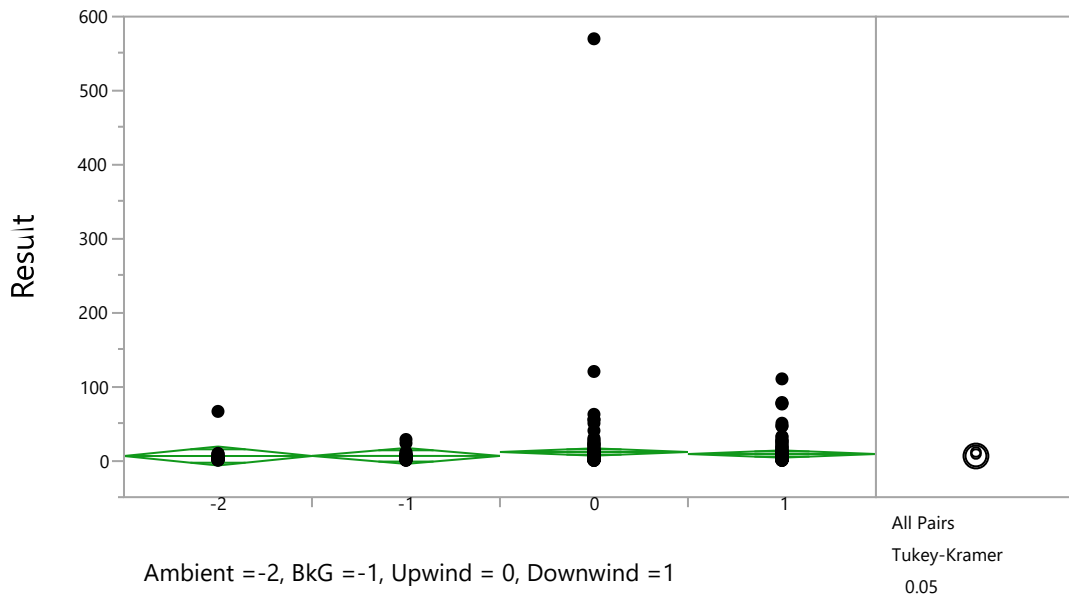


APPENDIX G

Tier 1 (>80% detected) only. Analytes that are significantly different concentration between locations or events identified as ambient, background, upwind, and downwind. This appendix contains only analytes in Tier #1, which have a percent detection >80%, indicating a small level of censoring typical of environmental monitoring data. This appendix shows the results of comparisons between ambient, background, upwind, and downwind by Tukey-Kramer HSD test for all pairs and the Wilcoxon paired comparison test.

Oneway Analysis of Result By Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1 Analyte (Units)=Butane (ppb v/v)



Missing Rows 184

Oneway Anova

Summary of Fit

Rsquare 0.003585
 Adj Rsquare -0.00434
 Root Mean Square Error 31.94414
 Mean of Response 9.101092
 Observations (or Sum Wgts) 381

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio	Prob > F
Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1	3	1384.08	461.36	0.4521	0.7159
Error	377	384701.46	1020.43		
C. Total	380	386085.54			

Means for Oneway Anova

Level	Number	Mean	Std Error	Lower 95%	Upper 95%
-2	24	5.6617	6.5206	-7.160	18.483
-1	34	5.7647	5.4784	-5.007	16.537
0	160	11.0867	2.5254	6.121	16.052
1	163	8.3544	2.5021	3.435	13.274

Std Error uses a pooled estimate of error variance

Nonparametric Comparisons For Each Pair Using Wilcoxon Method

q*	Alpha
1.95996	0.05

Level	- Level	Score Mean Difference	Std Err Dif	Z	p-Value	Hodges-Lehmann	Lower CL	Upper CL
1	-2	21.7736	11.83310	1.84006	0.0658	1.20000	-0.10000	2.600000
0	-2	20.0052	11.65748	1.71608	0.0861	1.05658	-0.14900	2.800000
-1	-2	8.7071	4.49541	1.93689	0.0528	2.50000	0.00000	3.500000
1	0	0.8112	10.39198	0.07806	0.9378	0.00000	-0.69307	0.706934
0	-1	-6.9362	10.60163	-0.65426	0.5129	-0.50000	-2.10000	0.831142
1	-1	-10.6285	10.74806	-0.98887	0.3227	-0.76886	-2.00000	0.670000

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
-2	24	3587.00	4584.00	149.458	-1.908
-1	34	7111.50	6494.00	209.162	1.007
0	160	30717.0	30560.0	191.981	0.148
1	163	31355.5	31133.0	192.365	0.209

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
4.3780	3	0.2234

Means Comparisons

Comparisons for all pairs using Tukey-Kramer HSD

Confidence Quantile

q*	Alpha
2.58056	0.05

HSD Threshold Matrix

Abs(Dif)-HSD

	0	1	-1	-2
0	-9.216	-6.442	-10.245	-12.620
1	-6.442	-9.131	-12.952	-15.330
-1	-10.245	-12.952	-19.993	-21.874
-2	-12.620	-15.330	-21.874	-23.797

Positive values show pairs of means that are significantly different.

Connecting Letters Report

Level	Mean
0 A	11.086691
1 A	8.354388

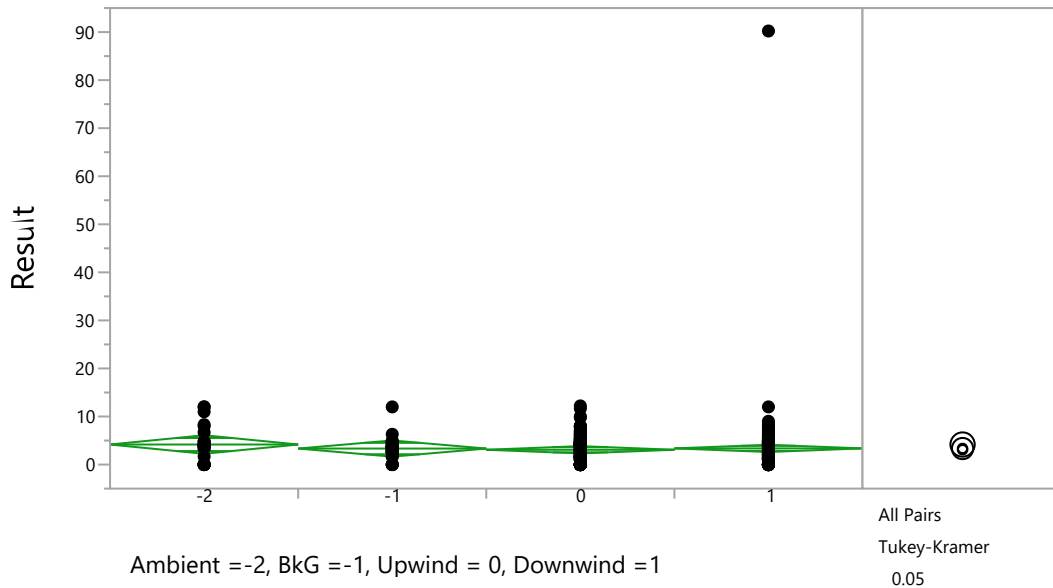
Level		Mean
-1	A	5.764678
-2	A	5.661714

Levels not connected by same letter are significantly different.

Ordered Differences Report

Level	- Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
0	-2	5.424976	6.992533	-12.6197	23.46963	0.8654
0	-1	5.322013	6.032435	-10.2450	20.88907	0.8141
0	1	2.732303	3.554993	-6.4416	11.90617	0.8686
1	-2	2.692674	6.984135	-15.3303	20.71565	0.9805
1	-1	2.589711	6.022698	-12.9522	18.13164	0.9733
-1	-2	0.102963	8.516481	-21.8743	22.08025	1.0000

Oneway Analysis of Result By Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1 Analyte (Units)=Ethanol (ppb v/v)



Missing Rows 188

Oneway Anova

Summary of Fit

Rsquare	0.002881
Adj Rsquare	-0.00465
Root Mean Square Error	4.997673
Mean of Response	3.294931
Observations (or Sum Wgts)	401

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio	Prob > F
Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1	3	28.6467	9.5489	0.3823	0.7658
Error	397	9915.7644	24.9767		
C. Total	400	9944.4112			

Means for Oneway Anova

Level	Number	Mean	Std Error	Lower 95%	Upper 95%
-2	26	4.17242	0.98012	2.2455	6.0993
-1	34	3.33293	0.85709	1.6479	5.0179
0	169	3.08100	0.38444	2.3252	3.8368
1	172	3.36497	0.38107	2.6158	4.1141

Std Error uses a pooled estimate of error variance

Nonparametric Comparisons For Each Pair Using Wilcoxon Method

q*	Alpha
1.95996	0.05

Level	- Level	Score Mean Difference	Std Err Dif	Z	p-Value	Hodges-Lehmann	Lower CL	Upper CL
-1	-2	-5.1244	4.53189	-1.13075	0.2582	-0.400000	-1.48650	0.4825700
0	-1	-6.0589	11.00974	-0.55032	0.5821	-0.117213	-1.06143	0.5000000
1	0	-6.9976	10.63966	-0.65769	0.5107	0.000000	-0.60000	0.2000000
1	-1	-13.4386	11.15418	-1.20480	0.2283	-0.482570	-1.40000	0.3000000
0	-2	-13.4467	11.84012	-1.13569	0.2561	-0.475179	-2.10000	0.2727154
1	-2	-15.9170	12.00647	-1.32570	0.1849	-0.800000	-2.30000	0.2000000

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
-2	26	5965.50	5226.00	229.442	1.298
-1	34	7312.00	6834.00	215.059	0.741
0	169	34090.5	33969.0	201.719	0.106
1	172	33233.0	34572.0	193.215	-1.169

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
2.8684	3	0.4124

Means Comparisons

Comparisons for all pairs using Tukey-Kramer HSD

Confidence Quantile

q*	Alpha
2.57998	0.05

HSD Threshold Matrix

Abs(Dif)-HSD

	-2	1	-1	0
-2	-3.5761	-1.9057	-2.5197	-1.6248
1	-1.9057	-1.3904	-2.3880	-1.1126
-1	-2.5197	-2.3880	-3.1272	-2.1716
0	-1.6248	-1.1126	-2.1716	-1.4027

Positive values show pairs of means that are significantly different.

Connecting Letters Report

Level	Mean
-2 A	4.1724174
1 A	3.3649723

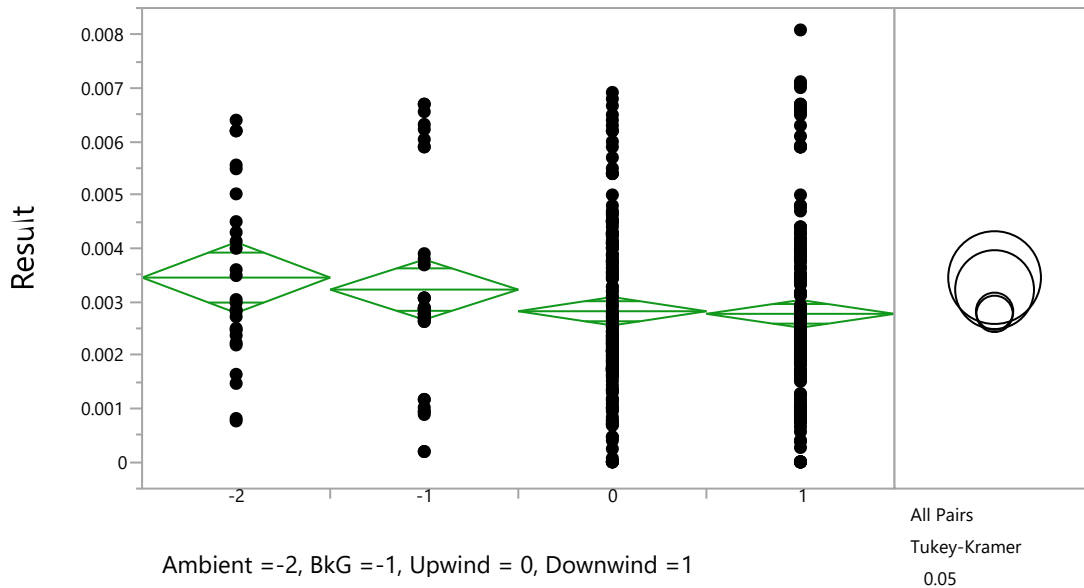
Level		Mean
-1	A	3.3329345
0	A	3.0810036

Levels not connected by same letter are significantly different.

Ordered Differences Report

Level	- Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
-2	0	1.091414	1.052822	-1.62485	3.807675	0.7280
-2	-1	0.839483	1.302019	-2.51970	4.198666	0.9173
-2	1	0.807445	1.051598	-1.90566	3.520546	0.8689
1	0	0.283969	0.541299	-1.11257	1.680510	0.9531
-1	0	0.251931	0.939362	-2.17160	2.675467	0.9932
1	-1	0.032038	0.937989	-2.38796	2.452031	1.0000

Oneway Analysis of Result By Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1 Analyte (Units)=Formaldehyde (mg/m3)



Missing Rows 197

Oneway Anova

Summary of Fit

Rsquare	0.013221
Adj Rsquare	0.005591
Root Mean Square Error	0.001717
Mean of Response	0.00288
Observations (or Sum Wgts)	392

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio	Prob > F
Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1	3	0.00001533	5.1089e-6	1.7328	0.1597
Error	388	0.00114392	2.9482e-6		
C. Total	391	0.00115925			

Means for Oneway Anova

Level	Number	Mean	Std Error	Lower 95%	Upper 95%
-2	26	0.003452	0.00034	0.00279	0.00411
-1	36	0.003227	0.00029	0.00266	0.00379
0	161	0.002822	0.00014	0.00256	0.00309
1	169	0.002773	0.00013	0.00251	0.00303

Std Error uses a pooled estimate of error variance

Nonparametric Comparisons For Each Pair Using Wilcoxon Method

q*	Alpha
1.95996	0.05

Level	- Level	Score Mean Difference	Std Err Dif	Z	p-Value	Hodges-Lehmann	Lower CL	Upper CL
-1	-2	-1.6229	4.64203	-0.34960	0.7266	-0.000150	-0.001300	0.000490
1	0	-6.3856	10.50659	-0.60777	0.5433	-0.000100	-0.000450	0.000240
0	-1	-12.5929	10.51070	-1.19810	0.2309	-0.000420	-0.000970	0.000350
1	-1	-15.2301	10.88857	-1.39872	0.1619	-0.000430	-0.001030	0.000191
0	-2	-21.6216	11.43978	-1.89004	0.0588	-0.000640	-0.001330	0.000028
1	-2	-24.4749	11.88824	-2.05874	0.0395*	-0.000710	-0.001476	-0.000030

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
-2	26	6170.50	5109.00	237.327	1.901
-1	36	7872.50	7074.00	218.681	1.232
0	161	31308.0	31636.5	194.460	-0.297
1	169	31677.0	33208.5	187.438	-1.378

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
5.8890	3	0.1171

Means Comparisons

Comparisons for all pairs using Tukey-Kramer HSD Confidence Quantile

q*	Alpha
2.58023	0.05

HSD Threshold Matrix

Abs(Dif)-HSD

	-2	-1	0	1
-2	0.00123	0.00092	0.00031	0.00025
-1	0.00092	0.00104	0.00041	0.00036
0	0.00031	0.00041	0.00049	0.00044
1	0.00025	0.00036	0.00044	0.00048

Positive values show pairs of means that are significantly different.

Connecting Letters Report

Level	Mean
-2 A	0.00345192
-1 A	0.00322700

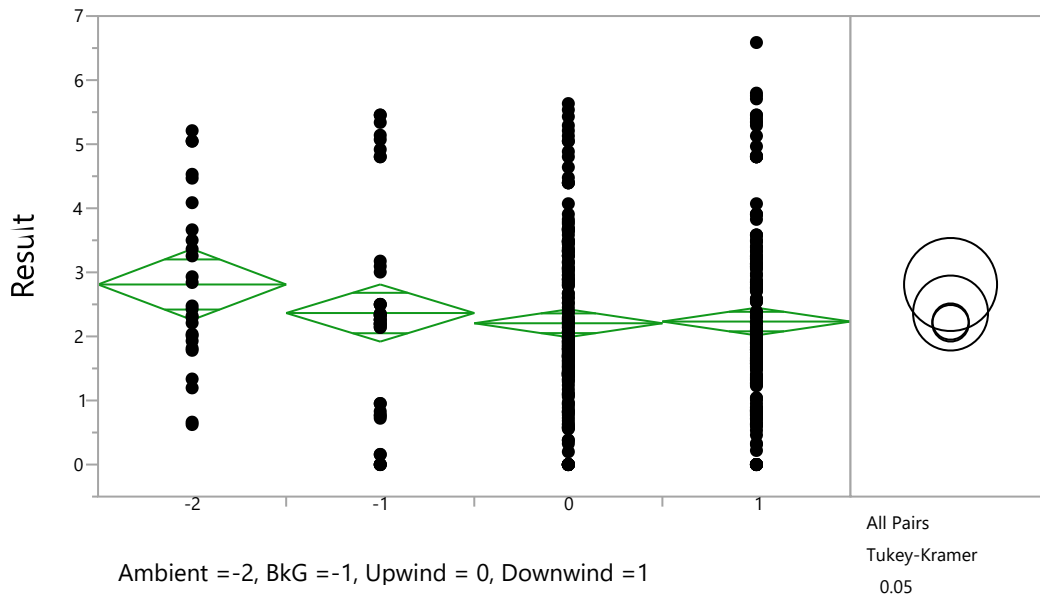
Level		Mean
0	A	0.00282167
1	A	0.00277287

Levels not connected by same letter are significantly different.

Ordered Differences Report

Level	- Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
-2	1	0.0006791	0.0003617	-0.000254	0.0016124	0.2395
-2	0	0.0006303	0.0003629	-0.000306	0.0015667	0.3061
-1	1	0.0004541	0.0003152	-0.000359	0.0012674	0.4746
-1	0	0.0004053	0.0003166	-0.000411	0.0012221	0.5760
-2	-1	0.0002249	0.0004419	-0.000915	0.0013652	0.9569
0	1	0.0000488	0.0001891	-0.000439	0.0005367	0.9940

Oneway Analysis of Result By Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1 Analyte (Units)=Formaldehyde (ppb)



Missing Rows 158

Oneway Anova

Summary of Fit

Rsquare	0.010668
Adj Rsquare	0.003267
Root Mean Square Error	1.434987
Mean of Response	2.27116
Observations (or Sum Wgts)	405

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio	Prob > F
Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1	3	8.90409	2.96803	1.4414	0.2302
Error	401	825.73382	2.05919		
C. Total	404	834.63791			

Means for Oneway Anova

Level	Number	Mean	Std Error	Lower 95%	Upper 95%
-2	26	2.81042	0.28142	2.2572	3.3637
-1	40	2.36495	0.22689	1.9189	2.8110
0	168	2.20534	0.11071	1.9877	2.4230
1	171	2.23190	0.10974	2.0162	2.4476

Std Error uses a pooled estimate of error variance

Nonparametric Comparisons For Each Pair Using Wilcoxon Method

q*	Alpha
1.95996	0.05

Level	- Level	Score Mean Difference	Std Err Dif	Z	p-Value	Hodges-Lehmann	Lower CL	Upper CL
1	0	-1.4868	10.64466	-0.13968	0.8889	-0.008142	-0.30125	0.252398
-1	-2	-4.8548	4.83425	-1.00425	0.3153	-0.407093	-1.31084	0.270380
1	-1	-5.0436	10.72142	-0.47043	0.6381	-0.122128	-0.63163	0.488511
0	-1	-5.6179	10.58659	-0.53066	0.5957	-0.157952	-0.67577	0.510450
0	-2	-25.3826	11.83125	-2.14538	0.0319*	-0.610639	-1.19685	-0.041069
1	-2	-25.5666	12.00014	-2.13052	0.0331*	-0.610639	-1.22128	-0.051069

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
-2	26	6504.50	5278.00	250.173	2.124
-1	40	8389.00	8120.00	209.725	0.382
0	168	33476.5	34104.0	199.265	-0.540
1	171	33845.0	34713.0	197.924	-0.746

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
4.8484	3	0.1832

Means Comparisons

Comparisons for all pairs using Tukey-Kramer HSD

Confidence Quantile

q*	Alpha
2.57987	0.05

HSD Threshold Matrix

Abs(Dif)-HSD

	-2	-1	1	0
-2	-1.0268	-0.4871	-0.2008	-0.1751
-1	-0.4871	-0.8278	-0.5172	-0.4917
1	-0.2008	-0.5172	-0.4004	-0.3756
0	-0.1751	-0.4917	-0.3756	-0.4039

Positive values show pairs of means that are significantly different.

Connecting Letters Report

Level	Mean
-2 A	2.8104154
-1 A	2.3649523

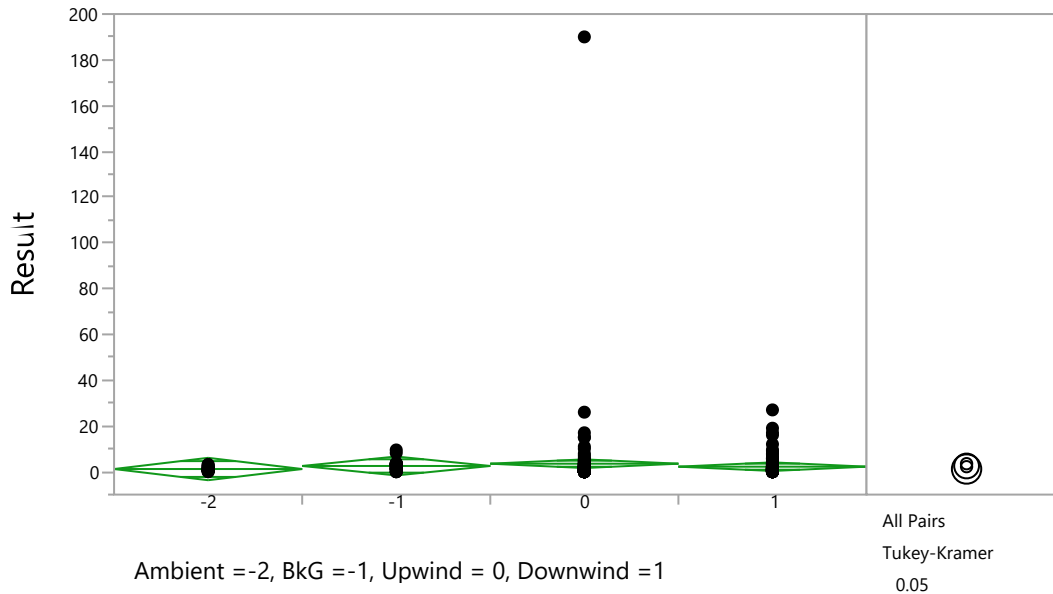
Level		Mean
1	A	2.2318960
0	A	2.2053375

Levels not connected by same letter are significantly different.

Ordered Differences Report

Level	- Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
-2	0	0.6050779	0.3024178	-0.175121	1.385277	0.1894
-2	1	0.5785193	0.3020621	-0.200762	1.357801	0.2232
-2	-1	0.4454631	0.3614957	-0.487149	1.378075	0.6067
-1	0	0.1596148	0.2524613	-0.491703	0.810933	0.9216
-1	1	0.1330563	0.2520351	-0.517162	0.783274	0.9523
1	0	0.0265586	0.1558817	-0.375596	0.428713	0.9982

Oneway Analysis of Result By Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1 Analyte (Units)=I-Butane (ppb v/v)



Missing Rows 178

Oneway Anova

Summary of Fit

Rsquare	0.004311
Adj Rsquare	-0.00523
Root Mean Square Error	11.11148
Mean of Response	2.713434
Observations (or Sum Wgts)	317

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio	Prob > F
Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1	3	167.307	55.769	0.4517	0.7163
Error	313	38644.510	123.465		
C. Total	316	38811.818			

Means for Oneway Anova

Level	Number	Mean	Std Error	Lower 95%	Upper 95%
-2	20	1.17434	2.4846	-3.714	6.0630
-1	28	2.50777	2.0999	-1.624	6.6394
0	134	3.50207	0.9599	1.613	5.3907
1	135	2.20131	0.9563	0.320	4.0829

Std Error uses a pooled estimate of error variance

Nonparametric Comparisons For Each Pair Using Wilcoxon Method

q*	Alpha
1.95996	0.05

Level	- Level	Score Mean Difference	Std Err Dif	Z	p-Value	Hodges-Lehmann	Lower CL	Upper CL
-1	-2	12.0000	4.08909	2.93464	0.0033*	1.06522	0.37000	2.00000
1	-2	7.6065	10.73769	0.70839	0.4787	0.17000	-0.27511	0.63000
0	-2	5.9474	10.65021	0.55843	0.5766	0.10000	-0.31000	0.70000
1	0	1.1301	9.45832	0.11948	0.9049	0.00000	-0.21098	0.33652
0	-1	-23.3156	9.70762	-2.40178	0.0163*	-0.80000	-1.36522	-0.10000
1	-1	-23.9757	9.78219	-2.45095	0.0142*	-0.80000	-1.40000	-0.10000

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
-2	20	2802.50	3180.00	140.125	-0.953
-1	28	5689.50	4452.00	203.196	2.678
0	134	20793.0	21306.0	155.172	-0.637
1	135	21118.0	21465.0	156.430	-0.431

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
7.7401	3	0.0517

Means Comparisons

Comparisons for all pairs using Tukey-Kramer HSD

Confidence Quantile

q*	Alpha
2.58291	0.05

HSD Threshold Matrix

Abs(Dif)-HSD

	0	-1	1	-2	
0		-3.5063	-4.9693	-2.1990	-4.5521
-1	-4.9693		-7.6704	-5.6533	-7.0691
1	-2.1990	-5.6533		-3.4933	-5.8495
-2	-4.5521	-7.0691	-5.8495		-9.0757

Positive values show pairs of means that are significantly different.

Connecting Letters Report

Level	Mean
0 A	3.5020677
-1 A	2.5077682

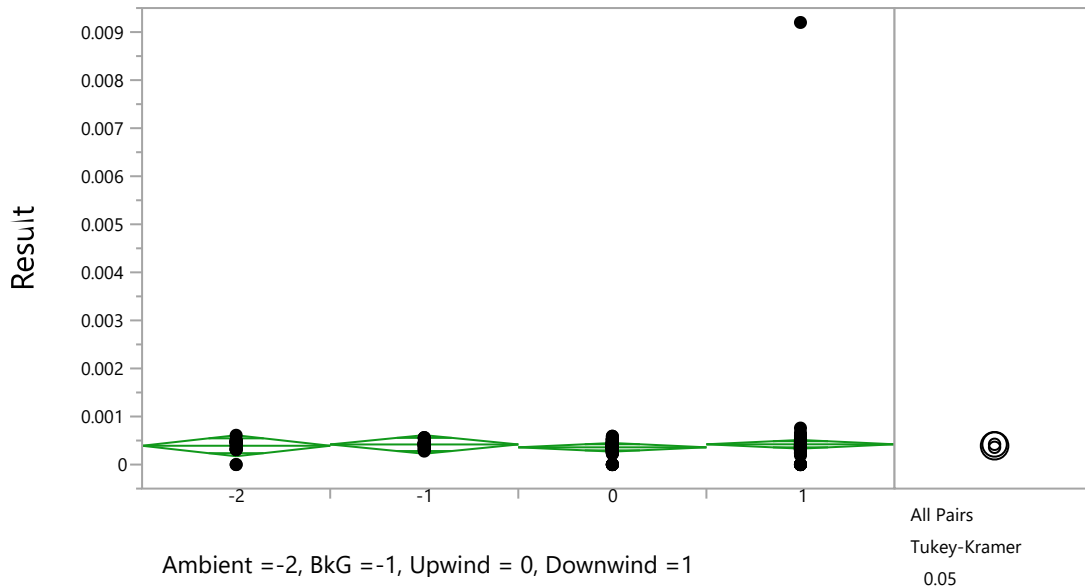
Level		Mean
1	A	2.2013124
-2	A	1.1743370

Levels not connected by same letter are significantly different.

Ordered Differences Report

Level	- Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
0	-2	2.327731	2.663574	-4.55205	9.207512	0.8184
-1	-2	1.333431	3.253107	-7.06906	9.735927	0.9767
0	1	1.300755	1.354967	-2.19901	4.800517	0.7722
1	-2	1.026975	2.662292	-5.84950	7.903447	0.9805
0	-1	0.994299	2.308861	-4.96929	6.957889	0.9732
-1	1	0.306456	2.307383	-5.65332	6.266227	0.9992

Oneway Analysis of Result By Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1 Analyte (Units)=Methane (% v/v)



Missing Rows 280

Oneway Anova

Summary of Fit

Rsquare	0.003328
Adj Rsquare	-0.00648
Root Mean Square Error	0.000521
Mean of Response	0.000393
Observations (or Sum Wgts)	309

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio	Prob > F
Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1	3	0.00000028	9.2032e-8	0.3395	0.7968
Error	305	0.00008268	2.7107e-7		
C. Total	308	0.00008295			

Means for Oneway Anova

Level	Number	Mean	Std Error	Lower 95%	Upper 95%
-2	22	0.000391	0.00011	0.00017	0.00061
-1	28	0.000419	0.0001	0.00022	0.00061
0	130	0.000359	4.57e-5	0.00027	0.00045
1	129	0.000422	4.58e-5	0.00033	0.00051

Std Error uses a pooled estimate of error variance

Nonparametric Comparisons For Each Pair Using Wilcoxon Method

q*	Alpha
1.95996	0.05

Level	- Level	Score Mean Difference	Std Err Dif	Z	p-Value	Hodges-Lehmann	Lower CL	Upper CL
-1	-2	-1.5016	4.14473	-0.36230	0.7171	-0.000010	-0.000050	0.000060
1	0	-5.0348	9.30152	-0.54129	0.5883	-0.000010	-0.000030	0.000020
0	-2	-17.8042	10.14076	-1.75571	0.0791	-0.000040	-0.000090	0.000000
1	-2	-19.8194	10.07547	-1.96710	0.0492*	-0.000060	-0.000100	0.000000
0	-1	-23.3962	9.52527	-2.45622	0.0140*	-0.000040	-0.000080	-0.000010
1	-1	-26.4492	9.46836	-2.79343	0.0052*	-0.000050	-0.000090	-0.000020

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
-2	22	4137.50	3410.00	188.068	1.802
-1	28	5469.50	4340.00	195.339	2.506
0	130	19601.5	20150.0	150.781	-0.707
1	129	18686.5	19995.0	144.857	-1.690

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
10.6920	3	0.0135*

Means Comparisons

Comparisons for all pairs using Tukey-Kramer HSD

Confidence Quantile

q*	Alpha
2.58328	0.05

HSD Threshold Matrix

Abs(Dif)-HSD

	1	-1	-2	0
1		-0.00017	-0.00028	-0.00010
-1	-0.00028		-0.00036	-0.00022
-2	-0.00028	-0.00036		-0.00028
0	-0.00010	-0.00022	-0.00028	

Positive values show pairs of means that are significantly different.

Connecting Letters Report

Level	Mean
1 A	0.00042186
-1 A	0.00041857

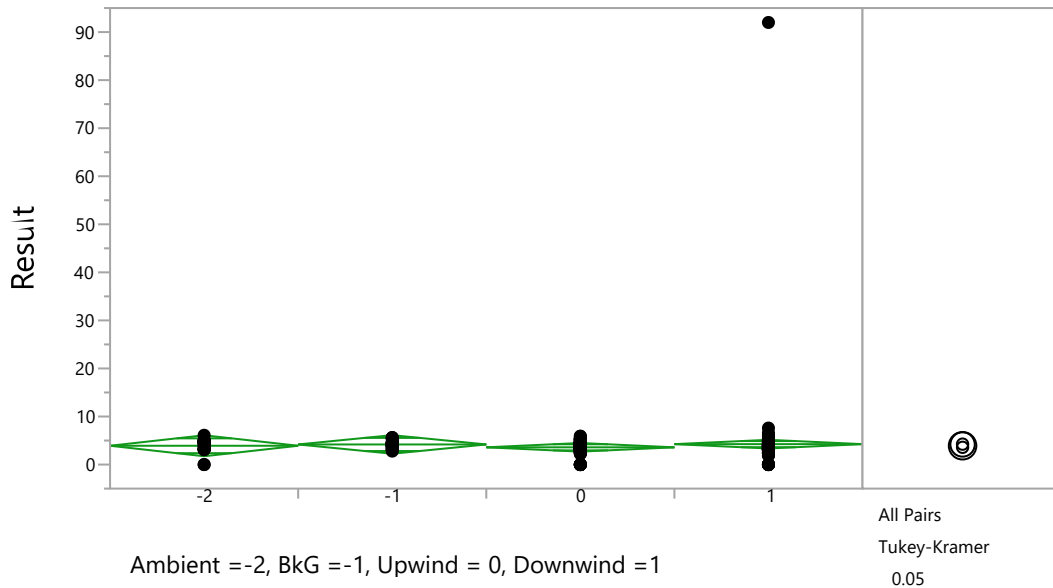
Level		Mean
-2	A	0.00039136
0	A	0.00035900

Levels not connected by same letter are significantly different.

Ordered Differences Report

Level	- Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
1	0	0.0000629	0.0000647	-0.000104	0.0002300	0.7658
-1	0	0.0000596	0.0001085	-0.000221	0.0003398	0.9467
-2	0	0.0000324	0.0001200	-0.000278	0.0003424	0.9931
1	-2	0.0000305	0.0001201	-0.000280	0.0003407	0.9942
-1	-2	0.0000272	0.0001483	-0.000356	0.0004104	0.9978
1	-1	0.0000033	0.0001085	-0.000277	0.0002837	1.0000

Oneway Analysis of Result By Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1 Analyte (Units)=Methane-ppmv (ppmv)



Missing Rows 280

Oneway Anova

Summary of Fit

Rsquare	0.003641
Adj Rsquare	-0.00616
Root Mean Square Error	5.198076
Mean of Response	3.943042
Observations (or Sum Wgts)	309

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio	Prob > F
Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1	3	30.1180	10.0393	0.3716	0.7736
Error	305	8241.0995	27.0200		
C. Total	308	8271.2175			

Means for Oneway Anova

Level	Number	Mean	Std Error	Lower 95%	Upper 95%
-2	22	3.91364	1.1082	1.7329	6.0944
-1	28	4.18571	0.9823	2.2527	6.1187
0	130	3.59000	0.4559	2.6929	4.4871
1	129	4.25116	0.4577	3.3506	5.1517

Std Error uses a pooled estimate of error variance

Nonparametric Comparisons For Each Pair Using Wilcoxon Method

q*	Alpha
1.95996	0.05

Level	- Level	Score Mean Difference	Std Err Dif	Z	p-Value	Hodges-Lehmann	Lower CL	Upper CL
-1	-2	-1.5016	4.14473	-0.36230	0.7171	-0.100000	-0.50000	0.600000
1	0	-4.8804	9.30203	-0.52466	0.5998	-0.100000	-0.30000	0.200000
0	-2	-17.8042	10.14076	-1.75571	0.0791	-0.400000	-0.90000	0.000000
1	-2	-19.7130	10.07648	-1.95634	0.0504	-0.600000	-1.00000	0.000000
0	-1	-23.3962	9.52527	-2.45622	0.0140*	-0.400000	-0.80000	-0.100000
1	-1	-26.4492	9.46891	-2.79327	0.0052*	-0.500000	-0.90000	-0.200000

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
-2	22	4135.50	3410.00	187.977	1.797
-1	28	5469.50	4340.00	195.339	2.506
0	130	19591.5	20150.0	150.704	-0.720
1	129	18698.5	19995.0	144.950	-1.675

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
10.6549	3	0.0137*

Means Comparisons

Comparisons for all pairs using Tukey-Kramer HSD

Confidence Quantile

q*	Alpha
2.58328	0.05

HSD Threshold Matrix

Abs(Dif)-HSD

	1	-1	-2	0
1	-1.6720	-2.7341	-2.7599	-1.0076
-1	-2.7341	-3.5888	-3.5536	-2.2019
-2	-2.7599	-3.5536	-4.0487	-2.7720
0	-1.0076	-2.2019	-2.7720	-1.6655

Positive values show pairs of means that are significantly different.

Connecting Letters Report

Level	Mean
1 A	4.2511628
-1 A	4.1857143

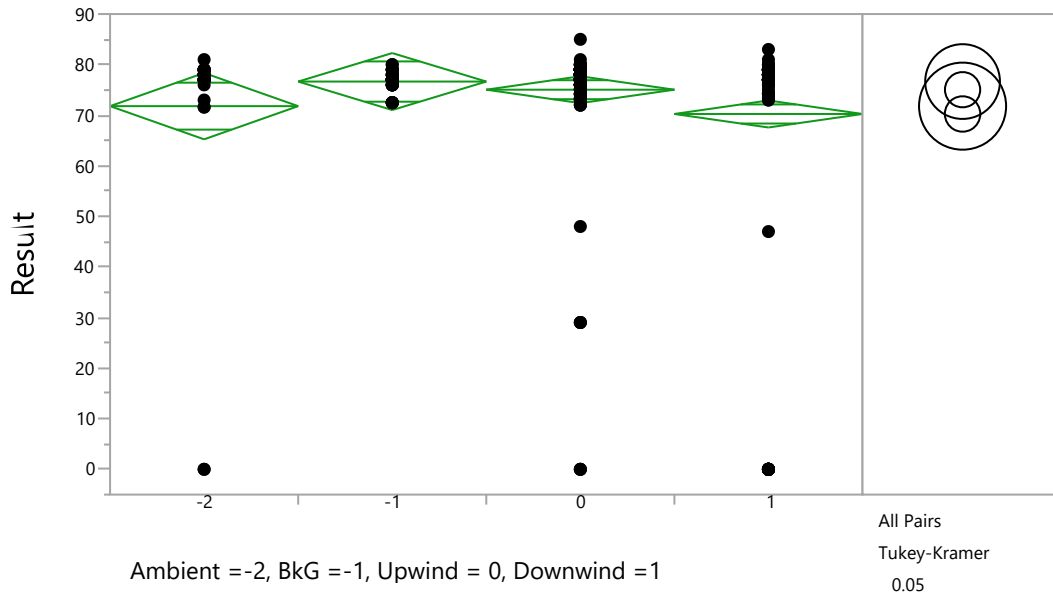
Level		Mean
-2	A	3.9136364
0	A	3.5900000

Levels not connected by same letter are significantly different.

Ordered Differences Report

Level	- Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
1	0	0.6611628	0.645990	-1.00761	2.329935	0.7358
-1	0	0.5957143	1.082980	-2.20192	3.393353	0.9465
1	-2	0.3375264	1.199016	-2.75987	3.434918	0.9922
-2	0	0.3236364	1.198344	-2.77202	3.419292	0.9931
-1	-2	0.2720779	1.480939	-3.55360	4.097756	0.9978
1	-1	0.0654485	1.083724	-2.73411	2.865009	0.9999

Oneway Analysis of Result By Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1 Analyte (Units)=Nitrogen (% v/v)



Missing Rows 183

Oneway Anova

Summary of Fit

Rsquare	0.019904
Adj Rsquare	0.01259
Root Mean Square Error	17.65976
Mean of Response	72.97332
Observations (or Sum Wgts)	406

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio	Prob > F
Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1	3	2546.07	848.689	2.7213	0.0441*
Error	402	125370.64	311.867		
C. Total	405	127916.71			

Means for Oneway Anova

Level	Number	Mean	Std Error	Lower 95%	Upper 95%
-2	28	71.7932	3.3374	65.232	78.354
-1	38	76.6545	2.8648	71.023	82.286
0	171	75.0451	1.3505	72.390	77.700
1	169	70.2448	1.3584	67.574	72.915

Std Error uses a pooled estimate of error variance

Nonparametric Comparisons For Each Pair Using Wilcoxon Method

q*	Alpha
1.95996	0.05

Level	- Level	Score Mean Difference	Std Err Dif	Z	p-Value	Hodges-Lehmann	Lower CL	Upper CL
1	-1	22.5631	10.48942	2.15103	0.0315*	1.000000	0.00000	1.000000
0	-1	17.8187	10.63670	1.67521	0.0939	0.873233	0.00000	1.000000
1	0	7.3826	10.41402	0.70891	0.4784	0.000000	0.00000	0.000000
1	-2	5.7243	11.31723	0.50581	0.6130	0.000000	0.00000	1.000000
0	-2	1.6417	11.50125	0.14274	0.8865	0.000000	-1.00000	1.000000
-1	-2	-5.1175	4.67157	-1.09545	0.2733	0.000000	-1.00000	0.000000

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
-2	28	5603.00	5698.00	200.107	-0.161
-1	38	6395.00	7733.00	168.289	-1.987
0	171	34765.0	34798.5	203.304	-0.029
1	169	35858.0	34391.5	212.178	1.287

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
4.5717	3	0.2060

Means Comparisons

Comparisons for all pairs using Tukey-Kramer HSD

Confidence Quantile

q*	Alpha
2.57984	0.05

HSD Threshold Matrix

Abs(Dif)-HSD

	-1	0	-2	1
-1	-10.452	-6.561	-6.486	-1.770
0	-6.561	-4.927	-6.036	-0.141
-2	-6.486	-6.036	-12.176	-7.747
1	-1.770	-0.141	-7.747	-4.956

Positive values show pairs of means that are significantly different.

Connecting Letters Report

Level	Mean
-1 A	76.654476
0 A	75.045108

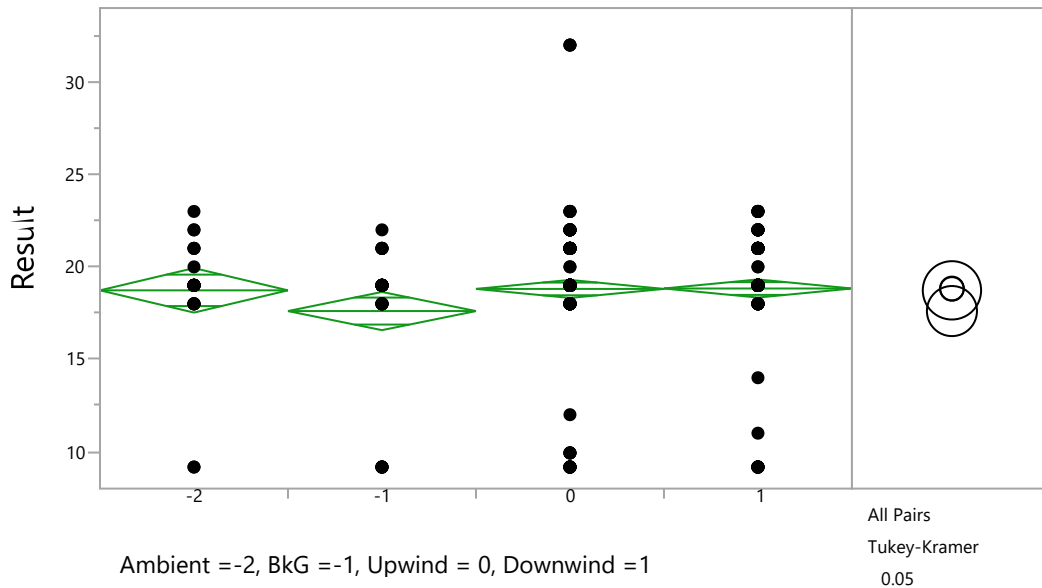
Level		Mean
-2	A	71.793223
1	A	70.244822

Levels not connected by same letter are significantly different.

Ordered Differences Report

Level	- Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
-1	1	6.409654	3.170552	-1.76988	14.58919	0.1817
-1	-2	4.861254	4.398312	-6.48571	16.20821	0.6865
0	1	4.800286	1.915503	-0.14141	9.74199	0.0605
0	-2	3.251886	3.600264	-6.03624	12.54001	0.8031
-1	0	1.609368	3.167147	-6.56138	9.78011	0.9571
-2	1	1.548401	3.603260	-7.74745	10.84425	0.9734

Oneway Analysis of Result By Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1 Analyte (Units)=Oxygen (% v/v)



Missing Rows 183

Oneway Anova

Summary of Fit

Rsquare	0.011732
Adj Rsquare	0.004357
Root Mean Square Error	3.238977
Mean of Response	18.69572
Observations (or Sum Wgts)	406

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio	Prob > F
Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1	3	50.0668	16.6889	1.5908	0.1910
Error	402	4217.3717	10.4910		
C. Total	405	4267.4385			

Means for Oneway Anova

Level	Number	Mean	Std Error	Lower 95%	Upper 95%
-2	28	18.7264	0.61211	17.523	19.930
-1	38	17.6056	0.52543	16.573	18.639
0	171	18.8036	0.24769	18.317	19.291
1	169	18.8266	0.24915	18.337	19.316

Std Error uses a pooled estimate of error variance

Nonparametric Comparisons For Each Pair Using Wilcoxon Method

q*	Alpha
1.95996	0.05

Level	- Level	Score Mean Difference	Std Err Dif	Z	p-Value	Hodges-Lehmann	Lower CL	Upper CL
1	-1	22.3374	9.47546	2.35740	0.0184*	0	0.00000	1.000000
0	-1	18.5585	9.89792	1.87499	0.0608	0	0.00000	1.000000
1	0	6.0708	9.47690	0.64059	0.5218	0	0.00000	0.000000
1	-2	5.2247	10.21428	0.51151	0.6090	0	0.00000	0.000000
0	-2	1.6833	10.70440	0.15725	0.8750	0	0.00000	0.000000
-1	-2	-5.2415	4.44795	-1.17842	0.2386	0	-1.00000	0.000000

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
-2	28	5616.00	5698.00	200.571	-0.152
-1	38	6377.00	7733.00	167.816	-2.194
0	171	34900.5	34798.5	204.096	0.097
1	169	35727.5	34391.5	211.405	1.277

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
5.3470	3	0.1481

Means Comparisons

Comparisons for all pairs using Tukey-Kramer HSD

Confidence Quantile

q*	Alpha
2.57984	0.05

HSD Threshold Matrix

Abs(Dif)-HSD

	1	0	-2	-1
1		-0.9090	-0.8834	-1.6047
0	-0.9090		-0.9037	-1.6263
-2	-0.8834	-0.9037		-2.2333
-1	-1.6047	-1.6263	-2.2333	

Positive values show pairs of means that are significantly different.

Connecting Letters Report

Level	Mean
1 A	18.826565
0 A	18.803635

Level		Mean
-2	A	18.726353
-1	A	17.605623

Levels not connected by same letter are significantly different.

Ordered Differences Report

Level	- Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
1	-1	1.220942	0.5815110	-0.27927	2.721149	0.1550
0	-1	1.198012	0.5808864	-0.30058	2.696608	0.1673
-2	-1	1.120730	0.8066944	-0.96042	3.201876	0.5068
1	-2	0.100212	0.6608740	-1.60474	1.805164	0.9988
0	-2	0.077282	0.6603245	-1.62625	1.780816	0.9994
1	0	0.022930	0.3513225	-0.88343	0.929287	0.9999