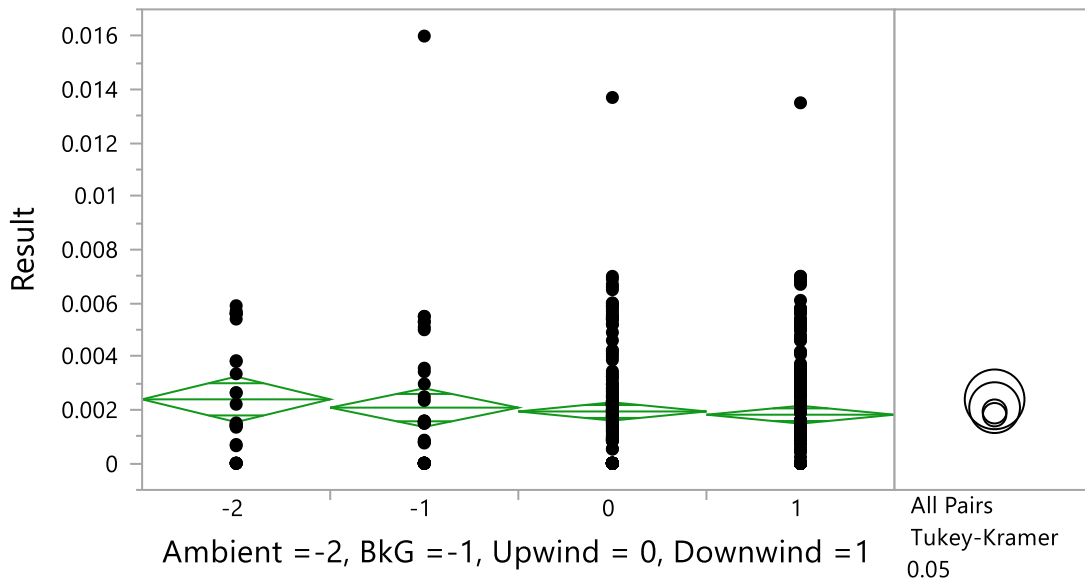


APPENDIX H

Tier 2 (50% - 79% 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 #2, which have a percent detection between 50% - 79%, an indication of left-censored data and statistical analysis should be interpreted with caution. 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)=Acetaldehyde (mg/m3)



Missing Rows 197

Oneway Anova

Summary of Fit

Rsquare	0.00449
Adj Rsquare	-0.00321
Root Mean Square Error	0.002211
Mean of Response	0.00193
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	0.00000856	2.8517e-6	0.5833	0.6263
Error	388	0.00189684	4.8888e-6		
C. Total	391	0.00190540			

Means for Oneway Anova

Level	Number	Mean	Std Error	Lower 95%	Upper 95%
-2	26	0.002393	0.00043	0.00154	0.00325
-1	36	0.002082	0.00037	0.00136	0.00281
0	161	0.001939	0.00017	0.00160	0.00228
1	169	0.001818	0.00017	0.00148	0.00215

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
0	-1	6.8828	10.31134	0.66749	0.5045	0.000000	-0.000100	0.0007600
1	-1	1.2804	10.64056	0.12033	0.9042	0.000000	-0.000330	0.0005370
-1	-2	-5.3985	4.56418	-1.18280	0.2369	-0.000540	-0.001440	0.0001000
1	0	-7.4529	10.30511	-0.72322	0.4695	0.000000	-0.000290	0.0000000
0	-2	-11.0118	11.26799	-0.97727	0.3284	-0.000260	-0.001400	0.0002400
1	-2	-17.5740	11.66653	-1.50636	0.1320	-0.000500	-0.001400	0.0000000

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
-2	26	5834.50	5109.00	224.404	1.324
-1	36	6750.50	7074.00	187.514	-0.508
0	161	32207.5	31636.5	200.047	0.527
1	169	32235.5	33208.5	190.743	-0.892

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
2.4904	3	0.4770

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		-0.00158	-0.00116	-0.00075	-0.00063
-1		-0.00116	-0.00134	-0.00091	-0.00078
0		-0.00075	-0.00091	-0.00064	-0.00051
1		-0.00063	-0.00078	-0.00051	-0.00062

Positive values show pairs of means that are significantly different.

Connecting Letters Report

Level	Mean
-2 A	0.00239300
-1 A	0.00208228

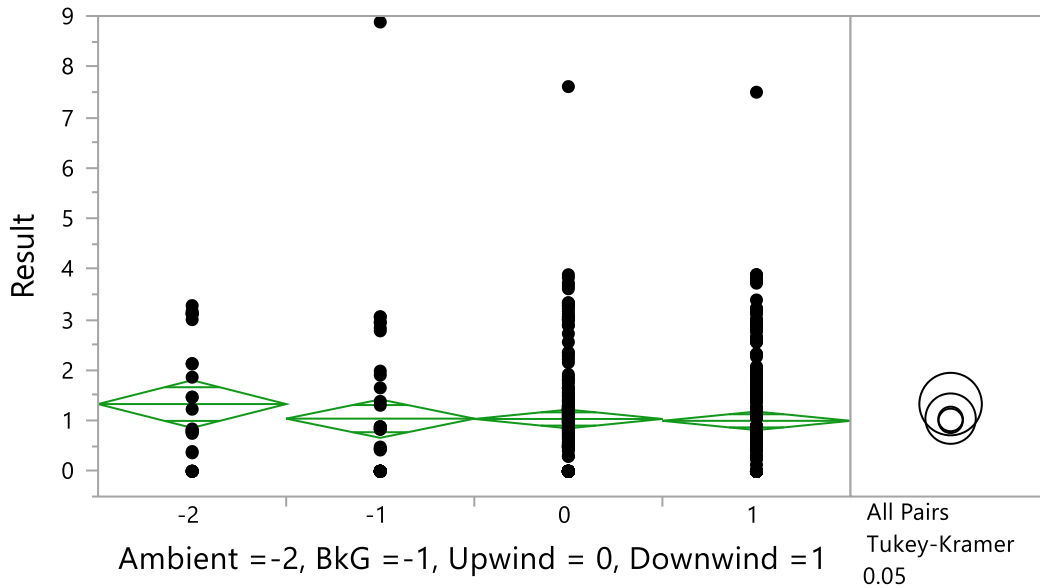
Level		Mean
0	A	0.00193897
1	A	0.00181763

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	0.0005754	0.0004658	-0.000626	0.0017772	0.6048
-2	0	0.0004540	0.0004673	-0.000752	0.0016598	0.7657
-2	-1	0.0003107	0.0005691	-0.001158	0.0017790	0.9476
-1	1	0.0002646	0.0004059	-0.000783	0.0013119	0.9148
-1	0	0.0001433	0.0004076	-0.000908	0.0011951	0.9851
0	1	0.0001213	0.0002435	-0.000507	0.0007496	0.9594

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



Missing Rows 158

Oneway Anova

Summary of Fit

Rsquare	0.004128
Adj Rsquare	-0.00332
Root Mean Square Error	1.221495
Mean of Response	1.03786
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	2.48028	0.82676	0.5541	0.6456
Error	401	598.31172	1.49205		
C. Total	404	600.79199			

Means for Oneway Anova

Level	Number	Mean	Std Error	Lower 95%	Upper 95%
-2	26	1.32826	0.23955	0.85732	1.7992
-1	40	1.04038	0.19314	0.66070	1.4201
0	168	1.03384	0.09424	0.84858	1.2191
1	171	0.99706	0.09341	0.81343	1.1807

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
0	-1	10.9262	10.32754	1.05797	0.2901	0.000000	0.000000	0.4660000
1	-1	7.2647	10.43811	0.69598	0.4864	0.000000	0.000000	0.3462894
1	0	-4.4192	10.41337	-0.42438	0.6713	0.000000	-0.072000	0.0000000
-1	-2	-7.7106	4.71778	-1.63437	0.1022	-0.364114	-0.810375	0.0000000
0	-2	-13.8349	11.61830	-1.19079	0.2337	-0.222020	-0.777072	0.0467264
1	-2	-18.4106	11.76267	-1.56517	0.1175	-0.288627	-0.777072	0.0000000

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
-2	26	6128.00	5278.00	235.692	1.505
-1	40	7408.50	8120.00	185.213	-1.035
0	168	34520.5	34104.0	205.479	0.367
1	171	34158.0	34713.0	199.754	-0.487

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
3.3039	3	0.3471

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	0	1	
-2		-0.87401	-0.50598	-0.36971	-0.33214
-1		-0.50598	-0.70465	-0.54788	-0.51016
0		-0.36971	-0.54788	-0.34383	-0.30554
1		-0.33214	-0.51016	-0.30554	-0.34081

Positive values show pairs of means that are significantly different.

Connecting Letters Report

Level	Mean
-2 A	1.3282626
-1 A	1.0403815

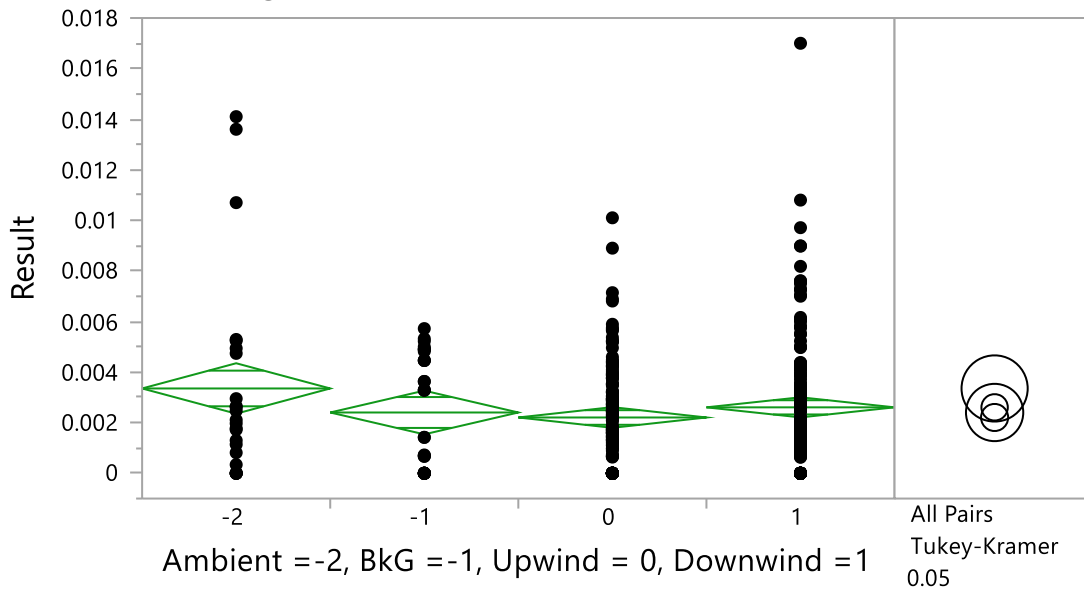
Level		Mean
0	A	1.0338445
1	A	0.9970611

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	0.3312016	0.2571224	-0.332141	0.994544	0.5710
-2	0	0.2944182	0.2574252	-0.369706	0.958542	0.6627
-2	-1	0.2878812	0.3077137	-0.505981	1.081743	0.7857
-1	1	0.0433204	0.2145383	-0.510161	0.596802	0.9971
0	1	0.0367834	0.1326902	-0.305540	0.379107	0.9926
-1	0	0.0065370	0.2149011	-0.547880	0.560954	1.0000

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



Missing Rows 239

Oneway Anova

Summary of Fit

Rsquare	0.014613
Adj Rsquare	0.006069
Root Mean Square Error	0.002483
Mean of Response	0.002475
Observations (or Sum Wgts)	350

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio	Prob > F
Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1	3	0.00003165	0.000011	1.7104	0.1646
Error	346	0.00213391	6.167e-6		
C. Total	349	0.00216555			

Means for Oneway Anova

Level	Number	Mean	Std Error	Lower 95%	Upper 95%
-2	24	0.003353	0.00051	0.00236	0.00435
-1	32	0.002403	0.00044	0.00154	0.00327
0	143	0.002205	0.00021	0.00180	0.00261
1	151	0.002606	0.00020	0.00221	0.00300

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	7.91062	9.84682	0.803368	0.4218	0.000000	-0.000090	0.0006300
1	-1	0.51128	10.23175	0.049970	0.9601	0.000000	-0.000701	0.0009060
-1	-2	-2.07813	4.36089	-0.476537	0.6337	-0.000055	-0.001660	0.0010790
1	-2	-3.01807	11.06620	-0.272729	0.7851	0.000000	-0.001140	0.0008530
0	-1	-5.37314	9.81089	-0.547671	0.5839	0.000000	-0.000980	0.0006400
0	-2	-7.27462	10.58088	-0.687525	0.4918	-0.000170	-0.001300	0.0005700

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
-2	24	4454.00	4212.00	185.583	0.509
-1	32	5714.00	5616.00	178.563	0.180
0	143	24224.0	25096.5	169.399	-0.944
1	151	27033.0	26500.5	179.026	0.572

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
0.9863	3	0.8046

Means Comparisons

Comparisons for all pairs using Tukey-Kramer HSD Confidence Quantile

q*	Alpha
2.58159	0.05

HSD Threshold Matrix

Abs(Dif)-HSD

	-2	1	-1	0
-2	0.00185	0.00066	0.00078	0.00027
1	0.00066	0.00074	0.00104	0.00035
-1	0.00078	0.00104	0.00160	0.00106
0	0.00027	0.00035	0.00106	0.00076

Positive values show pairs of means that are significantly different.

Connecting Letters Report

Level	Mean
-2 A	0.00335267
1 A	0.00260617

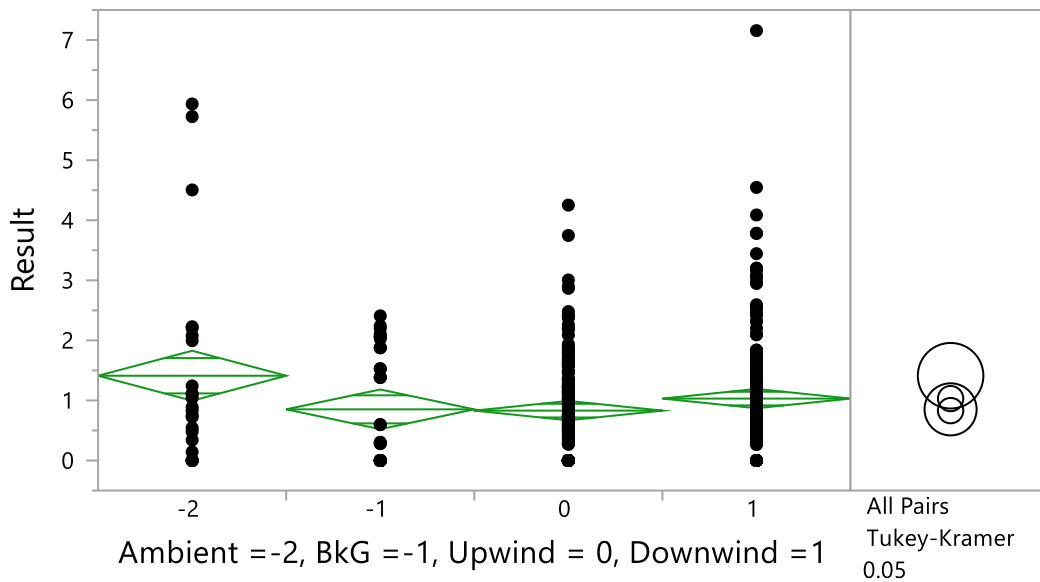
Level		Mean
-1	A	0.00240275
0	A	0.00220541

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	0.0011473	0.0005478	-0.000267	0.0025615	0.1570
-2	-1	0.0009499	0.0006706	-0.000781	0.0026811	0.4899
-2	1	0.0007465	0.0005457	-0.000662	0.0021553	0.5204
1	0	0.0004008	0.0002898	-0.000347	0.0011489	0.5109
1	-1	0.0002034	0.0004833	-0.001044	0.0014511	0.9749
-1	0	0.0001973	0.0004857	-0.001056	0.0014511	0.9773

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



Missing Rows 180

Oneway Anova

Summary of Fit

Rsquare	0.021181
Adj Rsquare	0.013433
Root Mean Square Error	1.03629
Mean of Response	0.953383
Observations (or Sum Wgts)	383

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio	Prob > F
Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1	3	8.80730	2.93577	2.7338	0.0435*
Error	379	407.00711	1.07390		
C. Total	382	415.81441			

Means for Oneway Anova

Level	Number	Mean	Std Error	Lower 95%	Upper 95%
-2	24	1.41141	0.21153	0.99549	1.8273
-1	38	0.85186	0.16811	0.52132	1.1824
0	160	0.83066	0.08193	0.66957	0.9917
1	161	1.03103	0.08167	0.87045	1.1916

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	13.0406	10.21174	1.27702	0.2016	0.000000	0.000000	0.2715263
1	-1	8.2456	10.23588	0.80556	0.4205	0.000000	-0.021049	0.4420196
0	-1	0.0000	10.11946	0.00000	1.0000	0.000000	-0.272758	0.2694215
-1	-2	-5.8125	4.61129	-1.26049	0.2075	-0.199324	-0.749329	0.1157789
1	-2	-7.3732	11.60083	-0.63557	0.5251	-0.063140	-0.546000	0.2694215
0	-2	-14.8063	11.47458	-1.29035	0.1969	-0.157864	-0.705127	0.0505165

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
-2	24	5158.00	4608.00	214.917	1.063
-1	38	6956.50	7296.00	183.066	-0.531
0	160	29363.0	30720.0	183.519	-1.289
1	161	32058.5	30912.0	199.121	1.088

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
2.9702	3	0.3962

Means Comparisons

Comparisons for all pairs using Tukey-Kramer HSD Confidence Quantile

q*	Alpha
2.58050	0.05

HSD Threshold Matrix

Abs(Dif)-HSD

	-2	1	-1	0
-2	-0.77196	-0.20475	-0.13769	-0.00461
1	-0.20475	-0.29805	-0.30311	-0.09814
-1	-0.13769	-0.30311	-0.61349	-0.46137
0	-0.00461	-0.09814	-0.46137	-0.29898

Positive values show pairs of means that are significantly different.

Connecting Letters Report

Level	Mean
-2 A	1.4114103
1 A	1.0310327

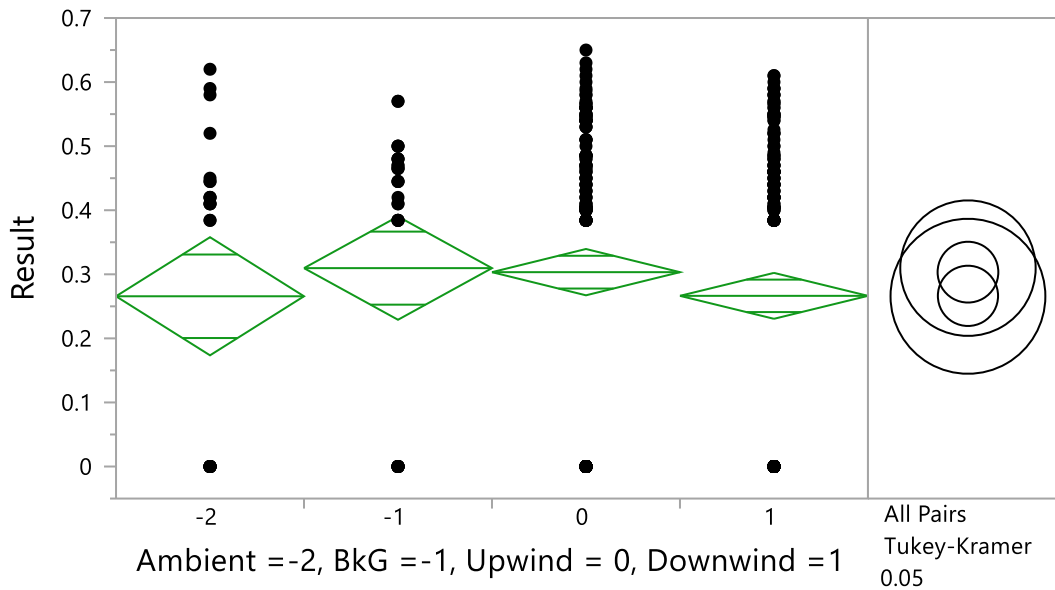
Level	Mean
-1 A	0.8518576
0 A	0.8306552

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	0.5807551	0.2268426	-0.004612	1.166122	0.0527
-2	-1	0.5595527	0.2701966	-0.137689	1.256795	0.1646
-2	1	0.3803776	0.2267507	-0.204752	0.965508	0.3370
1	0	0.2003775	0.1156807	-0.098136	0.498892	0.3084
1	-1	0.1791751	0.1868974	-0.303113	0.661464	0.7730
-1	0	0.0212024	0.1870089	-0.461374	0.503779	0.9995

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



Missing Rows 188

Oneway Anova

Summary of Fit

Rsquare	0.006423
Adj Rsquare	-0.00108
Root Mean Square Error	0.239061
Mean of Response	0.285572
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	0.146680	0.048893	0.8555	0.4643
Error	397	22.688583	0.057150		
C. Total	400	22.835263			

Means for Oneway Anova

Level	Number	Mean	Std Error	Lower 95%	Upper 95%
-2	26	0.265699	0.04688	0.17353	0.35787
-1	34	0.309611	0.04100	0.22901	0.39021
0	169	0.303337	0.01839	0.26718	0.33949
1	172	0.266369	0.01823	0.23053	0.30220

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
0	-2	10.7840	11.55545	0.93324	0.3507	0	0.000000	0.0851236
-1	-2	4.1063	4.43009	0.92692	0.3540	0	0.000000	0.0800000
1	-2	3.0771	11.54813	0.26646	0.7899	0	-0.005567	0.0300000
0	-1	3.0736	10.76685	0.28547	0.7753	0	-0.015098	0.0400000
1	-1	-8.8240	10.76905	-0.81939	0.4126	0	-0.044237	0.0000000
1	0	-15.5144	10.31421	-1.50418	0.1325	0	-0.016206	0.0000000

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
-2	26	4851.50	5226.00	186.596	-0.676
-1	34	7058.50	6834.00	207.603	0.358
0	169	35623.0	33969.0	210.787	1.491
1	172	33068.0	34572.0	192.256	-1.353

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
2.8807	3	0.4104

Means Comparisons

Comparisons for all pairs using Tukey-Kramer HSD Confidence Quantile

q*	Alpha
2.57998	0.05

HSD Threshold Matrix

Abs(Dif)-HSD

	-1	0	1	-2
-1	-0.14959	-0.10965	-0.07252	-0.11677
0	-0.10965	-0.06710	-0.02983	-0.09229
1	-0.07252	-0.02983	-0.06651	-0.12911
-2	-0.11677	-0.09229	-0.12911	-0.17106

Positive values show pairs of means that are significantly different.

Connecting Letters Report

Level	Mean
-1 A	0.30961084
0 A	0.30333726

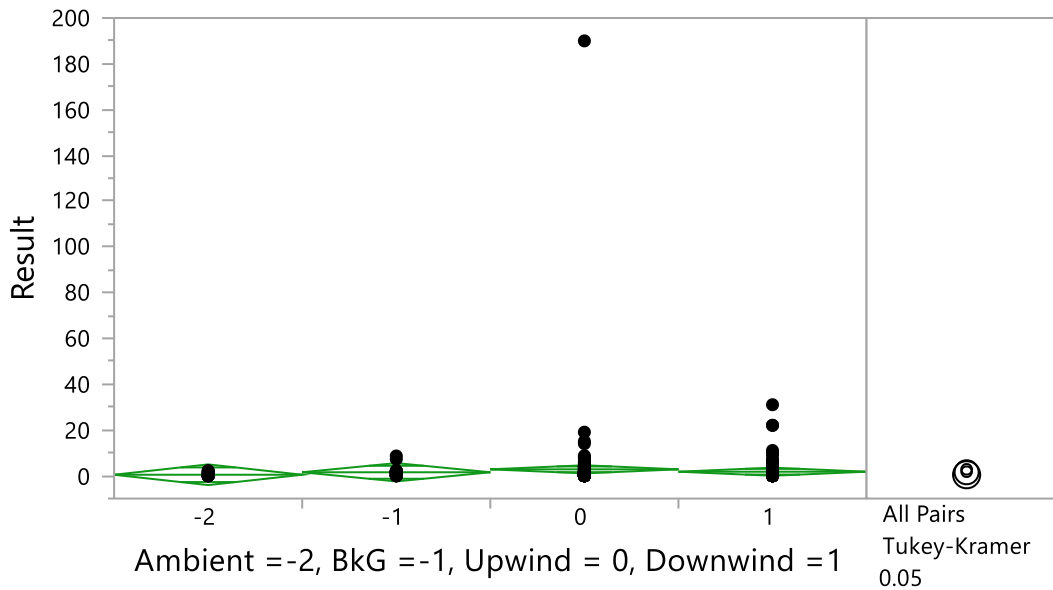
Level		Mean
1	A	0.26636878
-2	A	0.26569906

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	-2	0.0439118	0.0622813	-0.116773	0.2045964	0.8951
-1	1	0.0432421	0.0448682	-0.072517	0.1590011	0.7701
0	-2	0.0376382	0.0503612	-0.092293	0.1675690	0.8778
0	1	0.0369685	0.0258927	-0.029834	0.1037712	0.4827
-1	0	0.0062736	0.0449339	-0.109655	0.1222020	0.9990
1	-2	0.0006697	0.0503026	-0.129110	0.1304493	1.0000

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



Missing Rows 182

Oneway Anova

Summary of Fit

Rsquare	0.004065
Adj Rsquare	-0.00491
Root Mean Square Error	10.78017
Mean of Response	2.066782
Observations (or Sum Wgts)	337

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio	Prob > F
Ambient = -2, BkG = -1, Upwind = 0, Downwind = 1	3	157.971	52.657	0.4531	0.7153
Error	333	38698.635	116.212		
C. Total	336	38856.606			

Means for Oneway Anova

Level	Number	Mean	Std Error	Lower 95%	Upper 95%
-2	22	0.40455	2.2983	-4.117	4.9256
-1	28	1.48826	2.0373	-2.519	5.4958
0	143	2.77416	0.9015	1.001	4.5475
1	144	1.73076	0.8983	-0.036	3.4979

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	25.3087	10.36448	2.44187	0.0146*	0.000000	0.000000	1.100000
0	-2	23.1818	10.16433	2.28070	0.0226*	0.000000	0.000000	0.970000
-1	-2	11.5666	3.91453	2.95478	0.0031*	0.900000	0.000000	1.491040
1	0	2.4042	9.29554	0.25864	0.7959	0.000000	0.000000	0.000000
1	-1	-12.2217	9.89801	-1.23477	0.2169	-0.091040	-0.800000	0.000000
0	-1	-12.7268	9.75148	-1.30511	0.1919	-0.030000	-0.850000	0.000000

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
-2	22	2649.00	3718.00	120.409	-2.551
-1	28	5460.50	4732.00	195.018	1.556
0	143	24138.0	24167.0	168.797	-0.034
1	144	24705.5	24336.0	171.566	0.440

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
8.4241	3	0.0380*

Means Comparisons

Comparisons for all pairs using Tukey-Kramer HSD

Confidence Quantile

q*	Alpha
2.58208	0.05

HSD Threshold Matrix

Abs(Dif)-HSD

	0	1	-1	-2
0	-3.2919	-2.2428	-4.4665	-4.0051
1	-2.2428	-3.2804	-5.5066	-5.0455
-1	-4.4665	-5.5066	-7.4393	-6.8466
-2	-4.0051	-5.0455	-6.8466	-8.3927

Positive values show pairs of means that are significantly different.

Connecting Letters Report

Level	Mean
0 A	2.7741566
1 A	1.7307639

Level		Mean
-1	A	1.4882580
-2	A	0.4045455

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	2.369611	2.468814	-4.00506	8.744287	0.7723
1	-2	1.326218	2.467670	-5.04551	7.697942	0.9498
0	-1	1.285899	2.227803	-4.46647	7.038265	0.9389
-1	-2	1.083713	3.071287	-6.84660	9.014022	0.9849
0	1	1.043393	1.272675	-2.24276	4.329541	0.8451
1	-1	0.242506	2.226536	-5.50659	5.991600	0.9995