AIR DISTRIBUTION ANALYSIS- SUMMARY/ANALYSIS

Need: 3-D plot program

IGS Unit 1 04/25/92, Saturday Backcalc Wrksht #3 format

OUTER ZONE (Shrouding Corrections)

Deviations on Average Test Point Velocities (ft/min)

Pulverizer # (E)	Burner # 1	2	3	4	5	6 (W)		AVERAGES Front by Row			Deviation =	54.42
E (front- 4th)	-21.14	-15.60	-15.35	-19.30	-14.60	-6.19	Low	-15.36	E Low Flow		Max Vel =	21.04
A (front- 3rd)	13.94	10.62	16.99	6.38	10.50	8.81	max	11.21			Min Vel =	-33.38
F (front- 2nd)	12.77	10.41	6.72	12.53	18.43	21.04		13.65				
B (front- 1st)	16.26	16.07	14.08	8.19	-0.29	7.64		10.33	4.95			
	High							Rear by Row		Total By Row		
D (rear- 4th)	High 6.30	13.91	5.76	-0.31	4.66	11.03	High	6.89		-4.24		
H (rear- 3rd)	7.06	7.83	4.19	-4.13	-10.11	1.27		1.02		6.11		
C (rear- 2nd)	-15.24	-10.62	-1.23	-7.62	-0.91	-1.34		-6.16		3.75		
G (rear- 1st)	-7.77	-15.48	-33.38	-27.33	-27.33	-18.12	V.Low Starved	-21.57	-4.95	-5.62		
			min					G Low Flow				
AVERAGES												
Front by Bnr	5.46	5.37	5.61	1.95	3.51	7.82	4.95	0.00	0.00	0.00		
Rear by Bnr	-2.41	-1.09	-6.17	-9.85	-8.42	-1.79	-4.95	Higher Flow to front 10%				
Total by Bnr	1.52	2.14	-0.28	-3.95	-2.46	3.02	0.00					

Breakdown into more zones

Notes: 1&3rd windboxes - physically ~~larger~~ smaller
2&4th " " ~~smaller~~ larger

INNER ZONE (Backplate Corrections)

Deviations on Average Test Point Velocities (ft/min)

Pulverizer # (E)	Burner # 1	2	3	4	5	6 (W)		AVERAGES Front by Row			Deviation =	58.65
E (front- 4th)	Low -9.51	-0.46	-5.92	25.32	29.69	24.35	High	10.58			Max Vel =	33.00
A (front- 3rd)	-9.98	-2.92	-3.76	15.36	30.27	21.81		8.46			Min Vel =	-25.65
F (front- 2nd)	-7.89	2.22	-11.13	33.00	29.96	31.95		13.02				
B (front- 1st)	-21.18	-16.43	-8.13	12.75	12.75	6.54		-2.28	7.44			
	starved							Rear by Row		Total By Row		
D (rear- 4th)	High 7.86	6.34	5.64	-9.98	-8.49	-9.49	Low	-1.35		4.61		
H (rear- 3rd)	0.12	6.22	4.62	-6.10	-18.30	-18.15		-5.26		1.60		
C (rear- 2nd)	-0.18	-0.18	-7.10	-22.10	-18.98	-25.51	starved	-12.34		0.34		
G (rear- 1st)	0.11	-6.96	4.93	-13.81	-25.65	-23.54	Starved	-10.82	-7.44	-6.55		
AVERAGES	Low- East Front				High	Westside - Front						
Front by Bnr	-12.14	-4.40	-7.23	21.61	25.67	21.16	7.44	0.00	0.00	0.00		
Rear by Bnr	1.98	1.35	2.02	-13.00	-17.86	-19.17	-7.44					
					V.low	Westside - Rear						
Total by Bnr	-5.08	-1.52	-2.61	4.31	3.91	1.00	0.00					

BACKCALC.XLS

IP7_002226

AIR DISTRIBUTION ANALYSIS- SUMMARY/ANALYSIS

IGS Unit 1 04/25/92, Saturday Backcalc Wrksht #3 format

OUTER ZONE (Shrouding Corrections)

Backcalc Test Point Velocities (ft/min) based on area changes

Pulverizer #	Burner # 1	2	3	4	5	6		AVERAGES Front by Row		Rear by Row	Total By Row
E (front- 4th)	3024	3236	3245	3094	3274	3596		3245			
A (front- 3rd)	4368	4241	4485	4078	4236	4172		4264			
F (front- 2nd)	4323	4233	4092	4314	4541	4640		4357			
B (front- 1st)	4457	4450	4374	4148	3823	4127		4230	4024		
D (rear- 4th)	4076	4367	4055	3822	4013	4257		4098		3672	
H (rear- 3rd)	4105	4134	3994	3675	3446	3883		3873		4068	
C (rear- 2nd)	3250	3427	3787	3542	3799	3783		3598		3978	
G (rear- 1st)	3536	3240	2554	2786	2786	3139		3007	3644	3618	
AVERAGES											
Front by Bnr	4043	4040	4049	3909	3969	4134	4024	3834	3834	3834	
Rear by Bnr	3741	3792	3598	3456	3511	3765	3644				
Total by Bnr	3892	3916	3823	3682	3740	3950	3834				

Deviation =	2086
Max Vel =	4640
Min Vel =	2554

Final Average Velocity 3831

Velocity Split (outer/inner)% 123
19

INNER ZONE (Backplate Corrections)

Backcalc Test Point Velocities (ft/min) based on area changes

Pulverizer #	Burner # 1	2	3	4	5	6		AVERAGES Front by Row		Rear by Row	Total By Row
E (front- 4th)	2821	3103	2933	3907	4043	3876		3447			
A (front- 3rd)	2806	3026	3000	3596	4061	3797		3381			
F (front- 2nd)	2871	3186	2771	4146	4051	4113		3523			
B (front- 1st)	2457	2605	2864	3515	3515	3321		3046	3349		
D (rear- 4th)	3362	3315	3293	2806	2853	2822		3075		3261	
H (rear- 3rd)	3121	3311	3261	2927	2547	2552		2953		3167	
C (rear- 2nd)	3112	3112	2896	2429	2526	2322		2733		3128	
G (rear- 1st)	3121	2901	3271	2687	2318	2384		2780	2885	2913	
AVERAGES											
Front by Bnr	2739	2980	2892	3791	3918	3777	3349	3117	3117	3117	
Rear by Bnr	3179	3160	3180	2712	2561	2520	2885				
Total by Bnr	2959	3070	3036	3252	3239	3148	3117				

Deviation =	1828
Max Vel =	4146
Min Vel =	2318

BACKCALC.XLS

Final Average Velocity 3103

IP7_002227

AIR DISTRIBUTION ANALYSIS- SUMMARY/ANALYSIS

IGS Unit 1 04/25/92, Saturday Backcalc Wrksht #3 format

OUTER ZONE (Shrouding Corrections)

Starting Position (Width Open)

Pulverizer #	Shroud Opening (inches) 1	2	3	4	5	6
E (front- 4th)	6.00	6.00	6.00	6.00	6.00	6.00
A (front- 3rd)	6.00	6.00	6.00	6.00	6.00	6.00
F (front- 2nd)	6.00	6.00	6.00	6.00	6.00	6.00
B (front- 1st)	6.00	6.00	6.00	6.00	6.00	6.00
D (rear- 4th)	6.00	6.00	6.00	6.00	6.00	6.00
H (rear- 3rd)	6.00	6.00	6.00	6.00	6.00	6.00
C (rear- 2nd)	6.00	6.00	6.00	6.00	6.00	6.00
G (rear- 1st)	6.00	6.00	6.00	6.00	6.00	6.00

OUTER ZONE (Shrouding Corrections)

Final Position (4th set of changes)

Pulverizer #	Shroud Opening (inches) 1	2	3	4	5	6
E (front- 4th)	7.60	7.10	7.08	7.43	7.02	6.39
A (front- 3rd)	5.26	5.42	5.12	5.64	5.43	5.51
F (front- 2nd)	5.32	5.43	5.62	5.33	5.06	4.95
B (front- 1st)	5.16	5.17	5.26	5.54	6.01	5.57
D (rear- 4th)	5.64	5.26	5.67	6.01	5.73	5.40
H (rear- 3rd)	5.60	5.56	5.75	6.25	6.67	5.92
C (rear- 2nd)	7.07	6.71	6.07	6.49	6.05	6.08
G (rear- 1st)	6.50	7.09	9.00	8.25	8.25	7.32

INNER ZONE (Backplate Corrections)

Starting Position (Width Open)

Pulverizer #	Backplate Opening (inches) 1	2	3	4	5	6
E (front- 4th)	3.50	3.50	3.50	3.50	3.50	3.50
A (front- 3rd)	3.50	3.50	3.50	3.50	3.50	3.50
F (front- 2nd)	3.50	3.50	3.50	3.50	3.50	3.50
B (front- 1st)	3.50	3.50	3.50	3.50	3.50	3.50
D (rear- 4th)	3.50	3.50	3.50	3.50	3.50	3.50
H (rear- 3rd)	3.50	3.50	3.50	3.50	3.50	3.50
C (rear- 2nd)	3.50	3.50	3.50	3.50	3.50	3.50
G (rear- 1st)	3.50	3.50	3.50	3.50	3.50	3.50

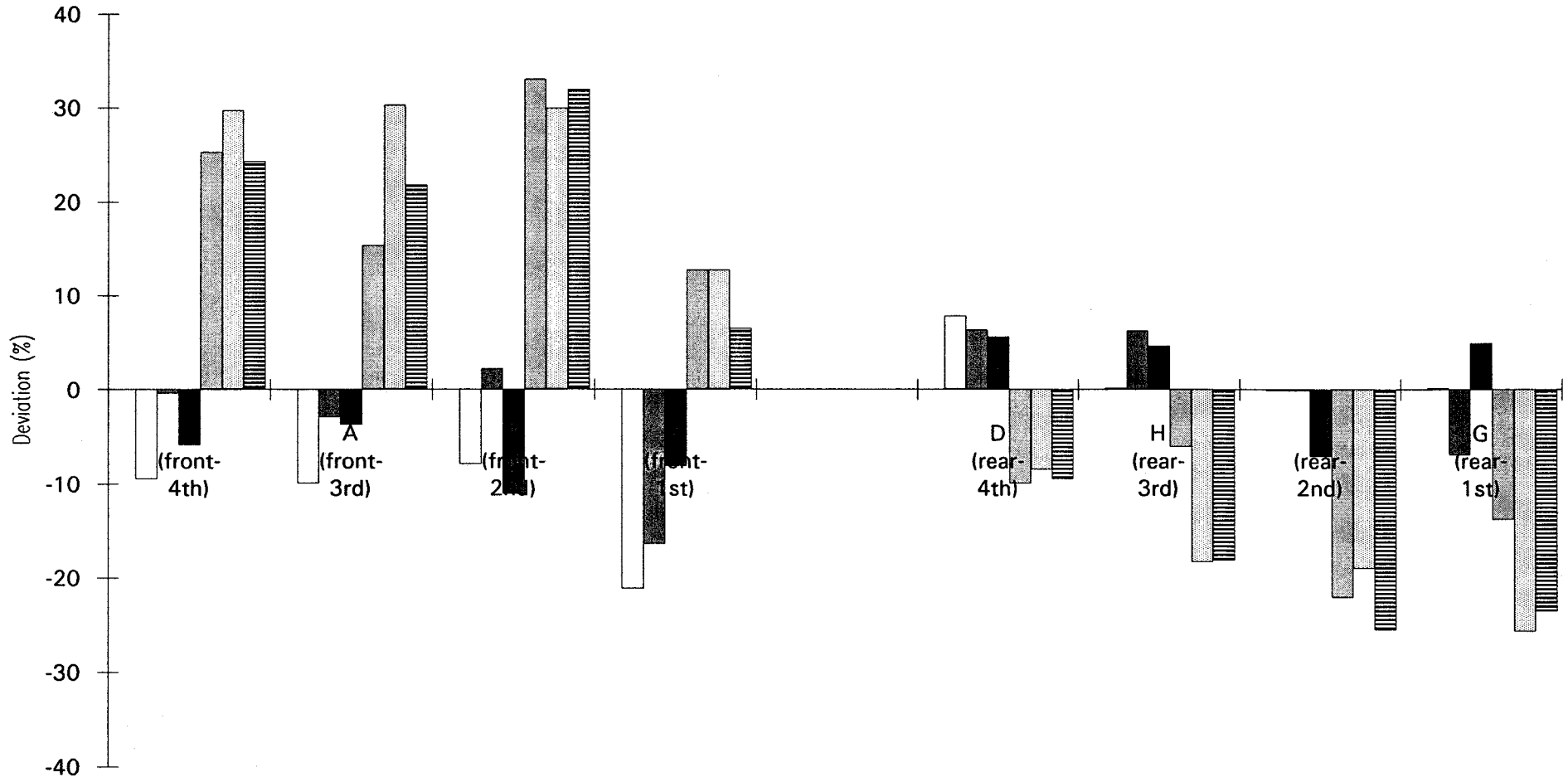
INNER ZONE (Backplate Corrections)

Final Position (4th set of changes)

Pulverizer #	Backplate Opening (inches) 1	2	3	4	5	6
E (front- 4th)	3.85	3.50	3.70	2.78	2.69	2.80
A (front- 3rd)	3.87	3.59	3.62	3.02	2.67	2.86
F (front- 2nd)	3.78	3.41	3.92	2.62	2.68	2.64
B (front- 1st)	4.42	4.17	3.79	3.09	3.09	3.27
D (rear- 4th)	3.23	3.28	3.30	3.87	3.81	3.85
H (rear- 3rd)	3.48	3.28	3.33	3.71	4.26	4.26
C (rear- 2nd)	3.49	3.49	3.75	4.47	4.30	4.68
G (rear- 1st)	3.48	3.74	3.32	4.04	4.69	4.56

IP7_002228

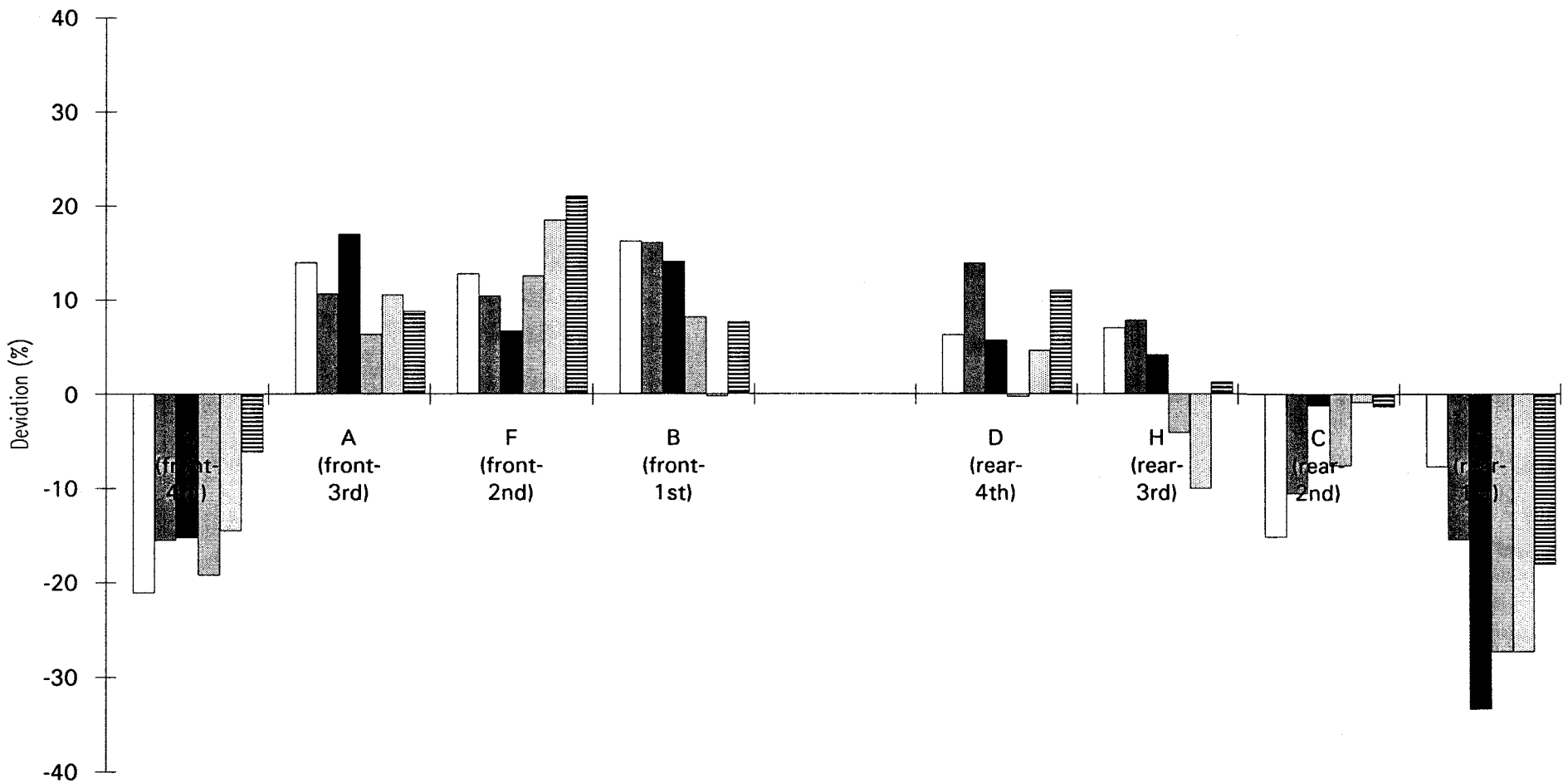
Air Flow Balancing- Total Inner Air Deviation (Backcalculated)



INN-DEV.XLC

IP7_002229

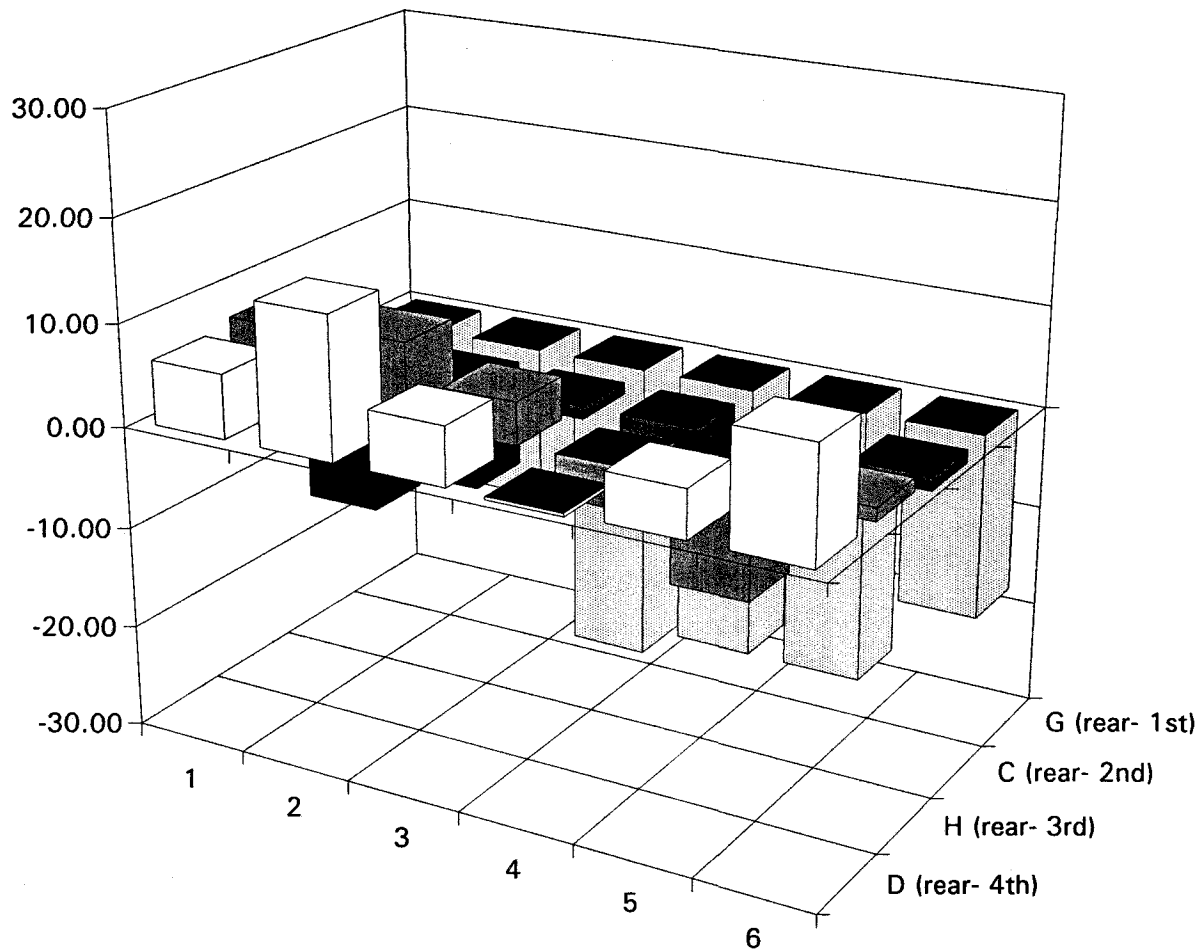
Air Flow Balancing- Total Outer Air Deviation (Backcalculated)



OUT-DEV.XLC

IP7_002230

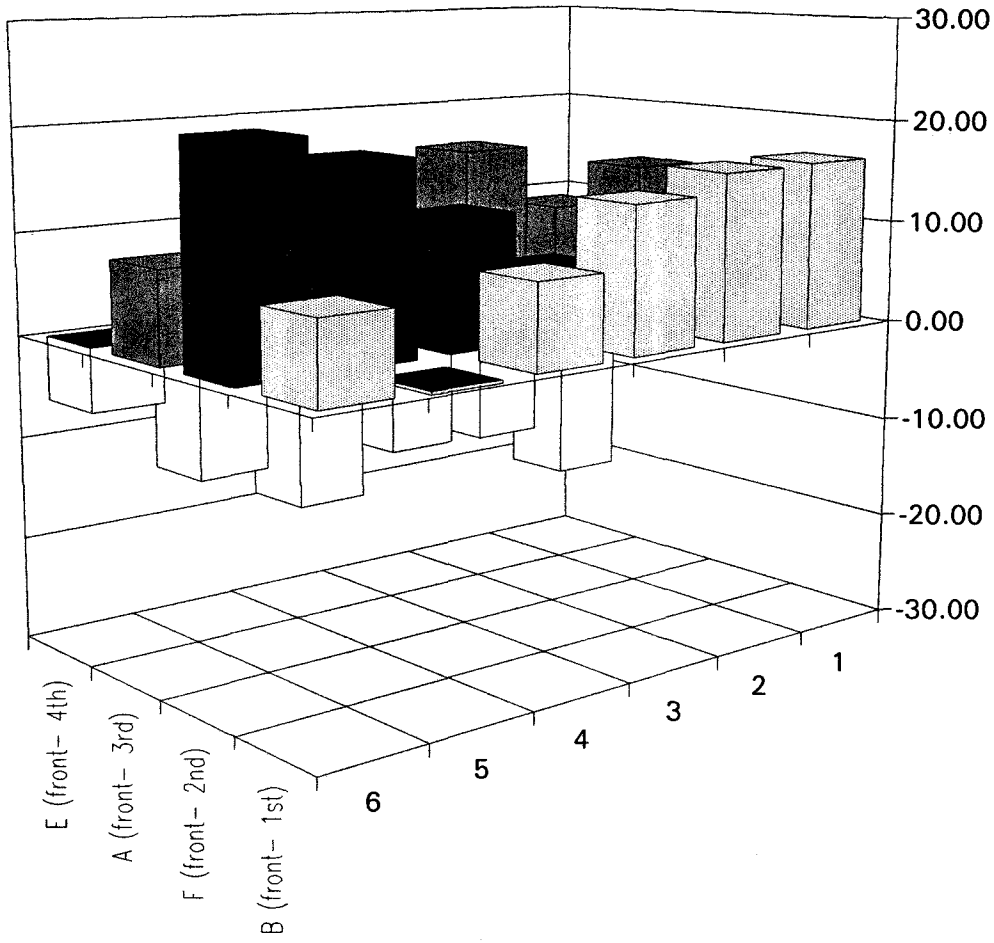
Air Flow Balancing- Outer Air Deviation, Rear wall



OT-RR-3D.XLC

IP7_002231

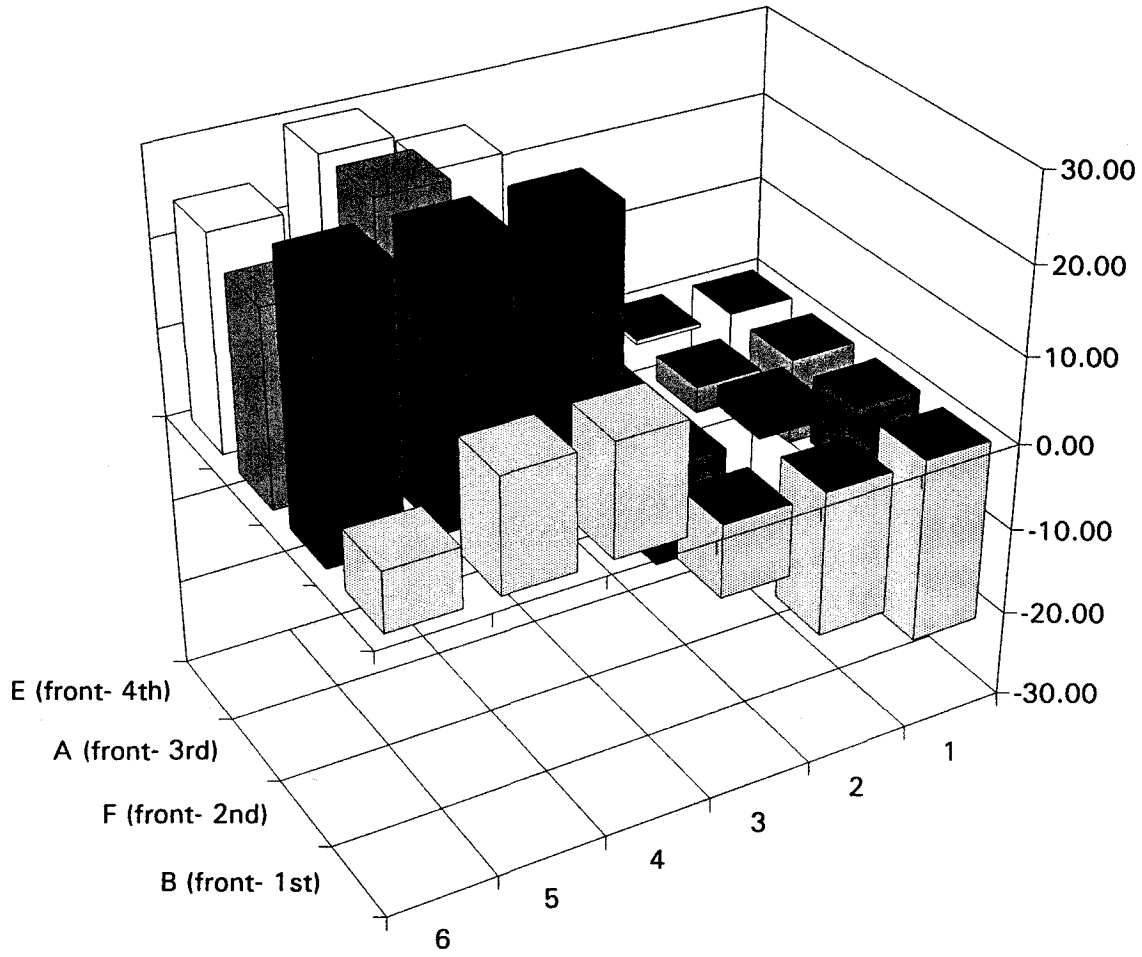
Air Flow Balancing- Outer Air Deviation, Front Wall



OT-FR-3D.XLC

IP7_002232

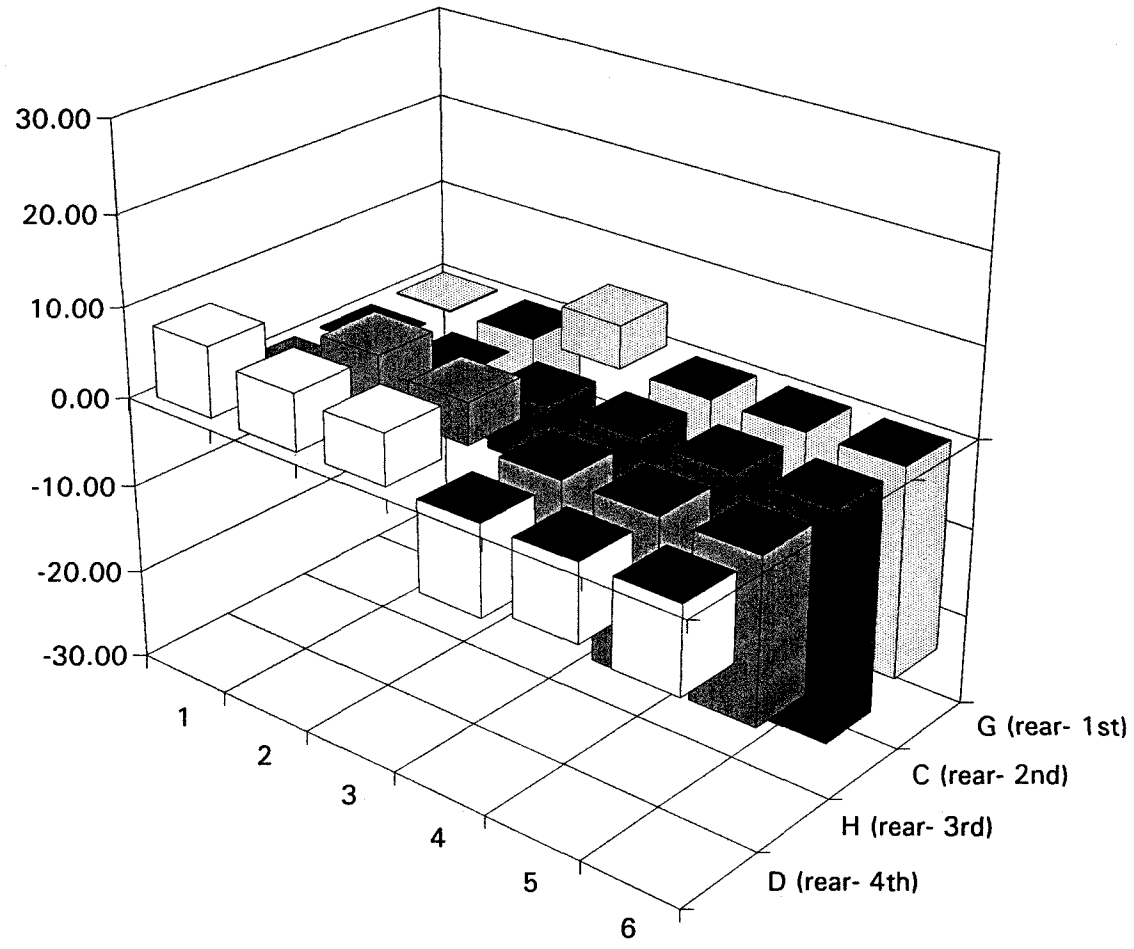
Air Flow Balancing- Inner Air Deviation, Front wall



IN-FT-3D.XLC

IP7_002233

Air Flow Balancing- Inner Air Deviation, Rear wall



IN-RR-3D.XLC

IP7_002234