4533	4054	0.16	4903
PLD% -	11	16	21	7	8	1	18	17	-30	-19	8	-12	1	-16	8	8	-36	-30	-24	-5	11	13	12	12	High/Low:	+21 /	-36
Code -				****	****	****			****	****	****	*V*V	****	*V*V	****	****	*V*V	*V*V	****	****							
BURNER FA5																											
High -	4708	4478	4677	3970	3658	4692	4739	3711	4881	4569	3929	4677	4739	4403	4508	4270	4661	4539	4677	4724	4554	4539	4418	4600			
Low -	4241	3632	4358	3313	2688	4508	4478	2731	4508	4448	3001	4433	4299	4285	3072	3632	4478	4285	4241	4493	3984	4154	4069	4418			
Average -	4538	4097	4536	3722	3012	4612	4620	3168	4702	4516	3281	4537	4581	4346	3539	4035	4577	4439	4479	4596	4322	4395	4268	4526	4227	4.42	4702
PLD% -	7	-3	7	-12	-29	9	9	-25	11	7	-22	7	8	3	-16	-5	8	5	6	9	2	4	1	7	High/Low:	+11 /	-29
Code -		****		****	*V*V			*V*V			*V*V				*V*V	****											
BURNER FA4																											
High -	3619	4569	4739	3998	3943	4692	4834	3957	4802	4615	4270	4615	4169	4661	4584	4523	4388	4493	4358	4314	4569	4677	4198	4329			
Low -	2887	4212	4478	2797	2519	4478	4285	3167	4493	3215	3072	4478	2967	4403	4270	4299	4083	4041	3765	3632	4026	4270	3901	3957			
Average -	3200	4395	4603	3321	3405	4539	4613	3506	4649	4043	3700	4552	3490	4530	4406	4447	4269	4245	4104	4034	4407	4481	4091	4154	4133	2.10	4649
PLD% -	-23	6	11	-20	-18	10	12	-15	12	-2	-10	10	-16	10	7	8	3	3	-1	-2	7	8	-1	1	High/Low:	+12 /	-23
Code -	*V*V			*V*V	*V*V			****		*V*V	*V*V		*V*V						****	****			****	****			
BURNER FA3																											
High -	4285	3711	4041	4055	4661	4256	4373	4285	4539	4478	4154	4600	4270	4771	4739	4630	4646	4478	4724	4834	4478	4584	4493	4285			
Low -	3860	3350	3606	3711	3725	3658	4140	3778	4285	4083	3239	4126	3567	4183	4448	3874	3672	4183	4270	4508	4055	4154	3400	3833			
Average -	4115	3557	3805	3896	4317	3970	4276	4023	4443	4281	3781	4333	3983	4492	4566	4244	4110	4342	4516	4659	4242	4344	3915	4101	4180	3.26	4659
PLD% -	-2	-15	-9	-7	3	-5	2	-4	6	2	-10	4	-5	7	9	2	-2	4	8	11	1	4	-6	-2	High/Low:	+11 /	-15
Code -	****	****	****	****	VVVV	****		****			*V*V		****				*V*V						*V*V	****			
BURNER FA2																											
High -	3698	3619	4630	3915	3846	4630	4569	4111	3915	3095	4692	4329	4978	4270	4630	4802	4388	4786	4270	4962	4584	4403	4041	4554			
Low -	3239	2831	4241	3313	2875	3874	4069	3567	3388	2220	4069	3984	4818	3874	3860	4198	3765	4285	3632	4523	4358	3738	3239	3606			
Average -	3498	3112	4442	3667	3348	4289	4280	3833	3678	2718	4473	4185	4898	4107	4228	4536	4073	4538	3938	4743	4464	4095	3587	4400	4047	-0.02	4898
PLD% -	-14	-23	10	-9	-17	6	6	-5	-9	-33	11	3	21	1	4	12	1	12	-3	17	10	1	-11	9	High/Low:	+21 /	-33
Code -	****	*V*V		****	*V*V	****	****	****	****	*V*V		****		****	****		****		****			****	****	*V*V			
BURNER FA1																											
High -	5125	4834	5241	4850	3593	3083	3438	2529	3860	4285	3313	4630	4523	4539	5174	3632	4055	4929	4554	4994	4692	4433	5059	5125			
Low -	4818	4270	4850	4523	3083	2173	2853	2053	3072	3350	2624	4299	3970	4212	4802	3203	3426	4600	3632	4600	4126	3998	4850	4802			
Average -	4971	4480	5122	4732	3349	2683	3112	2274	3501	3932	2938	4468	4245	4368	4954	3409	3822	4730	4156	4829	4397	4272	4948	4979	4111	1.57	5122
PLD% -	21	9	25	15	-19	-35	-24	-45	-15	-4	-29	9	3	6	20	-17	-7	15	1	17	7	4	20	21	High/Low:	+25 /	-45
Code -		****			****	*V*V	****	****	*V*V	*V*V	*V*V	****	****	****		****	****		*V*V		****	****					
BURNER FF6																											
High -	4786	4463	4786	4661	4126	4724	4198	4256	4373	4786	4041	4897	4584	4945	4630	4212	4600	4111	3013	3846	3752	3860	4897	5342			
Low -	4154	4097	4463	3943	3554	4448	3580	3528	3957	4448	3264	4646	4270	4646	4169	3860	4256	2699	2539	3400	2819	3451	4630	5092			
Average -	4335	4271	4610	4285	3793	4612	3872	3964	4229	4614	3592	4768	4445	4794	4445	4085	4465	3349	2762	3655	3401	3715	4777	5260	4171	3.04	5260
PLD% -	4	2	11	3	-9	11	-7	-5	1	11	-14	14	7	15	7	-2	7	-20	-34	-12	-18	-11	15	26	High/Low:	+26 /	-34
Code -	****	****	****	****	****	****	****	****	****	****	****		****		****	****	****	*V*V	****	****	*V*V	****					
BURNER FF5																											
High -	4212	4285	4212	3792	4212	4818	4865	4615	4692	4929	4403	4945	4329	4493	3738	3698	4403	4388	4183	4463	4373	4433	4285	4569			
Low -	3515	3846	3632	3276	3143	4140	4600	3502	4256	4677	3901	4771	3819	4270	3083	2944	4183	4097	3301	3846	3792	3819	3860	4358			
Average -	3929	4082	3963	3509	3839	4551	4751	4225	4482	4829	4140	4861	4071	4379	3430	3346	4277	4259	3681	4123	4102	4142	4010	4480	4144	2.38	4861
PLD% -	-5	-2	-4	-15	-7	10	15	2	8	17	-0	17	-2	6	-17	-19	3	3	-11	-1	-1	-0	-3	8	High/Low:	+17 /	-19
Code -	****	****	****	****	*V*V			*V*V			****		****		****	*V*V	****	****	*V*V	****	****	****	****				

IP7_001213

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 3

TABLE 6

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FF4																											
High -	3874	4270	4212	4069	4403	4478	4539	4708	4508	4183	4344	4388	4388	4183	4241	4285	4329	4329	4433	4140	4373	4329	4154	3998			
Low -	2978	3915	3528	3363	3846	4083	4198	4418	4256	3957	4069	4154	4198	4069	4012	3025	4097	4097	4126	3915	4126	3984	3846	3765			
Average -	3529	4098	3850	3667	4196	4361	4444	4599	4347	4097	4185	4310	4297	4128	4122	3909	4230	4232	4318	4037	4285	4174	4019	3928	4140	2.28	4599
PLD% -	-15	-1	-7	-11	1	5	7	11	5	-1	1	4	4	-0	-0	-6	2	2	4	-2	4	1	-3	-5	High/Low:	+11 /	-15
Code -	*V*V	****	****	****						****				****	****	*V*V				****			****	****			
BURNER FF3																											
High -	4403	4097	4523	4523	3580	4373	4508	2288	4329	4285	2108	4539	4314	4154	4554	4448	4111	4523	4183	4140	3929	4126	4126	4055			
Low -	4241	3567	4126	4299	2645	4126	4198	1687	3998	3957	1826	3887	3426	3860	4012	4183	3778	4169	3943	3846	3725	3752	3778	3819			
Average -	4327	3910	4322	4411	3106	4267	4379	1981	4131	4118	1932	4291	3898	4005	4285	4319	3971	4420	4046	4003	3832	3936	3930	3942	3907	-3.48	4420
PLD% -	11	0	11	13	-20	9	12	-49	6	5	-51	10	-0	3	10	11	2	13	4	2	-2	1	1	1	High/Low:	+13 /	-51
Code -		****			*V*V			*V*V			****		*V*V				****				****	****	****	****			
BURNER FF2																											
High -	4314	4212	4523	4478	4169	4403	4373	3554	4329	4169	4140	4012	4403	4140	4285	4126	4418	4739	4373	3970	3778	4226	3943	3874			
Low -	4012	3970	4097	3887	3860	3984	4140	3013	3846	4012	2571	3860	4126	3846	4026	3901	4041	4418	4183	3632	3375	3943	3685	3698			
Average -	4163	4096	4358	4184	4015	4236	4250	3242	4134	4096	2983	3947	4313	3992	4191	4010	4179	4549	4288	3787	3597	4068	3787	3807	4011	-0.90	4549
PLD% -	4	2	9	4	0	6	6	-19	3	2	-26	-2	8	-0	4	-0	4	13	7	-6	-10	1	-6	-5	High/Low:	+13 /	-26
Code -					****			****			*V*V	****		****		****				****	****	****	****	****			
BURNER FF1																											
High -	3998	4111	4493	4299	4055	4026	3943	4012	3915	3846	3833	3846	4083	4270	3915	4358	3998	4183	3833	3860	3606	4344	3363	3846			
Low -	3632	2764	4069	4012	3048	3752	3645	3752	3725	3477	3554	3580	3752	3957	3252	3970	3502	3833	3645	3413	3350	3970	2560	3593			
Average -	3806	3431	4272	4134	3629	3924	3777	3900	3807	3723	3662	3741	3941	4137	3583	4201	3815	3964	3742	3733	3456	4176	2906	3716	3799	-6.15	4272
PLD% -	0	-10	12	9	-4	3	-1	3	0	-2	-4	-2	4	9	-6	11	0	4	-2	-2	-9	10	-24	-2	High/Low:	+12 /	-24
Code -	****	*V*V			*V*V		****		****	****	****	****			****		****		****	****	****		*V*V	****			
BURNER FB6																											
High -	4241	4554	4692	4183	4126	4373	4140	3658	4256	4069	3528	4256	3778	3984	3984	3619	4026	3846	3711	4126	4314	4270	4584	4539			
Low -	3874	4373	4493	3901	3860	4198	3887	2634	3672	3819	3131	4069	3489	3833	3738	2613	3765	3167	2853	3036	3957	4083	4433	4388			
Average -	4064	4464	4606	4053	3986	4318	4040	2980	4062	3943	3263	4131	3652	3912	3848	3013	3861	3456	3187	3906	4177	4201	4517	4474	3921	-3.12	4606
PLD% -	4	14	17	3	2	10	3	-24	4	1	-17	5	-7	-0	-2	-23	-2	-12	-19	-0	7	7	15	14	High/Low:	+17 /	-24
Code -	****			****	****		****	*V*V	****	****	****	****	****	****	****	*V*V	****	****	*V*V	*V*V							
BURNER FB5																											
High -	4055	4111	4433	4083	3502	4344	4508	4615	4493	4299	4169	4344	4403	4314	4169	4097	4126	4154	4299	4169	4358	4329	4270	4358			
Low -	3698	3943	4256	3792	2634	4041	4314	3806	4270	4069	4026	4069	4126	4111	3013	3752	3833	4012	3957	4041	4083	3819	3874	4198			
Average -	3834	4023	4339	3930	3079	4228	4409	4319	4414	4165	4104	4194	4220	4188	3558	3950	4037	4070	4194	4104	4247	4187	4027	4297	4088	1.00	4414
PLD% -	-6	-2	6	-4	-25	3	8	6	8	2	0	3	3	2	-13	-3	-1	-0	3	0	4	2	-2	5	High/Low:	+8 /	-25
Code -	****			****	*V*V										*V*V	****											
BURNER FB4																											
High -	4600	4433	4463	4692	4373	4433	4493	4739	4478	4373	4126	4358	3998	2656	3998	3580	3929	4126	2797	4140	4418	4314	4169	4463			
Low -	4026	4154	4097	4154	4154	4140	3957	4418	4270	4198	3203	4083	3698	2026	3765	2613	3515	3901	2230	3915	3957	3645	4012	4299			
Average -	4398	4313	4260	4431	4275	4296	4258	4592	4375	4286	3761	4259	3841	2310	3931	3111	3781	3993	2532	4011	4277	4054	4083	4357	3991	-1.40	4592
PLD% -	10	8	7	11	7	8	7	15	10	7	-6	7	-4	-42	-1	-22	-5	0	-37	0	7	2	2	9	High/Low:	+15 /	-42
Code -											*V*V		****	*V*V	****	*V*V	****	****	*V*V	****		****	****				
BURNER FB3																											
High -	4041	4299	4026	4111	4523	4299	3957	4256	4358	4554	4433	4508	4646	4615	4692	4615	4818	4448	4600	4463	4285	4299	3541	4241			
Low -	3477	3929	3806	3325	3567	4111	3477	3929	3970	4403	3119	4329	3363	4314	4183	4463	4448	3887	4448	4083	3998	3725	2932	3528			
Average -	3729	4086	3917	3710	4174	4186	3697	4083	4185	4483	3908	4415	4297	4474	4476	4537	4583	4214	4523	4305	4126	3936	3292	4076	4142	2.33	4583
PLD% -	-10	-1	-5	-10	1	1	-11	-1	1	8	-6	7	4	8	8	10	11	2	9	4	-0	-5	-21	-2	High/Low:	+11 /	-21
Code -	****	****	****	****	VVVV		****	****			*V*V		VVVV									****	****	****			

IP7_001214

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 3

TABLE 6

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FB2																											
High -	4615	4569	4508	4692	4097	3119	4140	4055	2201	3632	3528	3464	4615	3541	4448	4771	4126	4493	4523	4403	4448	4358	4630	4630			
Low -	4140	4097	4140	4169	3426	2259	3338	2864	1616	3215	3095	3155	4183	3107	4111	4463	3580	4198	4126	4069	4183	3929	4329	4358			
Average -	4391	4311	4307	4374	3786	2664	3841	3599	1916	3449	3326	3315	4467	3342	4293	4589	3789	4345	4416	4256	4302	4117	4533	4510	3927	-3.00	4589
PLD% -	12	10	10	11	-4	-32	-2	-8	-51	-12	-15	-16	14	-15	9	17	-4	11	12	8	10	5	15	15	High/Low:	+17 /	-51
Code -					****	*V*V	****	*V*V	*V*V	****	****	****		****			****					****					
BURNER FB1																											
High -	5308	4314	4881	4198	4140	3580	3658	4083	3957	4724	4169	4212	4865	3901	5059	4539	3998	4615	4708	4646	4493	4646	4677	5026			
Low -	5010	3915	4358	3325	3672	2201	3013	3645	3191	4299	3725	3846	4403	3554	4739	3752	3541	3984	4329	3860	4169	4111	4344	4661			
Average -	5150	4182	4563	3746	3894	2726	3411	3895	3478	4523	3956	4013	4704	3688	4871	4272	3774	4281	4509	4129	4358	4310	4563	4831	4159	2.76	5150
PLD% -	24	1	10	-10	-6	-34	-18	-6	-16	9	-5	-4	13	-11	17	3	-9	3	8	-1	5	4	10	16	High/Low:	+24 /	-34
Code -		****	****	*V*V	****	*V*V	****	****	****	****	****	****		****		****	****	****	****	****	****	****	****				
BURNER RD1																											
High -	4661	4554	4183	4256	3998	4069	4677	4299	4154	4183	4241	4169	4314	4126	4069	4140	2699	3738	3860	4358	4329	4344	4448	4270			
Low -	4344	4344	3887	4083	3554	3131	4140	3698	3388	3984	4097	3567	4140	2624	3819	3554	2126	2864	3400	4055	4140	4154	4154	4026			
Average -	4546	4482	4026	4162	3738	3602	4496	4005	3905	4100	4157	3948	4220	3139	3953	3910	2387	3205	3622	4259	4238	4265	4345	4137	3952	-2.37	4546
PLD% -	15	13	2	5	-5	-9	14	1	-1	4	5	-0	7	-21	0	-1	-40	-19	-8	8	7	8	10	5	High/Low:	+15 /	-40
Code -			****		****	*V*V		****	****			****		*V*V	****	****	*V*V	*V*V	****								
BURNER RD2																											
High -	4140	4508	4140	3998	4111	4708	4865	4584	4708	4708	4493	4755	4329	4539	4270	4055	4493	4478	4569	4508	4646	4554	4169	4433			
Low -	3215	4183	3489	3672	2797	4523	3929	4012	4508	4508	3998	4630	4069	4314	3819	3276	4299	4314	4388	4373	4358	4097	3887	4154			
Average -	3783	4365	3873	3829	3536	4619	4242	4275	4620	4608	4265	4697	4195	4454	4038	3627	4411	4406	4497	4466	4509	4354	4042	4297	4250	5.00	4697
PLD% -	-11	3	-9	-10	-17	9	-0	1	9	8	0	11	-1	5	-5	-15	4	4	6	5	6	2	-5	1	High/Low:	+11 /	-17
Code -	*V*V		****	****	*V*V								****		****	****							****				
BURNER RD3																											
High -	4539	4463	4600	4493	4433	5043	4834	4865	5026	4630	4140	4865	4508	3792	3846	3619	4126	4739	4677	4692	4945	4755	4285	4478			
Low -	3464	3929	3846	3806	3288	4724	4433	3833	4708	4388	3658	4584	4154	2720	2932	2699	3215	4615	4012	4463	4584	3915	3632	3998			
Average -	4180	4174	4211	4217	3842	4917	4618	4362	4856	4527	3863	4679	4330	3212	3399	3103	3788	4683	4419	4607	4833	4400	4056	4177	4227	4.43	4917
PLD% -	-1	-1	-0	-0	-9	16	9	3	15	7	-9	11	2	-24	-20	-27	-10	11	5	9	14	4	-4	-1	High/Low:	+16 /	-27
Code -	*V*V	****	****	****	*V*V			*V*V			****		****	*V*V	*V*V	*V*V	*V*V		****			****	****	****			
BURNER RD4																											
High -	4418	4615	3451	3083	4739	3833	4169	4865	3792	4055	5092	4111	5075	4962	4994	4344	5191	4493	5010	4994	4299	4314	4554	4198			
Low -	4026	4358	1886	1640	4012	2447	2864	3048	2529	3363	4802	3215	4256	4314	4508	3725	4539	3874	4448	4724	3778	3541	4285	3554			
Average -	4215	4476	2527	2105	4284	3129	3783	4511	3167	3712	4899	3648	4739	4634	4747	4117	4809	4141	4669	4851	4068	3998	4433	3867	4064	0.39	4899
PLD% -	4	10	-38	-48	5	-23	-7	11	-22	-9	21	-10	17	14	17	1	18	2	15	19	0	-2	9	-5	High/Low:	+21 /	-48
Code -	****		*V*V	*V*V	****	*V*V	*V*V	VVVV	*V*V	****		*V*V				****		****			****	****		****			
BURNER RD5																											
High -	4508	4403	4978	4523	4083	3970	4802	4111	2875	4463	4739	4584	5108	4677	5258	5059	4448	5241	5224	4755	4154	4661	4508	4329			
Low -	3984	2921	4493	4329	3252	2624	4508	3711	2288	3943	4418	3984	4771	4314	4881	4344	4069	4299	4724	4539	3619	4388	3943	3619			
Average -	4234	3827	4700	4430	3563	3378	4624	3932	2444	4154	4568	4291	4976	4488	5087	4737	4267	4601	4995	4634	3817	4555	4314	4064	4278	5.69	5087
PLD% -	-1	-11	10	4	-17	-21	8	-8	-43	-3	7	0	16	5	19	11	-0	8	17	8	-11	6	1	-5	High/Low:	+19 /	-43
Code -	****	*V*V		****	*V*V	*V*V		****	*V*V	****	****	****		****			****				****	****	****	****			
BURNER RD6																											
High -	3901	5141	4463	4739	3915	4344	4661	3752	4661	4154	4126	4724	5141	4818	5325	4692	4771	5174	4329	4978	4646	4083	4724	4358			
Low -	2666	4661	4256	3515	2164	3943	3778	3239	4314	3179	3685	4554	4962	4539	5092	4373	4448	4834	3083	4630	3998	2602	4314	3984			
Average -	3280	4839	4369	4212	3100	4109	4172	3520	4497	3626	3901	4653	5069	4675	5187	4528	4568	4992	3755	4787	4405	3128	4519	4207	4254	5.10	5187
PLD% -	-23	14	3	-1	-27	-3	-2	-17	6	-15	-8	9	19	10	22	6	7	17	-12	13	4	-26	6	-1	High/Low:	+22 /	-27
Code -	*V*V		****	*V*V	*V*V	****	****	****	****	*V*V	****	****				****	****		*V*V		****	*V*V	****	****			

IP7_001215

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 3

TABLE 6

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER RH1																											
High -	4945	5158	5075	4418	4739	4739	4881	4708	4677	4818	4373	4897	4508	2731	4508	4069	3806	3645	2677	3846	2932	4299	4962	5125			
Low -	4539	4755	4786	4154	4256	4183	4358	4097	4226	4183	3901	4493	4183	2145	4097	3580	3036	2613	1632	3528	2071	3901	4584	4739			
Average -	4707	4990	4977	4285	4521	4567	4544	4379	4453	4541	4131	4683	4330	2390	4296	3836	3532	3220	2184	3663	2503	4107	4680	4910	4101	1.32	4990
PLD% -	15	22	21	4	10	11	11	7	9	11	1	14	6	-42	5	-6	-14	-21	-47	-11	-39	0	14	20	High/Low:	+22 /	-47
Code -				****				****	****		****		****	*V*V	****	****	*V*V	*V*V	*V*V	****	*V*V	****					
BURNER RH2																											
High -	4026	4097	4299	4314	4493	4708	4256	4881	4126	4241	4929	4126	4539	4478	3778	4418	3984	4097	4478	4539	3464	3860	4270	4140			
Low -	3792	3489	3541	3887	3929	4508	3464	4523	3833	3806	4523	3833	4183	4241	3363	3970	3451	3515	3860	4154	2581	3528	3388	2875			
Average -	3930	3697	4005	4093	4282	4626	3786	4716	4016	3977	4708	4013	4357	4373	3591	4206	3668	3825	4209	4352	2929	3721	3900	3491	4020	-0.70	4716
PLD% -	-2	-8	-0	2	7	15	-6	17	-0	-1	17	-0	8	9	-11	5	-9	-5	5	8	-27	-7	-3	-13	High/Low:	+17 /	-27
Code -	****	****	****	****			****		****	****		****			****	****	****	****	****		*V*V	****	*V*V	*V*V			
BURNER RH3																											
High -	3901	4539	4708	4358	4493	4493	3155	4945	4708	3833	4448	4523	3819	4661	4388	4539	4418	4388	4373	4523	4299	4169	4508	4418			
Low -	3632	4198	4270	3915	4314	4154	2592	4373	4270	2797	4083	4299	2853	4418	3806	4344	4226	4111	4198	4358	3179	3901	4212	3593			
Average -	3756	4362	4529	4199	4405	4345	2886	4670	4563	3290	4273	4416	3341	4515	4159	4454	4329	4236	4286	4443	3679	3991	4361	4065	4148	2.48	4670
PLD% -	-9	5	9	1	6	5	-30	13	10	-21	3	6	-19	9	0	7	4	2	3	7	-11	-4	5	-2	High/Low:	+13 /	-30
Code -	****			****			****			*V*V			*V*V		****						*V*V	****		****			
BURNER RH4																											
High -	4373	4554	4677	4739	4554	4978	4677	4373	4097	4493	4069	4708	4539	4433	4692	4508	4692	5342	4270	4478	4140	4508	4154	4373			
Low -	3515	4403	4463	3451	3819	4539	3943	4083	3929	4299	2080	4463	4299	4097	4433	2831	4493	5010	2909	4169	3901	4285	3943	4198			
Average -	4062	4474	4536	4190	4299	4789	4409	4244	3998	4418	3014	4593	4428	4287	4534	3591	4609	5210	3604	4327	3996	4422	4078	4307	4267	5.43	5210
PLD% -	-5	5	6	-2	1	12	3	-1	-6	4	-29	8	4	0	6	-16	8	22	-16	1	-6	4	-4	1	High/Low:	+22 /	-29
Code -	****	****	****	*V*V	****		****	****	****	****	*V*V	****	****	****	****	*V*V	****		*V*V	****	****	****	****	****			
BURNER RH5																											
High -	3301	4388	4834	4314	4493	4897	4539	4739	4493	4554	4584	4344	4802	4584	4600	4508	4708	5427	4539	4539	4226	4724	4539	4554			
Low -	2136	3155	4403	3554	3048	4508	3388	4299	4285	4373	4403	4026	4388	4358	4388	4299	4448	5092	4358	4299	3874	2909	4212	4270			
Average -	2778	3947	4661	3985	3859	4655	4074	4571	4378	4452	4481	4187	4632	4463	4492	4418	4565	5271	4457	4431	4016	3821	4391	4441	4309	6.46	5271
PLD% -	-36	-8	8	-8	-10	8	-5	6	2	3	4	-3	7	4	4	3	6	22	3	3	-7	-11	2	3	High/Low:	+22 /	-36
Code -	*V*V	*V*V	****	****	*V*V	****	*V*V	****	****	****	****	****	****	****	****	****	****		****	****	****	*V*V	****	****			
BURNER RH6																											
High -	4539	4661	4554	4692	4834	4478	4508	4126	4111	4569	4256	4539	4539	4493	4358	4329	4584	3887	4126	4344	4329	4212	3984	4724			
Low -	4183	3752	4198	3806	4600	4140	3915	3451	3606	4373	3083	4344	4012	4126	3874	4041	4403	2062	3541	4154	4111	3363	3833	4069			
Average -	4382	4335	4363	4430	4711	4340	4284	3736	3860	4475	3327	4442	4337	4283	4111	4204	4503	2750	3823	4251	4213	3916	3920	4489	4145	2.41	4711
PLD% -	6	5	5	7	14	5	3	-10	-7	8	-20	7	5	3	-1	1	9	-34	-8	3	2	-6	-5	8	High/Low:	+14 /	-34
Code -								****	****		*V*V				****	****		*V*V	****		****	*V*V	****				
BURNER RC1																											
High -	3998	4270	4270	3970	3119	4154	4154	4600	4256	4097	3998	3998	3970	4126	3819	3943	3984	3998	3943	4026	4169	3984	4069	4126			
Low -	2903	3778	4055	3179	1663	3846	3998	4083	3943	3887	3350	3752	3645	3765	3685	2875	3860	3438	3313	3833	3929	3725	3833	3874			
Average -	3493	4093	4144	3840	2096	4020	4084	4351	4076	3980	3691	3893	3863	3947	3770	3582	3928	3860	3616	3906	4068	3886	3944	3996	3839	-5.17	4351
PLD% -	-9	7	8	0	-45	5	6	13	6	4	-4	1	1	3	-2	-7	2	1	-6	2	6	1	3	4	High/Low:	+13 /	-45
Code -	*V*V			****	*V*V						****	****	****		****	*V*V		****	****	****		****					
BURNER RC2																											
High -	2932	4183	3929	4329	3984	4169	4539	4615	4358	4198	4226	4169	4126	3998	3970	4069	3998	4055	4126	3998	4055	4083	3957	3998			
Low -	1752	2797	3426	3191	3819	3929	4256	4344	4083	4041	4012	3984	3915	3860	3619	3929	3846	3833	4012	3846	3887	3239	3658	3778			
Average -	2098	3518	3761	3834	3920	4060	4370	4437	4219	4126	4091	4070	4057	3945	3864	3993	3933	3936	4059	3927	3962	3712	3798	3899	3900	-3.66	4437
PLD% -	-46	-10	-4	-2	1	4	12	14	8	6	5	4	4	1	-1	2	1	1	4	1	2	-5	-3	-0	High/Low:	+14 /	-46
Code -	*V*V	*V*V	****	*V*V	****									****	****	****	****	****		****	****	*V*V	****	****			

IP7_001216

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 3

TABLE 6

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER RC3																											
High -	3792	4493	4140	4126	4358	4463	4463	4739	4523	4097	4154	4111	4097	4154	4097	4154	4344	4140	4140	4388	4140	4226	4285	4126			
Low -	2550	4154	3239	3541	4083	4270	3413	4388	4241	3901	2764	3984	2337	3901	3167	4012	4140	3929	3874	4183	3541	3901	4083	3970			
Average -	3167	4332	3840	3855	4207	4360	3816	4529	4426	4018	3872	4053	2979	4067	3611	4087	4252	4047	3980	4316	3987	4031	4181	4059	4003	-1.11	4529
PLD% -	-21	8	-4	-4	5	9	-5	13	11	0	-3	1	-26	2	-10	2	6	1	-1	8	-0	1	4	1	High/Low:	+13 /	-26
Code -	*V*V		*V*V	****			*V*V			****	*V*V	****	*V*V	****	*V*V			****	****		****	****		****			
BURNER RC4																											
High -	3819	4448	3451	3131	4508	4661	4539	4433	4329	4344	4154	4344	4881	4646	4508	4358	4463	4994	4154	4539	3400	4111	4403	3860			
Low -	3191	4041	2634	2447	3155	4314	3846	4140	4097	3567	3593	4198	4493	4069	4285	3915	4241	4724	3350	4344	2108	3765	4154	2990			
Average -	3443	4268	3086	2815	3837	4478	4314	4261	4220	4052	3933	4284	4735	4259	4411	4092	4334	4898	3736	4442	2950	3958	4277	3580	4028	-0.50	4898
PLD% -	-15	6	-23	-30	-5	11	7	6	5	1	-2	6	18	6	10	2	8	22	-7	10	-27	-2	6	-11	High/Low:	+22 /	-30
Code -	****	****	*V*V	*V*V	*V*V		****	****	****	****	****	****		****		****	****		****		*V*V	****	****	*V*V			
BURNER RC5																											
High -	2808	4285	4388	4962	4198	4994	4929	4478	4508	4569	5043	4169	4962	4344	4739	4850	4600	4448	4945	4433	4270	4055	3970	4463			
Low -	1768	3970	3778	4226	2932	4739	4661	3725	4256	4373	4897	3915	4646	3901	4493	4600	4154	4097	4600	3998	4083	3155	2753	4111			
Average -	2346	4143	4110	4530	3581	4829	4797	4122	4408	4476	4946	4028	4853	4119	4613	4742	4423	4293	4751	4208	4167	3628	3538	4294	4248	4.94	4946
PLD% -	-45	-2	-3	7	-16	14	13	-3	4	5	16	-5	14	-3	9	12	4	1	12	-1	-2	-15	-17	1	High/Low:	+16 /	-45
Code -	*V*V	****	****		*V*V			****	****			****		****			****	****		****	****	*V*V	*V*V	****			
BURNER RC6																											
High -	4646	4739	4554	4539	4026	4270	4055	3036	4126	4661	3179	4433	3915	4299	4493	3203	4358	4358	4285	4692	4463	4493	4554	4329			
Low -	4241	4388	4256	4140	3698	3264	3632	2519	3451	4270	2396	4111	3276	3929	3698	2666	4012	3451	3580	4373	3874	3806	4069	4012			
Average -	4432	4554	4426	4305	3866	3910	3824	2763	3741	4500	2873	4242	3562	4077	4139	2932	4167	3944	3800	4543	4229	4249	4335	4152	3982	-1.63	4554
PLD% -	11	14	11	8	-3	-2	-4	-31	-6	13	-28	7	-11	2	4	-26	5	-1	-5	14	6	7	9	4	High/Low:	+14 /	-31
Code -					****	*V*V	****	****	****		*V*V		****	****		****		*V*V	****								
BURNER RG1																											
High -	4929	4646	4818	4786	3738	4493	4739	2298	4097	5010	2699	4661	4140	4111	4508	2990	4508	4373	4539	4677	4962	4600	4850	4677			
Low -	4600	4358	4539	4270	2786	2467	4183	1695	3363	4615	2249	4111	3464	3464	3426	2376	3593	3915	3645	4314	4646	4329	4569	4418			
Average -	4802	4548	4687	4583	3247	3382	4551	1950	3802	4821	2515	4390	3855	3740	4139	2659	4287	4233	4222	4542	4814	4405	4686	4593	4061	0.32	4821
PLD% -	18	12	15	13	-20	-17	12	-52	-6	19	-38	8	-5	-8	2	-35	6	4	4	12	19	8	15	13	High/Low:	+19 /	-52
Code -					*V*V	*V*V		*V*V	****		****		****	****	*V*V	*V*V	*V*V	****	****								
BURNER RG2																											
High -	4739	4569	4692	4126	4097	3515	4994	3970	3685	3943	3970	4012	4069	4083	3998	3887	3984	4111	4198	4140	4299	4097	4226	4154			
Low -	4463	4344	4433	3887	3860	2786	4523	2634	3131	3658	2775	3711	3672	3860	3846	2645	3819	3887	3957	3901	4026	3874	4041	3887			
Average -	4640	4440	4564	3989	3984	3081	4821	3185	3486	3811	3709	3835	3878	3960	3923	3300	3900	4024	4086	4042	4171	3964	4131	4059	3958	-2.23	4821
PLD% -	17	12	15	1	1	-22	22	-20	-12	-4	-6	-3	-2	0	-1	-17	-1	2	3	2	5	0	4	3	High/Low:	+22 /	-22
Code -				****	****	*V*V		*V*V	****	****	*V*V	****	****	****	****	*V*V	****	****	****	****	****	****	****	****			
BURNER RG3																											
High -	4241	4569	4646	4126	4069	4140	4478	3765	4154	4154	3957	3984	4041	3778	3970	4111	4026	4126	4212	4111	4097	4111	4212	4329			
Low -	3083	4388	4403	3887	3502	3083	4314	2201	4041	4026	2519	3541	3860	2154	3632	3901	3819	3874	3957	3874	3929	3887	3998	4126			
Average -	3684	4489	4505	3987	3920	3842	4422	2782	4095	4088	3128	3807	3919	2848	3796	4027	3911	4035	4071	3986	4031	4010	4099	4229	3905	-3.53	4505
PLD% -	-6	15	15	2	0	-2	13	-29	5	5	-20	-2	0	-27	-3	3	0	3	4	2	3	3	5	8	High/Low:	+15 /	-29
Code -	*V*V			****	****	*V*V		*V*V			*V*V	****	****	*V*V	****	****	****	****		****	****	****					
BURNER RG4																											
High -	4299	3806	4183	4285	3929	3915	4083	4140	4055	4097	4256	3833	4154	3943	4126	4041	4012	4154	3792	3752	3489	4154	4055	3887			
Low -	3215	3191	3957	4097	3263	3658	3887	3970	3833	3860	4055	3593	3698	3765	3901	3711	3738	3887	3658	3554	3143	3725	3738	3685			
Average -	3814	3484	4075	4226	3607	3767	3988	4058	3956	3951	4149	3720	4021	3863	4035	3832	3895	4028	3721	3661	3239	3991	3901	3757	3864	-4.54	4226
PLD% -	-1	-10	5	9	-7	-3	3	5	2	2	7	-4	4	-0	4	-1	1	4	-4	-5	-16	3	1	-3	High/Low:	+9 /	-16
Code -	VVVV	****			****	****						****							****	****	****			****			

IP7_001217

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 3

TABLE 6

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER RG5																											
High -	4724	4771	4850	4630	4478	4241	4358	4448	4126	4403	2396	4508	2602	4069	4299	3984	4554	4569	4285	3901	3792	4069	4478	4270			
Low -	4478	4539	4448	4344	4169	3541	4140	3131	3672	3970	1999	4169	1973	3860	3489	3264	4314	4418	4069	3711	3619	3725	4226	4041			
Average -	4617	4645	4602	4475	4354	3971	4252	3649	3901	4257	2187	4346	2257	3935	4047	3667	4446	4495	4160	3778	3712	3968	4375	4148	4010	-0.93	4645
PLD% -	15	16	15	12	9	-1	6	-9	-3	6	-45	8	-44	-2	1	-9	11	12	4	-6	-7	-1	9	3	High/Low:	+16 /	-45
Code -						****		*V*V	****		****		*V*V	****	****	****			****	****	****	****		****			
BURNER RG6																											
High -	4358	4448	4569	4256	4097	4508	3998	2842	3477	4433	3375	3915	4508	4126	4154	3929	3915	4373	4097	3846	3672	4270	4140	4169			
Low -	3765	4012	4344	3860	2864	4285	3477	2288	2709	4226	2666	3738	4329	3846	3998	3167	3515	4069	2967	3593	3400	3887	3901	3984			
Average -	4162	4225	4442	4018	3583	4400	3735	2593	3110	4327	3023	3849	4430	3943	4087	3638	3738	4214	3789	3738	3517	4134	4032	4100	3868	-4.45	4442
PLD% -	8	9	15	4	-7	14	-3	-33	-20	12	-22	-0	15	2	6	-6	-3	9	-2	-3	-9	7	4	6	High/Low:	+15 /	-33
Code -					*V*V		****	****	*V*V		*V*V	****		****		****	****		*V*V	****	****						

IP7_001218

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 4

TABLE 7

Summary

Average Velocity All Burners =	3103.21 fpm
Maximum High Flow Deviation =	8.62 %
Minimum Low Flow Deviation =	-8.22 %
Total Flow Deviation =	16.84 %

Condition	Code	Trigger Level %
Blocked Flow	*****	10
Vortex Action	VVVVV	20
Flow & Vortex Action	*V*V*	

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FE6																											
High -	3081	3254	3239	3011	4405	3496	3053	2728	3039	3138	3284	3574	3542	3434	4243	3865	4034	3733	3167	3589	3239	3011	2874	2651			
Low -	2969	2914	2928	2928	3932	3239	2942	2539	2588	2997	3011	3284	3196	3109	3782	3637	3701	3669	3095	3465	2983	2860	2601	2576			
Average -	3010	3146	3070	2963	4237	3362	3006	2598	2900	3063	3092	3421	3357	3239	4056	3724	3947	3688	3135	3520	3076	2926	2691	2618	3244	4.52	4237
PLD% -	-7	-3	-5	-9	31	4	-7	-20	-11	-6	-5	5	3	-0	25	15	22	14	-3	9	-5	-10	-17	-19	High/Low:	+31 /	-20
Code -	****	****	****	****		****	****	****	****	****	****	****	****	****		****		****	****	****	****	****	****	****			
BURNER FE5																											
High -	2887	2914	2728	4225	3815	3589	2301	2928	3011	3358	3542	3373	3343	4296	4051	3496	3750	3496	3196	3225	3284	2983	3123	3167			
Low -	2754	2807	2626	3637	3542	3269	1712	2626	2942	3254	3358	3225	3196	4016	3637	3254	3527	3328	2997	3095	3123	2820	2914	2833			
Average -	2823	2854	2661	4005	3637	3395	1923	2851	2972	3302	3446	3305	3278	4216	3785	3341	3605	3407	3073	3155	3193	2903	3026	3011	3215	3.61	4216
PLD% -	-12	-11	-17	25	13	6	-40	-11	-8	3	7	3	2	31	18	4	12	6	-4	-2	-1	-10	-6	-6	High/Low:	+31 /	-40
Code -	****	****	****		****	****	*V*V	****	****	****	****	****	****		****	****	****	****	****	****	****	****	****	****			
BURNER FE4																											
High -	3081	2887	2942	3358	3284	3181	2741	3225	3669	3605	3480	3527	3717	3404	3480	3269	3496	3167	2983	3095	2955	2955	2874	3109			
Low -	2914	2613	2715	3067	3109	3011	2588	2955	3527	3419	3181	3239	3527	3239	3239	3053	3298	2928	2860	2754	2794	2820	2702	2928			
Average -	3025	2750	2835	3208	3180	3095	2676	3105	3609	3521	3313	3377	3652	3334	3325	3150	3414	3037	2911	2949	2875	2881	2791	3003	3126	0.72	3652
PLD% -	-3	-12	-9	3	2	-1	-14	-1	15	13	6	8	17	7	6	1	9	-3	-7	-6	-8	-8	-11	-4	High/Low:	+17 /	-14
Code -	****	****	****	****	****	****	****	****								****		****	****	****	****	****	****	****			
BURNER FE3																											
High -	3589	3496	4478	3898	4441	3782	3181	4405	3404	2689	3067	2233	1855	3898	3915	3167	2601	3419	3589	4350	4386	3685	3669	3404			
Low -	3404	3313	3948	3511	4120	3589	2942	3815	3067	2502	2833	1934	1596	3123	3542	2860	2417	2833	3358	3865	4172	3254	3480	3196			
Average -	3484	3402	4263	3803	4288	3649	3034	4206	3164	2589	2980	2043	1739	3639	3701	2985	2495	3259	3472	4126	4306	3425	3557	3291	3371	8.62	4306
PLD% -	3	1	26	13	27	8	-10	25	-6	-23	-12	-39	-48	8	10	-11	-26	-3	3	22	28	2	6	-2	High/Low:	+28 /	-48
Code -	****	****		****		****	****		****	****	****	****	****	****	****	****	****	****	****			****	****	****			
BURNER FE2																											
High -	2833	2847	3527	3358	3239	3574	3419	3239	3932	3621	3653	4207	3025	3167	4068	2997	3254	2278	2942	3669	3527	3832	3298	3766			
Low -	2551	2651	3196	3053	2983	3373	3269	3109	3750	3465	3480	3999	2741	2942	3766	2820	3025	2058	2715	3313	2997	3358	2689	3465			
Average -	2632	2764	3371	3204	3067	3474	3345	3190	3849	3557	3568	4130	2894	3075	3946	2909	3138	2132	2827	3487	3098	3698	2917	3597	3245	4.56	4130
PLD% -	-19	-15	4	-1	-5	7	3	-2	19	10	10	27	-11	-5	22	-10	-3	-34	-13	7	-5	14	-10	11	High/Low:	+27 /	-34
Code -	****	****	****	****	****	****	****	****		****	****		****	****		****	****	****	****	****	****	****	****	****			
BURNER FE1																											
High -	3039	2406	2983	2847	2969	3750	3181	2807	2983	3419	3239	3865	3039	3225	3999	3621	2874	2677	3589	4552	3782	3848	3167	2833			
Low -	2942	2266	2728	2664	2754	3419	2997	2563	2914	3152	3053	3496	2664	3081	3637	3449	2588	2335	3210	4120	3480	3196	2860	2601			
Average -	2994	2346	2837	2750	2869	3613	3047	2656	2951	3277	3120	3696	2847	3132	3847	3525	2720	2507	3468	4352	3580	3659	3031	2692	3147	1.40	4352
PLD% -	-5	-25	-10	-13	-9	15	-3	-16	-6	4	-1	17	-10	-0	22	12	-14	-20	10	38	14	16	-4	-14	High/Low:	+38 /	-25
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****		****	****	****	****			

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 4

TABLE 7

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FA6																											
High -	2728	3152	2887	4261	4533	3542	3465	3123	3373	3637	3465	3196	3404	3717	3982	3254	3343	3239	2874	3419	2969	2539	2677	2689			
Low -	2563	2807	2563	3558	4155	3480	3328	2741	3053	3404	3138	3053	3284	3589	3782	3039	3181	3109	2794	3196	2689	2394	2490	2551			
Average -	2666	3020	2652	4091	4310	3509	3399	2801	3294	3503	3232	3135	3354	3637	3901	3120	3251	3169	2831	3270	2793	2455	2557	2630	3191	2.83	4310
PLD% -	-16	-5	-17	26	35	10	7	-12	3	10	1	-2	5	14	22	-2	2	-1	-11	2	-12	-23	-20	-18	High/Low:	+35 /	-23
Code -	****	****	****			****	****	****	****	****	****	****	****	****		****	****	****	****	****	****	****	****	****			
BURNER FA5																											
High -	2887	3123	2914	4102	4314	3167	2613	3053	3605	3799	3480	3239	3865	3848	3766	3419	3815	3480	3254	3621	3152	2794	2689	2942			
Low -	2664	2969	2754	3542	4051	3011	2394	2942	3404	3621	3269	3123	3589	3669	3621	3109	3542	3313	3109	3465	2901	2588	2563	2807			
Average -	2787	3045	2834	3923	4194	3076	2478	3007	3494	3707	3347	3181	3744	3742	3687	3192	3671	3394	3165	3532	3006	2668	2611	2895	3266	5.24	4194
PLD% -	-15	-7	-13	20	28	-6	-24	-8	7	14	2	-3	15	15	13	-2	12	4	-3	8	-8	-18	-20	-11	High/Low:	+28 /	-24
Code -	****	****	****			****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****			
BURNER FA4																											
High -	2997	2928	3152	2820	3434	3848	3685	2969	2526	2626	3109	3701	3449	3527	3404	3210	3343	3881	3574	3152	3449	3053	2741	3011			
Low -	2754	2807	2928	2551	2955	3496	3181	2860	2255	2477	2969	3011	3269	3328	3284	3039	3239	3589	3328	3053	3254	2689	2626	2820			
Average -	2836	2866	3039	2653	3191	3653	3255	2905	2350	2552	3024	3513	3341	3430	3337	3119	3289	3782	3467	3102	3344	2831	2685	2895	3102	-0.02	3782
PLD% -	-9	-8	-2	-14	3	18	5	-6	-24	-18	-3	13	8	11	8	1	6	22	12	-0	8	-9	-13	-7	High/Low:	+22 /	-24
Code -	****	****	****	****	****		****	****	****	****	****		****		****	****	****			****	****	****	****	****			
BURNER FA3																											
High -	3269	3766	3404	3138	4172	3039	3999	3239	3669	4332	3328	3881	2969	3298	4051	3328	2266	3123	3717	3527	4350	3343	3254	3210			
Low -	3039	3480	3152	3011	3653	2833	3511	2914	2942	4016	2928	3637	2741	3095	3733	3011	2122	2689	3511	3269	4034	2601	2914	2928			
Average -	3147	3629	3268	3079	3933	2893	3758	3005	3507	4205	3077	3802	2859	3212	3932	3098	2176	3021	3649	3410	4248	2778	3069	3079	3326	7.19	4248
PLD% -	-5	9	-2	-7	18	-13	13	-10	5	26	-7	14	-14	-3	18	-7	-35	-9	10	3	28	-16	-8	-7	High/Low:	+28 /	-35
Code -	****	****	****	****		****	****	****	****		****	****	****	****		****	****	****	****	****		*V*V	****	****			
BURNER FA2																											
High -	2860	2490	2526	2887	3196	3225	3766	3733	3832	4225	4243	3225	4314	4120	4332	3449	2794	2901	3558	3239	2741	3388	2955	2887			
Low -	2526	2244	2347	2638	3011	3081	3511	3605	3434	4016	3965	2942	3999	3881	4068	3196	2188	2715	3225	2955	2588	3081	2689	2477			
Average -	2691	2320	2425	2794	3126	3138	3678	3679	3662	4104	4149	3074	4171	3984	4214	3285	2509	2808	3410	3033	2674	3271	2809	2597	3234	4.20	4214
PLD% -	-17	-28	-25	-14	-3	-3	14	14	13	27	28	-5	29	23	30	2	-22	-13	5	-6	-17	1	-13	-20	High/Low:	+30 /	-28
Code -	****	****	****	****	****	****	****	****	****			****				****	*V*V	****	****	****	****	****	****	****			
BURNER FA1																											
High -	2887	2767	2689	3284	3039	3881	3239	3109	3965	3685	3254	4172	2563	3181	3025	3373	2576	2441	3269	3999	3832	3358	3123	3419			
Low -	2702	2664	2514	3109	2847	3123	2955	2928	3558	3480	3067	3982	2370	2901	2942	3167	2324	2289	2887	3511	3605	3138	2928	3138			
Average -	2811	2711	2599	3191	2936	3727	3054	2997	3807	3575	3139	4117	2416	3044	2985	3261	2411	2371	3158	3769	3716	3255	3028	3281	3140	1.18	4117
PLD% -	-10	-14	-17	2	-6	19	-3	-5	21	14	-0	31	-23	-3	-5	4	-23	-24	1	20	18	4	-4	4	High/Low:	+31 /	-24
Code -	****	****	****	****	****		****	****		****	****		****	****	****	****	****	****	****			****	****	****			
BURNER FF6																											
High -	2441	3373	3239	2767	3898	4838	3701	3373	3832	3685	3373	3239	4102	4190	3982	3653	3465	3254	3095	3095	3832	2465	2969	2502			
Low -	2394	2453	3081	2664	3589	4496	3388	3269	3653	3496	3254	3109	3965	3999	3898	3558	3269	3167	2942	2955	2588	2244	2155	2347			
Average -	2416	3091	3175	2715	3807	4706	3499	3315	3749	3580	3326	3157	4050	4135	3942	3601	3329	3214	3039	3030	3000	2307	2536	2447	3299	6.30	4706
PLD% -	-27	-6	-4	-18	15	43	6	1	14	9	1	-4	23	25	20	9	1	-3	-8	-8	-9	-30	-23	-26	High/Low:	+43 /	-30
Code -	****	*V*V	****	****	****		****	****	****	****	****	****	****	****	****	****	****	****	****	****	*V*V	****	*V*V	****			
BURNER FF5																											
High -	3637	2847	3039	4034	3434	2942	2490	3313	3152	3637	3605	3733	4515	3653	4190	4608	4460	6015	5075	5362	3527	3313	2502	3152			
Low -	2453	2754	2874	3717	3269	2794	2312	2928	2983	3298	3358	3589	4155	3388	3965	3449	4137	2860	2847	3167	3152	3167	2335	2942			
Average -	2815	2803	2943	3915	3346	2849	2402	3177	3079	3477	3473	3650	4371	3483	4087	3711	4286	3673	3527	3533	3255	3214	2400	3037	3354	8.10	4371
PLD% -	-16	-16	-12	17	-0	-15	-28	-5	-8	4	4	9	30	4	22	11	28	10	5	5	-3	-4	-28	-9	High/Low:	+30 /	-28
Code -	*V*V	****	****	****	****	****	****	****	****	****	****	****		****		*V*V		*V*V	*V*V	*V*V	****	****	****	****			

IP7_001220

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 4

TABLE 7

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FF4																											
High -	2754	3373	3081	2969	4207	3434	3373	2942	3511	3388	3637	3358	3039	3109	3574	3358	3848	3750	3449	3496	3480	3225	4034	3419			
Low -	2651	2477	2914	2417	3750	3254	3284	2702	3239	3196	3404	3152	2847	2887	3343	3067	3419	3328	3328	3298	3225	3039	3766	3081			
Average -	2699	2810	3003	2713	3938	3347	3321	2760	3375	3239	3478	3266	2921	2954	3480	3225	3669	3487	3369	3404	3356	3136	3911	3228	3254	4.85	3938
PLD% -	-17	-14	-8	-17	21	3	2	-15	4	-0	7	0	-10	-9	7	-1	13	7	4	5	3	-4	20	-1	High/Low:	+21 /	-17
Code -	****	*V*V	****	****		****	****	****	****	****	****	****	****	****	****	****		****	****	****	****	****		****			
BURNER FF3																											
High -	3733	4085	4120	3419	3965	3449	2997	3815	3152	2626	2638	2754	2058	2588	2453	3574	2563	2664	3558	4552	3965	3865	4332	4478			
Low -	3404	3434	3653	3039	2955	3298	2741	3496	2887	2465	2465	2370	1750	2465	2199	3123	2394	2441	3239	4068	3465	3669	3298	2928			
Average -	3579	3869	3841	3143	3514	3382	2831	3646	2977	2543	2531	2507	1878	2537	2314	3363	2458	2561	3442	4256	3713	3781	3646	3610	3163	1.94	4256
PLD% -	13	22	21	-1	11	7	-11	15	-6	-20	-20	-21	-41	-20	-27	6	-22	-19	9	35	17	20	15	14	High/Low:	+35 /	-41
Code -	****			****	*V*V	****	****	****	****	****	****	****	****	****	****	****	****	****	****		****	****	*V*V	*V*V			
BURNER FF2																											
High -	3210	3465	3269	2955	3898	4916	5115	4760	5446	4102	3982	3932	3965	3653	3717	3152	1750	2794	3152	5136	2441	2502	3898	2914			
Low -	2955	3138	2780	2794	2969	3480	3225	2626	3298	3782	3766	2613	3542	3284	3404	2942	1381	2312	2942	2490	2177	2289	3011	2526			
Average -	3088	3332	3082	2853	3349	4057	3737	3473	4168	3960	3881	3252	3733	3459	3592	3072	1531	2653	3037	3228	2306	2391	3232	2667	3214	3.56	4168
PLD% -	-4	4	-4	-11	4	26	16	8	30	23	21	1	16	8	12	-4	-52	-17	-5	0	-28	-26	1	-17	High/Low:	+30 /	-52
Code -	****	****	****	****	*V*V	VVVV	*V*V	*V*V	VVVV			*V*V	****	****	****	****	*V*V	****	****	*V*V	****	****	*V*V	****			
BURNER FF1																											
High -	3254	2860	2887	2833	3254	3081	3109	3284	3067	3419	4386	2901	2928	3449	4085	3574	2588	2312	3138	4016	3081	4460	3254	3239			
Low -	3123	2477	2638	2539	2901	2874	2754	3152	2741	2928	4085	2638	2133	2901	3298	2860	2417	2037	2955	3373	2429	3480	2502	2551			
Average -	3170	2578	2783	2627	3125	2956	3006	3211	2798	3025	4295	2698	2405	3268	3402	3206	2467	2195	3034	3678	2657	3841	2958	2890	3011	-2.96	4295
PLD% -	5	-14	-8	-13	4	-2	-0	7	-7	0	43	-10	-20	9	13	6	-18	-27	1	22	-12	28	-2	-4	High/Low:	+43 /	-27
Code -	****	****	****	****	****	****	****	****	****	****		****	*V*V	****	****	****	****	****	****	****	*V*V	*V*V	*V*V	*V*V			
BURNER FB6																											
High -	3284	3152	2767	4278	4296	3328	1667	2928	3449	3465	3152	3269	3605	3915	3434	3373	3152	2860	3067	2754	2551	2664	2780	3025			
Low -	3109	2942	2526	3999	4137	3109	1134	1924	3123	3269	2833	3196	3511	3782	3239	3196	2955	2651	2887	2613	2417	2417	2638	2820			
Average -	3179	3060	2648	4167	4209	3190	1225	2605	3354	3338	2974	3251	3572	3829	3314	3278	3065	2731	2965	2679	2495	2520	2698	2927	3053	-1.62	4209
PLD% -	4	0	-13	36	38	4	-60	-15	10	9	-3	6	17	25	9	7	0	-11	-3	-12	-18	-17	-12	-4	High/Low:	+38 /	-60
Code -	****	****	****			****	*V*V	*V*V	****	****	****	****	****		****	****	****	****	****	****	****	****	****	****			
BURNER FB5																											
High -	2702	3011	2626	4051	4190	3095	3138	1904	3269	3254	3750	3167	3574	3328	3343	3358	3465	3328	2928	3542	3298	3343	2901	2767			
Low -	2477	2780	2477	3358	3948	2983	2928	1658	2860	3109	3558	2942	3404	3181	3225	3167	3254	3196	2702	3067	3181	2626	2807	2502			
Average -	2575	2907	2547	3735	4077	3031	3037	1746	3169	3165	3675	3075	3498	3269	3275	3250	3375	3265	2801	3409	3241	2768	2846	2565	3096	-0.24	4077
PLD% -	-17	-6	-18	21	32	-2	-2	-44	2	2	19	-1	13	6	6	5	9	5	-10	10	5	-11	-8	-17	High/Low:	+32 /	-44
Code -	****	****	****			****	****	****	****	****		****	****	****	****	****	****	****	****	****	****	*V*V	****	****			
BURNER FB4																											
High -	2728	3095	2780	3782	3527	2807	2465	3196	3343	3782	3832	3465	3449	3196	3298	3480	3081	3313	3196	3328	3388	2780	2741	2874			
Low -	2601	2887	2626	3404	3210	2741	2233	2728	3081	3589	3605	3313	3269	3109	3109	3196	2901	3167	2997	3138	3225	2626	2626	2702			
Average -	2686	2976	2689	3566	3376	2778	2323	3064	3251	3675	3667	3369	3338	3162	3219	3285	2993	3259	3116	3213	3320	2698	2673	2786	3103	0.01	3675
PLD% -	-13	-4	-13	15	9	-10	-25	-1	5	18	18	9	8	2	4	6	-4	5	0	4	7	-13	-14	-10	High/Low:	+18 /	-25
Code -	****	****	****			****	****	****	****					****	****	****	****	****	****	****		****	****	****			
BURNER FB3																											
High -	2576	3419	3254	3269	3225	3373	3449	3269	3167	3605	4051	3589	3589	3750	3589	2983	3039	2394	3210	4102	3284	3511	3558	3815			
Low -	2406	3025	3053	3123	3039	3239	3328	3039	2997	3465	3932	3343	3298	3419	3388	2702	2715	2177	2983	3750	2874	3167	3239	3558			
Average -	2496	3257	3156	3178	3129	3289	3409	3107	3073	3523	3996	3437	3461	3569	3477	2791	2915	2252	3096	3864	3043	3361	3445	3699	3251	4.76	3996
PLD% -	-23	0	-3	-2	-4	1	5	-4	-5	8	23	6	6	10	7	-14	-10	-31	-5	19	-6	3	6	14	High/Low:	+23 /	-31
Code -	****	****	****	****	****	****	****	****	****	****		****	****	****	****	****	****	****	****		****	****	****				

IP7_001221

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 4

TABLE 7

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FB2																											
High -	2539	2715	2807	3025	3373	3225	3343	3449	2754	3025	4120	3313	3832	3621	3637	3982	3298	3574	3999	4665	4296	2914	2901	2576			
Low -	2347	2514	2677	2807	3152	3067	3210	2901	2613	2860	3832	3039	3653	3419	3434	3669	3095	2221	3181	4405	4172	2122	2638	2394			
Average -	2438	2611	2725	2914	3284	3116	3265	3210	2664	2923	4012	3103	3744	3547	3533	3871	3176	3195	3767	4506	4246	2309	2782	2513	3227	4.00	4506
PLD% -	-24	-19	-16	-10	2	-3	1	-1	-17	-9	24	-4	16	10	9	20	-2	-1	17	40	32	-28	-14	-22	High/Low:	+40 /	-28
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	*V*V	*V*V			*V*V	****	****			
BURNER FB1																											
High -	3039	2928	2833	2847	2820	2794	3373	3358	2563	2417	2588	1797	2453	3558	3181	3701	3025	3123	3965	4877	4460	4225	4646	4838			
Low -	2887	2741	2741	2741	2588	2702	3269	3053	2382	2301	2177	1703	2278	3284	2651	3358	2477	2860	3669	4368	4225	3358	2969	4665			
Average -	2967	2811	2790	2788	2644	2754	3325	3171	2487	2358	2428	1750	2362	3434	2811	3575	2642	3044	3888	4669	4375	3554	3909	4773	3138	1.11	4773
PLD% -	-5	-10	-11	-11	-16	-12	6	1	-21	-25	-23	-44	-25	9	-10	14	-16	-3	24	49	39	13	25	52	High/Low:	+52 /	-44
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****			*V*V	*V*V				
BURNER RD1																											
High -	2347	3239	2441	3932	3733	3081	2301	3358	3152	3558	3434	3269	3999	3832	3480	3343	3328	2997	2794	3095	2942	2928	2465	2601			
Low -	2155	2983	2112	3419	3605	2955	1924	3025	3011	3449	3298	3109	3881	3653	3313	3225	3210	2820	2715	2928	2767	2406	2312	2490			
Average -	2250	3106	2207	3757	3668	3030	2061	3256	3063	3486	3355	3188	3940	3755	3392	3279	3277	2946	2761	3014	2860	2766	2370	2545	3055	-1.54	3940
PLD% -	-26	2	-28	23	20	-1	-33	7	0	14	10	4	29	23	11	7	7	-4	-10	-1	-6	-9	-22	-17	High/Low:	+29 /	-33
Code -	****	****	****			****	****	****	****	****	****	****			****	****	****	****	****	****	****	****	****	****			
BURNER RD2																											
High -	2833	2820	2833	3449	3948	3254	2715	1759	2887	2969	3138	2847	2928	3095	3039	3081	3404	3419	2928	3404	3167	3284	3574	3284			
Low -	2677	2651	2613	3067	3799	3109	2465	1252	2613	2833	3011	2613	2847	2969	2901	2874	3196	3254	2807	3210	3039	3167	3210	2914			
Average -	2769	2723	2733	3299	3863	3193	2659	1367	2823	2894	3074	2721	2891	3027	2966	2949	3312	3343	2876	3278	3081	3238	3422	3053	2981	-3.92	3863
PLD% -	-7	-9	-8	11	30	7	-11	-54	-5	-3	3	-9	-3	2	-1	-1	11	12	-4	10	3	9	15	2	High/Low:	+30 /	-54
Code -	****	****	****	****		****	****	*V*V	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****			
BURNER RD3																											
High -	2794	3081	3343	3284	3832	3419	3152	3011	2942	3313	3766	3225	3343	3358	3123	2997	3239	3109	2997	3167	3053	2820	3496	3637			
Low -	2514	2887	3081	2767	3269	3067	2901	2767	2754	3095	3589	2847	3081	3039	2997	2807	2983	2794	2728	2914	2780	2563	3181	3138			
Average -	2615	2993	3224	3051	3519	3185	3050	2915	2870	3183	3686	3089	3238	3204	3066	2902	3115	2894	2826	3063	2942	2674	3290	3367	3082	-0.69	3686
PLD% -	-15	-3	5	-1	14	3	-1	-5	-7	3	20	0	5	4	-1	-6	1	-6	-8	-1	-5	-13	7	9	High/Low:	+20 /	-15
Code -	****	****	****	****		****	****	****	****	****		****	****	****	****	****	****	****	****	****	****	****	****				
BURNER RD4																											
High -	2651	3465	2465	2820	2820	2255	2874	3025	3239	3496	3605	2942	3480	3025	3095	3637	2539	3039	4102	4278	4102	3511	3750	2969			
Low -	2394	3167	2155	2613	2477	2027	2626	2767	2914	3167	3210	2780	3225	2689	2901	3225	2324	2715	3717	3999	3701	3254	3449	2233			
Average -	2536	3374	2303	2702	2633	2095	2735	2918	3077	3326	3428	2882	3351	2848	3019	3508	2401	2942	3950	4121	3896	3394	3639	2387	3061	-1.36	4121
PLD% -	-17	10	-25	-12	-14	-32	-11	-5	1	9	12	-6	9	-7	-1	15	-22	-4	29	35	27	11	19	-22	High/Low:	+35 /	-32
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****				****	****	*V*V			
BURNER RD5																											
High -	2807	3269	2847	2833	2955	2613	3388	3067	3284	3685	3915	2689	3358	3313	3915	3269	3181	2514	3269	3815	3898	2741	3496	3239			
Low -	2651	2453	2651	2715	2702	2490	3181	2860	3053	3196	2969	2551	3167	2677	3542	3081	1845	1759	2997	3039	3542	2370	3167	2914			
Average -	2740	3034	2731	2778	2832	2530	3327	2949	3172	3341	3712	2624	3260	2800	3785	3163	2458	1850	3156	3278	3745	2541	3329	3083	3009	-3.03	3785
PLD% -	-9	1	-9	-8	-6	-16	11	-2	5	11	23	-13	8	-7	26	5	-18	-39	5	9	24	-16	11	2	High/Low:	+26 /	-39
Code -	****	*V*V	****	****	****	****	****	****	****	****	VVVV	****	****	****		****	*V*V	*V*V	****	*V*V		****	****	****			
BURNER RD6																											
High -	2289	2417	2780	2847	3373	3480	2942	3511	3123	3284	4571	3298	3465	3373	3865	3465	2588	1731	2955	3465	3815	2955	2942	2847			
Low -	2177	2266	2576	2664	3210	2820	2715	3313	2820	3138	4368	2833	3284	3138	3449	3328	2347	1460	2490	3081	3496	2588	2664	2689			
Average -	2229	2350	2669	2761	3291	3232	2786	3407	2931	3201	4474	2958	3387	3261	3657	3393	2450	1557	2818	3260	3698	2685	2820	2752	3001	-3.29	4474
PLD% -	-26	-22	-11	-8	10	8	-7	14	-2	7	49	-1	13	9	22	13	-18	-48	-6	9	23	-11	-6	-8	High/Low:	+49 /	-48
Code -	****	****	****	****	****	****	****	****	****	****		****	****	****	****	****	****	****	****	****	****	****	****	****			

IP7_001222

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 4

TABLE 7

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER RH1																											
High -	2601	3011	2901	4460	4533	3750	3269	2626	2942	3123	3123	2955	2928	3313	3167	3123	3254	3039	2551	3138	2860	2453	2626	2780			
Low -	2526	2928	2715	3685	4261	3449	3025	2335	2860	2887	2928	2847	2715	3138	3095	2997	2983	2887	2465	2914	2613	2370	2526	2702			
Average -	2552	2975	2800	4280	4409	3524	3183	2422	2894	3020	3026	2889	2856	3198	3138	3061	3110	2985	2499	2998	2687	2412	2587	2737	3010	-3.00	4409
PLD% -	-15	-1	-7	42	46	17	6	-20	-4	0	1	-4	-5	6	4	2	3	-1	-17	-0	-11	-20	-14	-9	High/Low:	+46 /	-20
Code -	****	****	****			****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****			
BURNER RH2																											
High -	2601	2477	3039	2689	4552	4190	3210	2997	2833	3196	3605	3239	3496	3239	3605	3225	3589	3343	2874	3542	2860	2638	2233	2728			
Low -	2477	2347	2741	2490	3865	4068	2983	2741	2741	3025	3328	3123	3328	3152	3284	2997	3373	3181	2741	3196	2702	2490	2155	2588			
Average -	2544	2399	2919	2551	4387	4118	3023	2861	2790	3136	3487	3180	3391	3187	3536	3045	3485	3245	2799	3396	2801	2586	2199	2679	3073	-0.99	4387
PLD% -	-17	-22	-5	-17	43	34	-2	-7	-9	2	13	3	10	4	15	-1	13	6	-9	11	-9	-16	-28	-13	High/Low:	+43 /	-28
Code -	****	****	****	****			****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****			
BURNER RH3																											
High -	2677	2928	2820	2969	4314	3982	3167	2312	2453	2847	3685	3343	3404	3328	3053	3419	3766	3181	3152	3465	3328	2847	2767	2860			
Low -	2477	2702	2613	2664	3915	3766	2969	2155	2324	2715	3328	3196	3196	3181	2901	3298	3589	3039	3011	3210	3167	2664	2638	2754			
Average -	2575	2873	2741	2793	4156	3899	3035	2202	2385	2761	3565	3267	3300	3243	2961	3362	3681	3104	3078	3364	3272	2761	2692	2827	3079	-0.78	4156
PLD% -	-16	-7	-11	-9	35	27	-1	-28	-23	-10	16	6	7	5	-4	9	20	1	-0	9	6	-10	-13	-8	High/Low:	+35 /	-28
Code -	****	****	****	****			****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****			
BURNER RH4																											
High -	3419	3434	3181	3067	3782	3210	3799	3123	3138	3053	4207	3782	2754	3542	2955	2874	2638	1996	2914	3123	3527	2807	2847	3196			
Low -	3313	3328	3011	2874	3527	2860	3123	2874	2942	2860	3898	3558	2417	3109	2715	2741	2465	1884	2677	2942	3328	2394	2651	3039			
Average -	3363	3383	3084	2969	3666	2997	3585	2976	3048	2951	4057	3713	2569	3349	2817	2802	2539	1946	2804	3024	3416	2554	2751	3119	3062	-1.34	4057
PLD% -	10	11	1	-3	20	-2	17	-3	-0	-4	33	21	-16	9	-8	-8	-17	-36	-8	-1	12	-17	-10	2	High/Low:	+33 /	-36
Code -	****	****	****	****		****	****	****	****	****			****	****	****	****	****	****	****	****	****	****	****	****			
BURNER RH5																											
High -	2312	2490	2677	2477	2983	3095	2626	2955	3419	3685	3915	3766	3067	3480	3373	3284	3109	2576	3358	3685	4225	2490	3095	2969			
Low -	2155	2382	2465	2406	2847	2914	2502	2728	3196	3404	3669	3574	2651	3025	3138	3123	2969	2301	3138	3225	3982	2166	2677	2754			
Average -	2222	2421	2558	2437	2905	2993	2554	2858	3301	3550	3799	3676	2791	3269	3241	3238	3018	2429	3311	3474	4129	2291	2904	2812	3007	-3.09	4129
PLD% -	-26	-19	-15	-19	-3	-0	-15	-5	10	18	26	22	-7	9	8	8	0	-19	10	16	37	-24	-3	-6	High/Low:	+37 /	-26
Code -	****	****	****	****	****	****	****	****	****	****		****	****	****	****	****	****	****	****	****		****	****	****			
BURNER RH6																											
High -	2539	2601	2780	2914	3067	2955	3095	3196	2901	3449	3388	2807	2860	3313	3239	3404	2613	1904	2847	3527	2728	4172	3011	3225			
Low -	2370	2221	2429	2728	2689	2576	2874	3011	2780	3239	3225	2453	2651	2914	3039	3081	2441	1667	2638	3358	2382	3815	2794	2664			
Average -	2466	2323	2651	2835	2927	2739	3016	3109	2835	3367	3323	2600	2722	3101	3173	3238	2521	1730	2758	3434	2489	4031	2854	2900	2881	-7.17	4031
PLD% -	-14	-19	-8	-2	2	-5	5	8	-2	17	15	-10	-6	8	10	12	-12	-40	-4	19	-14	40	-1	1	High/Low:	+40 /	-40
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****		****	****			
BURNER RC1																											
High -	2563	2955	2807	3095	4051	3449	3081	2347	2969	3138	3196	3196	3313	3605	3511	3328	3254	3254	3039	3343	2874	3167	2887	2955			
Low -	2394	2689	2588	2767	3733	3225	2969	2101	2833	2997	2997	3039	3196	3511	3328	3210	3152	3109	2780	3109	2715	2860	2677	2847			
Average -	2481	2830	2701	2921	3902	3337	3025	2230	2899	3083	3120	3120	3259	3553	3391	3261	3205	3175	2860	3243	2783	3020	2765	2903	3044	-1.89	3902
PLD% -	-19	-7	-11	-4	28	10	-1	-27	-5	1	2	2	7	17	11	7	5	4	-6	7	-9	-1	-9	-5	High/Low:	+28 /	-27
Code -	****	****	****	****		****	****	****	****	****	****	****	****		****	****	****	****	****	****	****	****	****	****			
BURNER RC2																											
High -	2638	3152	2914	2576	3181	3637	3053	2820	2914	3123	3358	3123	3358	3254	3196	3298	3404	3328	2860	3496	3067	2833	3865	3373			
Low -	2526	3011	2626	2370	2955	3434	2847	2638	2780	2983	3025	2928	3225	3138	3011	3109	3152	3123	2728	3298	2914	2664	3480	3196			
Average -	2586	3079	2733	2450	3053	3545	2937	2743	2842	3055	3234	3031	3285	3192	3113	3176	3252	3198	2813	3439	3003	2756	3677	3305	3062	-1.32	3677
PLD% -	-16	1	-11	-20	-0	16	-4	-10	-7	-0	6	-1	7	4	2	4	6	4	-8	12	-2	-10	20	8	High/Low:	+20 /	-20
Code -	****	****	****	****	****		****	****	****	****	****	****	****	****	****	****	****	****	****		****	****		****			

IP7_001223

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 4

TABLE 7

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER RC3																											
High -	2754	2807	3167	2689	3095	3343	3081	2394	2754	3067	3558	3388	3480	3511	3123	3358	3404	3123	3053	2997	3181	3053	3095	3313			
Low -	2651	2638	2983	2514	2914	3109	2874	2069	2551	2887	3254	3053	3239	3343	2983	3152	3109	2887	2847	2754	3011	2651	2833	2983			
Average -	2706	2702	3078	2630	3017	3238	2953	2232	2642	2958	3416	3209	3328	3428	3059	3274	3260	3001	2946	2849	3114	2875	2986	3166	3003	-3.24	3428
PLD% -	-10	-10	3	-12	0	8	-2	-26	-12	-1	14	7	11	14	2	9	9	-0	-2	-5	4	-4	-1	5	High/Low:	+14 /	-26
Code -	****	****	****	****	****		****	****	****	****					****			****	****	****		****	****				
BURNER RC4																											
High -	2833	2794	3388	3123	2887	3313	2588	3328	3419	3095	3328	3782	2754	3254	3782	3449	2677	3181	3328	3496	3039	3558	2638	3053			
Low -	2576	2613	2914	2914	2728	3081	2312	3081	3269	2928	3210	3527	2502	3039	3480	3210	2502	2914	2997	3313	2780	3284	2441	2613			
Average -	2712	2656	3170	3023	2792	3216	2390	3190	3322	3021	3249	3661	2610	3132	3614	3303	2588	3068	3182	3408	2880	3416	2537	2734	3036	-2.15	3661
PLD% -	-11	-13	4	-0	-8	6	-21	5	9	-1	7	21	-14	3	19	9	-15	1	5	12	-5	12	-16	-10	High/Low:	+21 /	-21
Code -	****	****	****	****	****	****	****	****		****	****		****	****			****	****	****		****		****	****			
BURNER RC5																											
High -	2359	2382	2266	2417	2638	3717	3328	3152	3653	3358	3653	3733	3766	3011	4137	3480	2780	2613	3067	3284	4423	3269	2741	2833			
Low -	2255	2233	2166	2289	2502	3434	3181	2887	3465	3095	3449	3574	3496	2794	3898	3210	2613	2429	2901	3053	4137	2874	2514	2613			
Average -	2314	2309	2214	2369	2584	3544	3245	2964	3542	3217	3578	3639	3627	2886	4012	3283	2702	2502	2969	3179	4284	3075	2655	2705	3058	-1.45	4284
PLD% -	-24	-25	-28	-23	-16	16	6	-3	16	5	17	19	19	-6	31	7	-12	-18	-3	4	40	1	-13	-12	High/Low:	+40 /	-28
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****		****	****	****	****	****		****	****	****			
BURNER RC6																											
High -	2477	2551	2324	2601	3269	3053	2728	3328	2914	4034	3254	3511	2983	3152	3210	3196	2465	1535	2887	3733	3254	3653	3123	2754			
Low -	2335	2417	2199	2490	2780	2874	2613	3152	2780	3701	2983	3313	2551	2820	2955	3039	2133	1365	2664	3496	2887	3419	2664	2576			
Average -	2425	2491	2260	2546	3110	2956	2650	3242	2850	3885	3060	3384	2676	2991	3098	3127	2253	1440	2785	3644	3019	3583	2738	2663	2870	-7.52	3885
PLD% -	-16	-13	-21	-11	8	3	-8	13	-1	35	7	18	-7	4	8	9	-22	-50	-3	27	5	25	-5	-7	High/Low:	+35 /	-50
Code -	****	****	****	****	****	****	****	****	****		****	****	****	****	****	****	****	****	****		****		****	****			
BURNER RG1																											
High -	2997	2942	3239	4515	4296	3653	3328	2006	2914	3358	3313	3210	3011	4207	3589	3373	3109	2955	2928	2715	2860	2539	2359	2551			
Low -	2807	2847	3039	4155	4102	3480	3167	1667	2526	3181	3167	3095	2833	3999	3284	3181	3025	2794	2689	2514	2728	2417	2177	2394			
Average -	2915	2891	3108	4379	4161	3577	3249	1756	2802	3233	3252	3177	2936	4122	3355	3285	3070	2861	2766	2598	2795	2486	2252	2486	3063	-1.30	4379
PLD% -	-5	-6	1	43	36	17	6	-43	-9	6	6	4	-4	35	10	7	0	-7	-10	-15	-9	-19	-26	-19	High/Low:	+43 /	-43
Code -	****	****	****			****	****	****	****	****	****	****	****		****	****	****	****	****	****	****	****	****	****			
BURNER RG2																											
High -	2588	2833	2266	4608	4068	3109	2122	1297	3081	3558	3621	3496	3152	3269	3269	3152	3865	3480	3239	2942	3011	2901	2847	2914			
Low -	2394	2613	2155	3915	3915	3011	1676	1168	2601	3254	3480	3284	3081	3167	3123	3025	3558	3358	2969	2754	2382	2651	2588	2754			
Average -	2478	2743	2210	4406	3986	3057	1814	1220	2949	3404	3553	3383	3115	3210	3188	3100	3767	3403	3082	2851	2521	2766	2664	2827	2987	-3.73	4406
PLD% -	-17	-8	-26	47	33	2	-39	-59	-1	14	19	13	4	7	7	4	26	14	3	-5	-16	-7	-11	-5	High/Low:	+47 /	-59
Code -	****	****	****			****	*V*V	****	****	****	****	****	****	****	****	****	****	****	****	****	*V*V	****	****	****			
BURNER RG3																											
High -	2715	2983	2441	3766	3865	3011	2441	2155	3138	3782	3449	3358	3239	3932	3574	3167	3067	3419	2914	2901	3109	2794	2847	2715			
Low -	2382	2539	2289	3373	3637	2928	2155	1996	2901	3109	3196	3196	3039	3574	3388	2942	2928	3181	2664	2664	2955	2664	2664	2539			
Average -	2520	2818	2345	3648	3750	2967	2268	2103	3059	3550	3273	3279	3138	3786	3477	3014	2990	3318	2748	2777	3018	2716	2760	2620	2998	-3.40	3786
PLD% -	-16	-6	-22	22	25	-1	-24	-30	2	18	9	9	5	26	16	1	-0	11	-8	-7	1	-9	-8	-13	High/Low:	+26 /	-30
Code -	****	****	****			****	****	****	****		****	****	****			****	****	****	****	****	****	****	****	****			
BURNER RG4																											
High -	2588	2847	2807	2664	2626	3865	3196	3011	3815	3167	2689	3480	2914	3039	2833	3067	2477	2359	3239	3039	4314	2807	2526	2551			
Low -	2453	2638	2490	2514	2465	3404	2767	2741	3269	2928	2417	3025	2601	2780	2613	2901	2244	2177	2874	2754	3848	2429	2347	2255			
Average -	2525	2743	2631	2594	2541	3651	2970	2878	3637	3051	2518	3283	2734	2880	2717	2998	2335	2259	3044	2849	4202	2563	2420	2332	2848	-8.22	4202
PLD% -	-11	-4	-8	-9	-11	28	4	1	28	7	-12	15	-4	1	-5	5	-18	-21	7	0	48	-10	-15	-18	High/Low:	+48 /	-21
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****		****	****	****			

IP7_001224

AIR DISTRIBUTION ANALYSIS
INNER ZONE AIR DISTRIBUTION ANALYSIS
TEST 4

TABLE 7

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER RG5																											
High -	2794	2651	3225	3081	2807	2969	3881	2942	3449	2601	2860	2221	2514	3815	2942	3313	2601	2210	3313	4155	5015	3358	3181	3138			
Low -	2626	2514	3039	2807	2441	2601	3496	2651	3254	2441	2664	2027	2255	3254	2677	3181	2465	2037	3152	3865	4589	2767	2887	2874			
Average -	2697	2590	3135	2911	2525	2828	3781	2724	3364	2518	2768	2071	2380	3596	2754	3234	2526	2118	3257	4030	4776	2867	3032	3008	2979	-4.01	4776
PLD% -	-9	-13	5	-2	-15	-5	27	-9	13	-15	-7	-30	-20	21	-8	9	-15	-29	9	35	60	-4	2	1	High/Low:	+60 /	-30
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****		****	****	****			
BURNER RG6																											
High -	2715	2601	2244	2210	2588	2453	2370	3109	2601	2928	3404	3653	2847	3832	3915	3419	2702	2780	3210	3832	4857	3717	3328	2983			
Low -	2588	2465	1934	2090	2221	2324	2166	2794	2335	2741	3081	3328	2465	3419	3343	3167	2417	2588	3011	3589	3717	3181	2942	2780			
Average -	2653	2544	2017	2154	2420	2406	2268	2969	2433	2842	3318	3493	2576	3622	3472	3267	2547	2720	3143	3744	4600	3295	3054	2859	2934	-5.45	4600
PLD% -	-10	-13	-31	-27	-18	-18	-23	1	-17	-3	13	19	-12	23	18	11	-13	-7	7	28	57	12	4	-3	High/Low:	+57 /	-31
Code -	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	VVVV	****	****	****			

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 4

TABLE 8

Summary	
Average Velocity All Burners =	3830.71 fpm
Maximum High Flow Deviation =	6.62 %
Minimum Low Flow Deviation =	-12.08 %
Total Flow Deviation =	18.70 %

Condition	Code	Trigger Level %
Blocked Flow	*****	10
Vortex Action	VVVVV	20
Flow & Vortex Action	*V*V*	

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FF1																											
High -	4388	4724	4724	4661	4418	4433	4329	4026	3915	4584	4140	4388	4818	4433	4344	4388	3998	4724	3738	4012	4329	3698	4140	4358			
Low -	3489	4448	4493	4314	3738	4212	3860	3227	3438	4241	3388	4226	4508	4083	4111	3107	3645	4463	2898	3276	2808	2508	3276	4055			
Average -	4091	4598	4609	4437	4083	4349	4023	3617	3704	4459	3804	4319	4663	4222	4234	3862	3842	4629	3300	3836	3506	3165	3703	4216	4053	5.80	4663
PLD% -	1	13	14	9	1	7	-1	-11	-9	10	-6	7	15	4	4	-5	-5	14	-19	-5	-13	-22	-9	4	High/Low:	+15 /	-22
Code -	*V*V				****		****	****	****		****					*V*V	****		*V*V	****	*V*V	*V*V	*V*V				
BURNER FB6																											
High -	3806	3943	4111	3632	3619	3833	4661	3970	3792	3752	3765	3645	3580	3477	3645	3645	3725	3013	3301	3929	3984	3970	3970	3806			
Low -	3685	3725	3915	3489	3451	3685	3806	3528	3580	3515	3567	3541	3426	3363	3025	3554	3567	2764	2932	3711	3874	3765	3778	3698			
Average -	3760	3817	4015	3560	3534	3777	4180	3826	3650	3595	3677	3595	3521	3415	3472	3599	3629	2885	3089	3801	3926	3916	3873	3759	3661	-4.42	4180
PLD% -	3	4	10	-3	-3	3	14	5	-0	-2	0	-2	-4	-7	-5	-2	-1	-21	-16	4	7	7	6	3	High/Low:	+14 /	-21
Code -	****			****	****				****	****	****	****	****	****	****	****	****	****	****					****			
BURNER FB5																											
High -	4097	3943	4126	3672	3606	3819	3901	4403	2742	3860	3658	2742	3645	3778	3619	3489	3632	3833	3984	3725	3765	3957	3943	4069			
Low -	3887	3738	3915	3426	3413	2498	3752	3593	2173	3645	3489	1911	3515	2447	3131	2688	2955	3580	3711	3464	3567	3606	3778	3874			
Average -	4001	3836	4022	3571	3513	3141	3809	4014	2468	3742	3571	2255	3589	2905	3432	3128	3401	3718	3890	3590	3631	3795	3867	3977	3536	-7.69	4022
PLD% -	13	8	14	1	-1	-11	8	14	-30	6	1	-36	1	-18	-3	-12	-4	5	10	2	3	7	9	12	High/Low:	+14 /	-36
Code -				****	****	*V*V			*V*V		****	*V*V	****	*V*V	****	*V*V	****			****							
BURNER FB4																											
High -	4140	3901	3970	3792	3943	4097	4314	4012	3929	3711	3645	3792	3806	3915	3833	3846	3943	3833	3929	3806	3778	3984	3645	3929			
Low -	4012	2624	3778	3580	3698	2978	3943	3833	3711	3554	3464	3619	3685	3752	3711	3658	3593	3632	3738	3645	3672	3860	3227	3752			
Average -	4077	3073	3893	3684	3814	3673	4121	3924	3803	3623	3570	3720	3754	3814	3782	3749	3810	3742	3833	3731	3734	3933	3421	3827	3754	-1.99	4121
PLD% -	9	-18	4	-2	2	-2	10	5	1	-3	-5	-1	-0	2	1	-0	1	-0	2	-1	-1	5	-9	2	High/Low:	+10 /	-18
Code -		*V*V		****		*V*V				****	****												****				
BURNER FB3																											
High -	3451	4140	4126	4012	3984	3957	3943	4069	4026	3846	3778	3943	3915	3846	3792	4140	4026	4344	3998	3765	3998	3943	3860	3619			
Low -	2978	3806	3915	3645	3819	3752	3711	3860	3901	3725	3645	3698	3711	3672	3593	3874	3806	4126	3833	3502	3765	3580	3554	3464			
Average -	3234	3965	4009	3935	3915	3866	3797	3945	3954	3783	3698	3814	3783	3768	3716	3994	3915	4204	3913	3633	3915	3745	3693	3548	3823	-0.21	4204
PLD% -	-15	4	5	3	2	1	-1	3	3	-1	-3	-0	-1	-1	-3	4	2	10	2	-5	2	-2	-3	-7	High/Low:	+10 /	-15
Code -	****									****	****		****	****	****					****		****	****	****			
BURNER FB2																											
High -	4183	4448	4358	4198	4012	3833	4026	3887	3083	3752	3313	3606	3792	3806	3860	3711	3860	4169	3792	3451	3580	4314	4069	4140			
Low -	4026	4111	4140	4026	3567	3167	3819	2808	2396	3388	2853	3301	3567	3606	3619	3489	3698	3567	3515	3239	3375	3860	3819	3915			
Average -	4114	4296	4268	4108	3787	3417	3937	3578	2782	3603	3086	3423	3689	3737	3734	3580	3782	3775	3597	3353	3453	4129	3917	4061	3717	-2.97	4296
PLD% -	11	16	15	11	2	-8	6	-4	-25	-3	-17	-8	-1	1	0	-4	2	2	-3	-10	-7	11	5	9	High/Low:	+16 /	-25
Code -					****	****		*V*V	*V*V	****	****	****	****	****	****	****	****	****	****	****	****						

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AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 4

TABLE 8

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER FB1																											
High -	4994	4661	4897	4708	3580	2797	3580	3658	3874	4508	2477	4270	4069	3957	4539	4198	3554	4358	4041	3792	3901	4126	4329	3765			
Low -	4433	4226	4677	4226	3155	1937	2864	2864	2842	4055	2017	3846	3658	3528	4026	3375	3215	4069	3833	3593	3711	3752	3658	3593			
Average -	4605	4477	4807	4501	3404	2424	3339	3311	3394	4357	2264	4041	3875	3752	4387	3677	3346	4287	3925	3695	3785	4006	3892	3673	3801	-0.78	4807
PLD% -	21	18	26	18	-10	-36	-12	-13	-11	15	-40	6	2	-1	15	-3	-12	13	3	-3	-0	5	2	-3	High/Low:	+26 /	-40
Code -					****	*V*V	****	*V*V	*V*V		****	****	****	****		****	****	****	****	****	****	****	****	****			
BURNER RD1																											
High -	4881	4569	4433	4183	4344	3698	4708	4373	4140	4448	4478	4140	4212	3901	4358	3957	2550	3658	3179	3819	4523	4677	4692	4692			
Low -	3957	4388	3929	3943	4041	3013	4299	3957	3288	4270	4314	2921	4041	2709	3998	3239	1946	3143	2488	3288	4126	4433	4041	4463			
Average -	4458	4478	4201	4114	4255	3413	4549	4101	3626	4348	4363	3388	4136	3017	4172	3631	2216	3390	2719	3513	4333	4536	4417	4552	3914	2.16	4552
PLD% -	14	14	7	5	9	-13	16	5	-7	11	11	-13	6	-23	7	-7	-43	-13	-31	-10	11	16	13	16	High/Low:	+16 /	-43
Code -						****			*V*V			*V*V		*V*V		****	*V*V	****	*V*V	****							
BURNER RD2																											
High -	3998	4270	4055	4183	3860	4724	4615	4226	4661	4584	4140	4554	4169	4493	3752	3413	4314	4358	4508	4418	4493	4299	3887	4183			
Low -	2677	3998	3765	3632	2550	4299	3887	3658	4041	4314	3738	4241	3711	4270	3413	2898	3819	4154	4154	4183	4285	3915	3426	3833			
Average -	3477	4132	3932	3948	3082	4575	4248	3890	4455	4481	3995	4410	3962	4404	3611	3164	4150	4295	4356	4322	4401	4142	3724	4019	4049	5.70	4575
PLD% -	-14	2	-3	-2	-24	13	5	-4	10	11	-1	9	-2	9	-11	-22	2	6	8	7	9	2	-8	-1	High/Low:	+13 /	-24
Code -	*V*V		****	****	*V*V			****			****		****		****	****							****	****			
BURNER RD3																											
High -	3738	4026	4388	4463	4403	4661	4646	4169	4724	4554	4212	4314	4373	2944	4083	3048	3970	4677	4111	4708	4708	4329	4212	4358			
Low -	2967	2932	3833	3901	3943	3929	4358	3645	4478	4358	3806	2944	4069	2220	3167	2581	3143	4344	3179	4433	4270	3313	3489	3752			
Average -	3334	3684	4115	4243	4165	4418	4458	3909	4615	4465	4033	3837	4221	2639	3580	2795	3565	4532	3592	4543	4544	3925	3874	4152	3968	3.59	4615
PLD% -	-16	-7	4	7	5	11	12	-1	16	13	2	-3	6	-34	-10	-30	-10	14	-9	14	15	-1	-2	5	High/Low:	+16 /	-34
Code -	*V*V	*V*V	****					****			****	*V*V		*V*V	*V*V	****	*V*V		*V*V			*V*V	****	****			
BURNER RD4																											
High -	4584	3833	3325	4169	4881	3313	4388	4661	2731	4270	4834	4344	5043	4834	4692	4388	4978	4692	4569	4478	4463	4508	4539	4226			
Low -	4183	2624	1929	2529	4539	2017	1955	2457	2017	3698	4539	2978	4646	3915	4493	4026	4241	3929	4433	4241	4198	4169	4433	2967			
Average -	4306	3114	2513	3529	4738	2475	3480	4298	2442	3913	4692	3814	4804	4395	4617	4268	4681	4292	4492	4354	4340	4376	4497	3573	4000	4.42	4804
PLD% -	8	-22	-37	-12	18	-38	-13	7	-39	-2	17	-5	20	10	15	7	17	7	12	9	9	9	12	-11	High/Low:	+20 /	-39
Code -	****	*V*V	*V*V	*V*V		*V*V	*V*V	*V*V	*V*V	****		*V*V				****		****						*V*V			
BURNER RD5																											
High -	4314	4344	4463	4646	4600	3502	4584	4154	3970	4329	4140	4344	4724	4818	4692	4865	4708	4786	4865	4661	3901	4539	4463	4226			
Low -	3929	3375	4111	4183	4256	2090	4041	2183	1894	3072	3143	3970	4463	4198	4448	4539	4026	4433	4569	3984	3528	4097	3765	3765			
Average -	4084	3683	4309	4454	4444	2721	4384	3077	2360	3892	3556	4154	4586	4471	4578	4699	4371	4654	4696	4320	3725	4401	4130	3997	4073	6.32	4699
PLD% -	0	-10	6	9	9	-33	8	-24	-42	-4	-13	2	13	10	12	15	7	14	15	6	-9	8	1	-2	High/Low:	+15 /	-42
Code -	****	*V*V				*V*V		*V*V	*V*V	*V*V	*V*V	****									****		****	****			
BURNER RD6																											
High -	3264	4881	4403	4403	3752	4126	4508	3792	4373	3984	4169	4344	4978	4755	5026	4554	4771	4786	3970	4661	4554	3528	4493	4584			
Low -	2519	4478	4069	3765	2887	3658	3477	3060	3874	3203	3846	4154	4661	4388	4739	4026	4226	4463	2539	4169	4069	2581	4026	4169			
Average -	2796	4702	4287	4090	3313	3894	4023	3521	4187	3562	4020	4274	4813	4601	4856	4319	4436	4674	3175	4498	4332	3001	4258	4390	4084	6.62	4856
PLD% -	-32	15	5	0	-19	-5	-1	-14	3	-13	-2	5	18	13	19	6	9	14	-22	10	6	-27	4	7	High/Low:	+19 /	-32
Code -	*V*V		****	****	*V*V	****	*V*V	****	****	****	****	****				****			*V*V		****	*V*V	****				
BURNER RH1																											
High -	4183	4897	4978	4913	4692	4661	4724	4478	3957	4600	4140	4646	4493	2932	4358	3489	3632	3619	2560	3887	2932	4041	4646	5092			
Low -	4069	4493	4630	4523	4012	4358	4448	3984	3426	4154	3846	4299	4183	2337	3998	2376	2071	2571	1687	3095	1868	3672	4418	4850			
Average -	4106	4724	4857	4740	4450	4512	4569	4287	3711	4436	3976	4534	4329	2608	4199	2862	2694	3196	2081	3535	2288	3840	4515	4996	3918	2.29	4996
PLD% -	5	21	24	21	14	15	17	9	-5	13	1	16	10	-33	7	-27	-31	-18	-47	-10	-42	-2	15	27	High/Low:	+27 /	-47
Code -	****				****			****	****	****	****		****	*V*V	****	*V*V	*V*V	*V*V	*V*V	*V*V	*V*V	****					

IP7_001227

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 4

TABLE 8

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER RH2																											
High -	3929	4140	4083	4183	4299	4478	3915	4724	4493	4140	4523	4724	4493	4523	3915	3929	3846	4055	4329	4344	3239	3765	4493	3698			
Low -	3765	3227	3489	3658	3901	4212	3413	4493	4226	3752	4314	4111	4097	4344	3325	3554	3515	3672	3778	4055	2278	3375	3998	2720			
Average -	3854	3612	3836	3864	4157	4372	3671	4596	4351	3919	4461	4605	4347	4446	3618	3766	3662	3892	4086	4215	2715	3515	4257	3190	3959	3.34	4605
PLD% -	-3	-9	-3	-2	5	10	-7	16	10	-1	13	16	10	12	-9	-5	-7	-2	3	6	-31	-11	8	-19	High/Low:	+16 /	-31
Code -	****	*V*V	****	****			****			****					****	****	****	****	****		*V*V	****		*V*V			
BURNER RH3																											
High -	3901	4463	4584	4026	3970	4212	4508	4270	4463	4433	4111	4508	4226	4478	4523	4256	4329	4493	4212	4198	4256	4055	4285	4198			
Low -	3515	4226	4183	3325	2990	4012	3107	3325	4126	3998	3288	4299	2864	3970	3632	3887	3819	4140	3929	3943	3301	3725	4055	4069			
Average -	3746	4362	4407	3642	3662	4107	3509	3934	4309	4232	3792	4395	3650	4367	4167	4121	4182	4344	4083	4066	3846	3924	4180	4129	4048	5.68	4407
PLD% -	-7	8	9	-10	-10	1	-13	-3	6	5	-6	9	-10	8	3	2	3	7	1	0	-5	-3	3	2	High/Low:	+9 /	-13
Code -	****			****	*V*V		*V*V	*V*V			*V*V		*V*V								*V*V	****					
BURNER RH4																											
High -	4111	4299	4523	4508	4097	4478	4358	4373	4388	4554	4055	4041	4539	4299	4256	4183	4373	4554	4183	4169	3984	4403	4183	4083			
Low -	3438	4111	4314	3672	3887	4126	3860	4026	4198	4344	2307	3765	4241	4069	3915	2764	3778	4344	2581	3901	3752	4026	3943	3901			
Average -	3863	4198	4420	4126	4002	4312	4066	4257	4314	4461	3068	3932	4397	4137	4105	3294	4192	4479	3785	4052	3876	4201	4085	3979	4067	6.16	4479
PLD% -	-5	3	9	1	-2	6	-0	5	6	10	-25	-3	8	2	1	-19	3	10	-7	-0	-5	3	0	-2	High/Low:	+10 /	-25
Code -	****				****						*V*V	****				*V*V			*V*V		****			****			
BURNER RH5																											
High -	3155	3489	4463	3131	3350	4183	4433	4212	4026	3970	3860	3943	4270	4097	4111	4140	4126	4418	4097	4026	3819	4448	4198	4212			
Low -	1851	2347	4140	2008	1735	4041	4083	2624	3901	3806	3685	3711	4012	3860	3685	3711	3874	4097	3765	3806	3685	2645	4026	4041			
Average -	2392	2900	4307	2651	2561	4116	4281	3428	3951	3896	3795	3789	4136	3957	3987	4020	4009	4300	3950	3938	3754	3744	4105	4139	3754	-1.99	4307
PLD% -	-36	-23	15	-29	-32	10	14	-9	5	4	1	1	10	5	6	7	7	15	5	5	-0	-0	9	10	High/Low:	+15 /	-36
Code -	*V*V	*V*V		*V*V	*V*V			*V*V			****	****									****	*V*V					
BURNER RH6																											
High -	4373	4539	4433	4299	4299	4270	4198	3915	3887	4198	4140	4554	4433	4097	4154	4097	4198	3874	3998	4012	4285	3792	4344	4329			
Low -	3998	4270	4111	3957	3725	4026	3580	3179	2864	3984	3252	4285	3778	3711	3901	3658	3998	2298	2819	3846	2298	3632	4055	4026			
Average -	4181	4456	4225	4170	4122	4130	4076	3516	3420	4084	3646	4446	4143	3956	4033	3918	4100	2701	3556	3943	3035	3724	4153	4203	3914	2.18	4456
PLD% -	7	14	8	7	5	6	4	-10	-13	4	-7	14	6	1	3	0	5	-31	-9	1	-22	-5	6	7	High/Low:	+14 /	-31
Code -								****	*V*V		*V*V			****		****		*V*V	*V*V	****	*V*V	****					
BURNER RC1																											
High -	4041	4126	4198	3806	3095	3806	3998	4358	4097	4012	3929	3792	3792	3645	3765	3765	3819	3806	3901	3806	4012	3984	3984	3984			
Low -	3179	2808	3984	2136	1632	3388	3846	4111	3915	3874	3155	3619	3567	3502	3567	3464	3567	3528	3698	3580	3725	3752	3846	3752			
Average -	3893	3785	4081	3016	2026	3675	3924	4269	3993	3945	3615	3723	3687	3585	3657	3638	3719	3702	3785	3702	3928	3873	3924	3880	3709	-3.17	4269
PLD% -	5	2	10	-19	-45	-1	6	15	8	6	-3	0	-1	-3	-1	-2	0	-0	2	-0	6	4	6	5	High/Low:	+15 /	-45
Code -	VVVV	*V*V		*V*V	*V*V	****					****	****	****	****	****	****	****	****	****	****							
BURNER RC2																											
High -	2560	3998	4226	3970	4069	3943	4140	4169	4083	3970	3970	4026	3943	4041	3957	3970	3998	3957	4026	3943	3970	3860	3738	3887			
Low -	1929	3806	3929	2529	3874	3725	3943	4012	3806	3738	3738	3860	3752	3874	3752	3752	3725	3725	3887	3658	3685	2875	3541	3593			
Average -	2171	3922	4054	3466	3975	3829	4029	4085	3960	3882	3855	3950	3856	3934	3849	3892	3874	3824	3959	3735	3829	3459	3627	3762	3782	-1.26	4085
PLD% -	-43	4	7	-8	5	1	7	8	5	3	2	4	2	4	2	3	2	1	5	-1	1	-9	-4	-1	High/Low:	+8 /	-43
Code -	*V*V			*V*V																		*V*V	****				
BURNER RC3																											
High -	3645	4183	3819	4111	4212	4140	4183	4661	4388	4154	3957	4069	4026	3957	4154	3943	3984	4012	4041	4083	4055	4126	4111	3984			
Low -	2797	3765	3155	3400	4012	3957	4069	4373	3998	3846	3738	3752	3778	3711	3819	3738	3860	3887	3846	3685	3833	3846	3833	3778			
Average -	3302	4005	3521	3914	4110	4045	4122	4469	4166	3970	3848	3942	3886	3824	3974	3855	3918	3942	3927	3953	3927	4023	3961	3883	3937	2.77	4469
PLD% -	-16	2	-11	-1	4	3	5	14	6	1	-2	0	-1	-3	1	-2	-0	0	-0	0	-0	2	1	-1	High/Low:	+14 /	-16
Code -	*V*V	****	****	****						****	****	****	****	****	****	****	****	****	****	****	****		****	****			

IP7_001228

AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 4

TABLE 8

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER RC4																											
High -	3013	4226	3451	3970	3887	4344	4692	4329	4358	4388	4055	4183	4539	4344	4140	4226	4539	4373	4183	4012	4126	3984	4373	2932			
Low -	2090	3765	2145	2519	3036	4169	4069	4126	4212	4055	3388	4012	4373	3929	4012	2932	4314	4212	3901	3846	2645	3711	4169	2080			
Average -	2700	4056	2836	3154	3447	4257	4385	4254	4282	4219	3759	4106	4470	4144	4088	3725	4456	4292	4036	3923	3118	3894	4282	2526	3850	0.51	4470
PLD% -	-30	5	-26	-18	-10	11	14	10	11	10	-2	7	16	8	6	-3	16	11	5	2	-19	1	11	-34	High/Low:	+16 /	-34
Code -	*V*V		*V*V	*V*V	*V*V						****					*V*V				****	*V*V	****		*V*V			
BURNER RC5																											
High -	2386	4026	4169	3645	3301	4523	4539	3846	4026	4448	4463	4069	4256	4493	4083	4314	4448	4478	4433	4329	3957	4183	4140	4183			
Low -	1585	3313	3698	2427	2268	4299	4169	3095	3792	4270	4140	3606	4055	3619	3901	4055	3711	4285	4226	4083	3658	2875	3426	3819			
Average -	2024	3693	3923	2949	2693	4440	4458	3457	3917	4357	4295	3818	4158	3956	3971	4179	4005	4369	4334	4196	3842	3676	3838	4013	3857	0.68	4458
PLD% -	-48	-4	2	-24	-30	15	16	-10	2	13	11	-1	8	3	3	8	4	13	12	9	-0	-5	-0	4	High/Low:	+16 /	-48
Code -	*V*V	****	****	*V*V	*V*V			****	****			****		****	****		****				****	*V*V	****				
BURNER RC6																											
High -	4493	4677	4539	4097	4041	3806	3645	3025	4069	4615	3179	4270	4083	4241	4646	3143	4055	4600	3915	4523	4314	4140	4523	4373			
Low -	4026	4256	4226	3833	3338	3489	2978	2581	3619	4403	2613	4026	3426	3738	4344	2327	3632	4083	2602	4041	3451	3567	3619	4026			
Average -	4347	4501	4400	3962	3646	3624	3342	2820	3812	4497	2932	4142	3712	4004	4477	2704	3842	4342	3055	4329	3963	3925	4225	4227	3868	0.97	4501
PLD% -	12	16	14	2	-6	-6	-14	-27	-1	16	-24	7	-4	4	16	-30	-1	12	-21	12	2	1	9	9	High/Low:	+16 /	-30
Code -				****	****	****	****	****	****		****		****	****		*V*V	****		*V*V		*V*V	****					
BURNER RG1																											
High -	4724	4615	4818	4508	4169	3375	4600	2126	4140	4630	2720	4314	3998	4154	4388	2853	4314	4463	4508	4523	4418	4523	4523	4418			
Low -	4448	4270	4523	4299	3375	1719	4285	1547	3554	3765	2183	3887	3388	3860	4183	2268	3984	4270	4083	4373	4270	4403	4344	4270			
Average -	4616	4450	4658	4431	3833	2398	4474	1830	3787	4504	2409	4194	3712	4041	4285	2496	4143	4375	4328	4457	4343	4473	4430	4367	3960	3.37	4658
PLD% -	17	12	18	12	-3	-39	13	-54	-4	14	-39	6	-6	2	8	-37	5	10	9	13	10	13	12	10	High/Low:	+18 /	-54
Code -					****	*V*V		*V*V	****		****		****	****		*V*V	****										
BURNER RG2																											
High -	4539	4433	4615	3846	3765	3288	4569	2786	4055	3984	3792	3325	3901	3860	3833	3778	3658	3725	3846	3915	4083	3970	3970	3957			
Low -	4358	4111	4448	3464	3541	2008	4314	1990	3645	3738	3619	2592	3711	3698	3698	2307	3451	3567	3698	3725	3698	3752	3765	3711			
Average -	4467	4262	4502	3668	3640	2460	4480	2244	3914	3849	3726	2985	3801	3774	3775	3035	3556	3637	3770	3815	3945	3870	3891	3801	3703	-3.34	4502
PLD% -	21	15	22	-1	-2	-34	21	-39	6	4	1	-19	3	2	2	-18	-4	-2	2	3	7	5	5	3	High/Low:	+22 /	-39
Code -				****	****	*V*V		*V*V	****	****	****	*V*V	****	****	****	*V*V	****	****	****	****	****	****	****	****			
BURNER RG3																											
High -	4083	3806	4041	3593	3606	3658	4083	4111	3672	3606	3658	3554	3752	3477	3489	3658	3711	3619	3765	3806	3778	3819	3672	3792			
Low -	3606	3541	3860	3388	3350	2337	3765	2367	3464	3363	3489	2053	3554	1894	3338	3489	3515	3375	3593	3580	3567	3541	3528	3593			
Average -	3847	3657	3940	3470	3442	3100	3944	3336	3596	3457	3589	2982	3617	2643	3426	3577	3619	3521	3704	3702	3651	3655	3608	3708	3533	-7.77	3944
PLD% -	9	4	12	-2	-3	-12	12	-6	2	-2	2	-16	2	-25	-3	1	2	-0	5	5	3	3	2	5	High/Low:	+12 /	-25
Code -				****	****	*V*V		*V*V		****		*V*V		*V*V	****			****									
BURNER RG4																											
High -	3806	3698	3833	3806	3806	3426	3711	3752	3451	3645	3819	3567	3874	3765	3860	3819	4055	4097	3711	3752	3338	3792	3943	3929			
Low -	3413	3515	3593	3645	3580	3227	3489	3528	3203	3264	3606	3239	3606	3400	3593	3593	3874	3915	3541	3580	3203	3606	3725	3738			
Average -	3689	3615	3720	3717	3724	3309	3600	3623	3333	3533	3734	3387	3712	3601	3706	3696	3968	4008	3608	3661	3258	3737	3801	3827	3649	-4.75	4008
PLD% -	1	-1	2	2	2	-9	-1	-1	-9	-3	2	-7	2	-1	2	1	9	10	-1	0	-11	2	4	5	High/Low:	+10 /	-11
Code -						****	****		****	****		****		****							****						
BURNER RG5																											
High -	3846	3887	3752	3778	3957	3738	3363	3658	2921	3778	3489	3957	3752	3288	3619	3451	3792	3998	3554	3179	3095	3606	3502	3580			
Low -	3698	3711	3580	3619	3711	3515	3179	3438	2145	3554	1964	3738	3400	3107	3489	3239	3528	3778	3288	3060	2909	3325	3375	3363			
Average -	3762	3789	3655	3716	3867	3597	3252	3583	2534	3632	2177	3837	3590	3199	3559	3365	3642	3854	3413	3119	3016	3559	3442	3468	3443	-10.13	3867
PLD% -	9	10	6	8	12	4	-6	4	-26	6	-37	11	4	-7	3	-2	6	12	-1	-9	-12	3	-0	1	High/Low:	+12 /	-37
Code -							****		*V*V		*V*V			****		****			****	****	****		****	****			

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AIR DISTRIBUTION ANALYSIS
OUTER ZONE AIR DISTRIBUTION ANALYSIS
TEST 4

TABLE 8

Test Point Velocities (Feet/Minute)

Test Point (deg)	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Burner Average	% Deviation	Velocity Peak
BURNER RG6																											
High -	3645	3698	3846	3738	3672	3658	3738	3477	3606	3477	3288	3179	3593	3167	3288	3338	3632	3619	3438	3155	3131	3325	3426	3464			
Low -	3515	3325	3464	3489	3489	3515	3541	2477	3363	3301	3083	3048	3363	3036	3083	3191	3426	3375	3215	3060	2887	3083	3227	3239			
Average -	3587	3592	3713	3633	3573	3603	3619	2911	3503	3410	3176	3129	3468	3097	3221	3255	3557	3495	3299	3114	2945	3233	3328	3371	3368	-12.08	3713
PLD% -	7	7	10	8	6	7	7	-14	4	1	-6	-7	3	-8	-4	-3	6	4	-2	-8	-13	-4	-1	0	High/Low:	+10 /	-14
Code -								*V*V			****	****		****	****	****			****	****	****	****	****				

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Minimum Low Flow Deviation - This percentage is the greatest difference between the Lowest Burner Average Velocity and the Average Velocity for All Burners. A negative sign indicates a burner receiving less than the average airflow.

Total Flow Deviation - This number is the total deviation difference in airflow between the burner receiving the maximum airflow and the burner receiving the minimum airflow.

Each test point was also analyzed for two conditions as follows:

1. A deviation from the peak velocity reading for the burner.
2. A deviation between the high and low velocity readings.

A 10% deviation is used as the set point for the blocked flow and 20% for vortex action analysis. These deviations are noted on the Code Line for each test point. An asterisk (*) indicates a greater than 10% deviation from the peak burner velocity. A (V) symbol indicates that there is a greater than 20% deviation between the high and low velocity readings and indicates a vortex eddy. An asterisk and V (*V) combination code indicates that both conditions are occurring simultaneously. If one of these codes is listed below a test point it indicates one of these factors is influencing the perimeter loading of the burner.

The three-dimensional figures are produced from the average velocity data and pictorially represent the burner velocity air cones. In addition to the composite burner three-dimensional figures, the velocity profiles are also presented in topographical format. See Appendix.

The XY coordinates for all figures designate horizontal and vertical location dimensions along the boiler (these dimensions are in inches). The lower left corner of the windbox is the origin for the XY coordinates.

5.2 Airflow Balancing

Baseline testing showed that significant airflow deviations existed between burners and within windboxes. Deviations varied from 12.4% to -10.6% for the inner zone and from 16.5% to -19.3% for the outer zone. These flow deviation ranges clearly indicated a need for airflow balancing in the burners.

However, baseline data also revealed extreme disturbed flow conditions were occurring in every burner. The most likely cause of these extreme flow disturbances is flow separation occurring at the inner corner of the entrance of the secondary air into each windbox. Flow separation causes large-scale eddies which cascade through the windbox and show up as interrupted flow or rapid velocity fluctuations at each data point. When large-scale flow disturbances are noted like this, balancing airflows by adjusting backplates or banding outer zone air doors becomes extremely difficult and unreliable because the flow patterns do not repeat identically from test to test. Meeting the balancing objective of ±5% would be very difficult by simple backplate or banding adjustments. The most effective solution would be to model the unit.

Tables 1 and 2 show the results of airflow balancing after the initial standard settings of the outer zone bands and inner backplates. Based on subsequent test results (Tables 3-8), additional adjustments were made for further balancing. There was insufficient time remaining in the schedule for retesting the unit after the fourth set of adjustments. However, it is the opinion of RJM Corporation that the last series of adjustments improved flow deviations and that actual performance results are better than indicated by Tables 7 and 8.

Test 4 results (Tables 7 and 8) shows that the deviation range has been narrowed to +6.6%, -12.2% for the outer zone and +8.6%, -8.2% for the inner zone respectively. Please note that final band and backplate adjustments have further

narrowed this range. However, there is no test data by which we can quantify the reduction.

5.3 Airflow Deviation Analysis

Each windbox exhibits burner-to-burner flow imbalances. For the outer zones of the burners the flow imbalance within a given windbox (Test 4) ranges from 4% to 15%. The inner zone deviations range from 3% to 11%. There is no definitive pattern to the deviations. However, it does appear that the rear windboxes are biased toward low airflows on the west side while the reverse is true of the front windboxes.

5.4 Perimeter Loading Distribution Deviations

Perimeter loading distribution deviations on Unit No. 1 are extreme. Ideally, burner perimeter loading distribution deviations, which are deviations in airflow around the circumference of the burner, should fall within ±5% for optimum operation. Acceptable perimeter loading distribution deviations are less than ±10%. However, on Unit No. 1 no burner falls within these ranges. Minimum Test 4 inner zone perimeter loading deviations are +17% and -14%. Minimum deviations for the outer zones are +10% and -11%. Maximum deviations are +27% and -47% for the outer zone and +45% and -59% for the inner zone.

Examination of the 3-D velocity profile cones in the Appendix for each burner graphically shows how extreme the airflow variances can be within burners such as G2, C1 and H1.

It is the opinion of RJM Corporation that the most significant cause of the perimeter loading distribution deviation problems are windbox vortex eddies which are cascading down onto the burners and interrupting flow patterns.

The only acceptable solution for correcting the perimeter loading distribution deviations is to conduct an airflow model study to locate the origin of, and to eliminate the incidence of windbox vortex eddies.

5.5 Test Anomalies

TEST 1 - The number of test points per burner in Test 1 was reduced from 24 to 12. Problems with plant computers and bringing the FD fans on-line reduced the time window for testing to a point where 24 point tests could not be completed. A decision was made then to test every other point (12 point test) for the baseline test. Reducing the number of test points from 24 to 12 slightly reduces the sensitivity of the analysis. However, because of relative flow deviations used for shrouding, RJM believes that the 12 point shroud adjustments would be the same as determined by a 24 point test.

TEST 2 - The inner zone probe-sensing element failed half way through Test 2. All of the burners on the rear wall except for Burner G6 were tested with the original inner zone probe. After a new inner zone probe assembly was installed, Burners G6 and all the front wall burners were tested with the new assembly. As a correlation, Burner G5 was retested using the new probe assembly. There was excellent correlation between the old and new probe test data for Burner G5. The test results of Burner G6 also agreed well with the data found on the west side burners in Row G burners. A burner-by-burner comparison of Test 1 and Test 2 (see Figure 1) shows that burners designated 1, 2 and 3 in each windbox on

DATA COMPARISON - TEST 1 & TEST 2

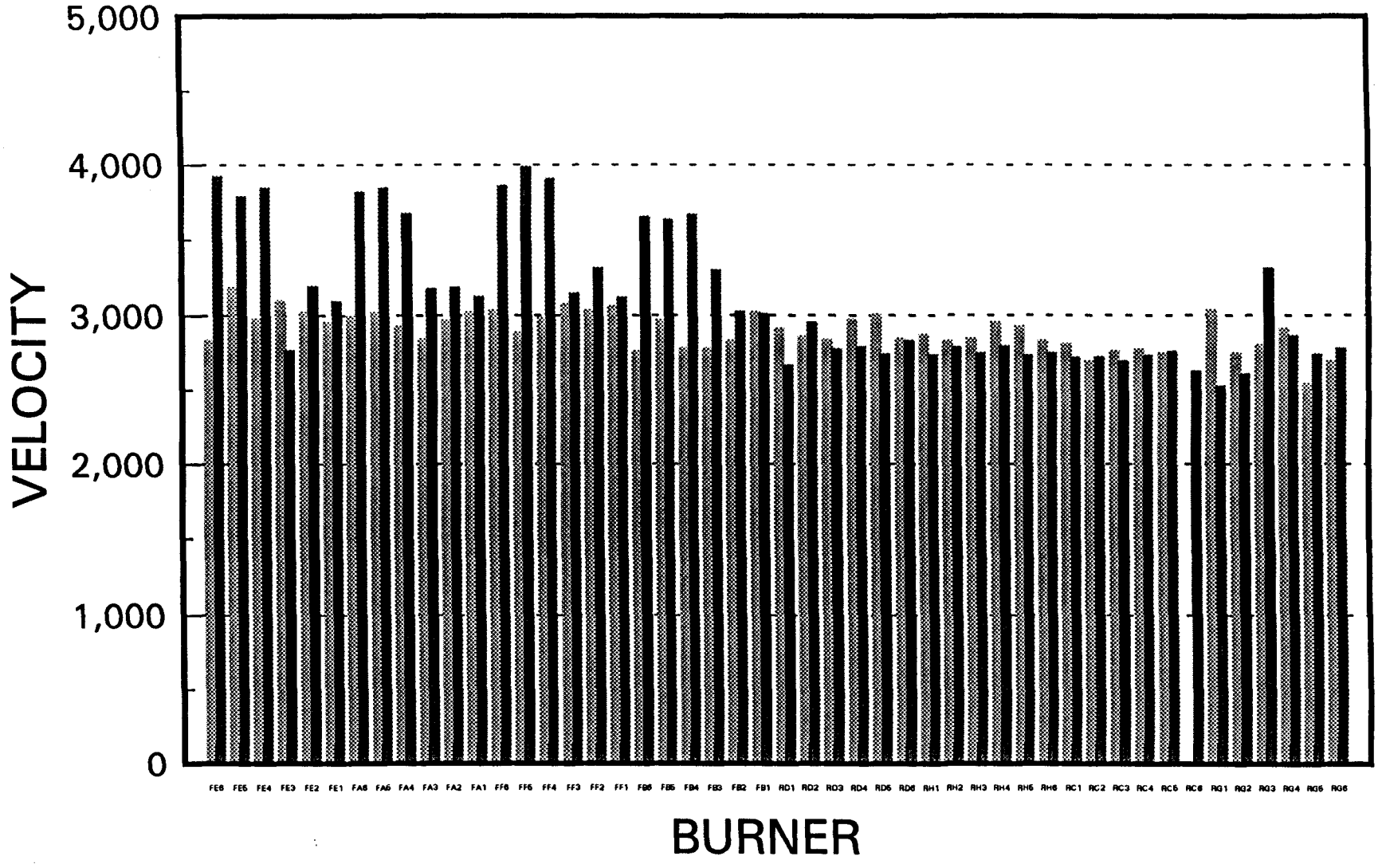

Figure 1

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the front of the unit had flow increases averaging 5%. However, Burners 4, 5 and 6 in each of the four windboxes on the front of the unit had composite flow increases averaging 30+%. RJM must conclude from this data that the probe change did not affect test results and that some other anomaly such as burner setup or windbox air damper setups may have somehow created the unusually high flow conditions on the west side burners of the front windbox.

TEST 4 - The outer zone probe failed during testing of the front wall burners. Therefore, only inner zone data could be taken for the remainder of the test. Data was collected for all rear wall burners, the burners in Windbox B, and F1 Burner on the front wall for both inner and outer zones. Only inner zone data could be collected for Burners F2 through F6 and the burners in Windboxes E and A.

5.6 Burner Settings

Air door positions were set by plant personnel from inside the windbox to the following positions:

Spin Vanes	=	100% open
Inner Zone Exit Plane	=	RJM Swirler
Outer Zone	=	100% open

For the baseline test, the burner backplates and burner shrouds were set as follows:

Backplate	=	3.5" Open
Outer Zone Air Inlet Width	=	6"

Final backplate settings and new air inlet widths based on outer zone shroud adjustments derived at the conclusion of Test 4 are shown in Table 9.

TABLE 9

BACK PLATE SETTINGS

ID	NEW OPENING
FE6	2.80
FE5	2.68
FE4	2.77
FE3	3.70
FE2	3.46
FE1	3.85
FA6	2.78
FA5	2.67
FA4	3.02
FA3	3.54
FA2	3.53
FA1	3.83
FF6	2.64
FF5	2.68
FF4	2.62
FF3	3.84
FF2	3.50
FF1	3.88
FB6	3.33
FB5	3.10
FB4	3.09
FB3	3.79
FB2	4.16
FB1	4.38
RD1	3.28
RD2	3.28
RD3	3.30
RD4	3.92
RD5	3.80
RD6	3.85
RH1	3.48
RH2	3.31
RH3	3.35
RH4	3.76
RH5	4.26
RH6	4.25
RC1	3.56
RC2	3.54
RC3	3.75
RC4	4.48
RC5	4.36
RC6	4.68
RG1	3.52
RG2	3.75
RG3	3.32
RG4	4.04
RG5	4.69
RG6	4.56

OUTER ZONE AIR INLET WIDTH

ID	NEW WIDTH
FE6	6.42
FE5	7.02
FE4	7.41
FE3	7.05
FE2	7.10
FE1	7.60
FA6	5.50
FA5	5.47
FA4	5.62
FA3	5.11
FA2	5.45
FA1	5.13
FF6	4.98
FF5	5.06
FF4	5.37
FF3	5.49
FF2	5.47
FF1	5.31
FB6	5.54
FB5	5.92
FB4	5.64
FB3	5.25
FB2	5.35
FB1	5.12
RD1	5.53
RD2	5.24
RD3	5.66
RD4	5.94
RD5	5.78
RD6	5.41
RH1	5.43
RH2	5.43
RH3	5.76
RH4	6.27
RH5	6.90
RH6	5.81
RC1	7.07
RC2	6.76
RC3	5.96
RC4	6.48
RC5	5.99
RC6	5.99
RG1	6.46
RG2	7.14
RG3	8.25
RG4	8.07
RG5	8.12
RG6	7.35

5.7 Test Apparatus

Coal pipe elbows were removed and support tubes of 2½" Schedule 40 pipe with two sets of three support legs were inserted into the burner PC tube. The probe was inserted through the support tube and positioned perpendicular to the burners axis via mechanical linkage in the plane of the burner throat. The test probe has a sensing unit which integrates data over a 3" element length. Data is collected clockwise in 15 degree increments in the burner throat around the burner axis as viewed from the firing isle. The 0 degree data position is at the top dead center position in the burner. A single probe setup was used for simultaneous testing of the inner and outer air zones.

The probe output is the actual velocity compensated for the windbox temperature. Upon achieving stabilized probe readings, a microprocessor captures a ten second data window and calculates the average, minimum and maximum values. The probe has a one-second response rate and can measure velocity values on airflow vectors which are within ± 50 degree of an axial flow vector. The repeatability of the apparatus is 0.25% with an absolute value reading accuracy of $\pm 1.5\%$.

5.8 Validity of Test Results

The question frequently arises as to how accurately cold flow test results resemble actual secondary airflow conditions under normal firing conditions at full load and at lower loads. To assure that cold flow test results will accurately predict actual unit performance, RJM Corporation adheres to the flow modeling standards regarding geometric, dynamic and kinematic similarity.

Geometric similarity requires that the model being tested have the same linear, area and volumetric ratios as the full-scale unit. Since RJM Corporation uses your unit as our test model, geometric scaling factors are exactly equal for both cold and hot flow tests.

Dynamic similarity requires that the force ratios acting on the fluid particles throughout the flow pattern be the same. Since the same fluid (air) is being used on the full-scale unit, the dynamic similarity is the same for hot and cold flow.

Kinematic similarity exists between the model and the unit when their streamlines are geometrically similar. The standard for the industry is to use Reynolds number limits for kinematic similarity. When Reynolds numbers exceed 20,000 the flow is fully turbulent. Therefore, the streamlines in the test unit and the actual unit will react in the same fashion. The Reynolds numbers for cold flow and actual full load and minimum load conditions for Unit No. 1 far exceed the minimum number of 20,000 and are shown below.

$$R_{70} = 2.04 \times 10^6$$

$$R_{\text{Full Load}} = 0.5 \times 10^6$$

$$R_{\text{Minimum Load}} = 0.2 \times 10^6$$

Since geometric, dynamic and kinematic similarity has been preserved throughout the testing, the results contained in this report accurately depict the actual flow conditions in the unit under normal firing operation.

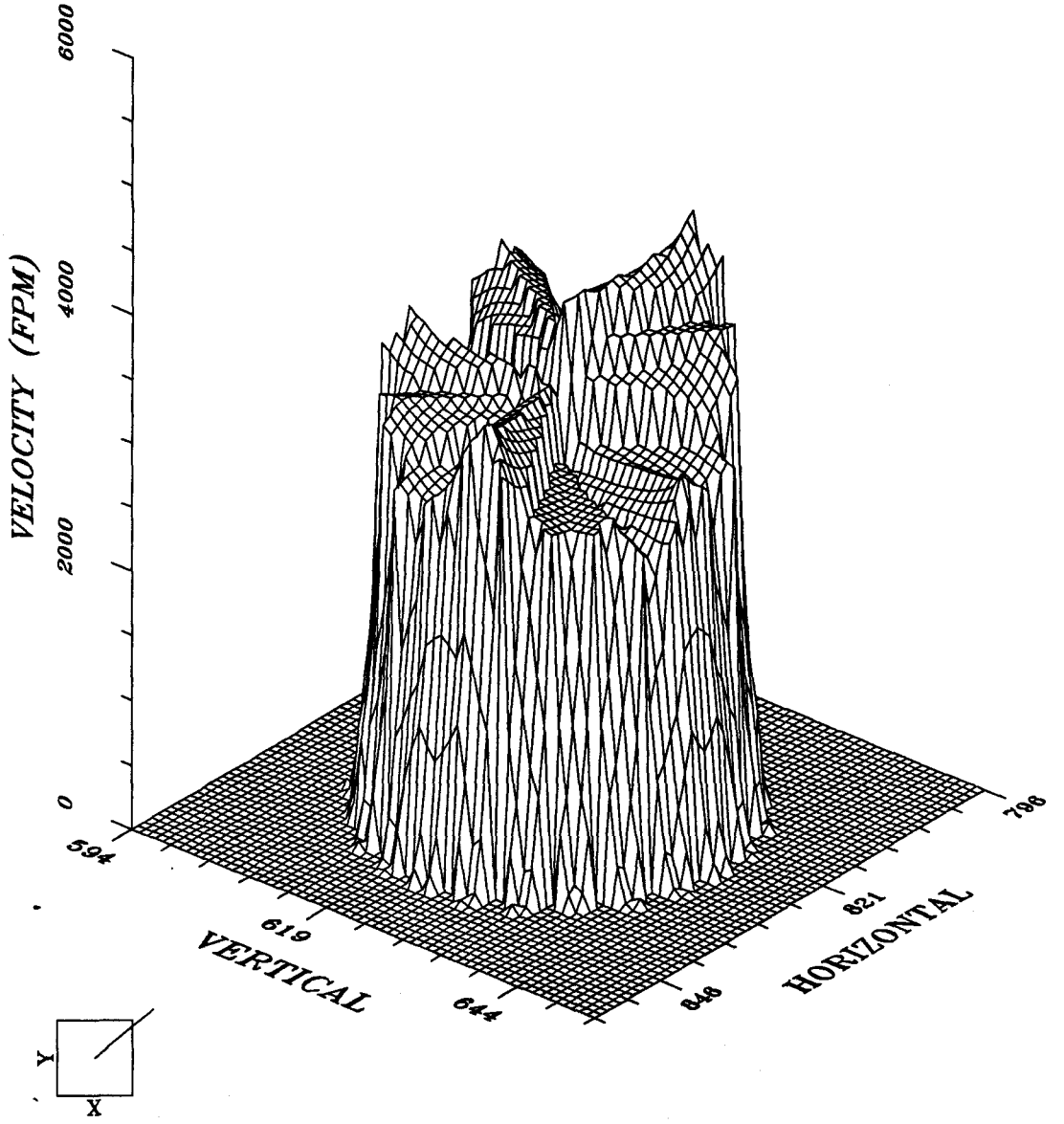
5.9 Unit Test Conditions

The FD and ID fans were brought up to load with flows balanced through each by equalizing fan amperages. Total flows through the unit were regulated by windbox dampers.

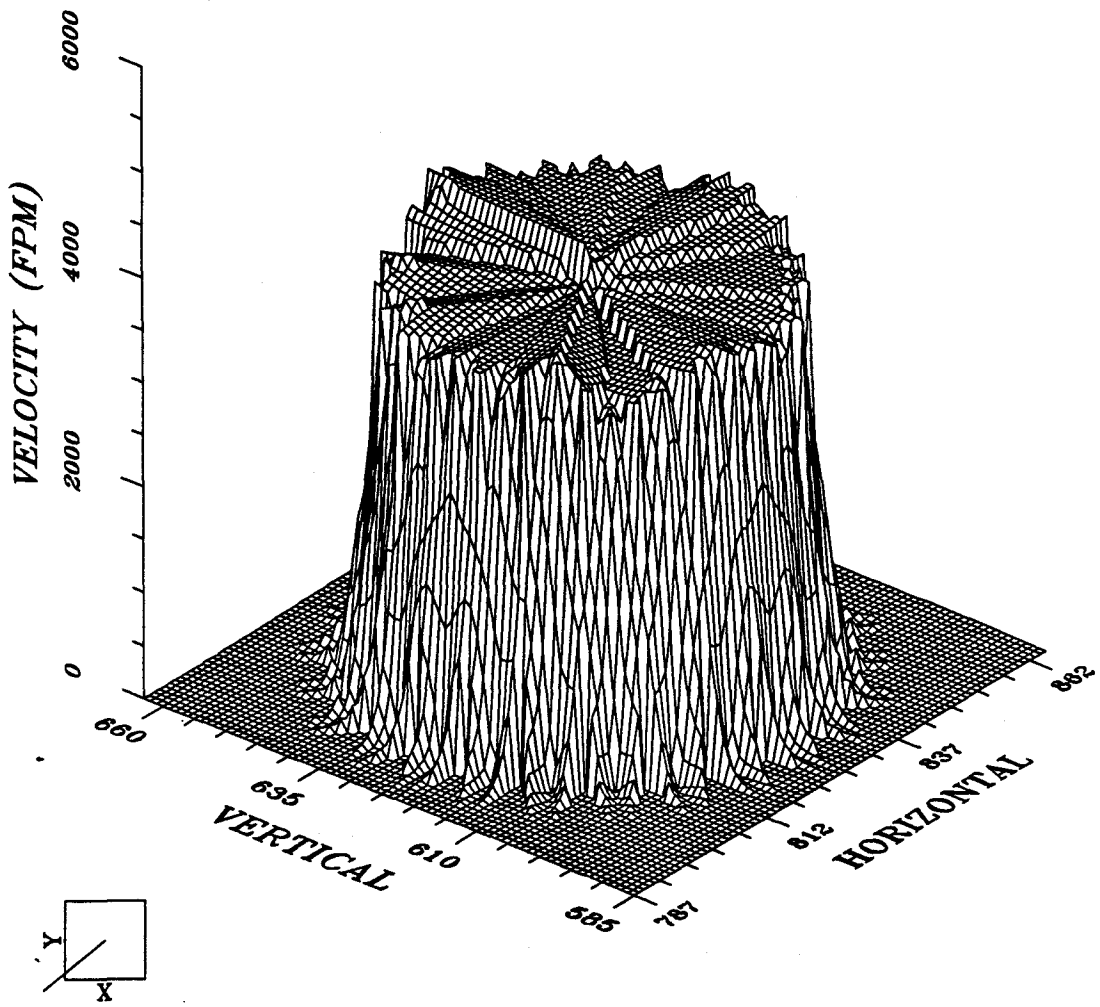
For baseline testing of the inner and outer zone air distributions and for post balancing tests of the inner and outer air zone distributions, the windbox air dampers were set at the 55% open position.

6.0 APPENDIX

NOTE: The graphics contained within this appendix are based on results from Test 4 with the following exception. Burners E1 - E6, A1 - A6 and F2 - F6 (outer zones only) are derived from Test 3 results since failure of the outer zone probe during Test 4 prevented data collection for outer zones on these burners during Test 4.

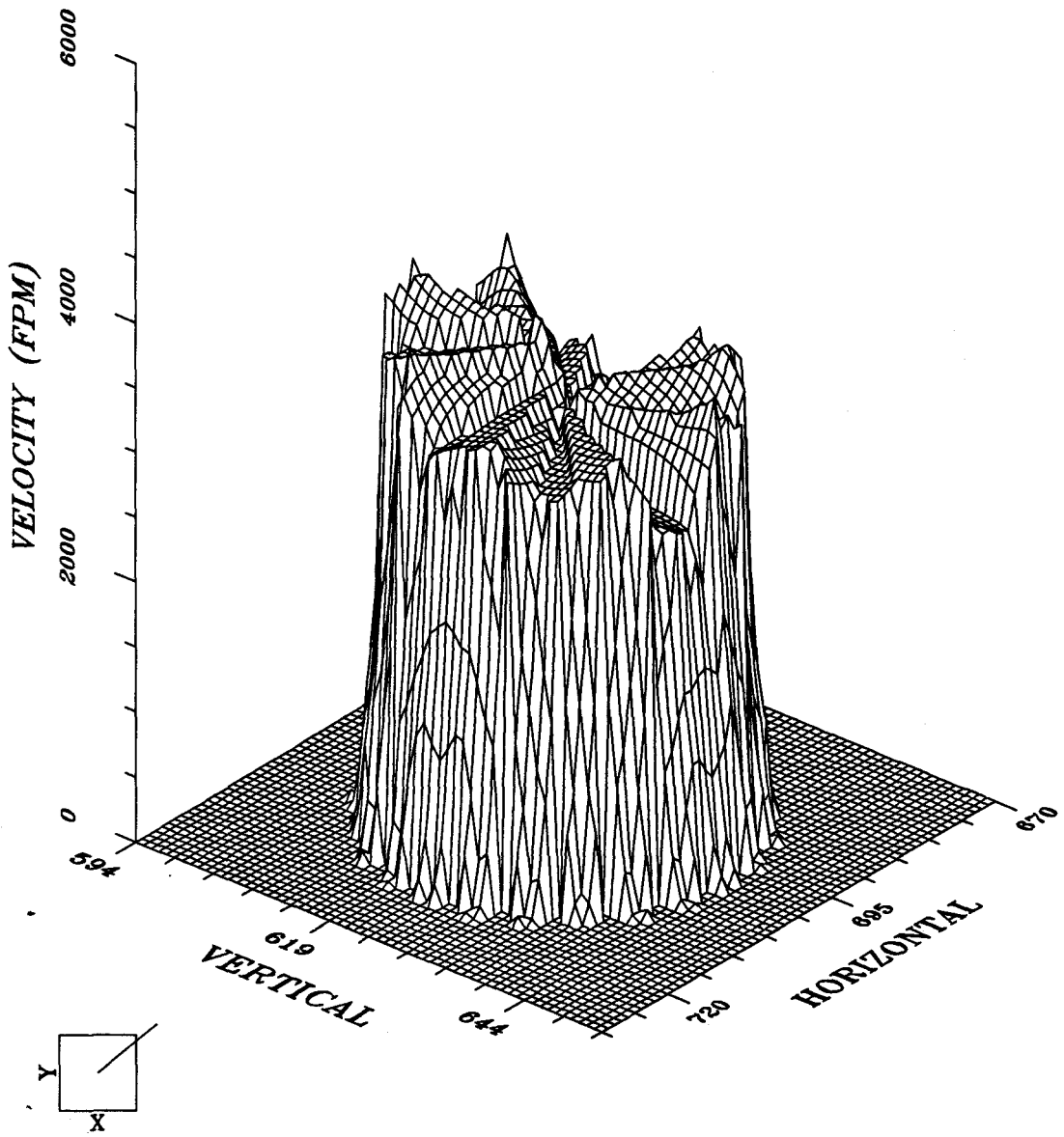


BURNER E1 INNER ZONE VELOCITY

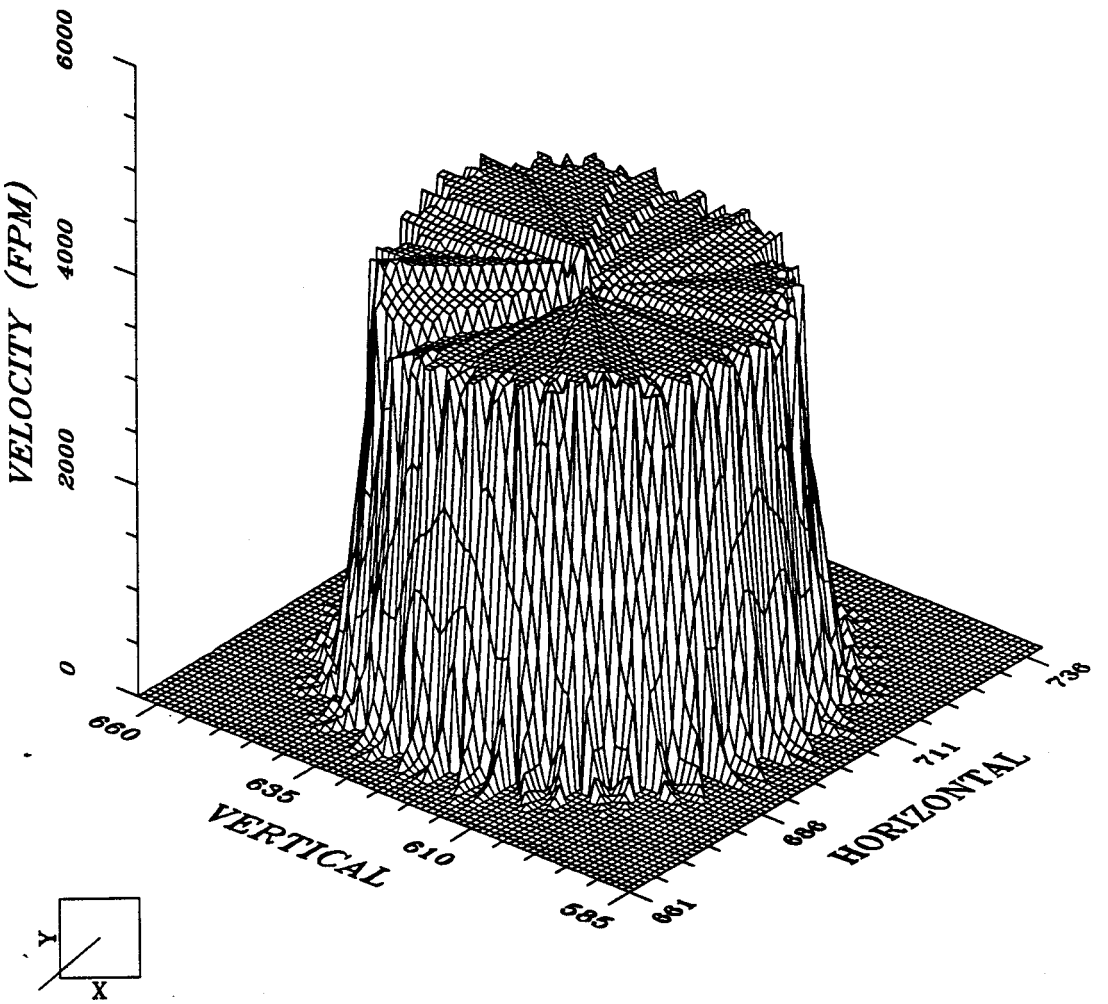


BURNER E1 OUTER ZONE VELOCITY

(TEST 3)

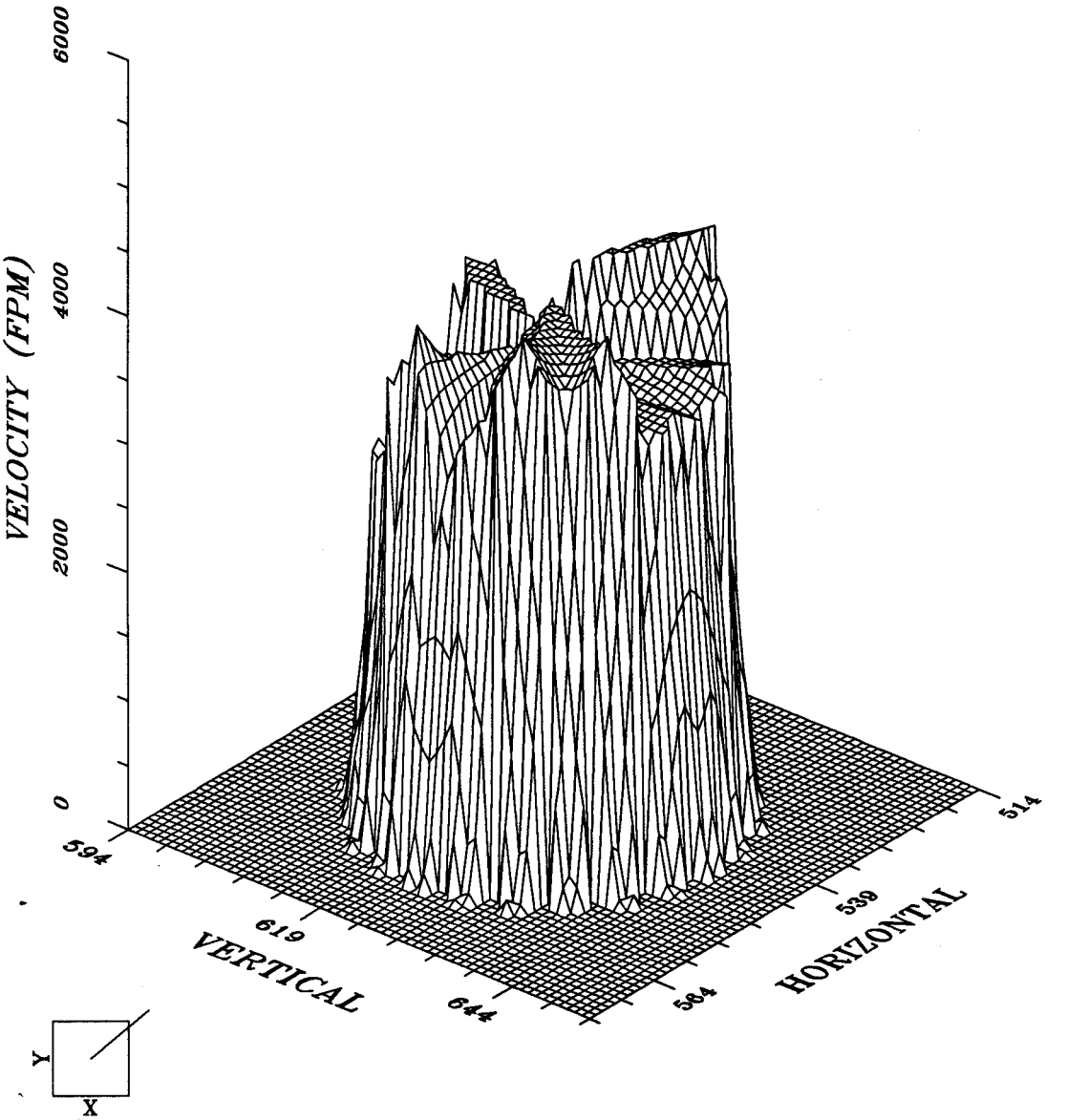


BURNER E2 INNER ZONE VELOCITY

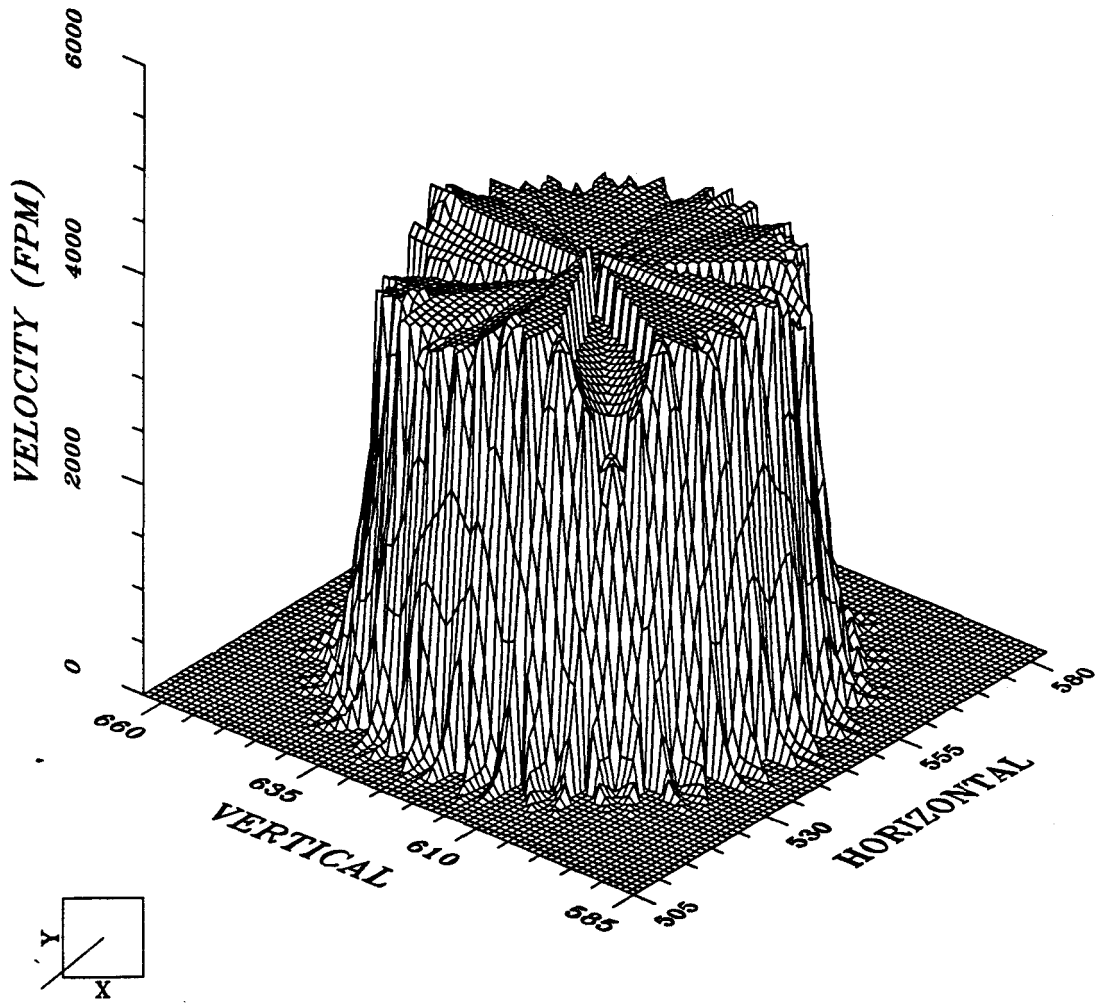


BURNER E2 OUTER ZONE VELOCITY

(TEST 3)

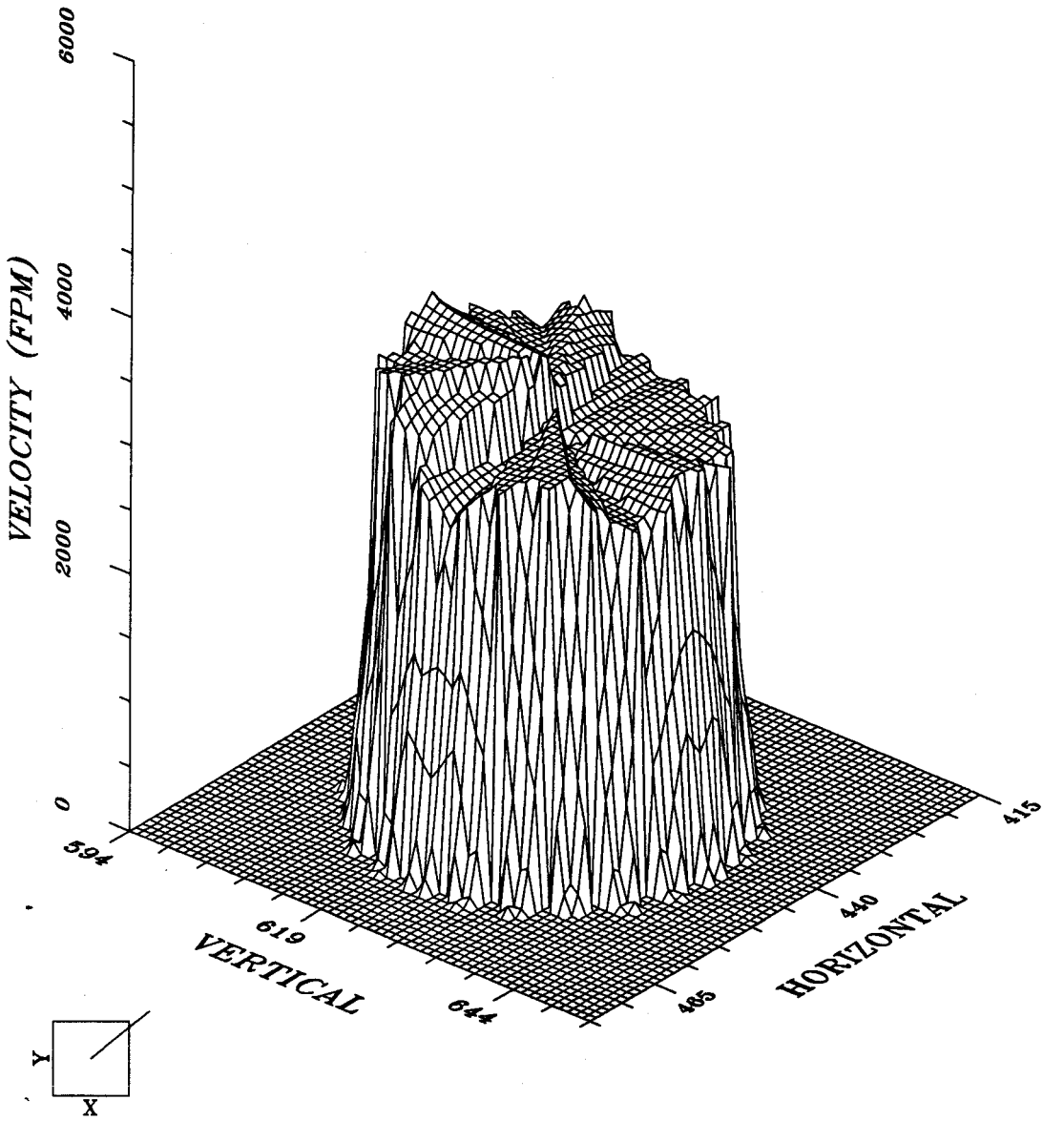


BURNER E3 INNER ZONE VELOCITY

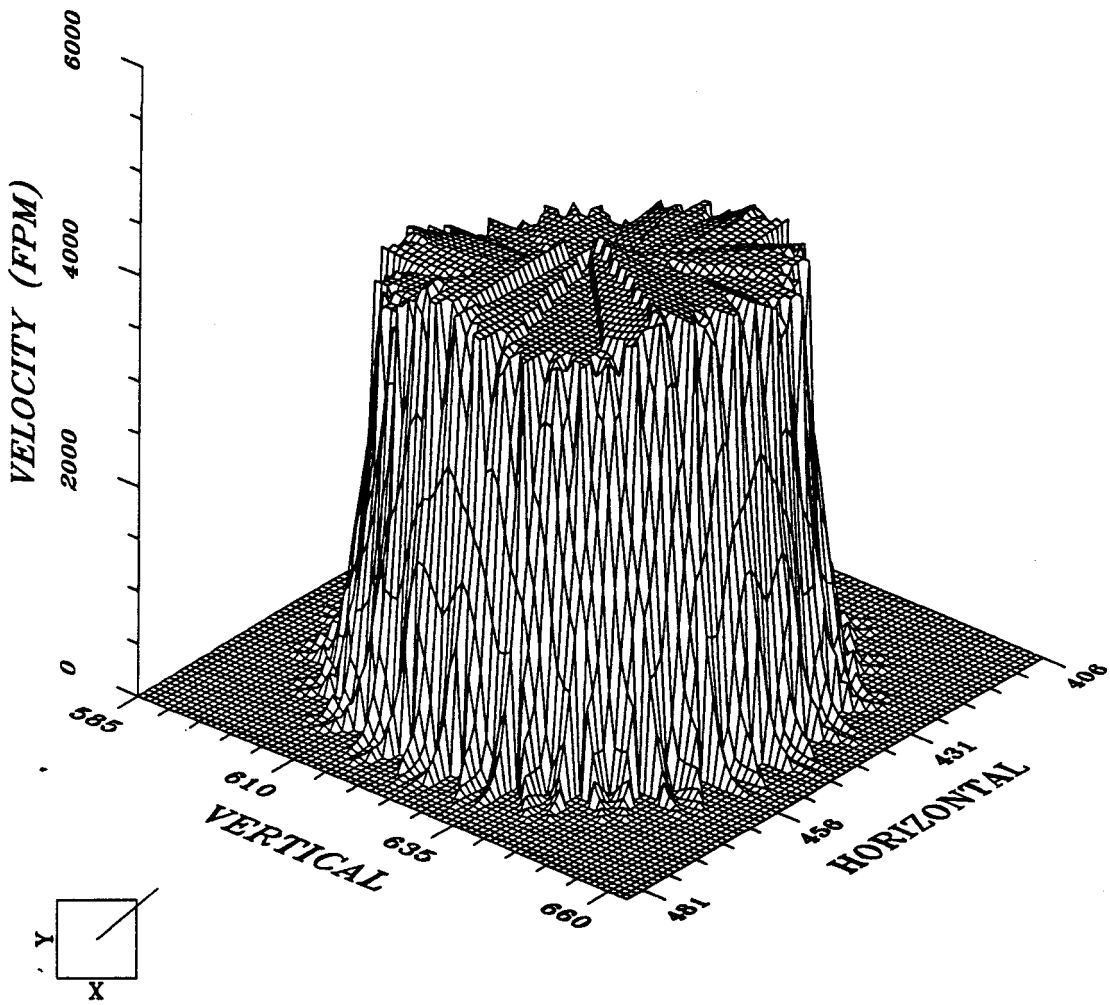


BURNER E3 OUTER ZONE VELOCITY

(TEST 3)

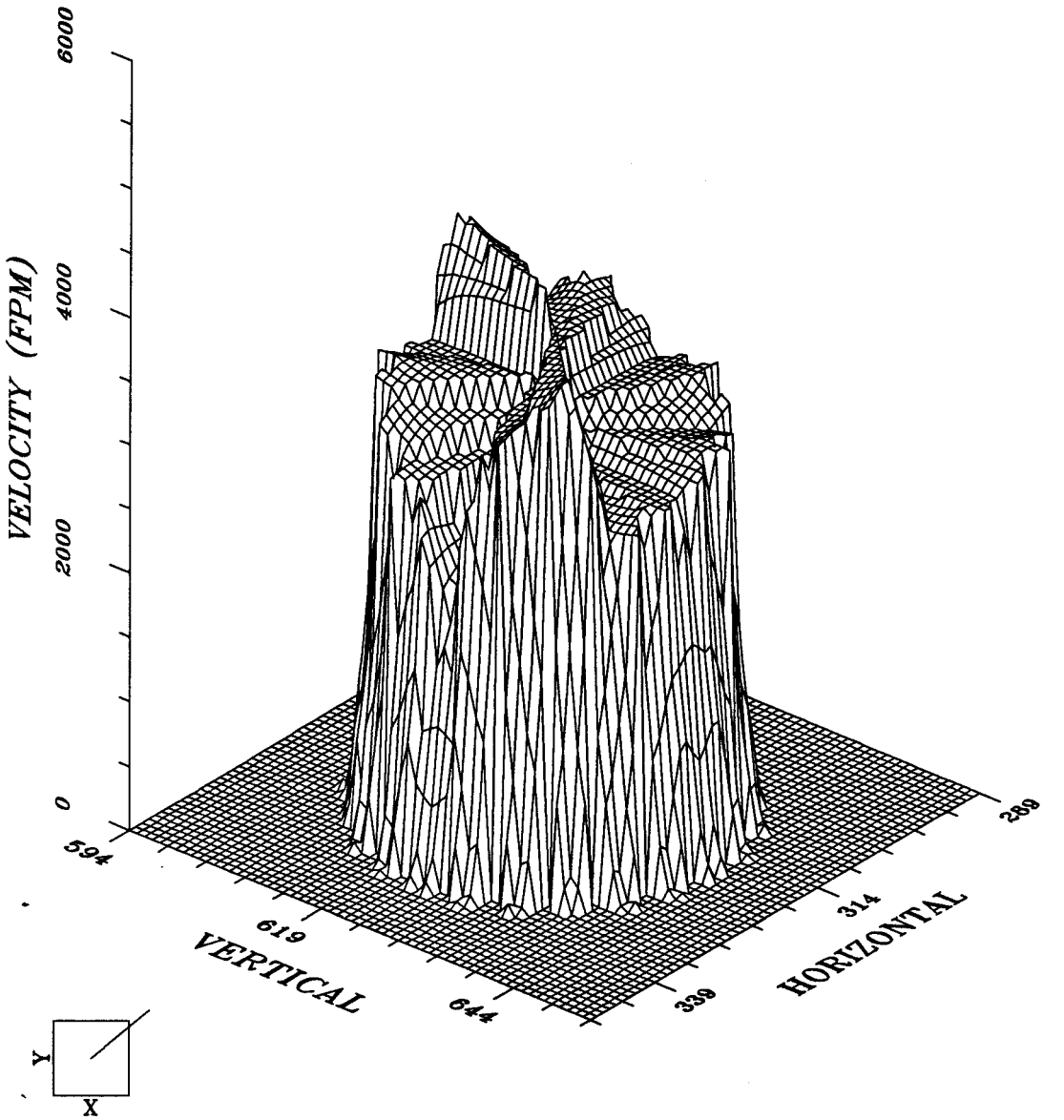


BURNER E4 INNER ZONE VELOCITY

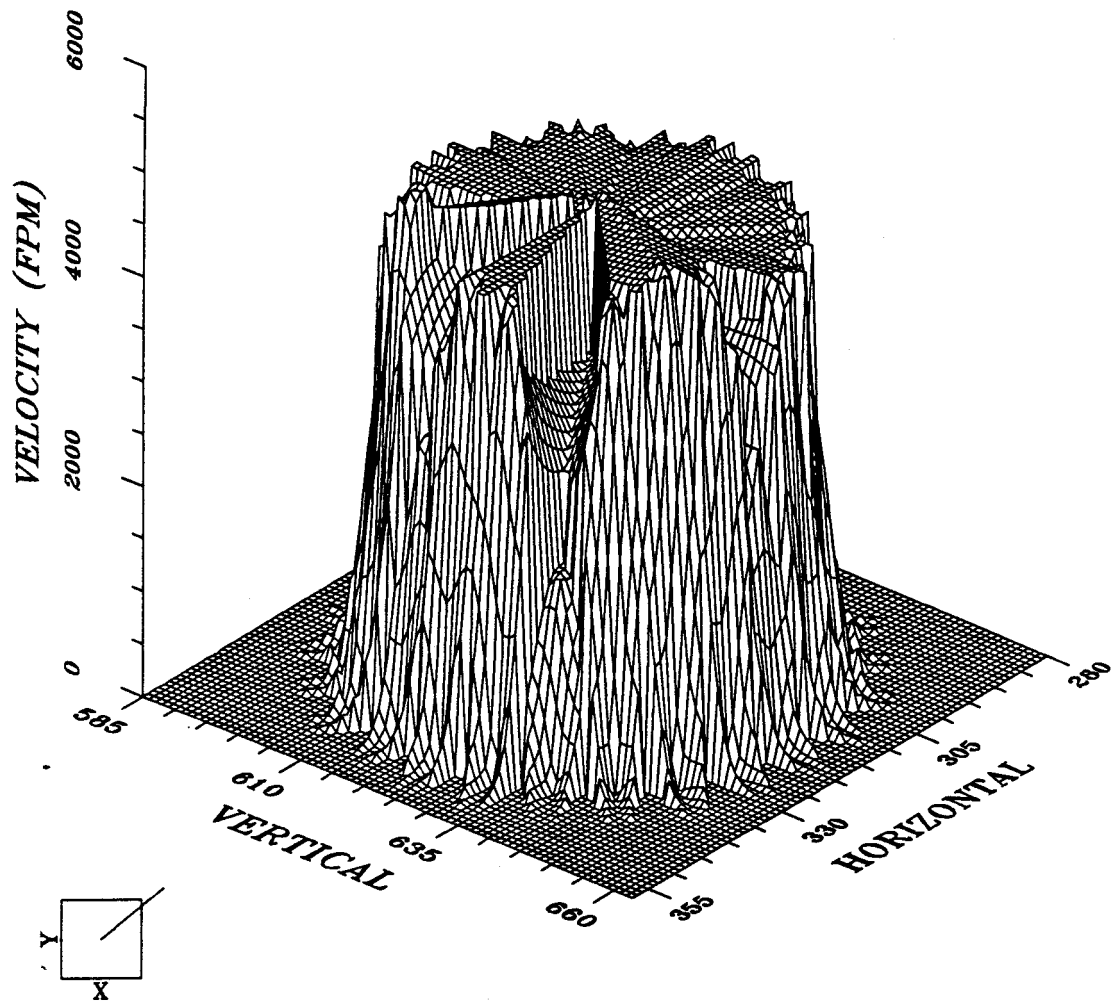


BURNER E4 OUTER ZONE VELOCITY

(TEST 3)

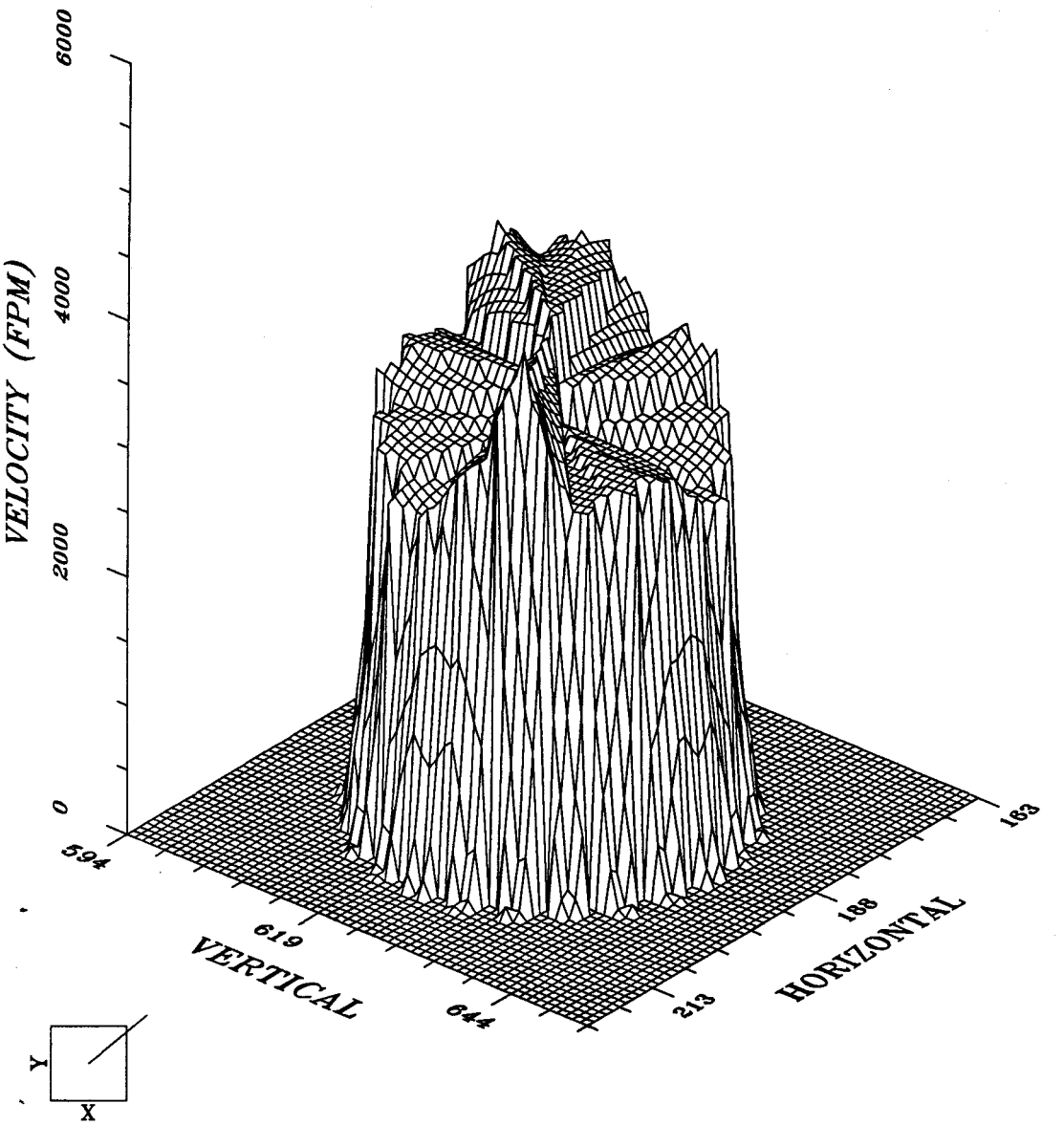


BURNER E5 INNER ZONE VELOCITY

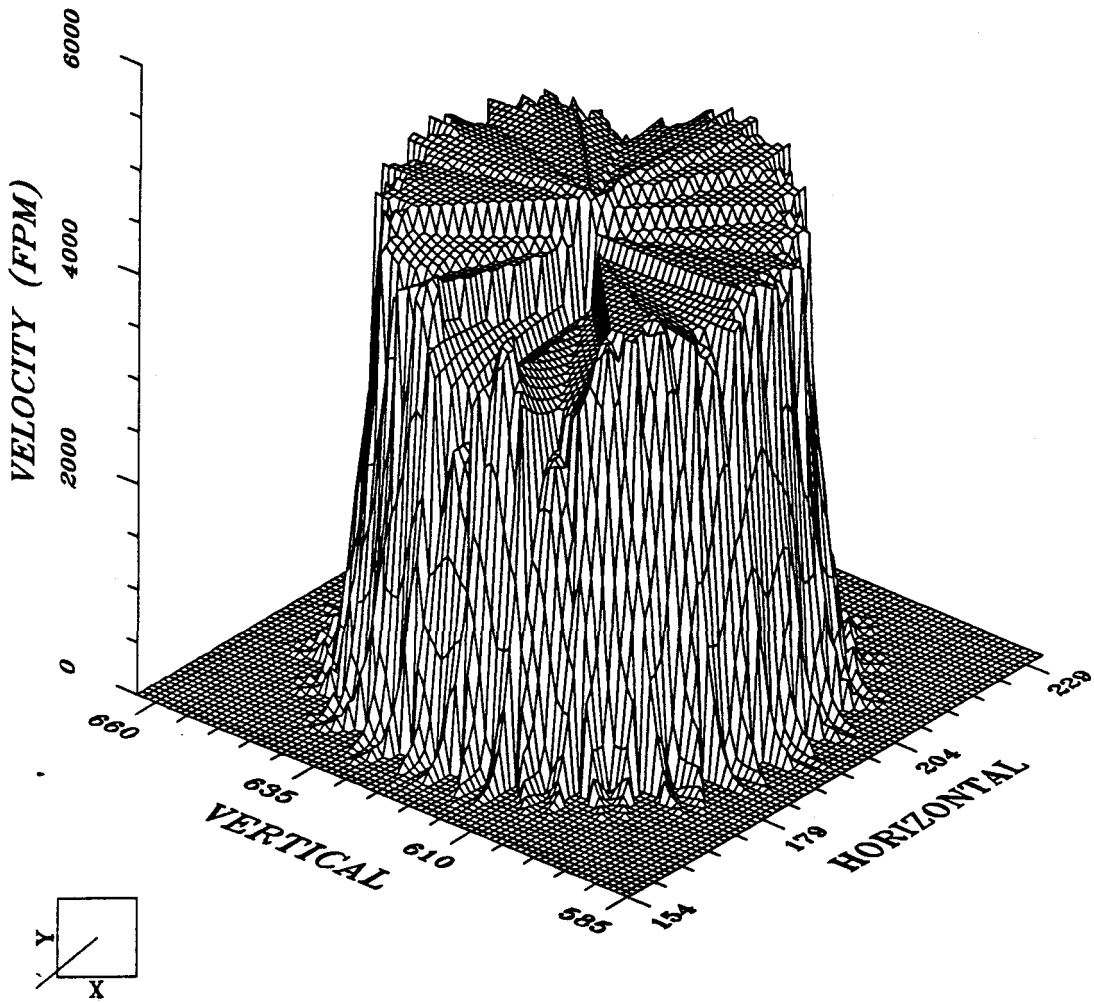


BURNER E5 OUTER ZONE VELOCITY

(TEST 3)

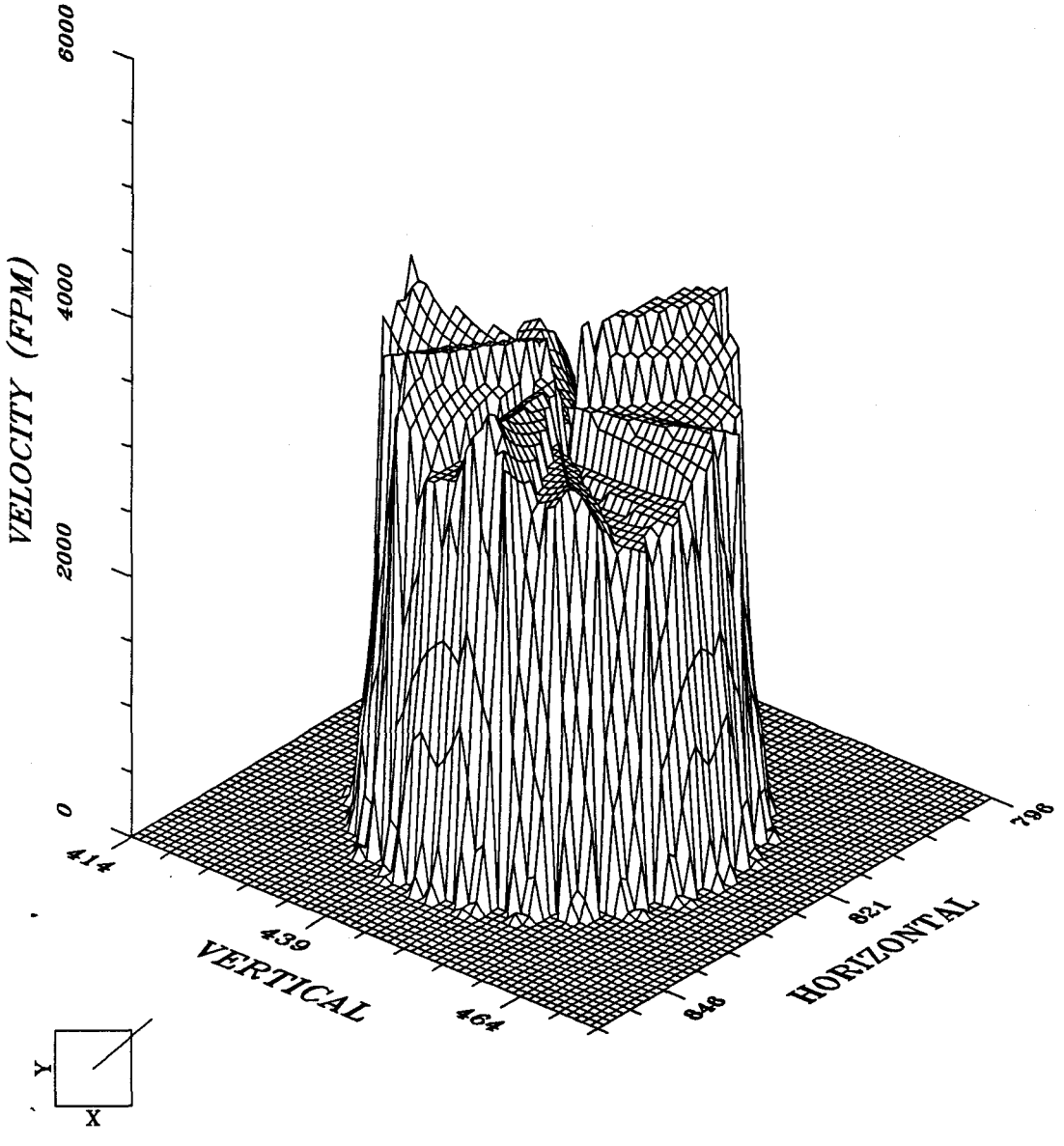


BURNER E6 INNER ZONE VELOCITY

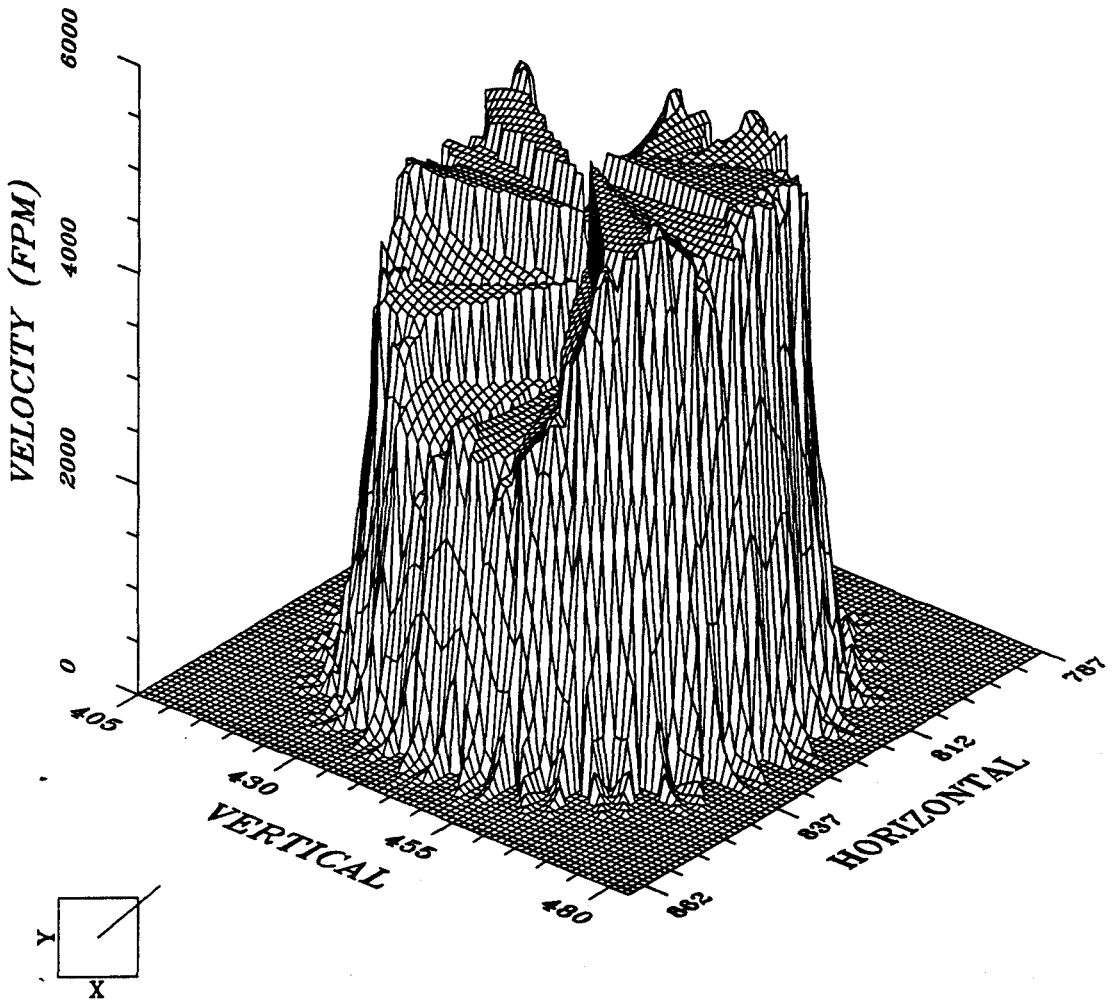


BURNER E6 OUTER ZONE VELOCITY

(TEST 3)

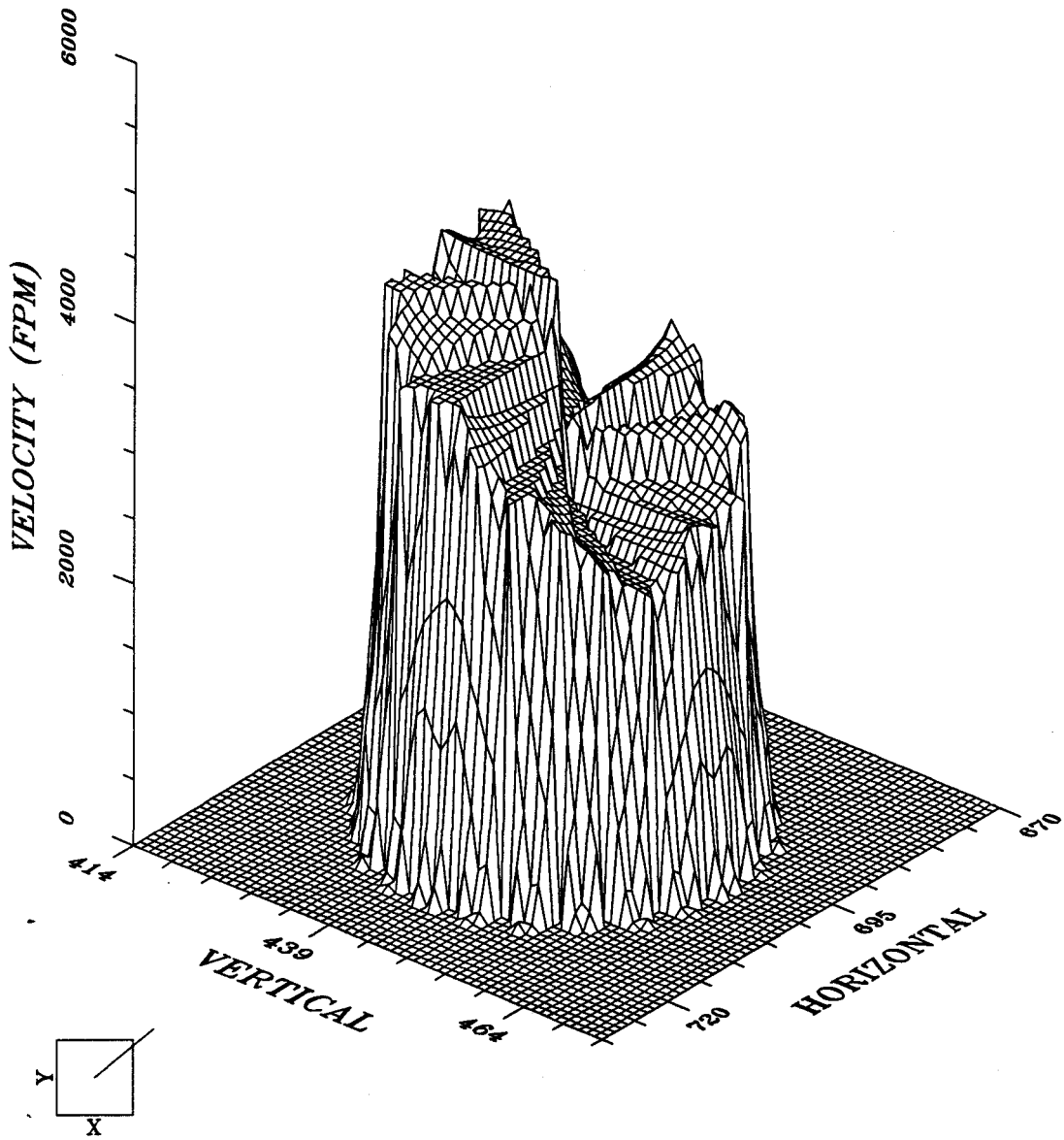


BURNER A1 INNER ZONE VELOCITY

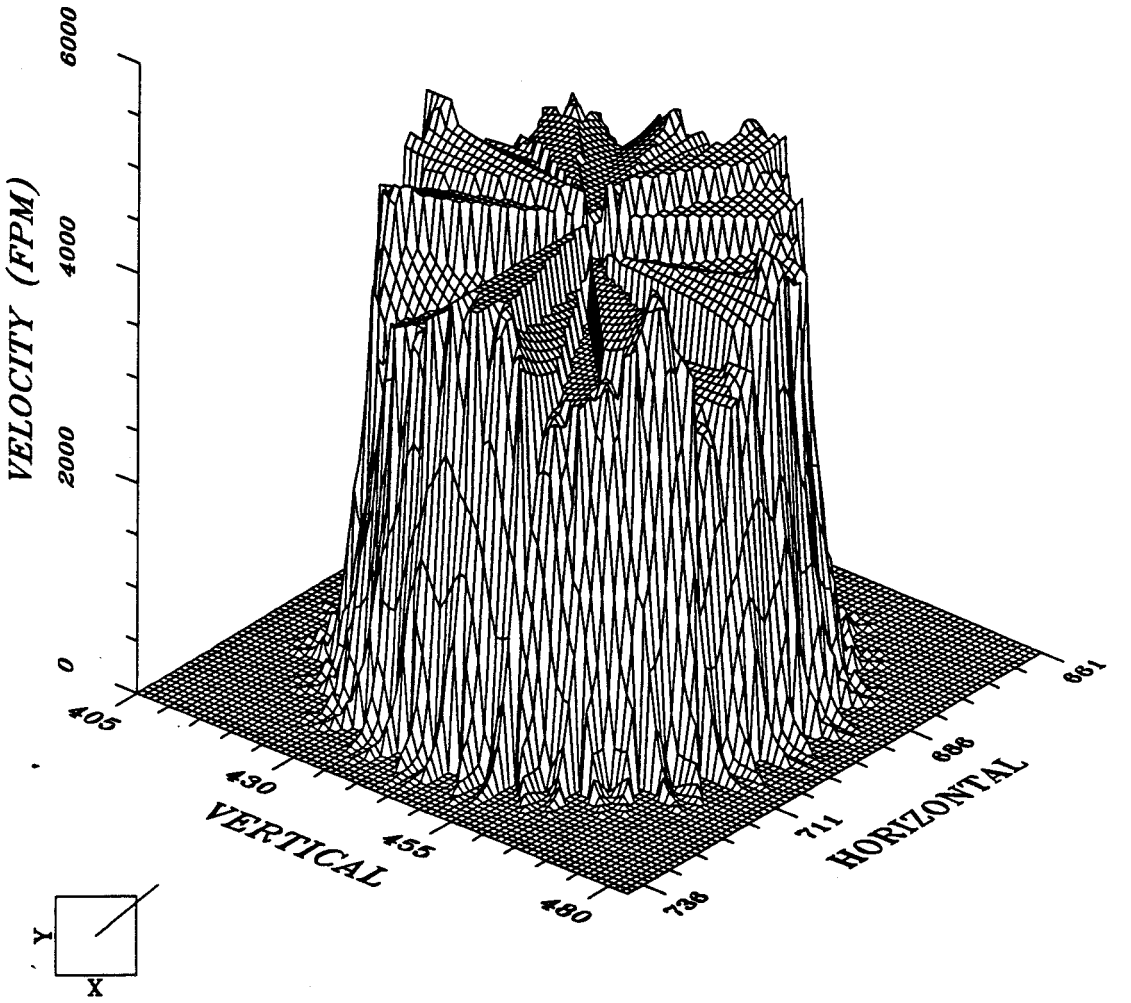


BURNER A1 OUTER ZONE VELOCITY

(TEST 3)

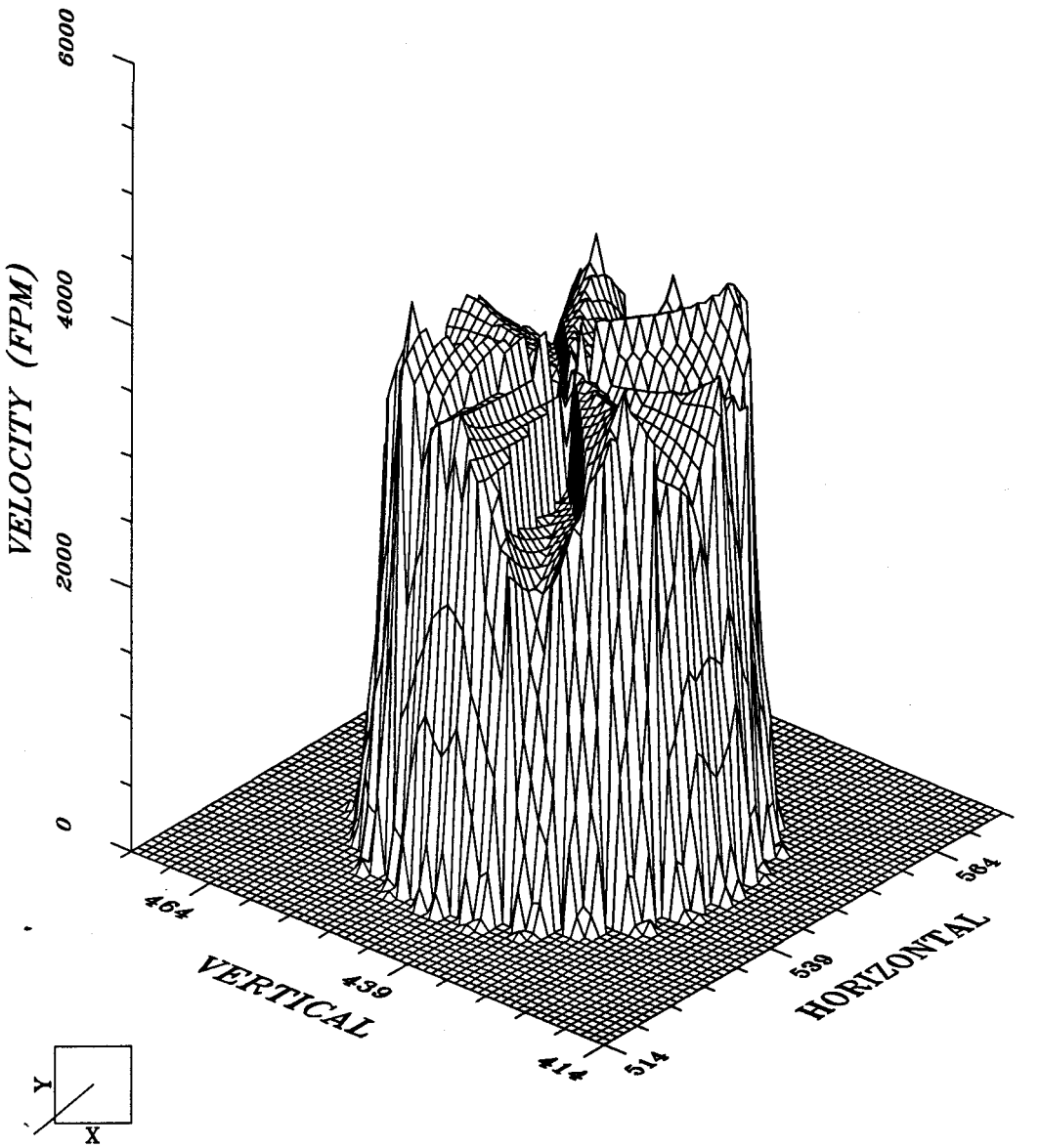


BURNER A2 INNER ZONE VELOCITY



BURNER A2 OUTER ZONE VELOCITY

(TEST 3)



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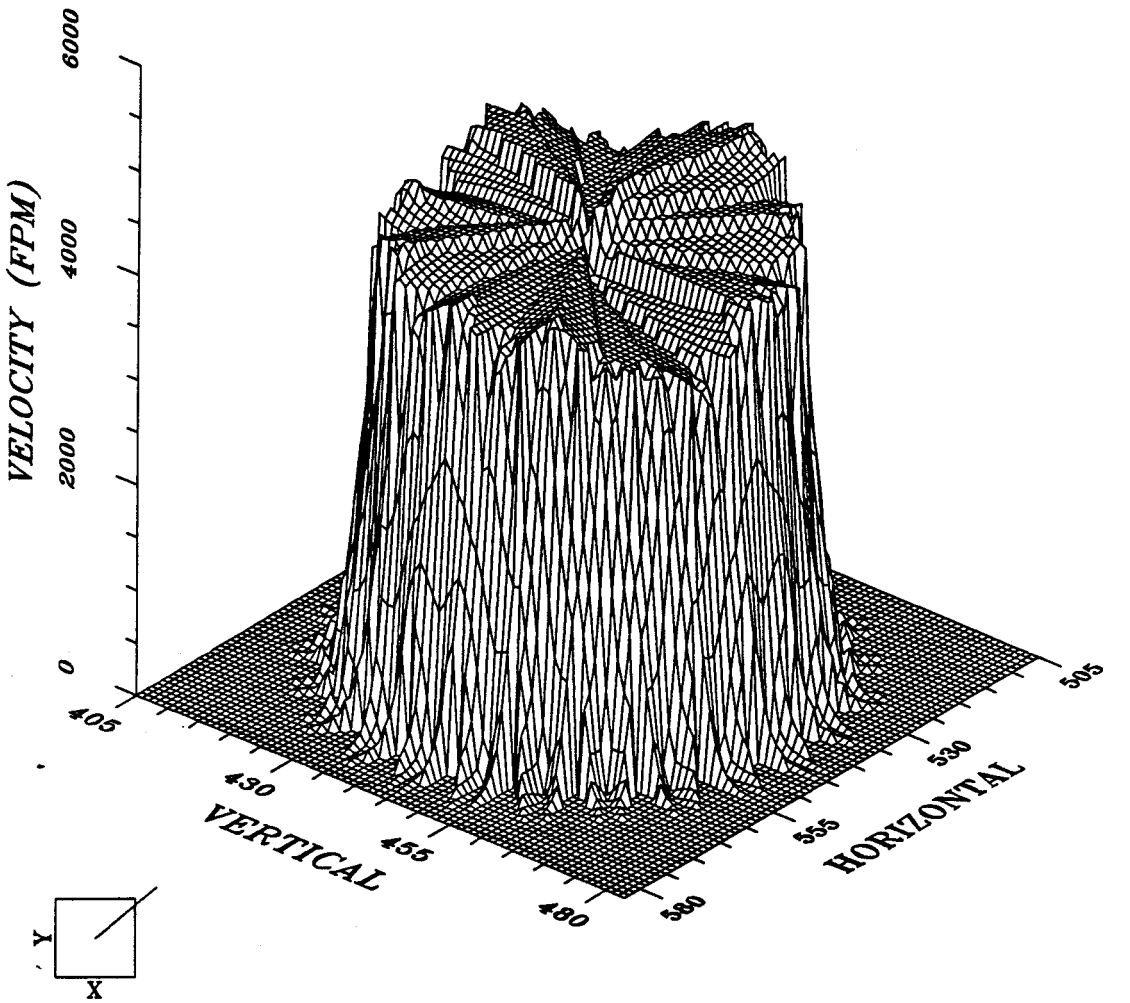
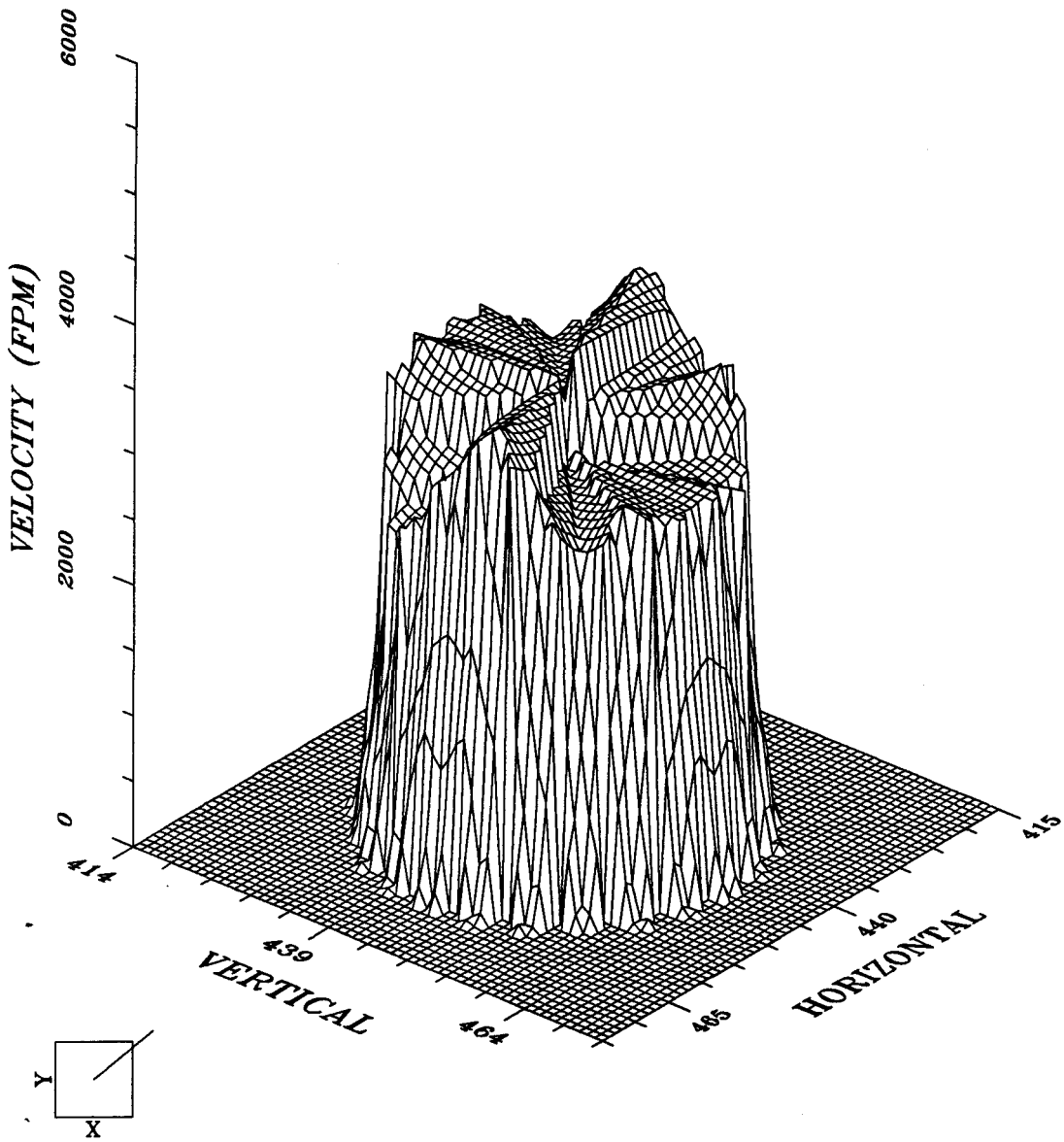
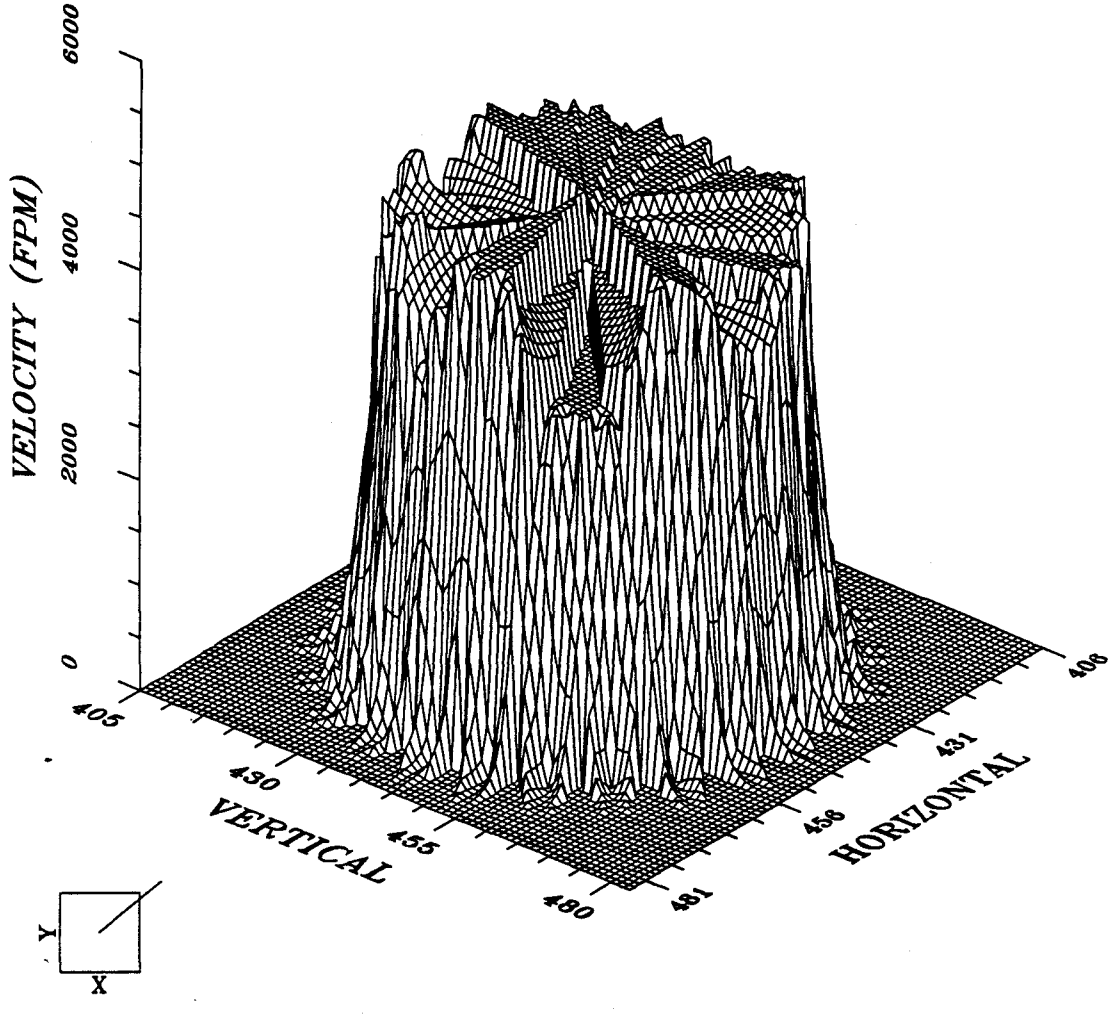


BURNER A3 OUTER ZONE VELOCITY

(TEST 3)

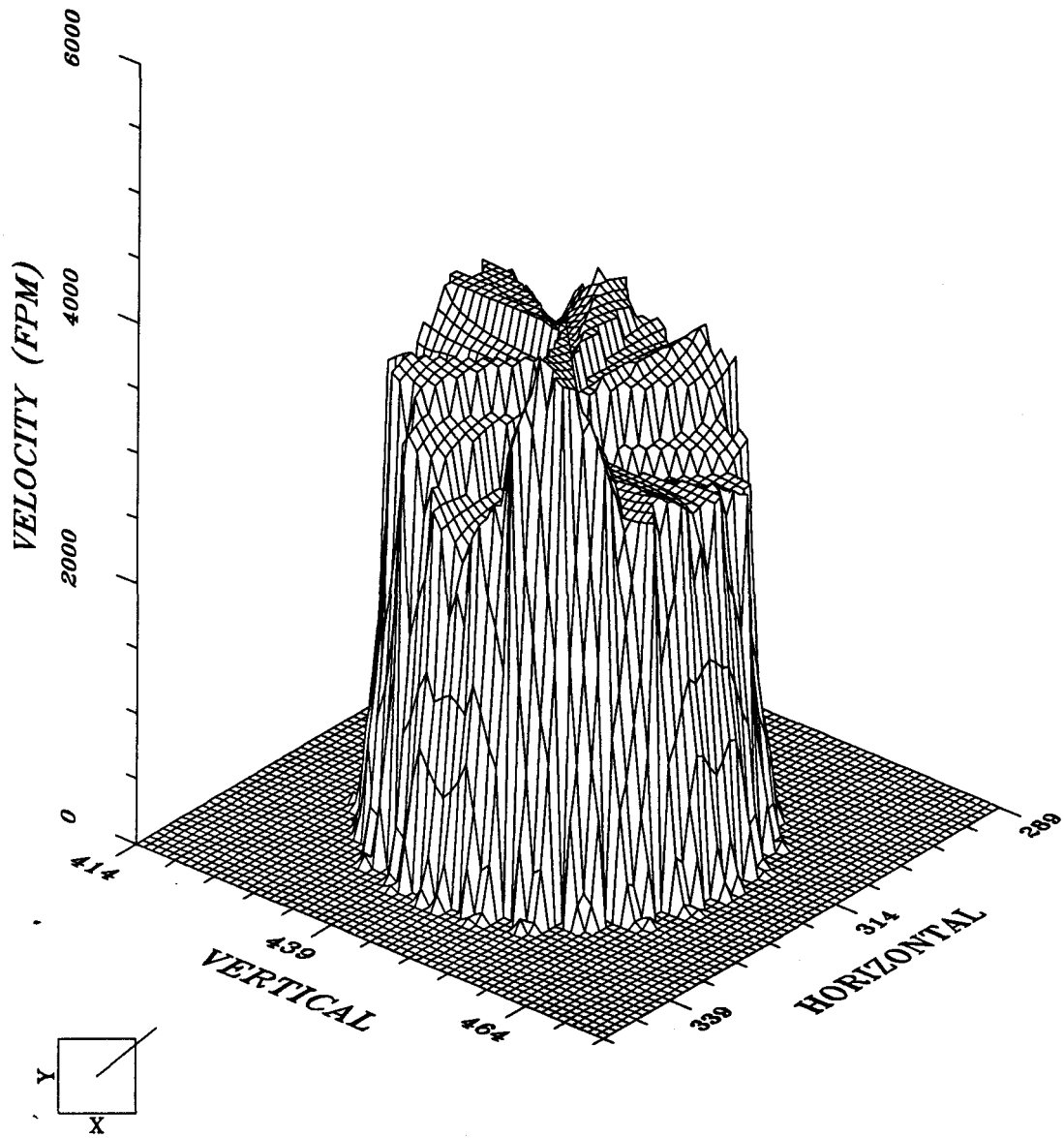


BURNER A4 INNER ZONE VELOCITY

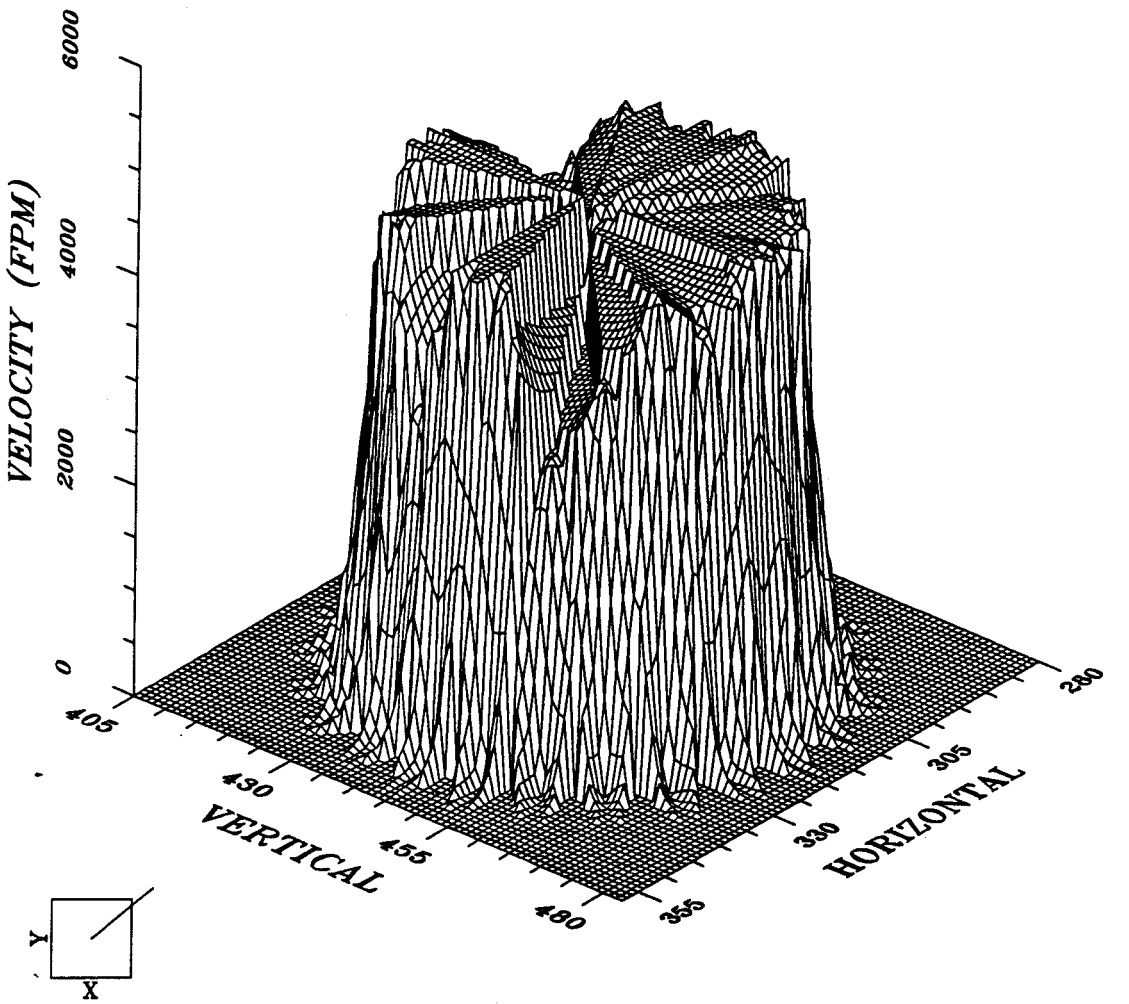


BURNER A4 OUTER ZONE VELOCITY

(TEST 3)

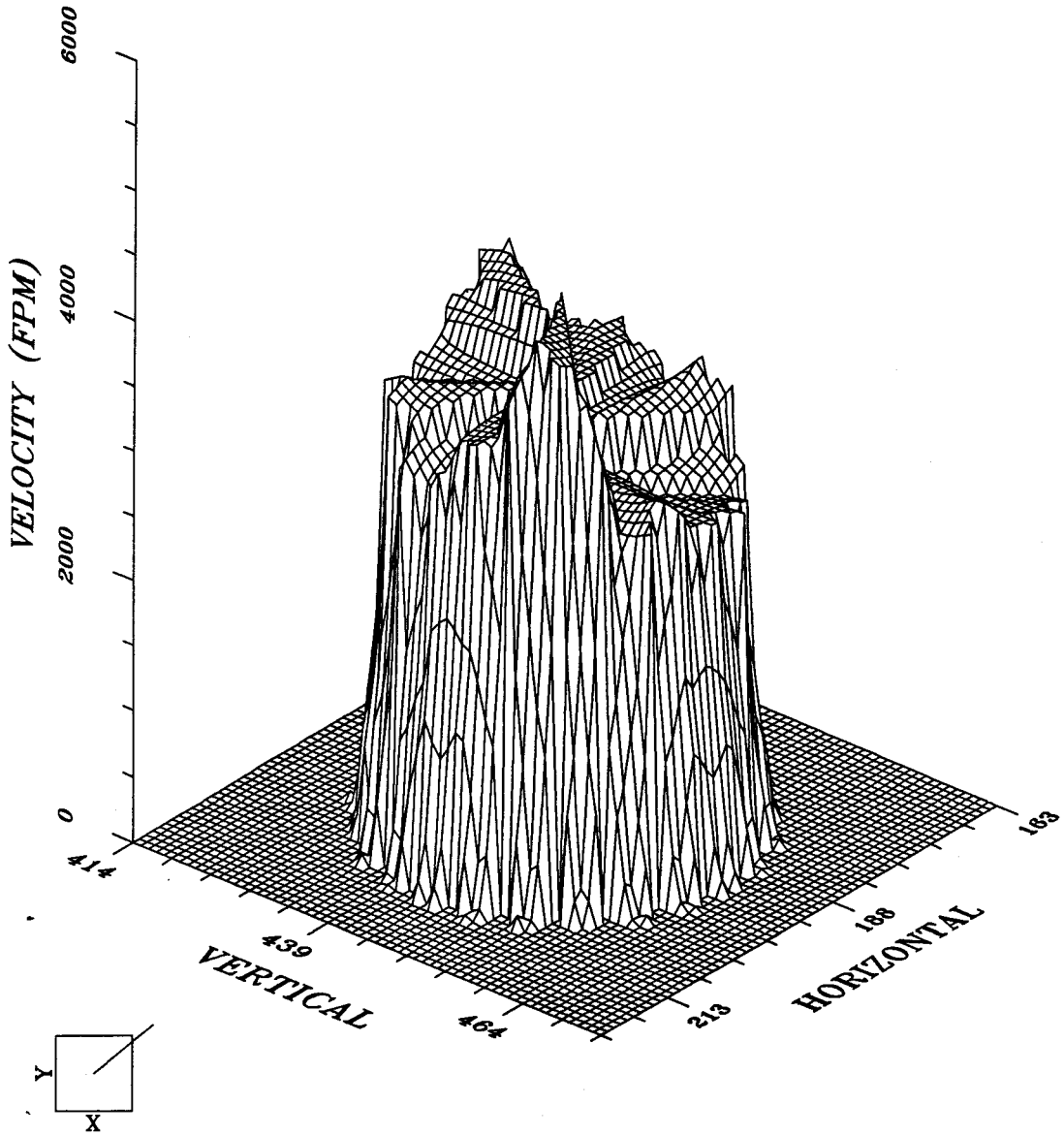


BURNER A5 INNER ZONE VELOCITY



BURNER A5 OUTER ZONE VELOCITY

(TEST 3)



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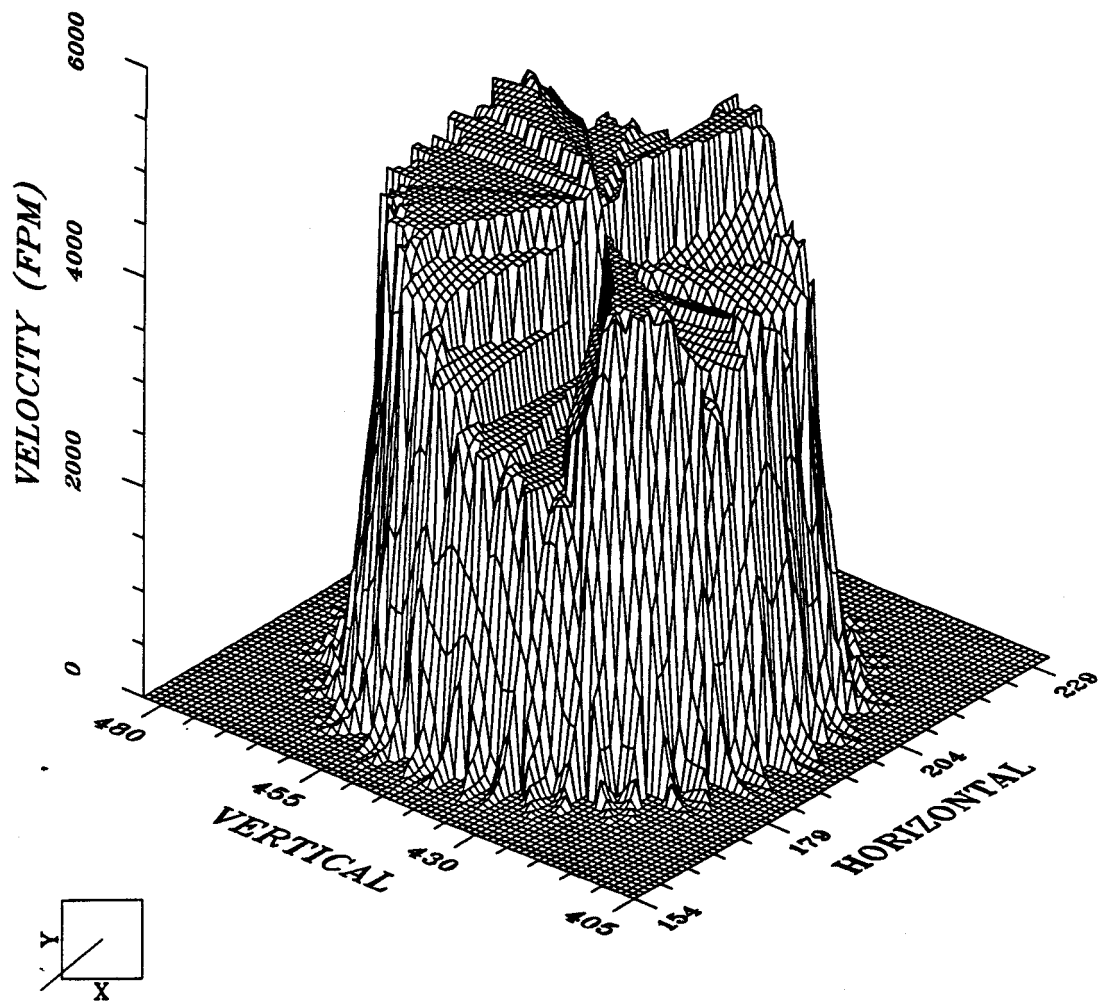
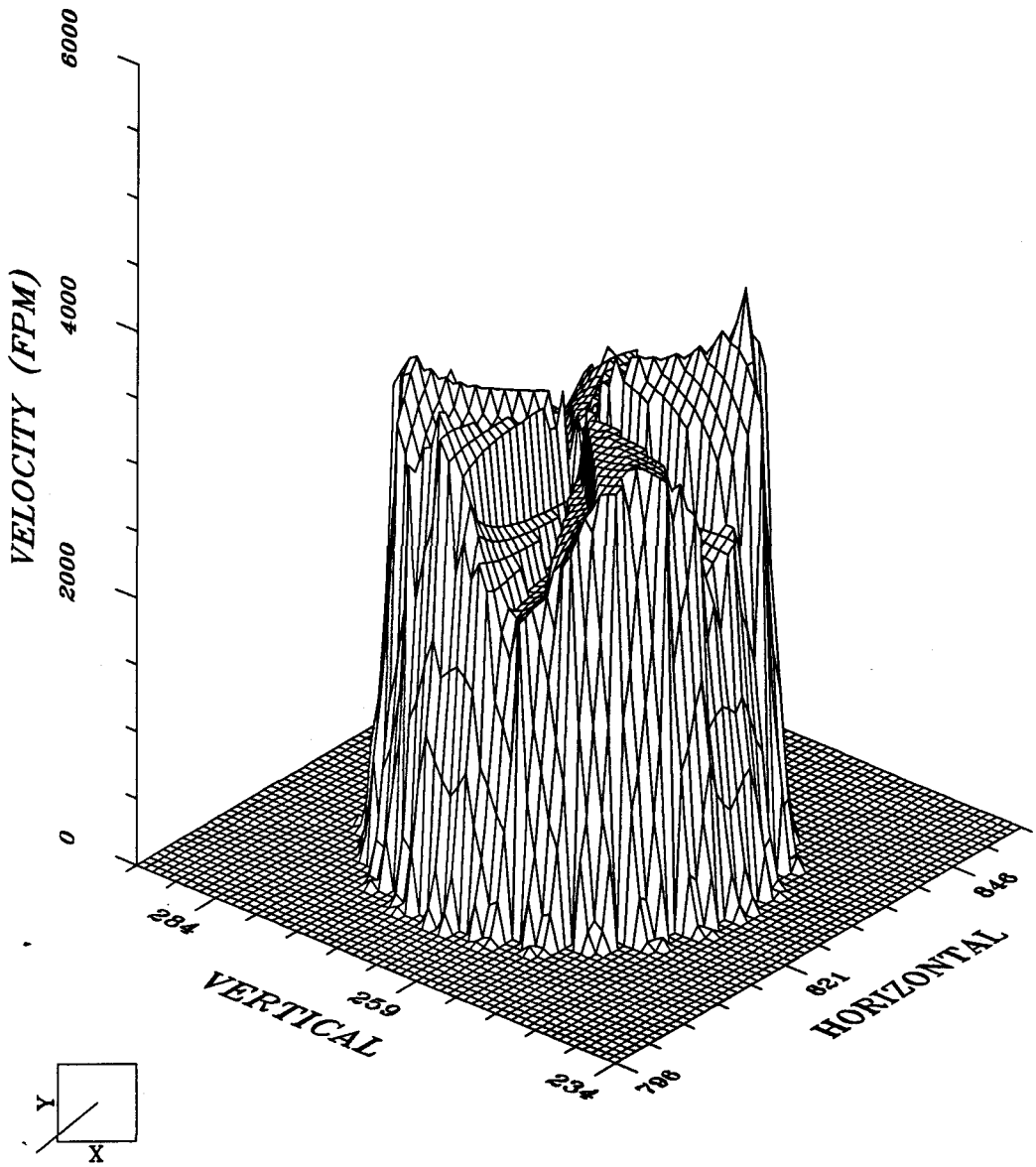
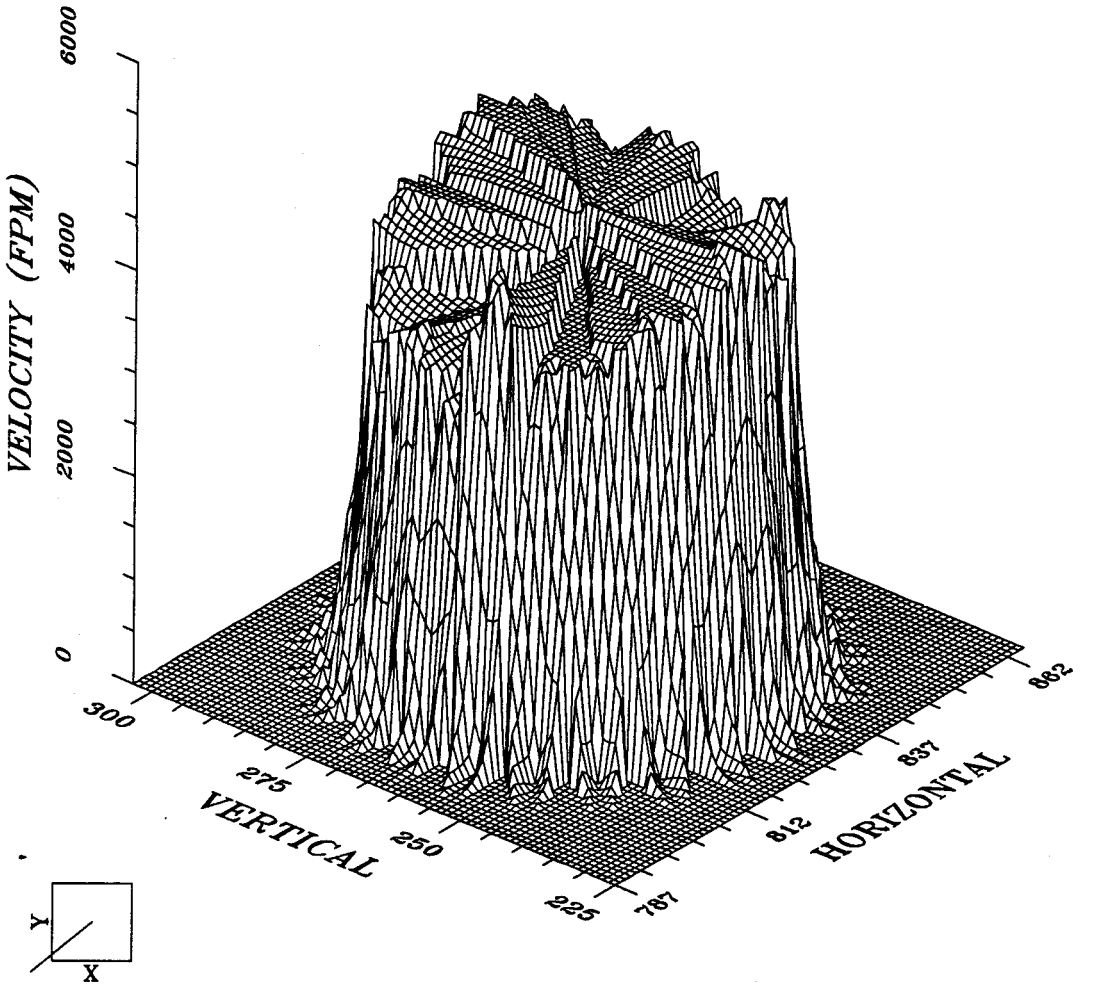


BURNER A6 OUTER ZONE VELOCITY

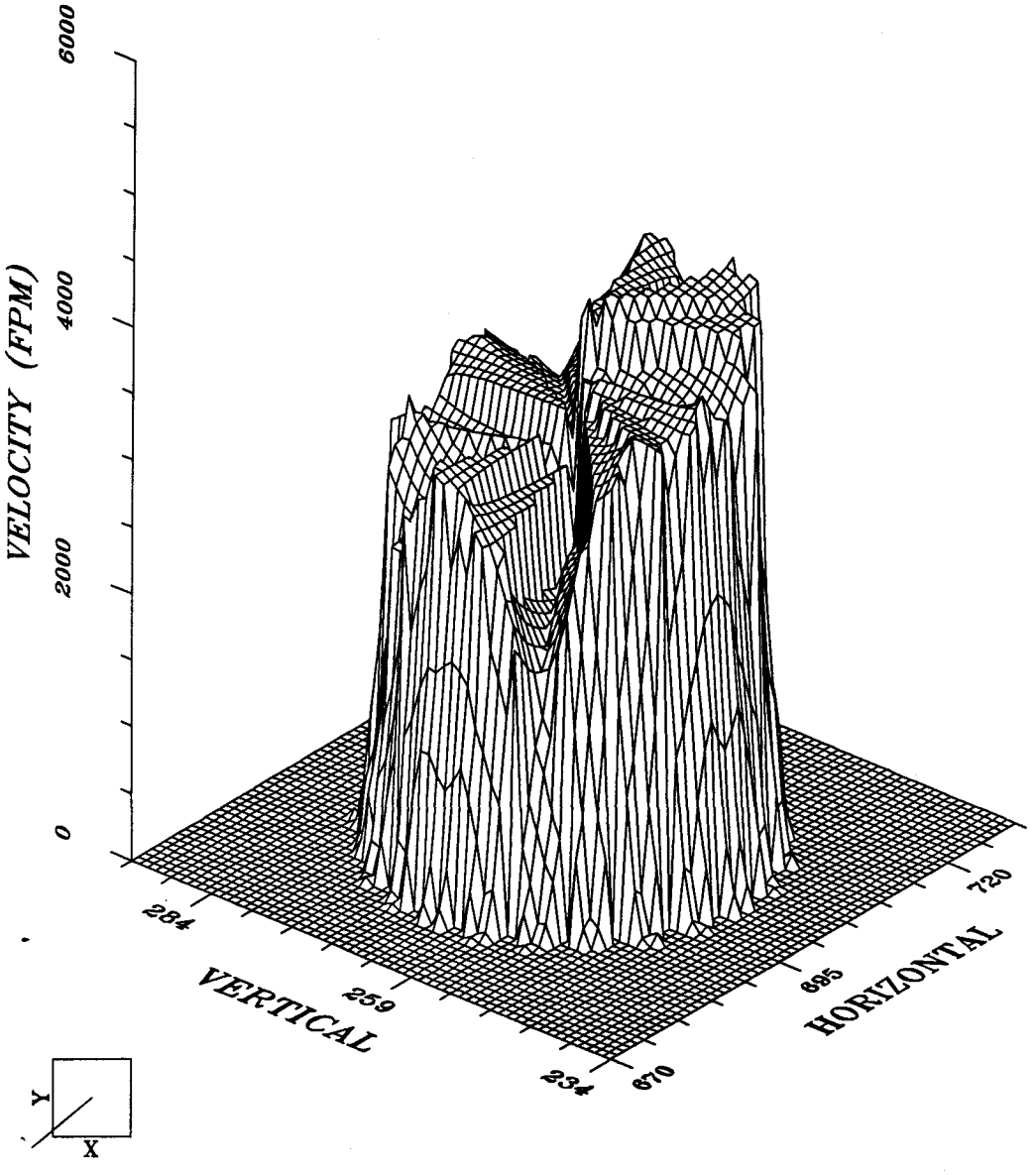
(TEST 3)



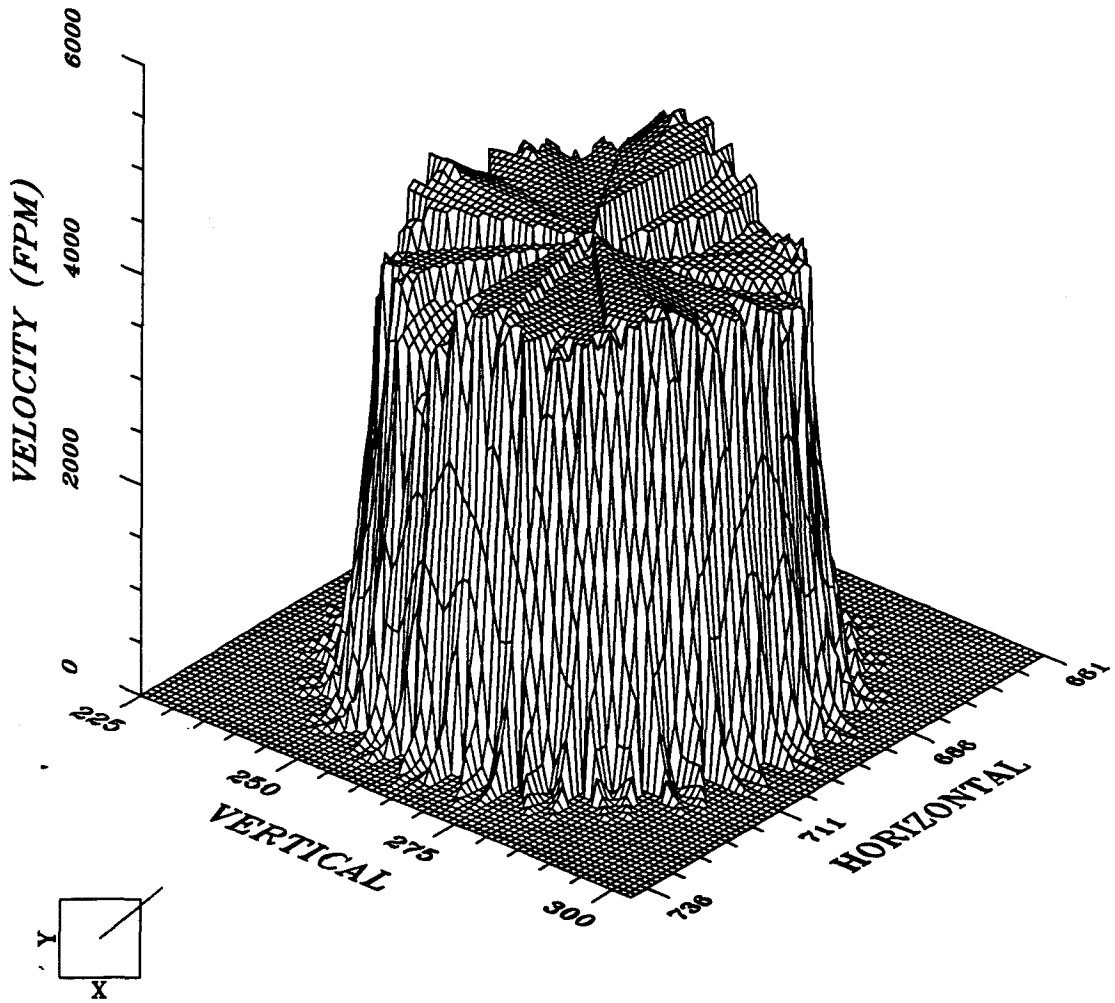
BURNER F1 INNER ZONE VELOCITY



BURNER F1 OUTER ZONE VELOCITY

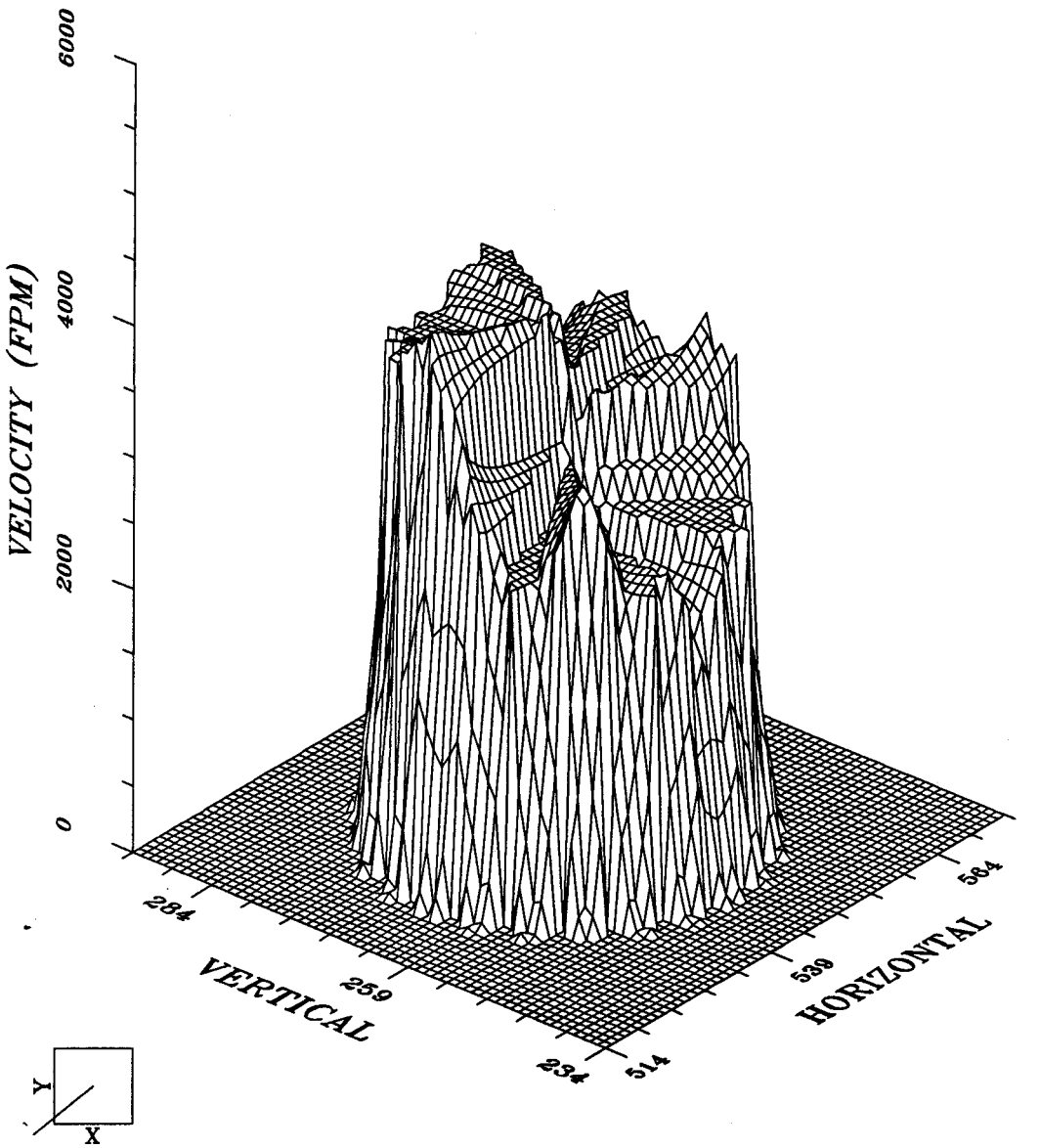


BURNER F2 INNER ZONE VELOCITY



BURNER F2 OUTER ZONE VELOCITY

(TEST 3)



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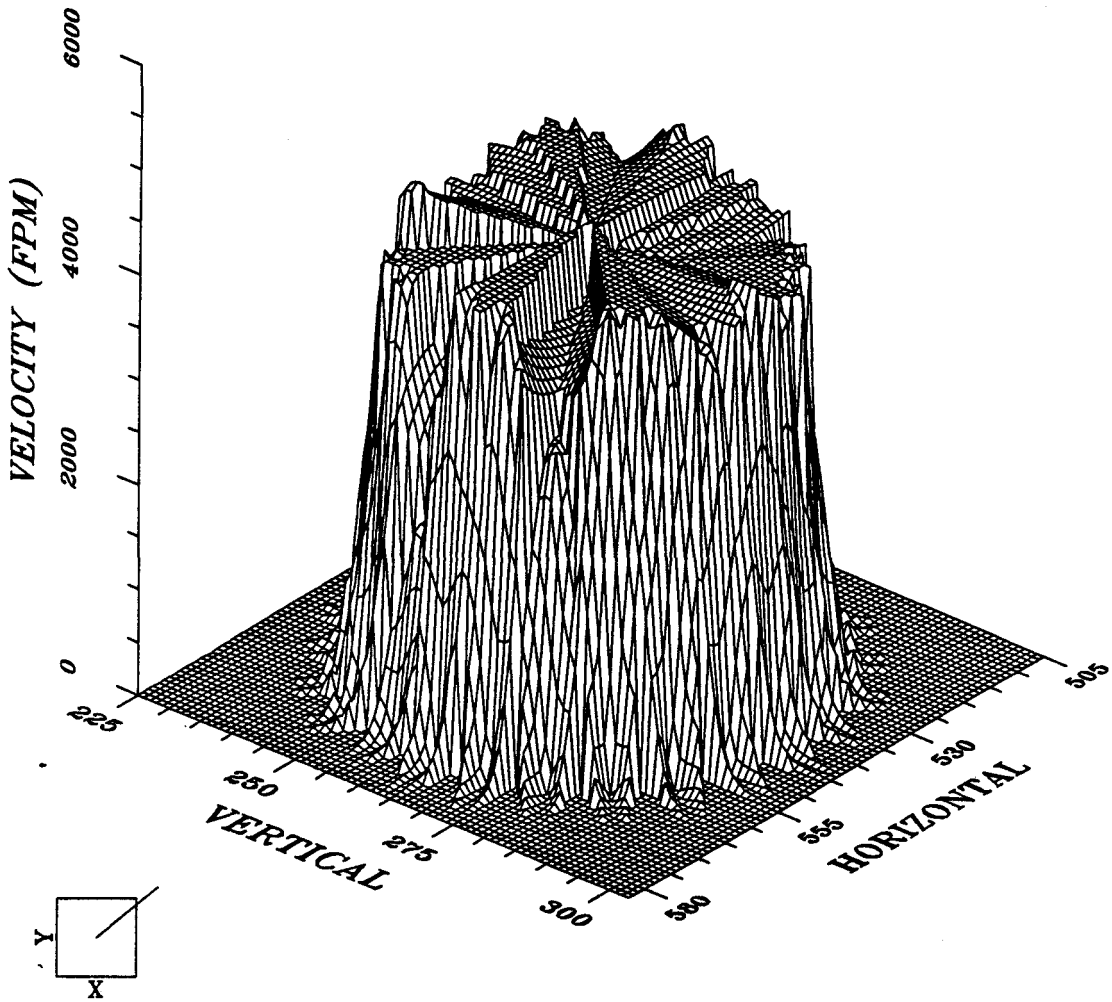

BURNER F3 OUTER ZONE VELOCITY

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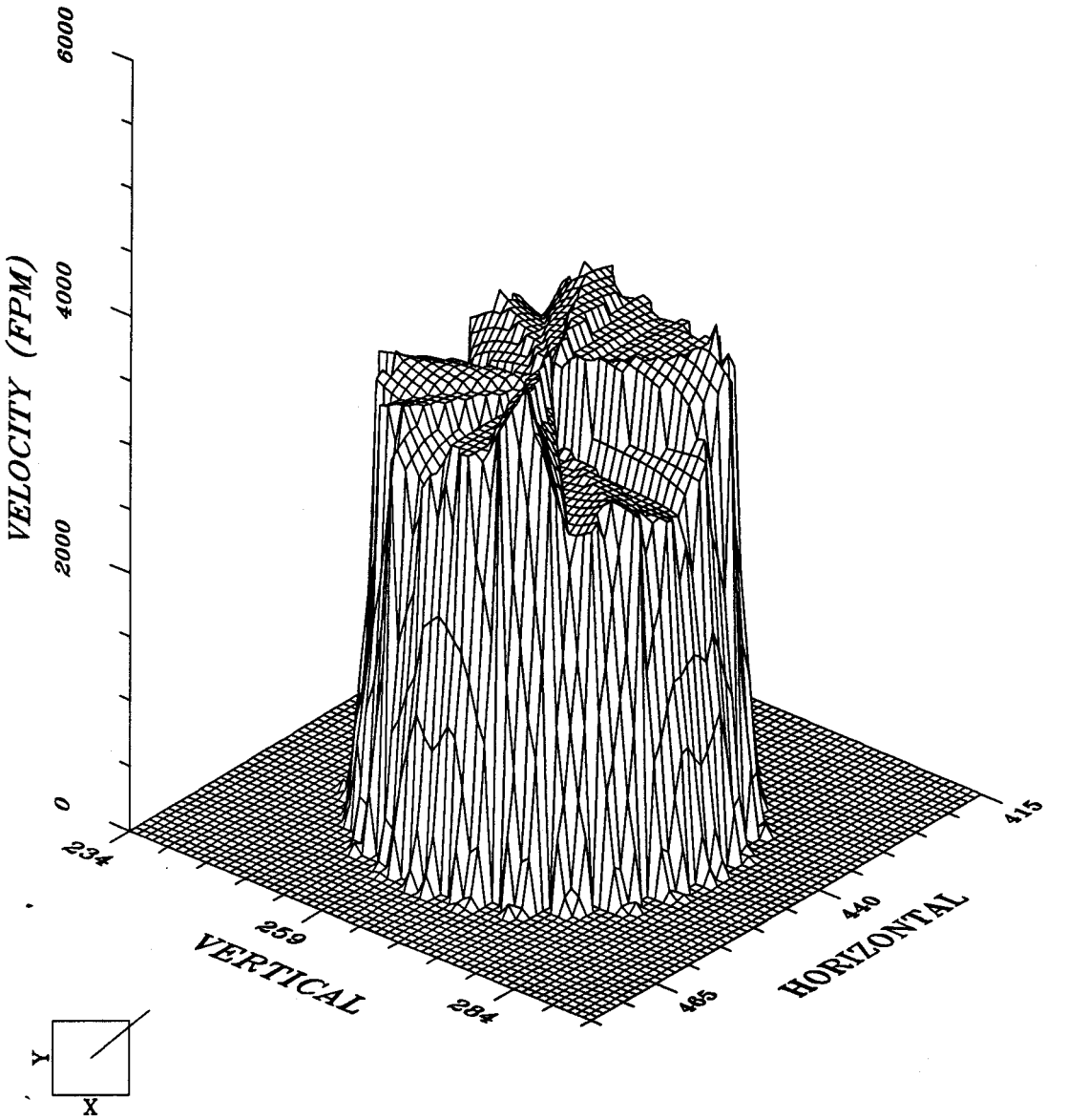
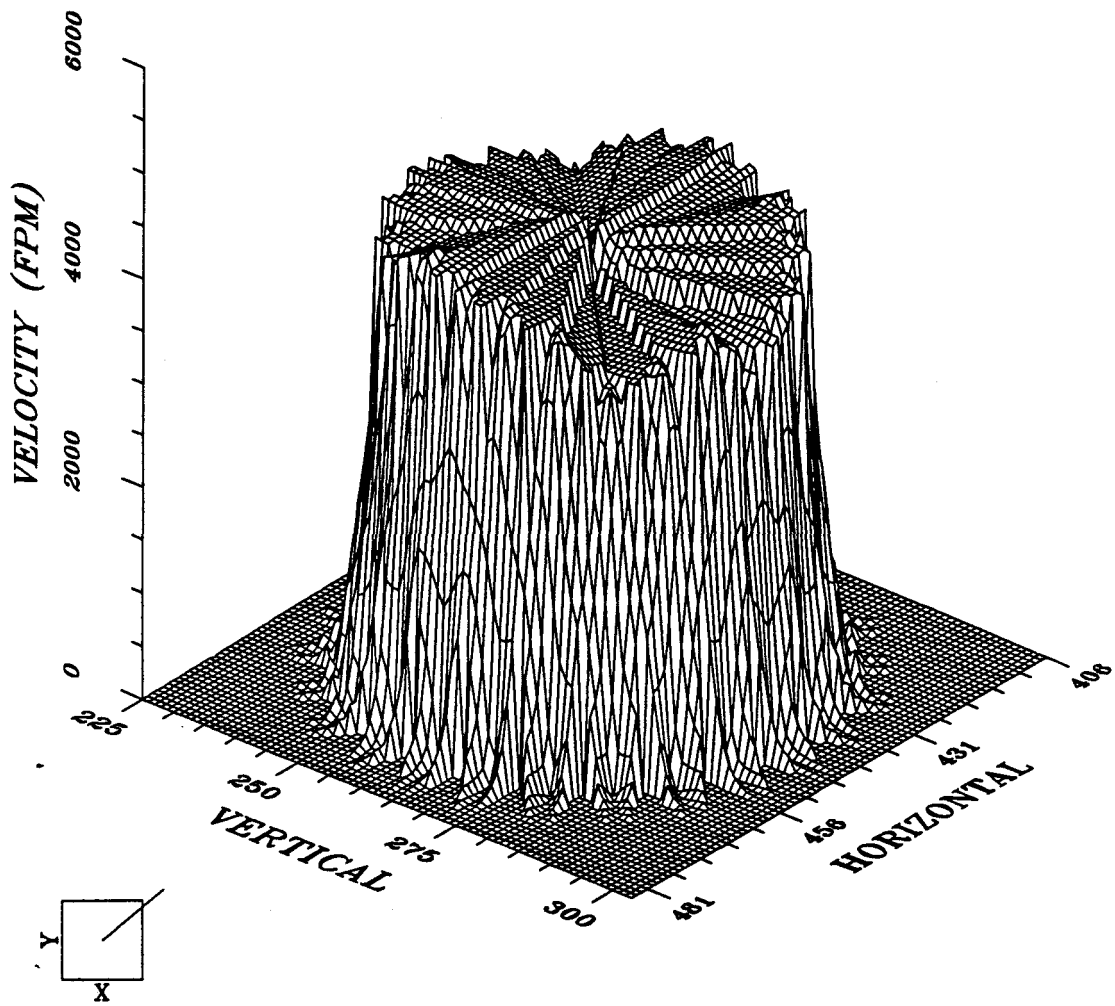


BURNER F4 INNER ZONE VELOCITY



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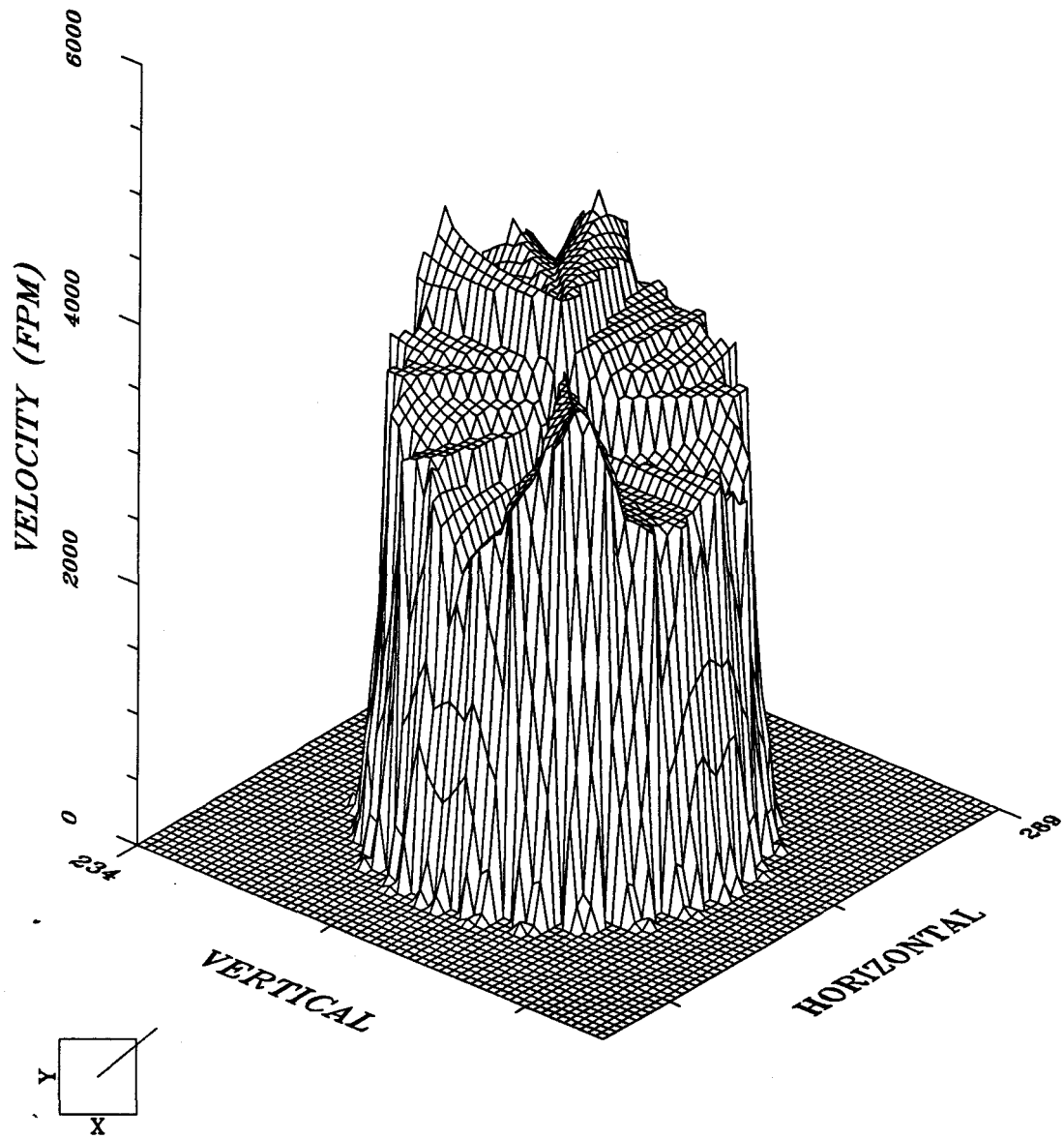
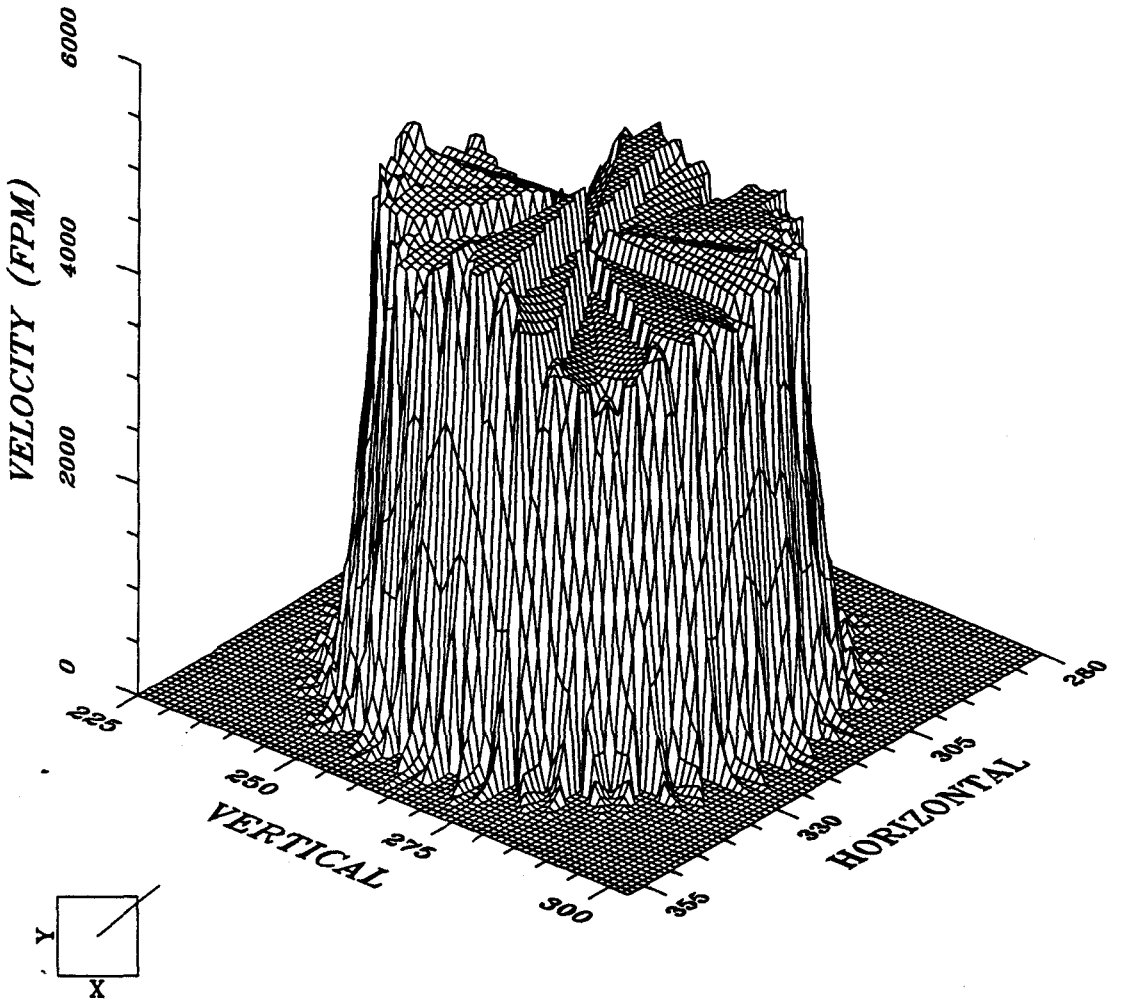


BURNER F5 INNER ZONE VELOCITY



BURNER F5 OUTER ZONE VELOCITY

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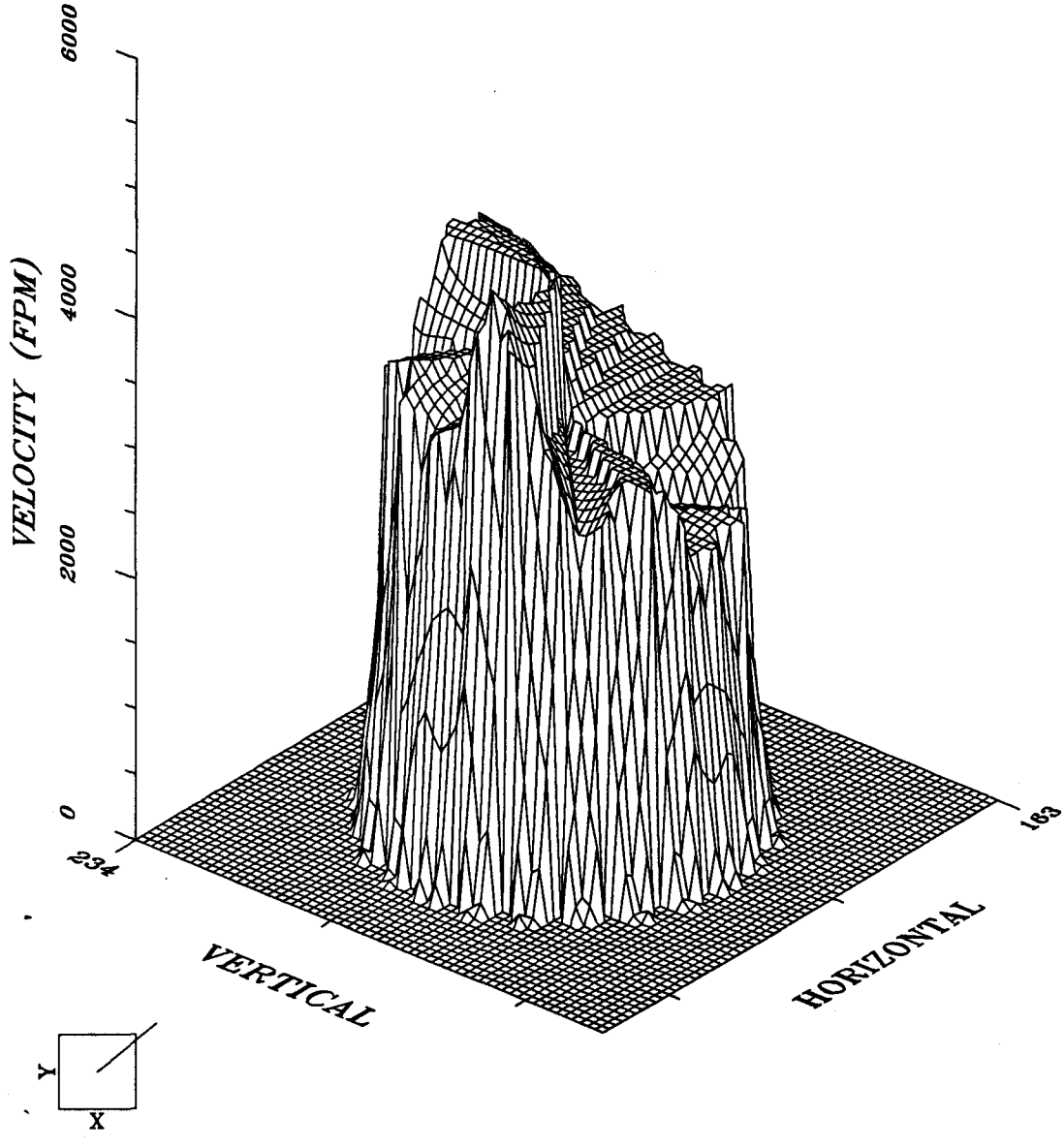
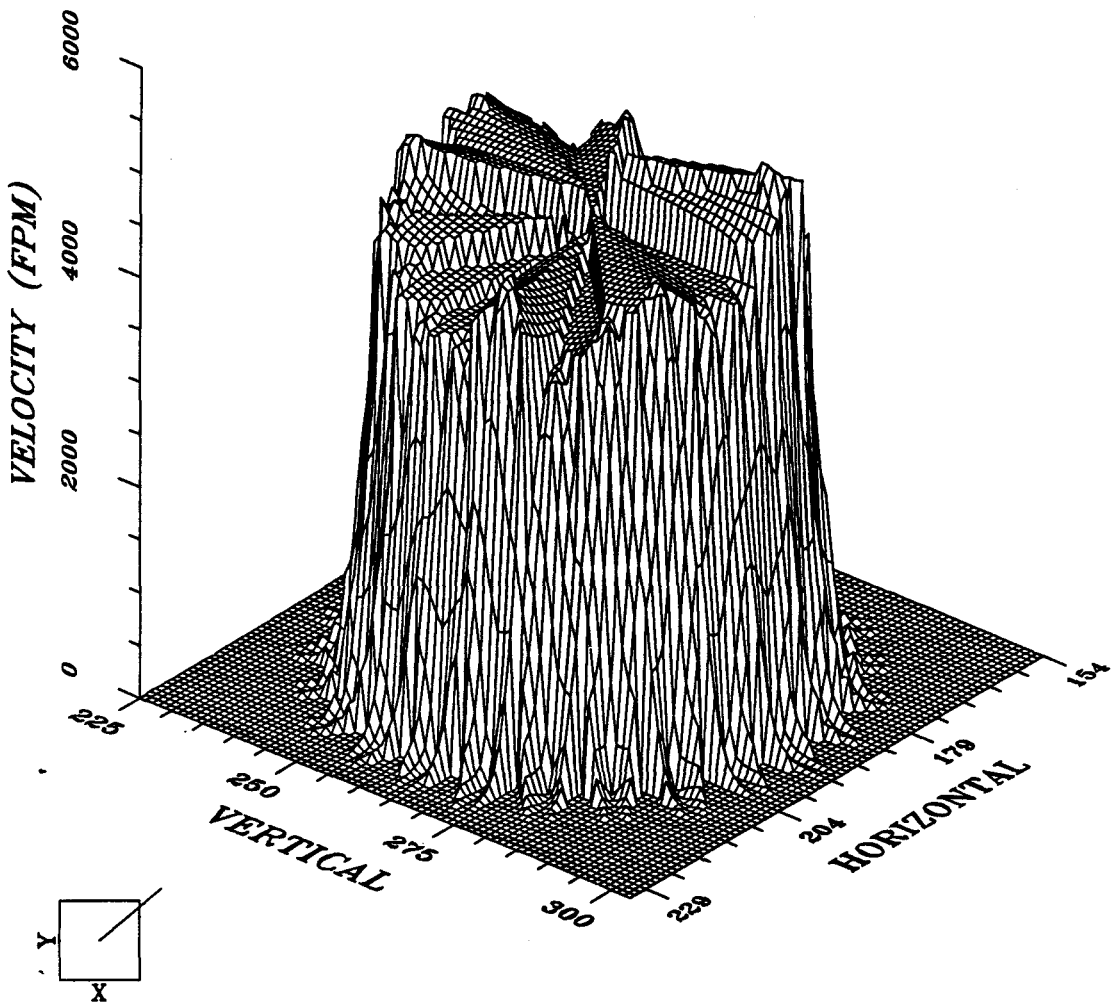


BURNER F6 INNER ZONE VELOCITY



BURNER F6 OUTER ZONE VELOCITY

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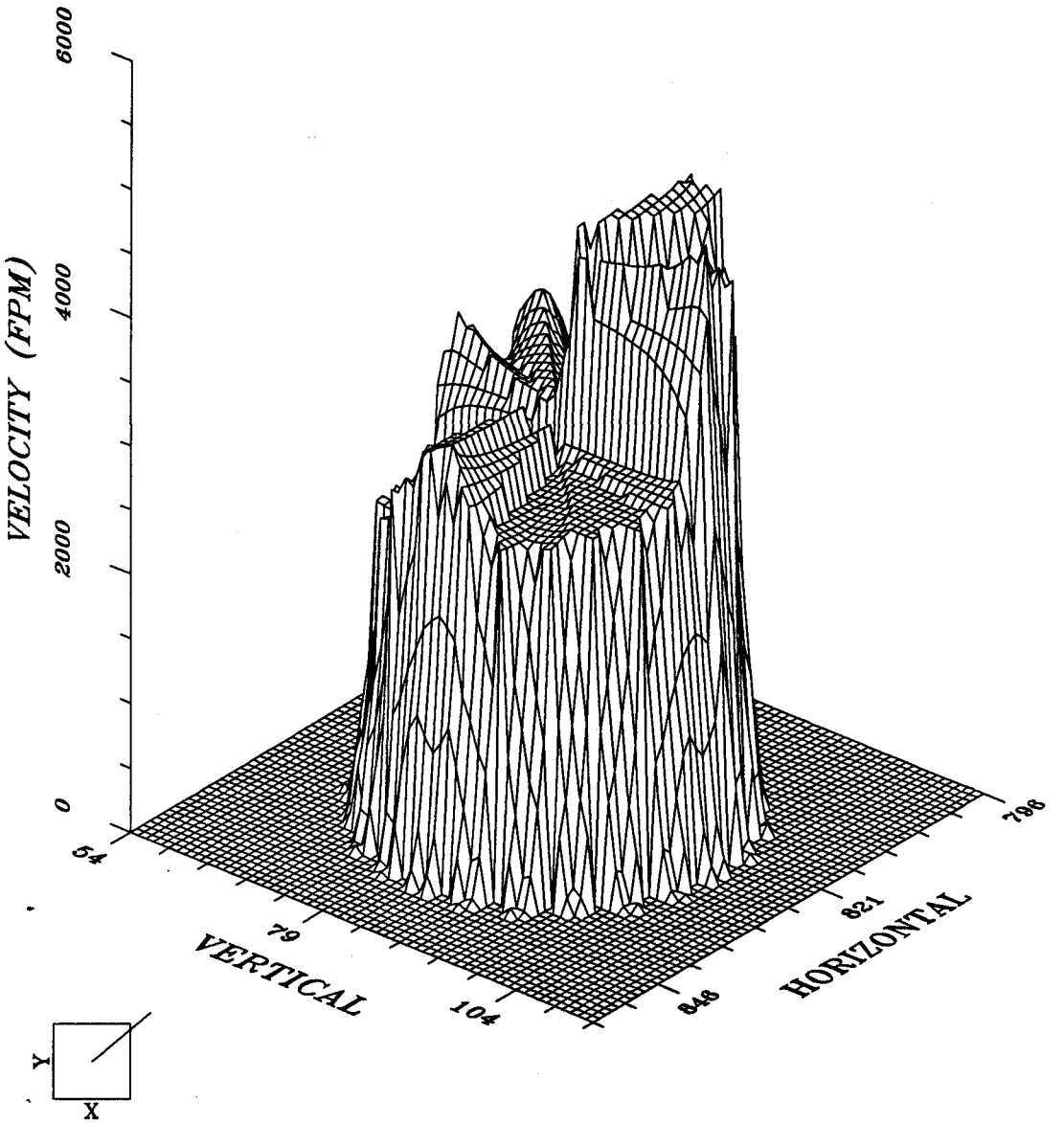
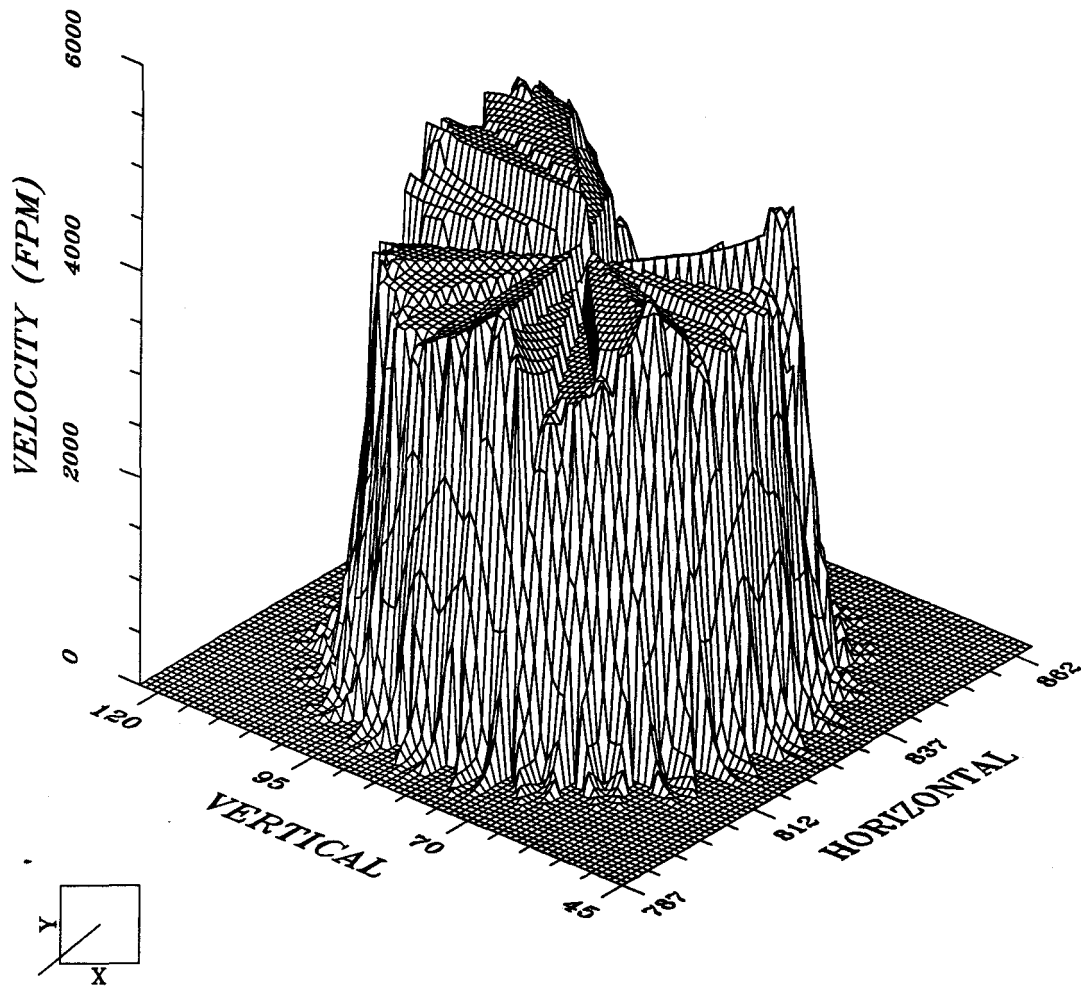


BURNER B1 INNER ZONE VELOCITY



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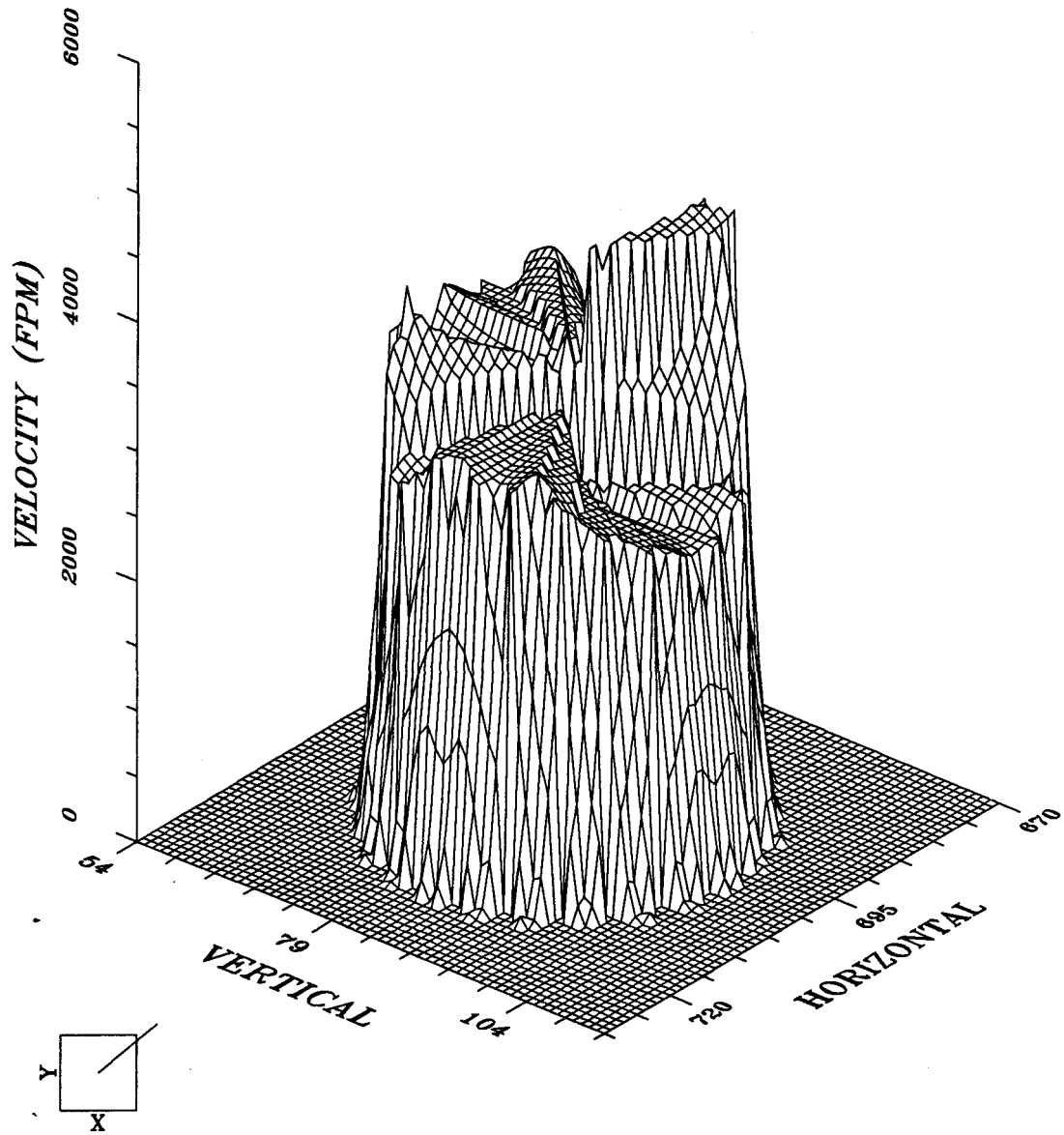

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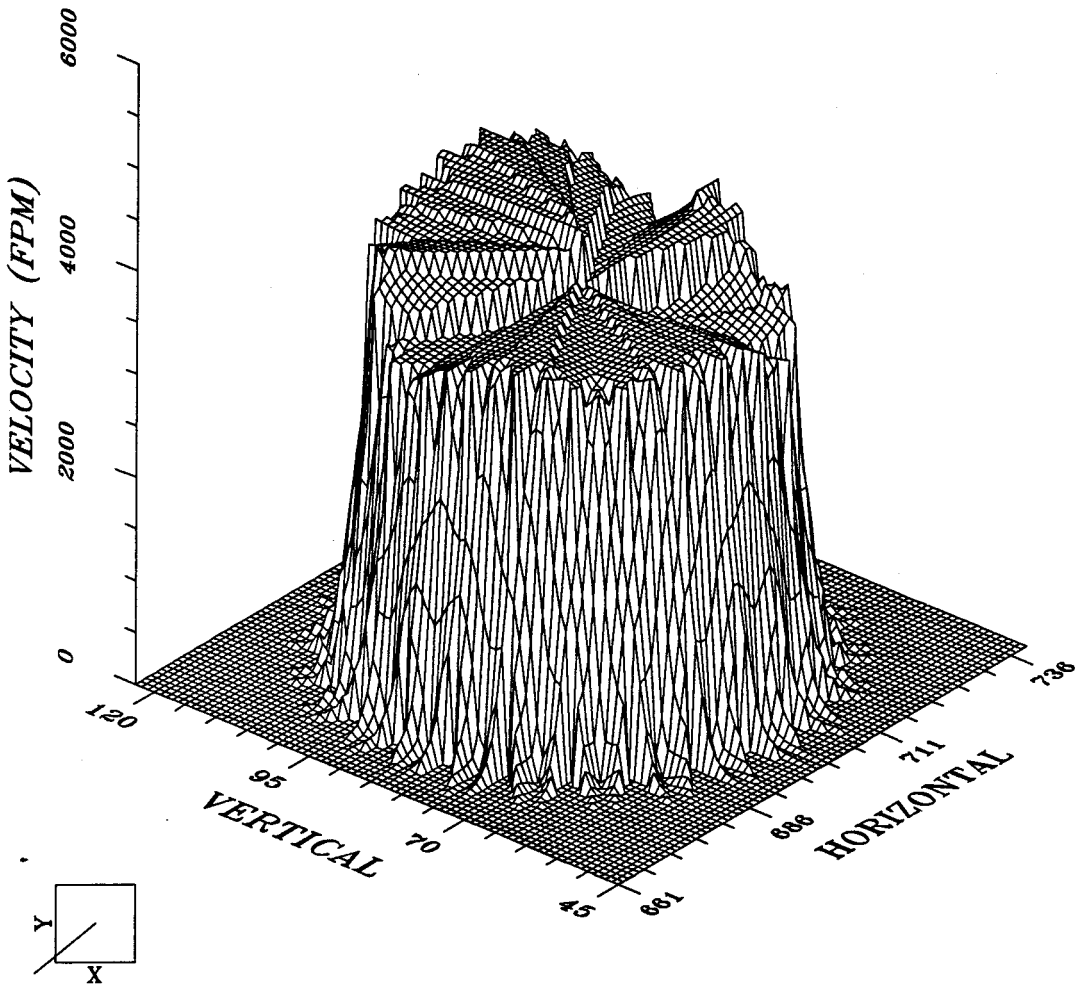

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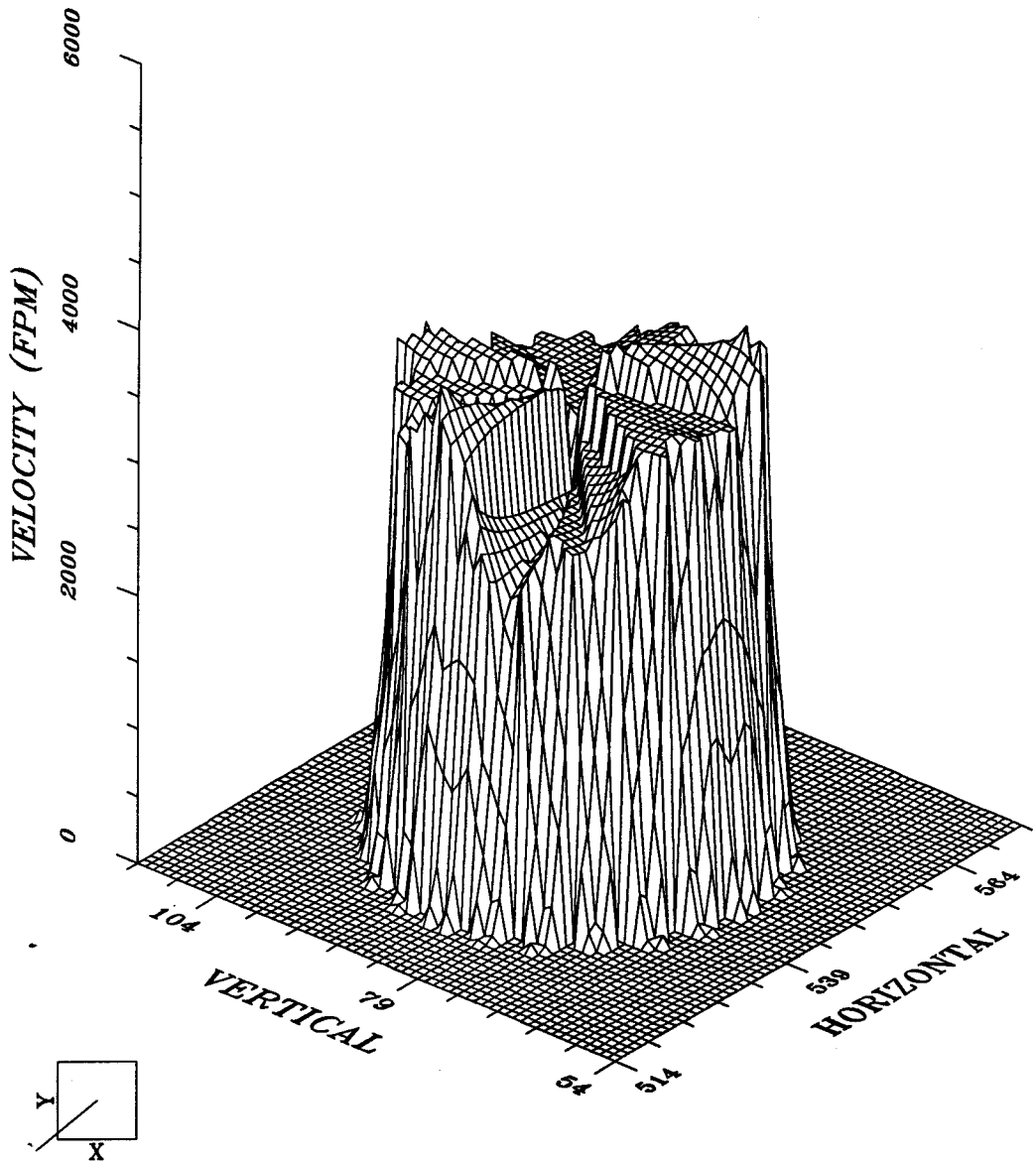

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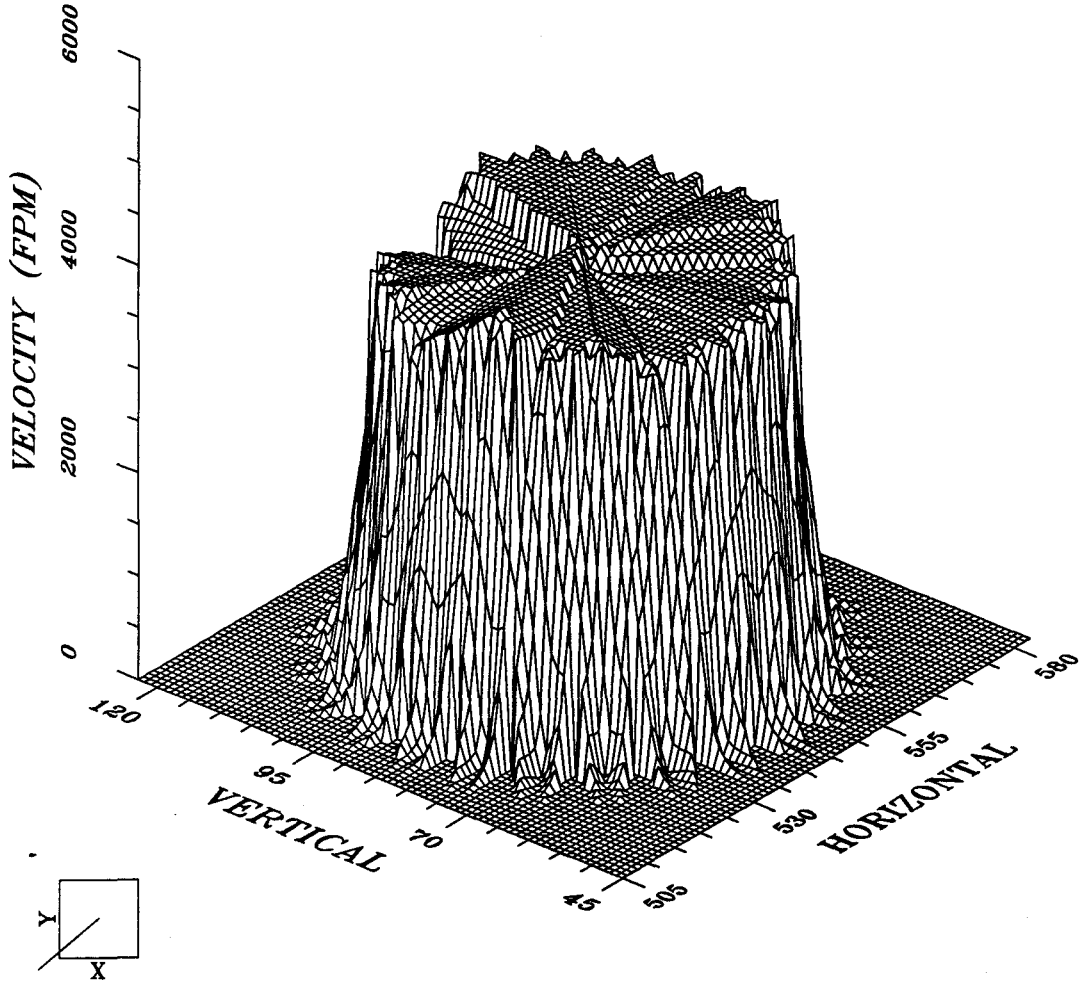

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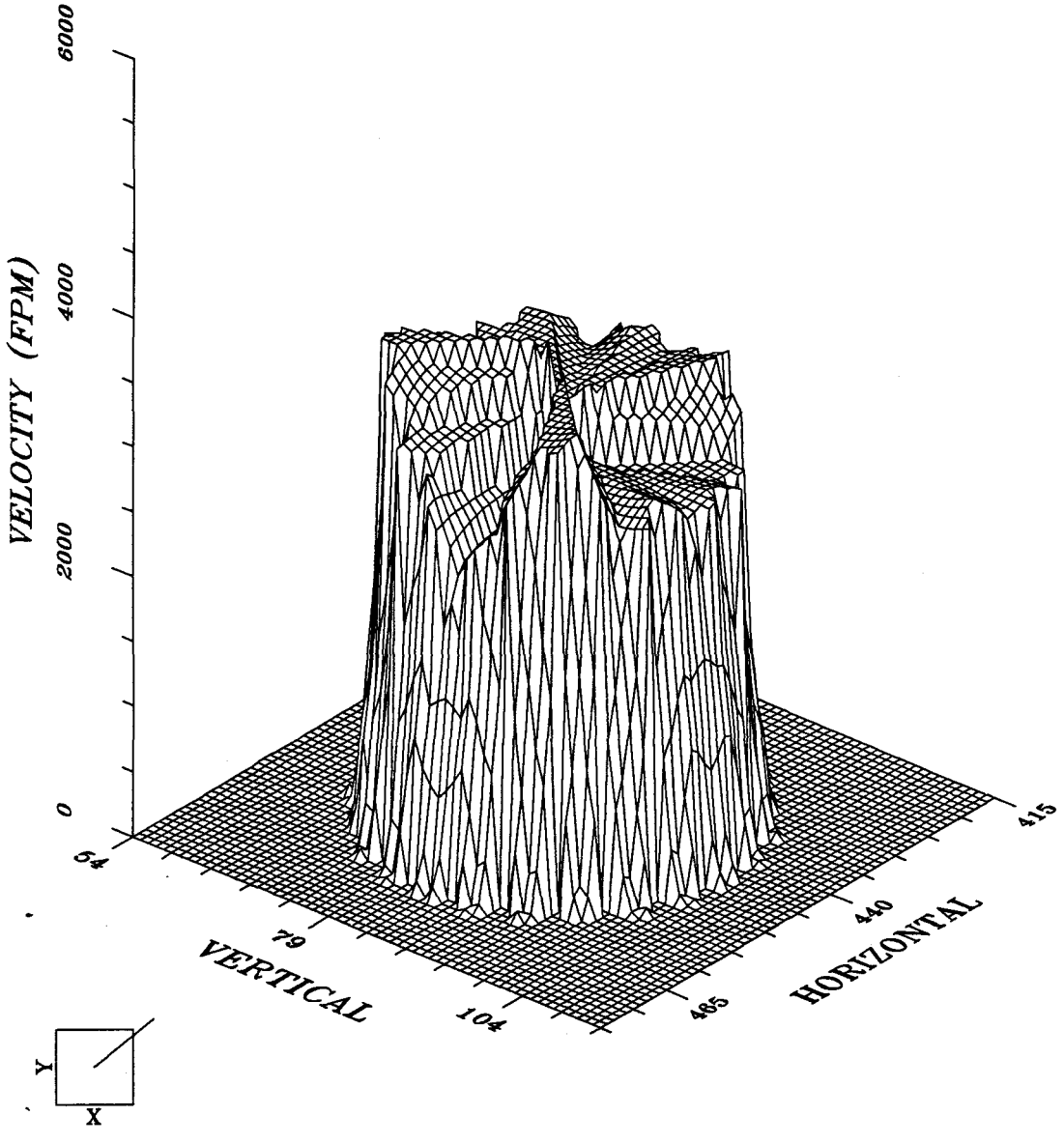

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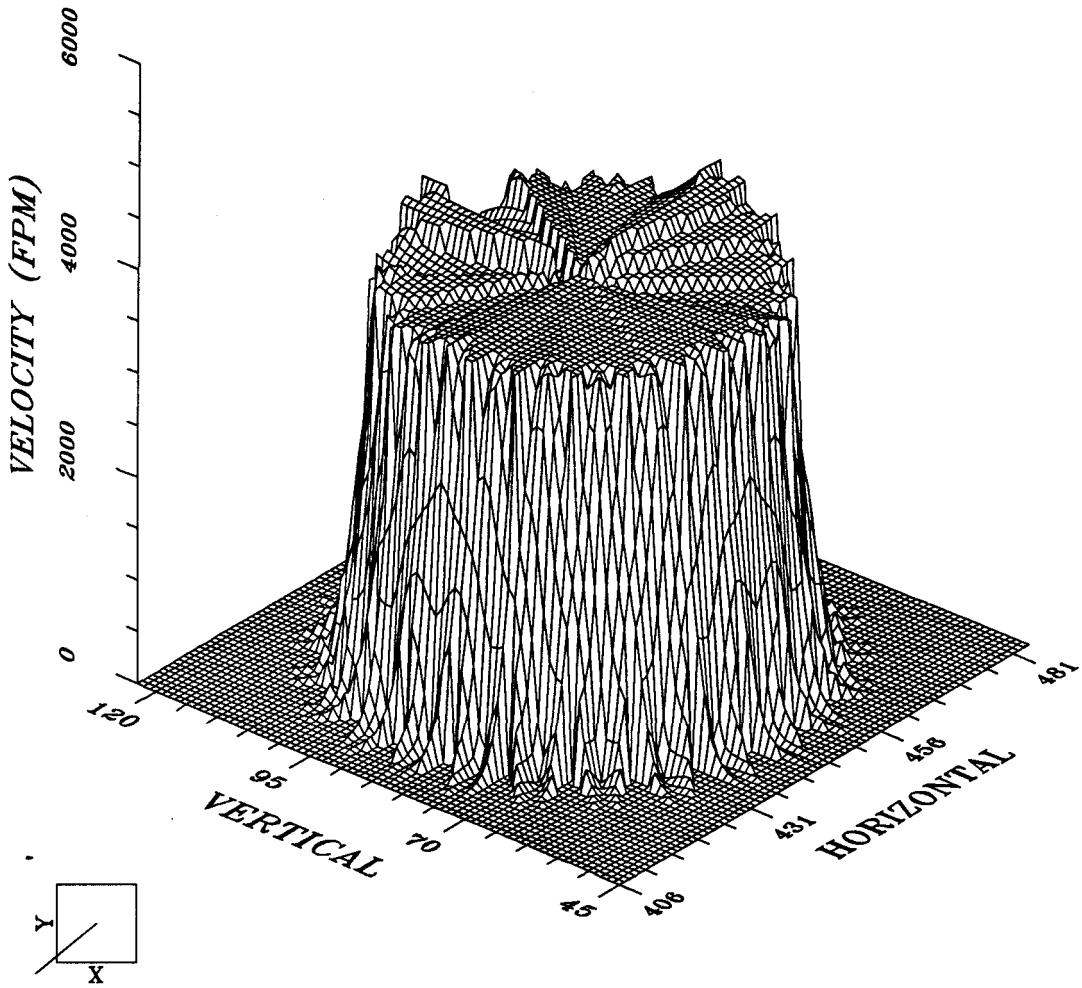

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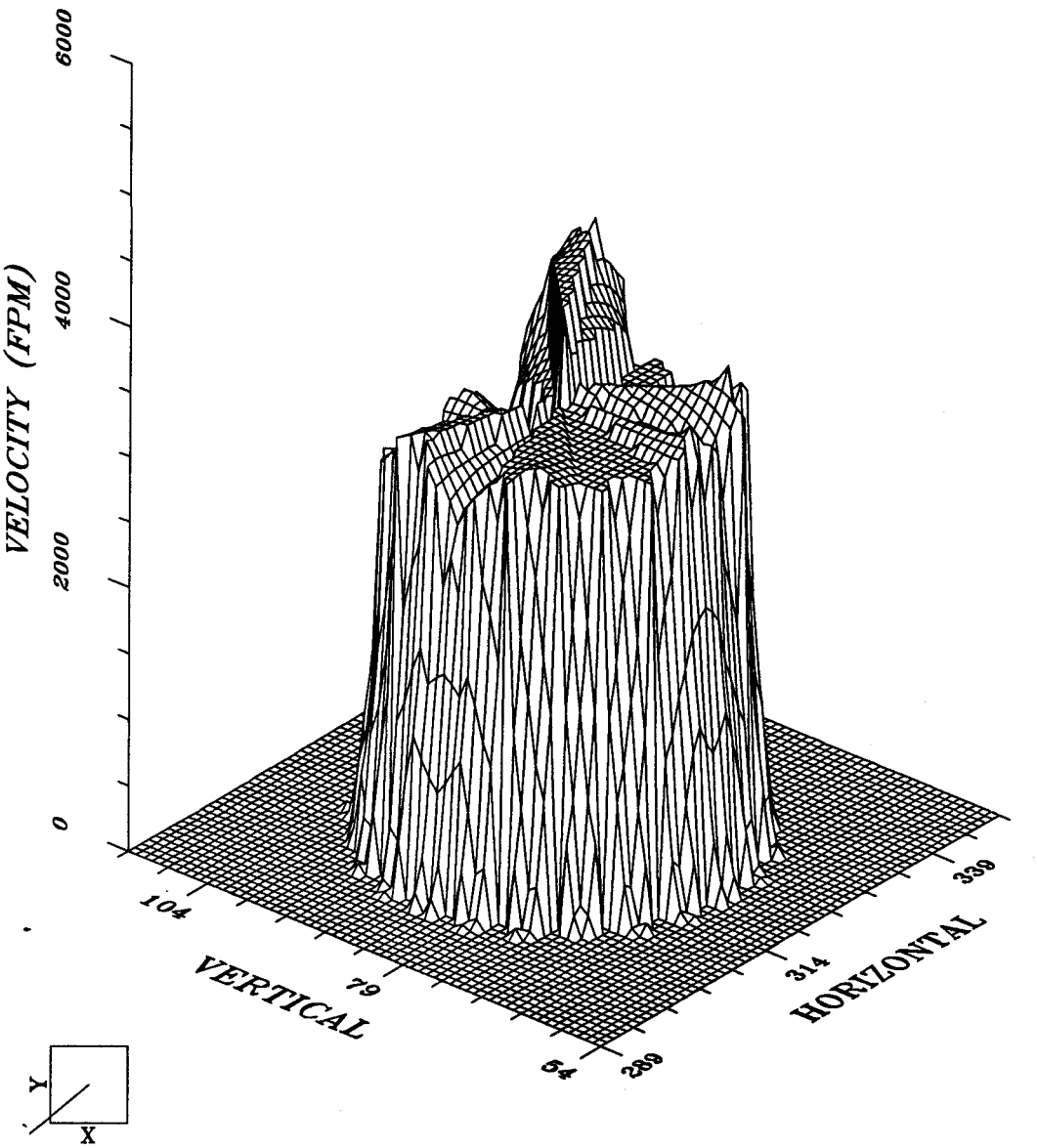
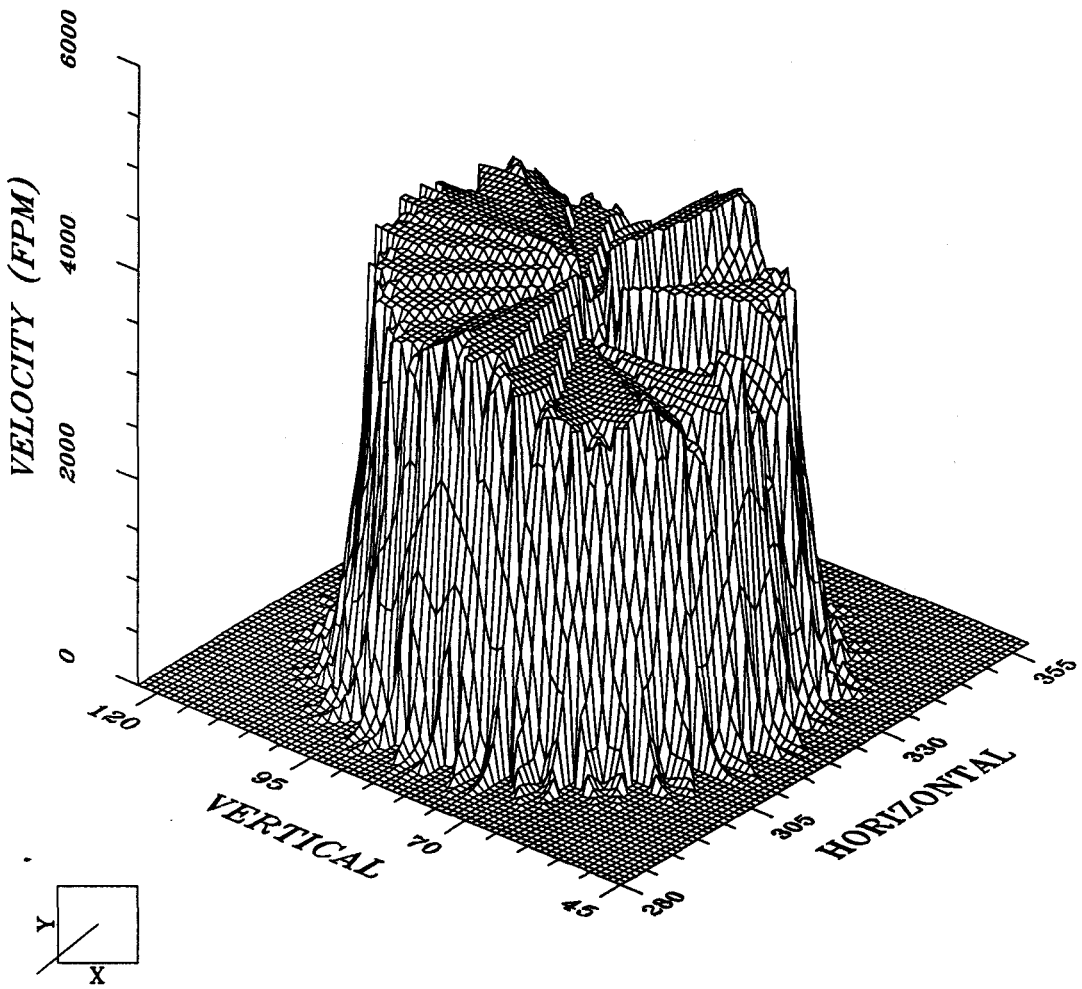


BURNER B5 INNER ZONE VELOCITY



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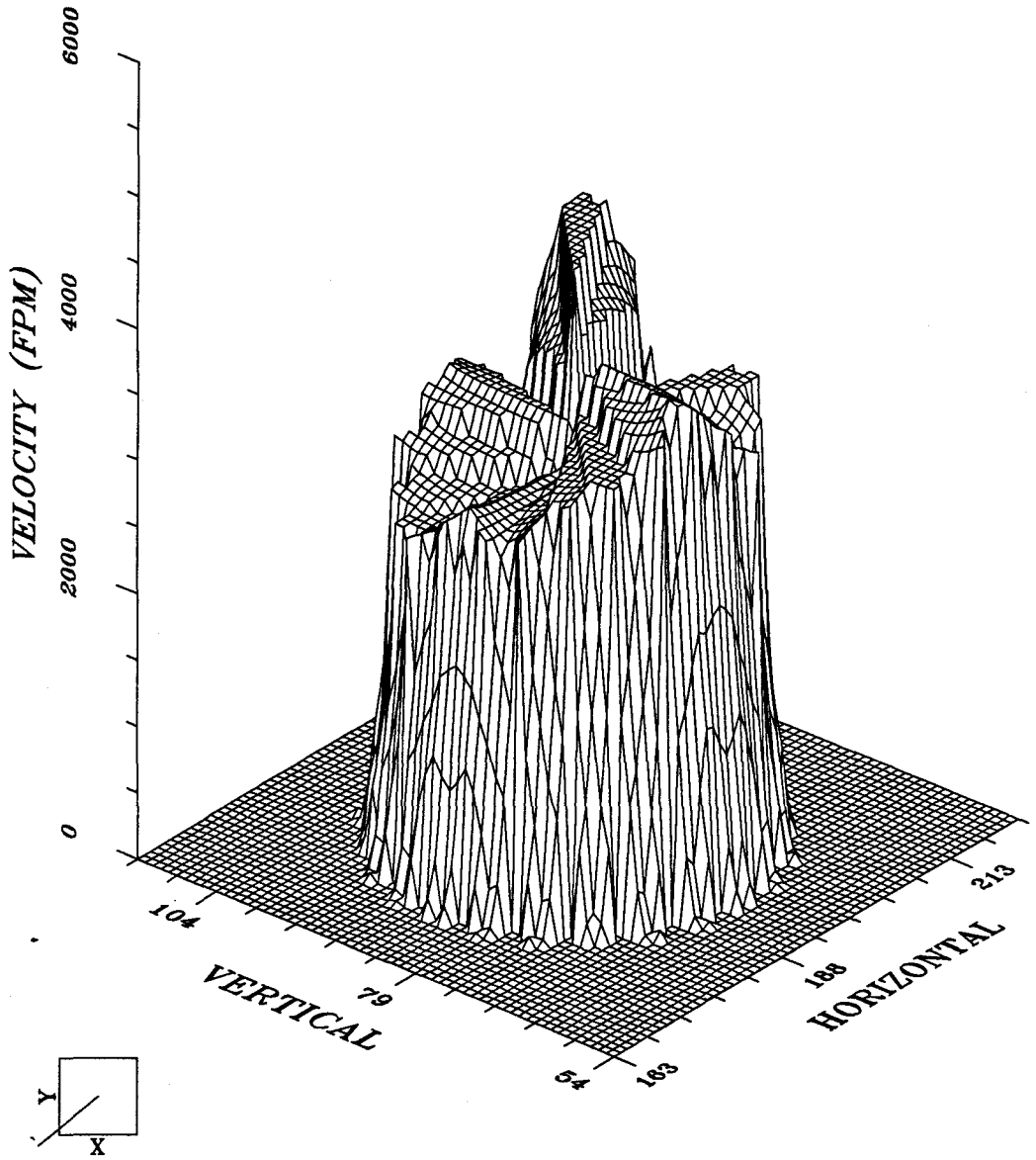
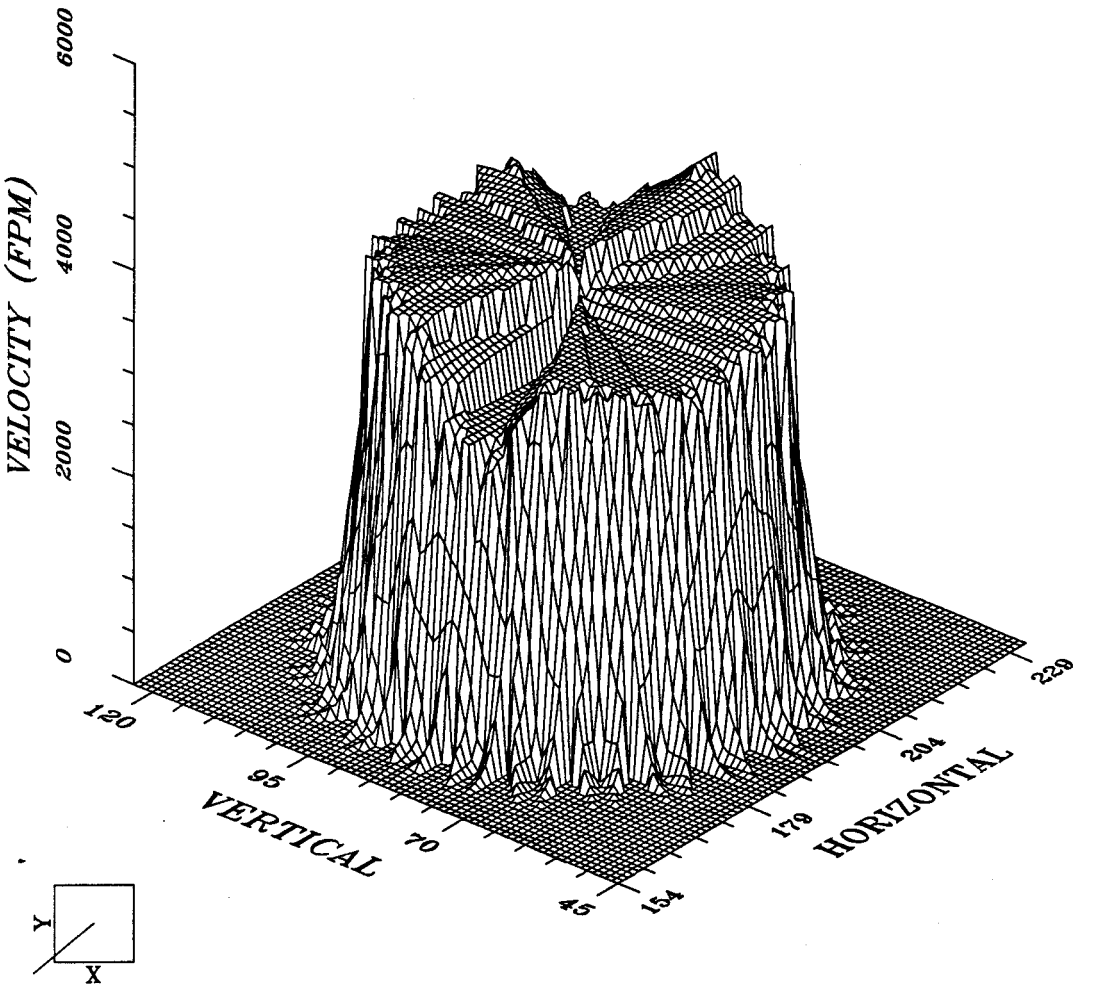


BURNER B6 INNER ZONE VELOCITY



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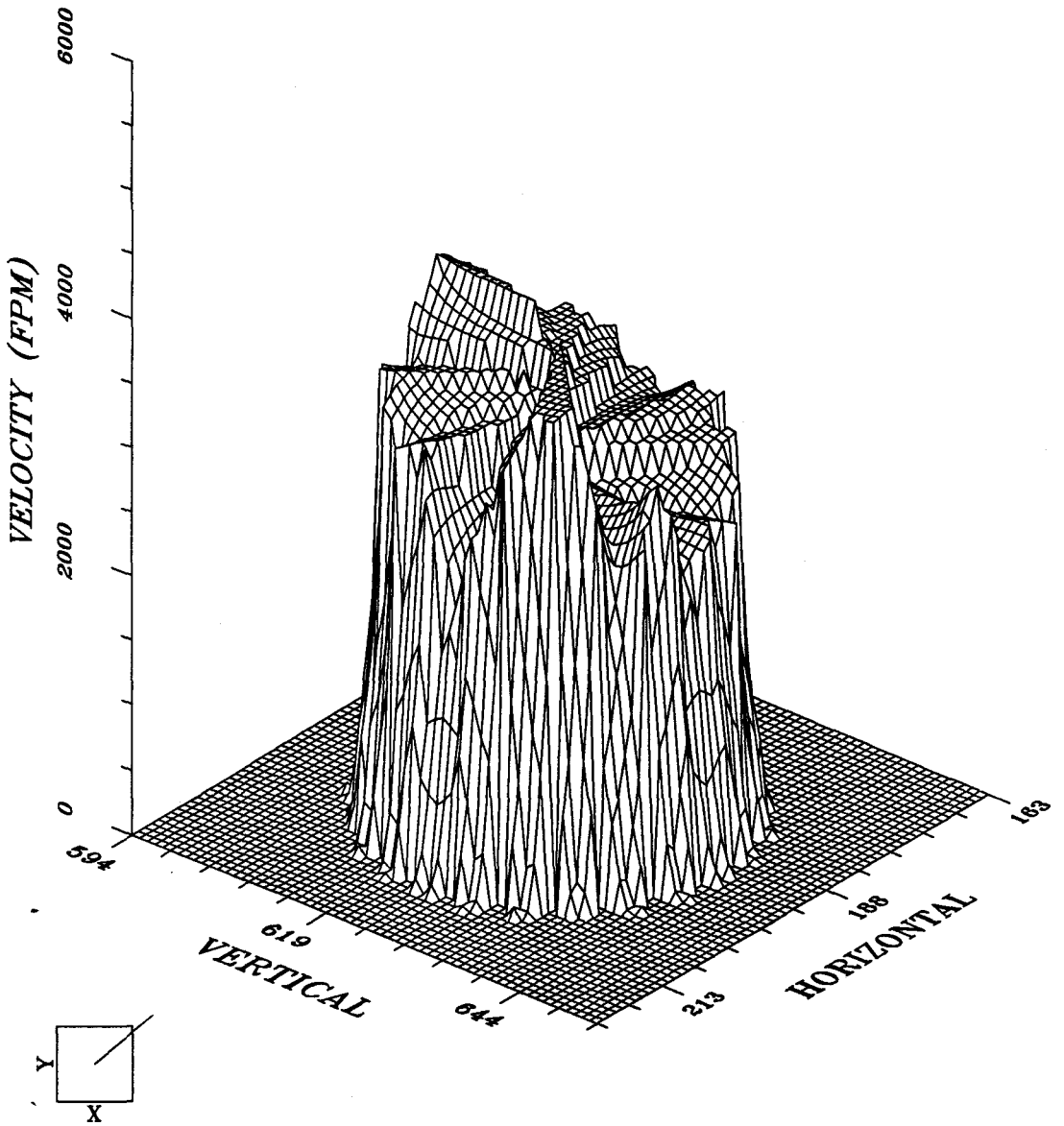
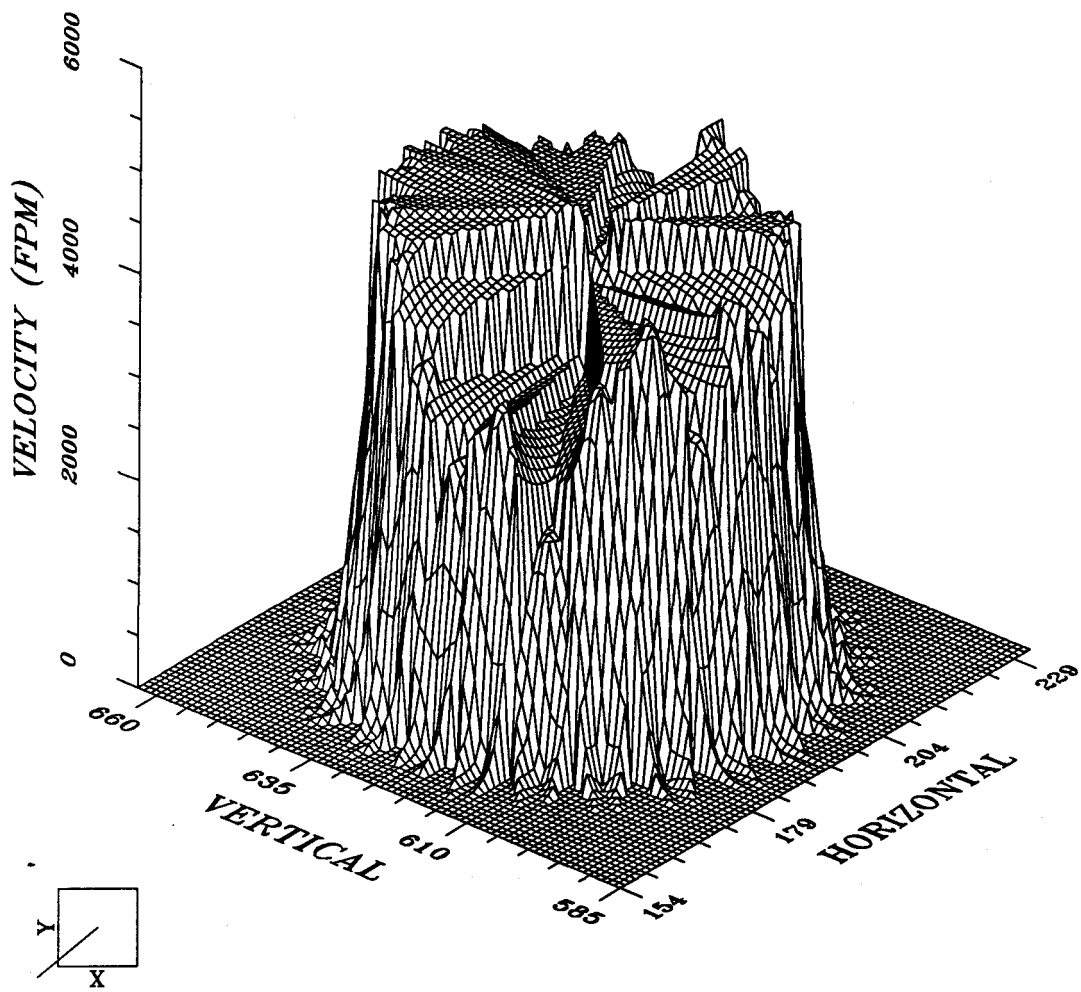


BURNER D1 INNER ZONE VELOCITY



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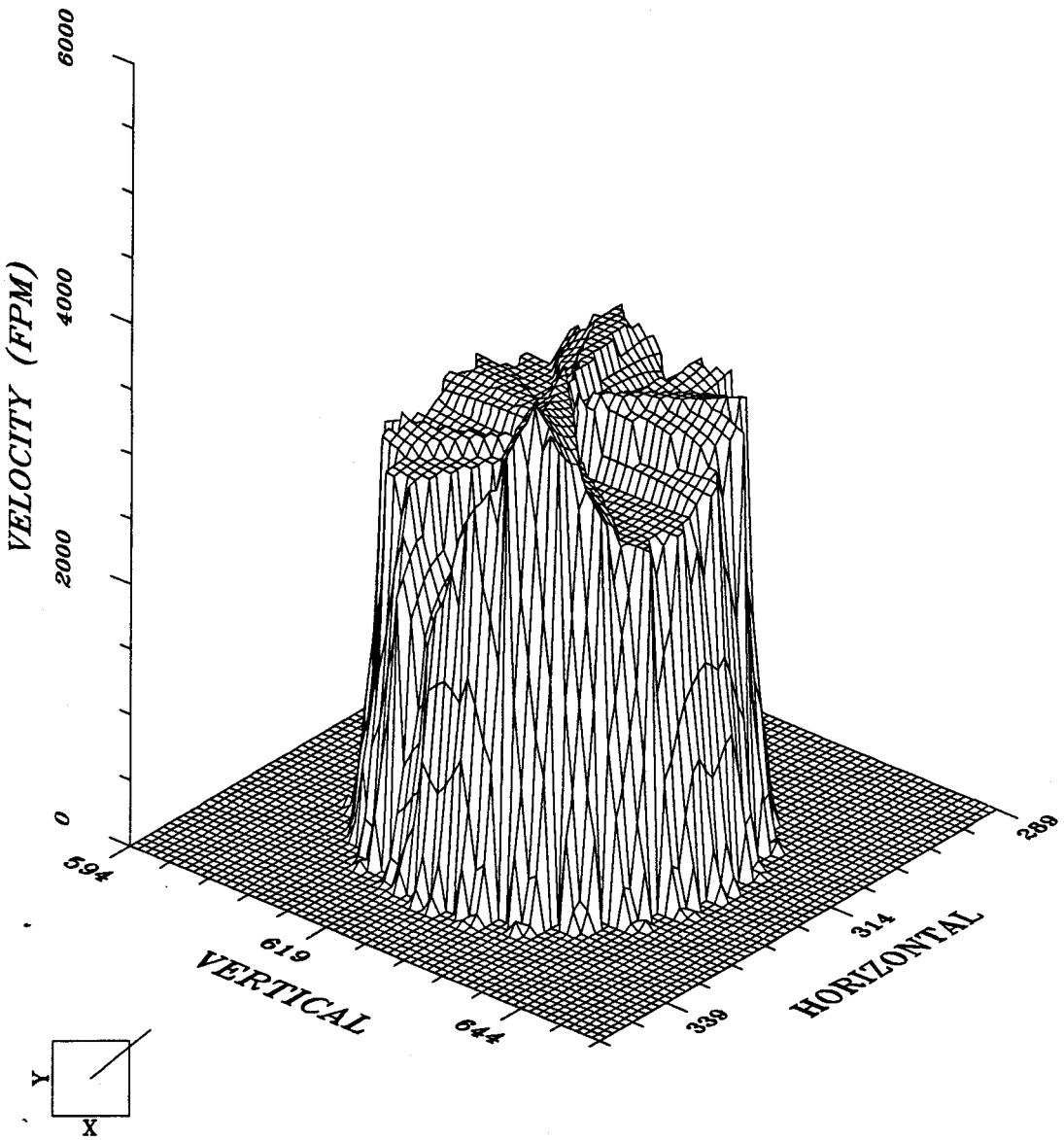
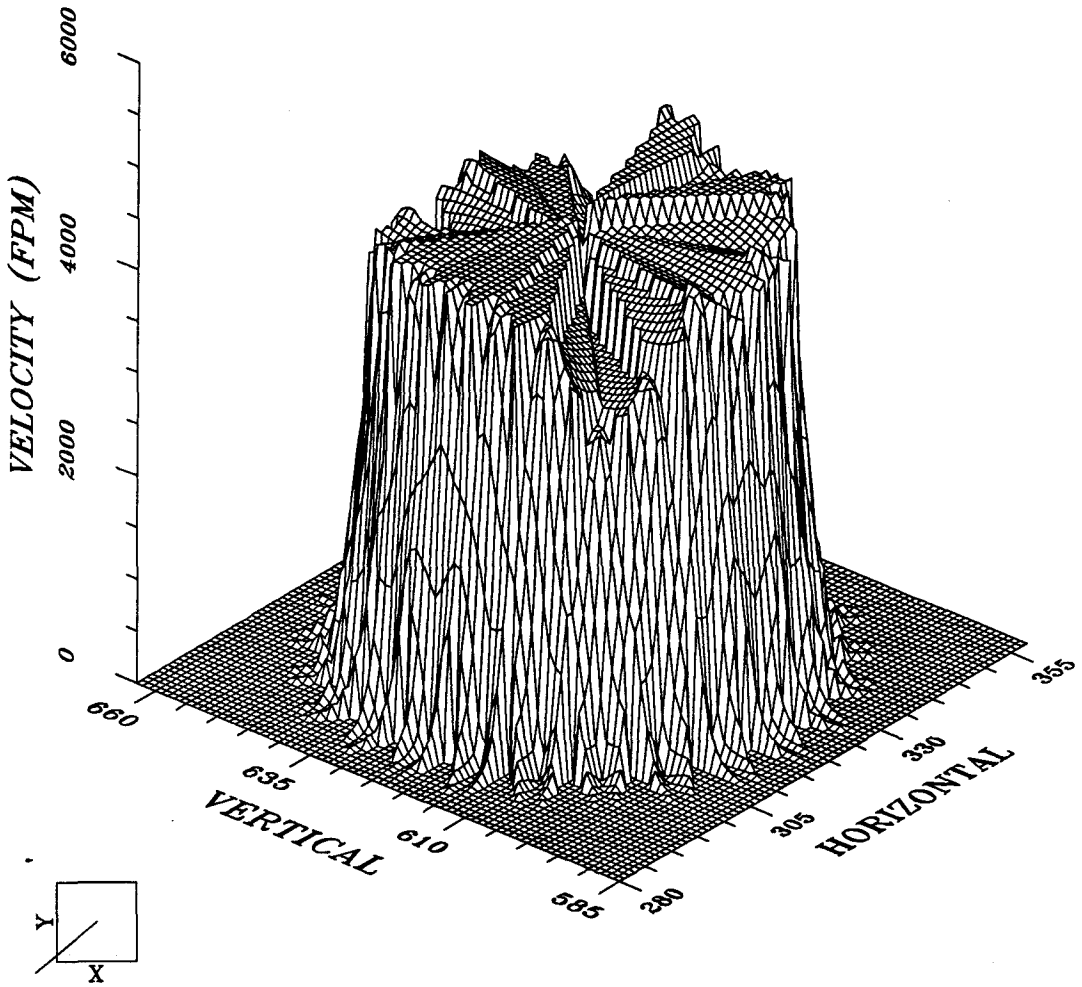


BURNER D2 INNER ZONE VELOCITY



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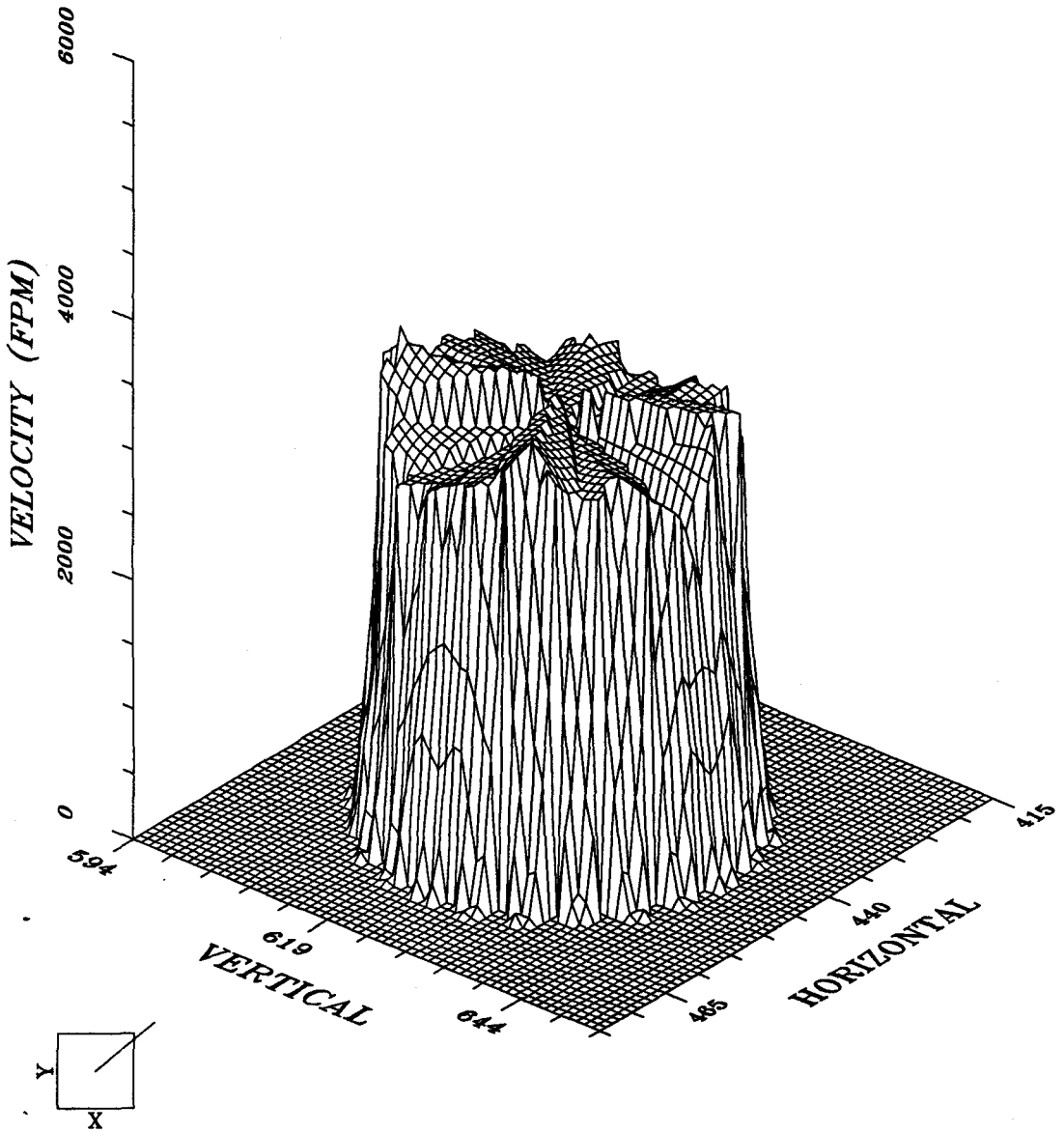
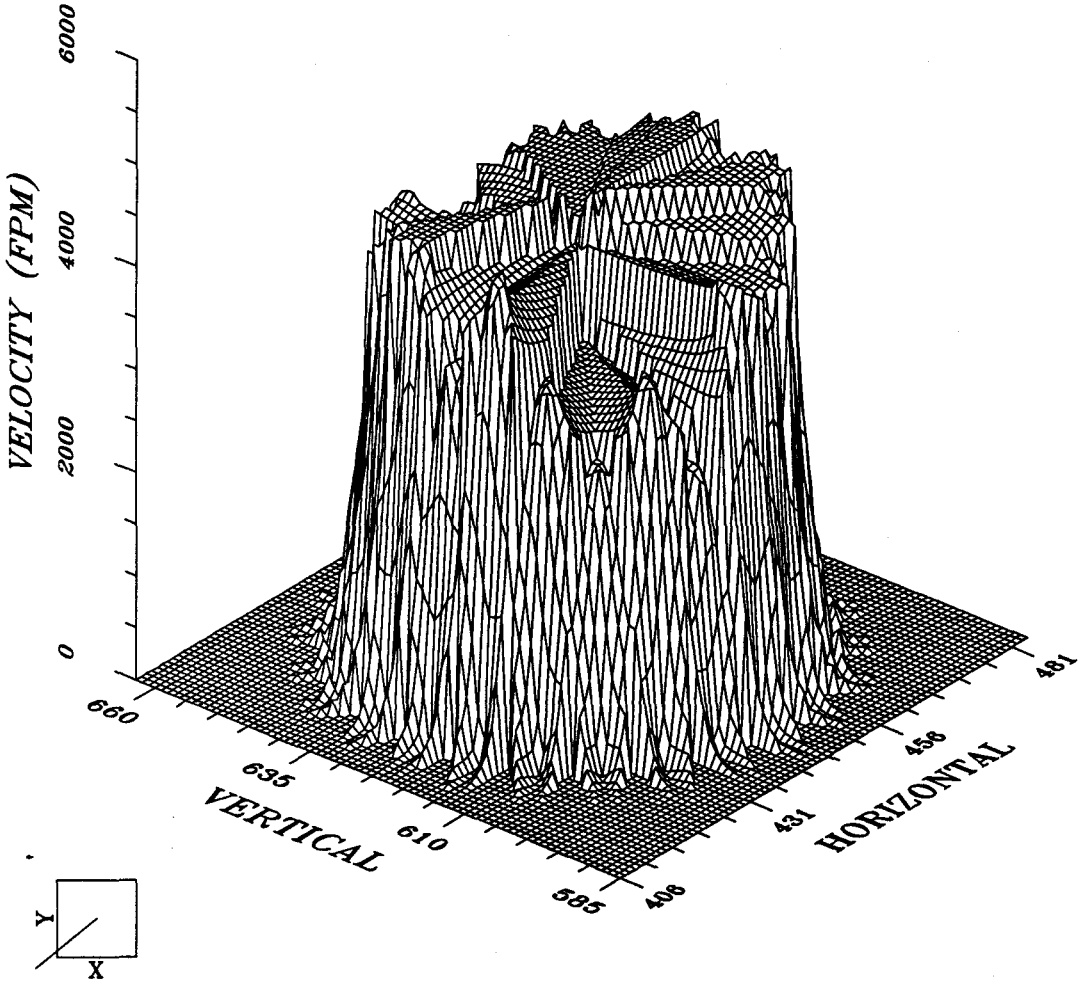
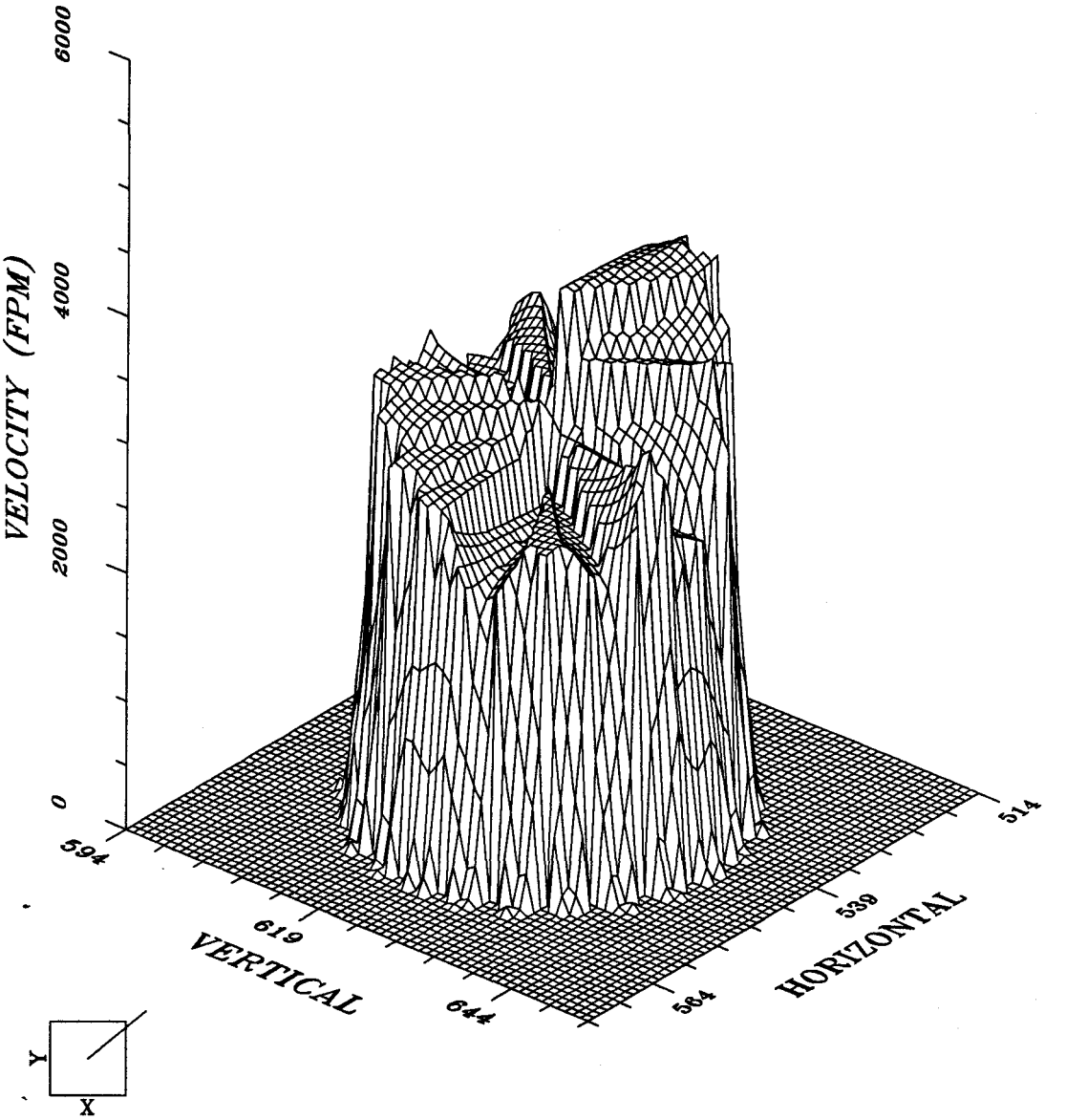


BURNER D3 INNER ZONE VELOCITY



BURNER D3 OUTER ZONE VELOCITY



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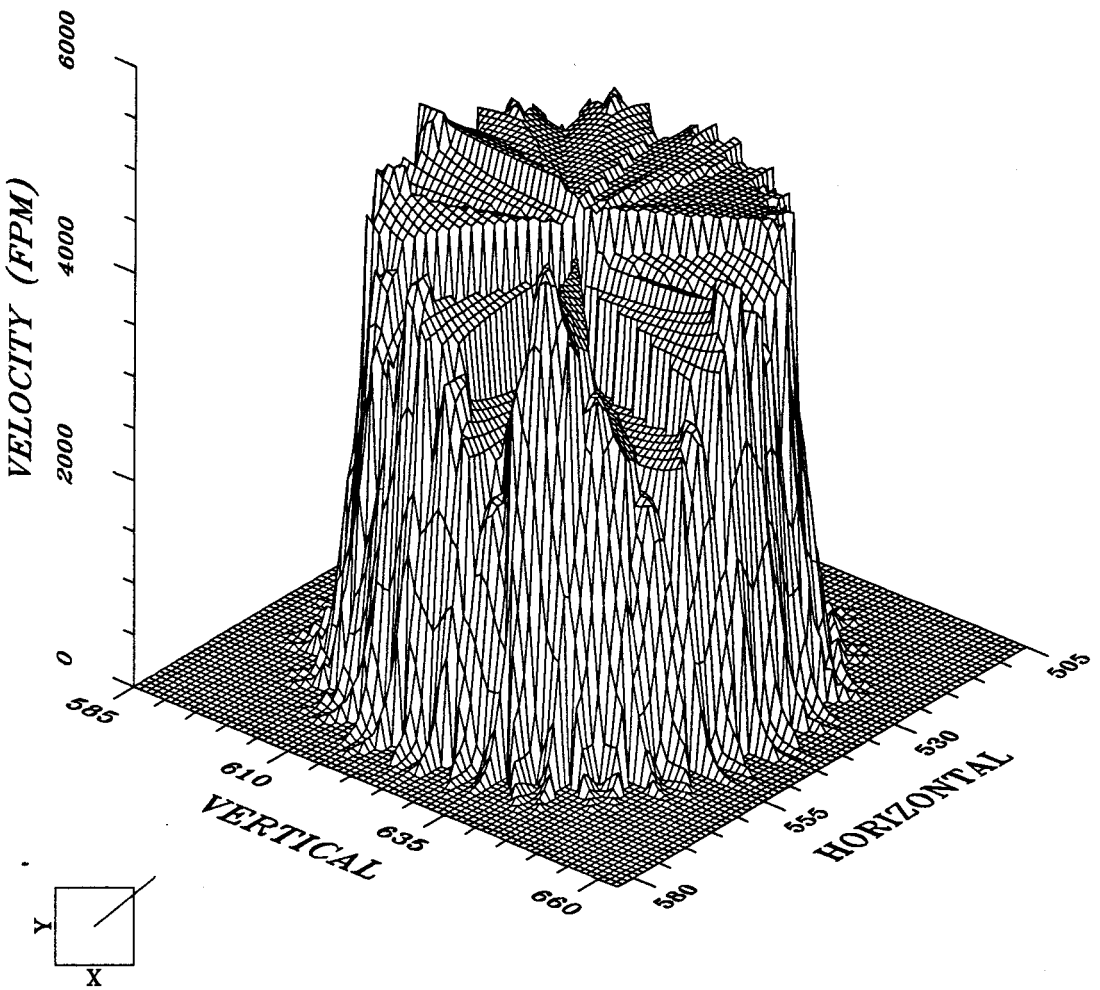

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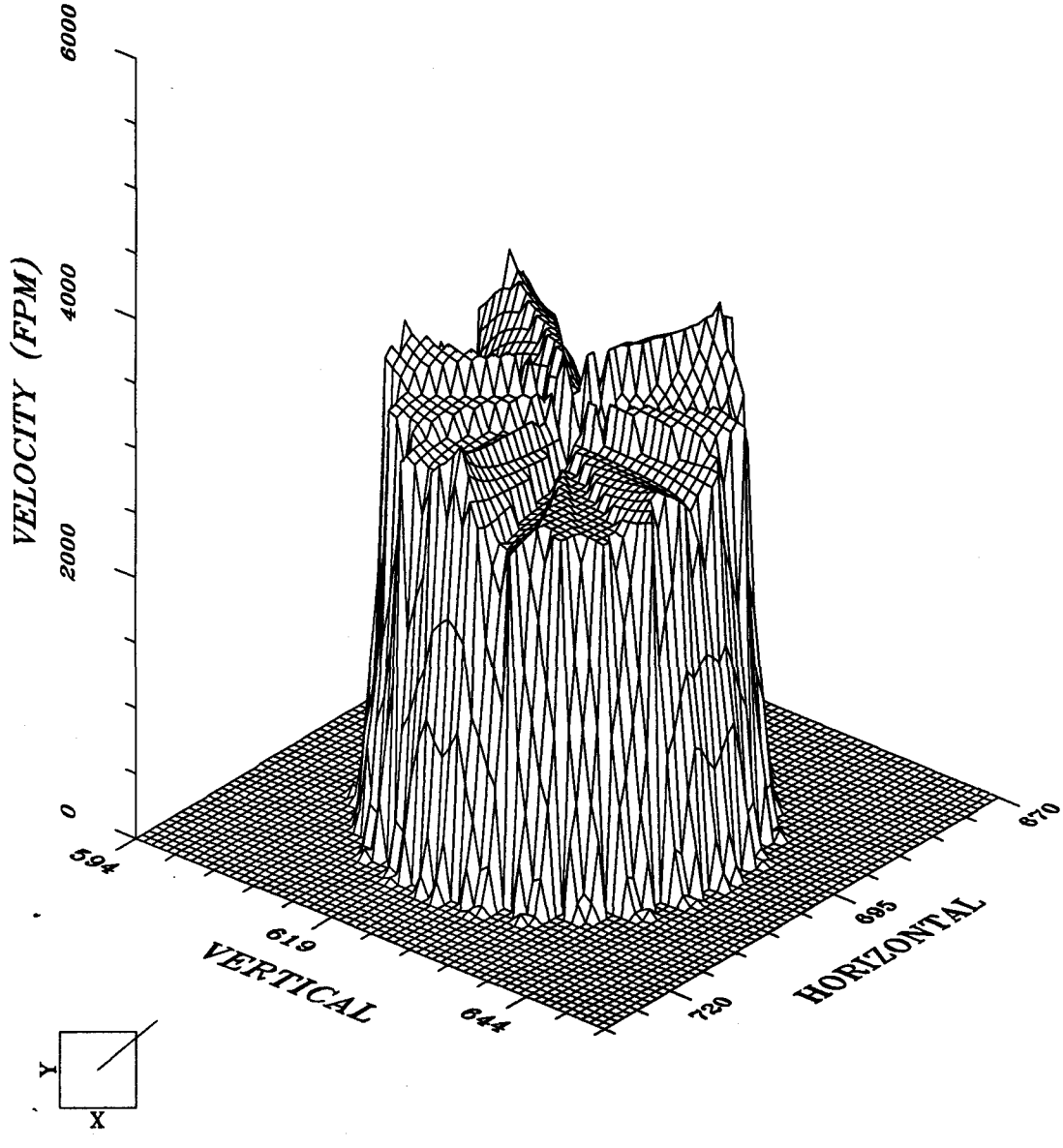
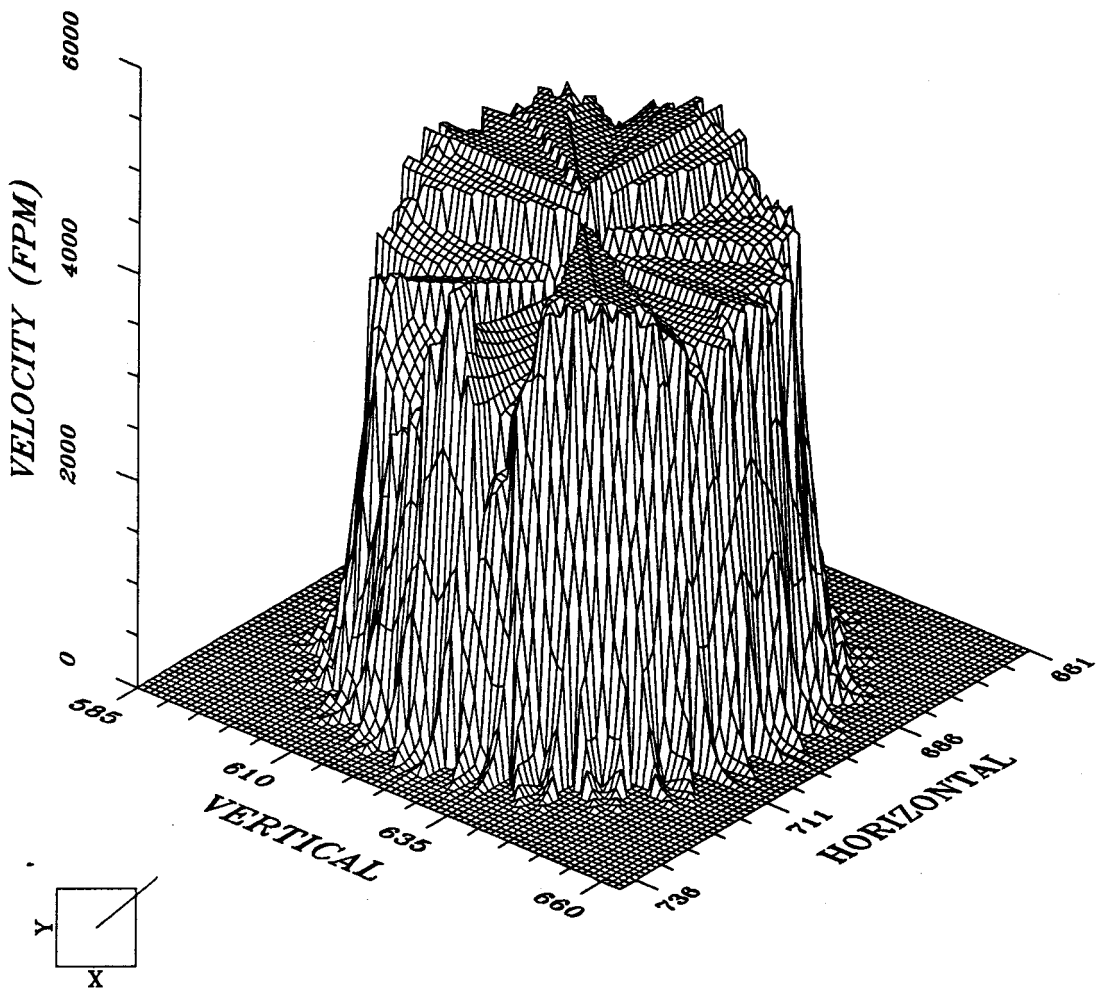


BURNER D5 INNER ZONE VELOCITY



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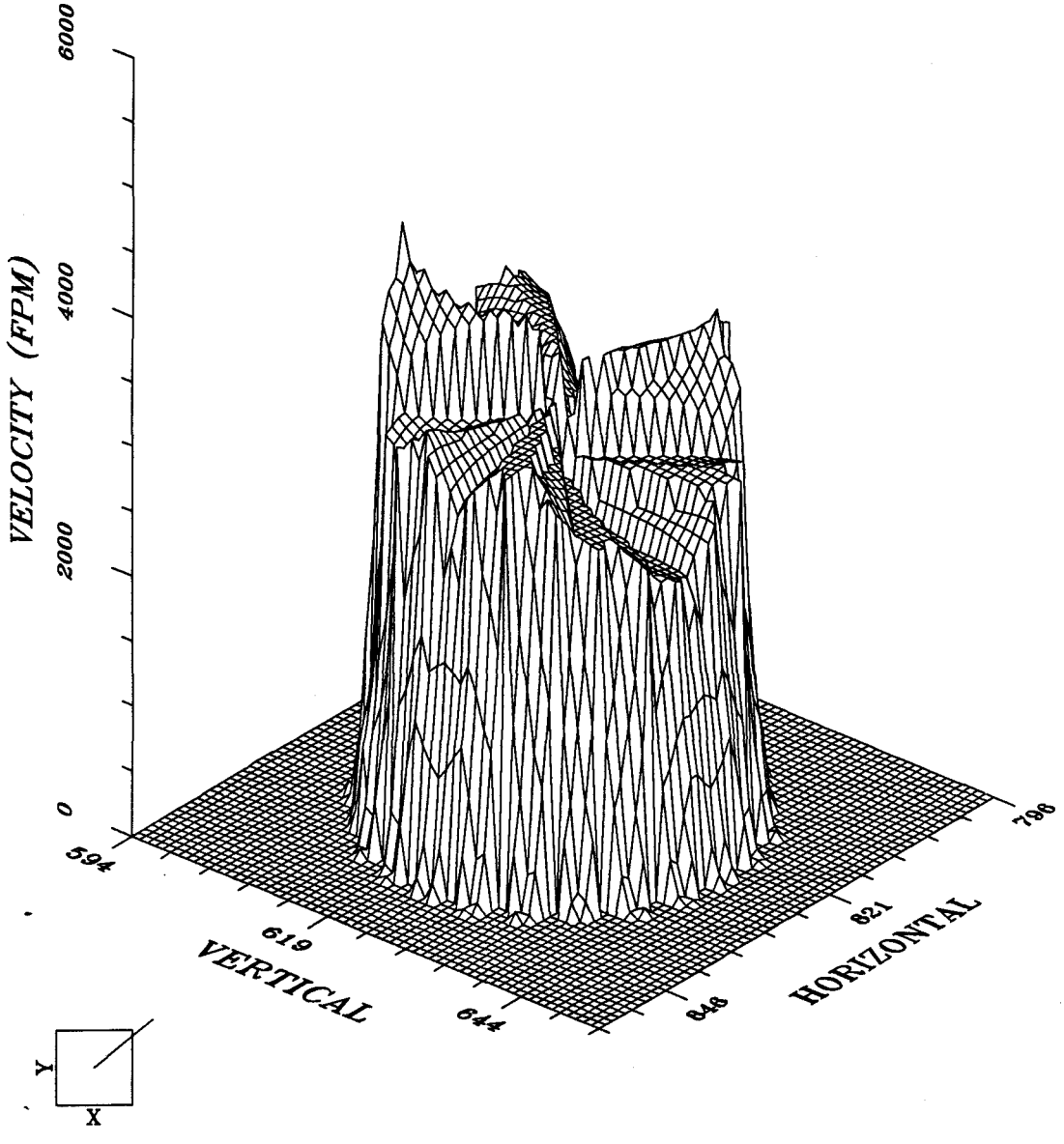

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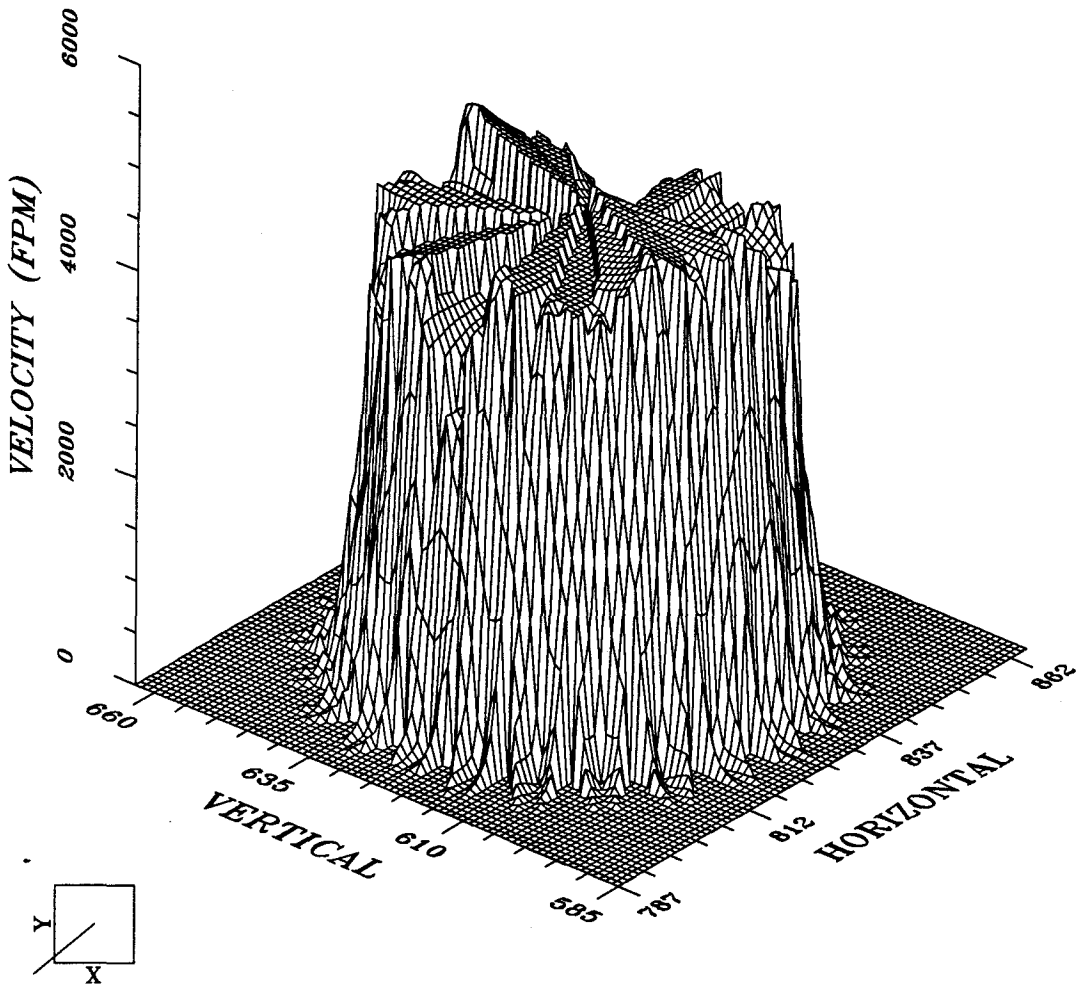
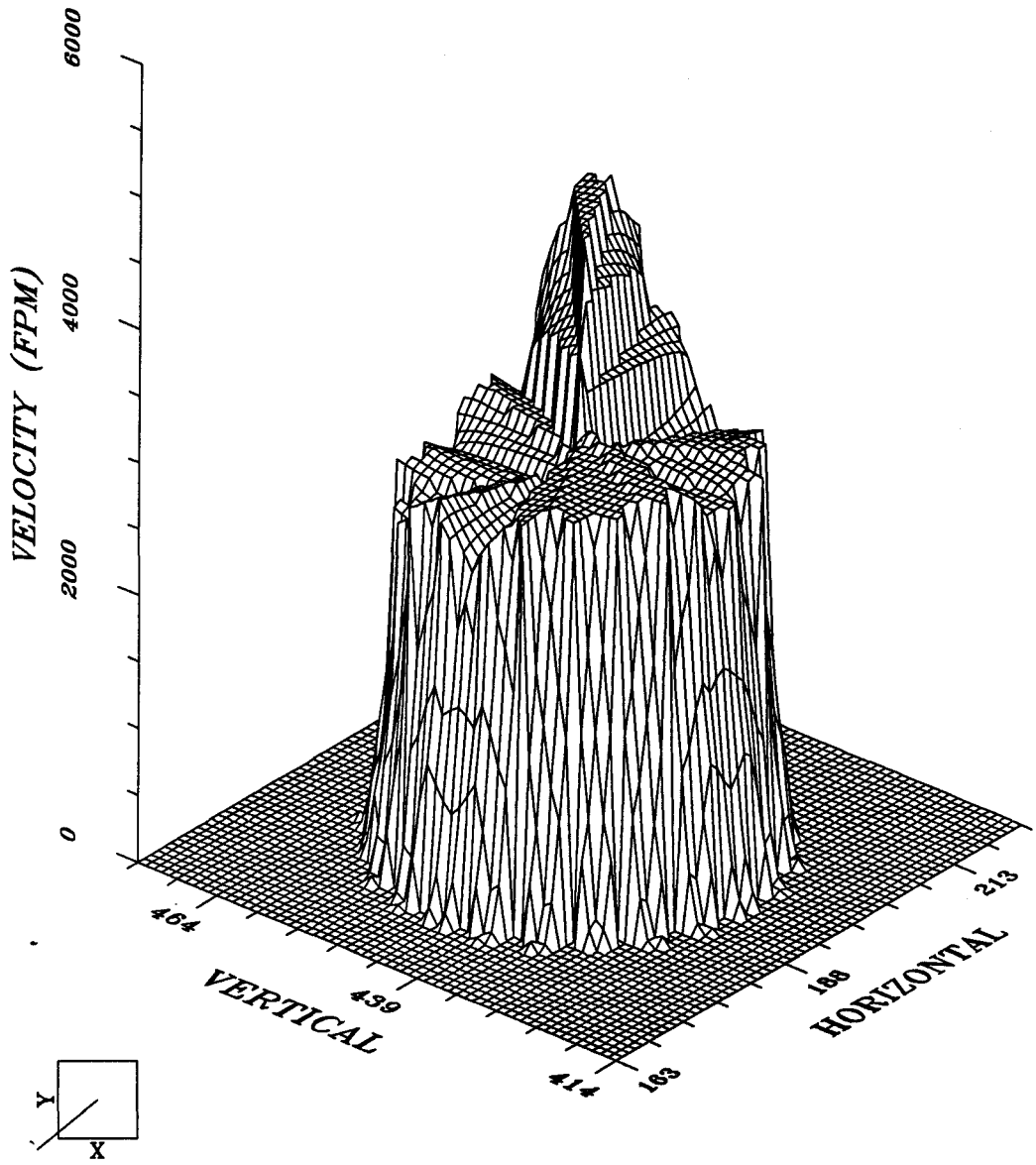
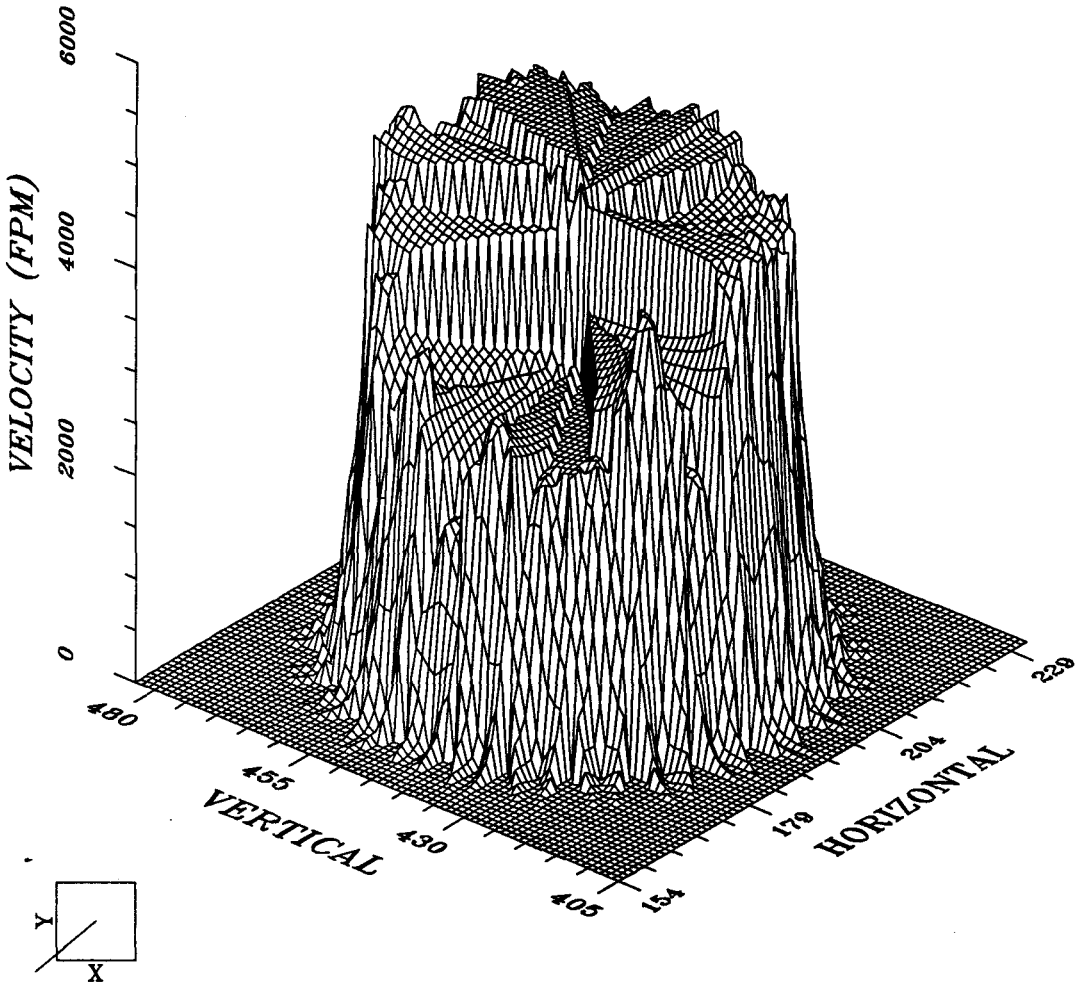


BURNER D6 OUTER ZONE VELOCITY



BURNER H1 INNER ZONE VELOCITY



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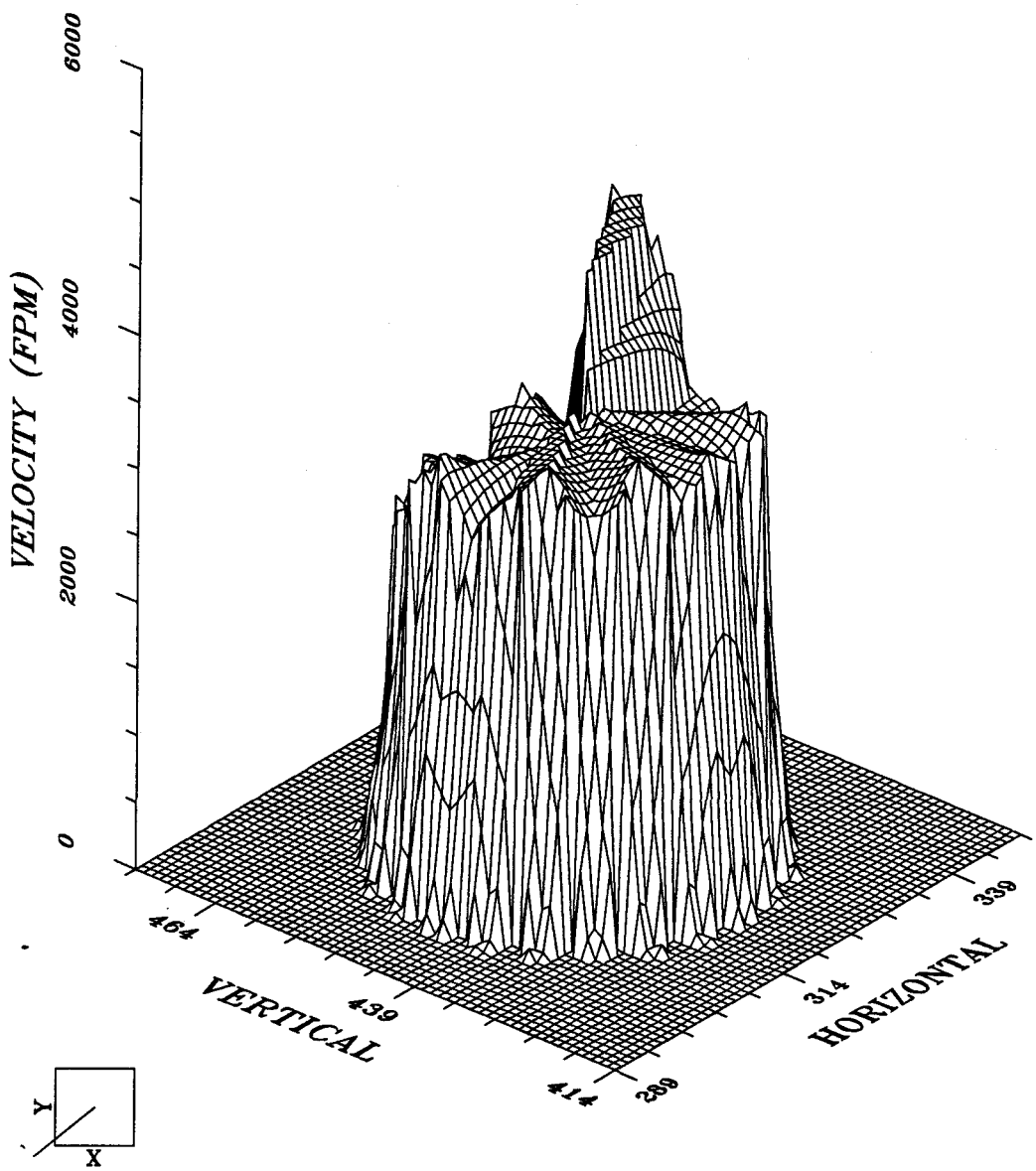

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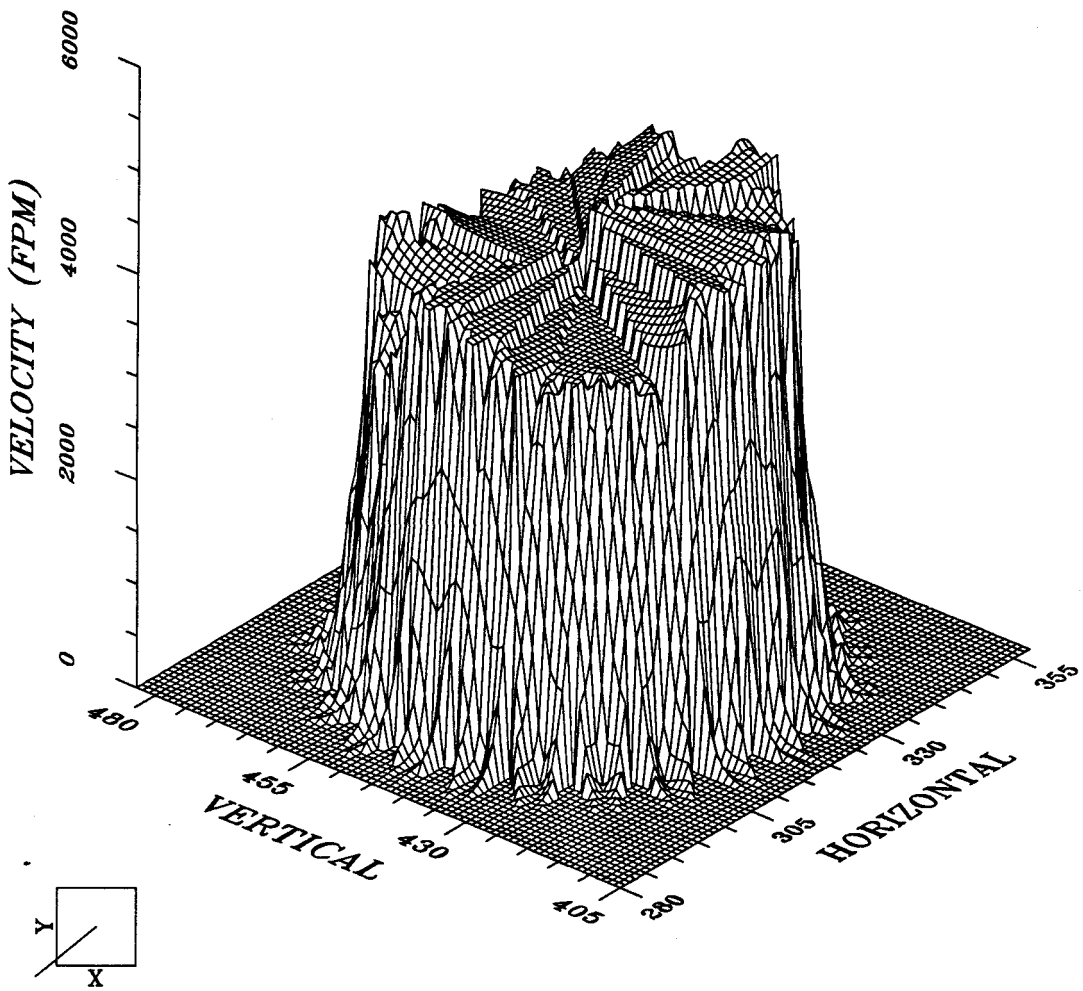

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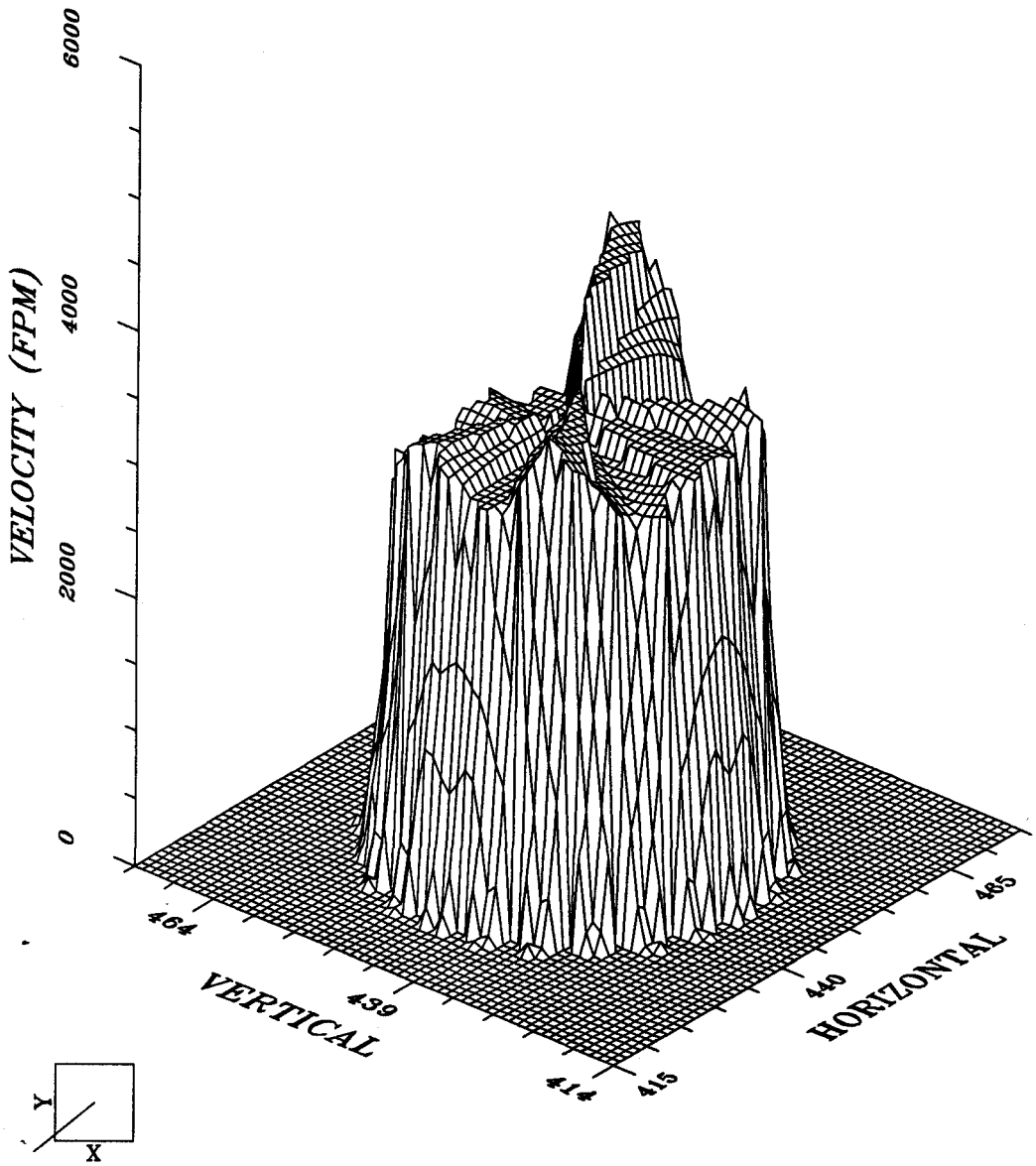

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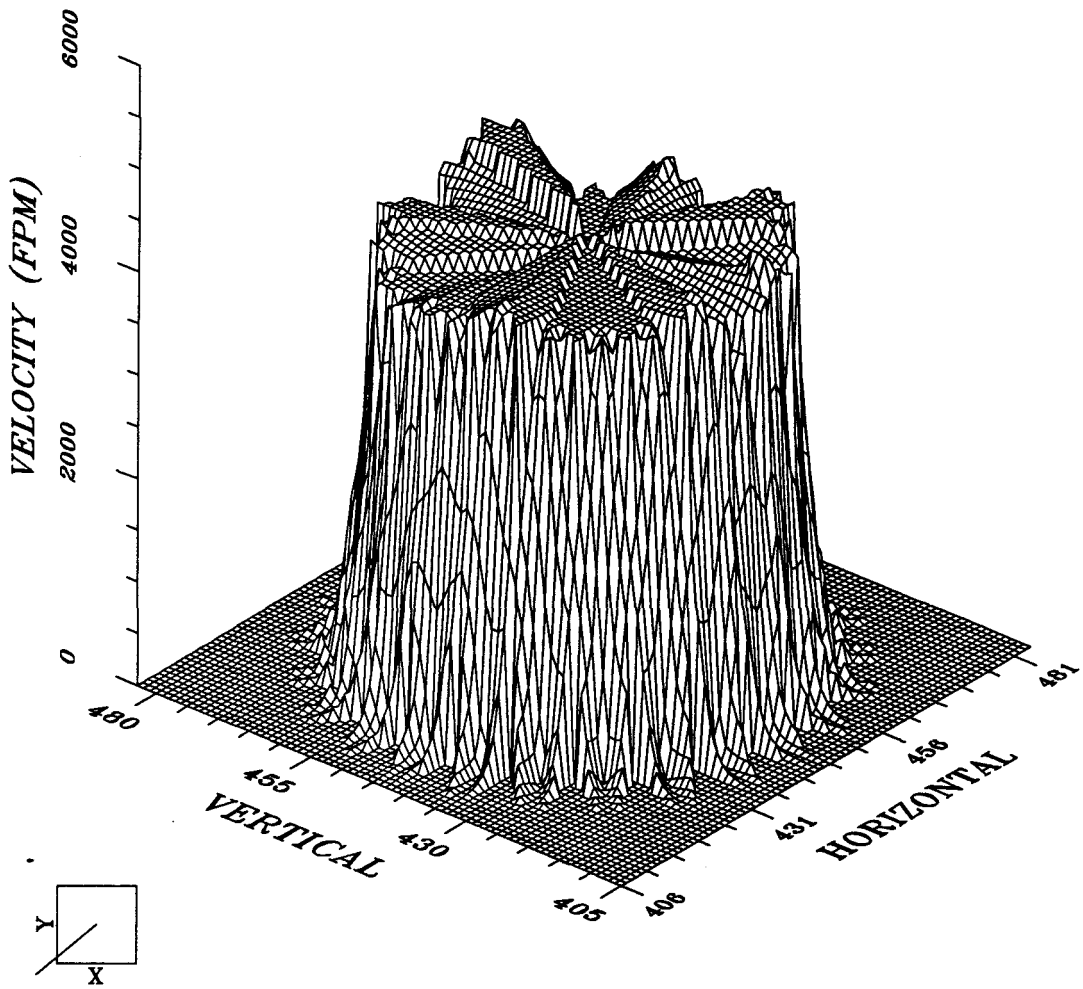
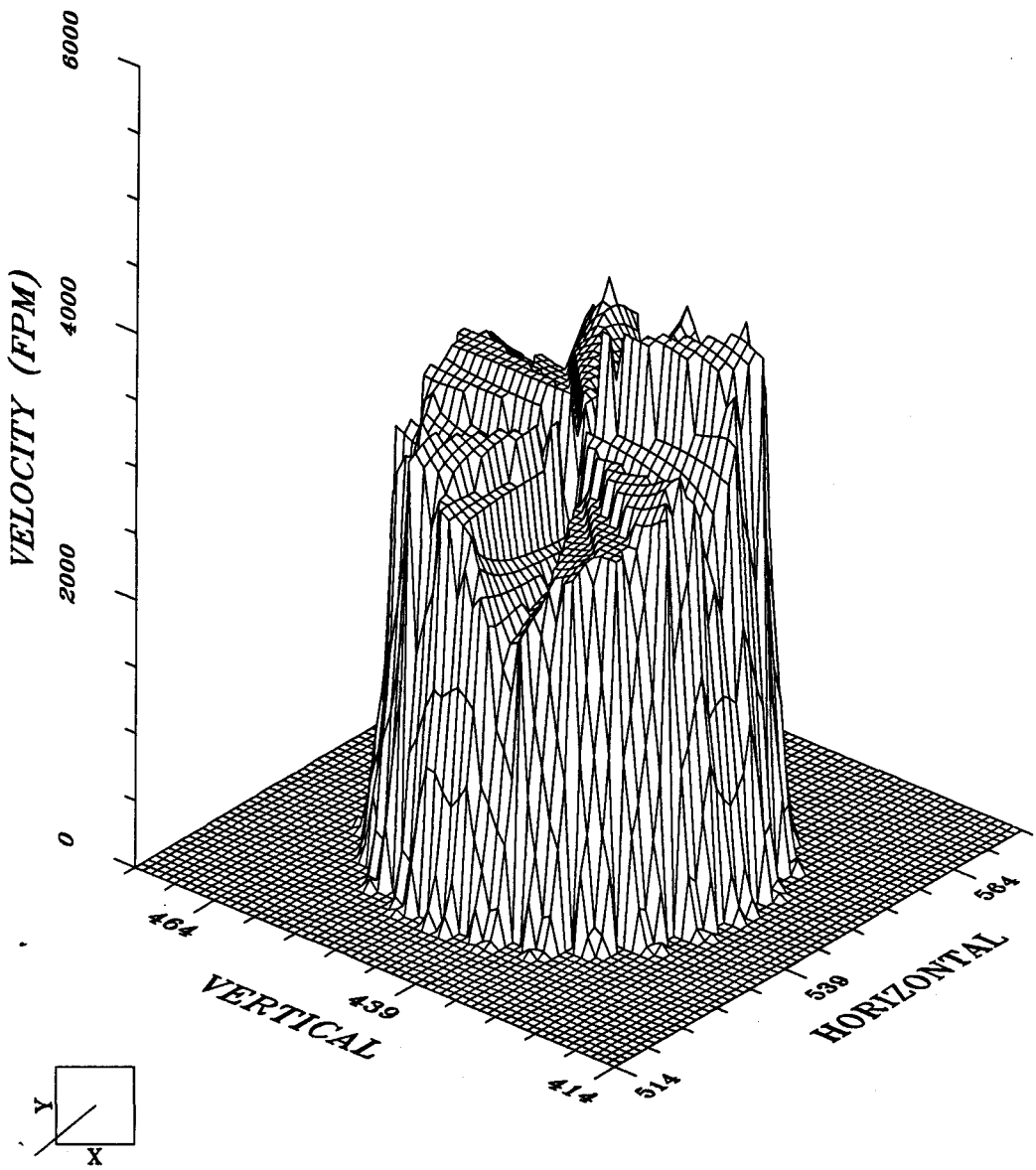
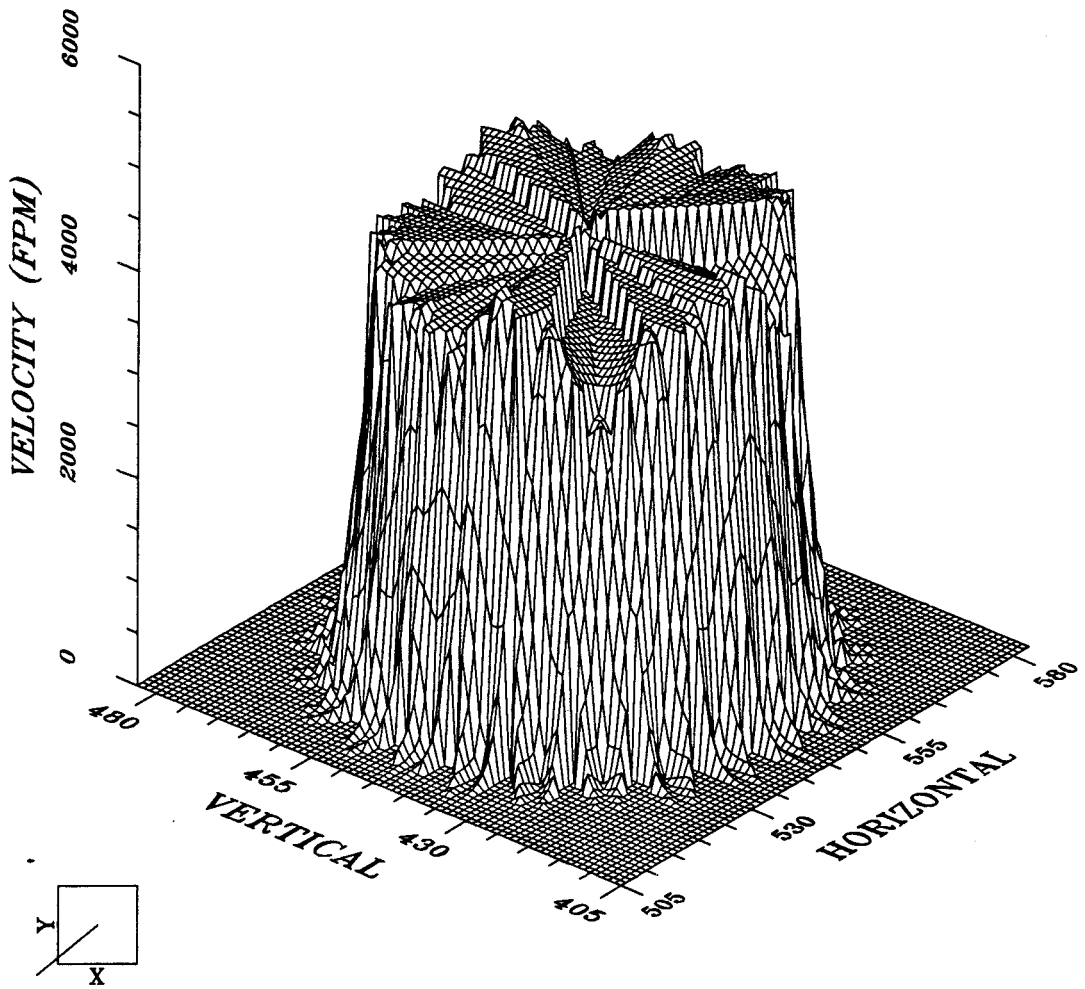


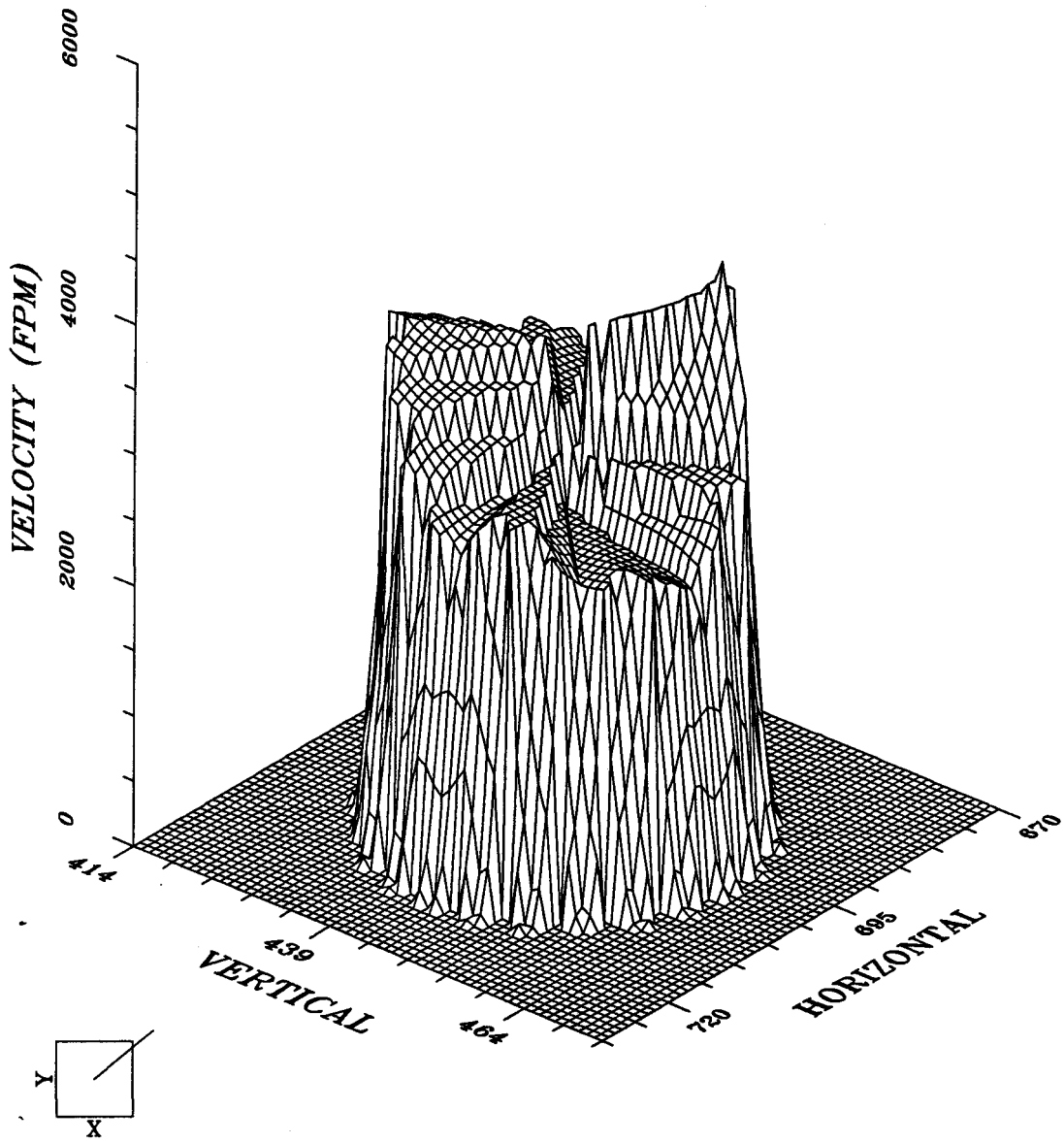
BURNER H3 OUTER ZONE VELOCITY



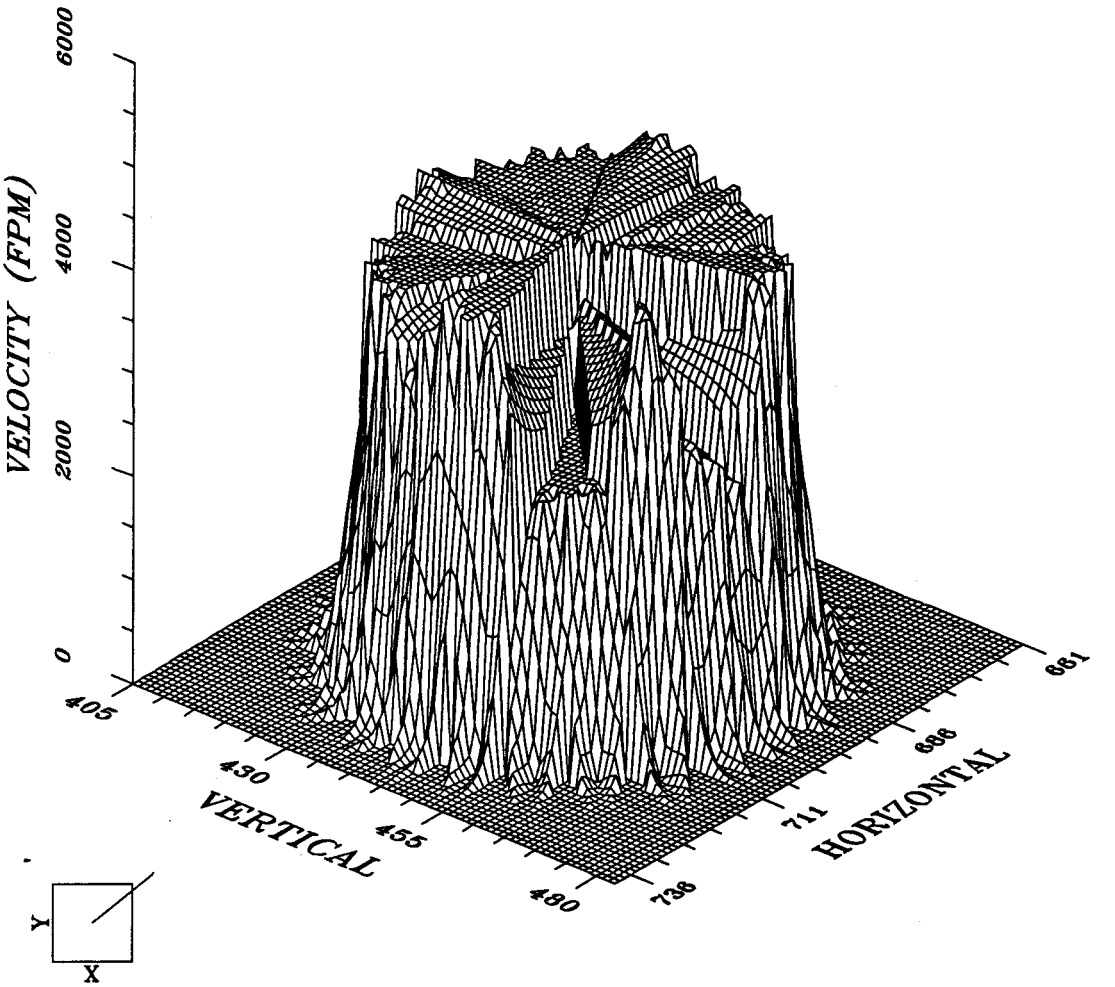
BURNER H4 INNER ZONE VELOCITY



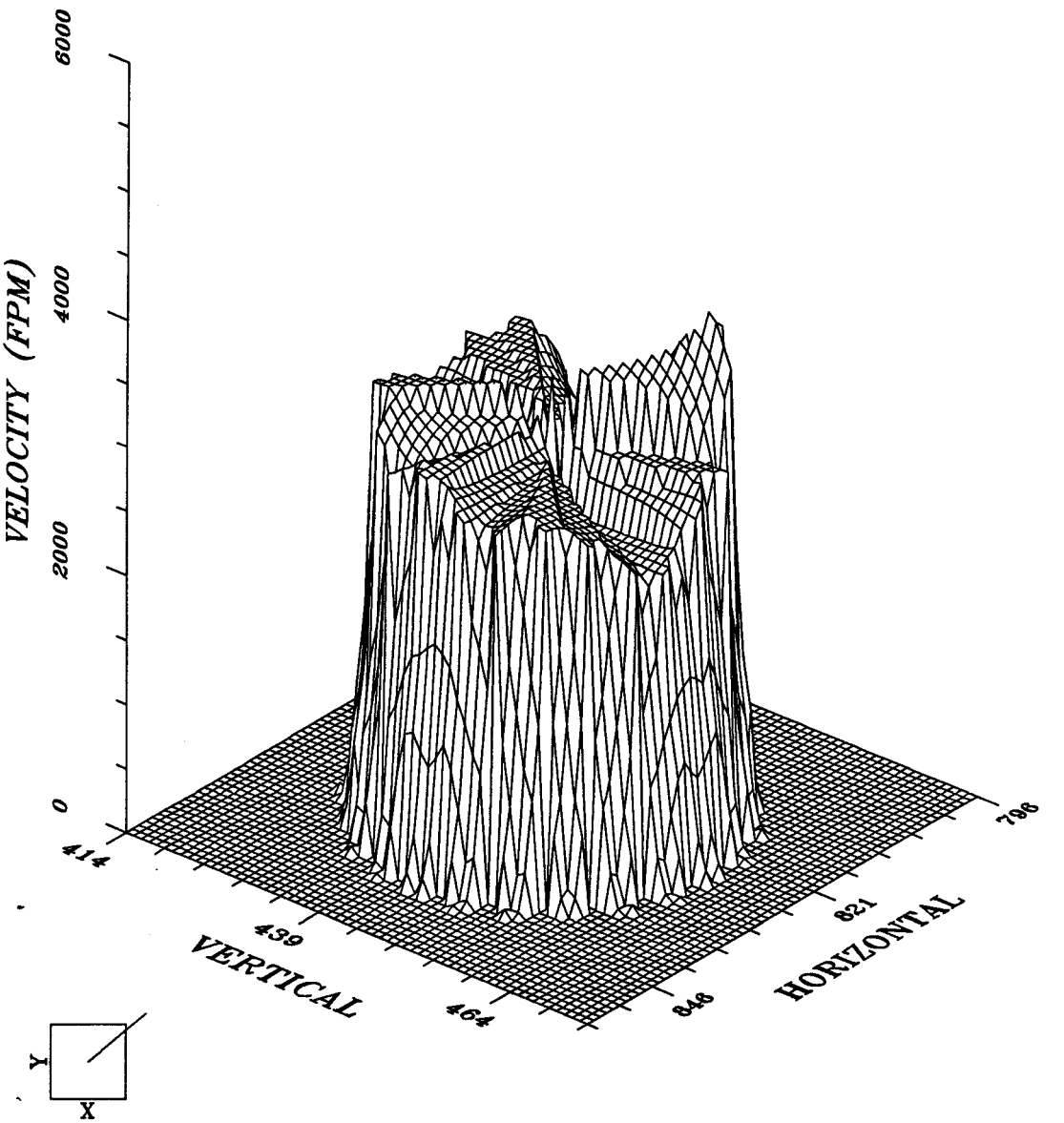
BURNER H4 OUTER ZONE VELOCITY



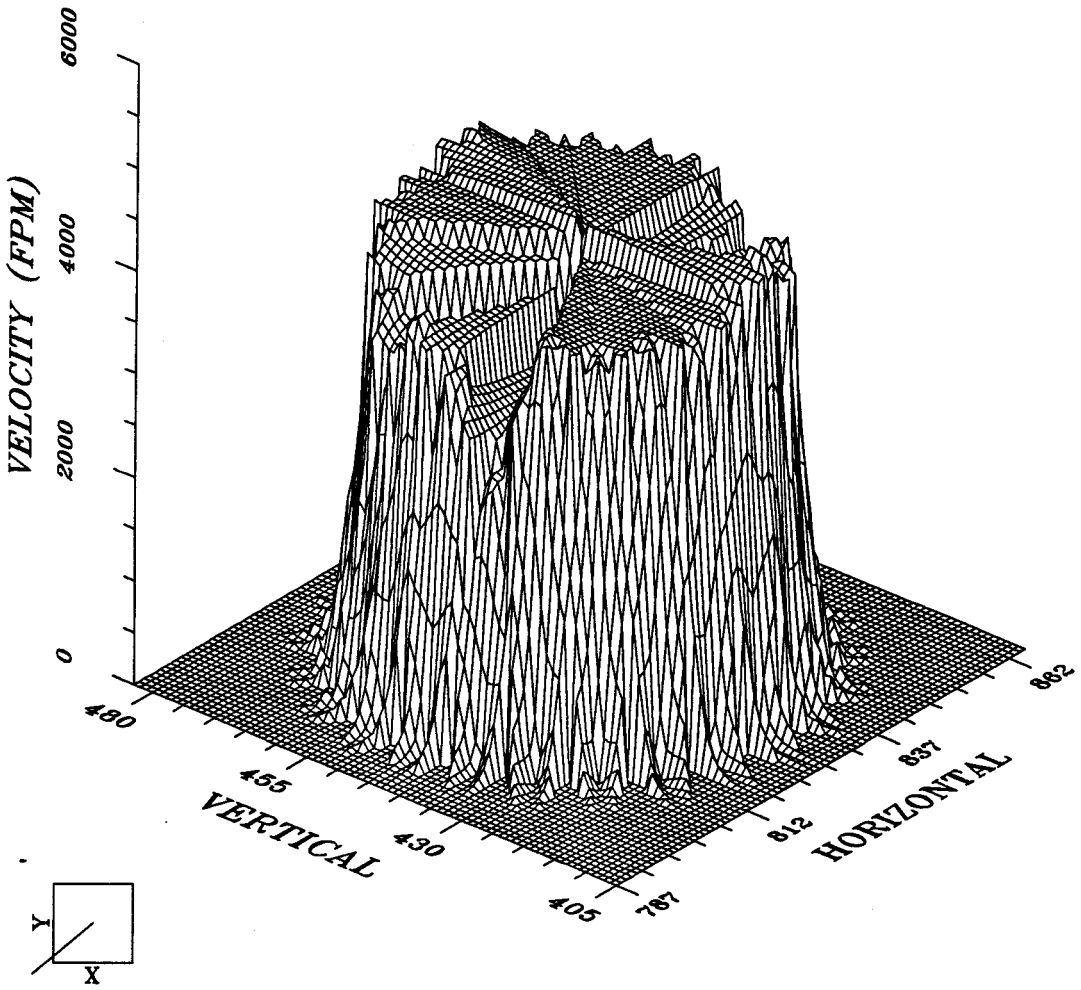
BURNER H5 INNER ZONE VELOCITY



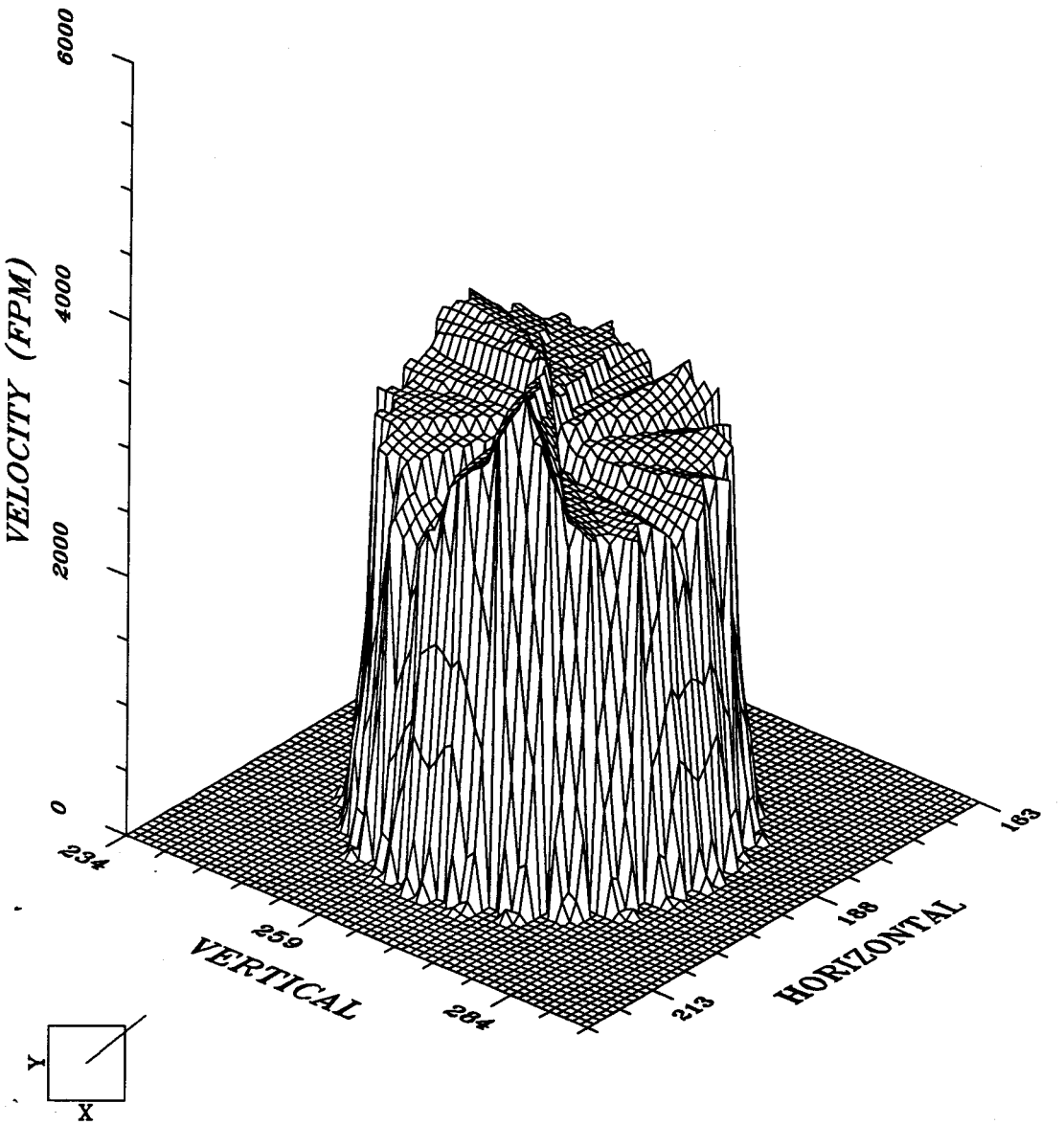
BURNER H5 OUTER ZONE VELOCITY



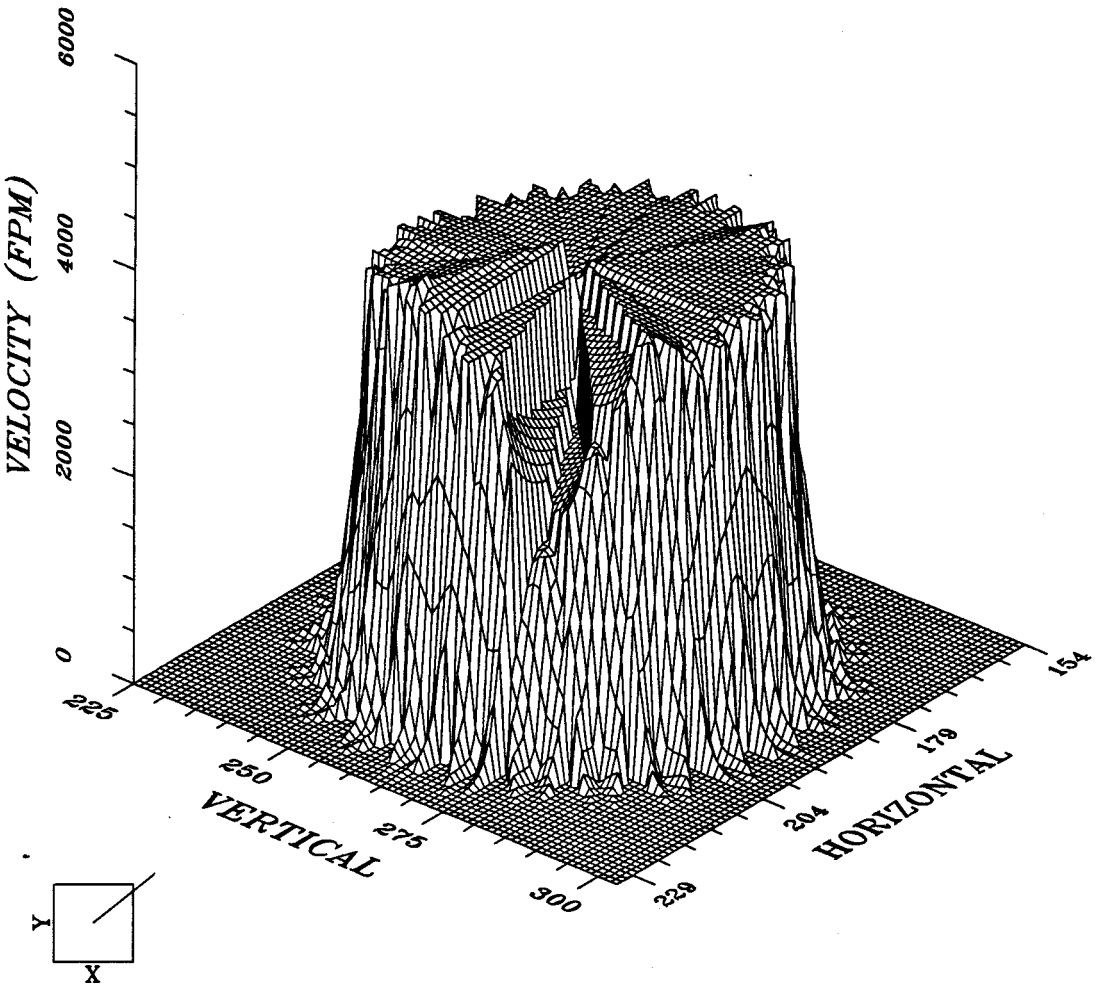
BURNER H6 INNER ZONE VELOCITY



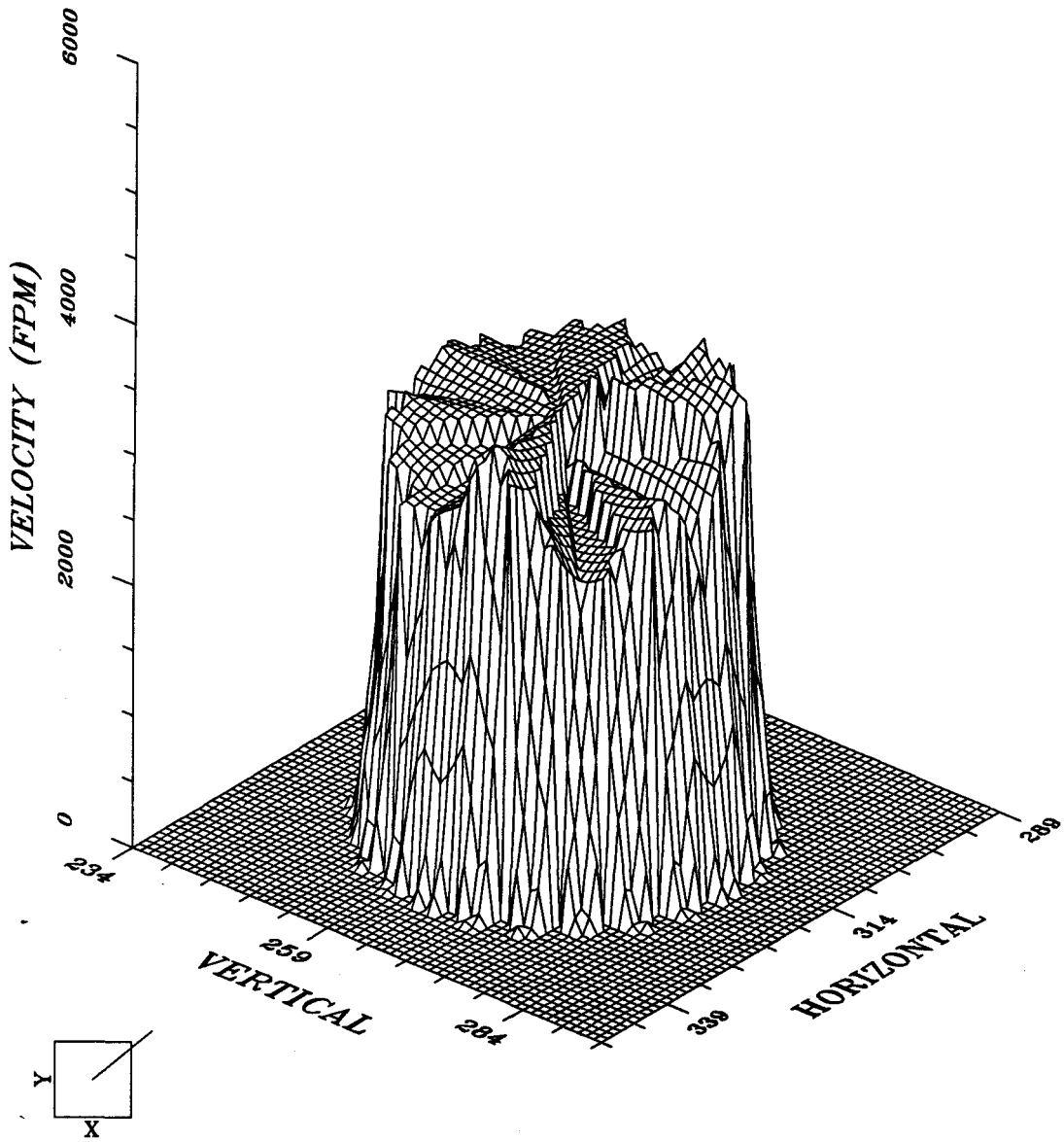
BURNER H6 OUTER ZONE VELOCITY



BURNER C1 INNER ZONE VELOCITY



BURNER C1 OUTER ZONE VELOCITY



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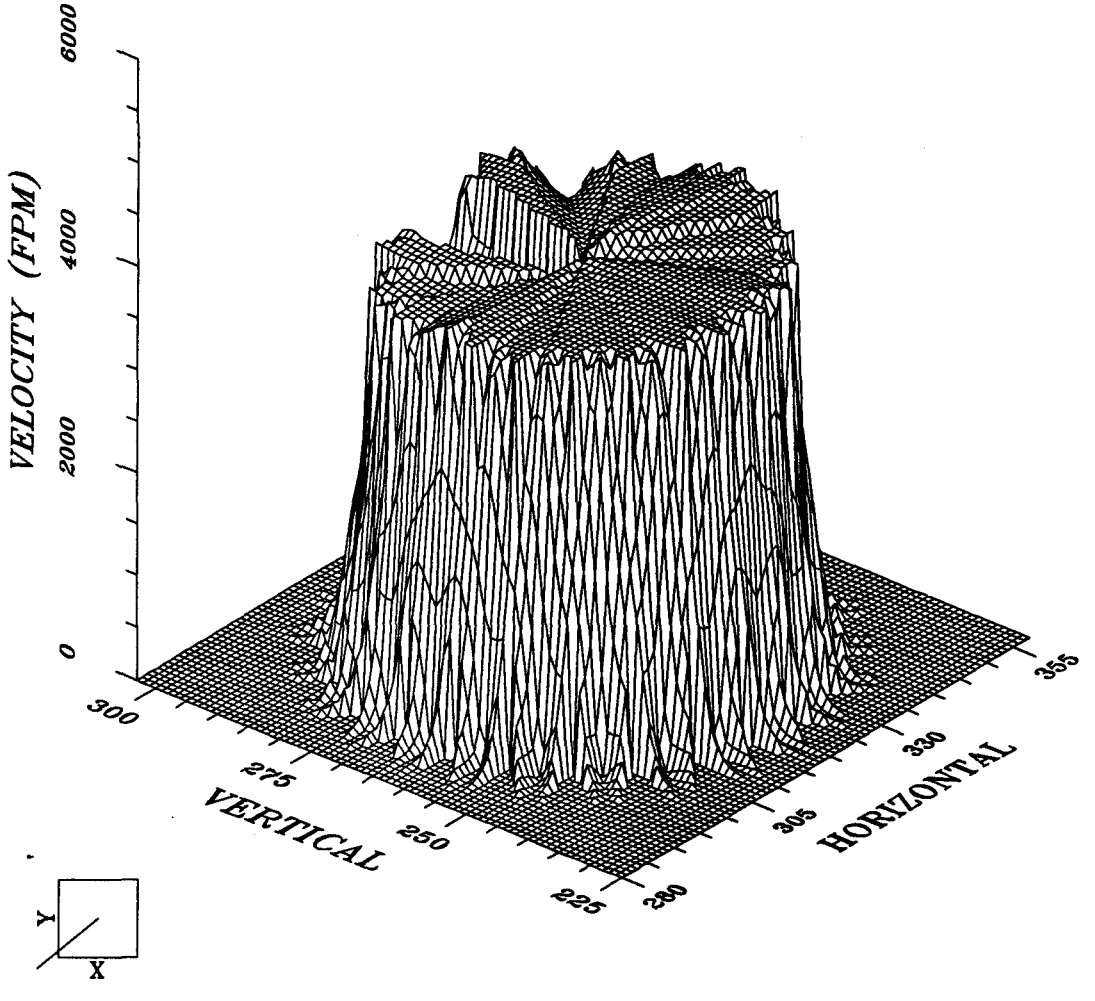
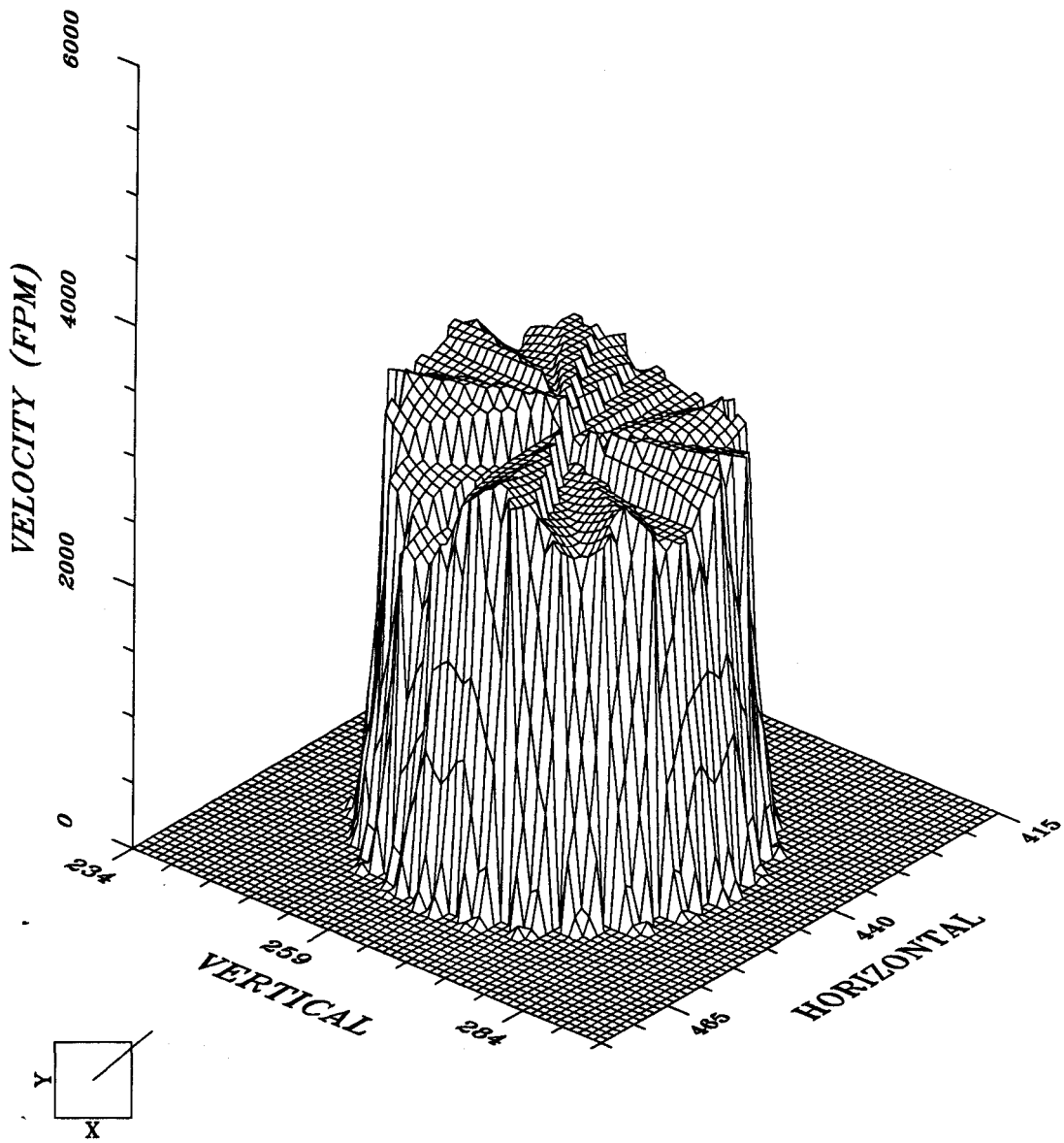


BURNER C2 OUTER ZONE VELOCITY



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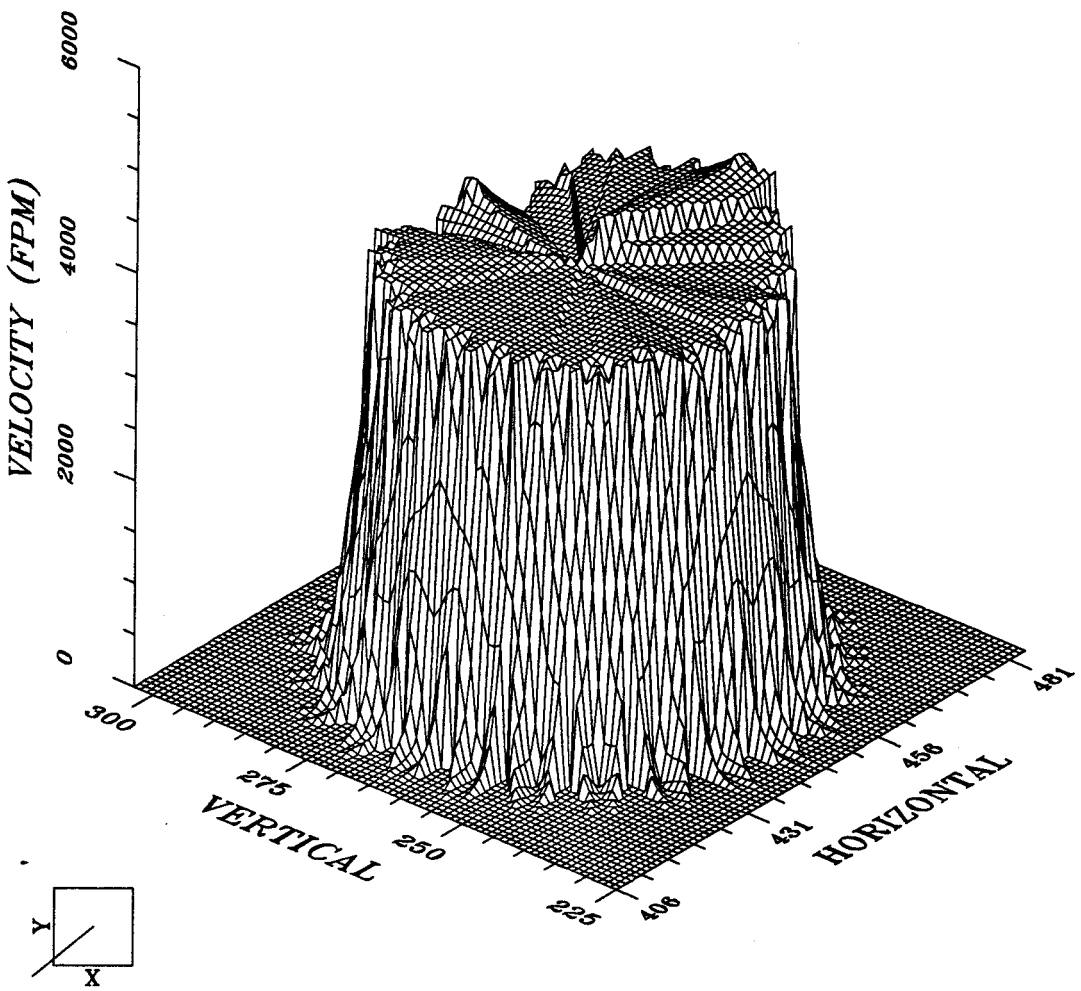

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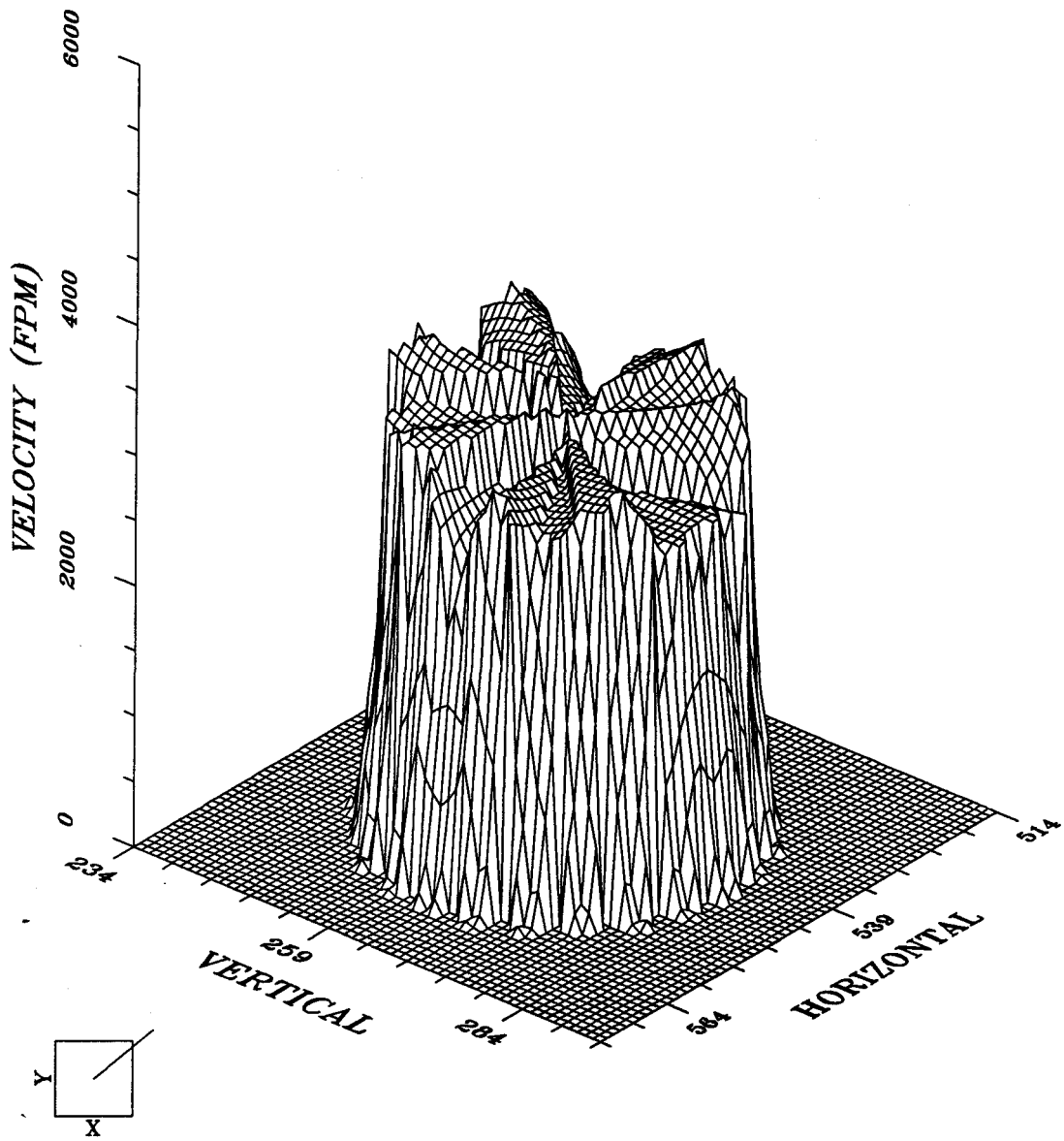
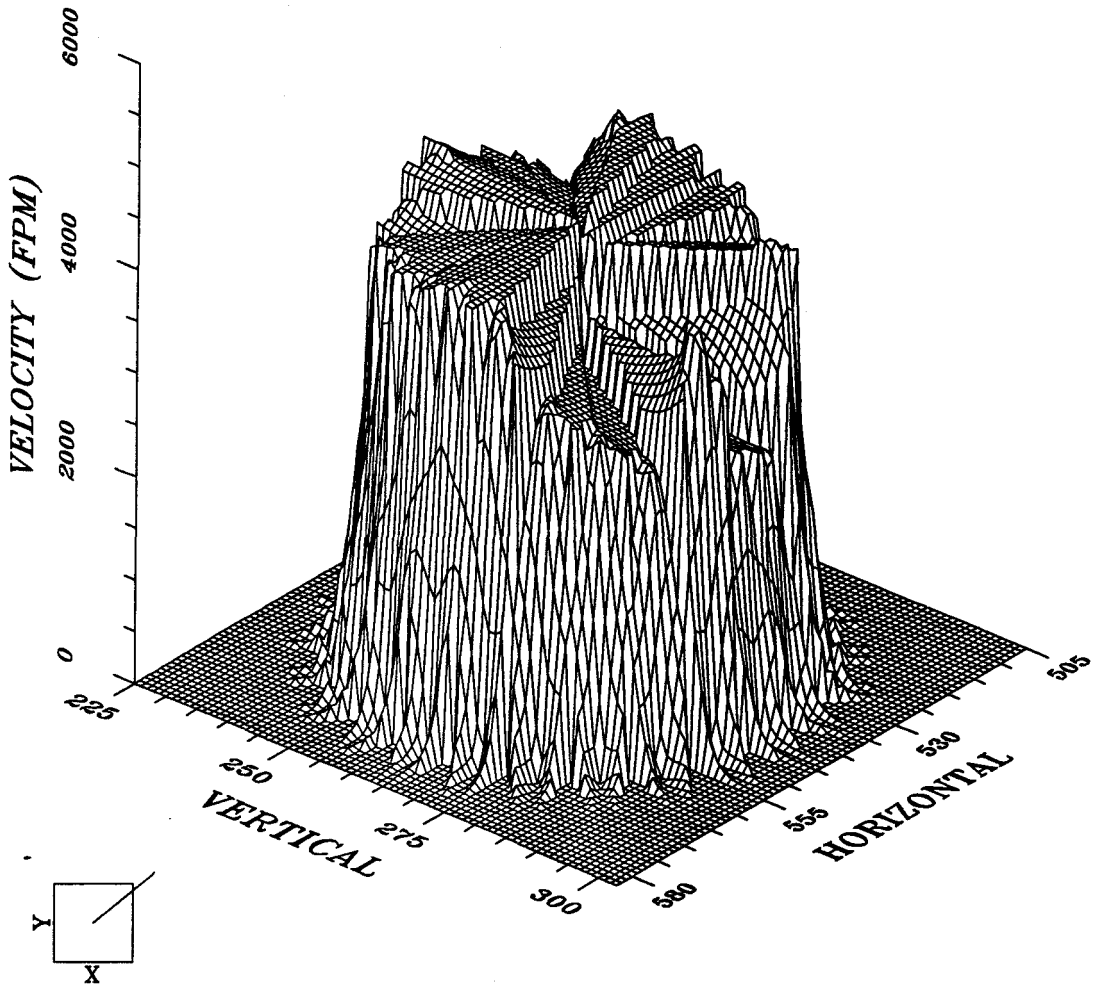


BURNER C4 INNER ZONE VELOCITY



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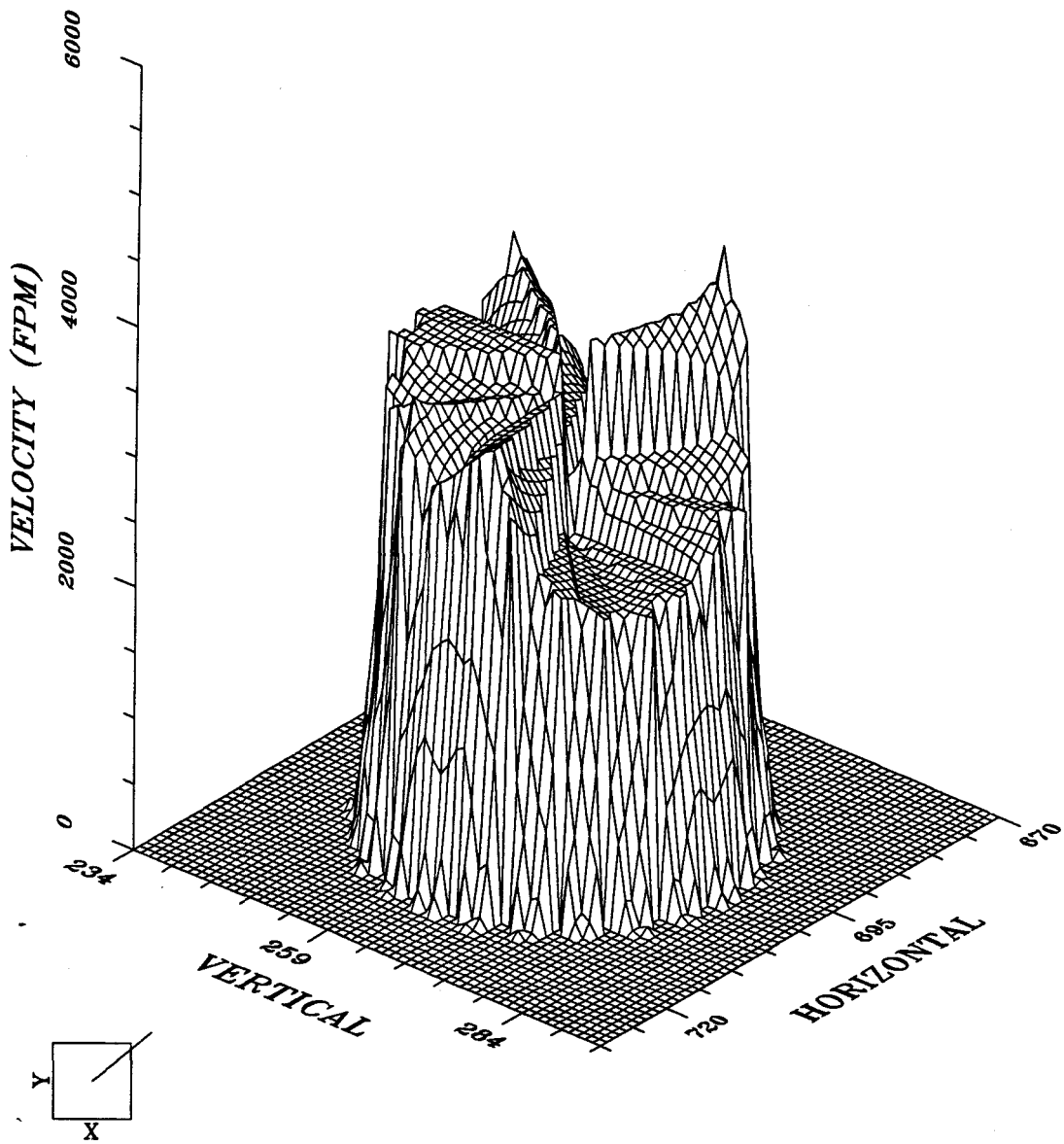
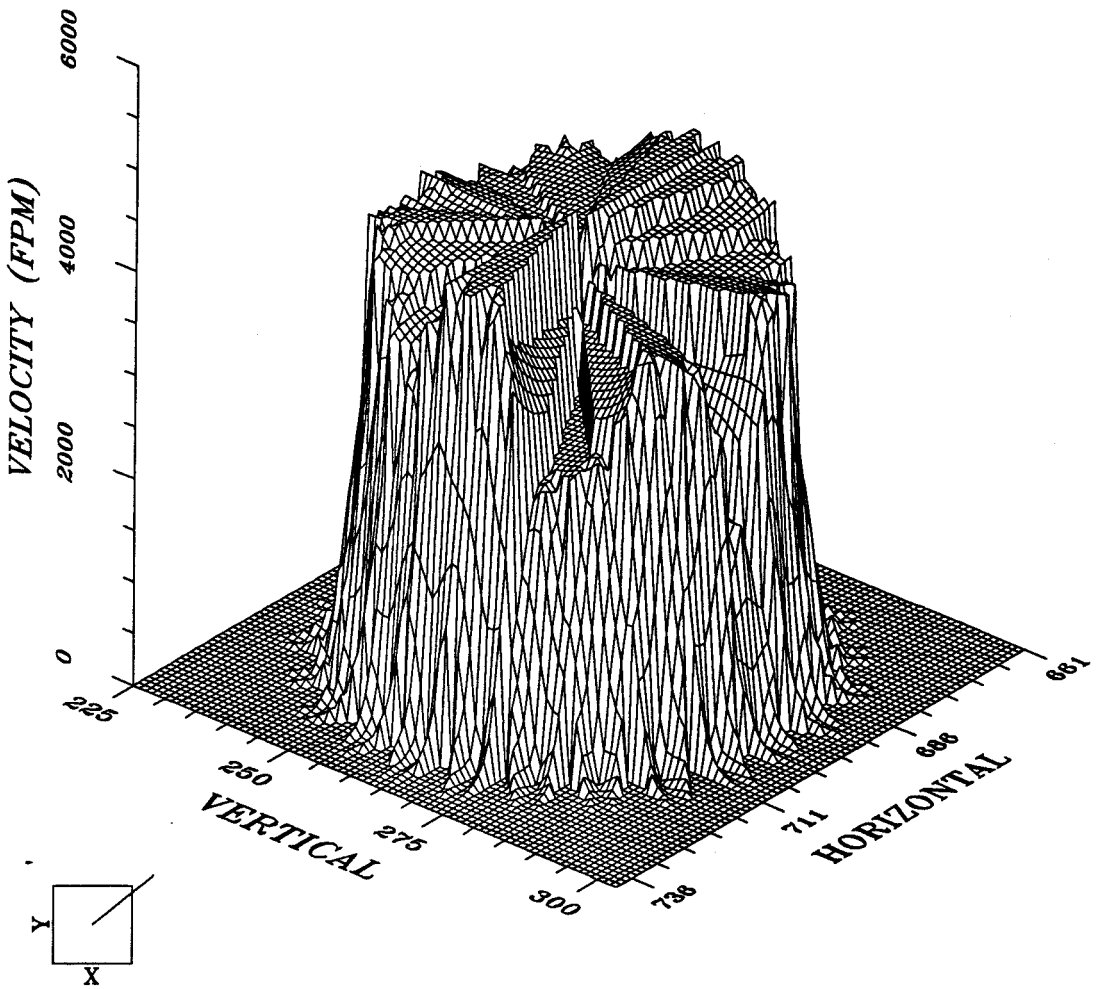


BURNER C5 INNER ZONE VELOCITY



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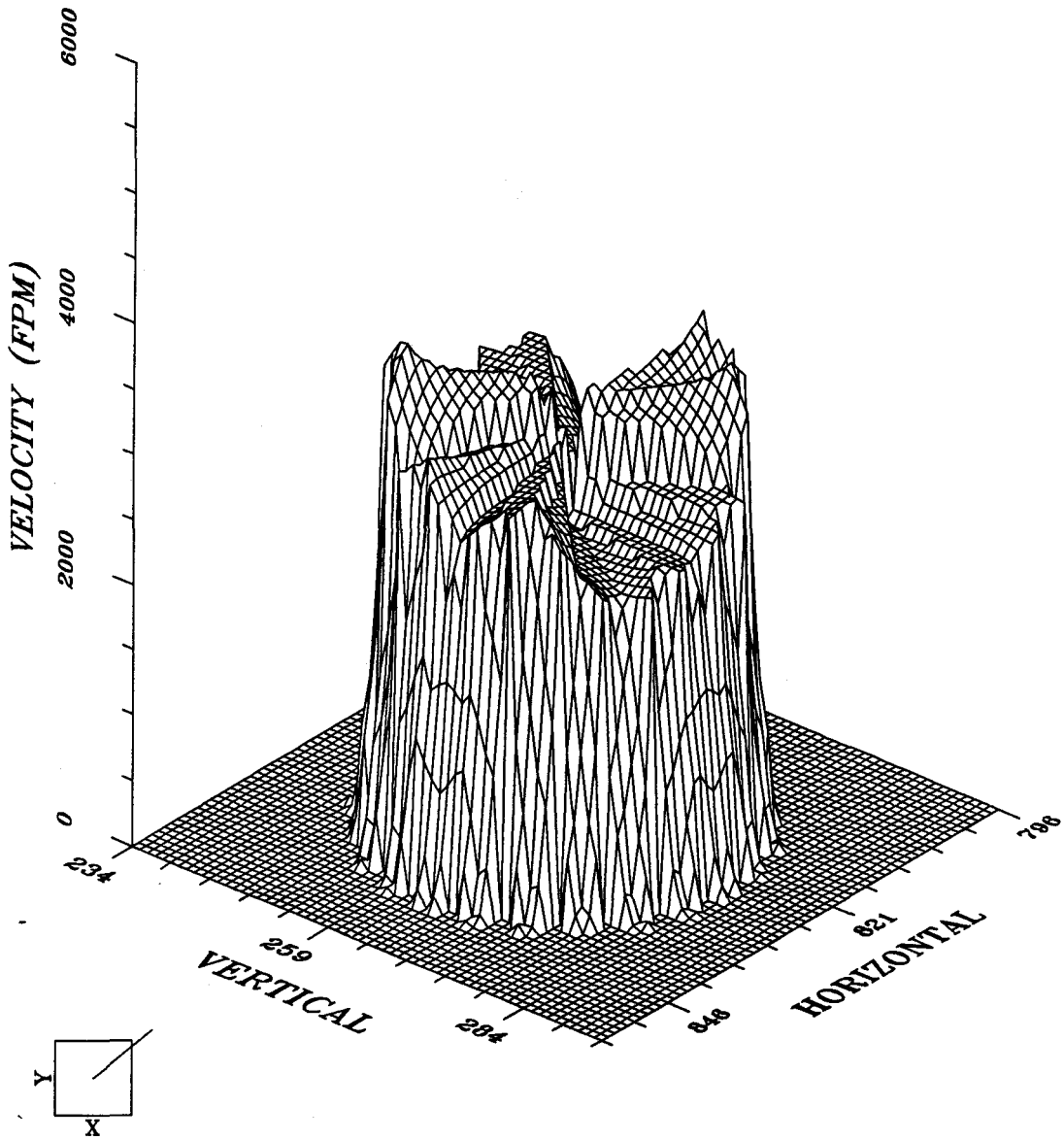

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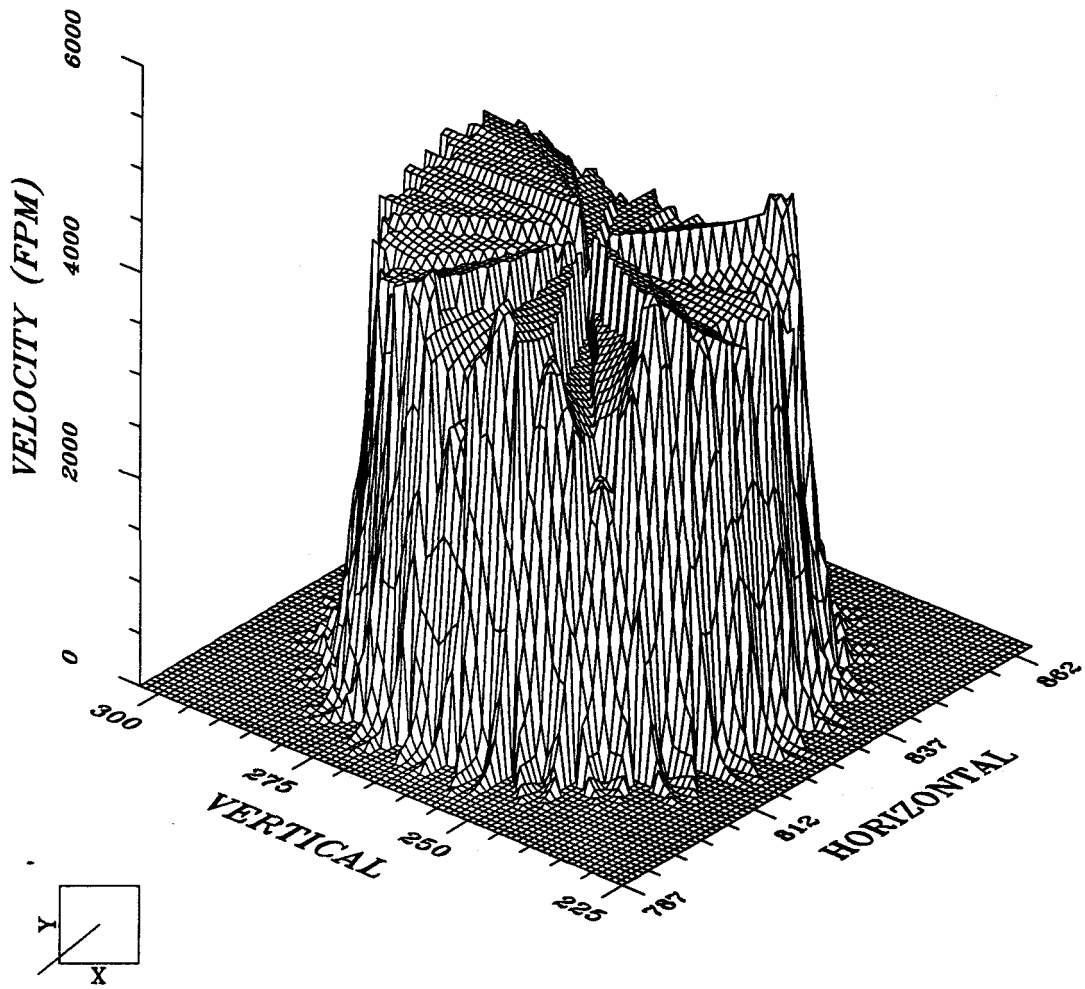
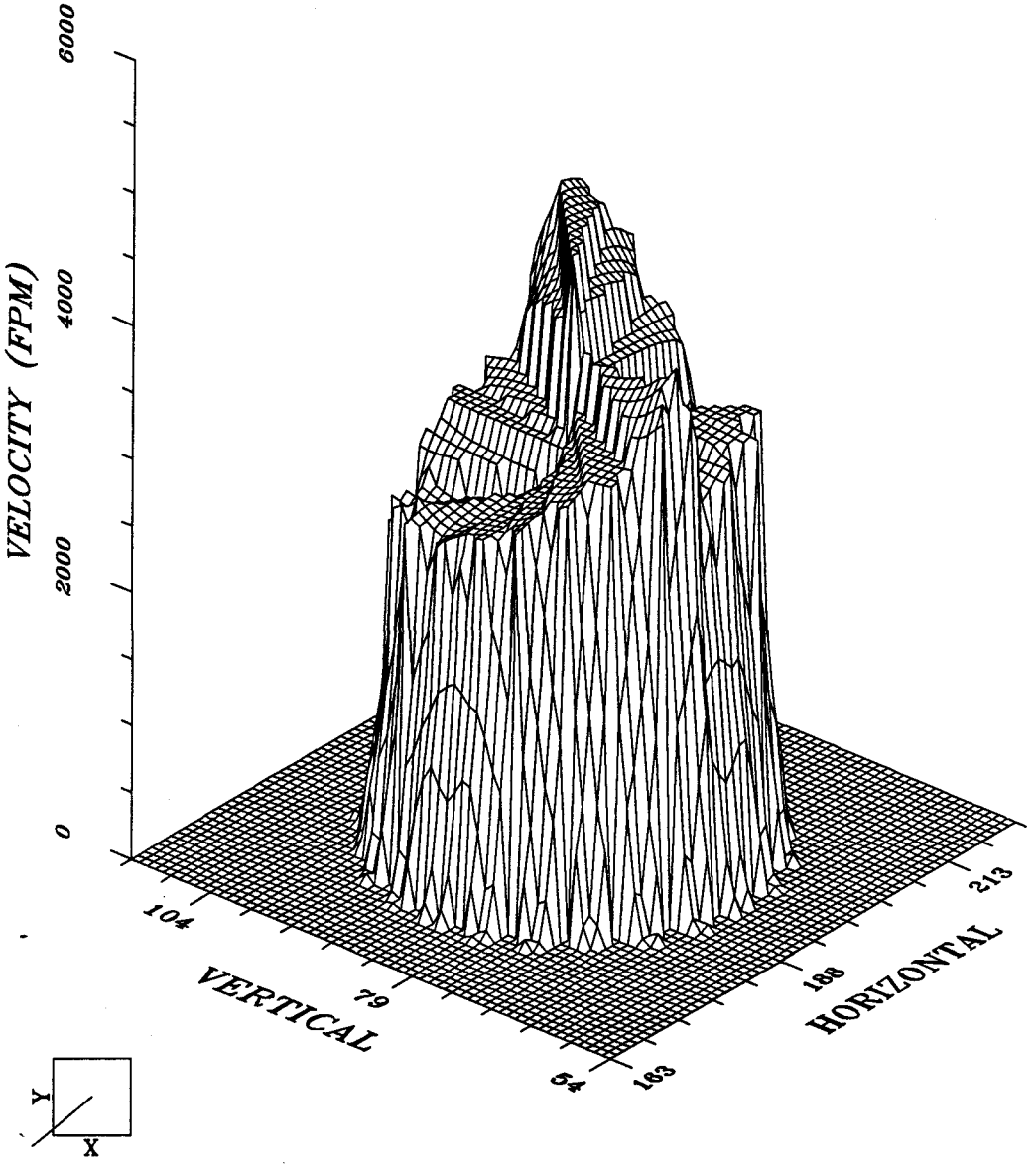
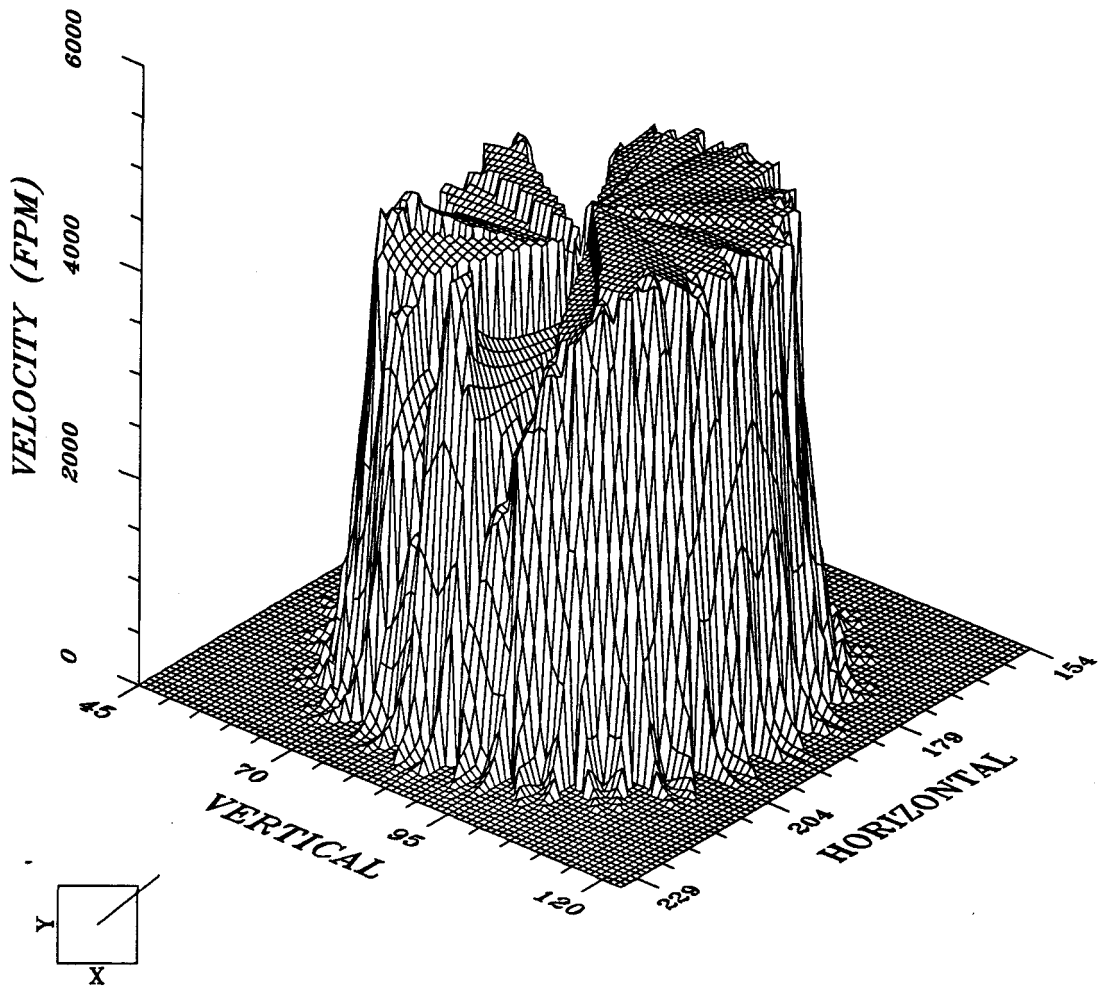


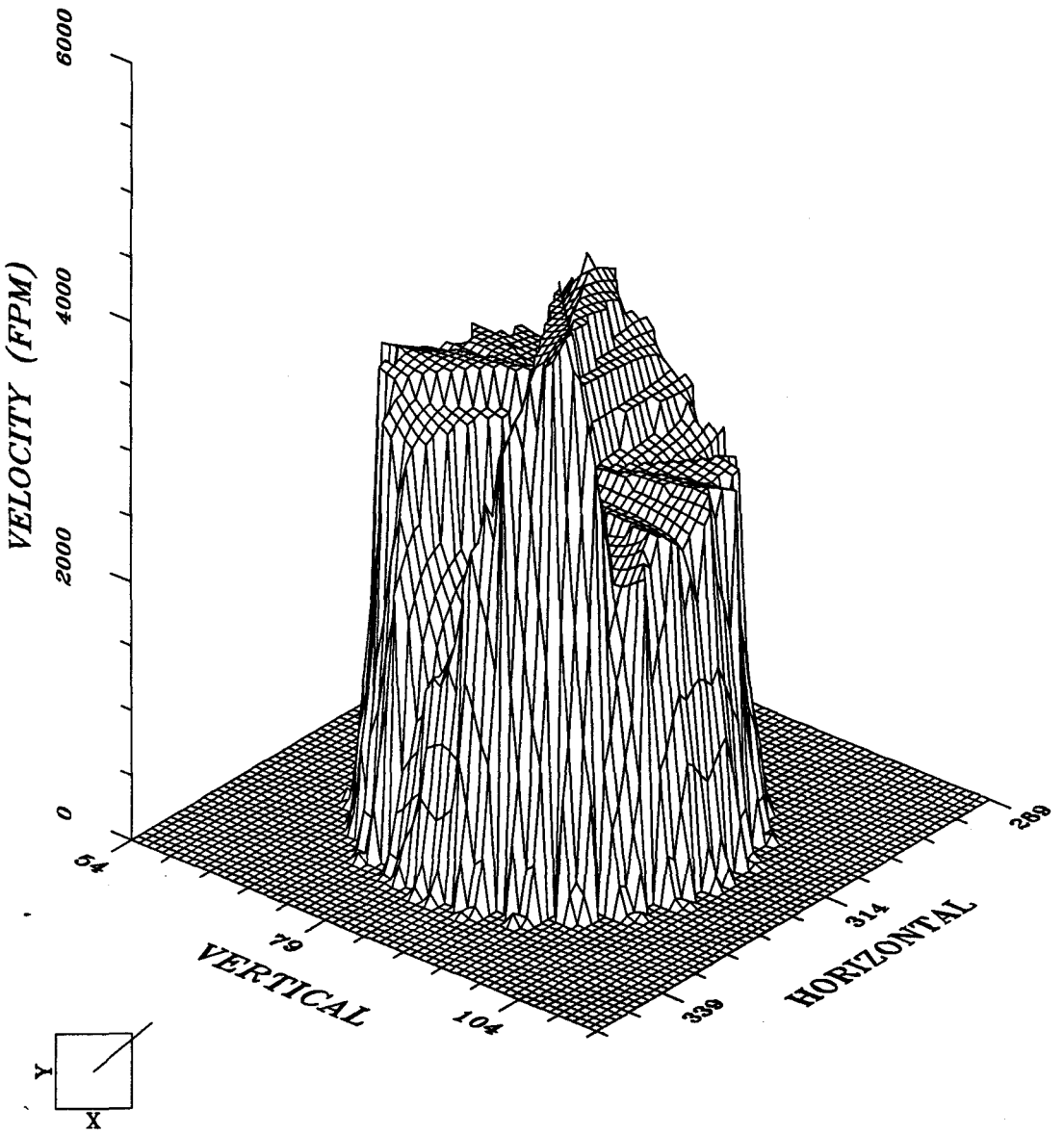
BURNER C6 OUTER ZONE VELOCITY



BURNER G1 INNER ZONE VELOCITY



BURNER G1 OUTER ZONE VELOCITY



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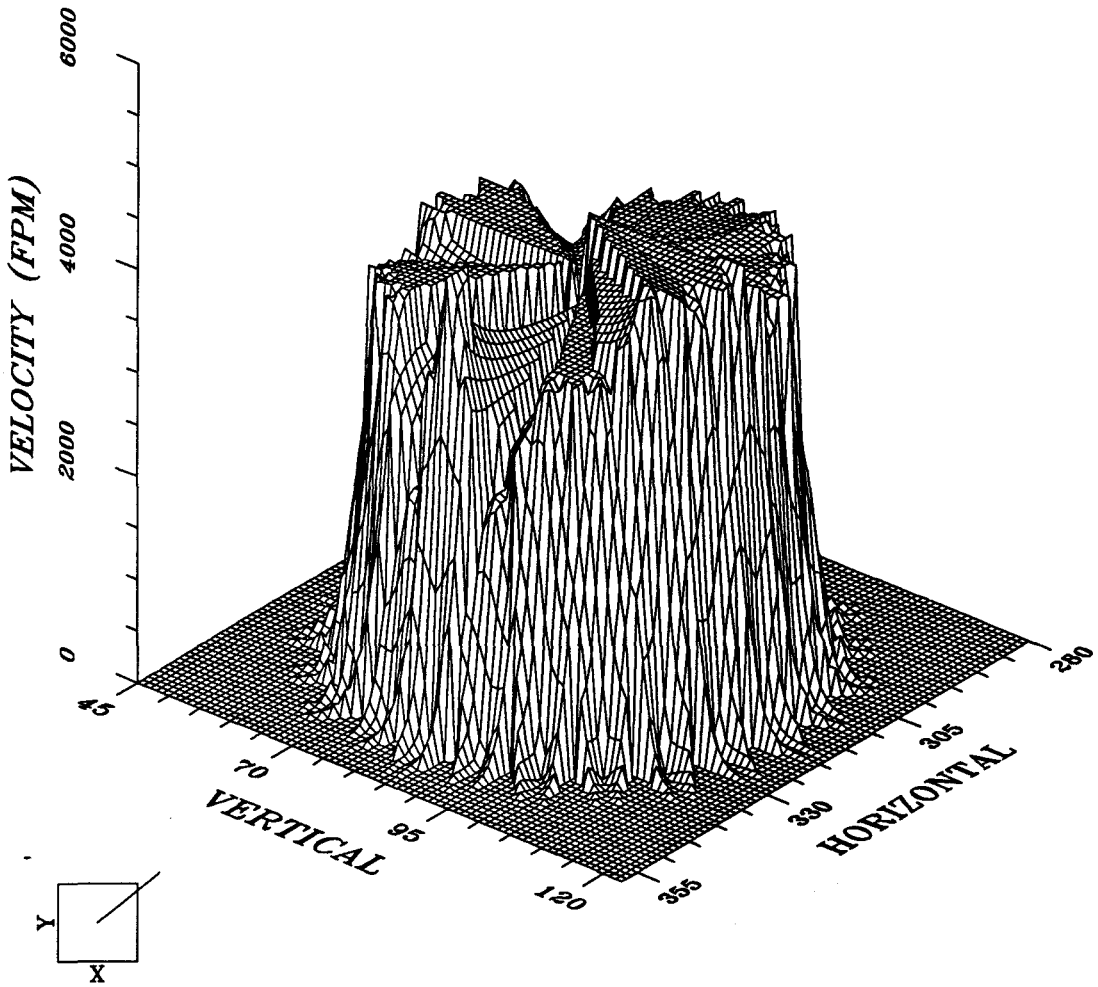

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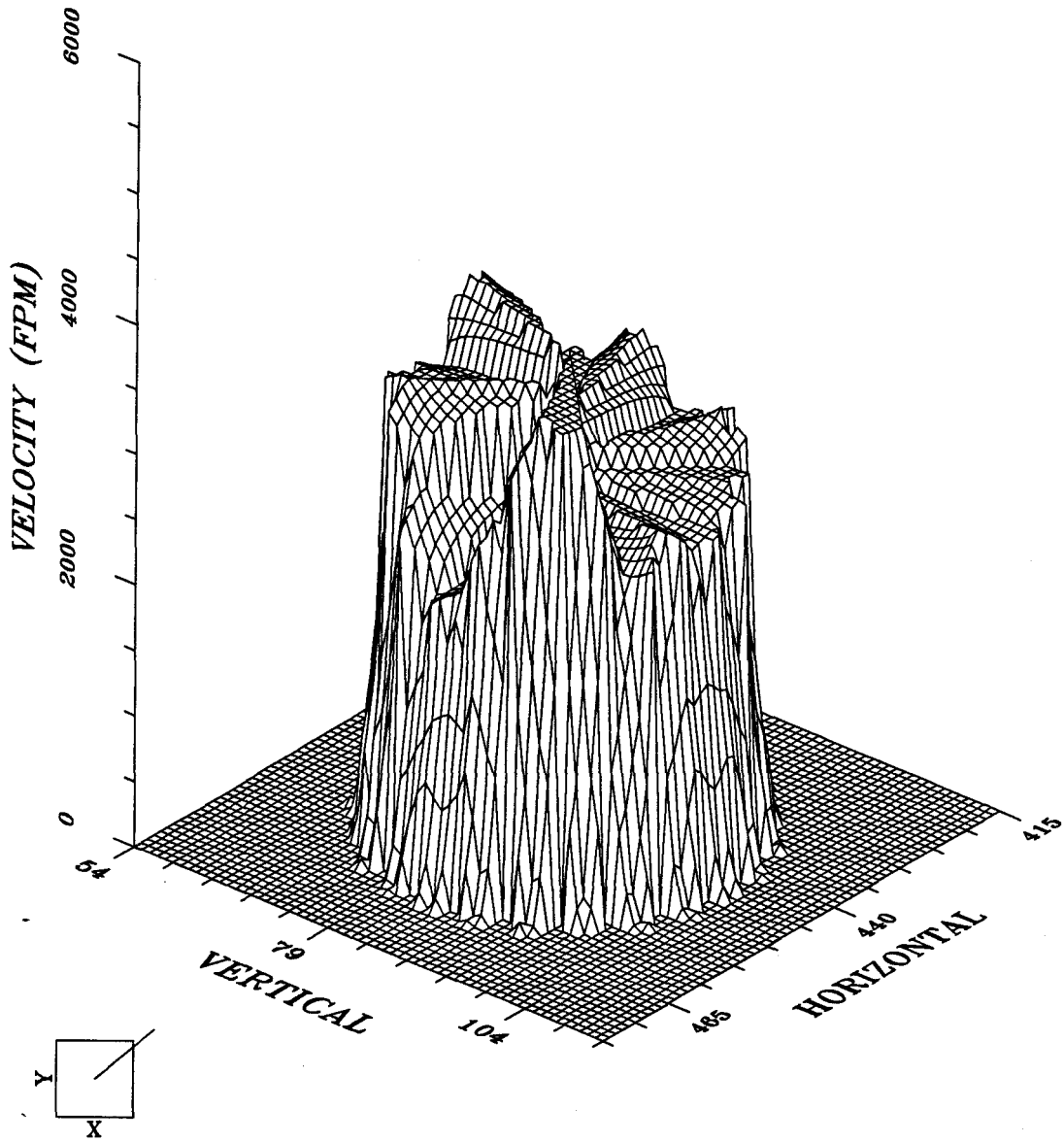
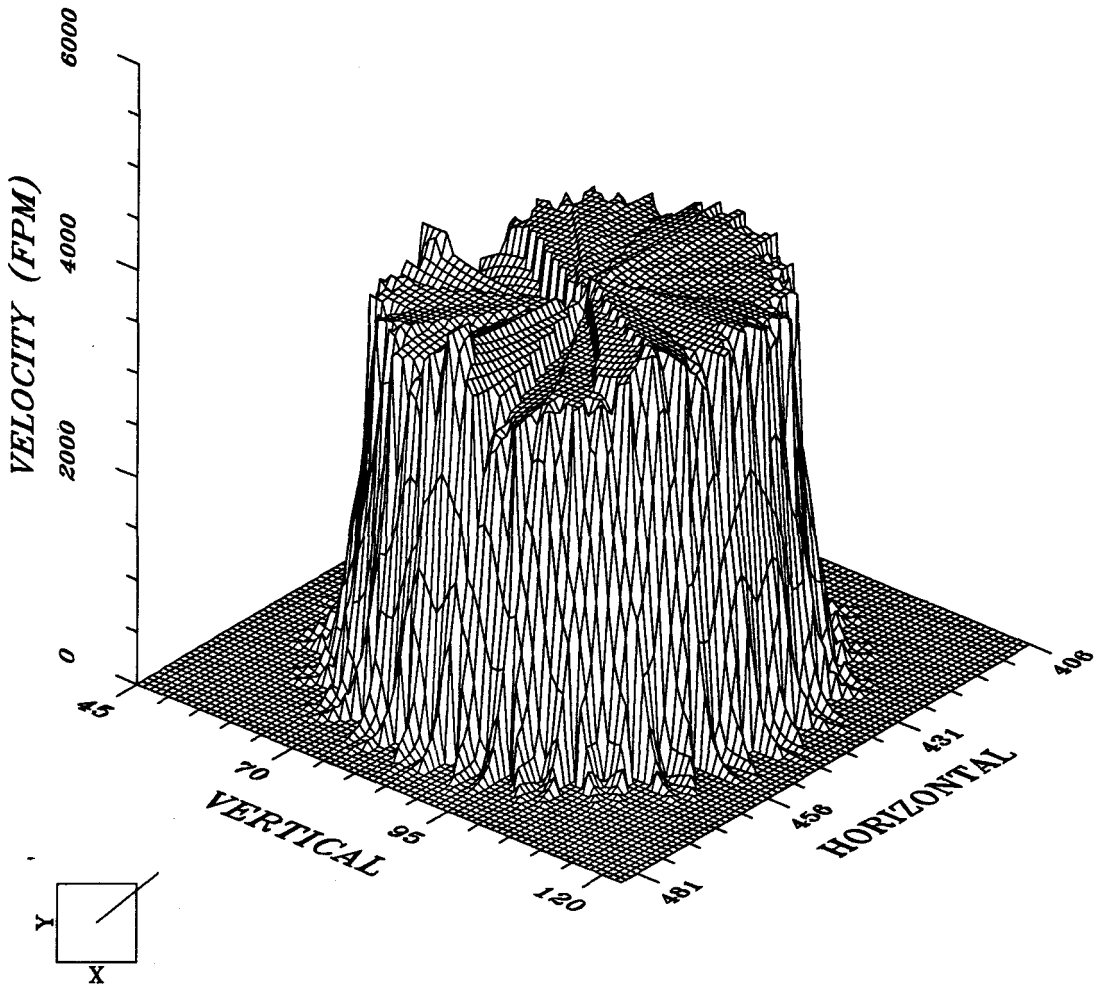


BURNER G3 INNER ZONE VELOCITY



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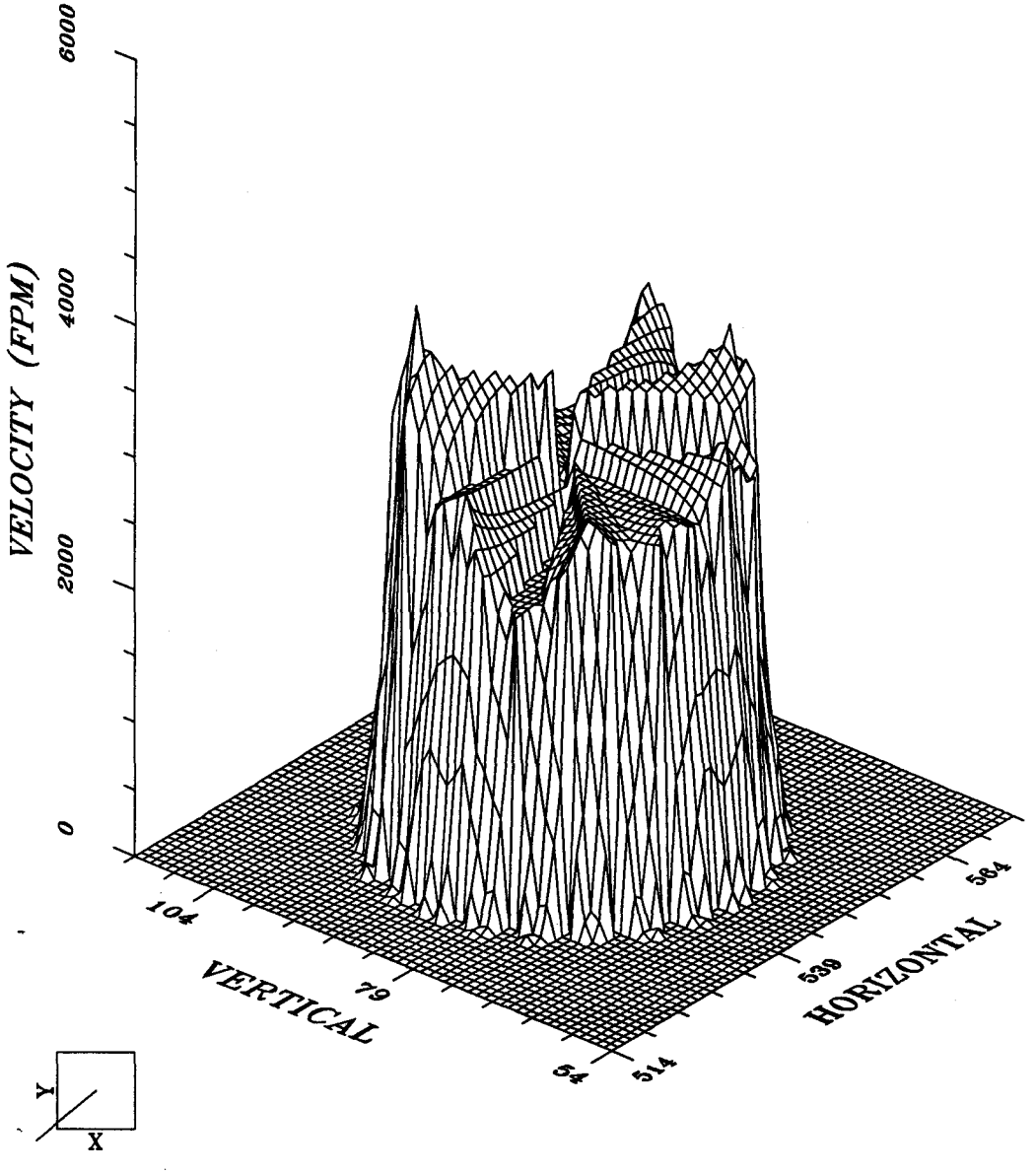

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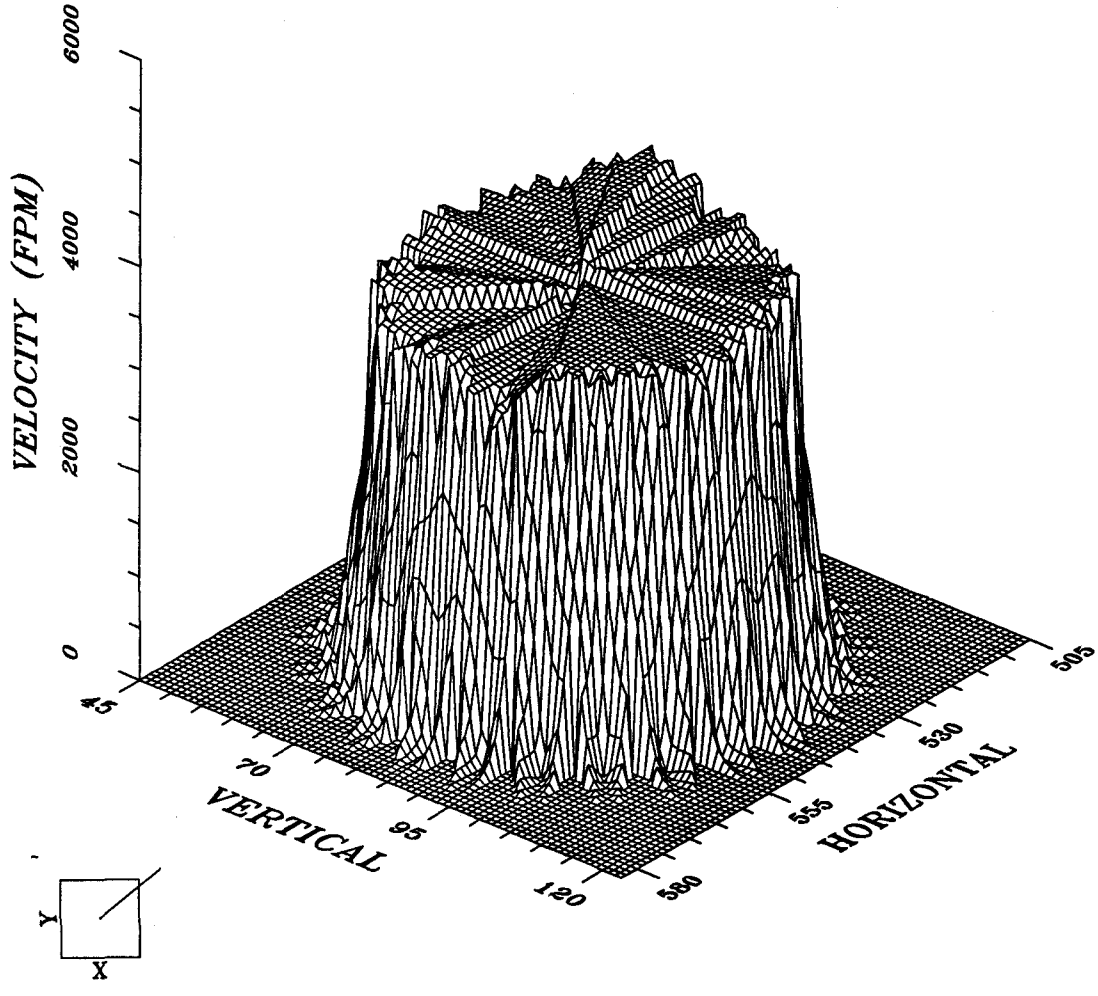

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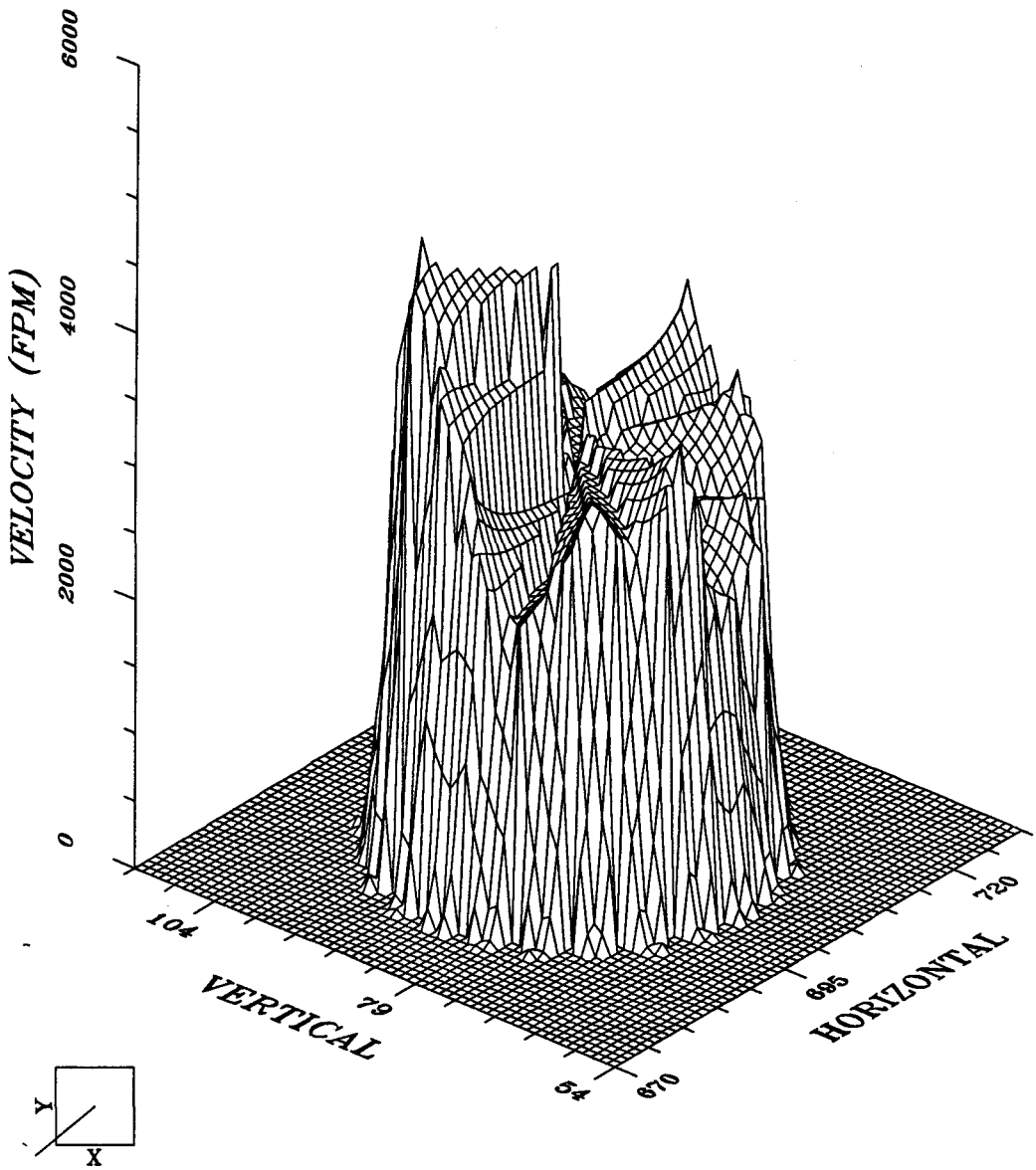
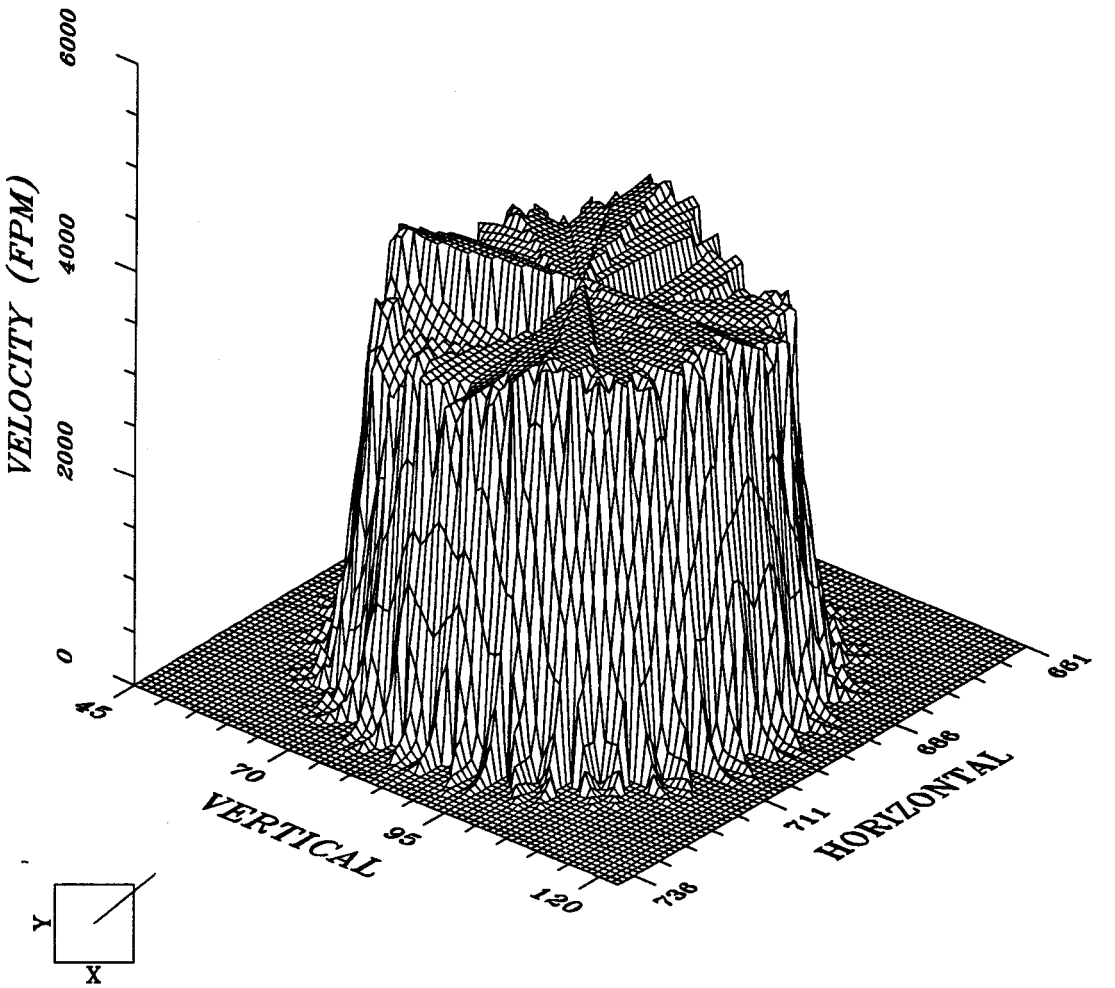


BURNER G5 INNER ZONE VELOCITY



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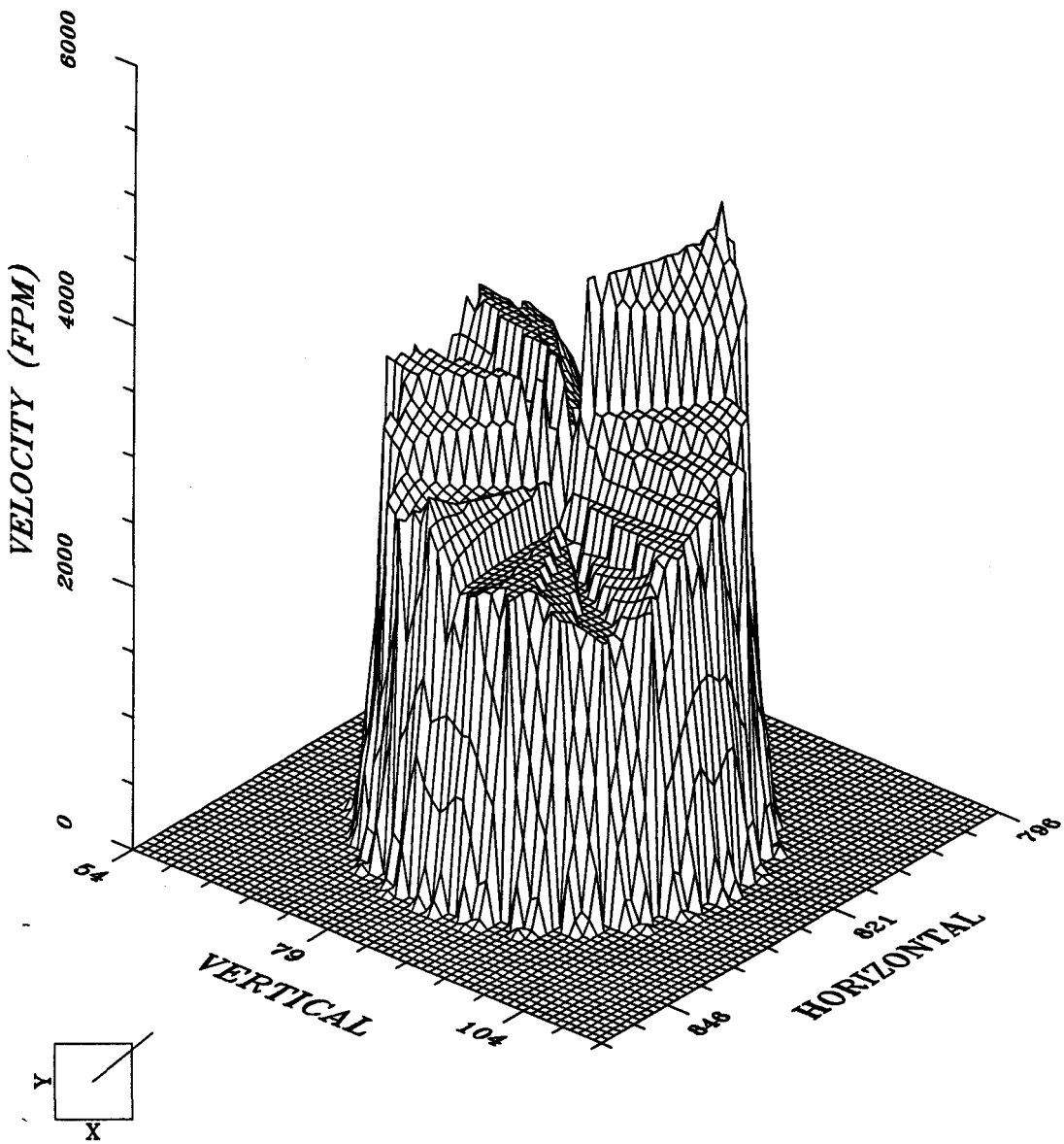
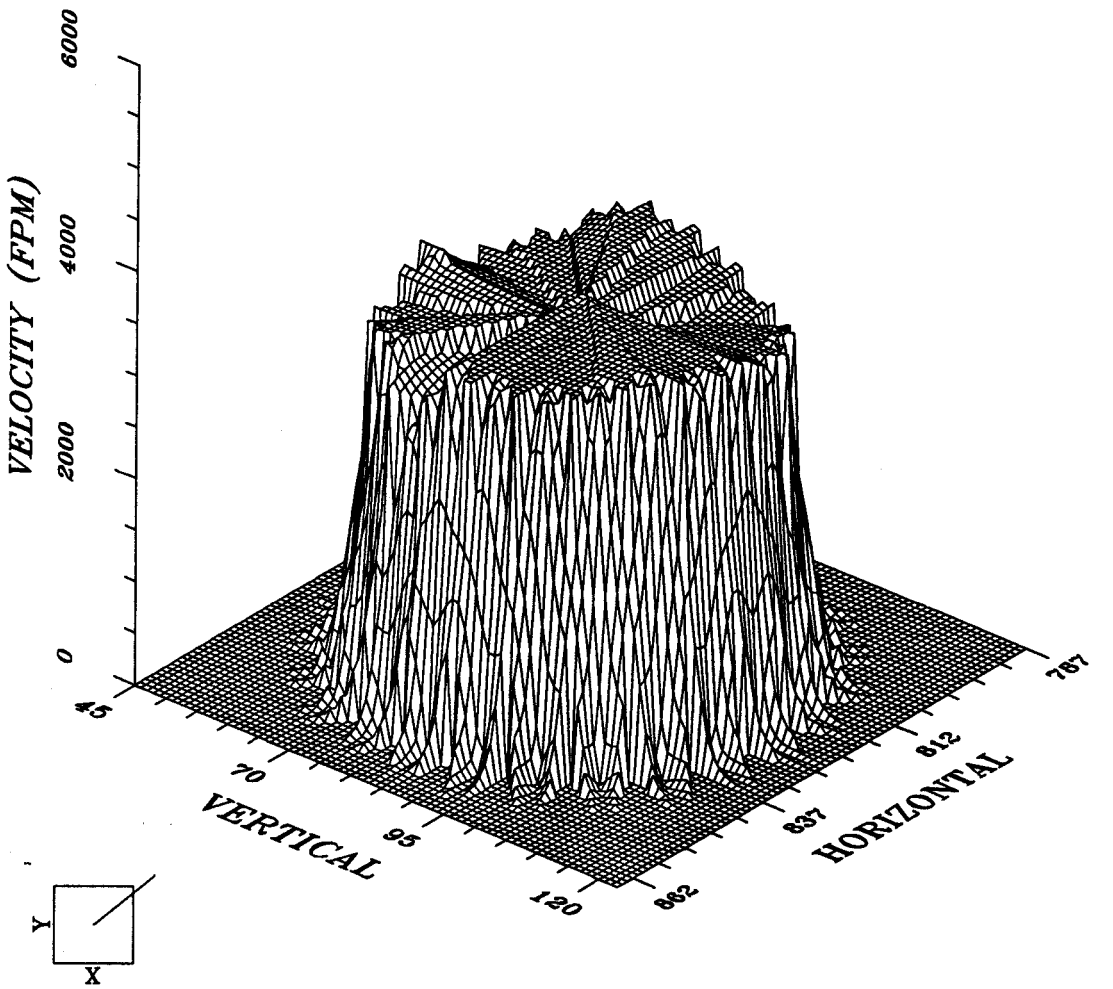
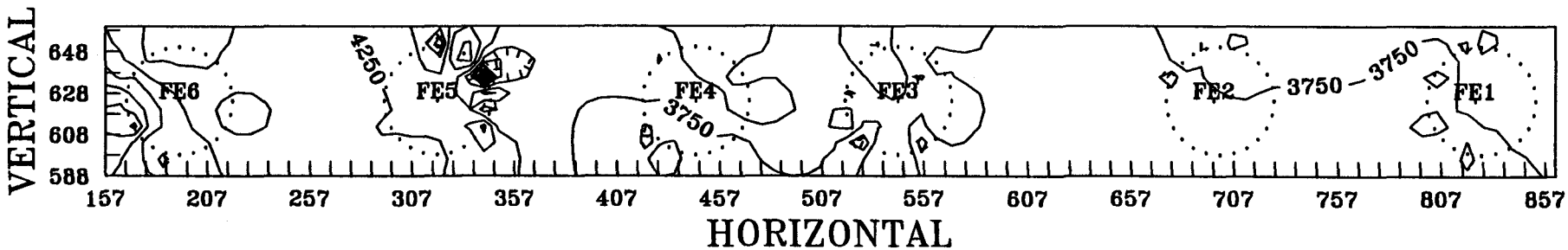


BURNER G6 INNER ZONE VELOCITY



BURNER G6 OUTER ZONE VELOCITY

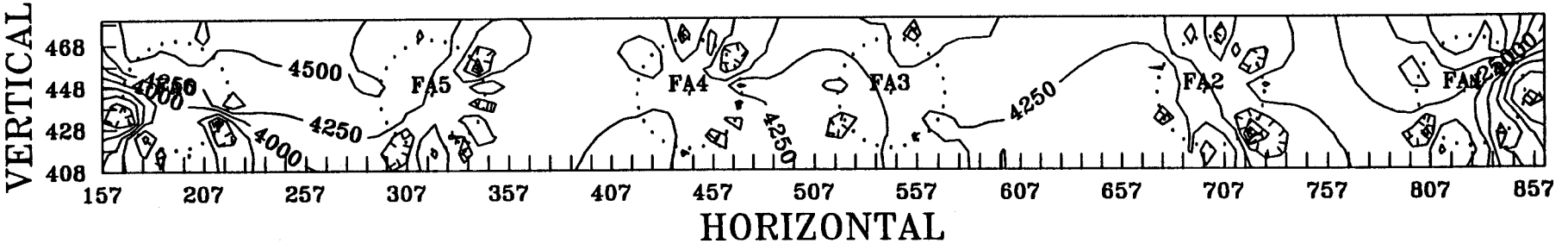
E WINDBOX TOPOGRAPHICAL DIAGRAM



(TEST 3)

IP7_001337

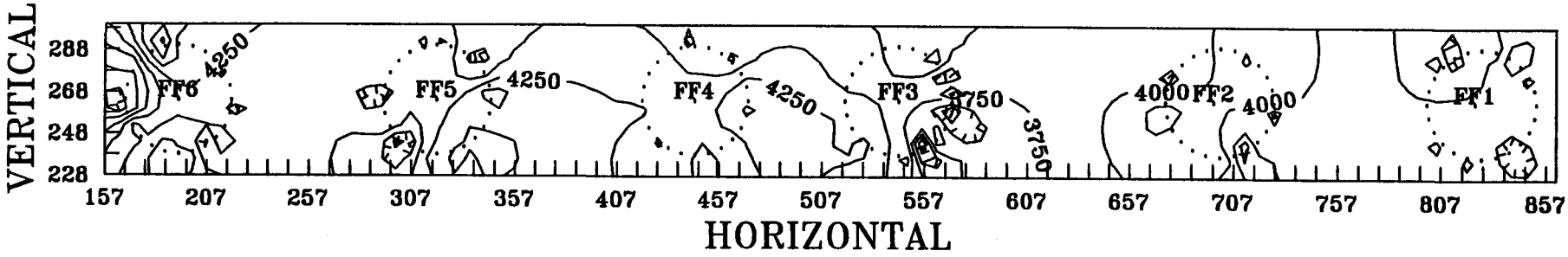
A WINDBOX TOPOGRAPHICAL DIAGRAM



(TEST 3)

IP7_001338

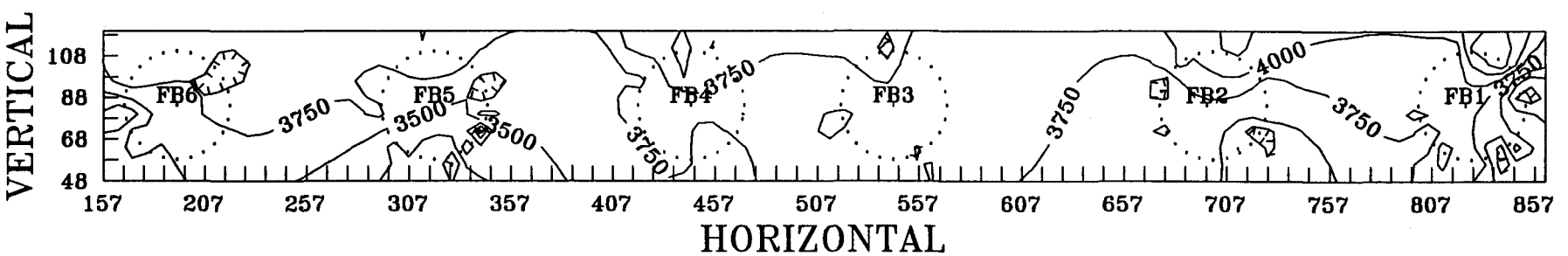
F WINDBOX TOPOGRAPHICAL DIAGRAM



(TEST 3)

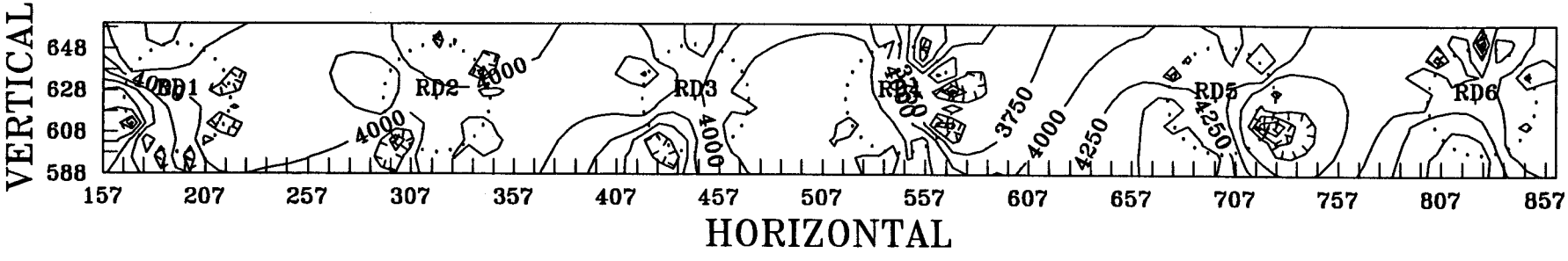
IP7_001339

B WINDBOX TOPOGRAPHICAL DIAGRAM



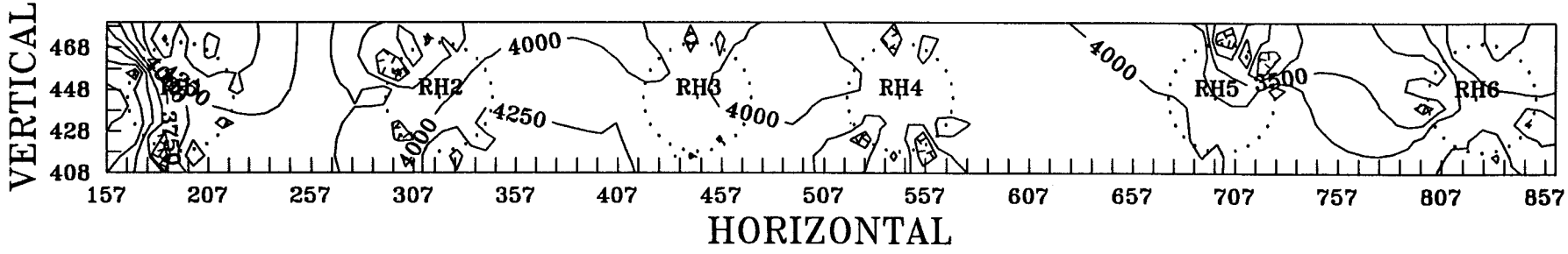
IP7_001340

D WINDBOX TOPOGRAPHICAL DIAGRAM



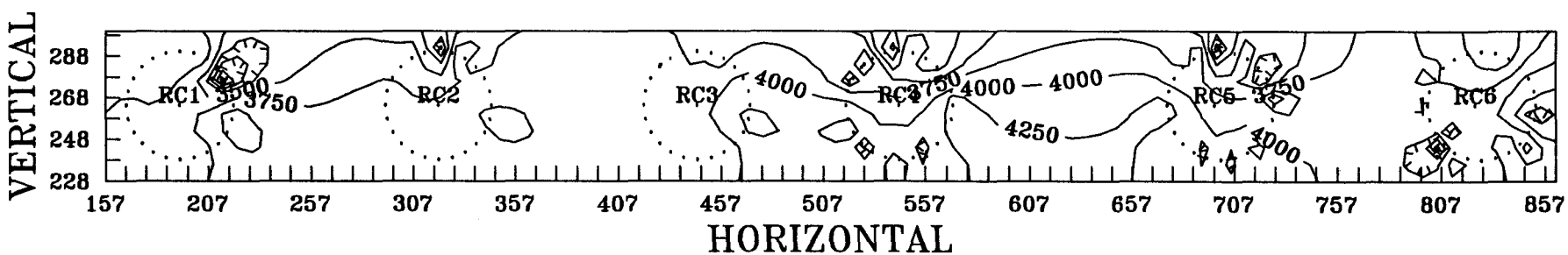
IP7_001341

H WINDBOX TOPOGRAPHICAL DIAGRAM



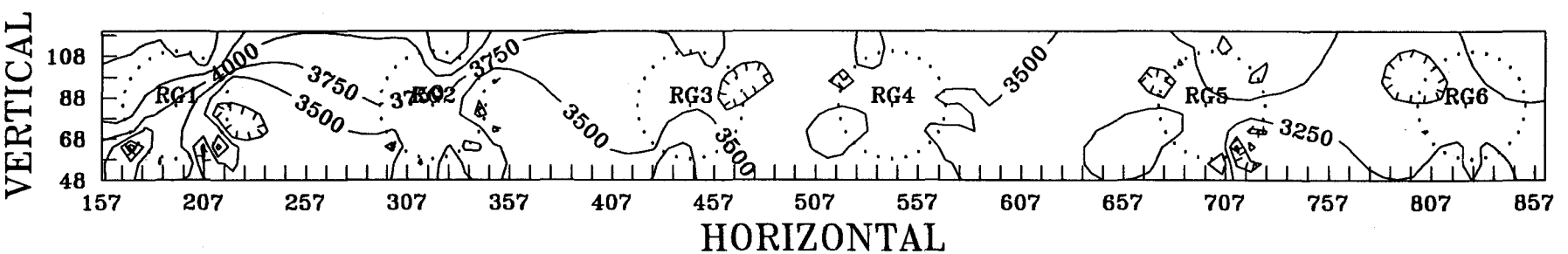
IP7_001342

C WINDBOX TOPOGRAPHICAL DIAGRAM

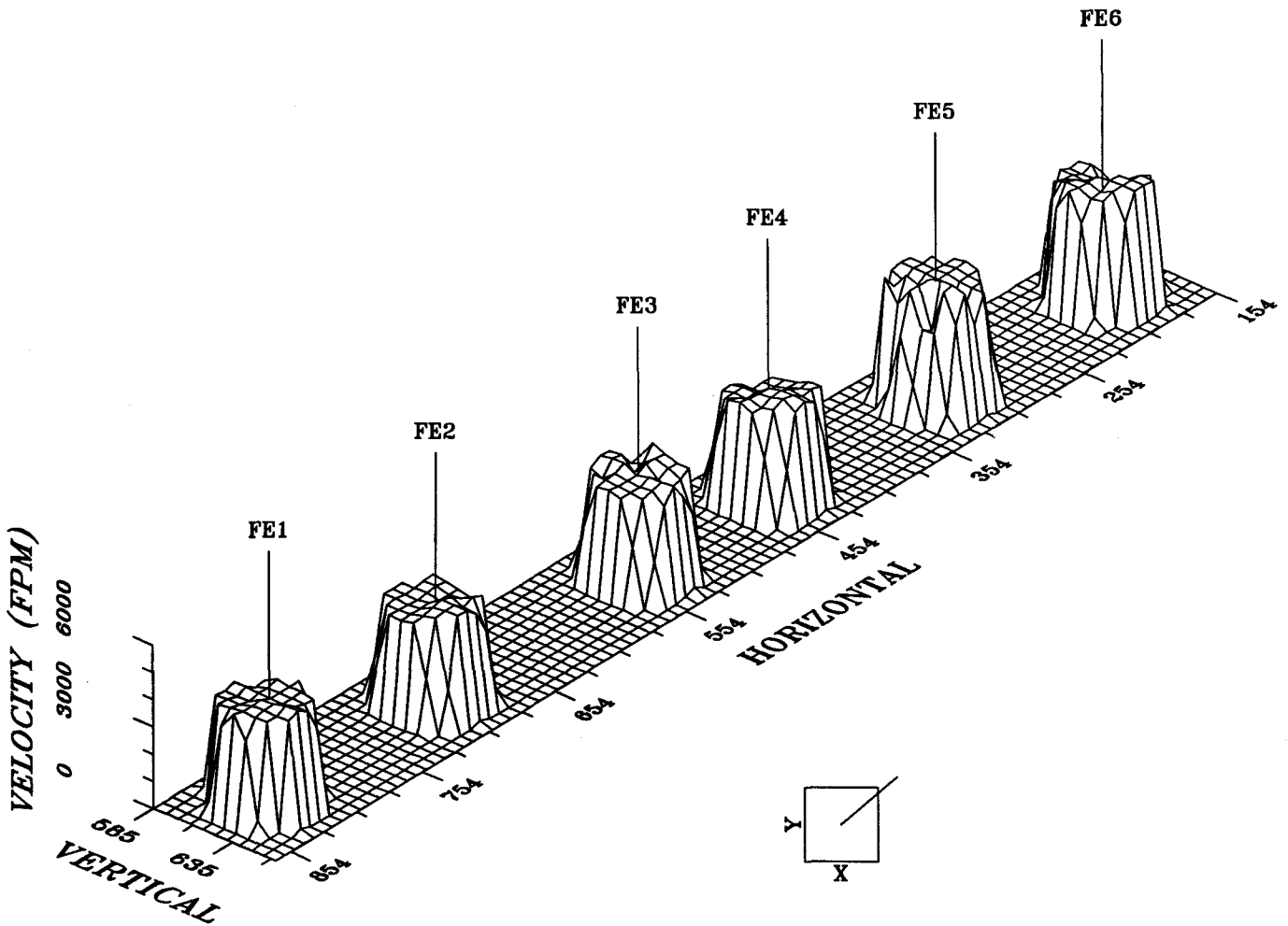


IP7_001343

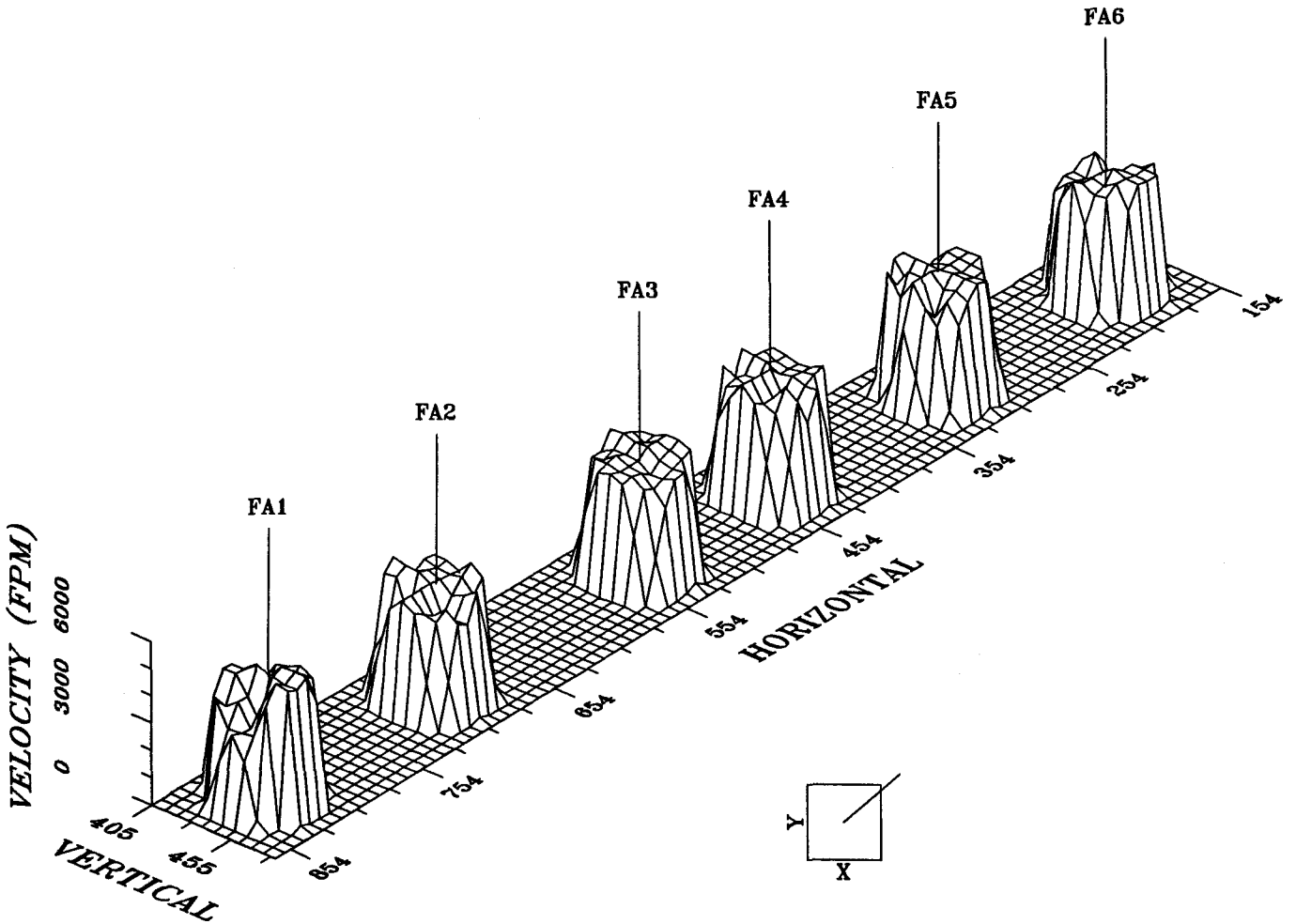
G WINDBOX TOPOGRAPHICAL DIAGRAM



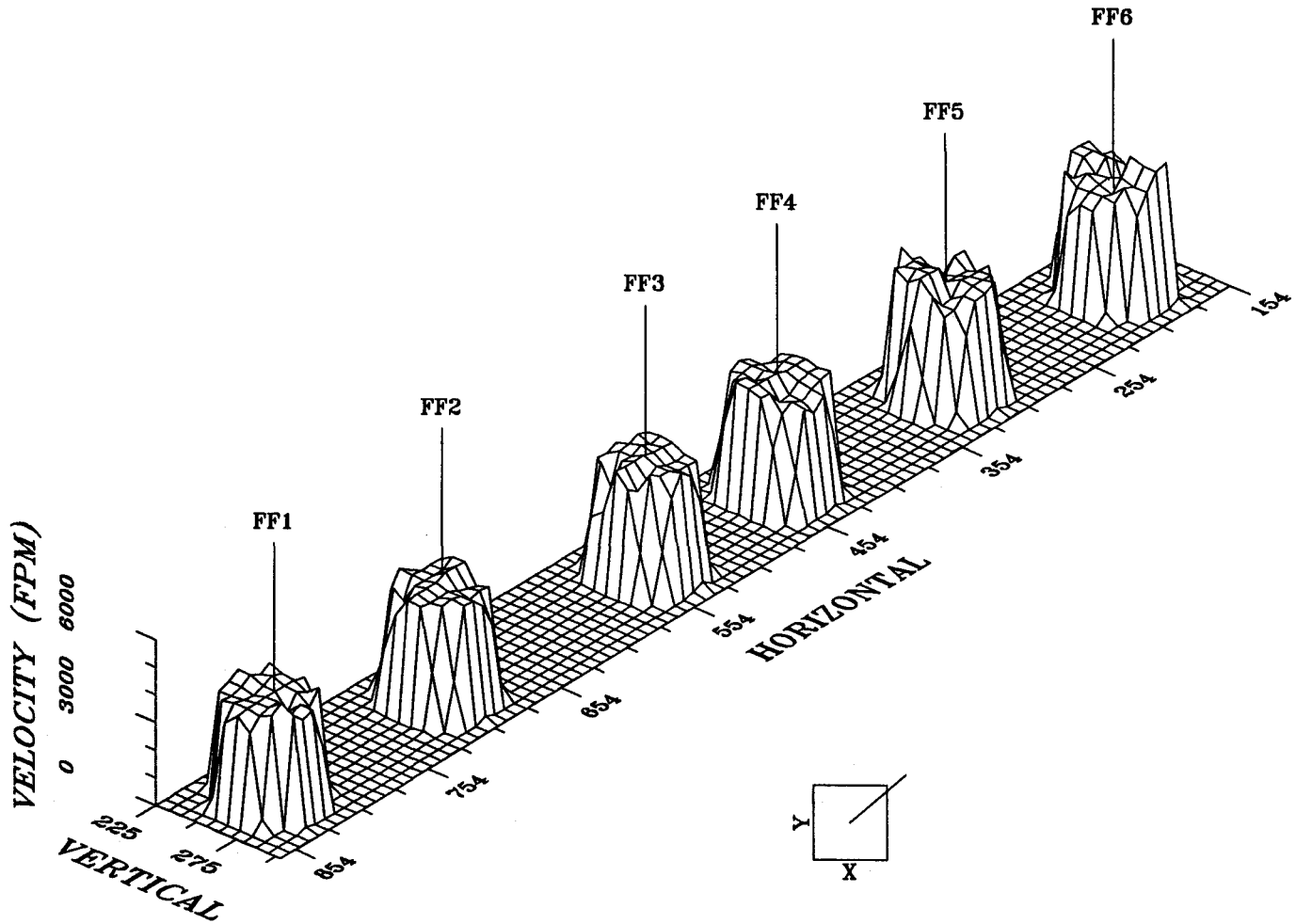
IP7_001344



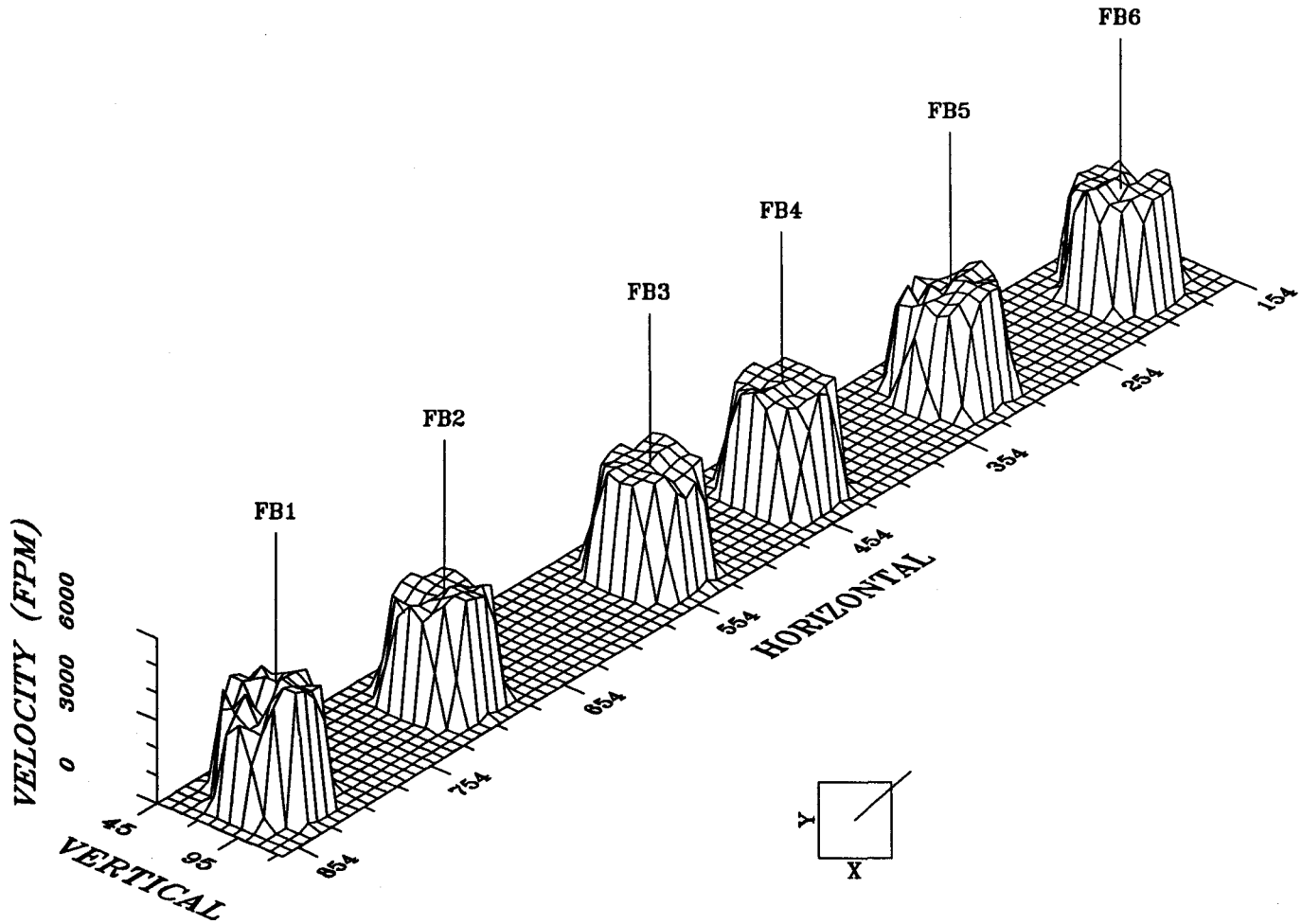
E WINDBOX VELOCITY PROFILE



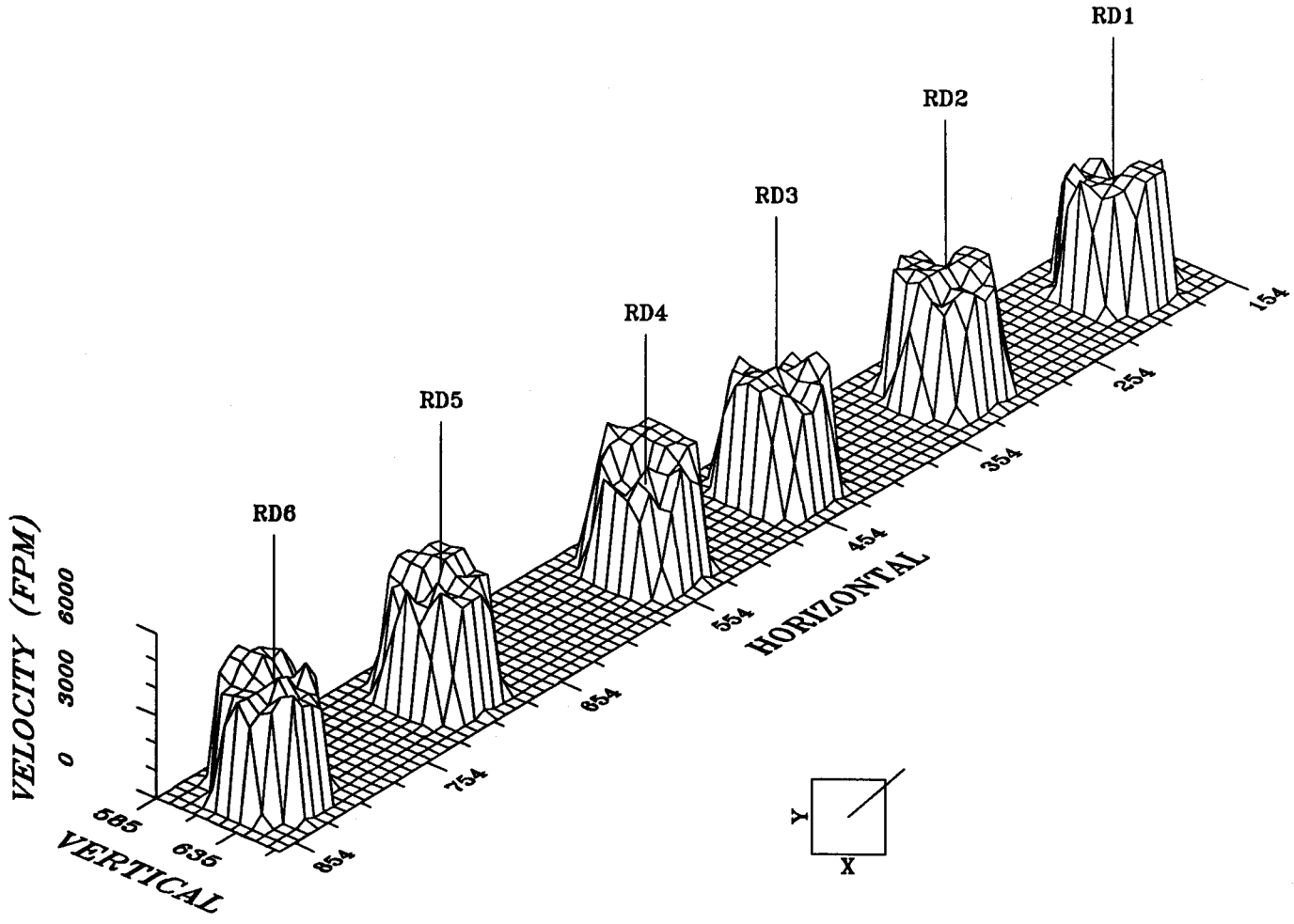
A WINDBOX VELOCITY PROFILE



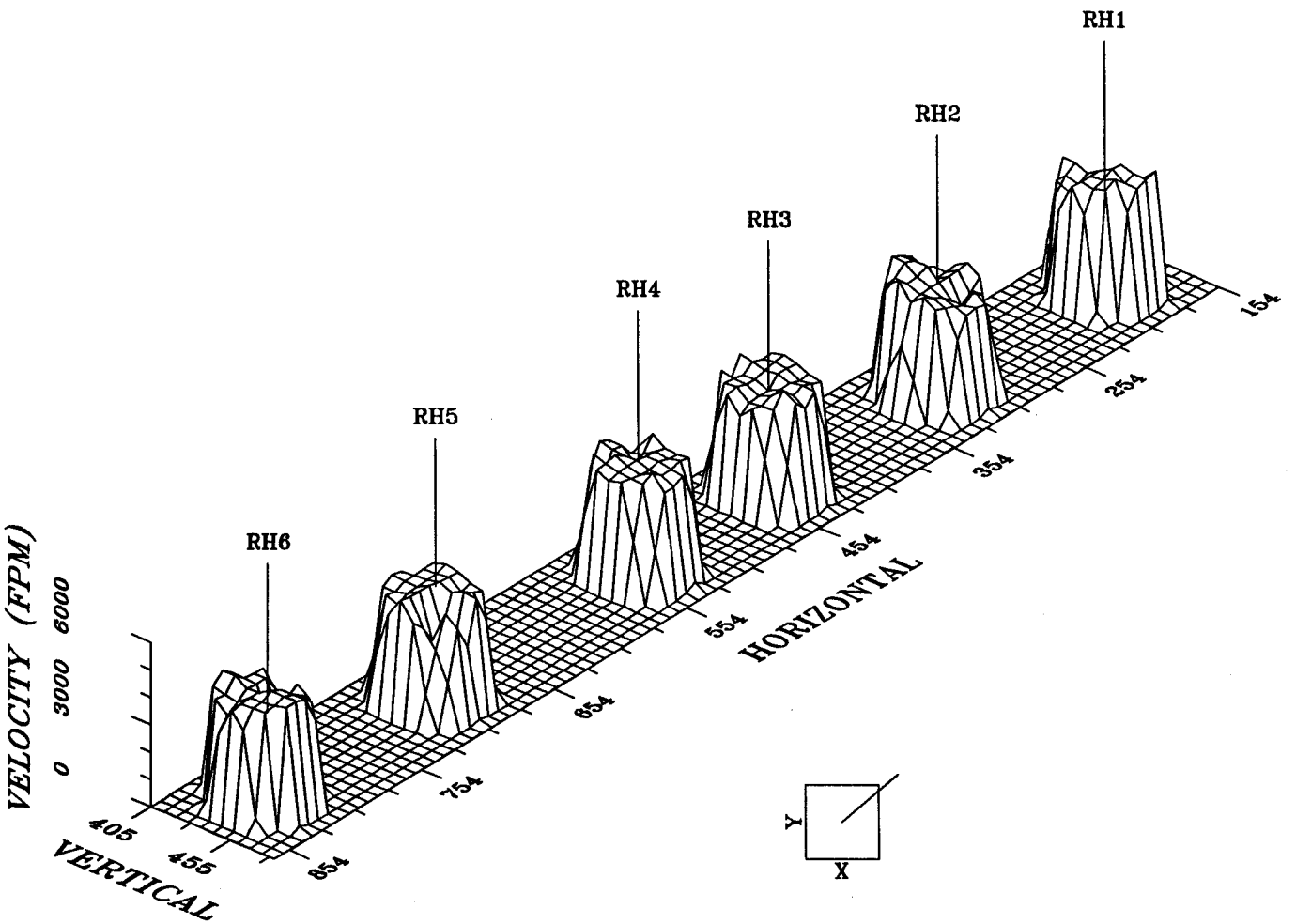
F WINDBOX VELOCITY PROFILE



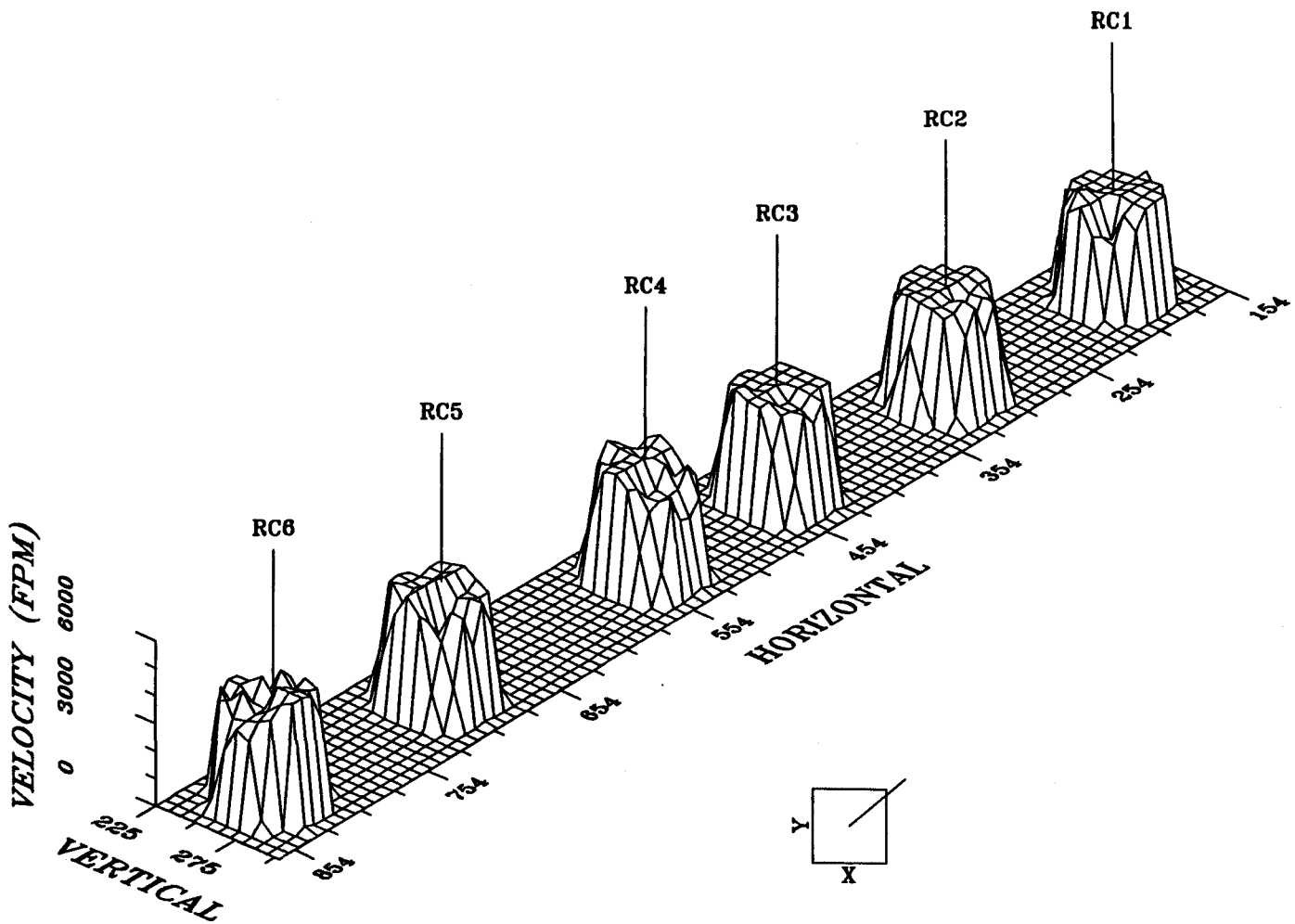
B WINDBOX VELOCITY PROFILE



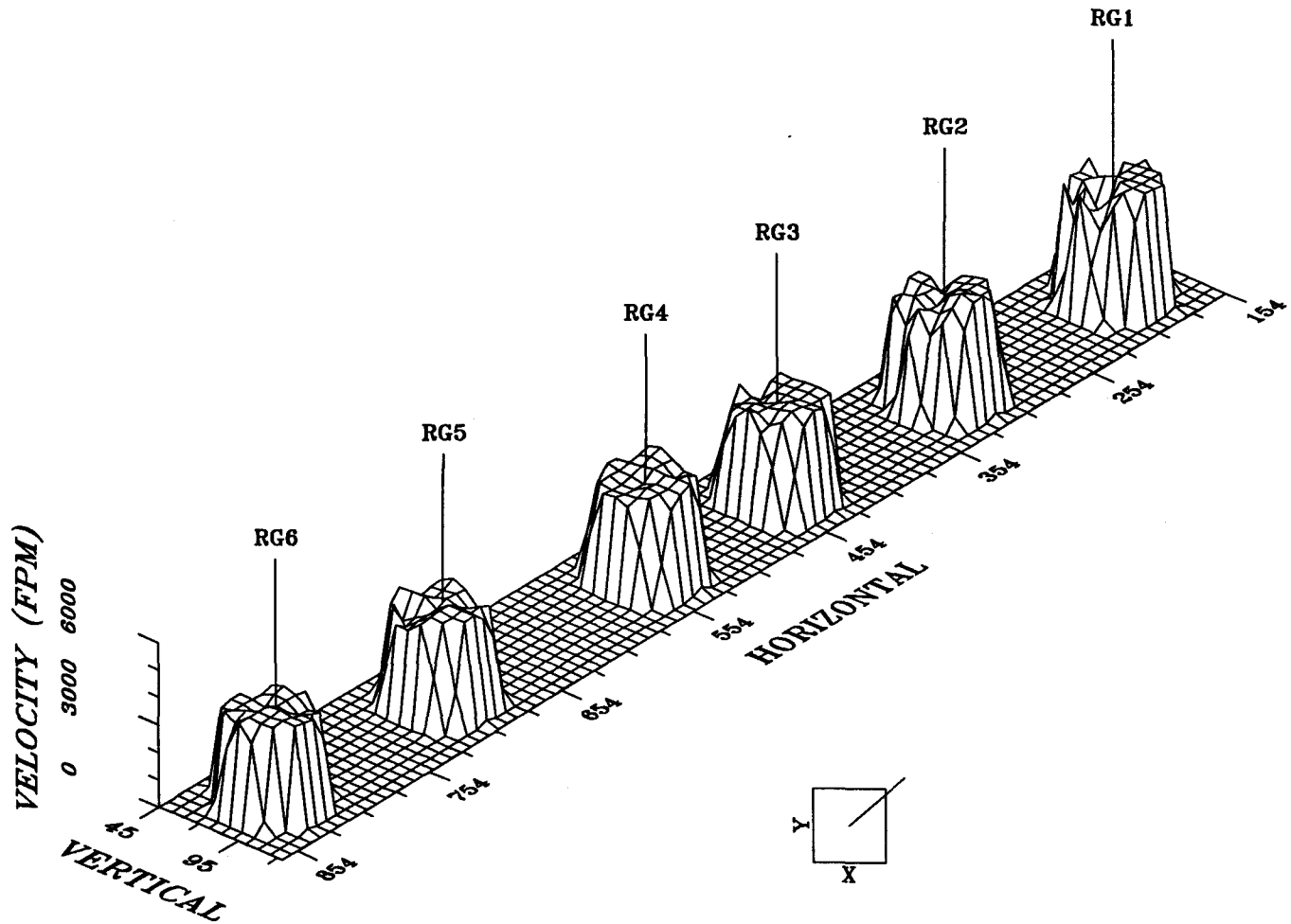
D WINDBOX VELOCITY PROFILE



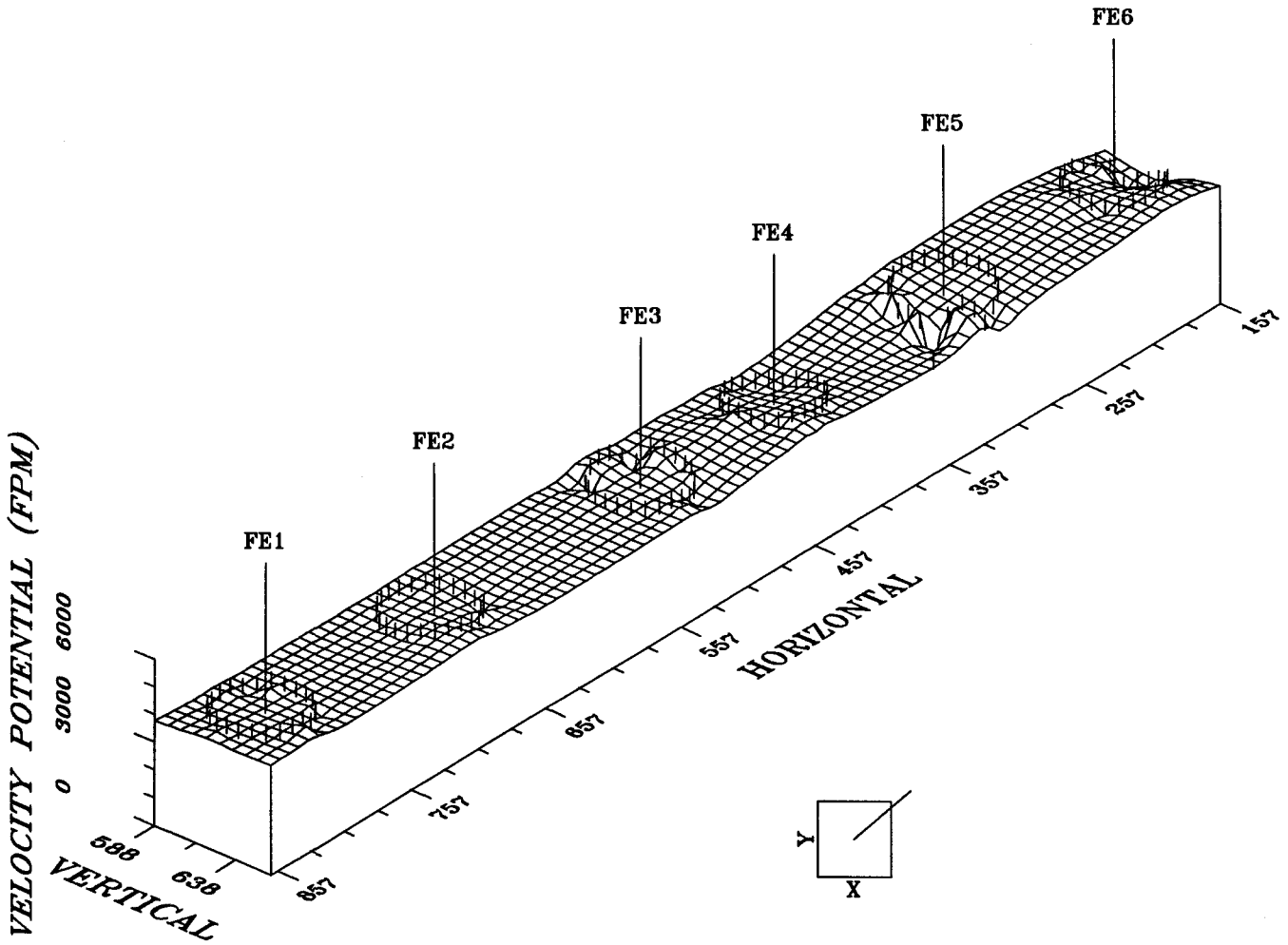
H WINDBOX VELOCITY PROFILE



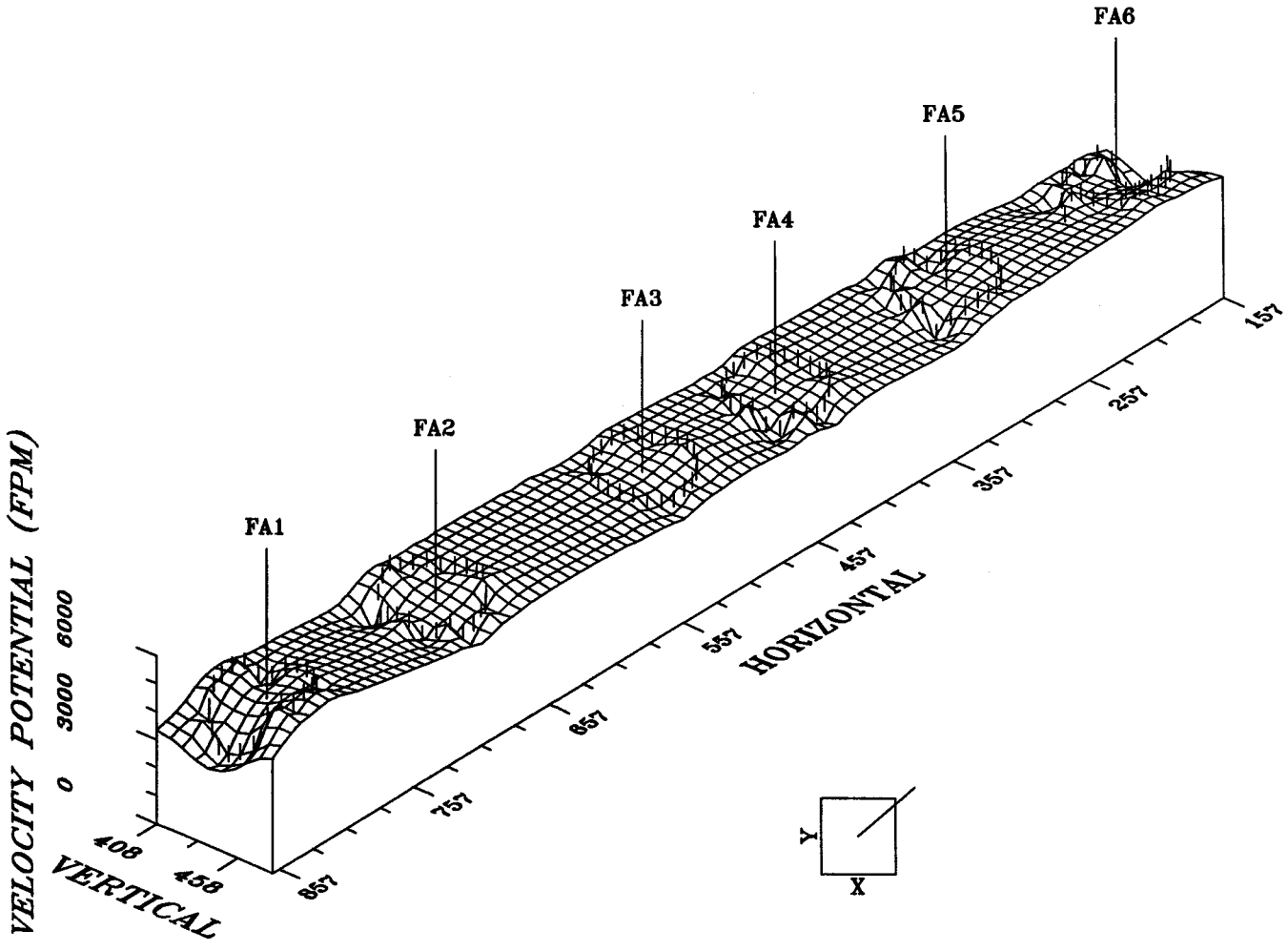
C WINDBOX VELOCITY PROFILE



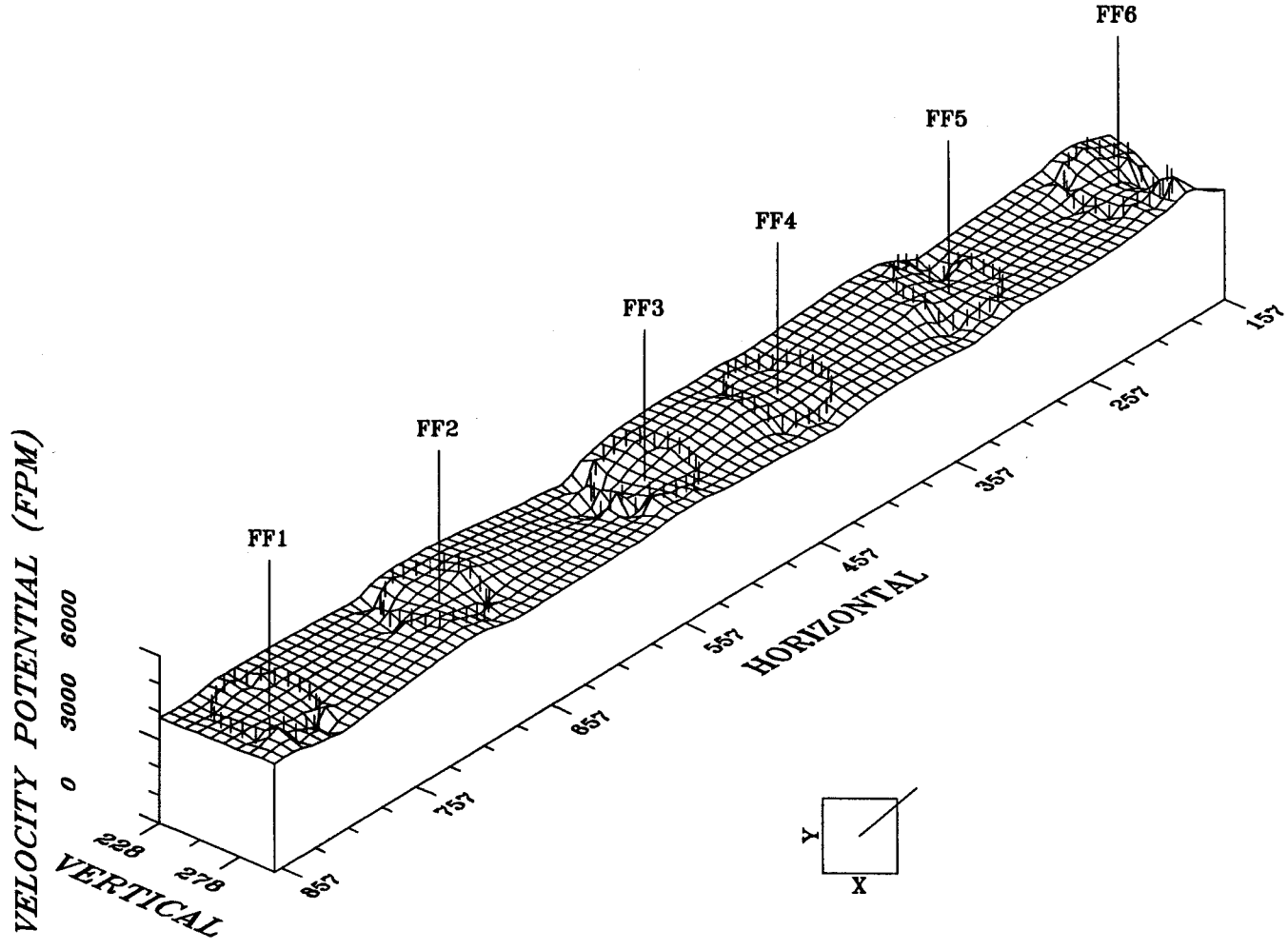
G WINDBOX VELOCITY PROFILE



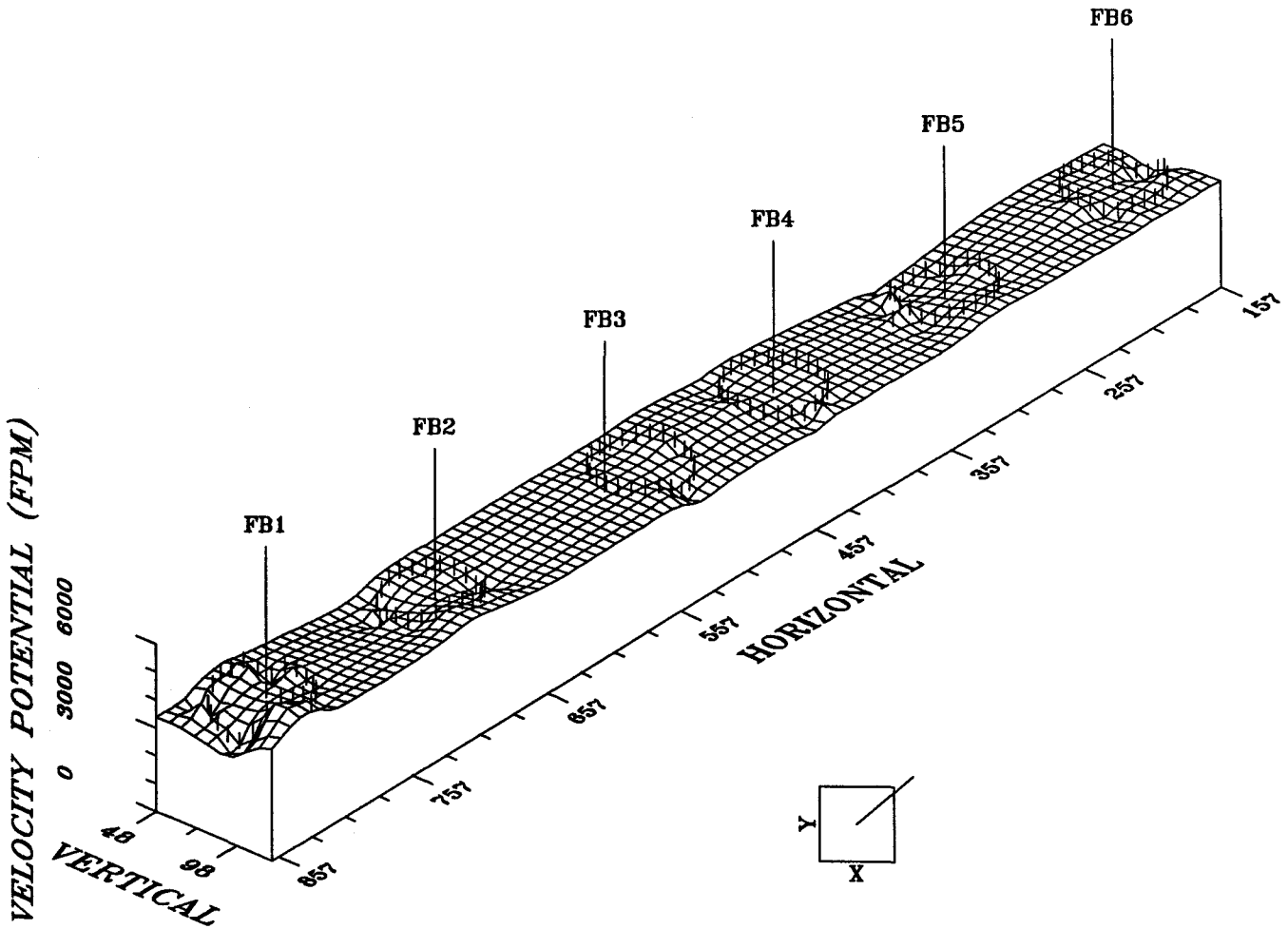
E WINDBOX VELOCITY POTENTIAL PROFILE



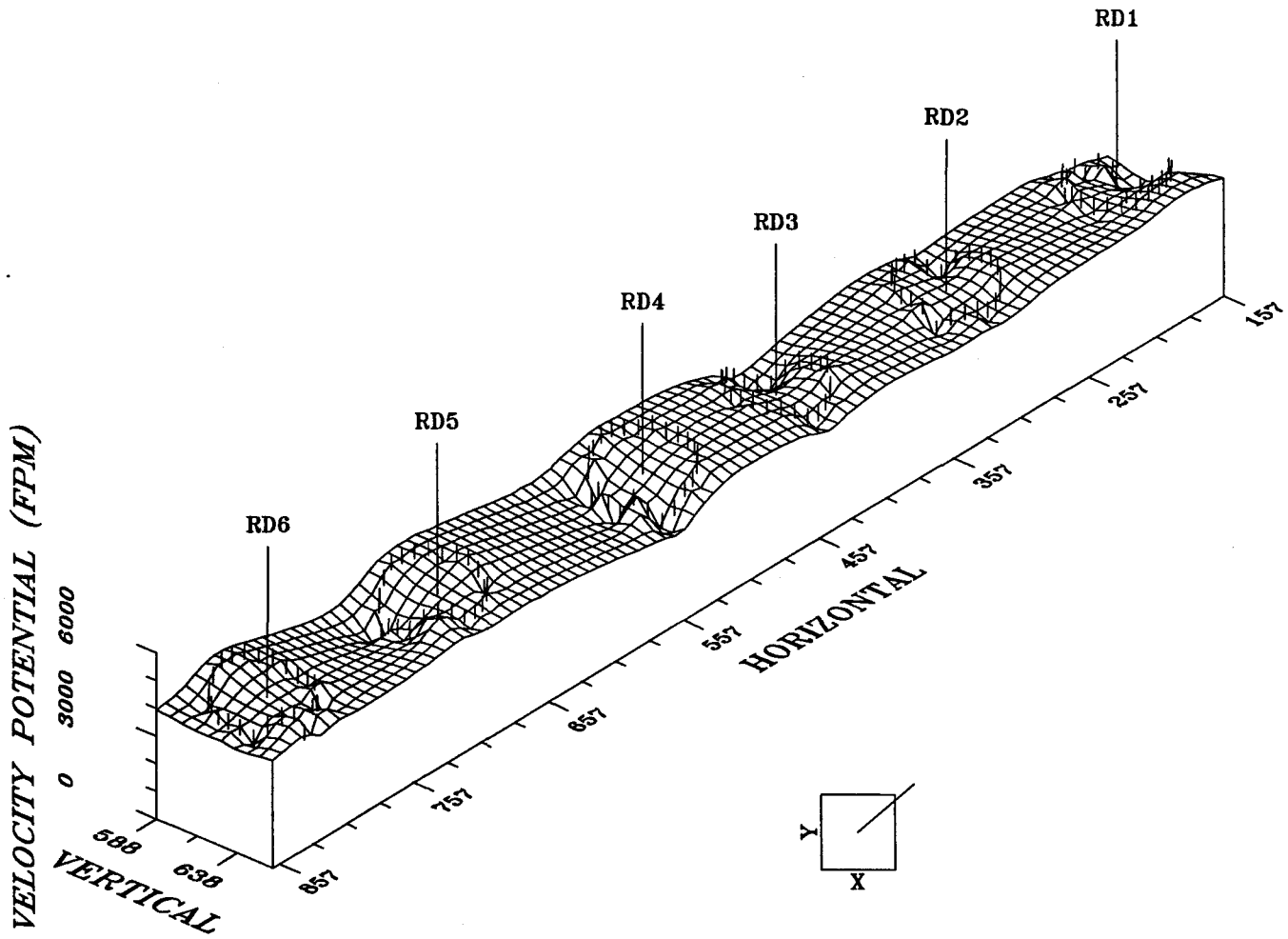
A WINDBOX VELOCITY POTENTIAL PROFILE



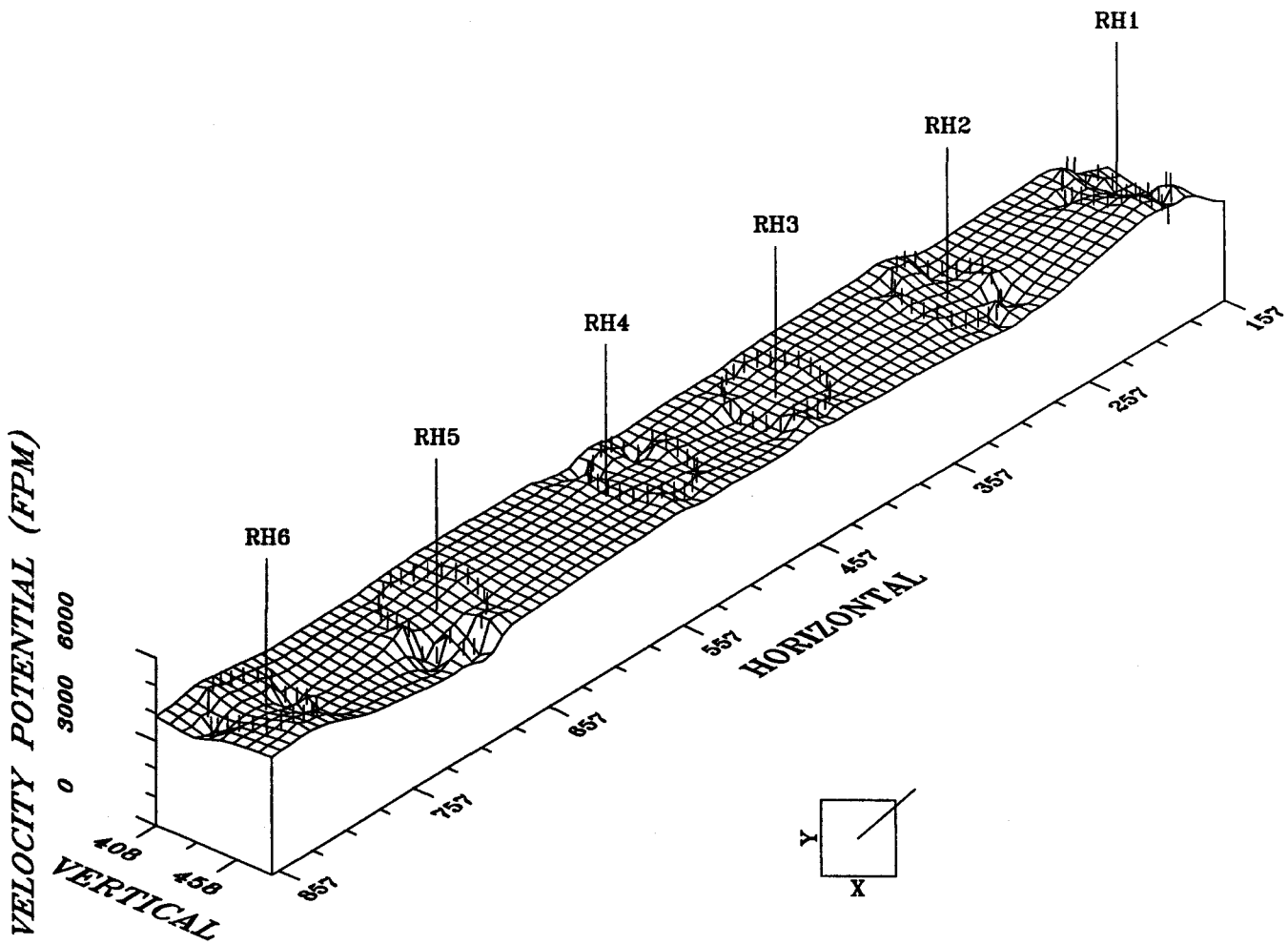
F WINDBOX VELOCITY POTENTIAL PROFILE



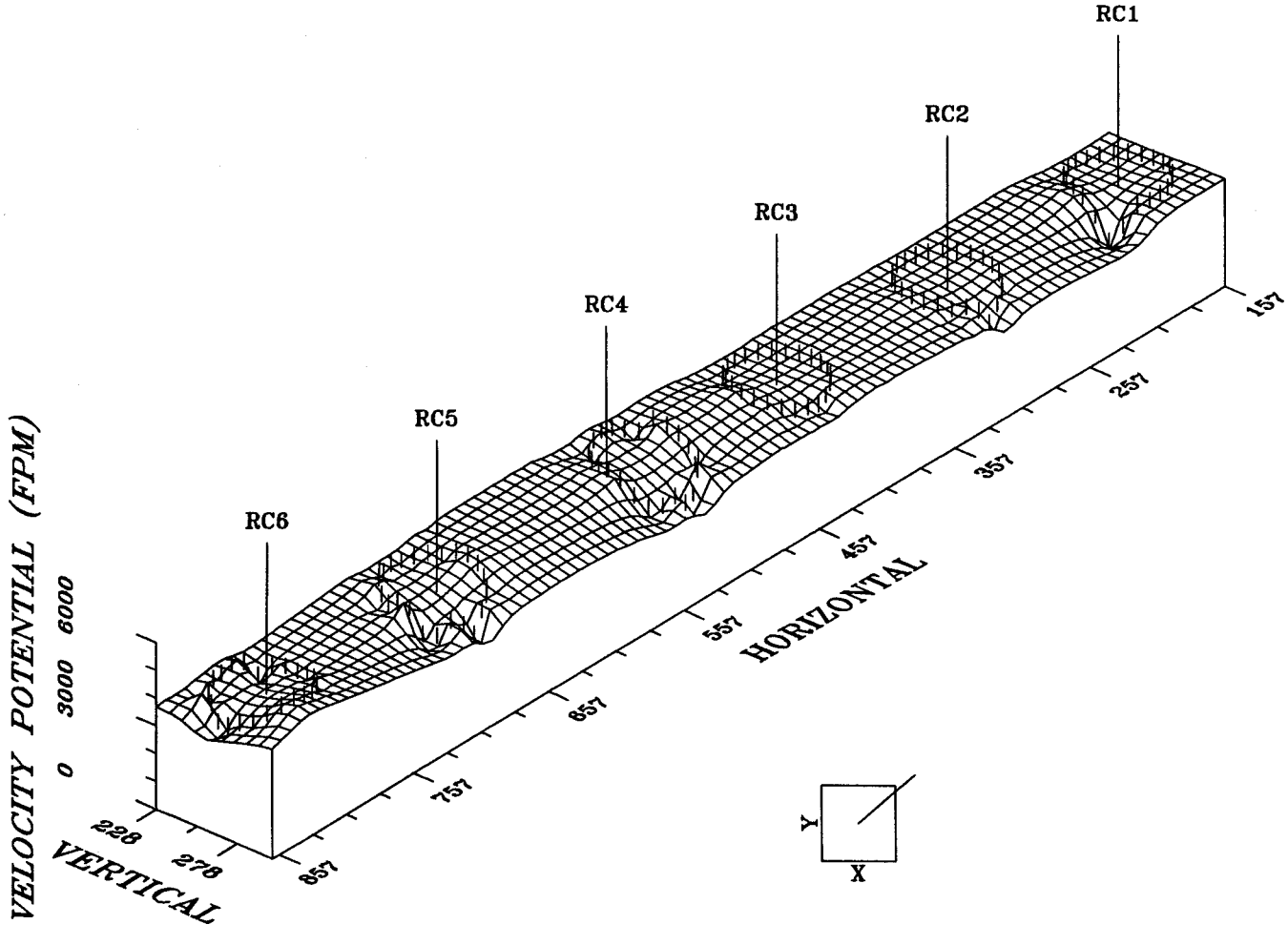
B WINDBOX VELOCITY POTENTIAL PROFILE



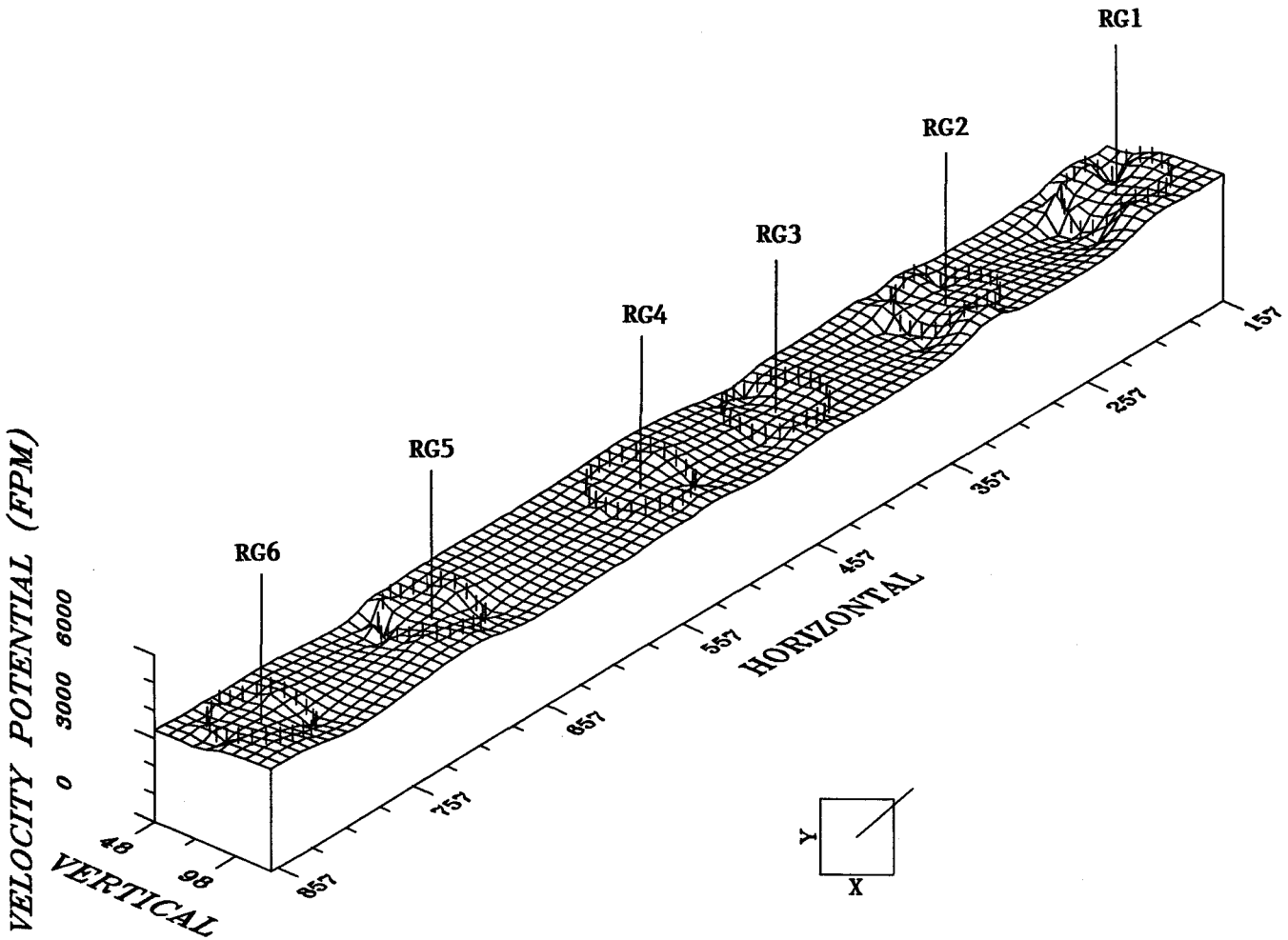
D WINDBOX VELOCITY POTENTIAL PROFILE



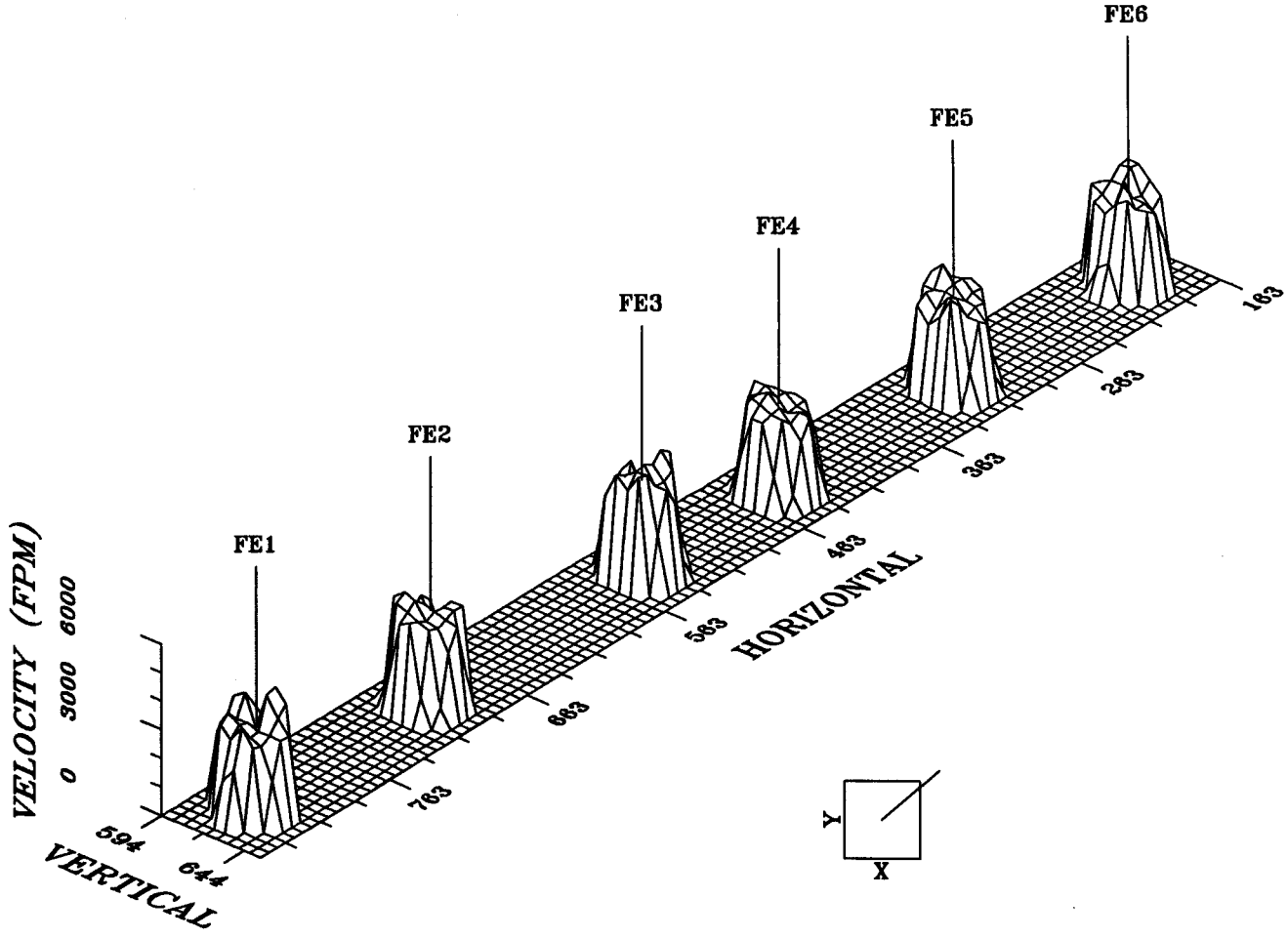
H WINDBOX VELOCITY POTENTIAL PROFILE



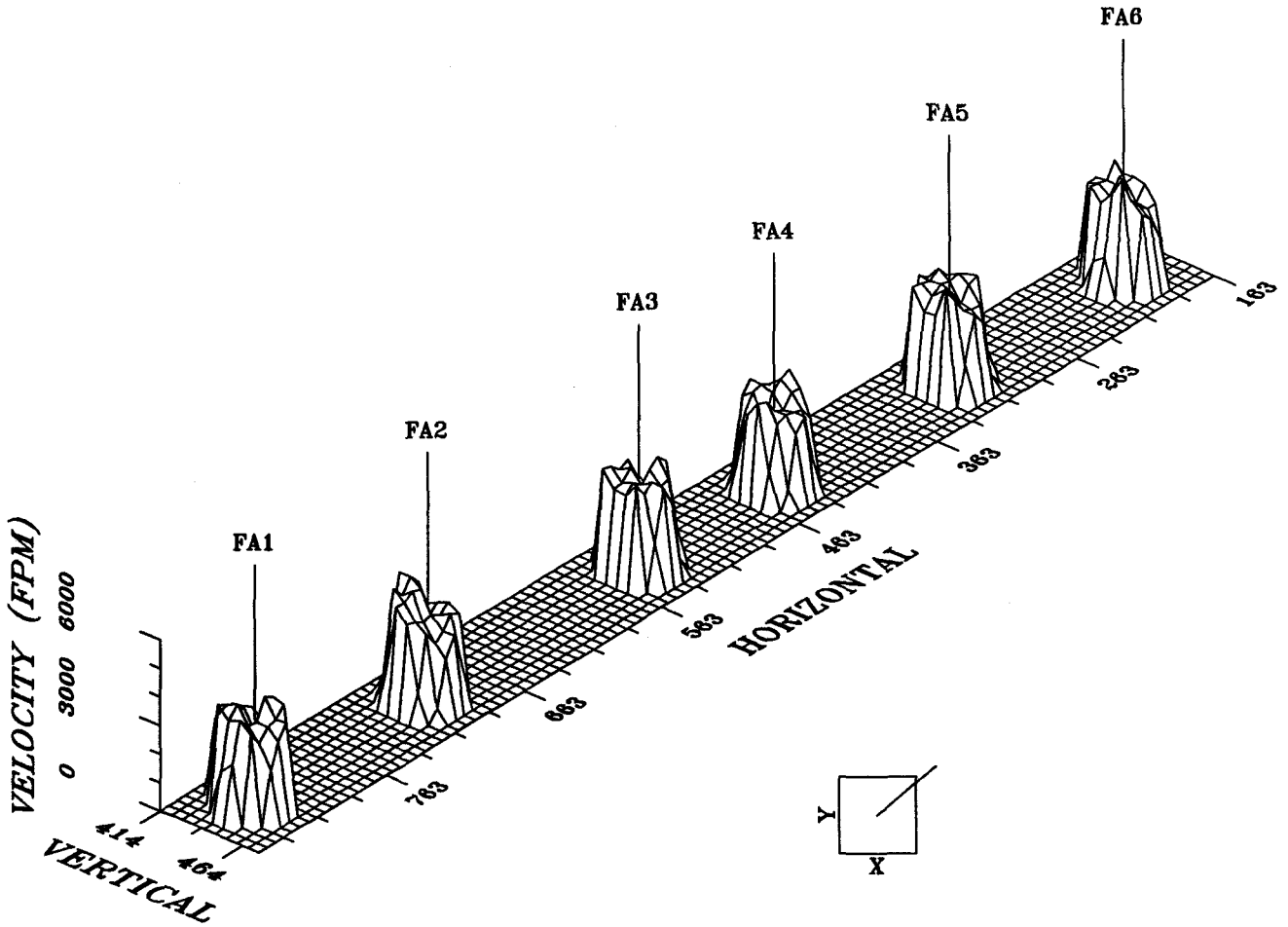
C WINDBOX VELOCITY POTENTIAL PROFILE



G WINDBOX VELOCITY POTENTIAL PROFILE



E WINDBOX VELOCITY PROFILE



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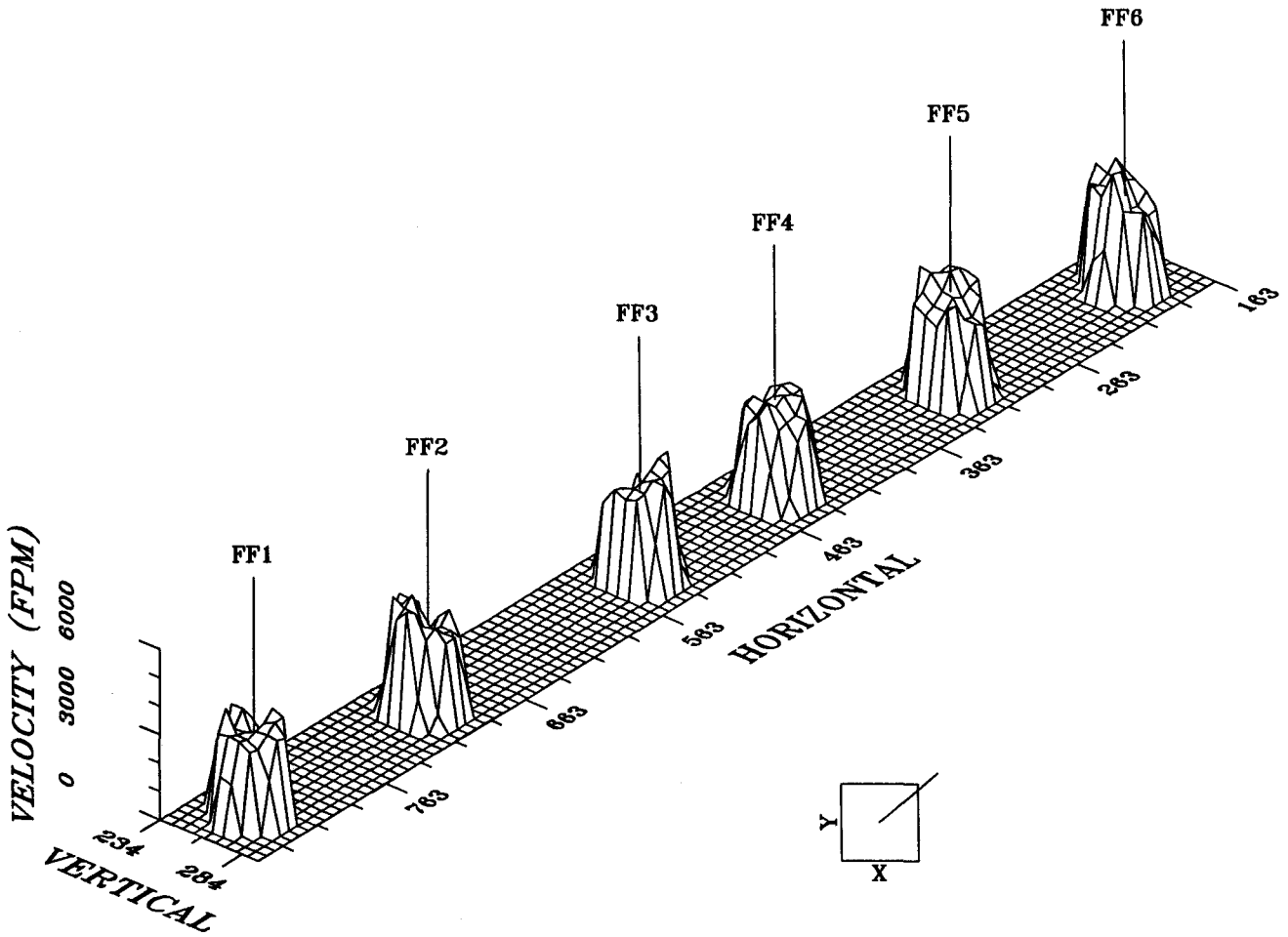

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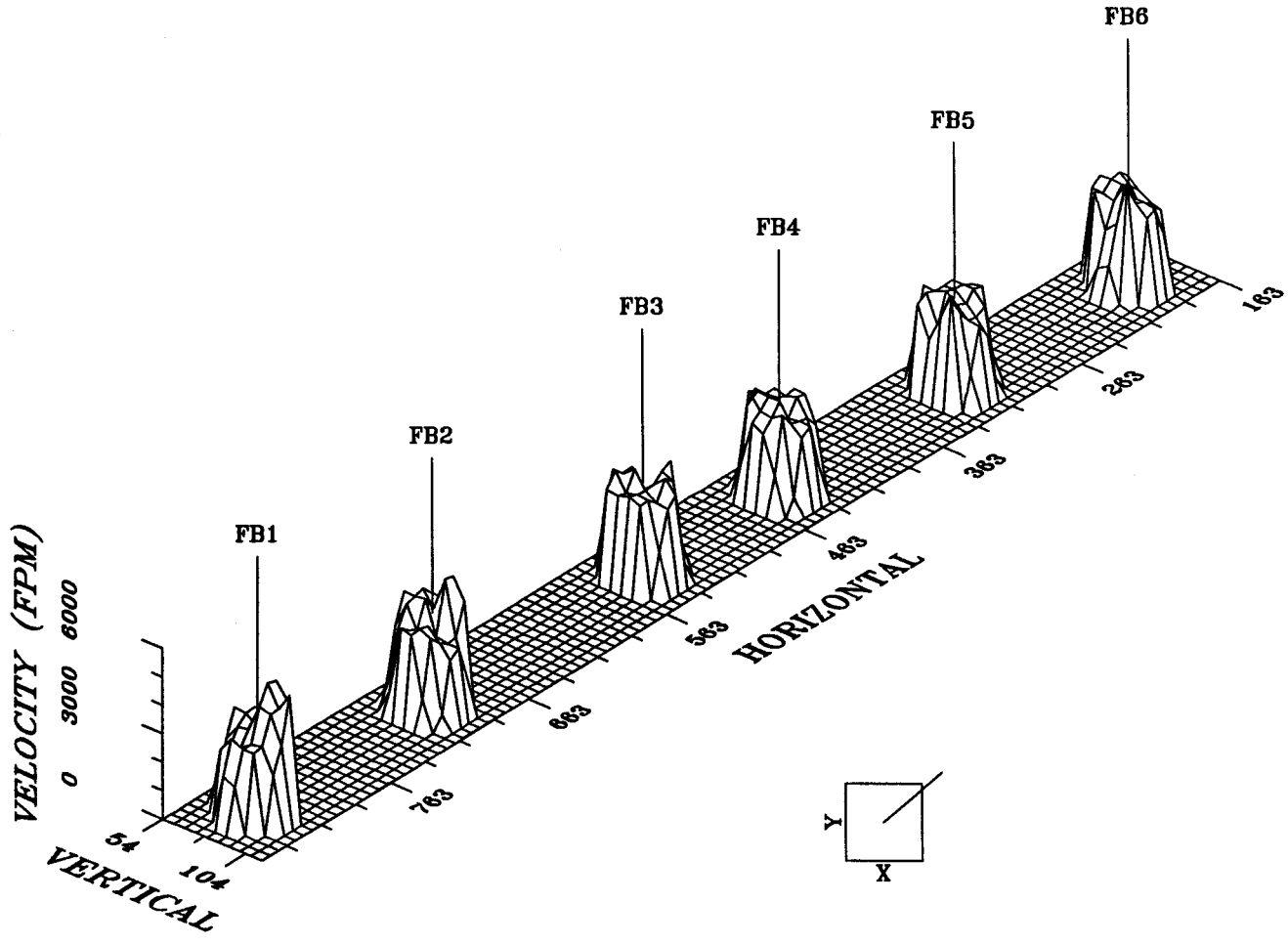

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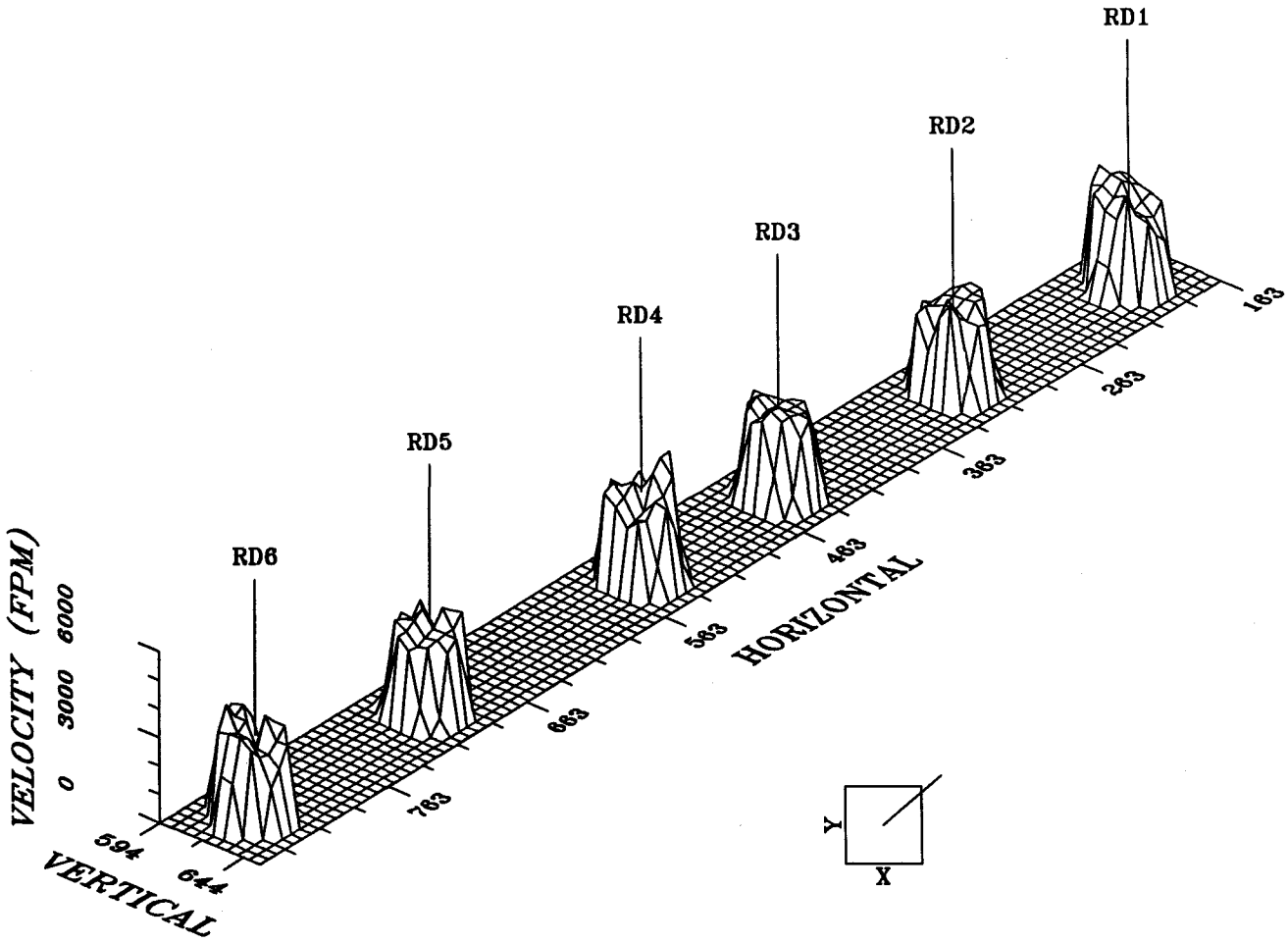

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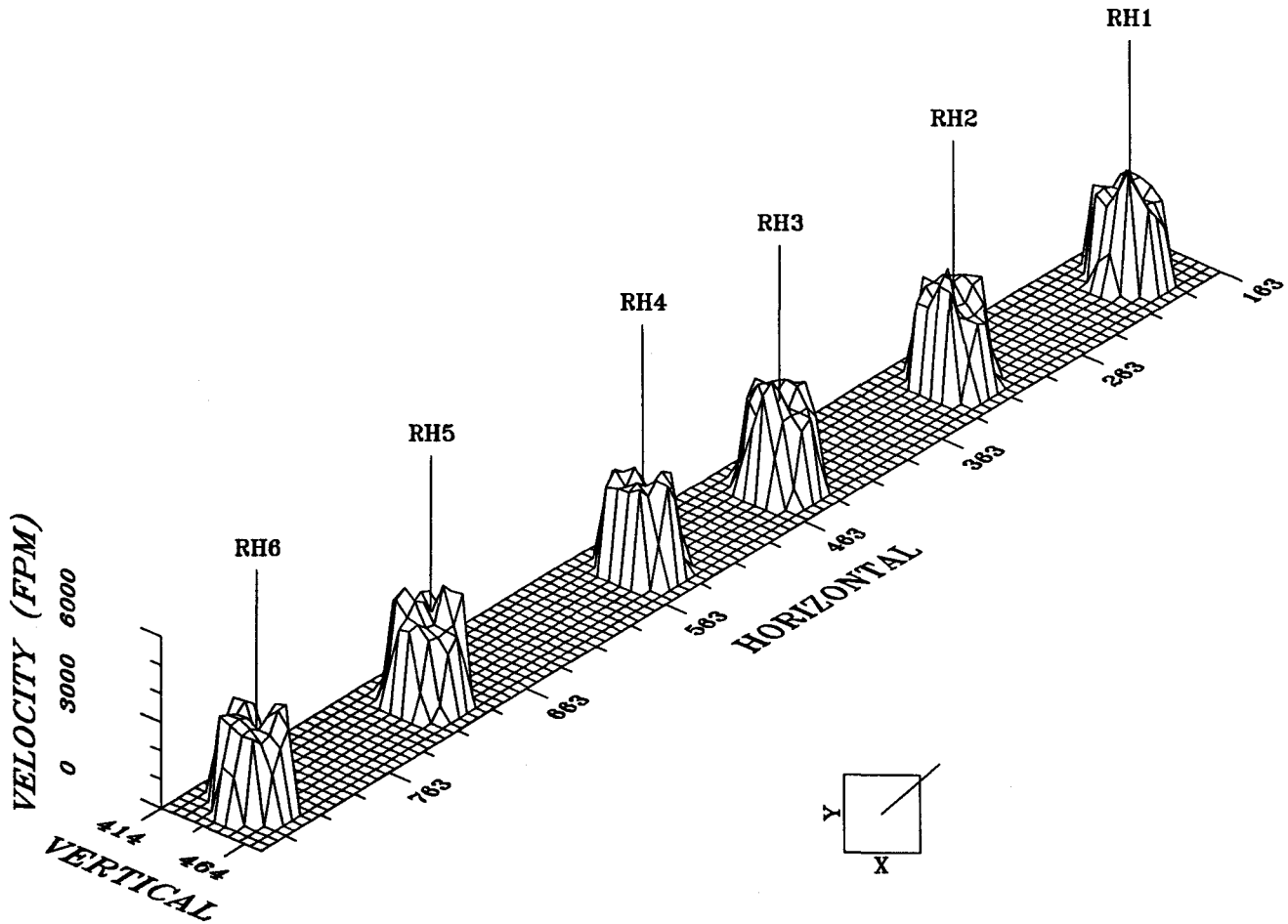

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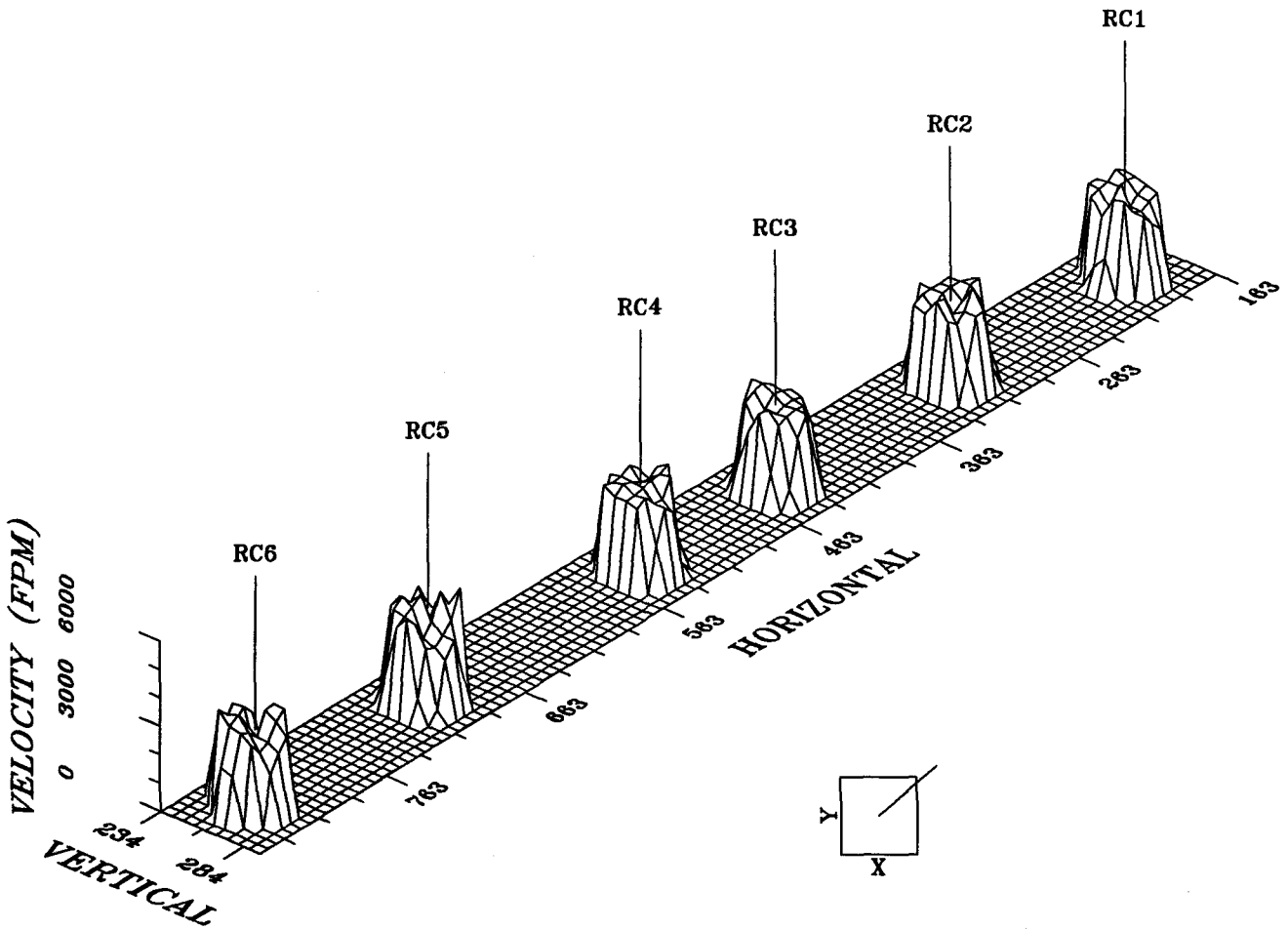

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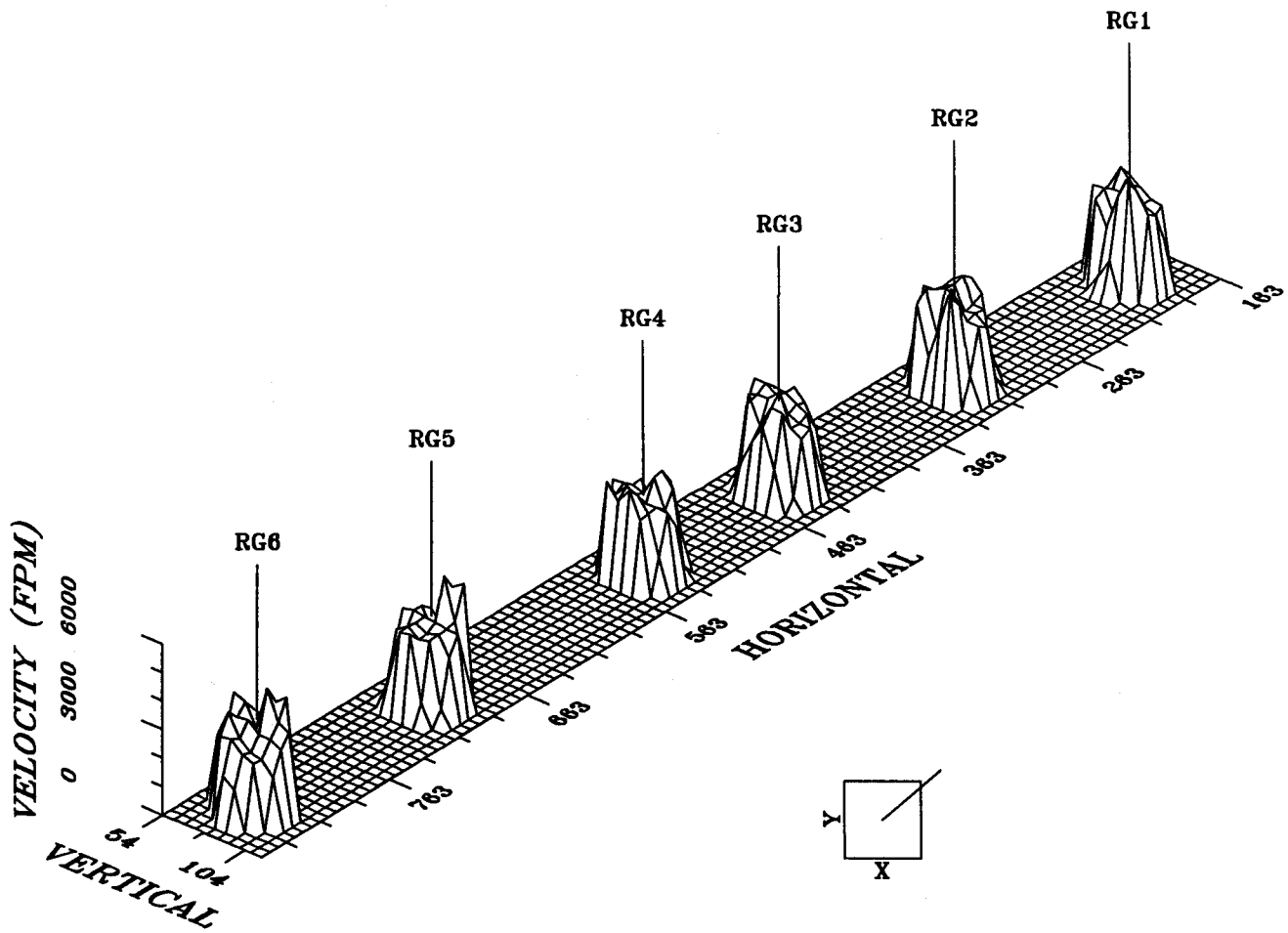

G WINDBOX VELOCITY PROFILE