Appendix A8: Heavy Metal and Trace Constituent Removals from Full-Scale Column Tests

This appendix contains information pertaining to the removal of heavy metals and trace constituents from the treated stormwater by each media column during long-term, full-depth, column tests. The following summary describes the sets of figures in this appendix.

The appendix is organized showing the removal results for the heavy metals and trace constituents for each of the ten media combinations examined, in the following order:

Granular activated carbon (GAC)
Peat moss (P)
Rhyolite sand (R)
Site filter sand
Site zeolite (Z)
Surface modified zeolite (SMZ)
Rhyolite sand and surface modified zeolite (R-SMZ)
Rhyolite sand – surface modified zeolite – granular activated carbon (R-SMZ-GAC)
Rhyolite sand, surface modified zeolite, granular activated carbon, and peat moss (R-SMZ-GAC-P)
Layered site filter sand, site zeolite, and granular activated carbon (layered S-Z-GAC)

Each section describes performance with the following plots and tables:

ANOVA for regression plot of influent vs. effluent concentration for each constituent
Scatterplot of influent vs. effluent concentrations, with best-fit regression line and equation (or COV if a constant)
Line plot showing influent vs. effluent concentrations
Scatterplot but without regression line to better see actual data

In each of these sets, these analyses are presented for different heavy metals and trace constituents:

Arsenic, total and filtered
Aluminum, total and filtered
Boron, total and filtered
Calcium, total and filtered
Cadmium, total and filtered
Copper, total and filtered
Iron, total and filtered

Magnesium, total and filtered
Manganese, total and filtered
Nickel, total and filtered
Lead, total and filtered
Zinc, total and filtered
Potassium, total and filtered
Sodium, total and filtered
Chromium, total and filtered
Thallium, total and filtered
Antimony, total and filtered

Locations of Major Appendix A8 Sections:

GAC 3
Peat Moss (P) 60
Rhyolite Sand (R) 117
Site Sand (S) 174
Site Zeolite 230
SMZ 286
R-SMZ 342
R-SMZ-G 399
R-SMZ-G-P 456
Layered SZG 513

GAC

As Total

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.641
R Square	0.411
Adjusted R Square	0.264
Standard Error	5.820
Observations	6.000

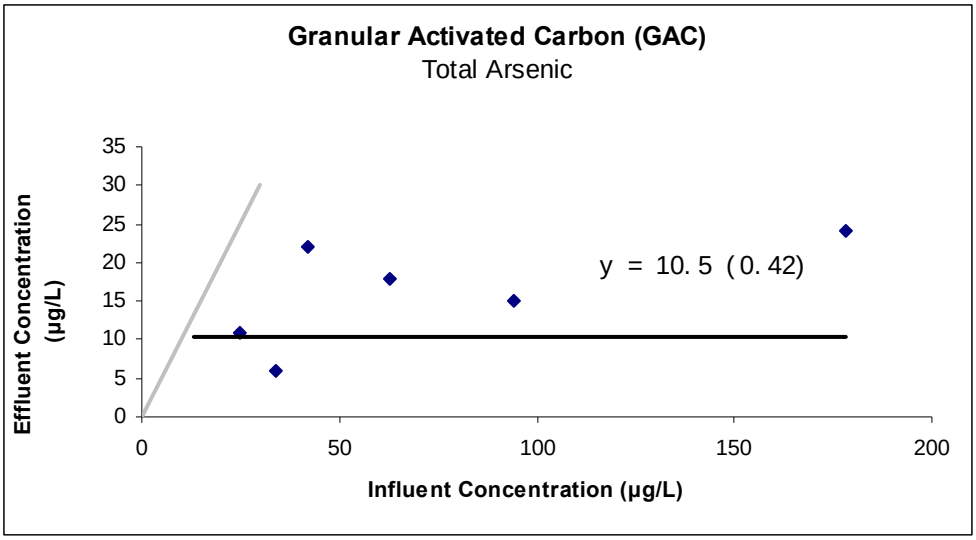
ANOVA

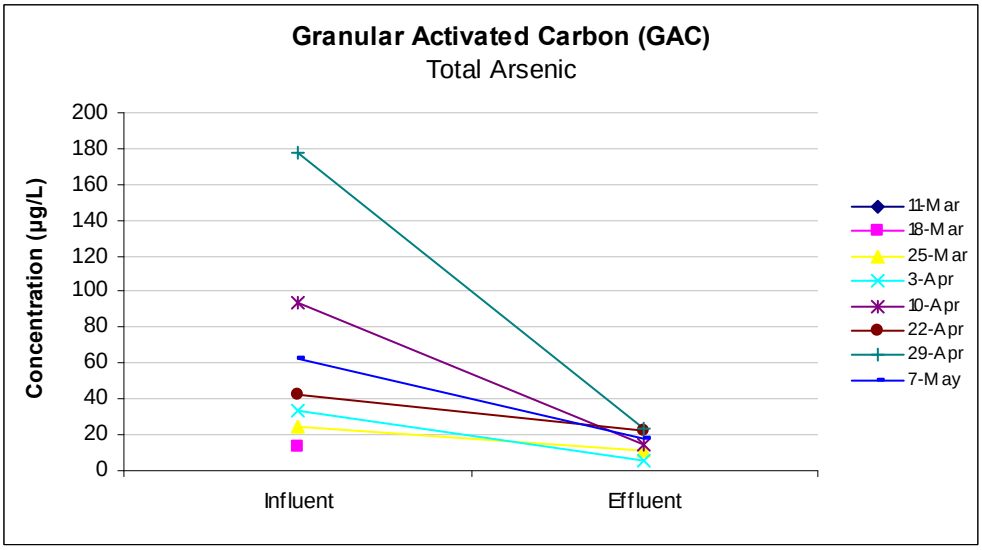
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	94.491	94.491	2.789	0.170
Residual	4.000	135.509	33.877		
Total	5.000	230.000			

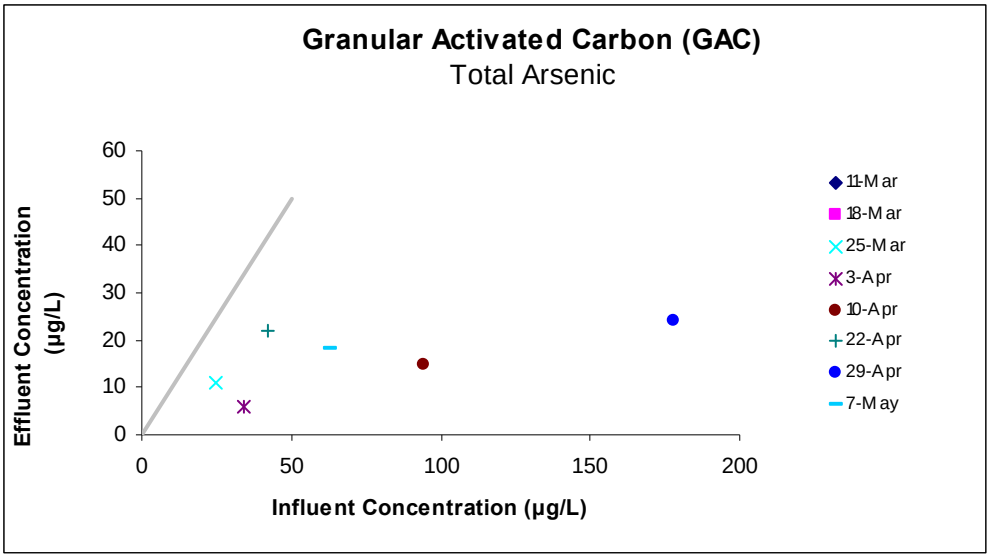
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	10.476	4.073	2.572	0.062	-0.831	21.783	-0.831	21.783
X Variable 1	0.076	0.046	1.670	0.170	-0.050	0.202	-0.050	0.202

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	12.376	-1.376
2	13.061	-7.061
3	17.622	-2.622
4	13.669	8.331
5	24.007	-0.007
6	15.265	2.735


Granular Activated Carbon (GAC)
Total Arsenic
Effluent Concentration (µg/L)
35
30
25
20
15
10
5
0
0
50
100
150
200
Influent Concentration (µg/L)
y = 10.5 (0.42)


Granular Activated Carbon (GAC)
Total Arsenic
Concentration (µg/L)
200
180
160
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Total Arsenic
Effluent Concentration (µg/L)
Influent Concentration (µg/L)
0
10
20
30
40
50
60
0
50
100
150
200
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

As Dissolved

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.480
R Square	0.231
Adjusted R Square	-0.154
Standard Error	5.616
Observations	4.000

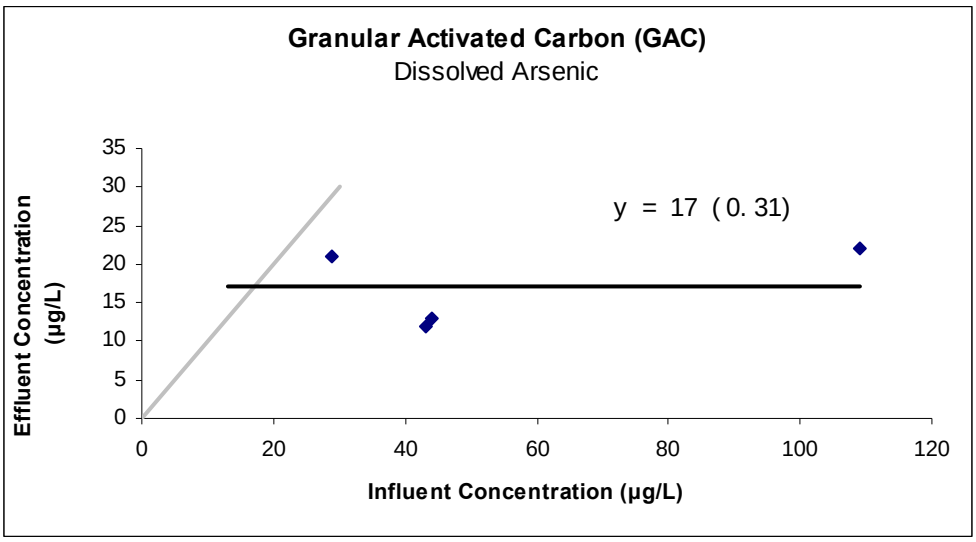
ANOVA

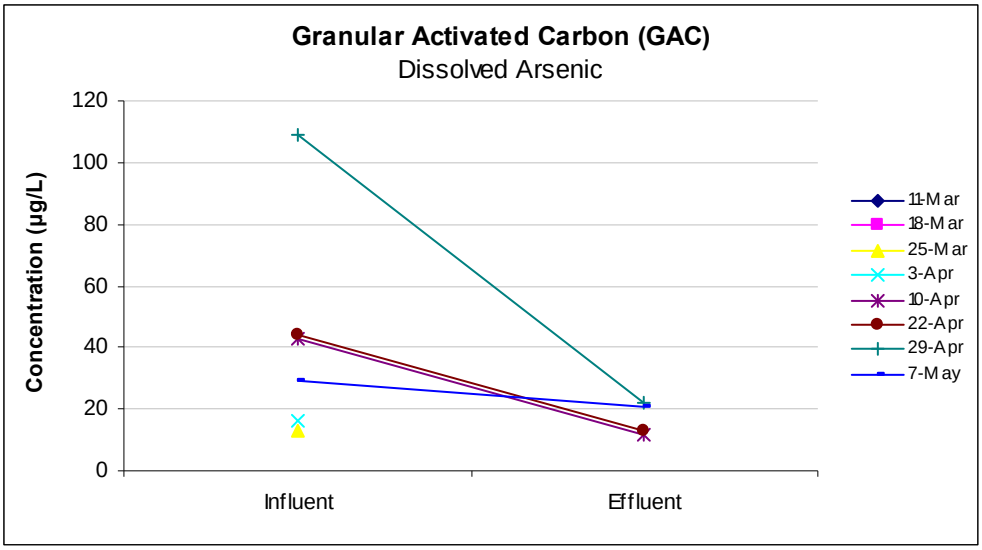
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	18.931	18.931	0.600	0.520
Residual	2.000	63.069	31.534		
Total	3.000	82.000			

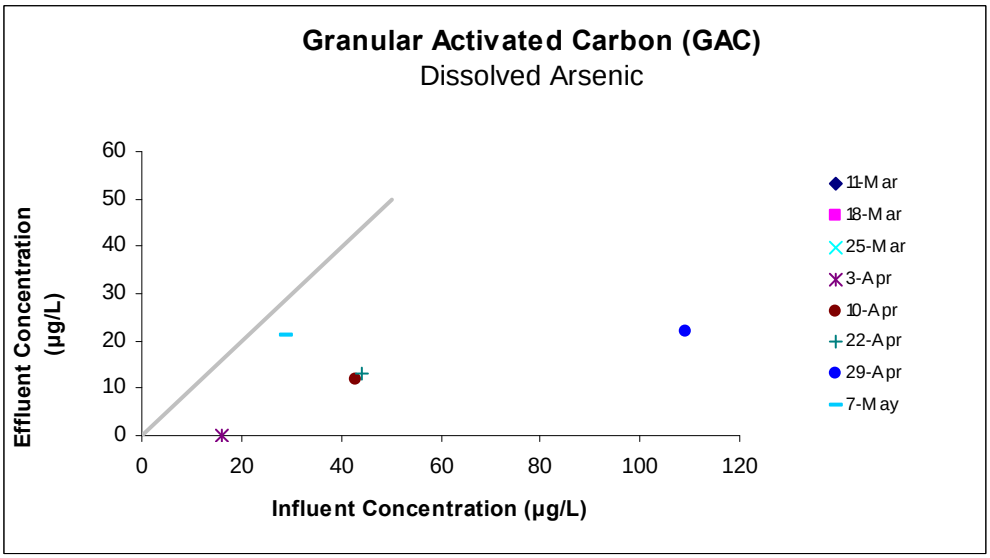
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	13.056	5.813	2.246	0.154	-11.957	38.069	-11.957	38.069
X Variable 1	0.070	0.090	0.775	0.520	-0.319	0.459	-0.319	0.459

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	16.071	-4.071
2	16.141	-3.141
3	20.699	1.301
4	15.089	5.911




Granular Activated Carbon (GAC)
Dissolved Arsenic
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Dissolved Arsenic
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Al Total

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.174
R Square	0.030
Adjusted R Square	-0.164
Standard Error	124.935
Observations	7.000

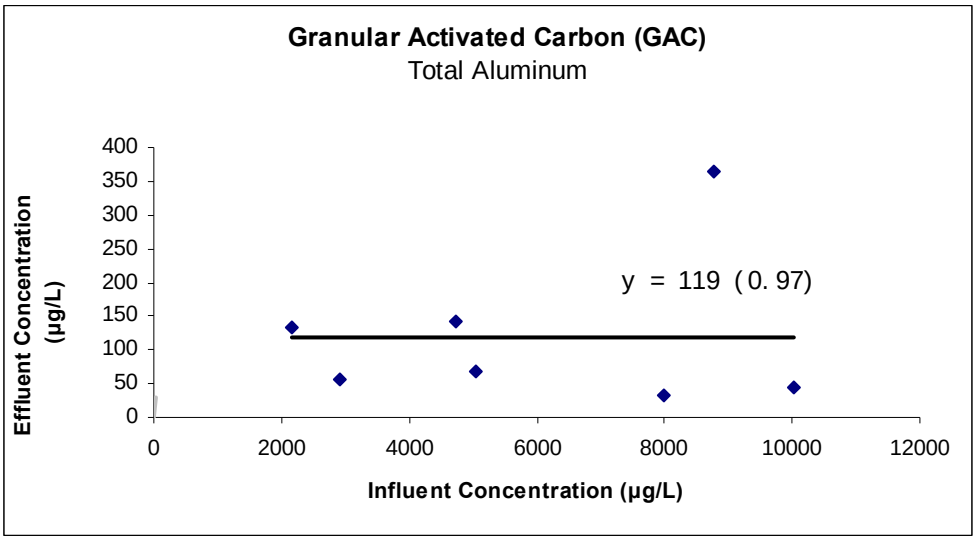
ANOVA

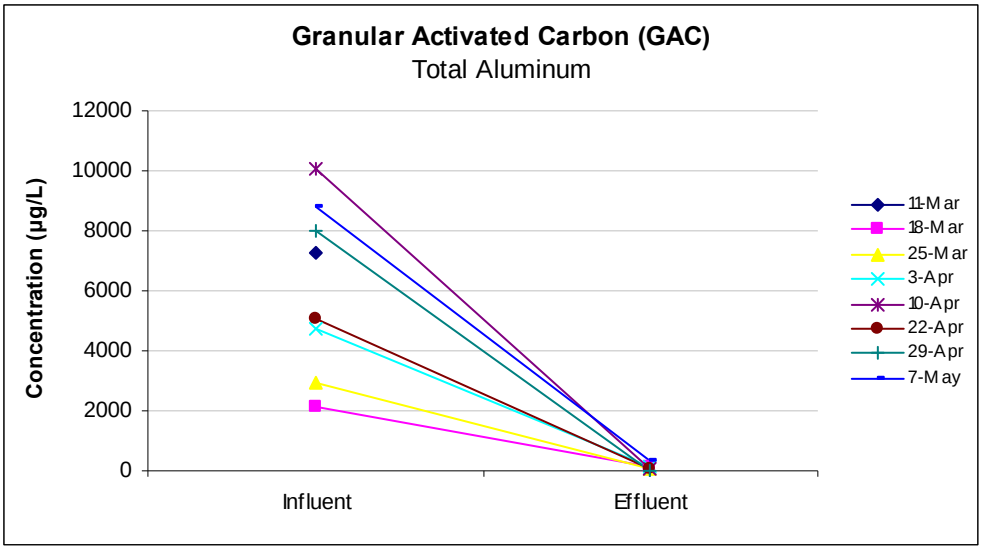
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	2446.557	2446.557	0.157	0.709
Residual	5.000	78043.157	15608.631		
Total	6.000	80489.714			

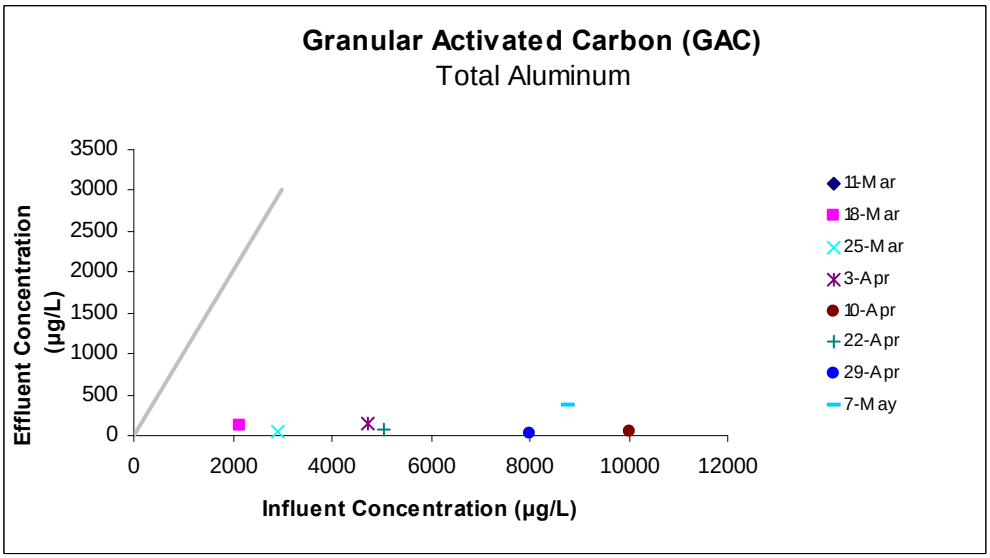
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	79.821	110.954	0.719	0.504	-205.396	365.037	-205.396	365.037
X Variable 1	0.007	0.017	0.396	0.709	-0.037	0.050	-0.037	0.050

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	94.222	37.778
2	99.261	-43.261
3	111.437	29.563
4	146.895	-103.895
5	113.542	-44.542
6	133.162	-101.162
7	138.482	225.518




Granular Activated Carbon (GAC)
Total Aluminum
Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Total Aluminum
Effluent Concentration (µg/L)
3500
3000
2500
2000
1500
1000
500
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Al Dissolved

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.228
R Square	0.052
Adjusted R Square	-0.137
Standard Error	12.387
Observations	7.000

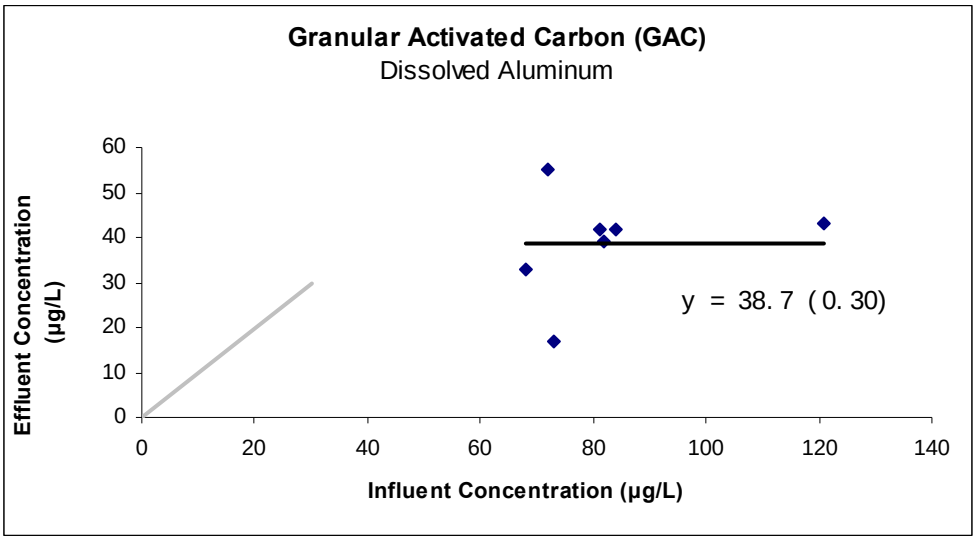
ANOVA

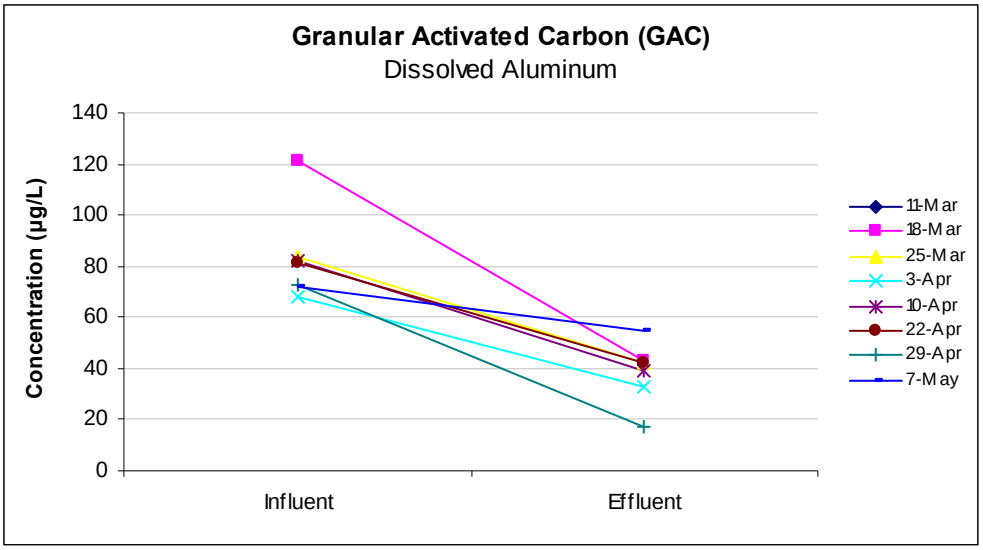
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	42.241	42.241	0.275	0.622
Residual	5.000	767.188	153.438		
Total	6.000	809.429			

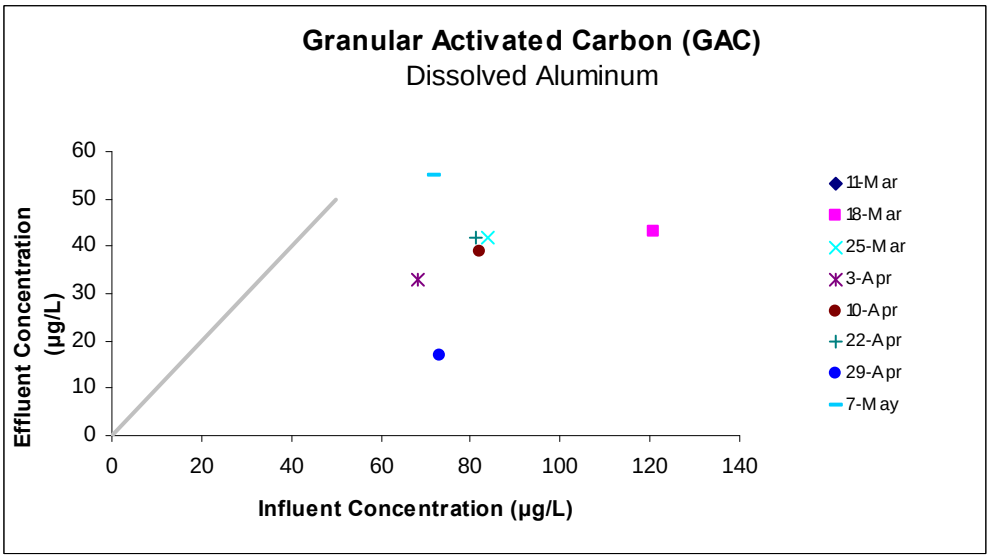
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	26.326	24.071	1.094	0.324	-35.552	88.203	-35.552	88.203
X Variable 1	0.149	0.284	0.525	0.622	-0.582	0.881	-0.582	0.881

RESIDUAL OUTPUT

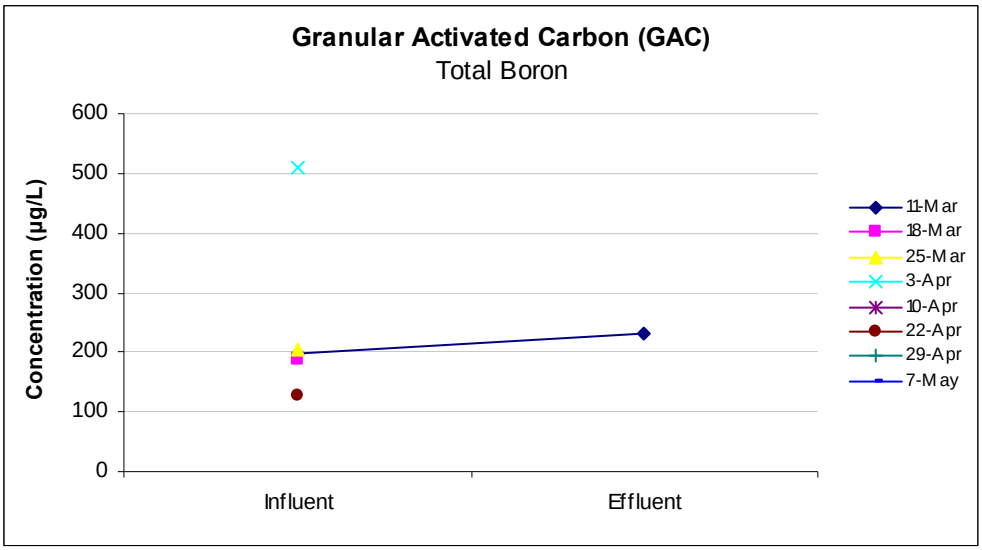
Observation	*Predicted Y*	*Residuals*
1	44.386	-1.386
2	38.864	3.136
3	36.475	-3.475
4	38.565	0.435
5	38.416	3.584
6	37.222	-20.222
7	37.072	17.928

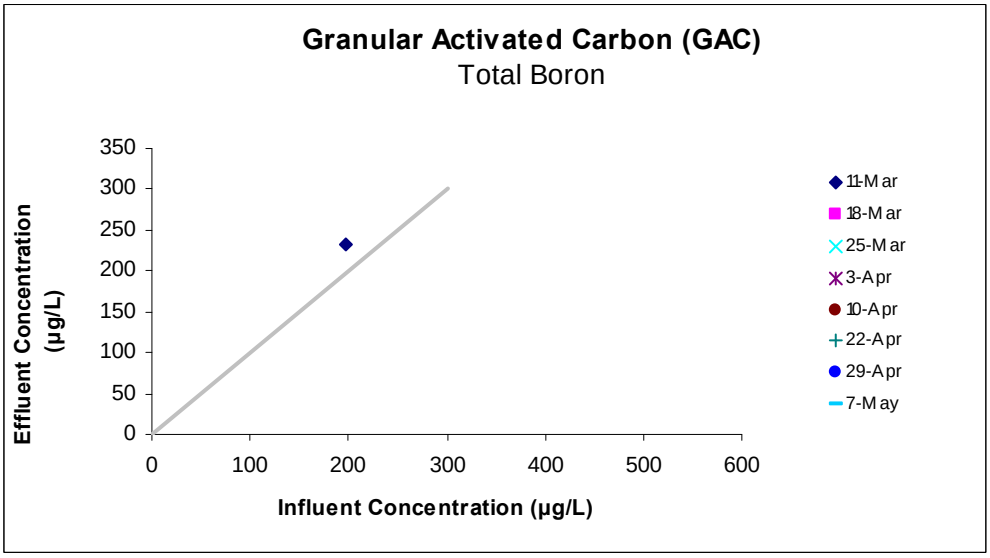



Granular Activated Carbon (GAC)
Dissolved Aluminum
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

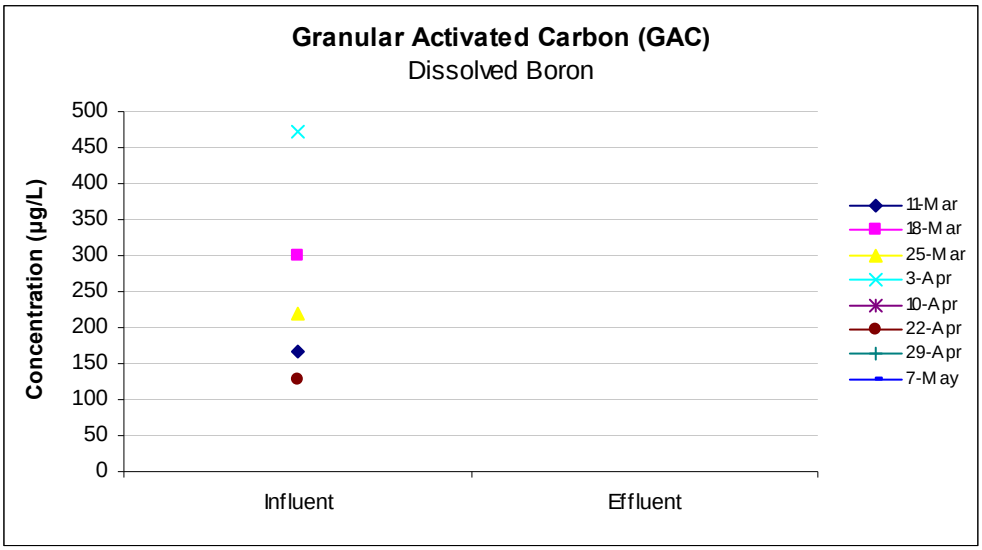

Granular Activated Carbon (GAC)
Dissolved Aluminum
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
140
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

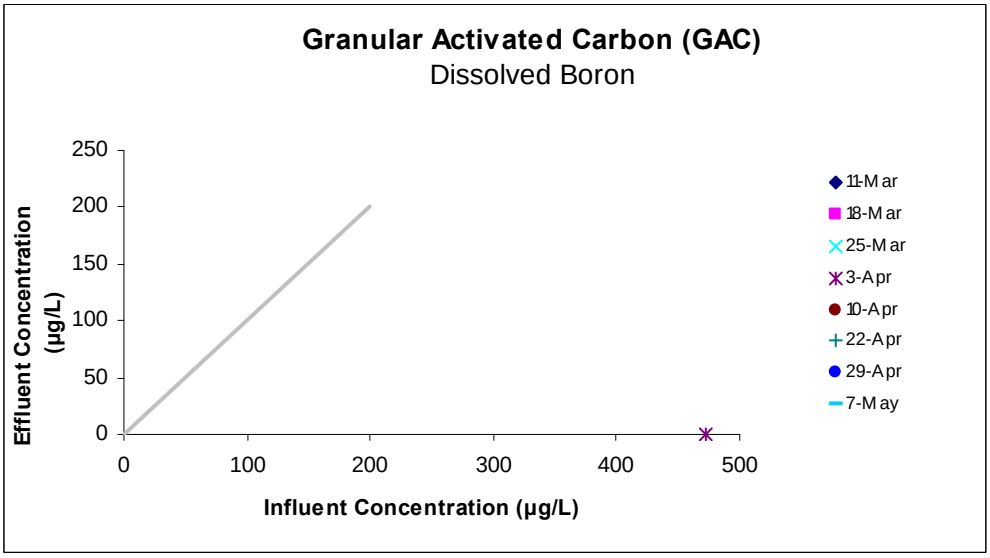
Boron Total


Granular Activated Carbon (GAC)
Total Boron
Concentration (µg/L)
600
500
400
300
200
100
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Total Boron
Effluent Concentration (µg/L)
350
300
250
200
150
100
50
0
0
100
200
300
400
500
600
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Boron Dissolved





Ca Total

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.316
R Square	0.100
Adjusted R Square	-0.050
Standard Error	18141.045
Observations	8.000

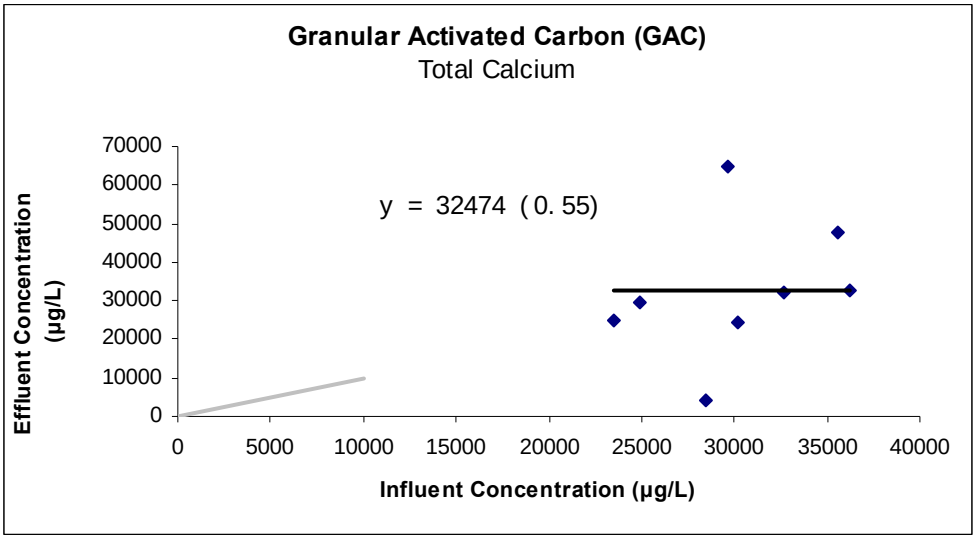
ANOVA

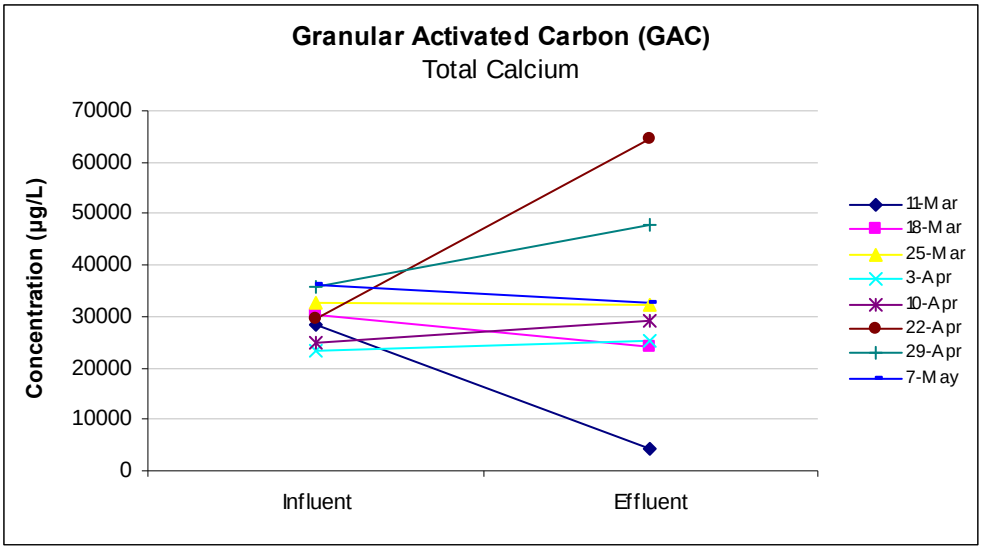
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	219393319.553	219393319.553	0.667	0.445
Residual	6.000	1974585009.947	329097501.658		
Total	7.000	2193978329.500			

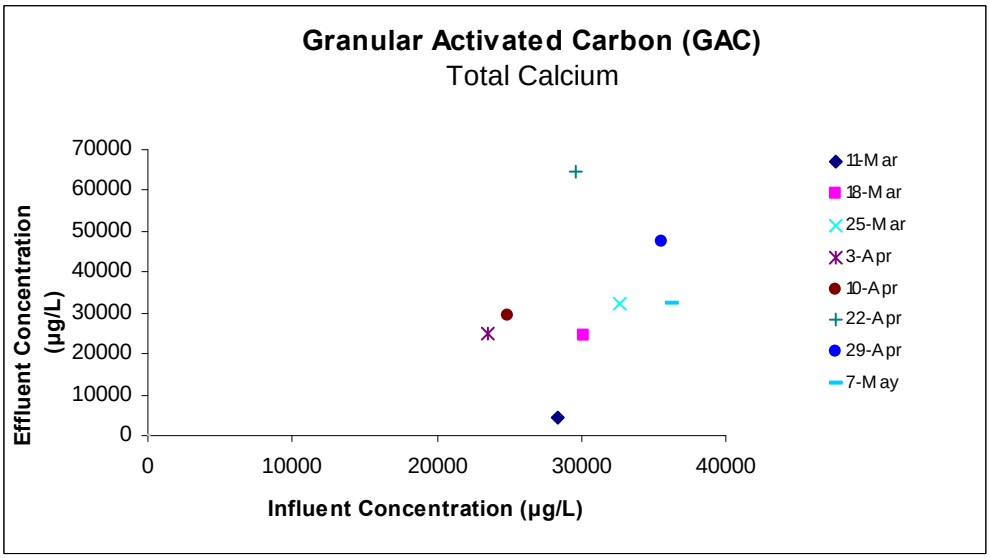
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-4110.296	45263.360	-0.091	0.931	-114865.748	106645.155	-114865.748	106645.155
X Variable 1	1.214	1.486	0.816	0.445	-2.424	4.851	-2.424	4.851

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	30383.931	-26199.931
2	32555.219	-8295.219
3	35502.053	-3317.053
4	24388.312	705.688
5	26069.270	3254.730
6	31887.690	32692.310
7	39096.997	8573.003
8	39906.527	-7413.527




Granular Activated Carbon (GAC)
Total Calcium
Concentration (µg/L)
70000
60000
50000
40000
30000
20000
10000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Total Calcium
Effluent Concentration (µg/L)
70000
60000
50000
40000
30000
20000
10000
0
0
10000
20000
30000
40000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Ca

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.957
R Square	0.916
Adjusted R Square	0.773
Standard Error	10298.219
Observations	8.000

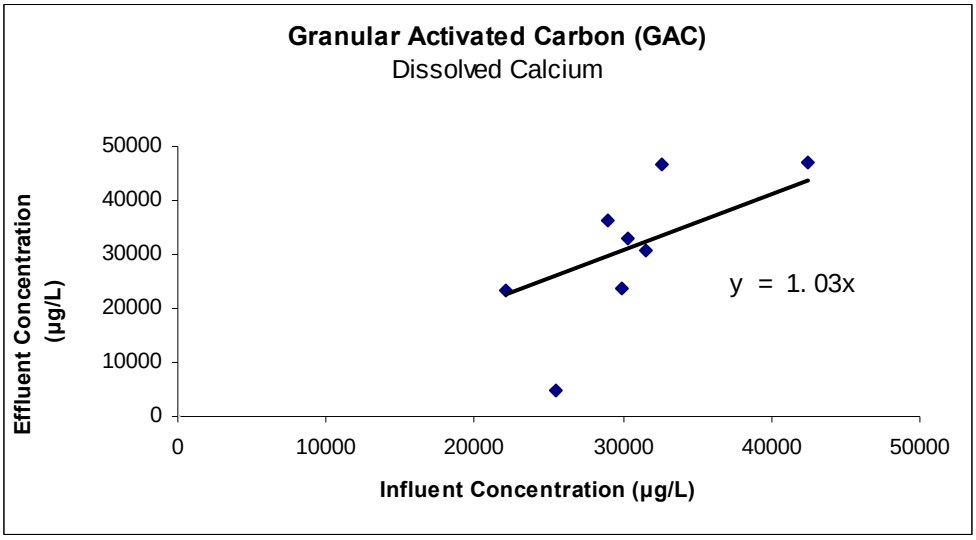
ANOVA

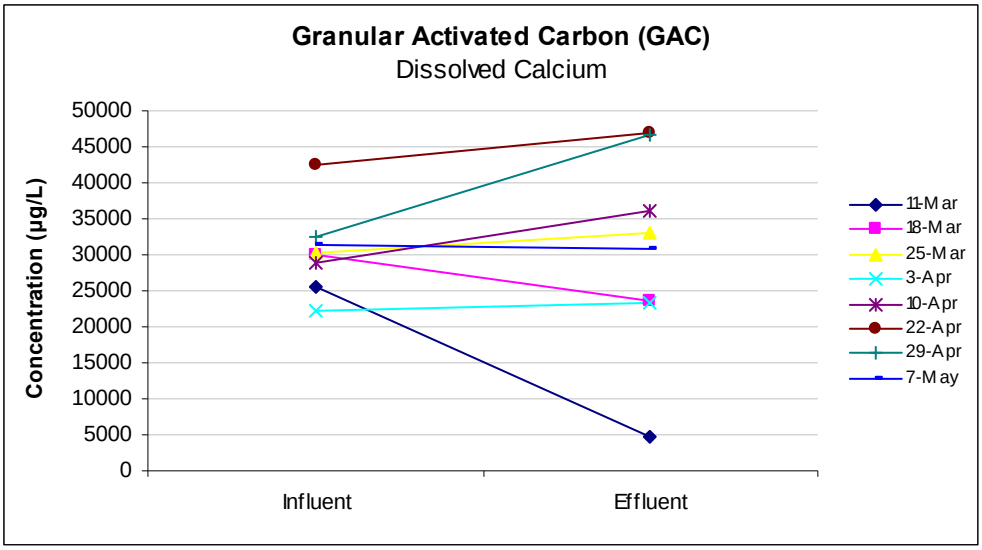
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	8082894770.664	8082894770.664	76.215	0.000
Residual	7.000	742373242.336	106053320.334		
Total	8.000	8825268013.000			

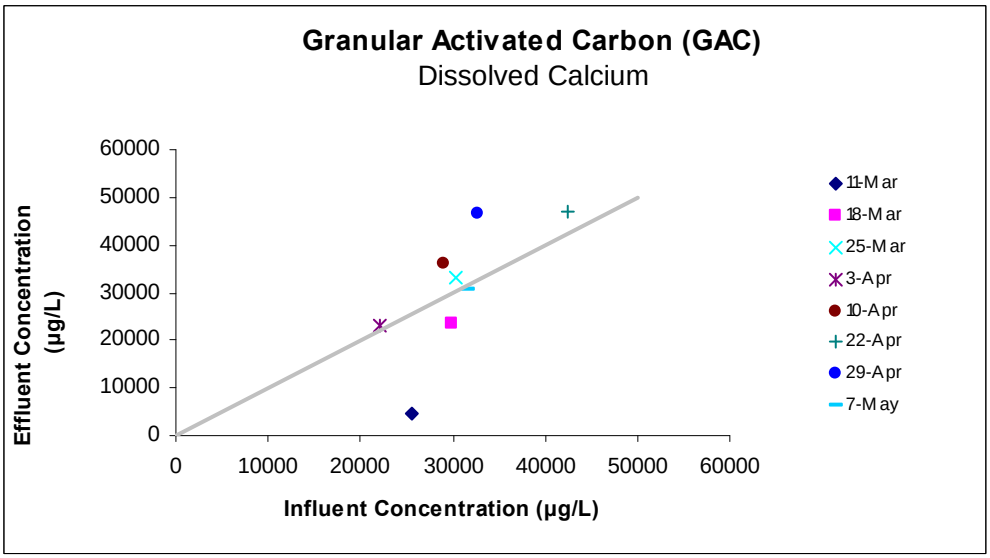
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	1.028	0.118	8.730	0.000	0.749	1.306	0.749	1.306

RESIDUAL OUTPUT

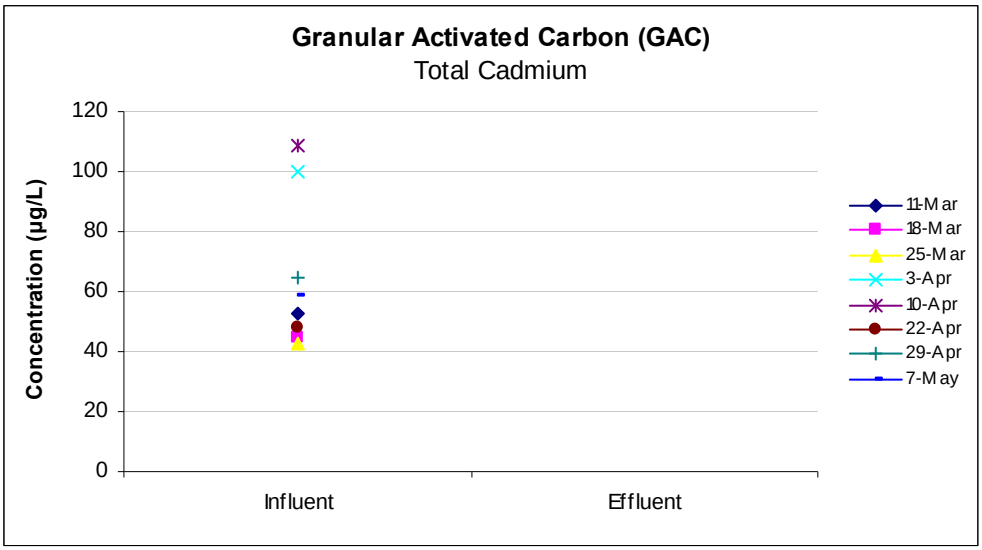
Observation	*Predicted Y*	*Residuals*
1	26209.543	-21499.543
2	30816.075	-7158.075
3	31105.910	1834.090
4	22762.353	455.647
5	29773.901	6411.099
6	43588.358	3271.642
7	33536.622	13063.378
8	32395.781	-1695.781

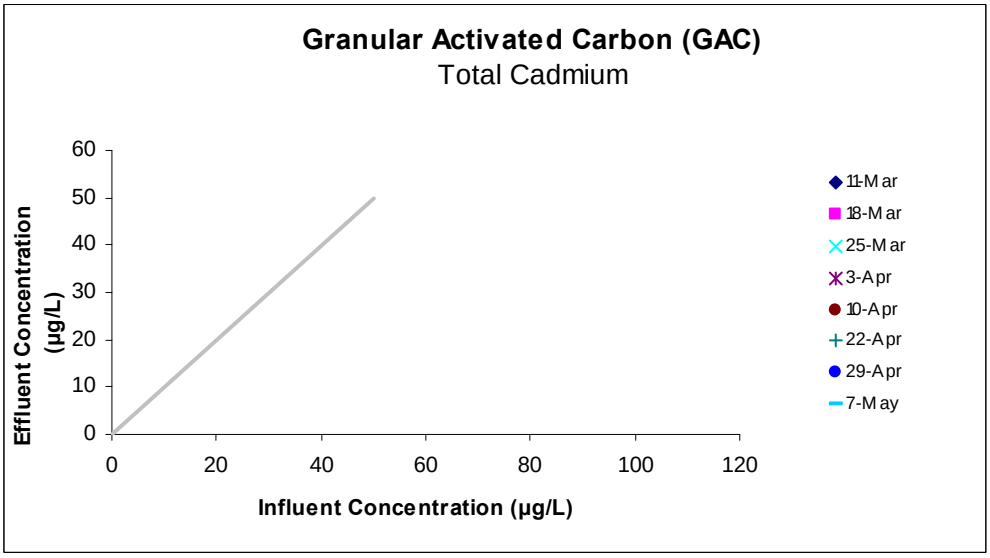



Granular Activated Carbon (GAC)
Dissolved Calcium
Concentration (µg/L)
50000
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

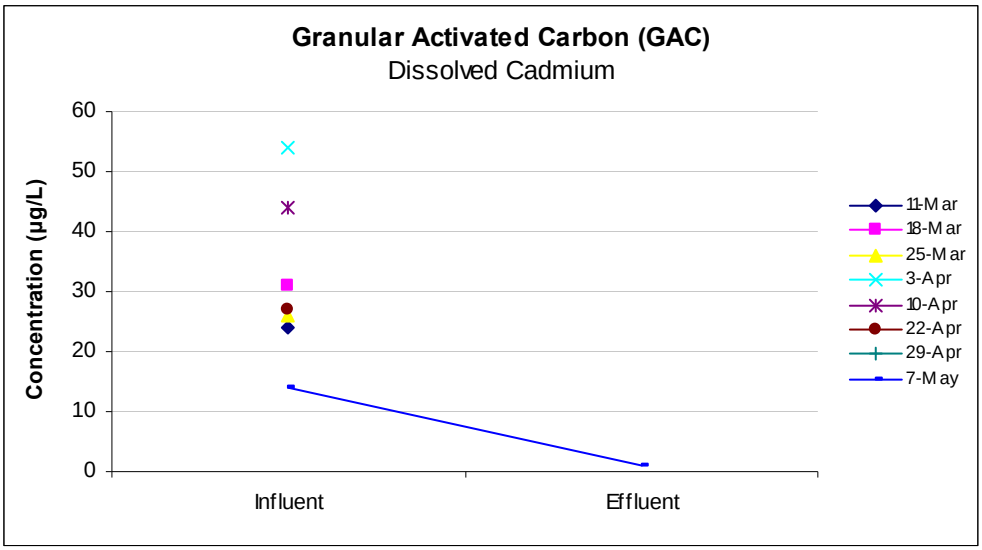

Granular Activated Carbon (GAC)
Dissolved Calcium
Effluent Concentration (µg/L)
60000
50000
40000
30000
20000
10000
0
0
10000
20000
30000
40000
50000
60000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

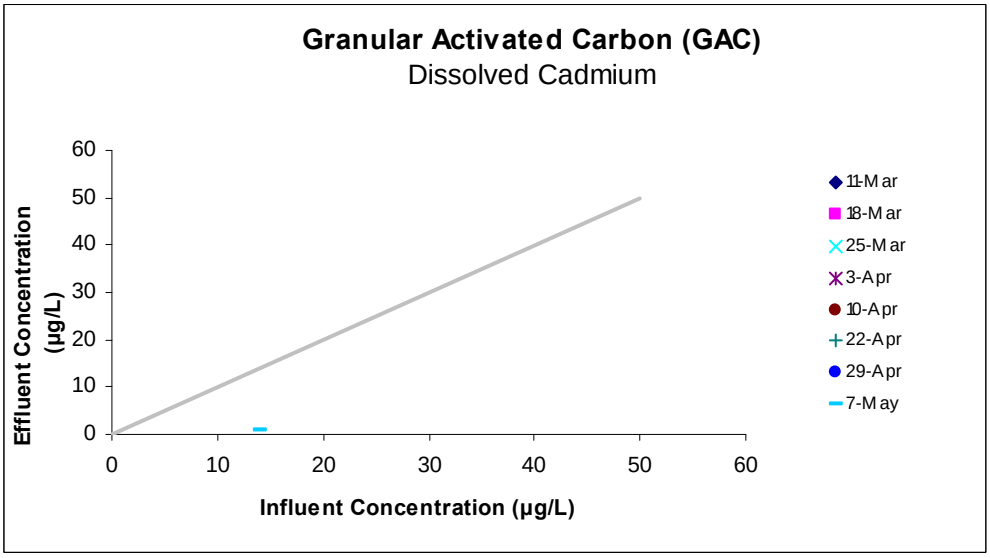
Total Cd


Granular Activated Carbon (GAC)
Total Cadmium
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Total Cadmium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cd





Total Cu

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.308
R Square	0.095
Adjusted R Square	-0.131
Standard Error	3.908
Observations	6.000

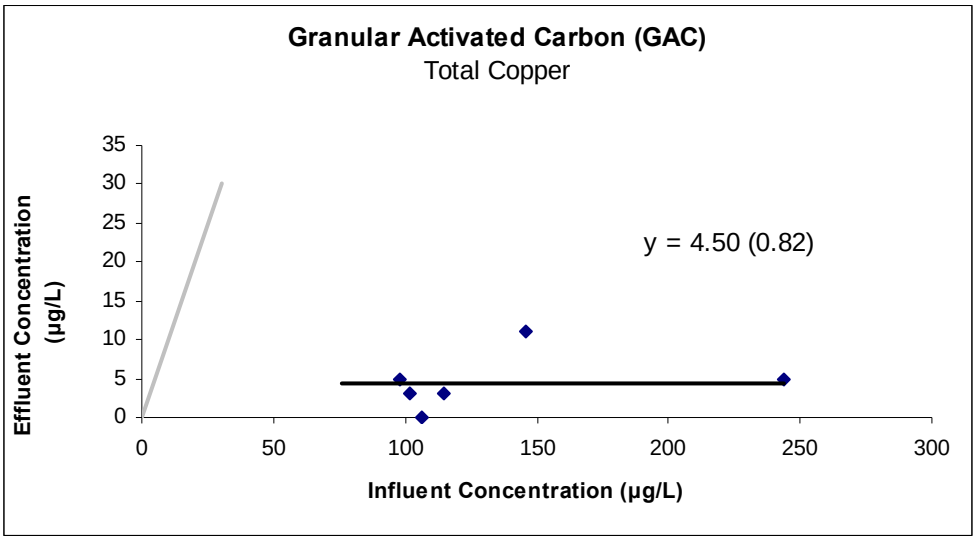
ANOVA

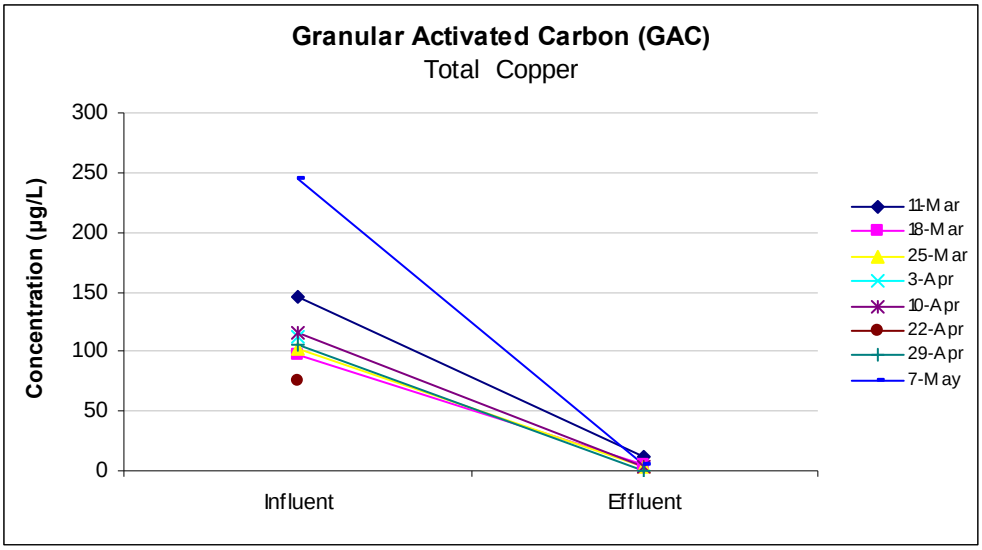
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	6.420	6.420	0.420	0.552
Residual	4.000	61.080	15.270		
Total	5.000	67.500			

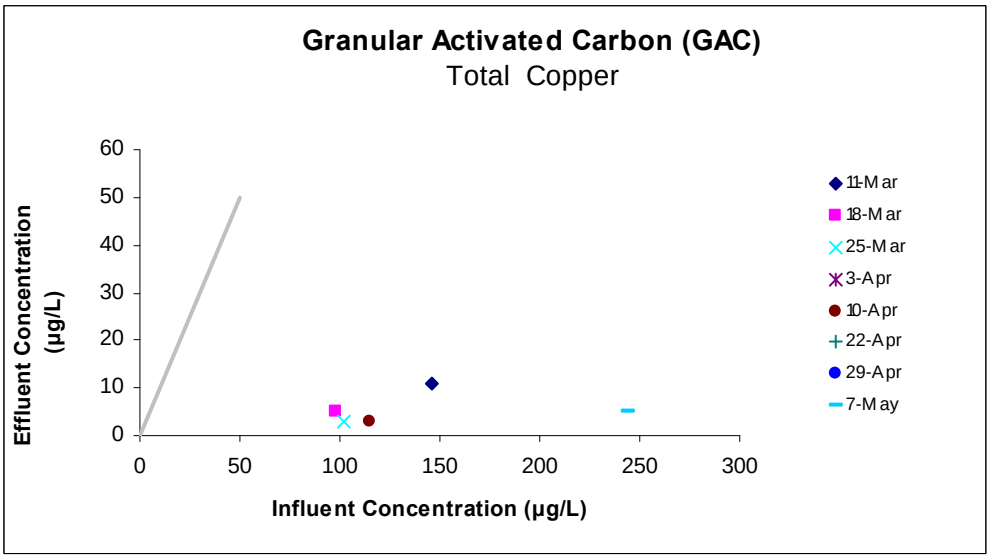
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1.767	4.507	0.392	0.715	-10.747	14.280	-10.747	14.280
X Variable 1	0.020	0.031	0.648	0.552	-0.066	0.107	-0.066	0.107

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	4.719	6.281
2	3.748	1.252
3	3.829	-0.829
4	4.092	-1.092
5	3.910	-3.910
6	6.701	-1.701




Granular Activated Carbon (GAC)
Total Copper
Concentration (µg/L)
300
250
200
150
100
50
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Total Copper
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
50
100
150
200
250
300
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cu

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.584
R Square	0.342
Adjusted R Square	0.012
Standard Error	4.322
Observations	4.000

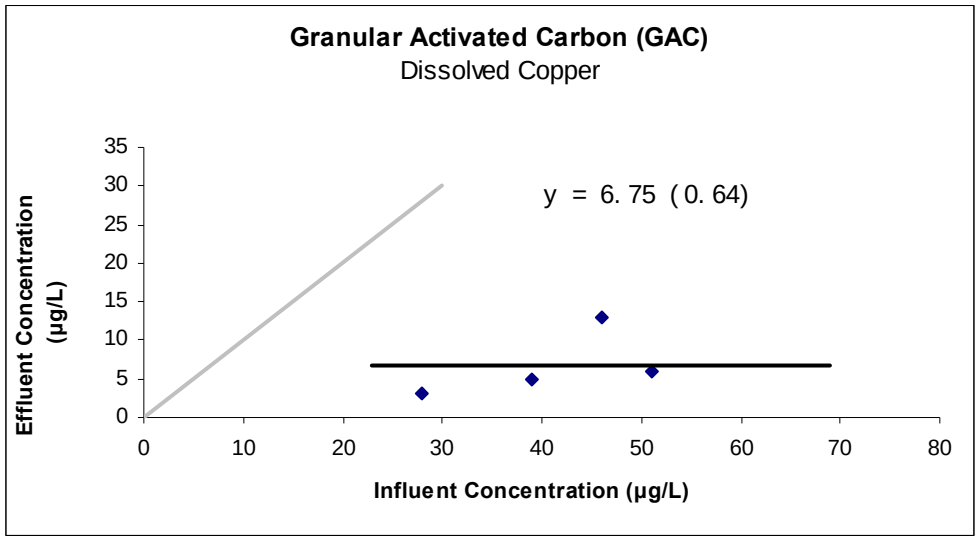
ANOVA

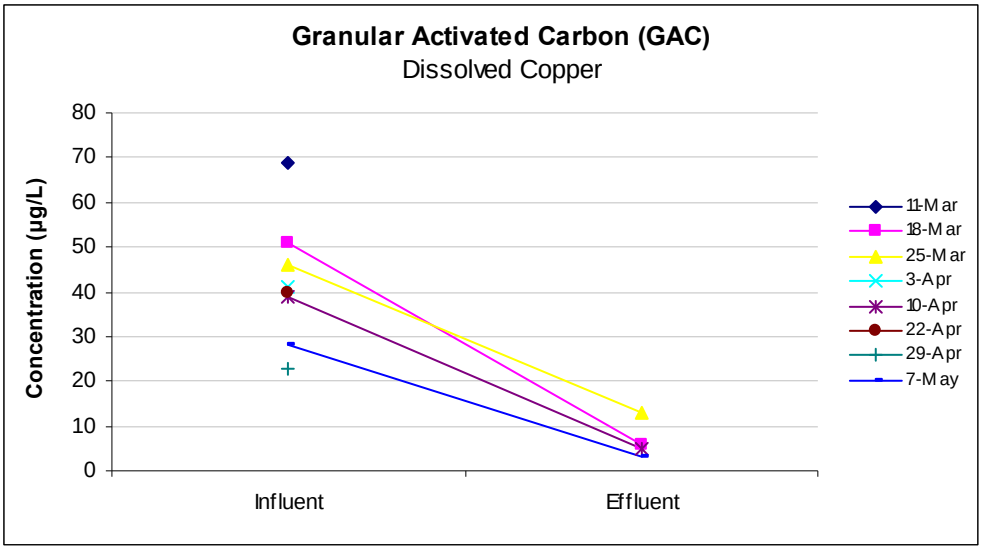
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	19.383	19.383	1.037	0.416
Residual	2.000	37.367	18.684		
Total	3.000	56.750			

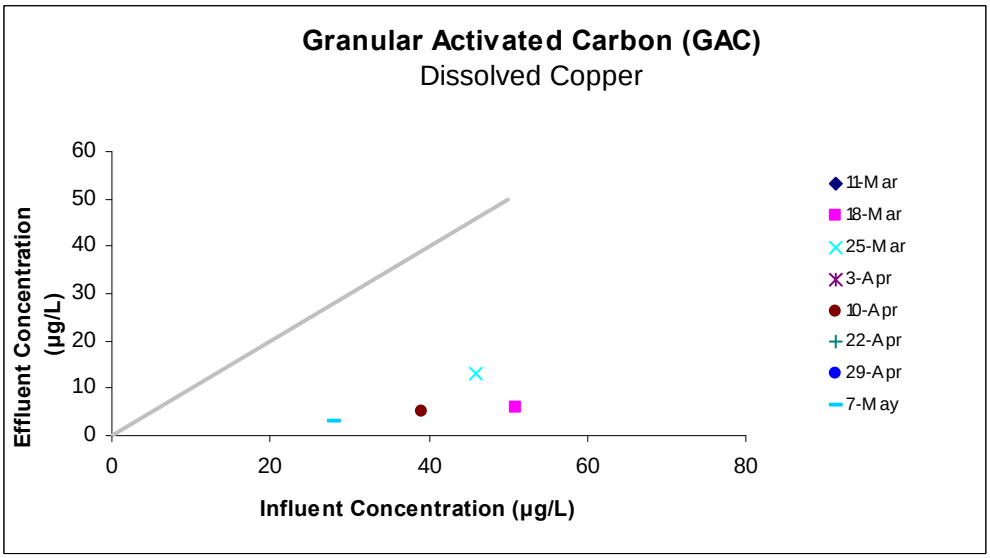
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-3.706	10.491	-0.353	0.758	-48.846	41.433	-48.846	41.433
X Variable 1	0.255	0.250	1.019	0.416	-0.822	1.332	-0.822	1.332

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	9.300	-3.300
2	8.025	4.975
3	6.240	-1.240
4	3.435	-0.435




Granular Activated Carbon (GAC)
Dissolved Copper
Concentration (µg/L)
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Dissolved Copper
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Fe Total

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.617
R Square	0.381
Adjusted R Square	0.257
Standard Error	82.842
Observations	7.000

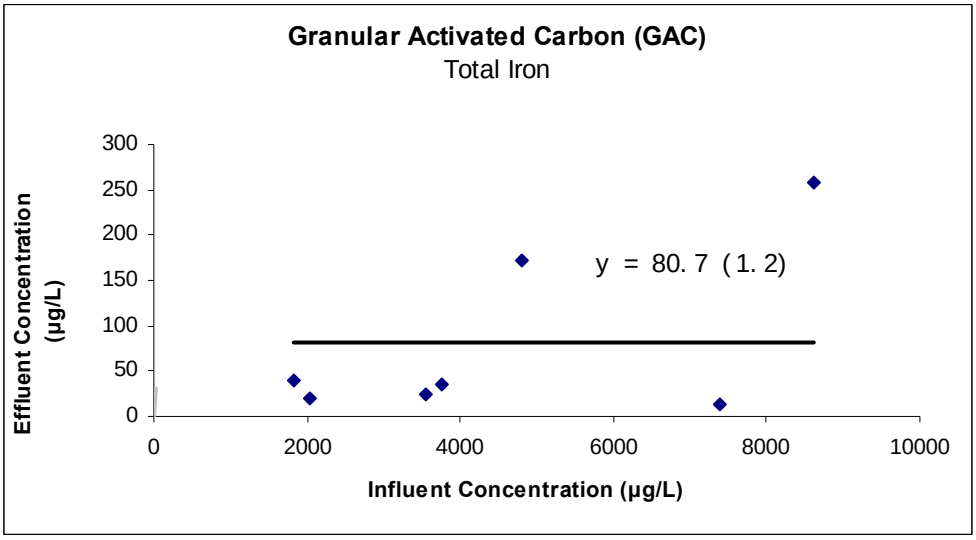
ANOVA

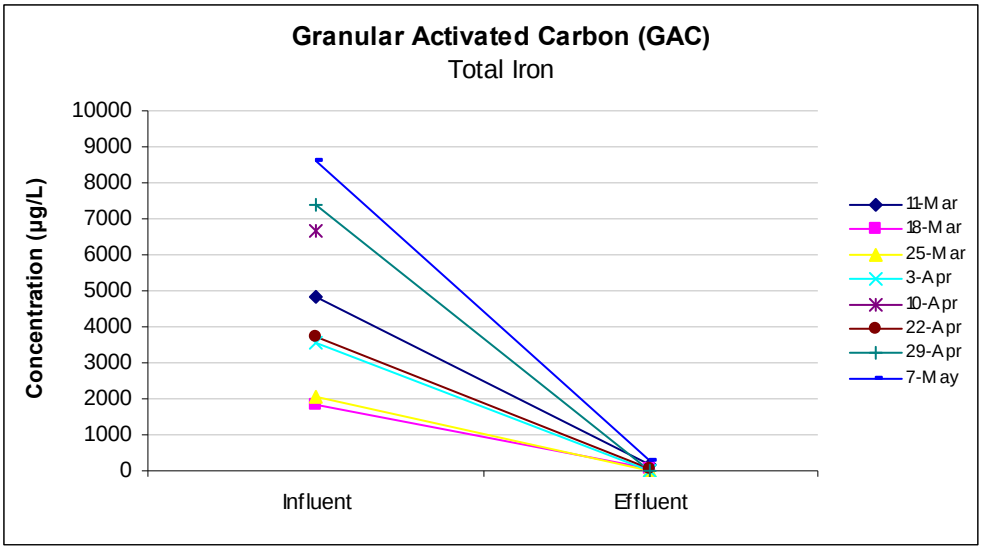
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	21091.381	21091.381	3.073	0.140
Residual	5.000	34314.047	6862.809		
Total	6.000	55405.429			

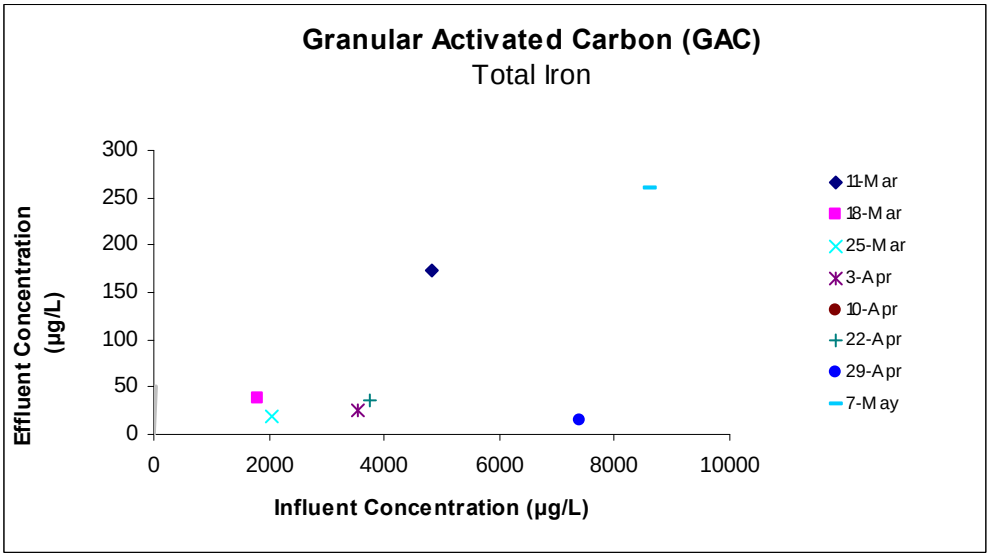
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-24.234	67.559	-0.359	0.734	-197.900	149.432	-197.900	149.432
X Variable 1	0.023	0.013	1.753	0.140	-0.011	0.057	-0.011	0.057

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	86.235	86.765
2	17.556	21.444
3	22.792	-3.792
4	57.464	-32.464
5	61.873	-25.873
6	145.499	-131.499
7	173.581	85.419




Granular Activated Carbon (GAC)
Total Iron
Concentration (µg/L)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Total Iron
Effluent Concentration (µg/L)
300
250
200
150
100
50
0
0
2000
4000
6000
8000
10000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Fe

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.729
R Square	0.531
Adjusted R Square	0.375
Standard Error	9.027
Observations	5.000

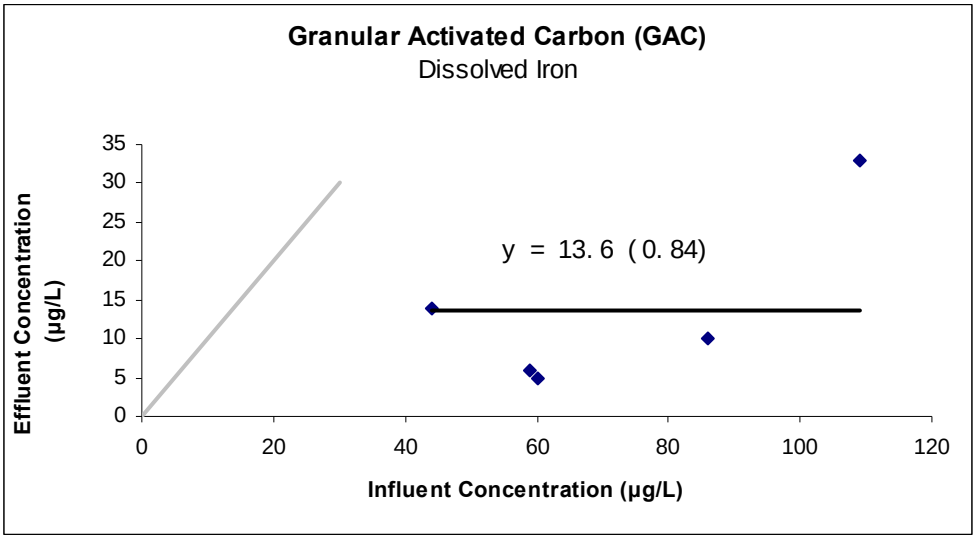
ANOVA

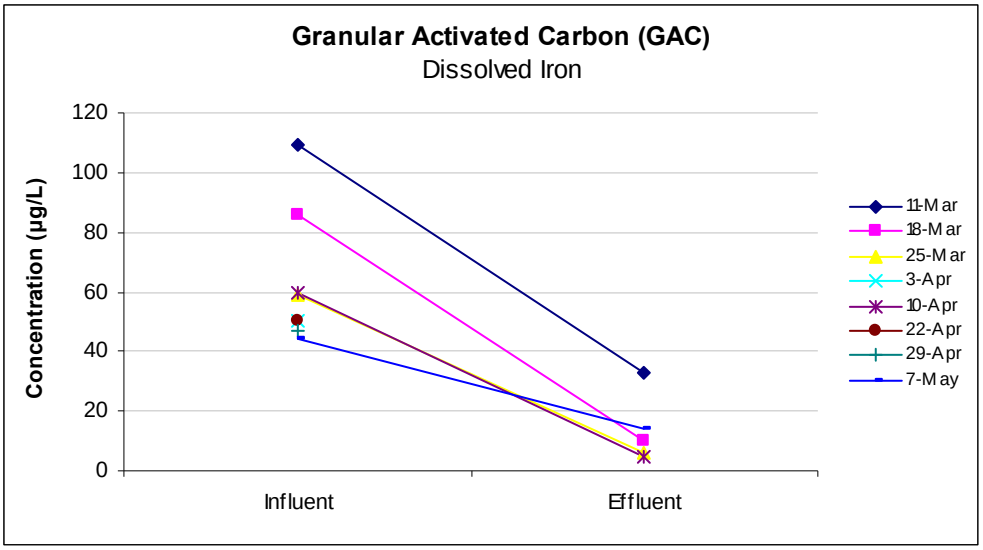
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	276.758	276.758	3.397	0.163
Residual	3.000	244.442	81.481		
Total	4.000	521.200			

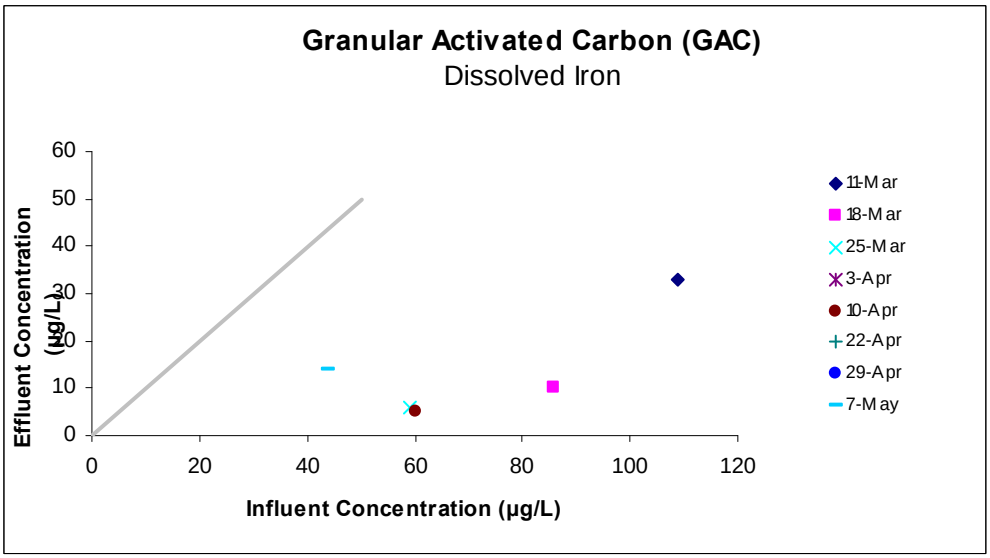
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-9.490	13.163	-0.721	0.523	-51.380	32.400	-51.380	32.400
X Variable 1	0.322	0.175	1.843	0.163	-0.234	0.879	-0.234	0.879

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	25.661	7.339
2	18.244	-8.244
3	9.537	-3.537
4	9.859	-4.859
5	4.699	9.301




Granular Activated Carbon (GAC)
Dissolved Iron
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Dissolved Iron
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Mg

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.076
R Square	0.006
Adjusted R Square	-0.160
Standard Error	1779.300
Observations	8.000

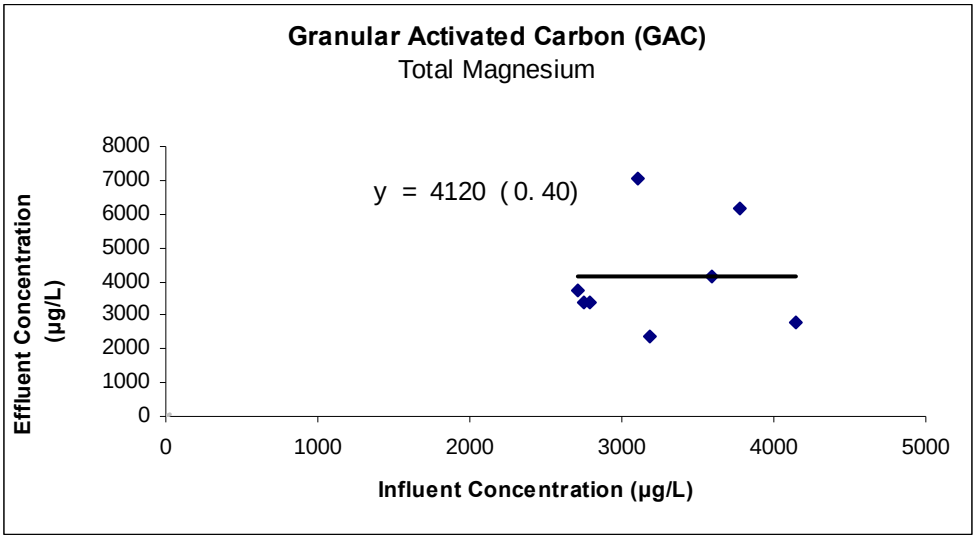
ANOVA

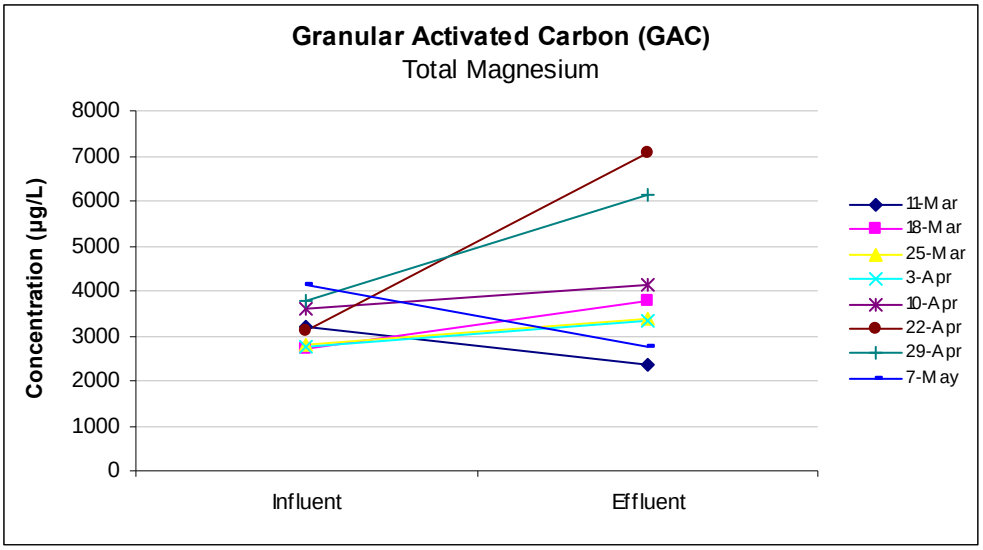
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	111066.038	111066.038	0.035	0.858
Residual	6.000	18995447.962	3165907.994		
Total	7.000	19106514.000			

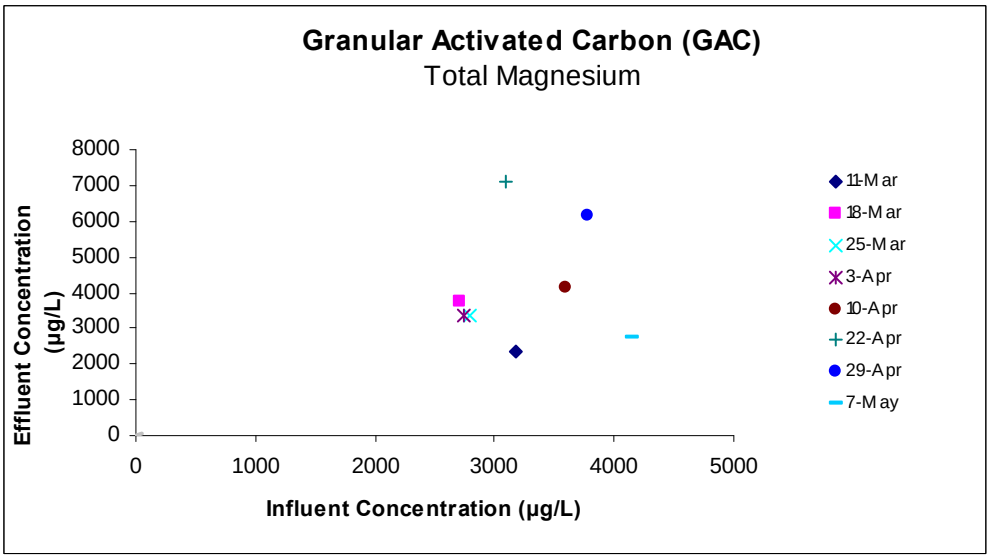
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3348.834	4167.662	0.804	0.452	-6849.067	13546.736	-6849.067	13546.736
X Variable 1	0.237	1.267	0.187	0.858	-2.862	3.337	-2.862	3.337

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	4103.120	-1735.120
2	3990.653	-229.653
3	4010.584	-647.584
4	3999.907	-649.907
5	4200.638	-70.638
6	4084.138	2996.862
7	4244.059	1906.941
8	4330.900	-1570.900




Granular Activated Carbon (GAC)
Total Magnesium
Concentration (µg/L)
8000
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Total Magnesium
Effluent Concentration (µg/L)
8000
7000
6000
5000
4000
3000
2000
1000
0
0
1000
2000
3000
4000
5000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Mg

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.464
R Square	0.215
Adjusted R Square	0.084
Standard Error	1264.025
Observations	8.000

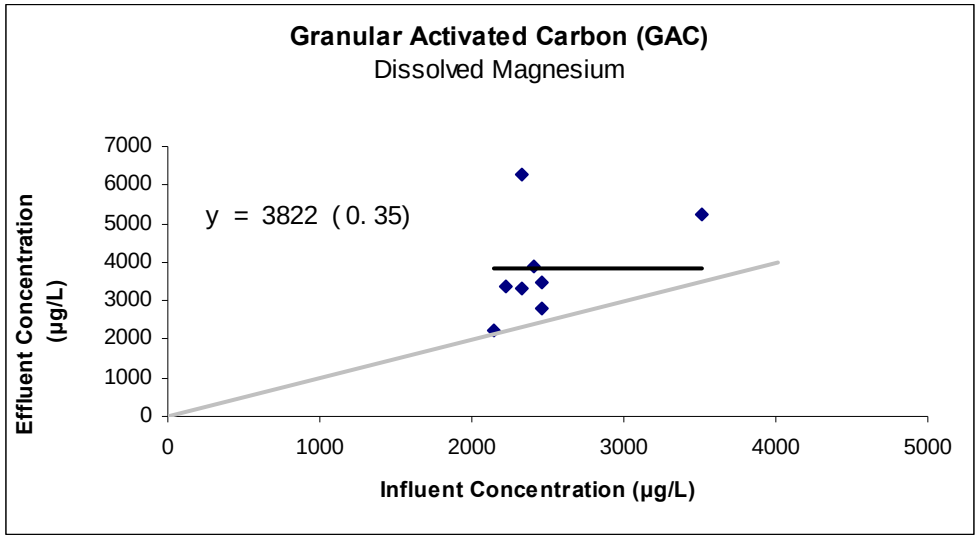
ANOVA

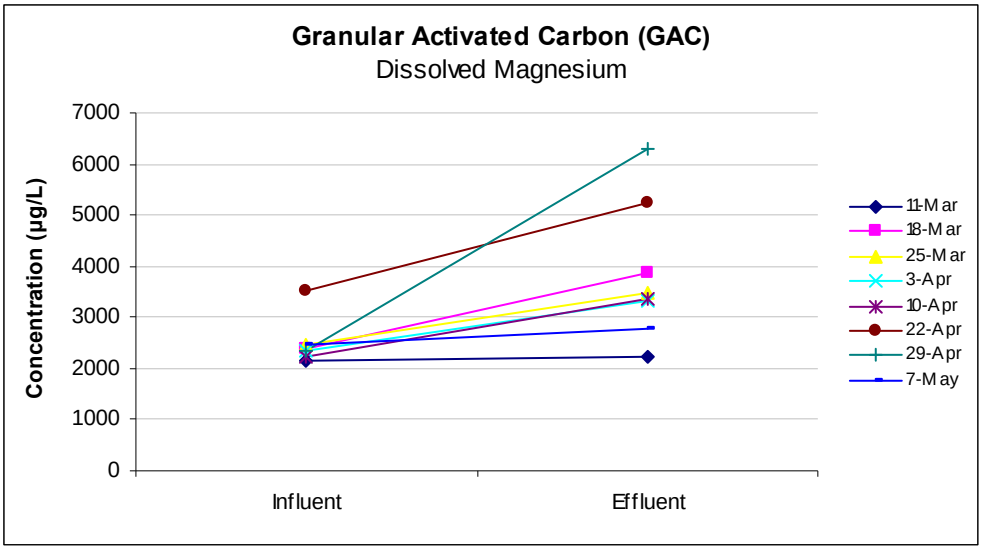
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	2623163.032	2623163.032	1.642	0.247
Residual	6.000	9586560.468	1597760.078		
Total	7.000	12209723.500			

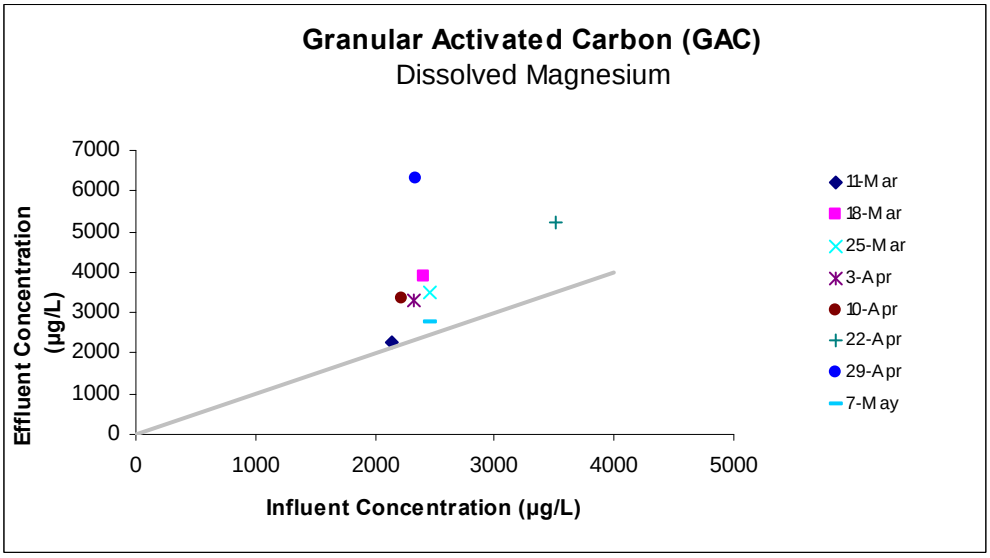
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	303.425	2782.764	0.109	0.917	-6505.753	7112.604	-6505.753	7112.604
X Variable 1	1.417	1.106	1.281	0.247	-1.289	4.123	-1.289	4.123

RESIDUAL OUTPUT

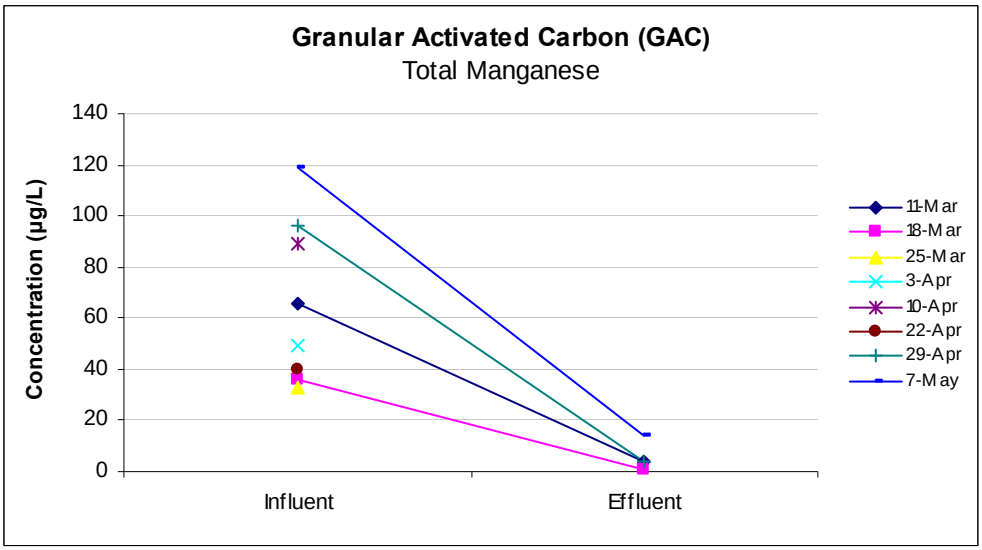
Observation	*Predicted Y*	*Residuals*
1	3341.650	-1094.650
2	3710.092	170.908
3	3793.700	-315.700
4	3600.977	-282.977
5	3450.766	-82.766
6	5287.305	-58.305
7	3612.313	2673.687
8	3785.197	-1010.197

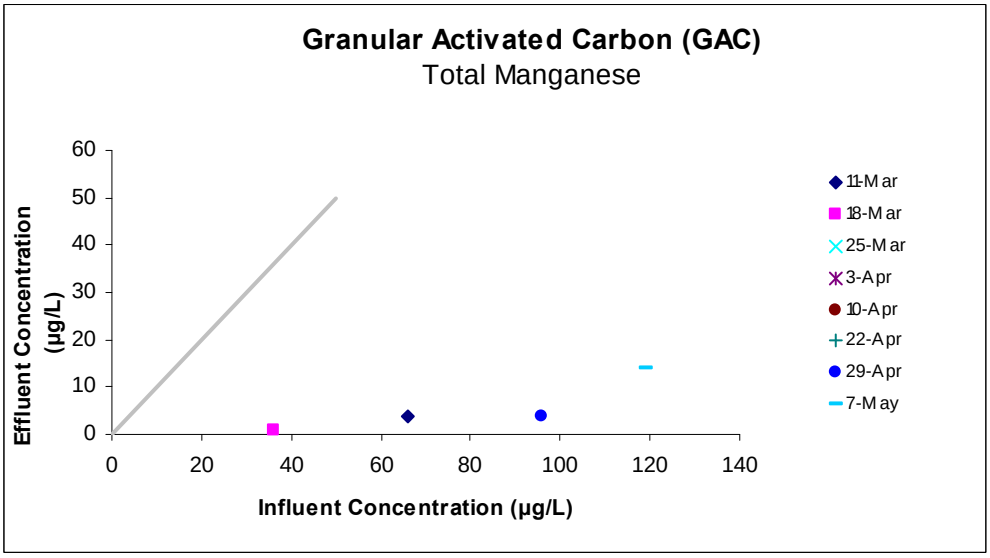



Granular Activated Carbon (GAC)
Dissolved Magnesium
Concentration (µg/L)
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

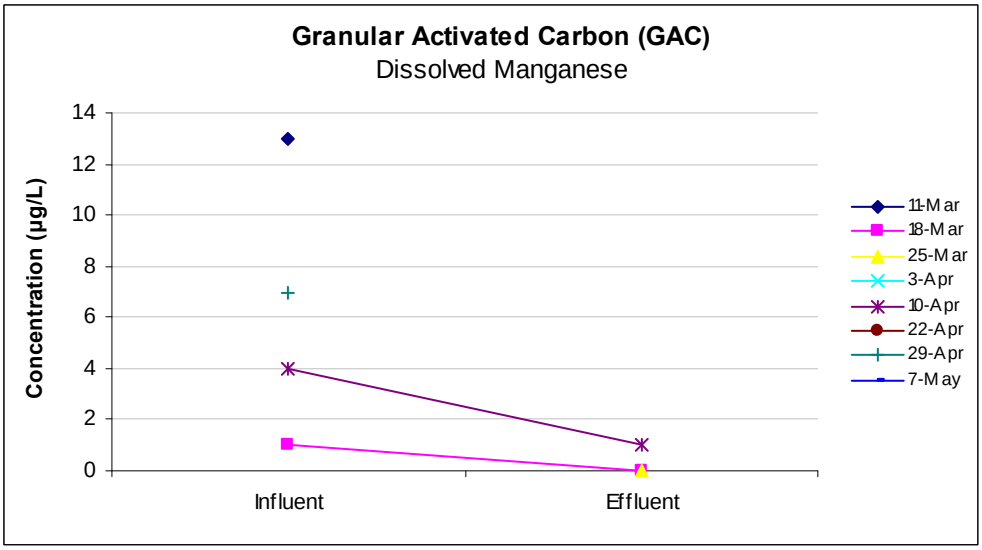

Granular Activated Carbon (GAC)
Dissolved Magnesium
Effluent Concentration (µg/L)
7000
6000
5000
4000
3000
2000
1000
0
0
1000
2000
3000
4000
5000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

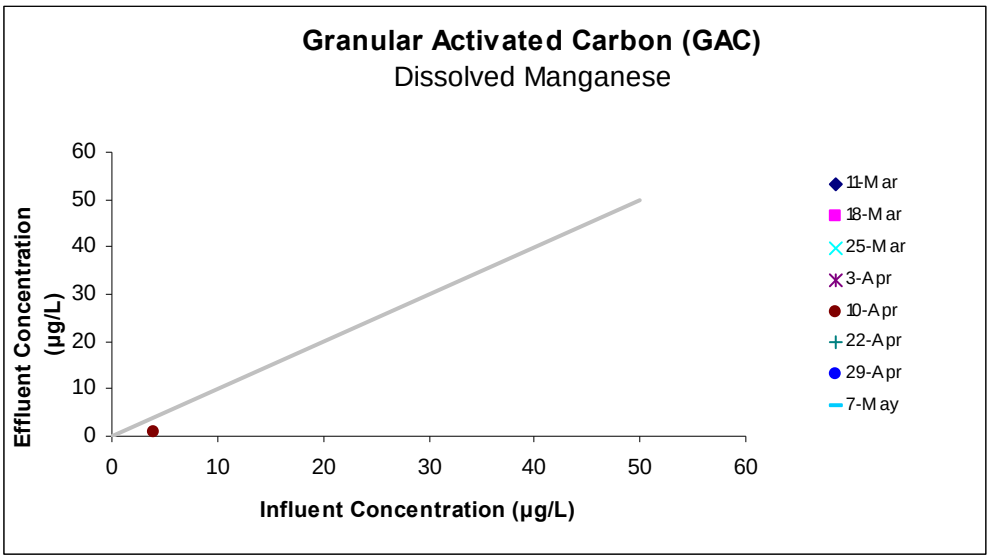
Total Mn


Granular Activated Carbon (GAC)
Total Manganese
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

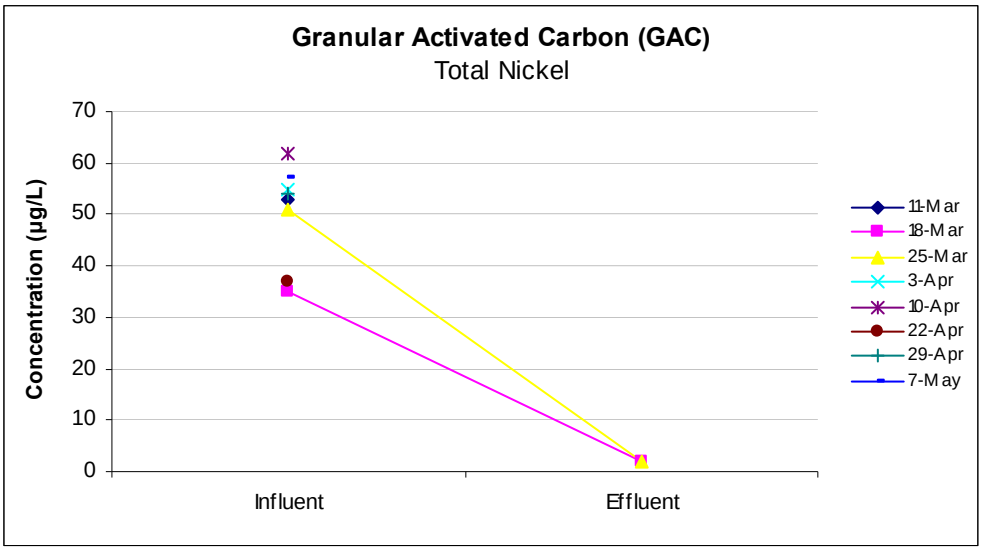

Granular Activated Carbon (GAC)
Total Manganese
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
140
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

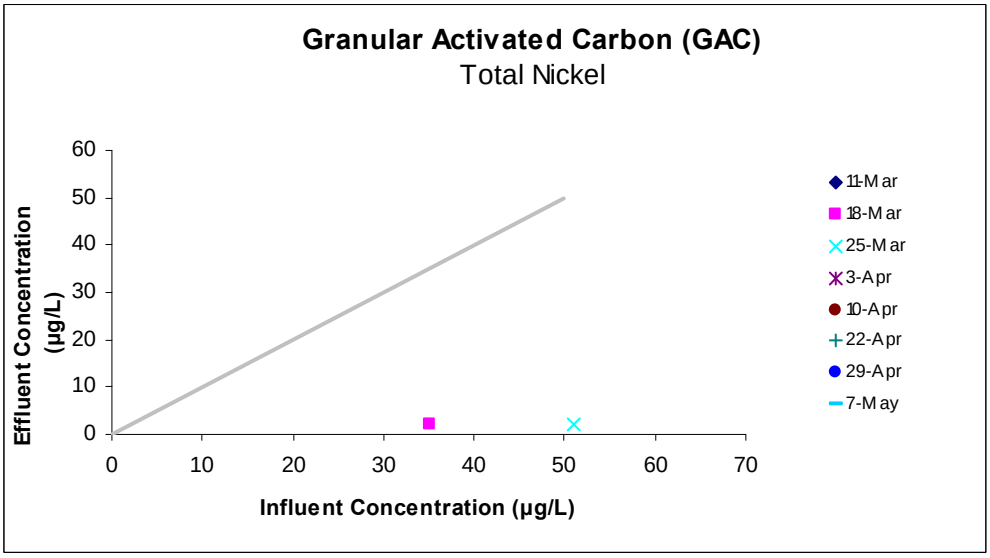
Dissolved Mn



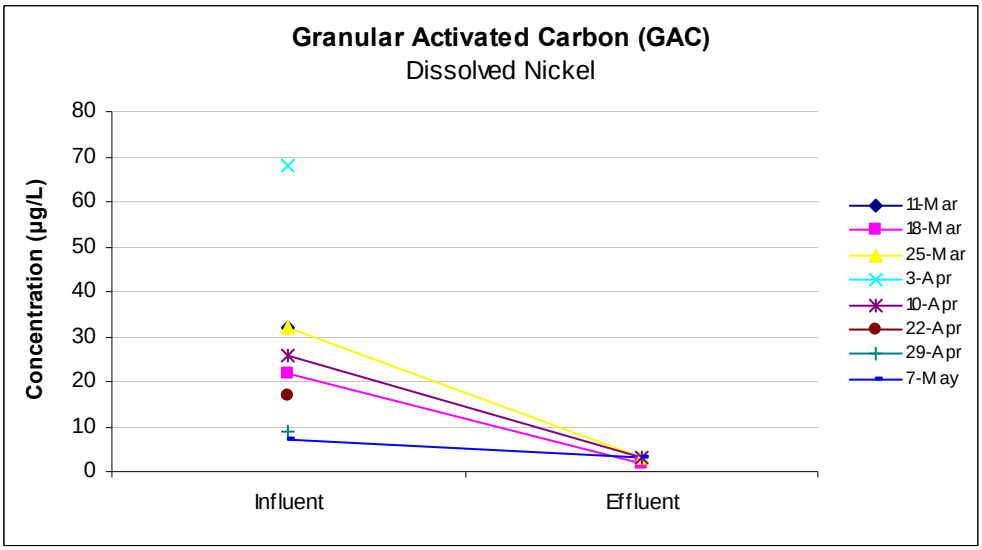


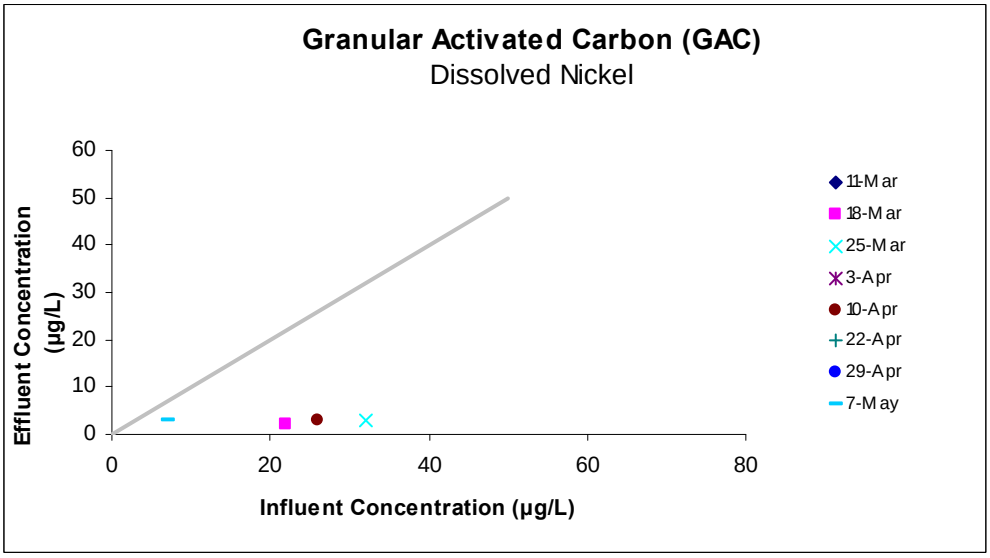
Total Ni


Granular Activated Carbon (GAC)
Total Nickel
Concentration (µg/L)
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

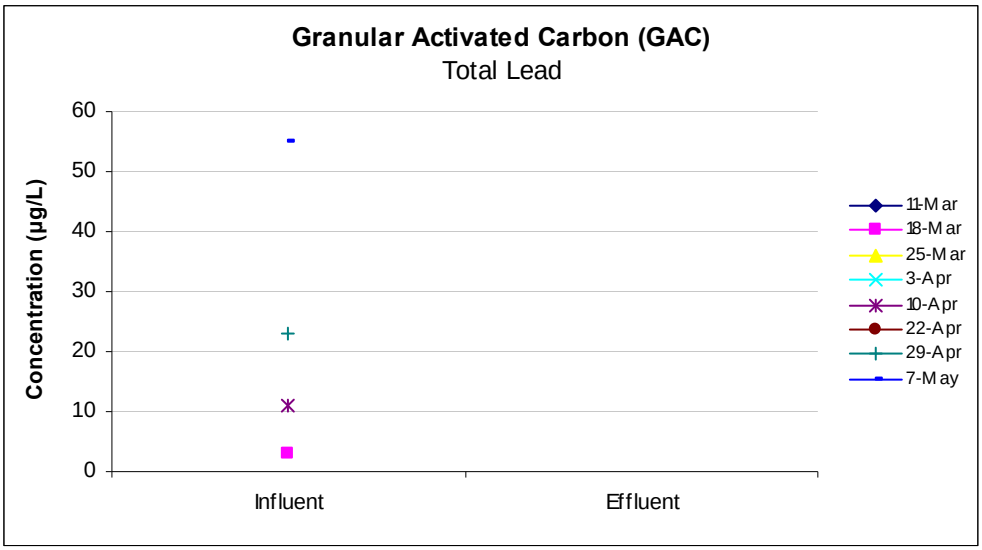

Granular Activated Carbon (GAC)
Total Nickel
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
70
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

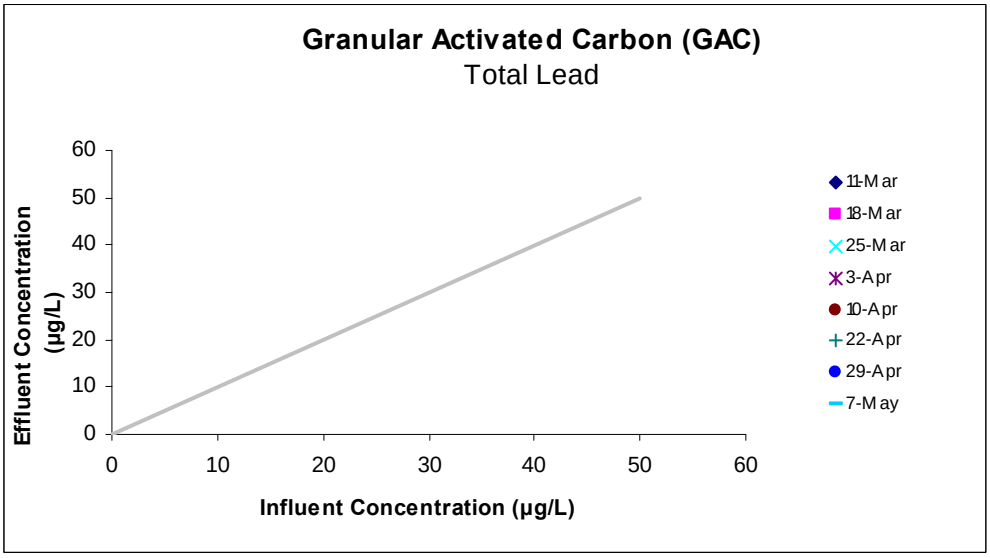
Dissolved Ni



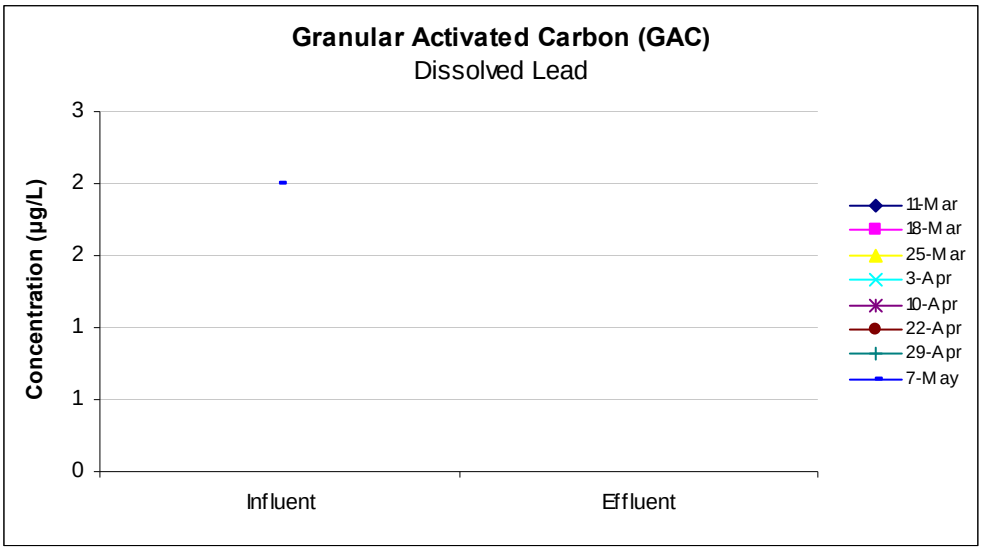


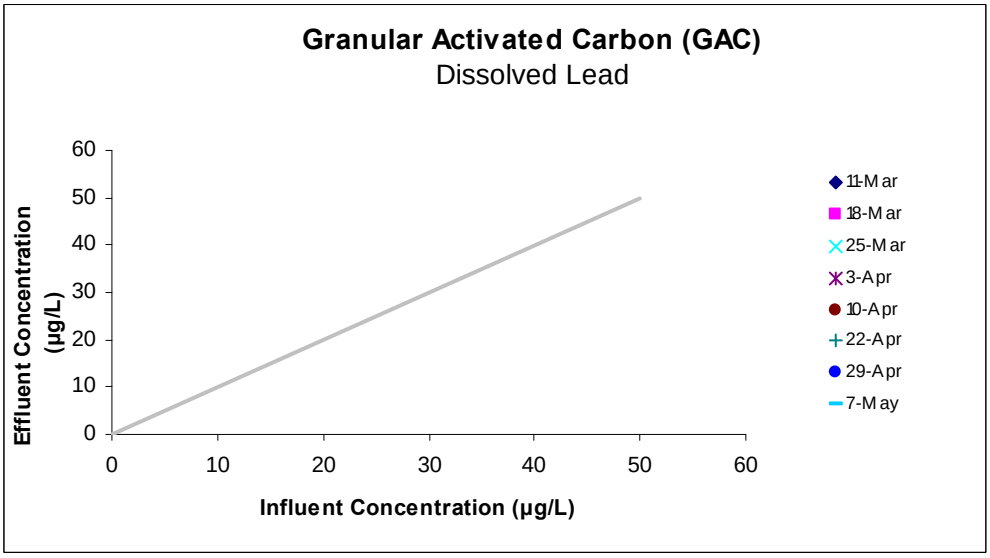
Total Pb


Granular Activated Carbon (GAC)
Total Lead
Concentration (µg/L)
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Total Lead
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Pb





Total Zinc

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.175
R Square	0.031
Adjusted R Square	-0.131
Standard Error	20.195
Observations	8.000

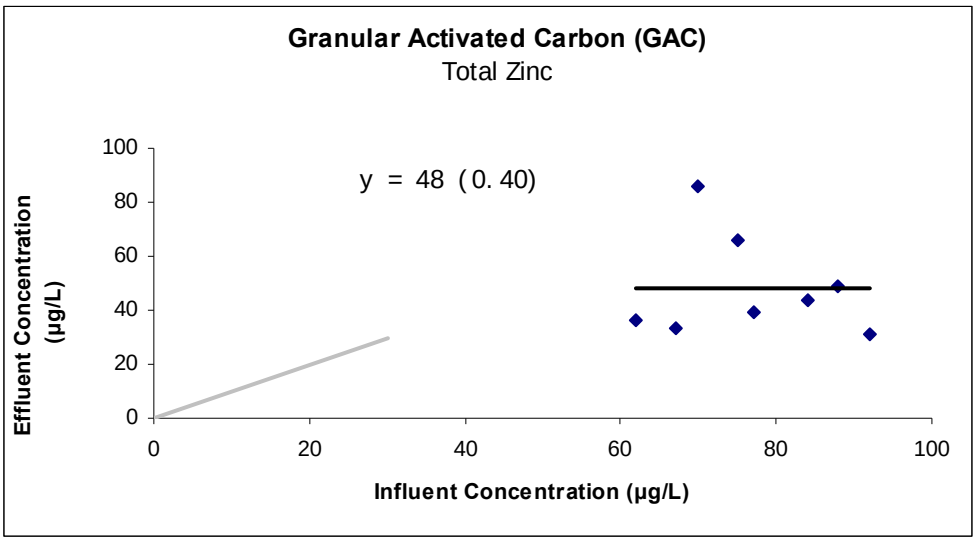
ANOVA

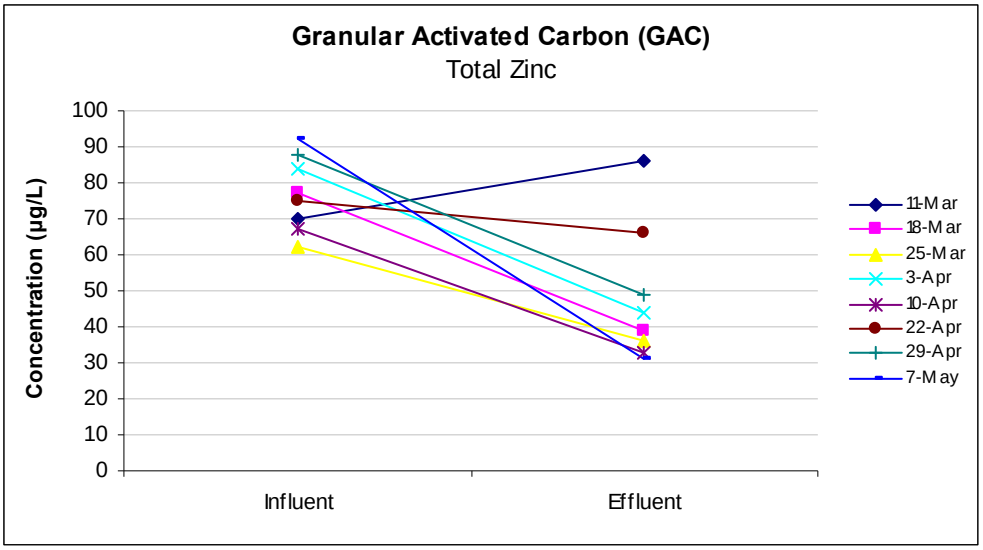
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	77.032	77.032	0.189	0.679
Residual	6.000	2446.968	407.828		
Total	7.000	2524.000			

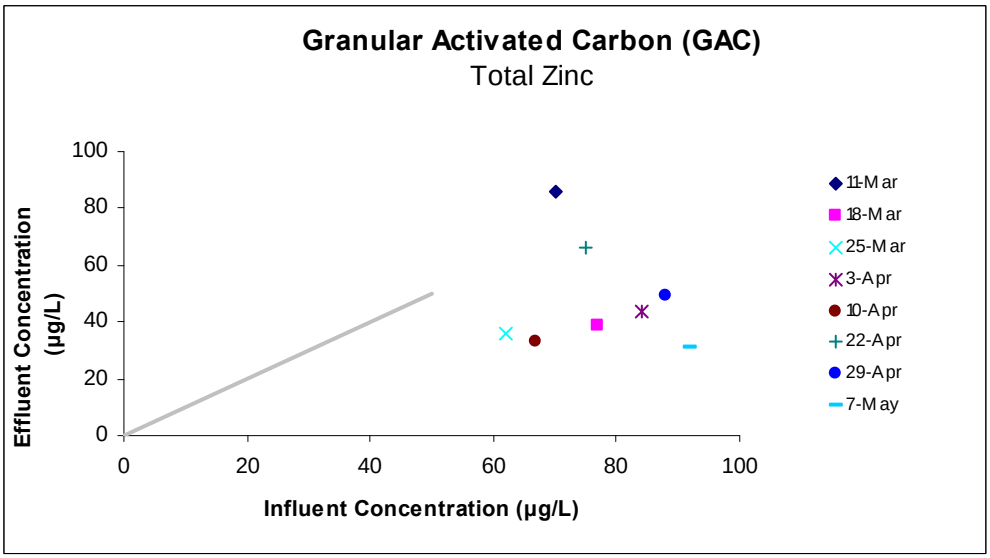
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	72.270	56.298	1.284	0.247	-65.486	210.025	-65.486	210.025
X Variable 1	-0.316	0.726	-0.435	0.679	-2.093	1.462	-2.093	1.462

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	50.170	35.830
2	47.961	-8.961
3	52.696	-16.696
4	45.751	-1.751
5	51.118	-18.118
6	48.592	17.408
7	44.488	4.512
8	43.225	-12.225




Granular Activated Carbon (GAC)
Total Zinc
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Total Zinc
Effluent Concentration (µg/L)
100
80
60
40
20
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Zn

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.751
R Square	0.564
Adjusted R Square	0.491
Standard Error	5.564
Observations	8.000

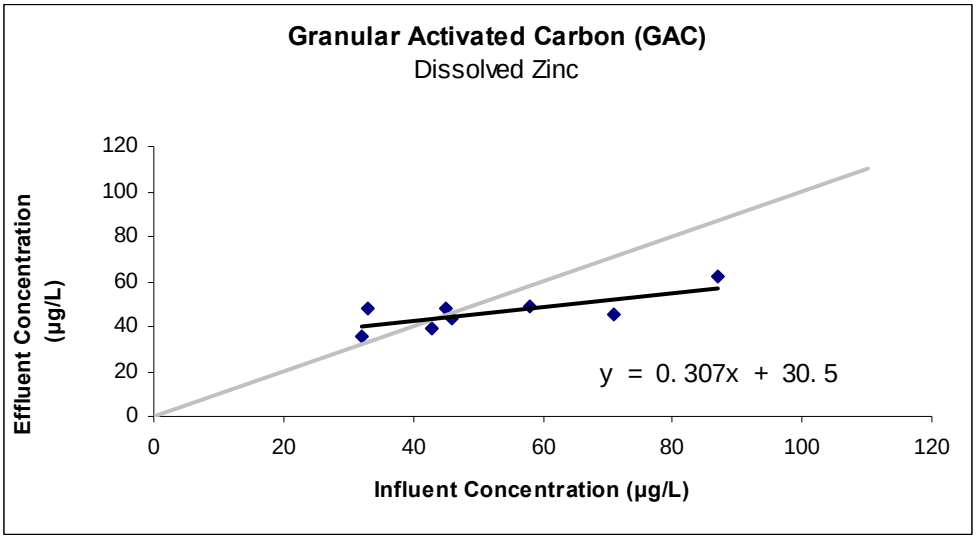
ANOVA

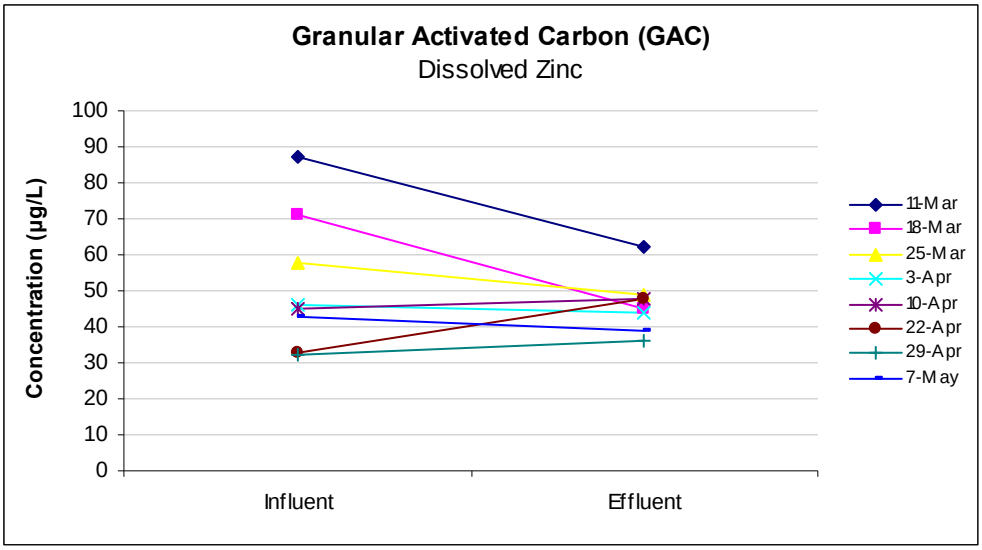
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	240.149	240.149	7.758	0.032
Residual	6.000	185.726	30.954		
Total	7.000	425.875			

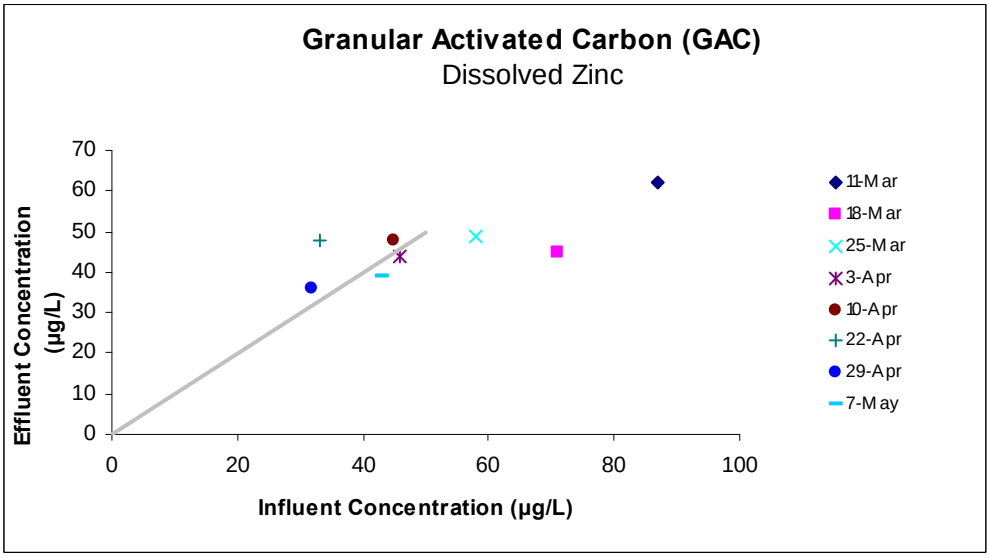
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	30.452	6.046	5.037	0.002	15.659	45.245	15.659	45.245
X Variable 1	0.307	0.110	2.785	0.032	0.037	0.577	0.037	0.577

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	57.157	4.843
2	52.245	-7.245
3	48.255	0.745
4	44.572	-0.572
5	44.265	3.735
6	40.581	7.419
7	40.274	-4.274
8	43.651	-4.651




Granular Activated Carbon (GAC)
Dissolved Zinc
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Dissolved Zinc
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total K

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.236
R Square	0.056
Adjusted R Square	-0.102
Standard Error	18564.368
Observations	8.000

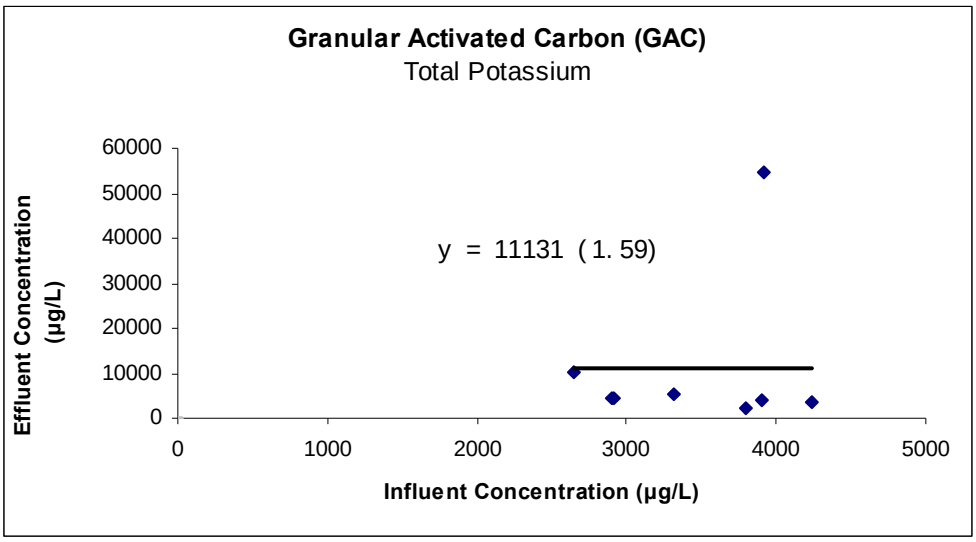
ANOVA

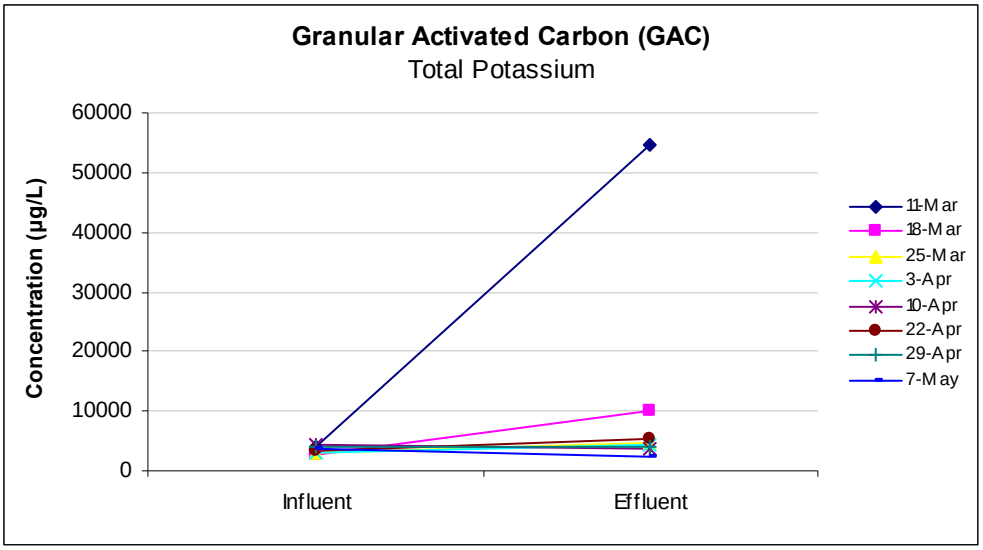
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	122028024.577	122028024.577	0.354	0.574
Residual	6.000	2067814552.298	344635758.716		
Total	7.000	2189842576.875			

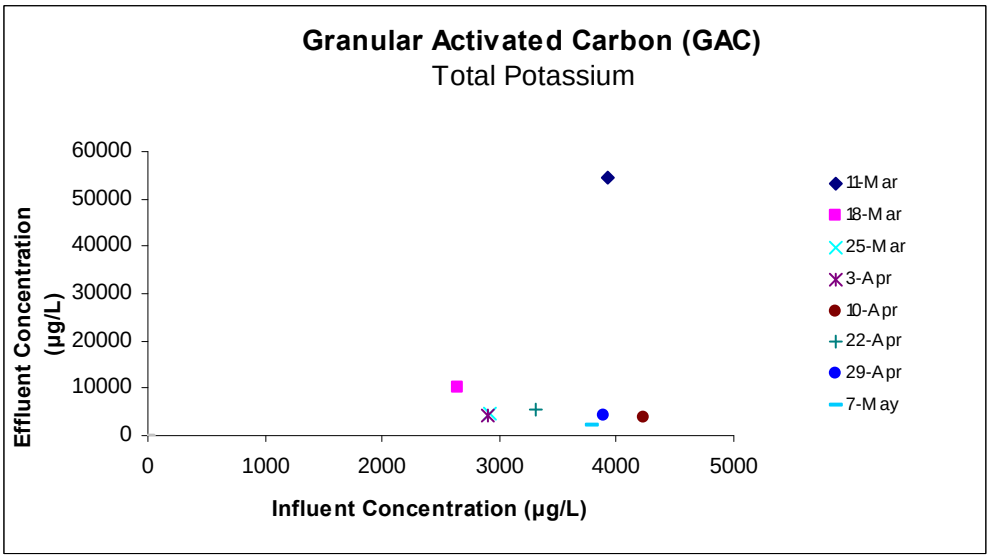
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-13480.751	41878.919	-0.322	0.758	-115954.775	88993.272	-115954.775	88993.272
X Variable 1	7.126	11.976	0.595	0.574	-22.178	36.431	-22.178	36.431

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	14447.568	40074.432
2	5411.307	4804.693
3	7299.800	-2691.800
4	7192.904	-2931.904
5	16728.013	-12975.013
6	10136.103	-4787.103
7	14297.914	-10163.914
8	13535.391	-11329.391




Granular Activated Carbon (GAC)
Total Potassium
Concentration (µg/L)
60000
50000
40000
30000
20000
10000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Total Potassium
Effluent Concentration (µg/L)
60000
50000
40000
30000
20000
10000
0
0
1000
2000
3000
4000
5000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved K

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.490
R Square	0.240
Adjusted R Square	0.113
Standard Error	15610.869
Observations	8.000

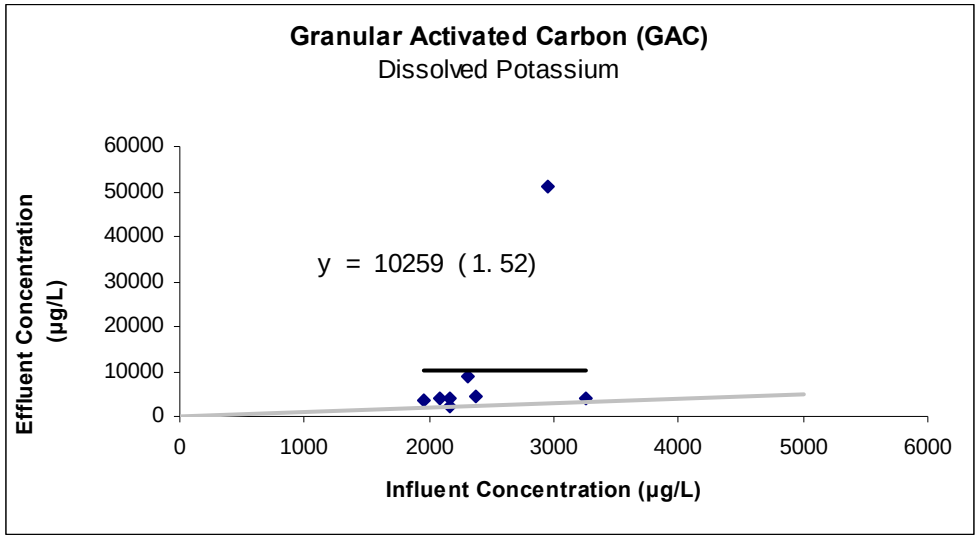
ANOVA

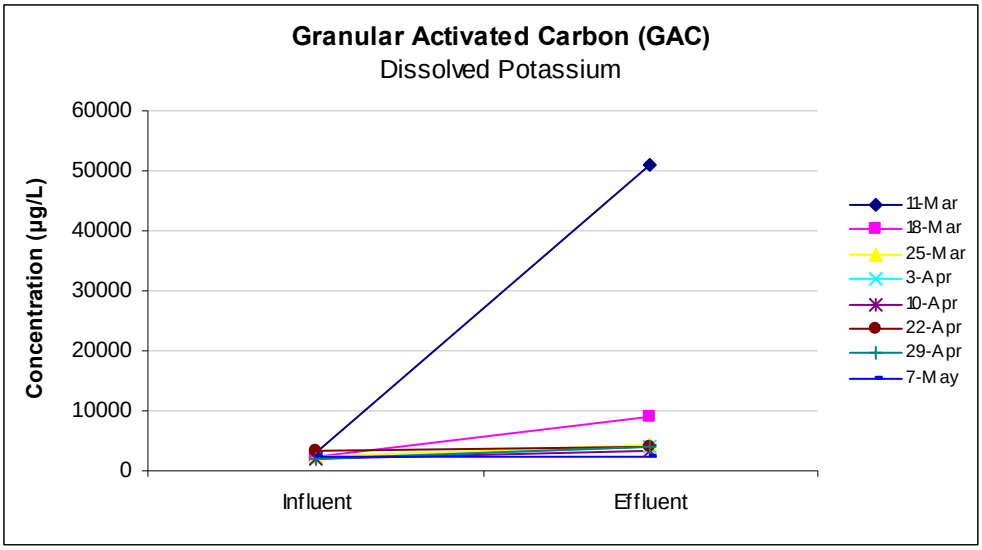
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	461165397.657	461165397.657	1.892	0.218
Residual	6.000	1462195323.218	243699220.536		
Total	7.000	1923360720.875			

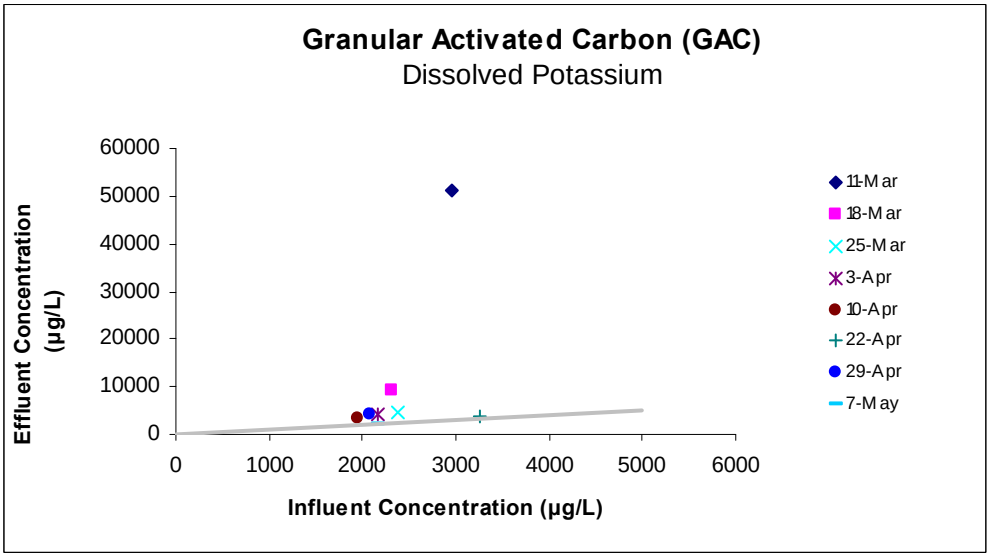
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-32617.084	31653.344	-1.030	0.343	-110070.025	44835.858	-110070.025	44835.858
X Variable 1	17.814	12.950	1.376	0.218	-13.873	49.501	-13.873	49.501

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	20041.269	30939.731
2	8426.504	645.496
3	9566.604	-5093.604
4	5896.908	-1902.908
5	2298.468	1083.532
6	25349.858	-21421.858
7	4453.969	-415.969
8	6039.420	-3834.420




Granular Activated Carbon (GAC)
Dissolved Potassium
Concentration (µg/L)
60000
50000
40000
30000
20000
10000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Dissolved Potassium
Effluent Concentration (µg/L)
60000
50000
40000
30000
20000
10000
0
0
1000
2000
3000
4000
5000
6000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Na

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.208
R Square	0.043
Adjusted R Square	-0.116
Standard Error	6132.748
Observations	8.000

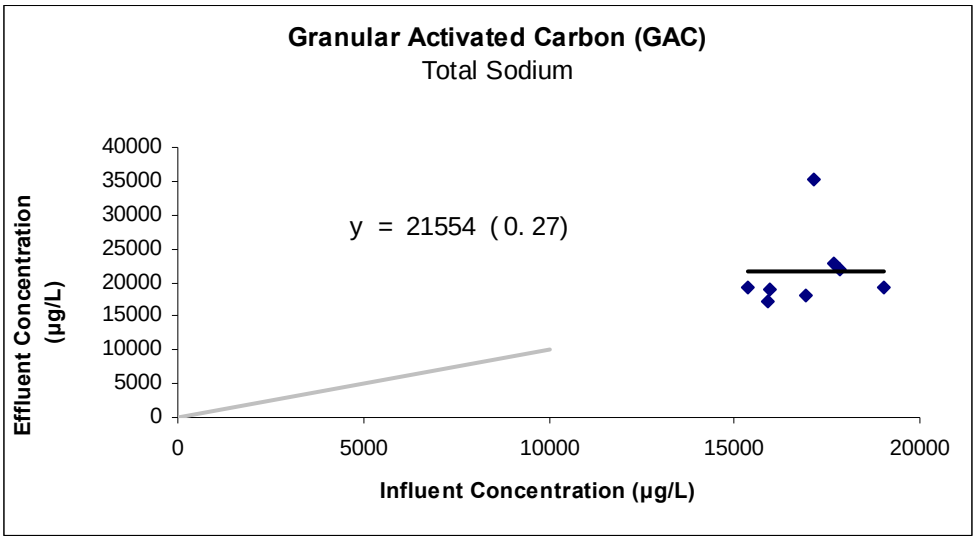
ANOVA

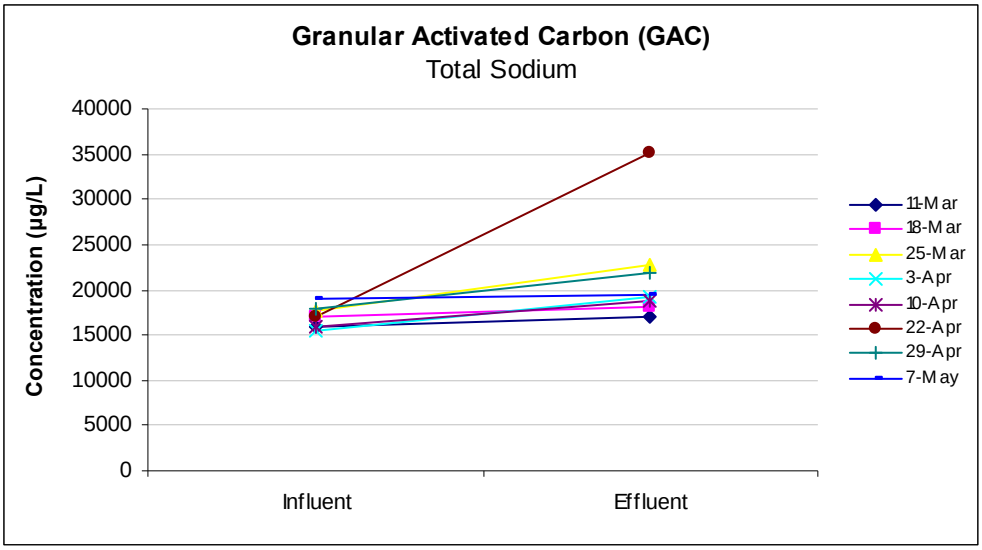
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	10186485.817	10186485.817	0.271	0.621
Residual	6.000	225663577.058	37610596.176		
Total	7.000	235850062.875			

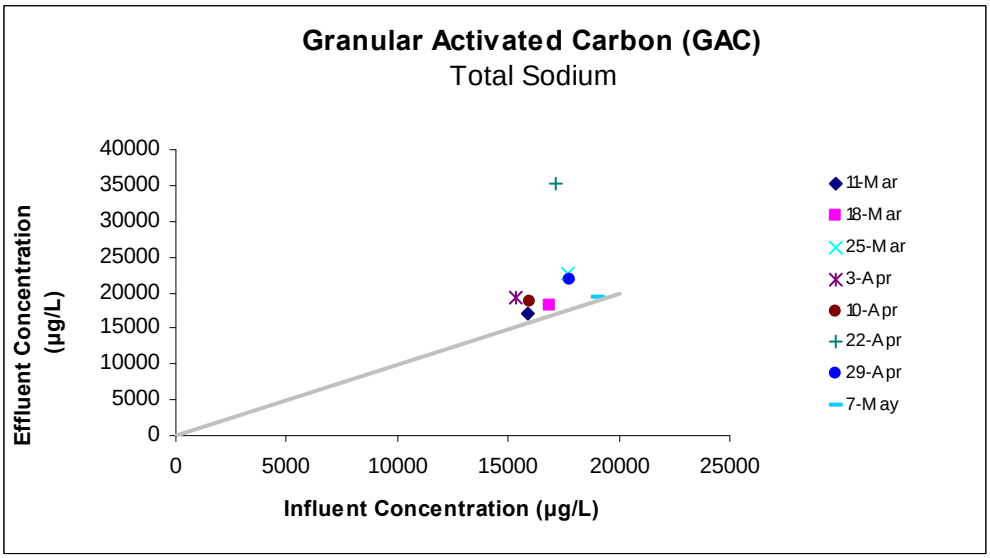
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	4756.367	32349.825	0.147	0.888	-74400.804	83913.538	-74400.804	83913.538
X Variable 1	0.990	1.902	0.520	0.621	-3.664	5.644	-3.664	5.644

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	20472.682	-3353.682
2	21494.237	-3327.237
3	22261.394	460.606
4	19965.864	-801.864
5	20534.054	-1703.054
6	21699.142	13470.858
7	22397.997	-519.997
8	23607.630	-4225.630




Granular Activated Carbon (GAC)
Total Sodium
Concentration (µg/L)
40000
35000
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Total Sodium
Effluent Concentration (µg/L)
40000
35000
30000
25000
20000
15000
10000
5000
0
0
5000
10000
15000
20000
25000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Na

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.860
R Square	0.739
Adjusted R Square	0.696
Standard Error	1715.270
Observations	8.000

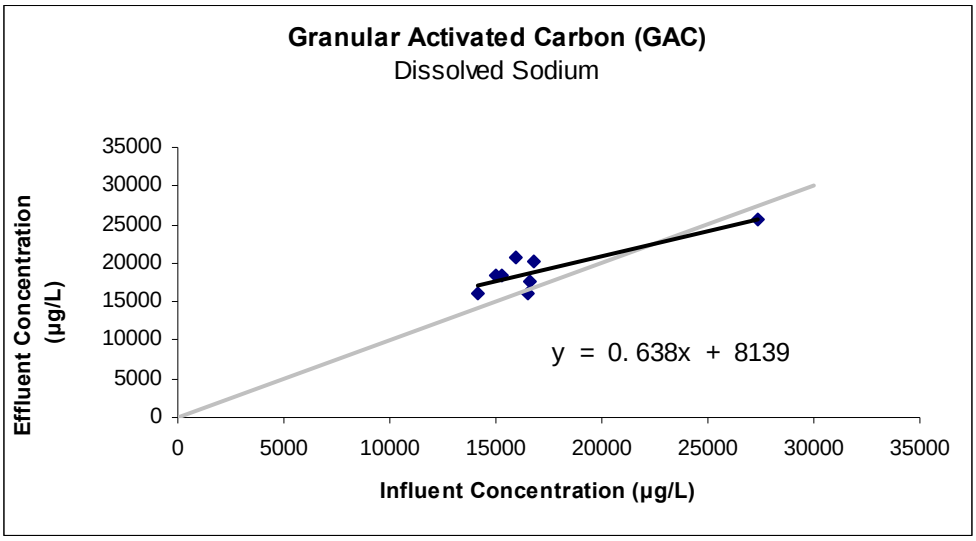
ANOVA

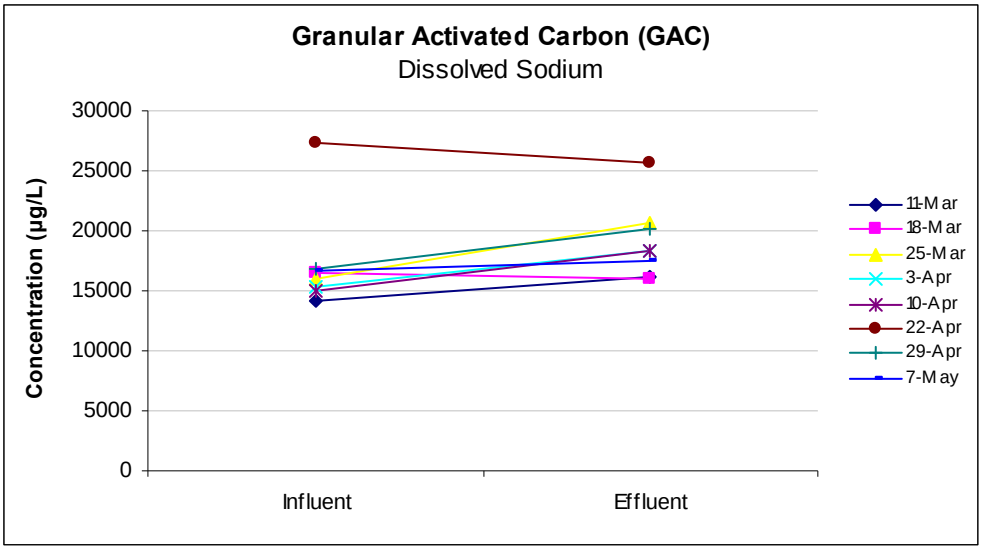
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	49997883.915	49997883.915	16.994	0.006
Residual	6.000	17652912.960	2942152.160		
Total	7.000	67650796.875			

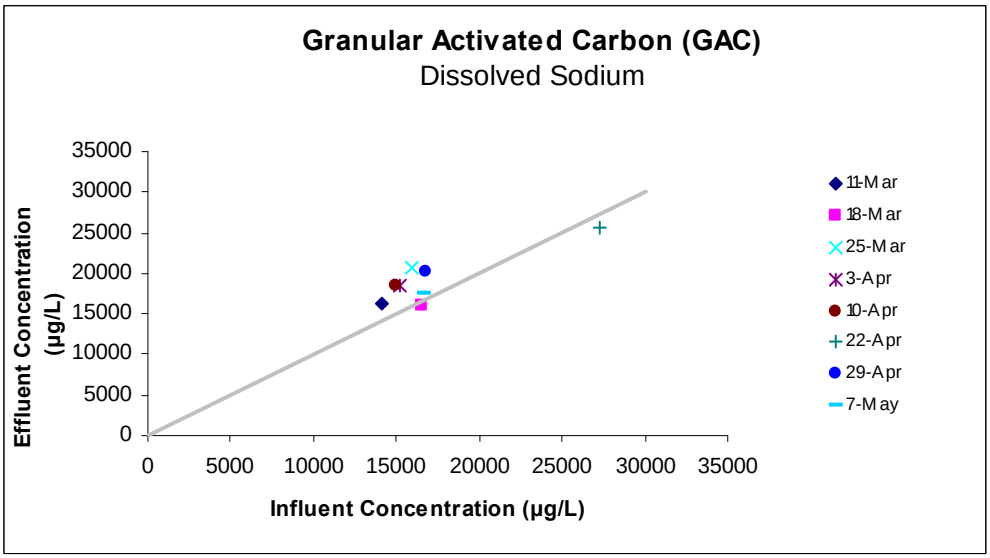
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	8139.565	2732.074	2.979	0.025	1454.422	14824.708	1454.422	14824.708
X Variable 1	0.638	0.155	4.122	0.006	0.259	1.017	0.259	1.017

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	17180.651	-1033.651
2	18686.329	-2672.329
3	18318.841	2428.159
4	17879.898	498.102
5	17711.466	682.534
6	25576.081	33.919
7	18875.814	1221.186
8	18739.921	-1157.921




Granular Activated Carbon (GAC)
Dissolved Sodium
Concentration (µg/L)
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Dissolved Sodium
Effluent Concentration (µg/L)
35000
30000
25000
20000
15000
10000
5000
0
0
5000
10000
15000
20000
25000
30000
35000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Cr

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.450
R Square	0.202
Adjusted R Square	-0.064
Standard Error	1.845
Observations	5.000

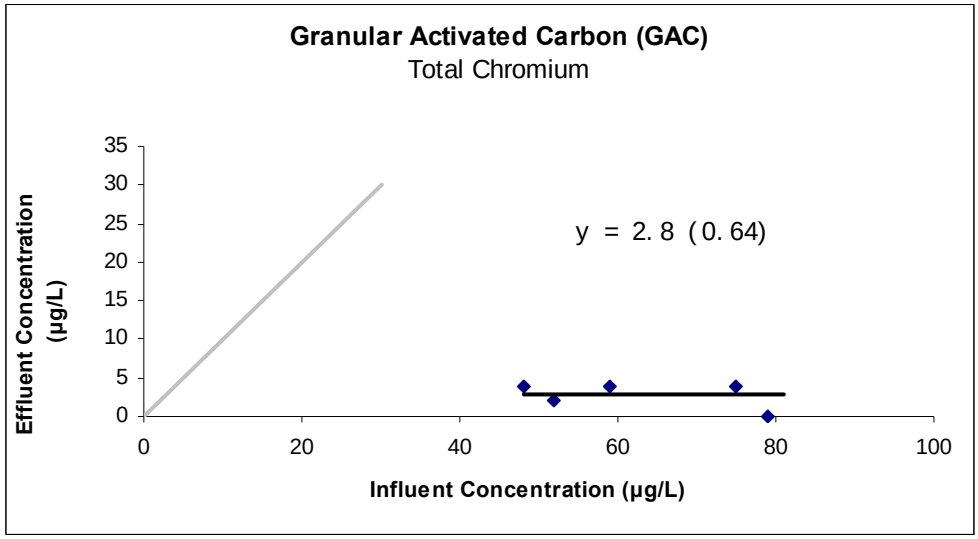
ANOVA

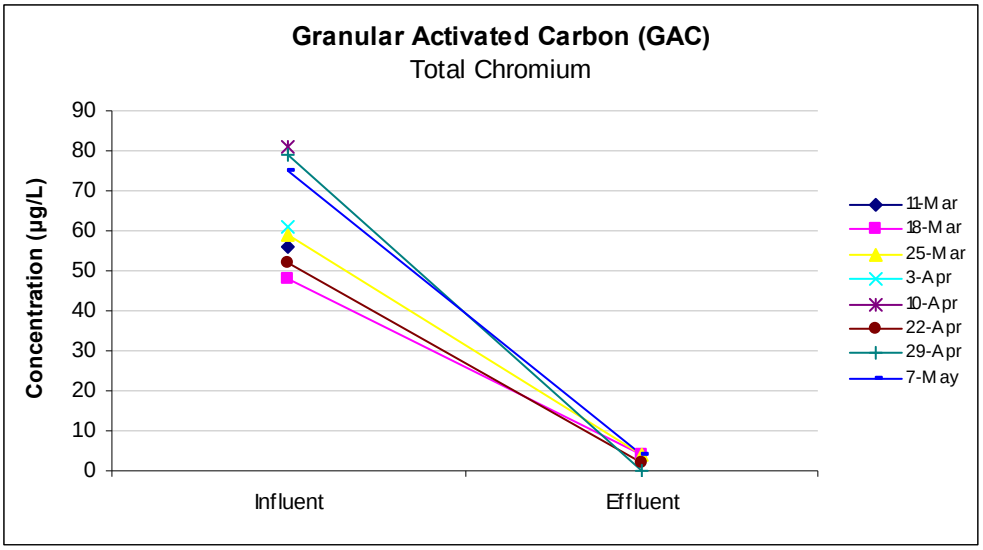
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	2.590	2.590	0.761	0.447
Residual	3.000	10.210	3.403		
Total	4.000	12.800			

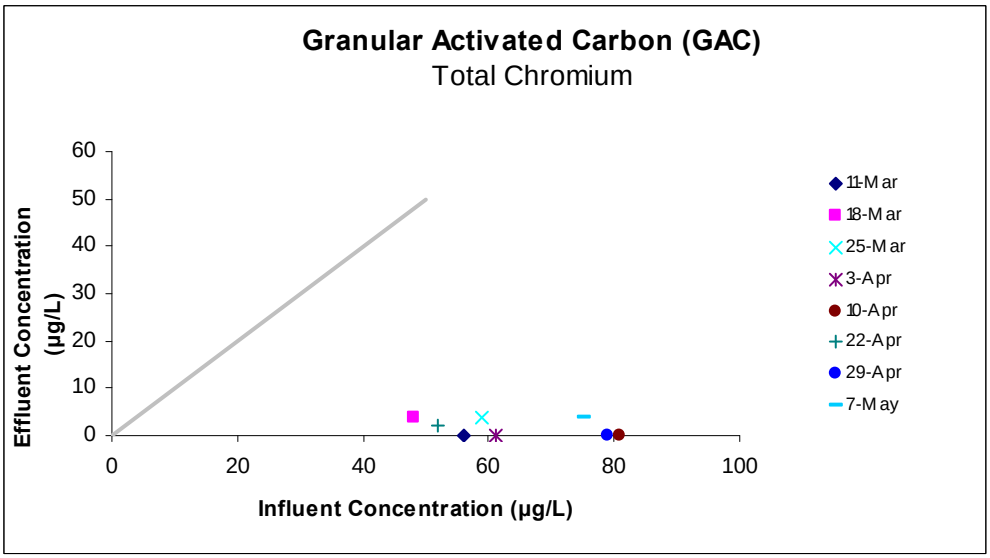
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	6.451	4.266	1.512	0.228	-7.126	20.029	-7.126	20.029
X Variable 1	-0.058	0.067	-0.872	0.447	-0.271	0.154	-0.271	0.154

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	3.652	0.348
2	3.010	0.990
3	3.418	-1.418
4	1.843	-1.843
5	2.077	1.923




Granular Activated Carbon (GAC)
Total Chromium
Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Total Chromium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cr

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.651
R Square	0.424
Adjusted R Square	0.136
Standard Error	0.537
Observations	4.000

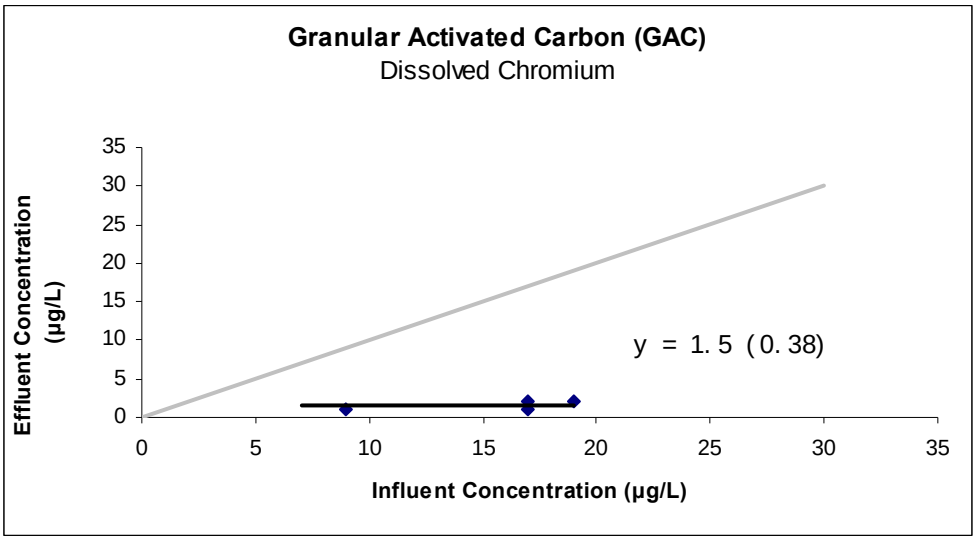
ANOVA

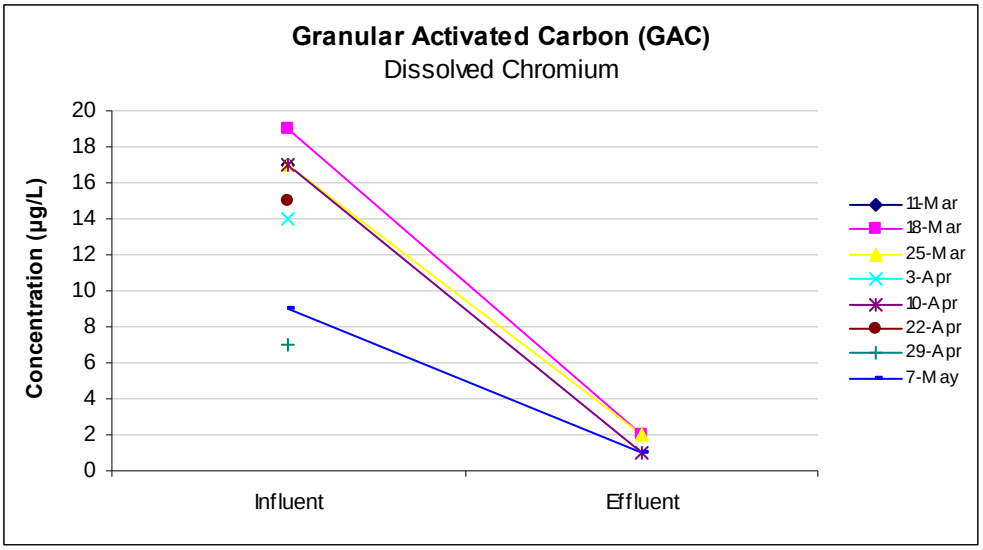
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	0.424	0.424	1.471	0.349
Residual	2.000	0.576	0.288		
Total	3.000	1.000			

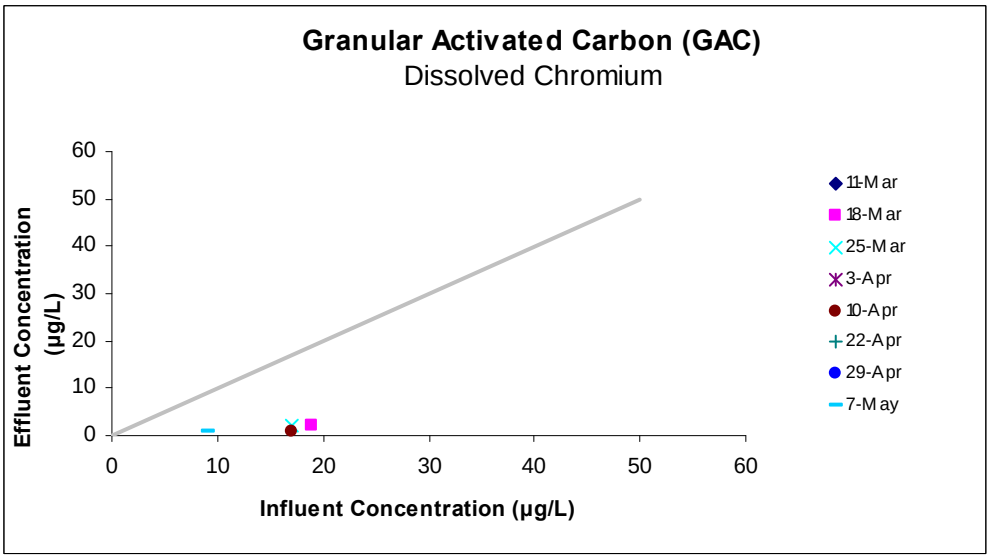
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.186	1.116	0.167	0.883	-4.615	4.988	-4.615	4.988
X Variable 1	0.085	0.070	1.213	0.349	-0.216	0.385	-0.216	0.385

RESIDUAL OUTPUT

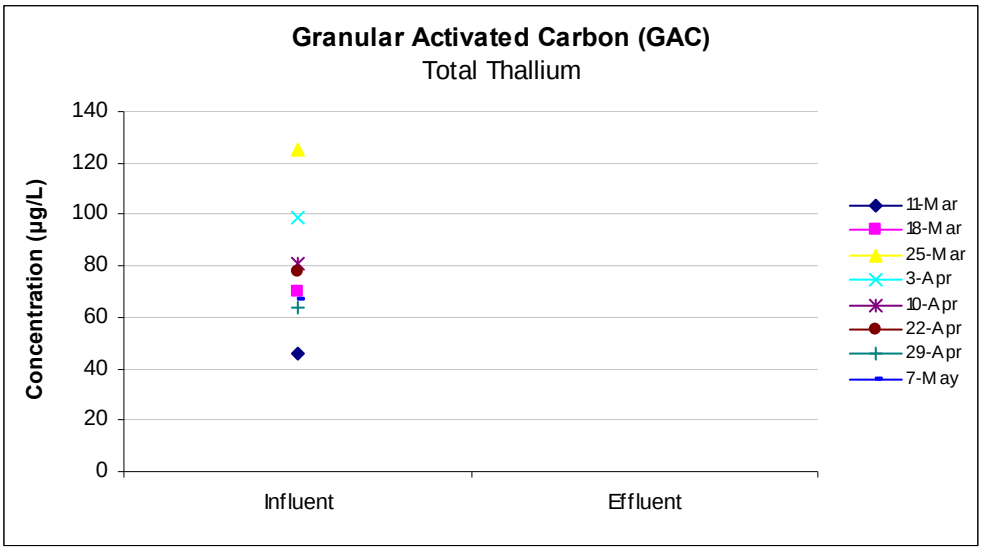
Observation	*Predicted Y*	*Residuals*
1	1.797	0.203
2	1.627	0.373
3	1.627	-0.627
4	0.949	0.051

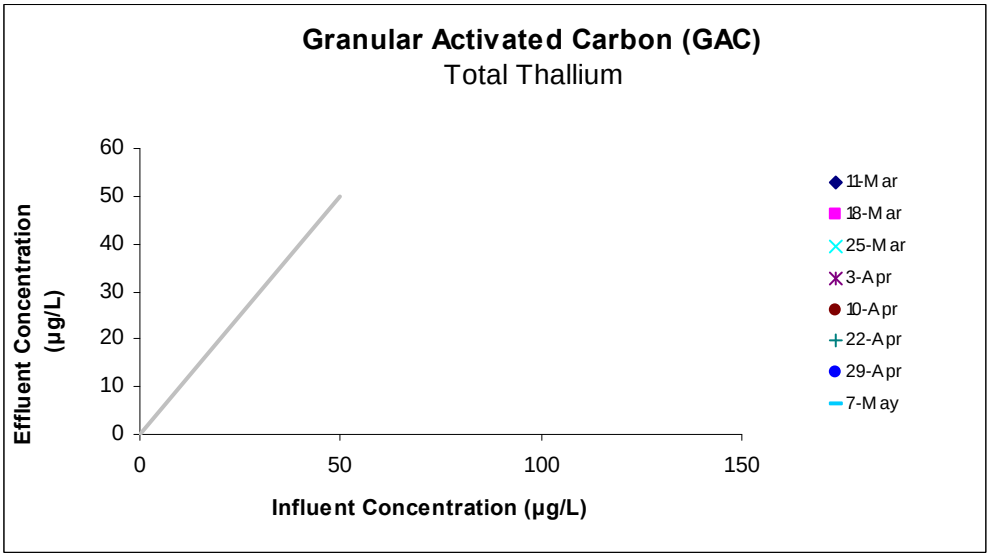



Granular Activated Carbon (GAC)
Dissolved Chromium
Concentration (µg/L)
20
18
16
14
12
10
8
6
4
2
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

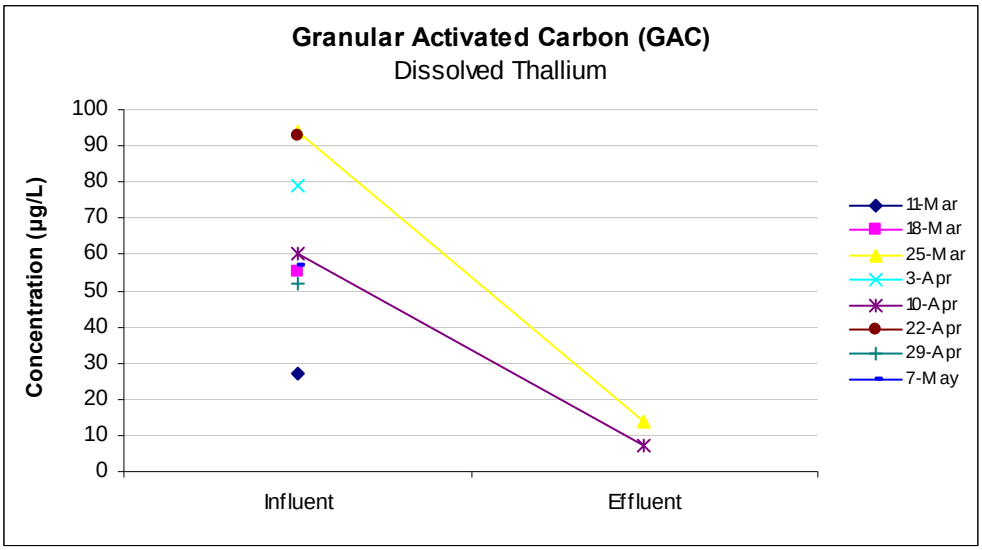

Granular Activated Carbon (GAC)
Dissolved Chromium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

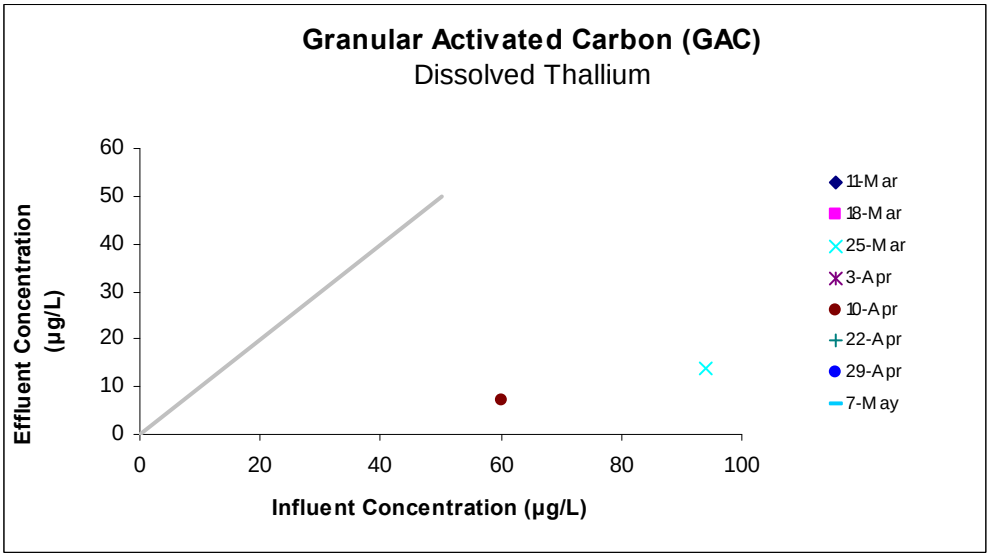
Total Tl


Granular Activated Carbon (GAC)
Total Thallium
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Total Thallium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
50
100
150
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Tl





Total Sb

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.091
R Square	0.008
Adjusted R Square	-0.157
Standard Error	12.115
Observations	8.000

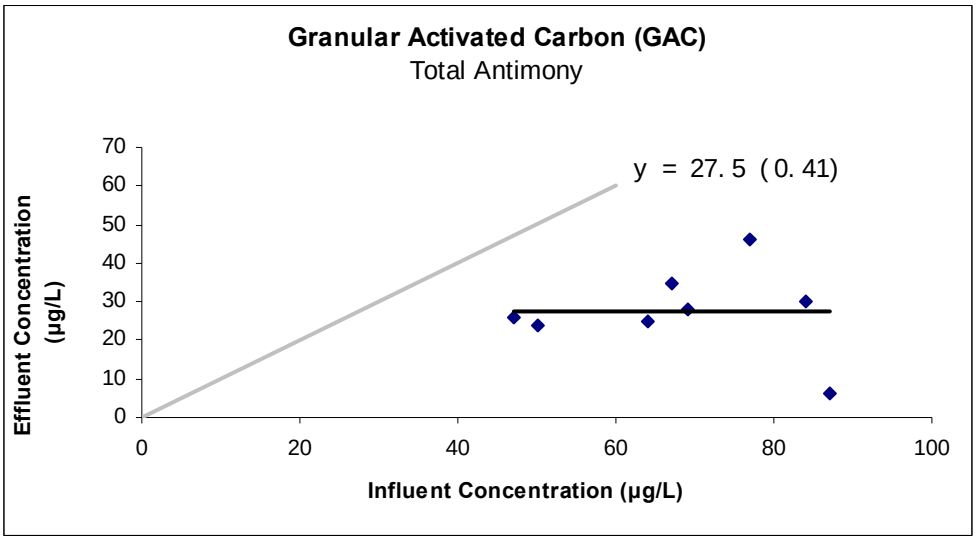
ANOVA

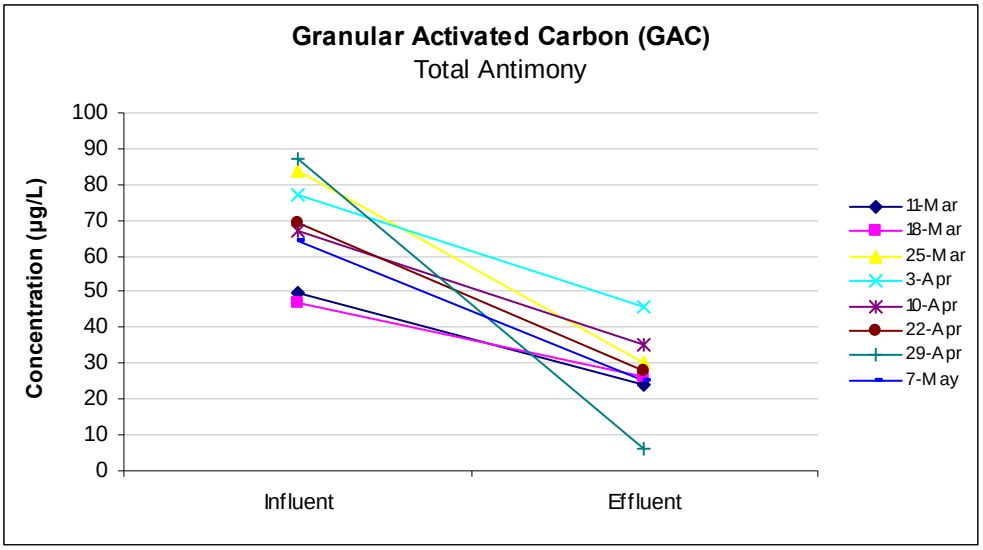
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	7.374	7.374	0.050	0.830
Residual	6.000	880.626	146.771		
Total	7.000	888.000			

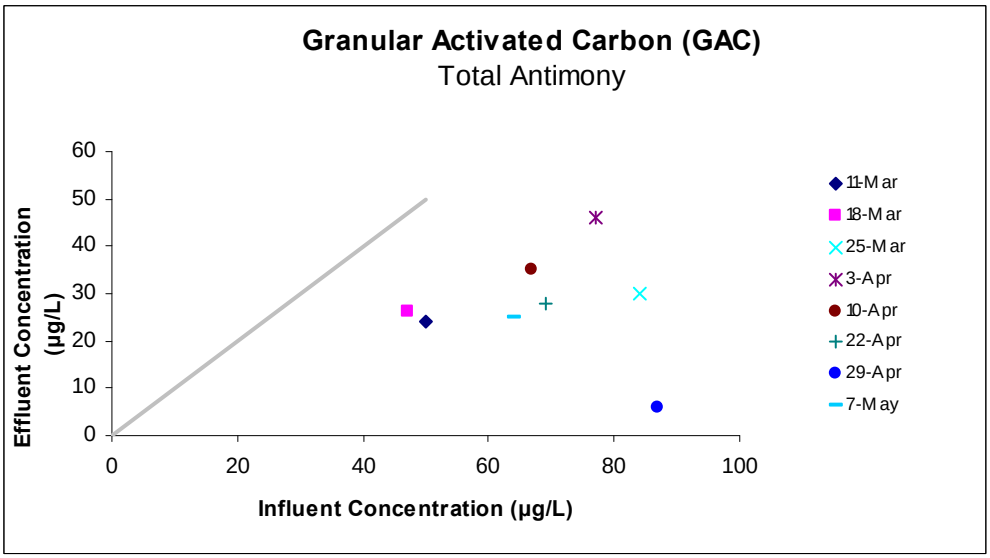
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	32.307	21.871	1.477	0.190	-21.208	85.823	-21.208	85.823
X Variable 1	-0.071	0.315	-0.224	0.830	-0.841	0.700	-0.841	0.700

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	28.779	-4.779
2	28.991	-2.991
3	26.380	3.620
4	26.874	19.126
5	27.579	7.421
6	27.438	0.562
7	26.168	-20.168
8	27.791	-2.791




Granular Activated Carbon (GAC)
Total Antimony
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Total Antimony
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Sb

GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.043
R Square	0.002
Adjusted R Square	-0.198
Standard Error	9.056
Observations	7.000

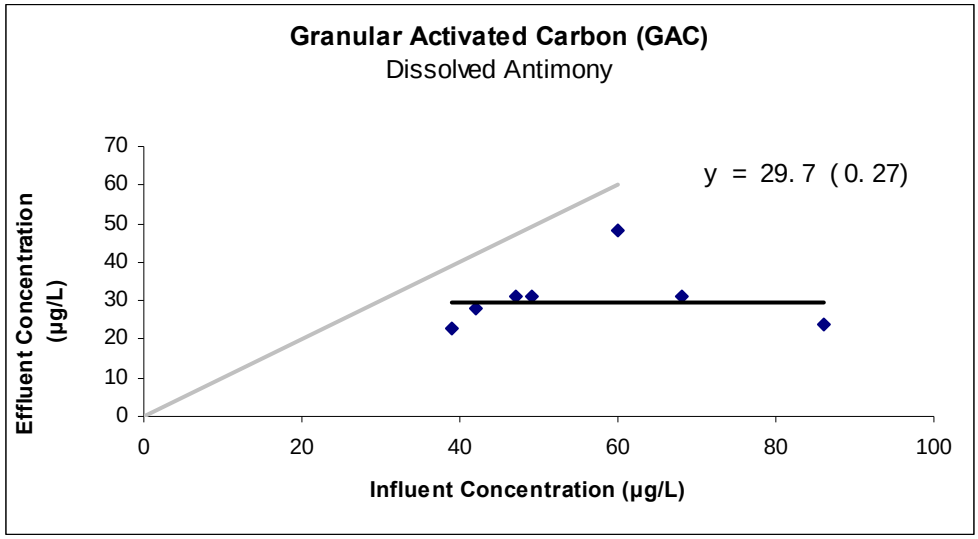
ANOVA

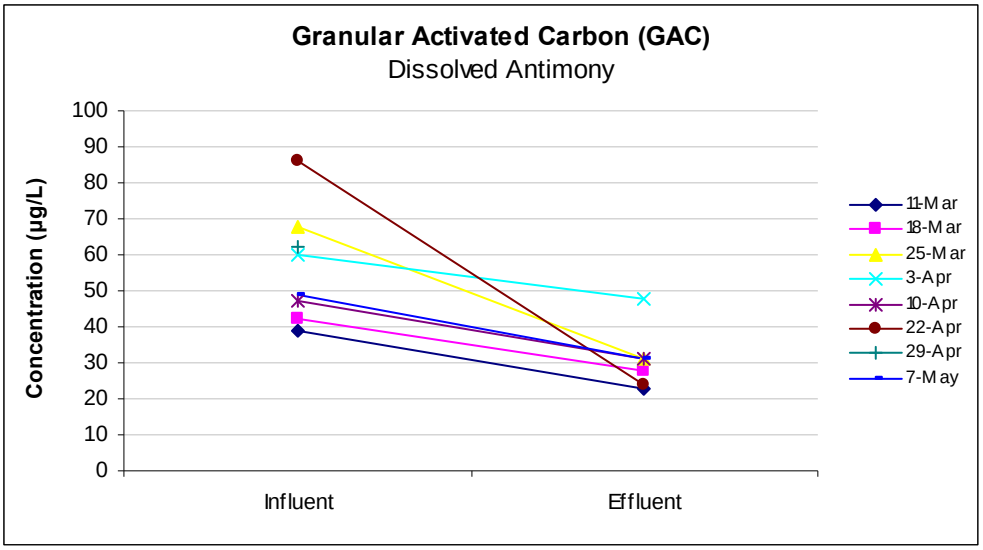
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	0.768	0.768	0.009	0.927
Residual	5.000	410.089	82.018		
Total	6.000	410.857			

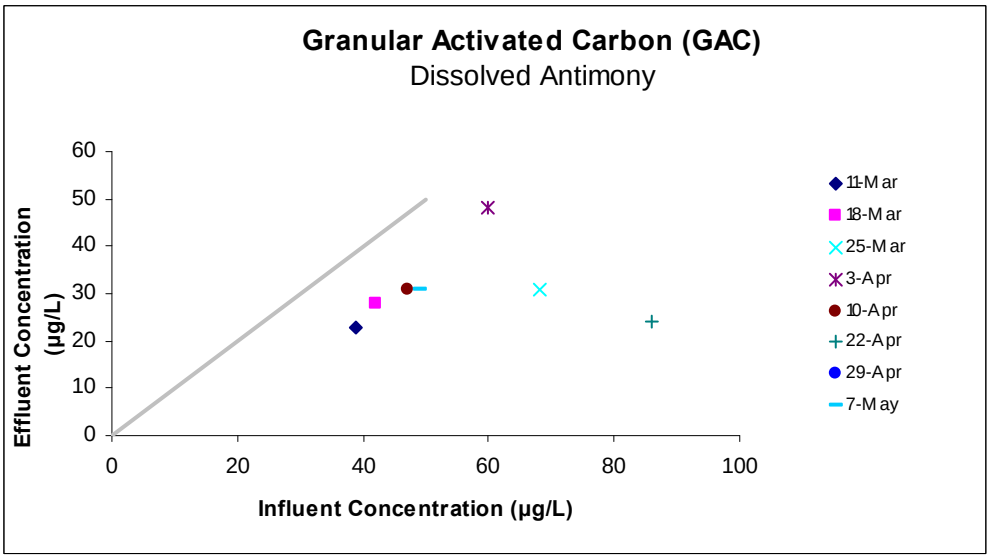
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	29.661	12.826	2.313	0.069	-3.309	62.631	-3.309	62.631
X Variable 1	0.021	0.221	0.097	0.927	-0.547	0.590	-0.547	0.590

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	30.496	-7.496
2	30.560	-2.560
3	31.117	-0.117
4	30.946	17.054
5	30.668	0.332
6	31.502	-7.502
7	30.710	0.290




Granular Activated Carbon (GAC)
Dissolved Antimony
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Granular Activated Carbon (GAC)
Dissolved Antimony
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Peat Moss (P)

Total As

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.775
R Square	0.601
Adjusted R Square	0.522
Standard Error	4.370
Observations	7.000

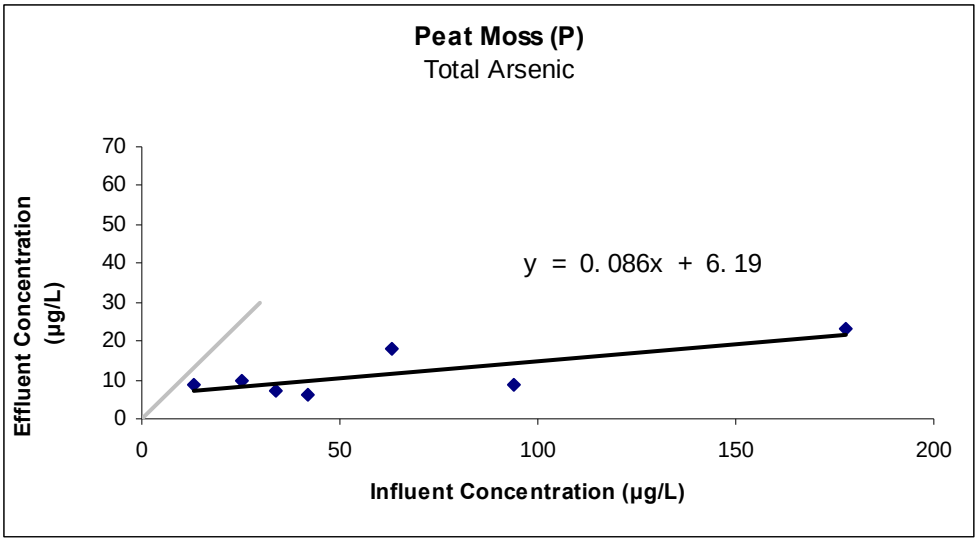
ANOVA

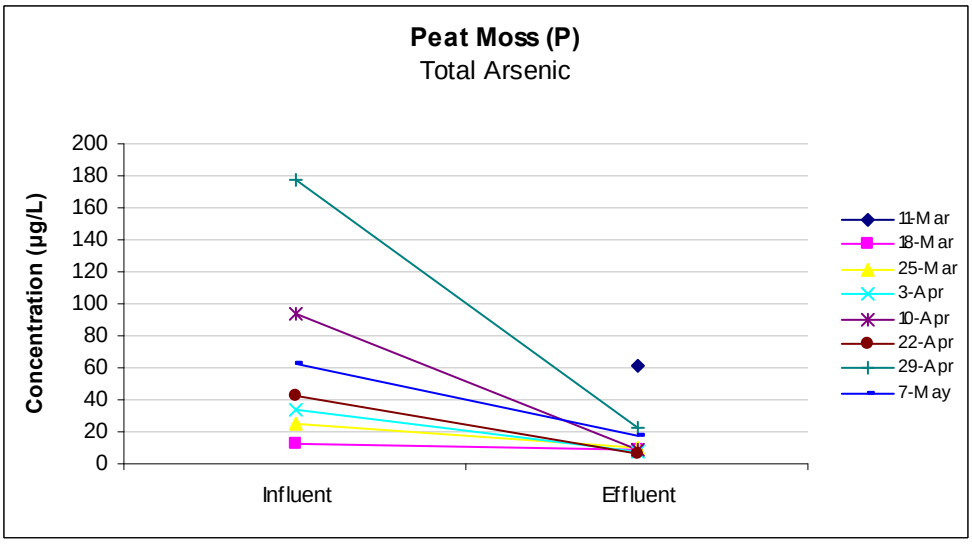
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	143.958	143.958	7.539	0.041
Residual	5.000	95.471	19.094		
Total	6.000	239.429			

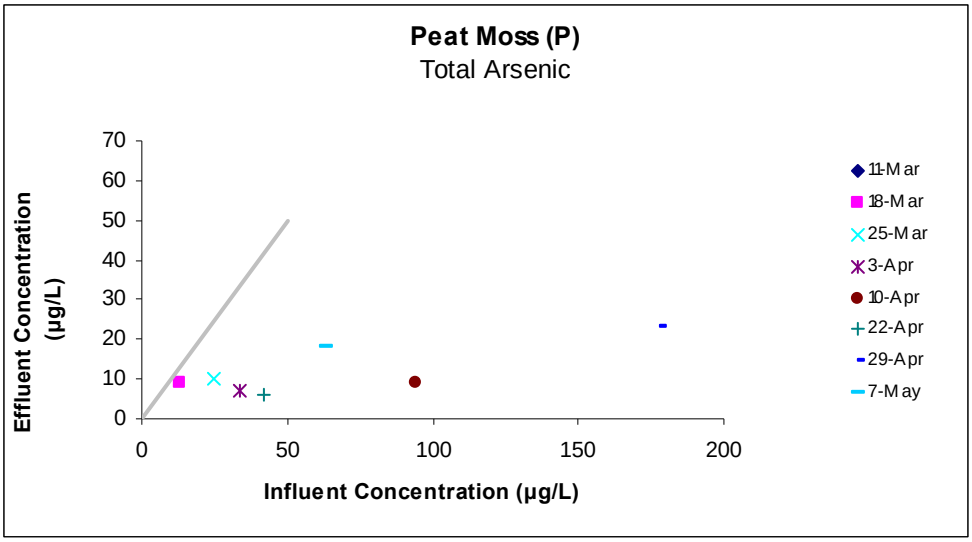
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	6.189	2.603	2.378	0.063	-0.502	12.881	-0.502	12.881
X Variable 1	0.086	0.031	2.746	0.041	0.005	0.167	0.005	0.167

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	7.309	1.691
2	8.343	1.657
3	9.118	-2.118
4	14.286	-5.286
5	9.807	-3.807
6	21.521	1.479
7	11.616	6.384


Peat Moss (P)
Total Arsenic
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0
50
100
150
200
y = 0.086x + 6.19
Influent Concentration (µg/L)


Peat Moss (P)
Total Arsenic
Concentration (µg/L)
200
180
160
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Total Arsenic
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0
50
100
150
200
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved As

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.466
R Square	0.217
Adjusted R Square	-0.174
Standard Error	7.208
Observations	4.000

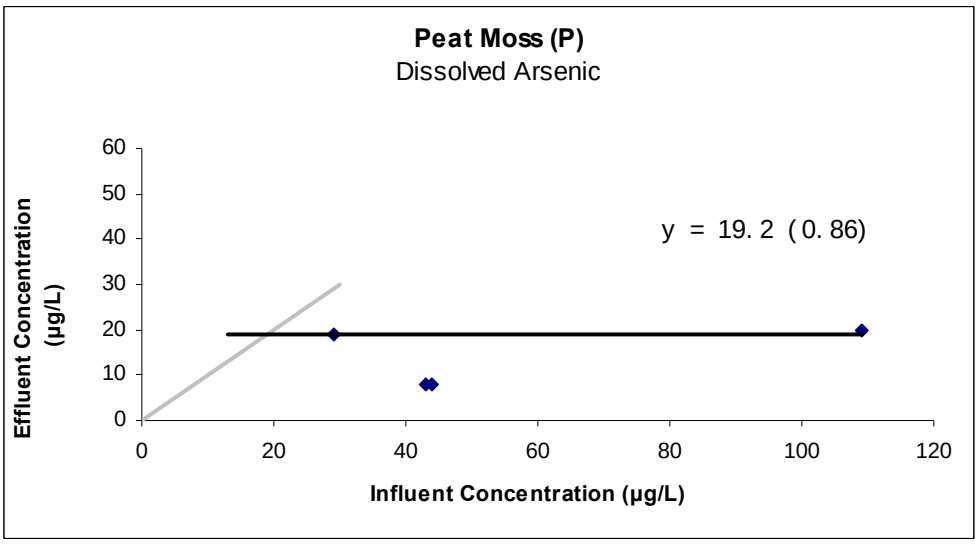
ANOVA

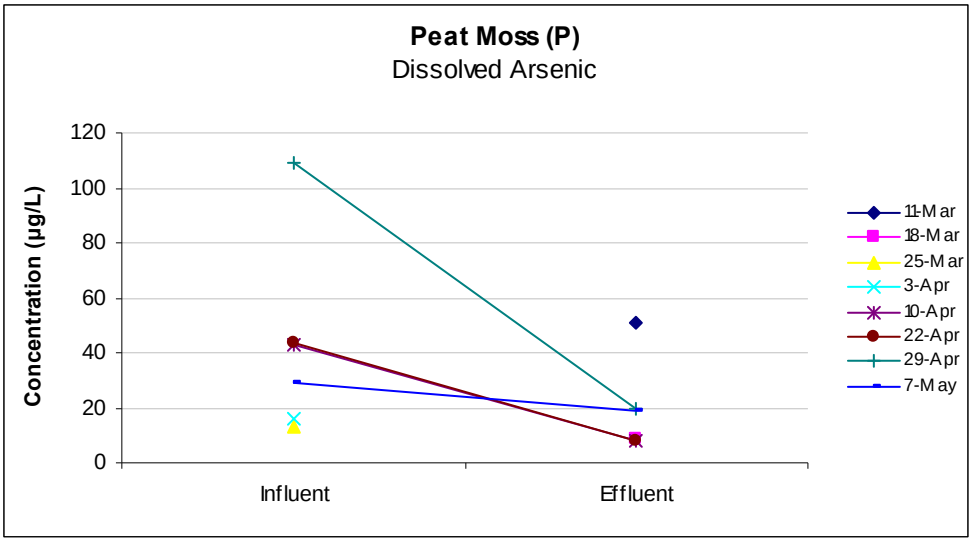
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	28.840	28.840	0.555	0.534
Residual	2.000	103.910	51.955		
Total	3.000	132.750			

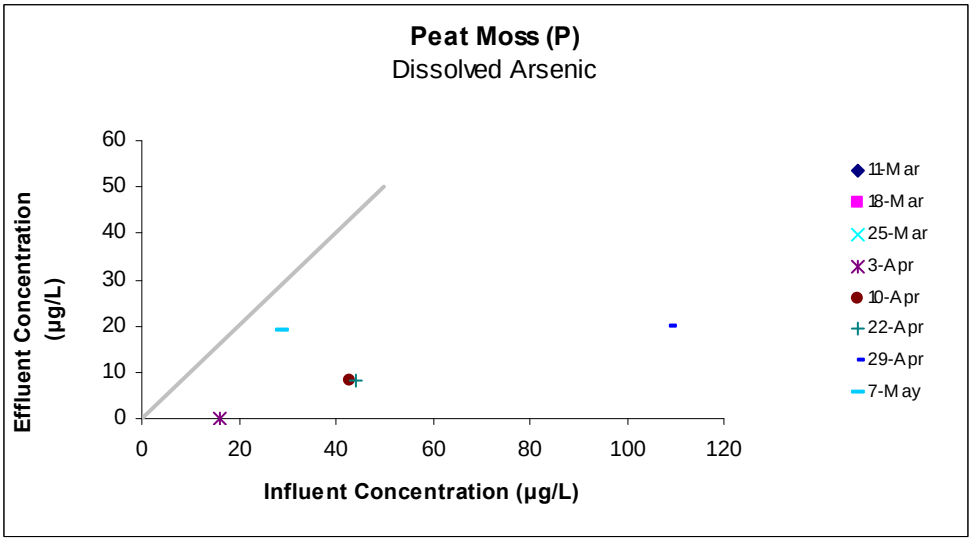
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	8.882	7.462	1.190	0.356	-23.224	40.988	-23.224	40.988
X Variable 1	0.087	0.116	0.745	0.534	-0.413	0.586	-0.413	0.586

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	12.603	-4.603
2	12.690	-4.690
3	18.315	1.685
4	11.392	7.608




Peat Moss (P)
Dissolved Arsenic
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Dissolved Arsenic
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Al

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.153
R Square	0.023
Adjusted R Square	-0.139
Standard Error	8566.939
Observations	8.000

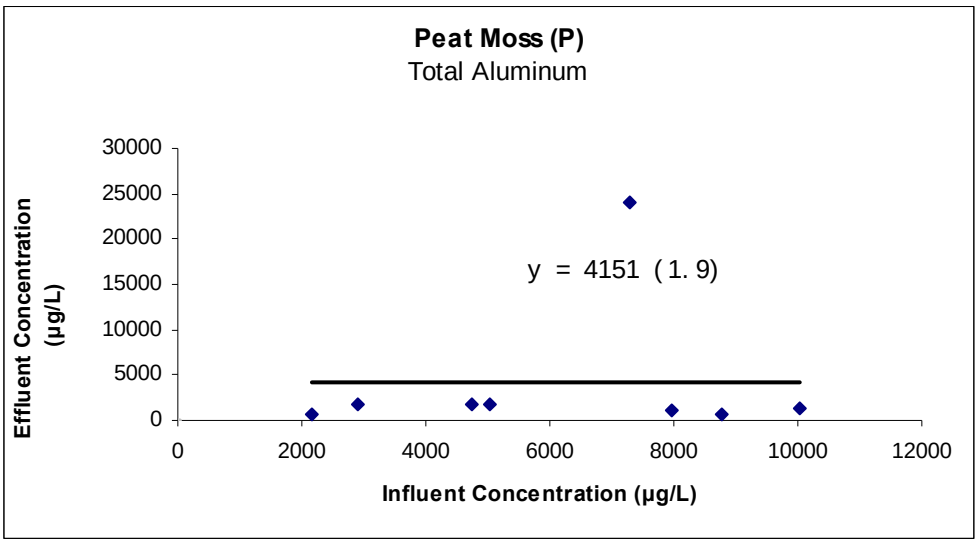
ANOVA

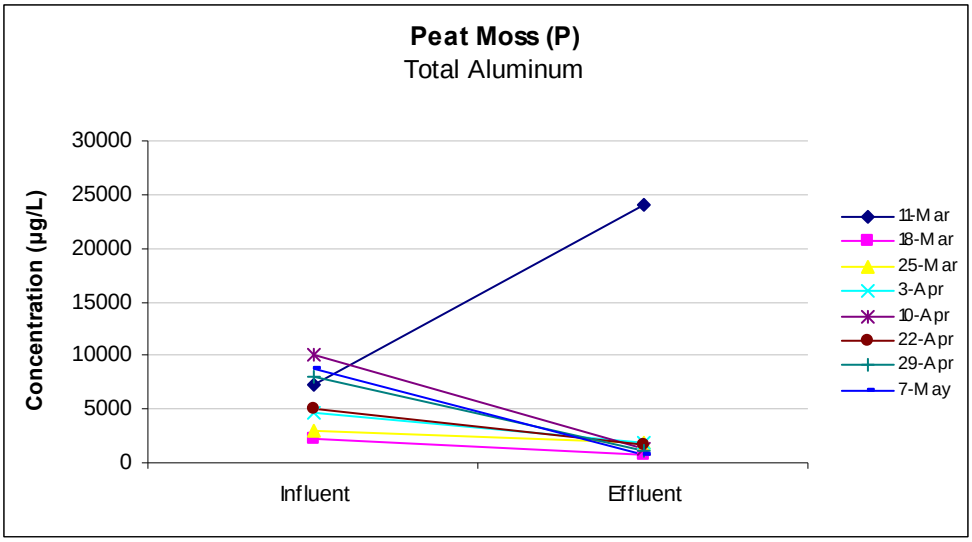
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	10535539.245	10535539.245	0.144	0.718
Residual	6.000	440354630.255	73392438.376		
Total	7.000	450890169.500			

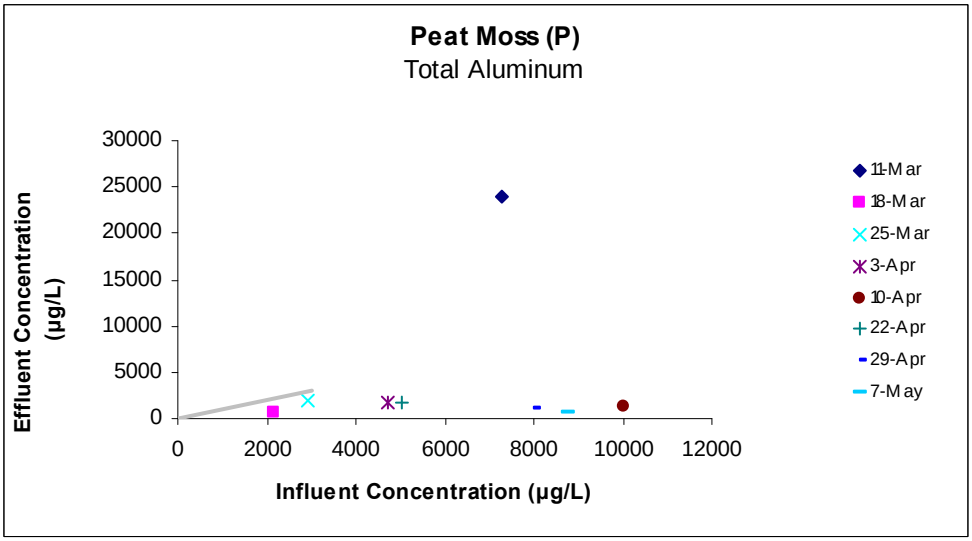
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1506.899	7608.265	0.198	0.850	-17109.854	20123.652	-17109.854	20123.652
X Variable 1	0.432	1.142	0.379	0.718	-2.361	3.226	-2.361	3.226

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	4653.327	19328.673
2	2438.934	-1754.934
3	2765.038	-895.038
4	3553.050	-1769.050
5	5847.888	-4454.888
6	3689.287	-2029.287
7	4959.103	-3833.103
8	5303.372	-4592.372




Peat Moss (P)
Total Aluminum
Concentration (µg/L)
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Total Aluminum
Effluent Concentration (µg/L)
30000
25000
20000
15000
10000
5000
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Al

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.257
R Square	0.066
Adjusted R Square	-0.121
Standard Error	373.582
Observations	7.000

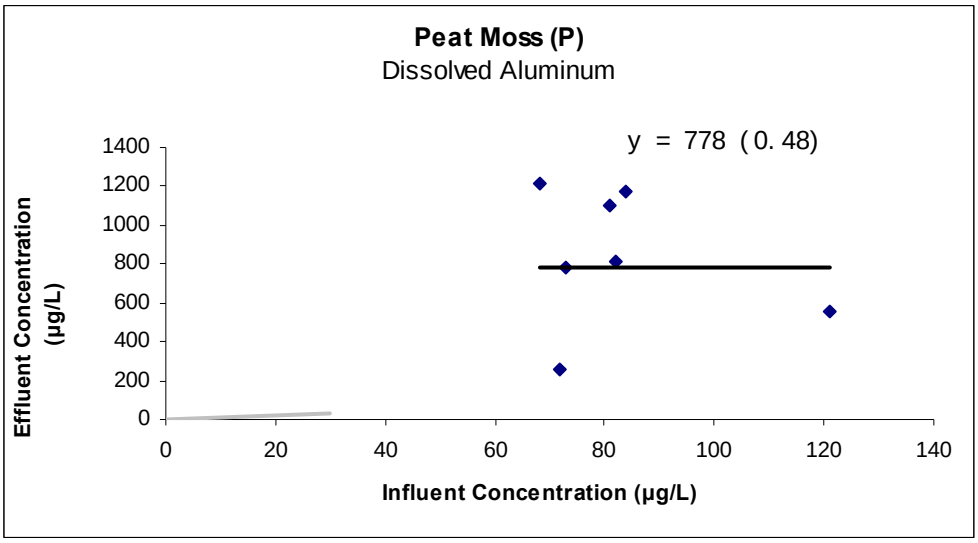
ANOVA

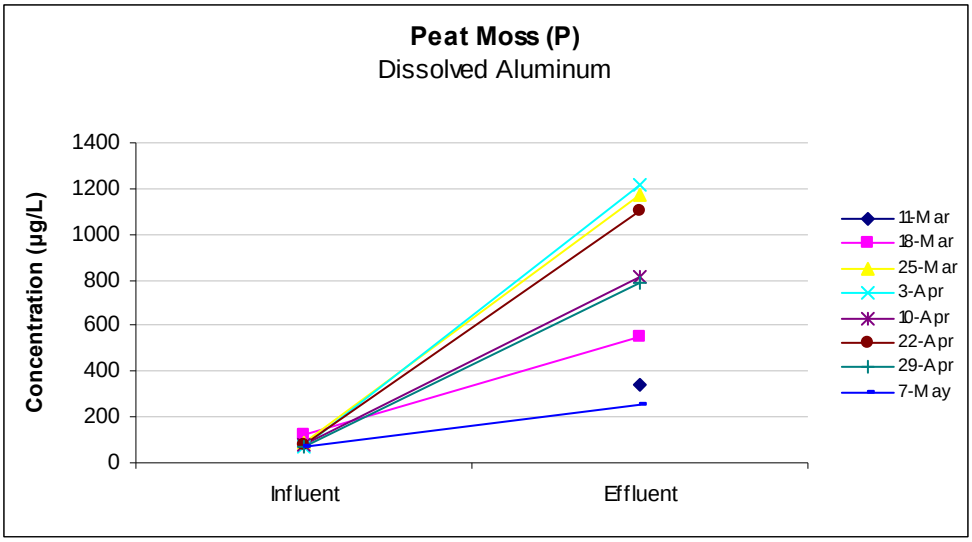
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	49472.165	49472.165	0.354	0.578
Residual	5.000	697816.692	139563.338		
Total	6.000	747288.857			

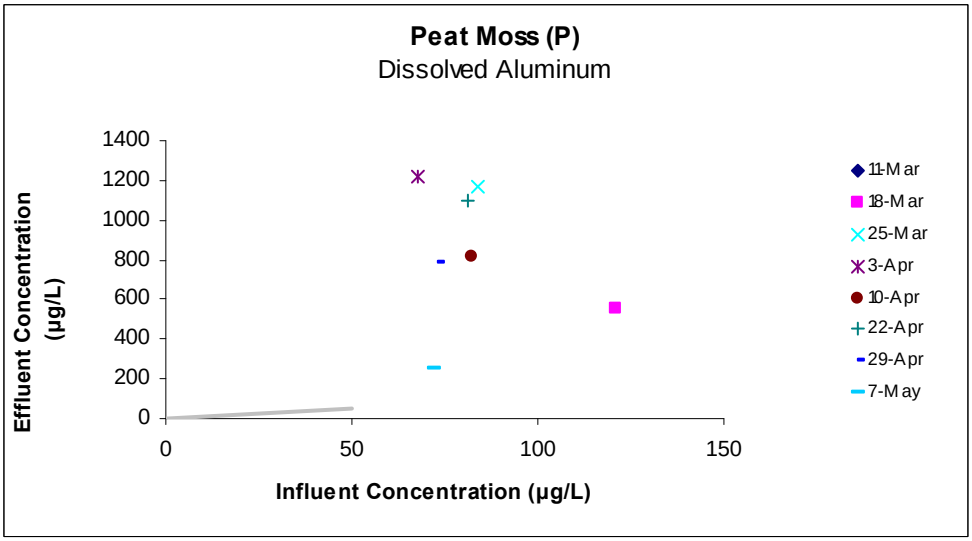
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1265.117	725.970	1.743	0.142	-601.048	3131.282	-601.048	3131.282
X Variable 1	-5.108	8.580	-0.595	0.578	-27.163	16.946	-27.163	16.946

RESIDUAL OUTPUT

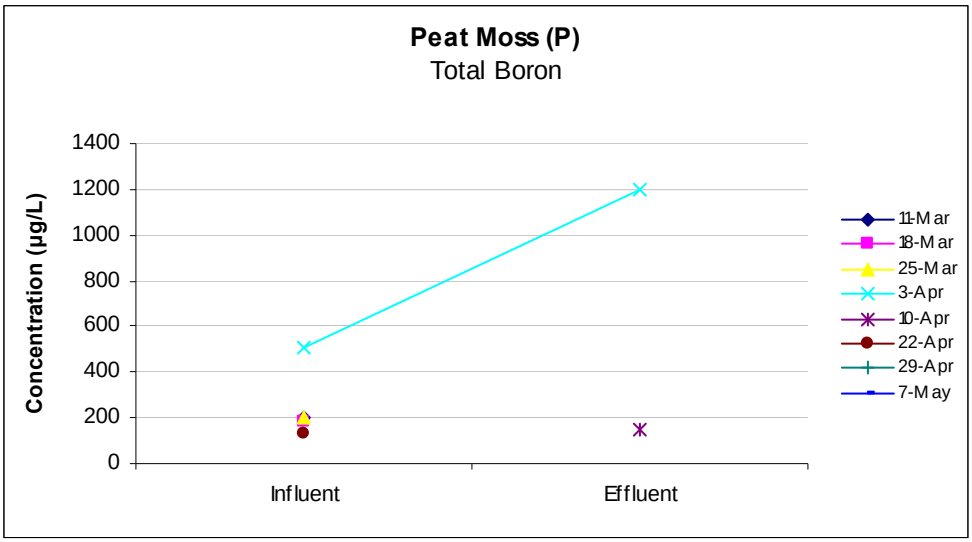
Observation	*Predicted Y*	*Residuals*
1	647.034	-94.034
2	836.035	333.965
3	917.765	297.235
4	846.251	-33.251
5	851.359	247.641
6	892.224	-107.224
7	897.332	-644.332

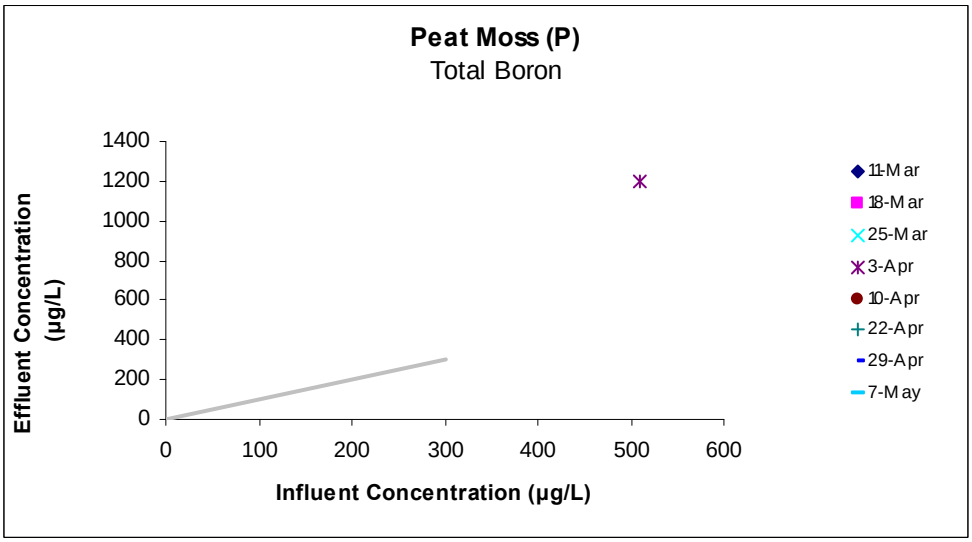



Peat Moss (P)
Dissolved Aluminum
Concentration (µg/L)
1400
1200
1000
800
600
400
200
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

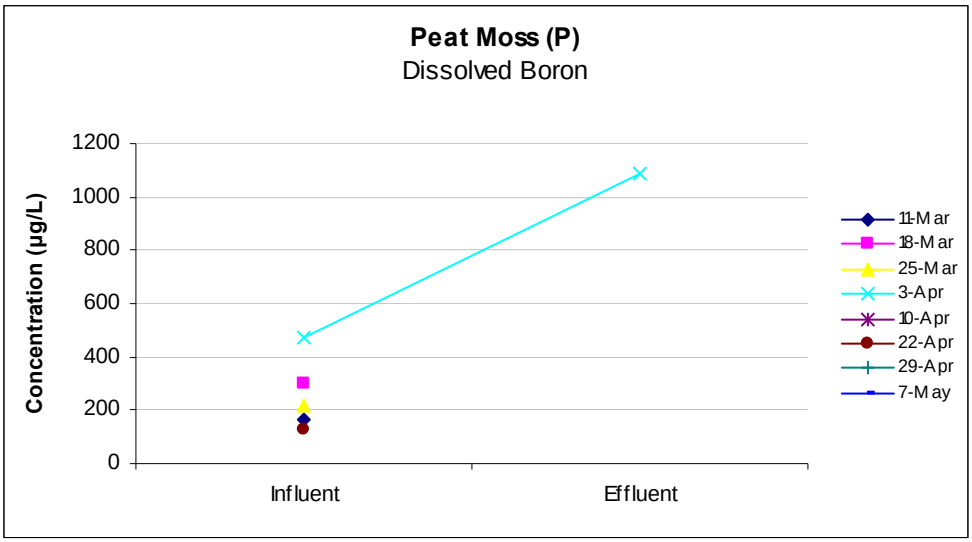

Peat Moss (P)
Dissolved Aluminum
Effluent Concentration (µg/L)
1400
1200
1000
800
600
400
200
0
0
50
100
150
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

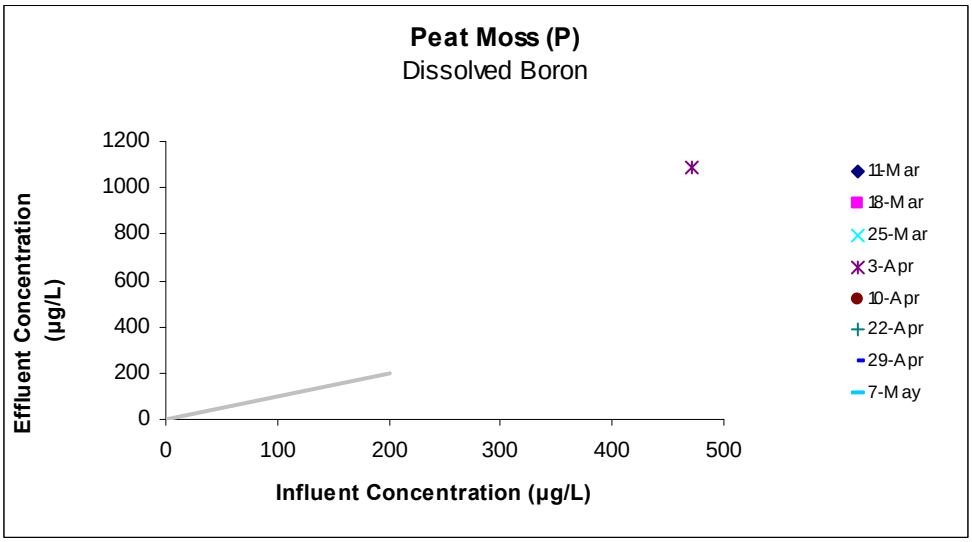
Total B


Peat Moss (P)
Total Boron
Concentration (µg/L)
1400
1200
1000
800
600
400
200
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Total Boron
Effluent Concentration (µg/L)
1400
1200
1000
800
600
400
200
0
0
100
200
300
400
500
600
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved B


Peat Moss (P)
Dissolved Boron
Concentration (µg/L)
1200
1000
800
600
400
200
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Dissolved Boron
Effluent Concentration (µg/L)
1200
1000
800
600
400
200
0
0
100
200
300
400
500
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Ca

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.513
R Square	0.263
Adjusted R Square	0.140
Standard Error	4383.421
Observations	8.000

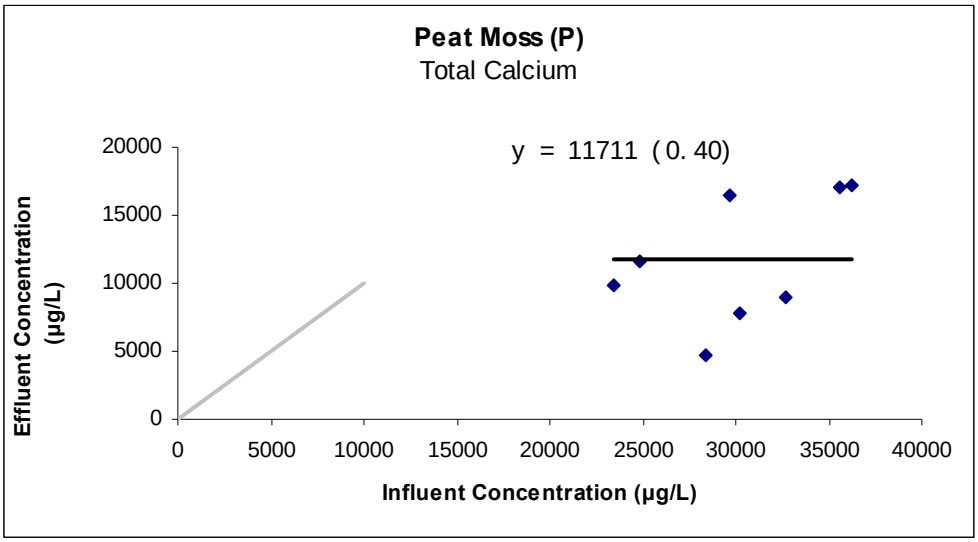
ANOVA

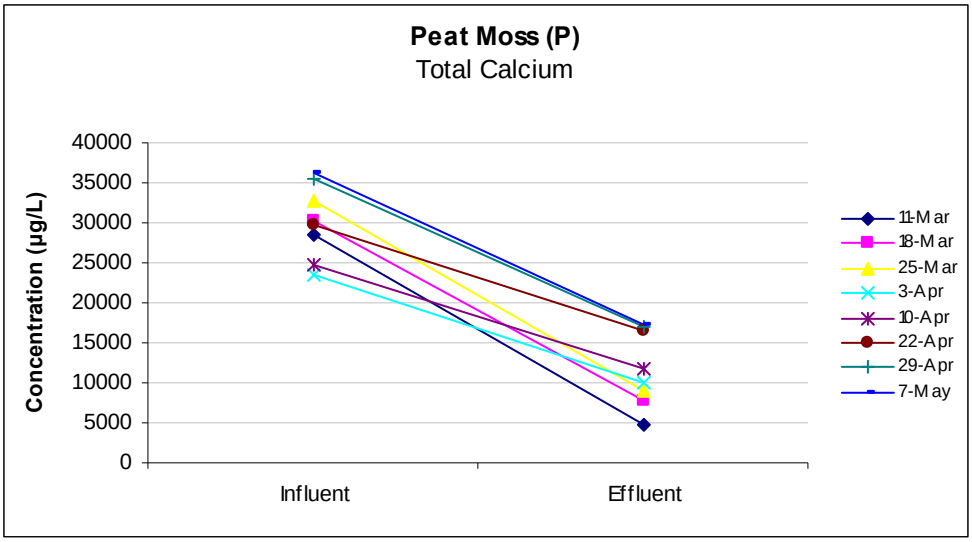
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	41148873.961	41148873.961	2.142	0.194
Residual	6.000	115286252.039	19214375.340		
Total	7.000	156435126.000			

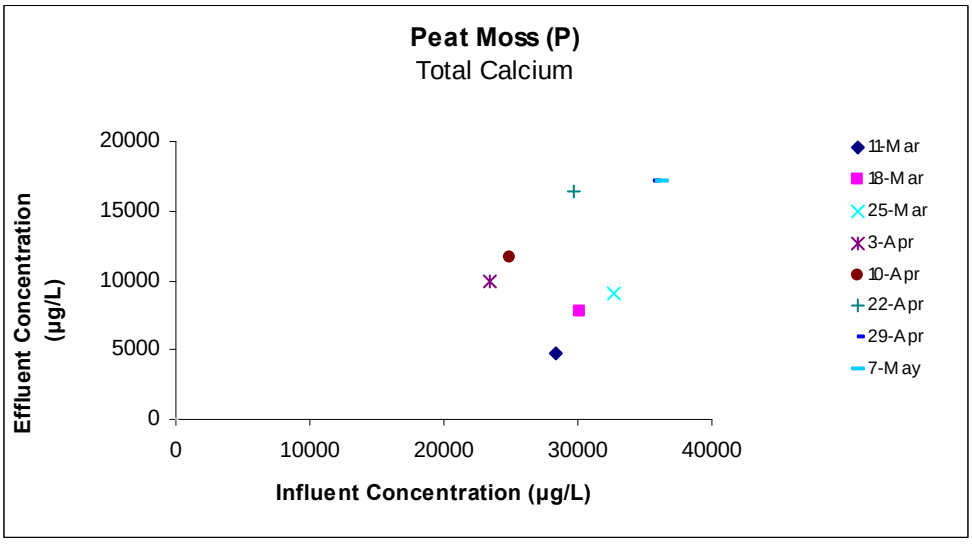
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-4132.788	10936.985	-0.378	0.719	-30894.627	22629.051	-30894.627	22629.051
X Variable 1	0.526	0.359	1.463	0.194	-0.353	1.404	-0.353	1.404

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	10805.943	-6074.943
2	11746.282	-4025.282
3	13022.495	-4008.495
4	8209.365	1669.635
5	8937.353	2703.647
6	11457.190	4953.810
7	14579.390	2533.610
8	14929.981	2248.019




Peat Moss (P)
Total Calcium
Concentration (µg/L)
40000
35000
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Total Calcium
Effluent Concentration (µg/L)
20000
15000
10000
5000
0
0
10000
20000
30000
40000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Ca

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.961
R Square	0.924
Adjusted R Square	0.781
Standard Error	3752.798
Observations	8.000

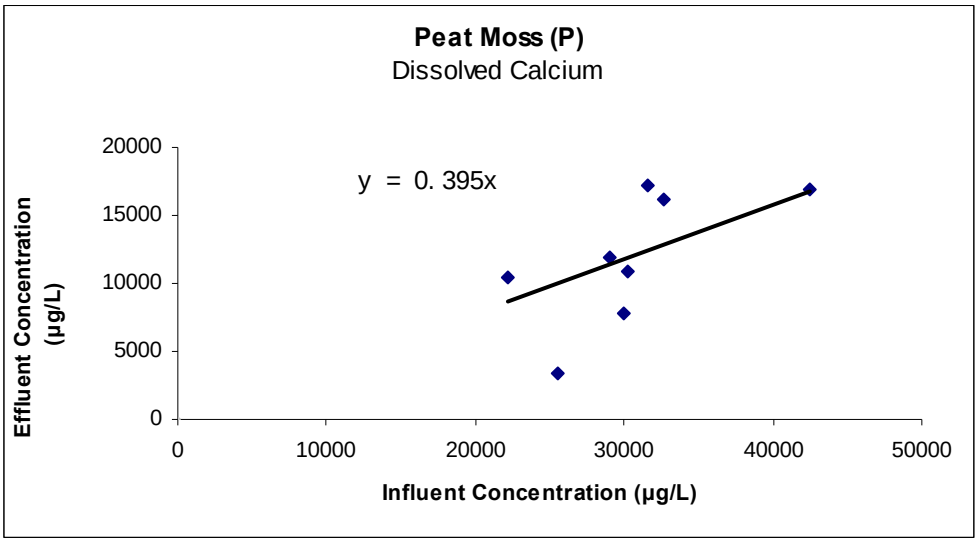
ANOVA

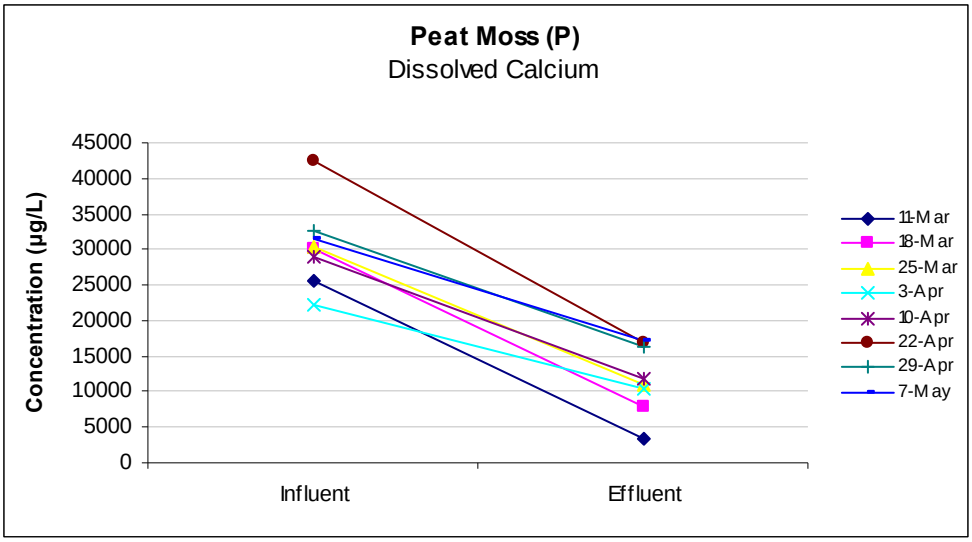
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	1191250210.933	1191250210.933	84.585	0.000
Residual	7.000	98584468.067	14083495.438		
Total	8.000	1289834679.000			

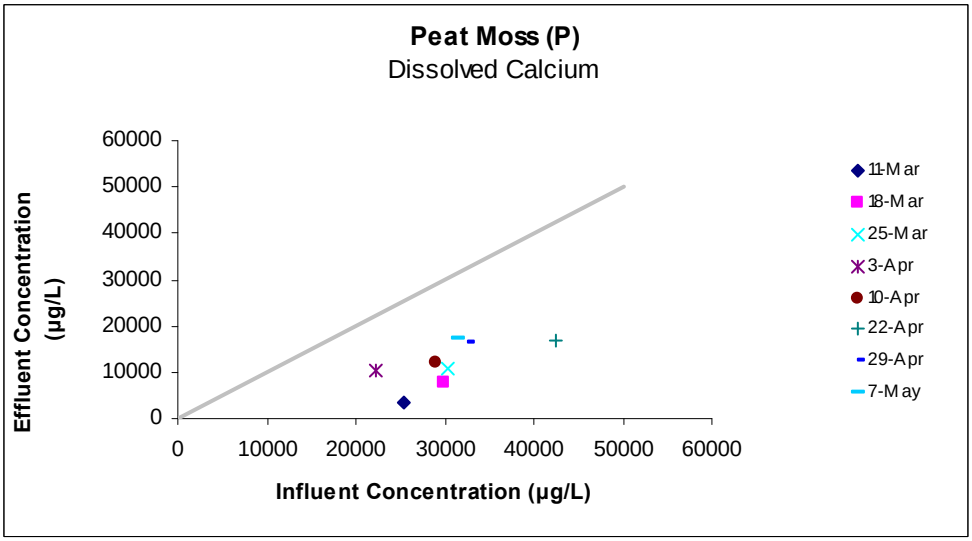
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.395	0.043	9.197	0.000	0.293	0.496	0.293	0.496

RESIDUAL OUTPUT

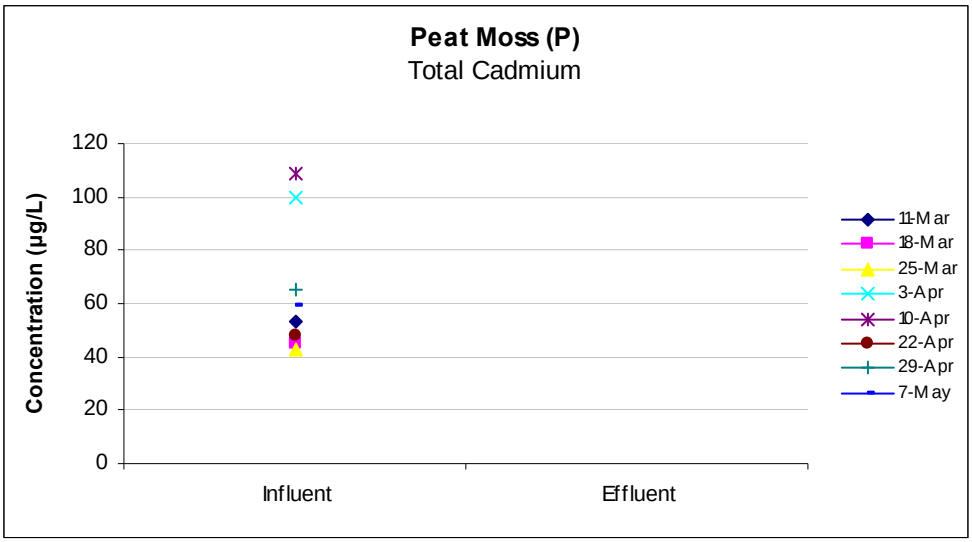
Observation	*Predicted Y*	*Residuals*
1	10061.842	-6667.842
2	11830.289	-3992.289
3	11941.557	-988.557
4	8738.466	1700.534
5	11430.199	457.801
6	16733.568	208.432
7	12874.707	3344.293
8	12436.738	4783.262

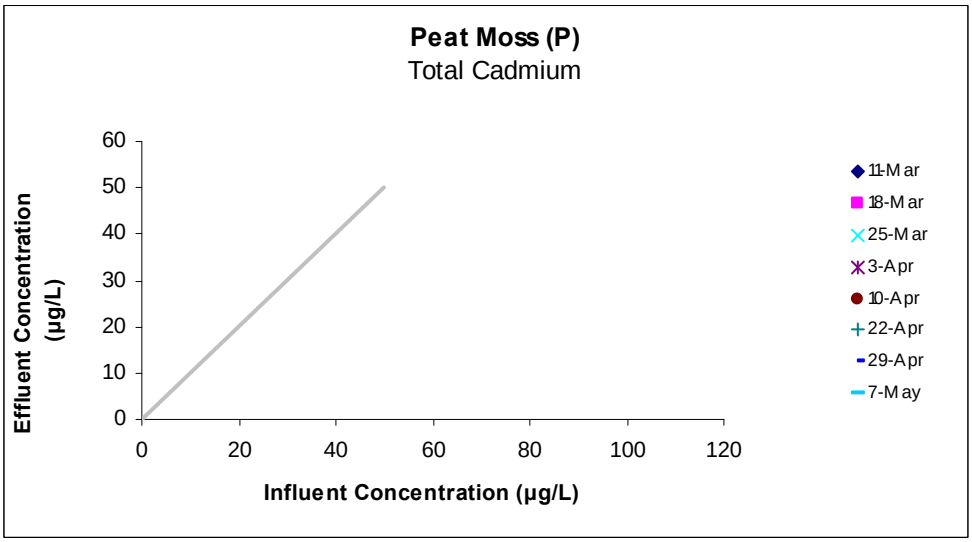



Peat Moss (P)
Dissolved Calcium
Concentration (µg/L)
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

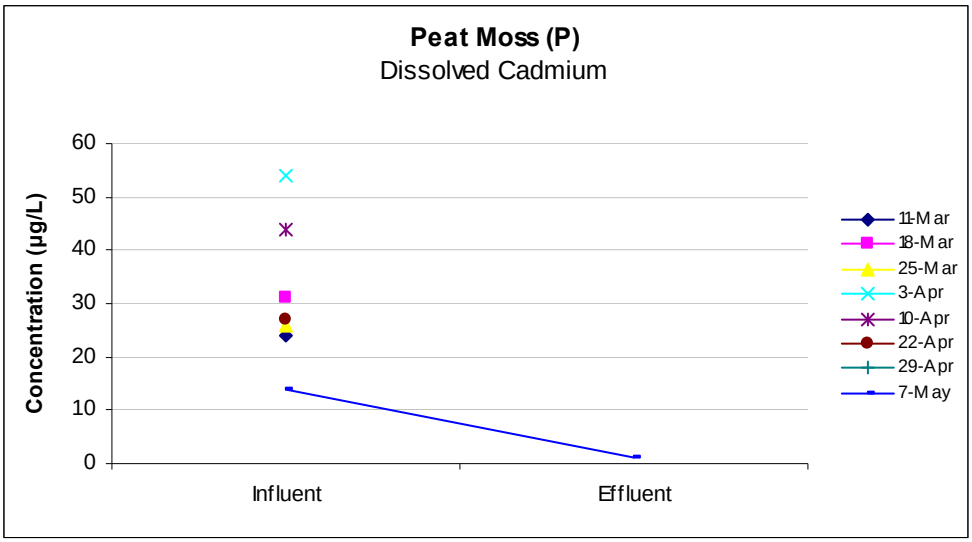

Peat Moss (P)
Dissolved Calcium
Effluent Concentration (µg/L)
60000
50000
40000
30000
20000
10000
0
0
10000
20000
30000
40000
50000
60000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

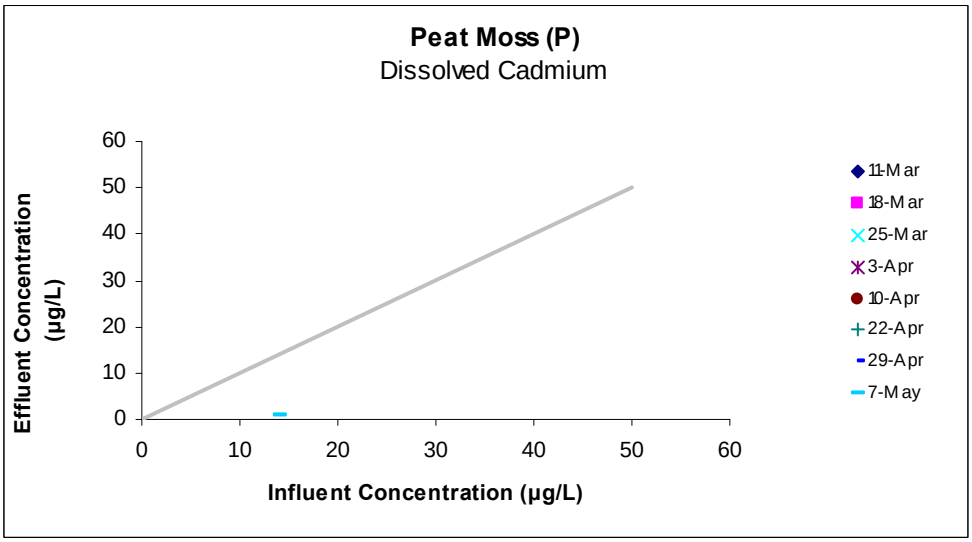
Total Cd


Peat Moss (P)
Total Cadmium
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Total Cadmium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cd





Total Cu

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.436
R Square	0.190
Adjusted R Square	0.028
Standard Error	13.177
Observations	7.000

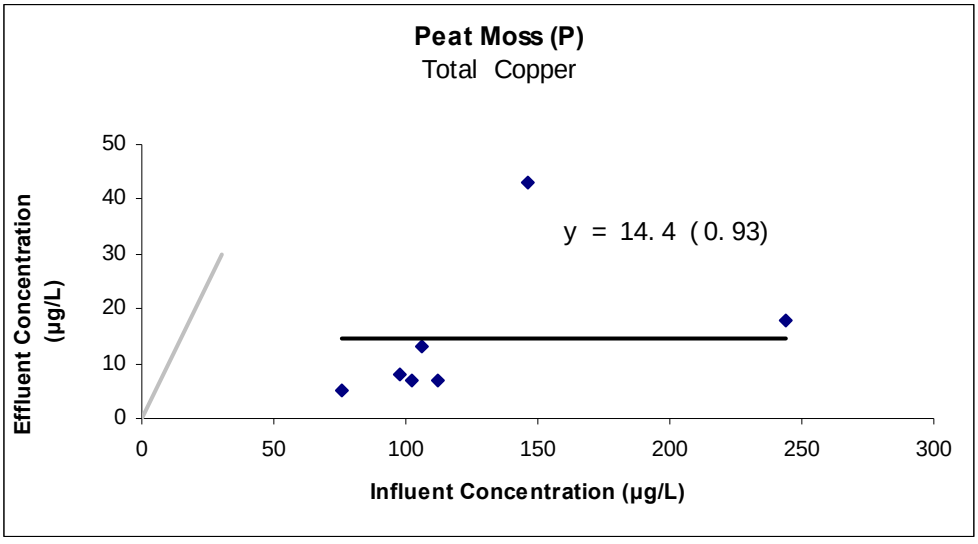
ANOVA

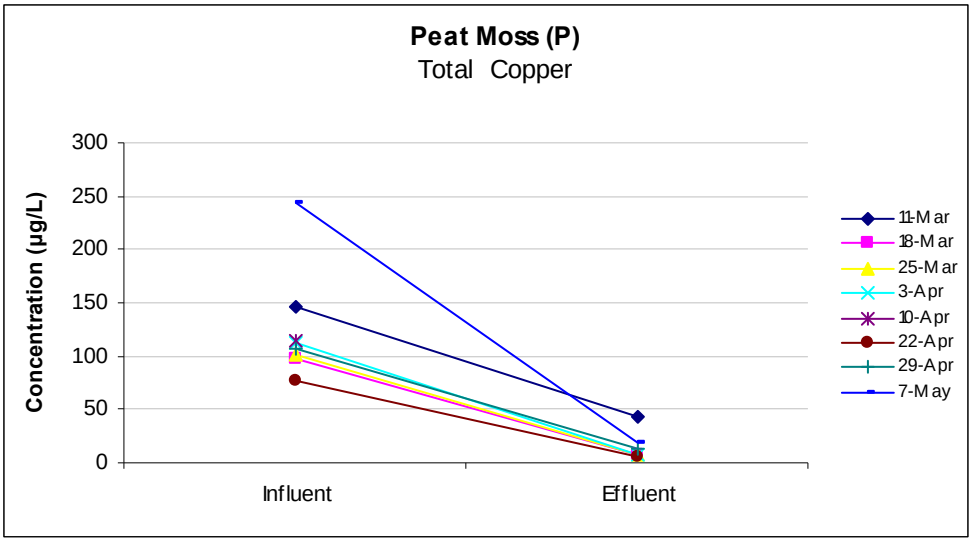
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	203.552	203.552	1.172	0.328
Residual	5.000	868.163	173.633		
Total	6.000	1071.714			

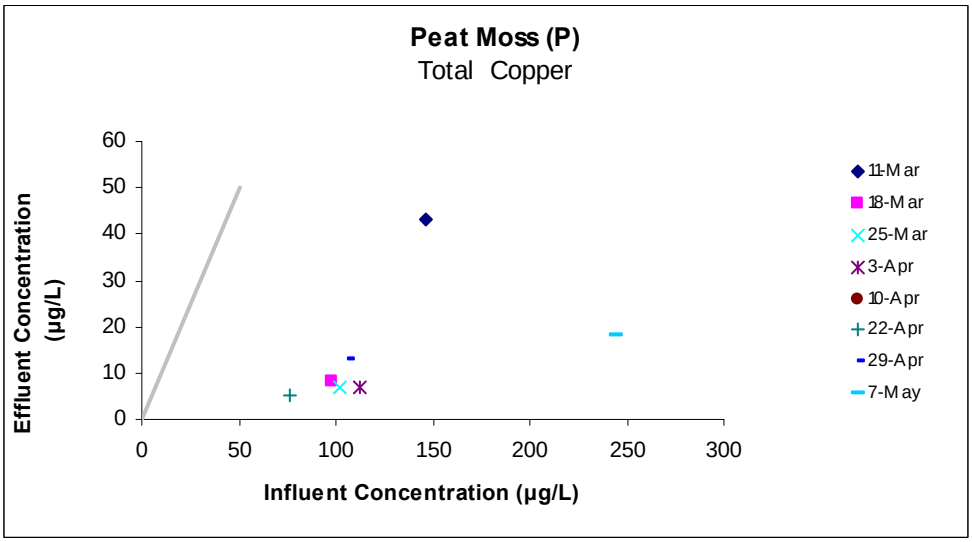
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1.281	13.125	0.098	0.926	-32.457	35.019	-32.457	35.019
X Variable 1	0.104	0.096	1.083	0.328	-0.143	0.351	-0.143	0.351

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	16.481	26.519
2	11.484	-3.484
3	11.900	-4.900
4	12.941	-5.941
5	9.193	-4.193
6	12.317	0.683
7	26.684	-8.684




Peat Moss (P)
Total Copper
Concentration (µg/L)
300
250
200
150
100
50
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Total Copper
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
50
100
150
200
250
300
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cu

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.405
R Square	0.164
Adjusted R Square	0.025
Standard Error	4.662
Observations	8.000

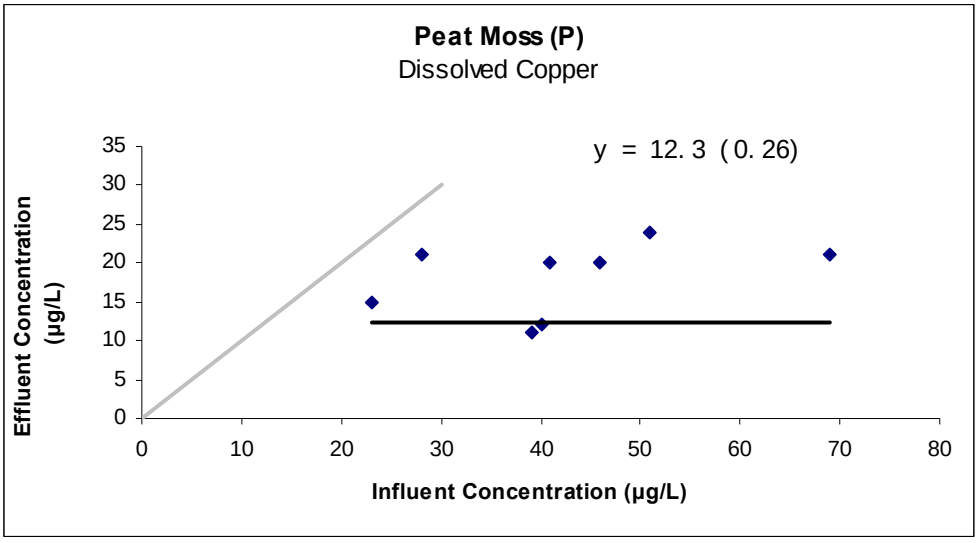
ANOVA

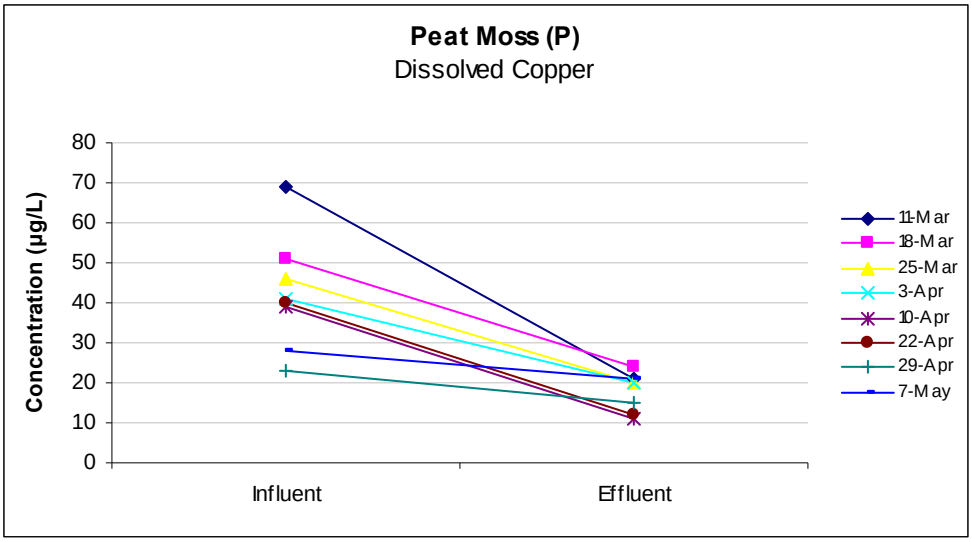
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	25.572	25.572	1.176	0.320
Residual	6.000	130.428	21.738		
Total	7.000	156.000			

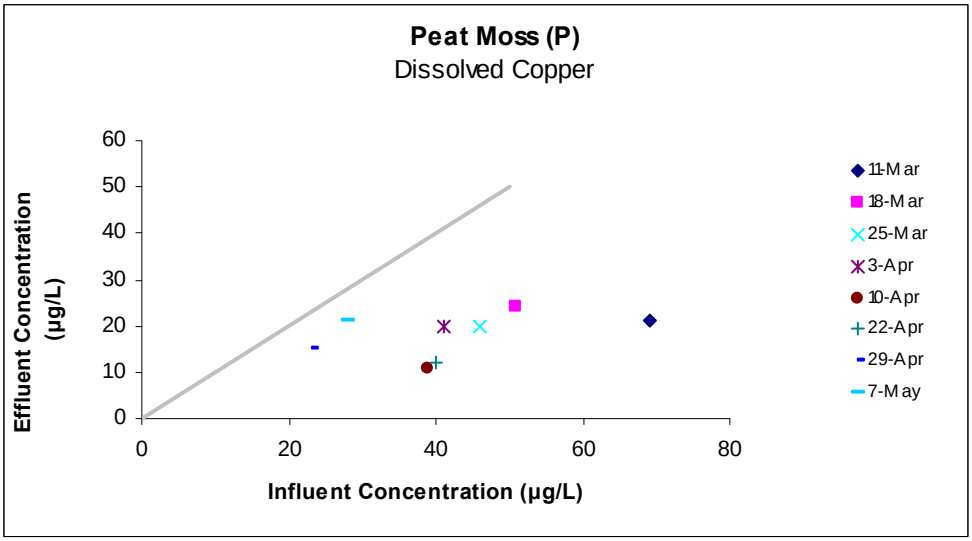
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	12.300	5.507	2.233	0.067	-1.176	25.777	-1.176	25.777
X Variable 1	0.135	0.125	1.085	0.320	-0.170	0.441	-0.170	0.441

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	21.636	-0.636
2	19.201	4.799
3	18.524	1.476
4	17.848	2.152
5	17.577	-6.577
6	17.712	-5.712
7	15.412	-0.412
8	16.089	4.911




Peat Moss (P)
Dissolved Copper
Concentration (µg/L)
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Dissolved Copper
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Fe

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.001
R Square	0.000
Adjusted R Square	-0.167
Standard Error	7631.317
Observations	8.000

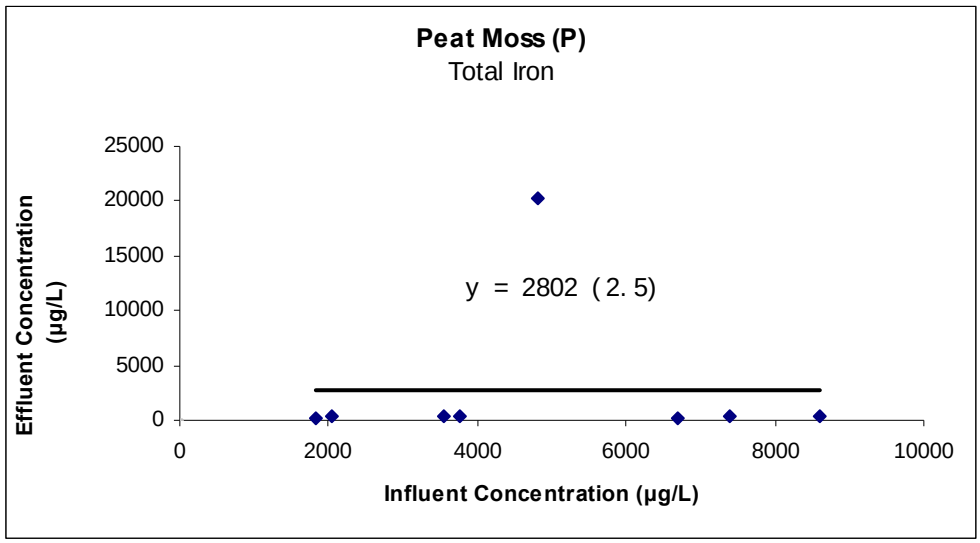
ANOVA

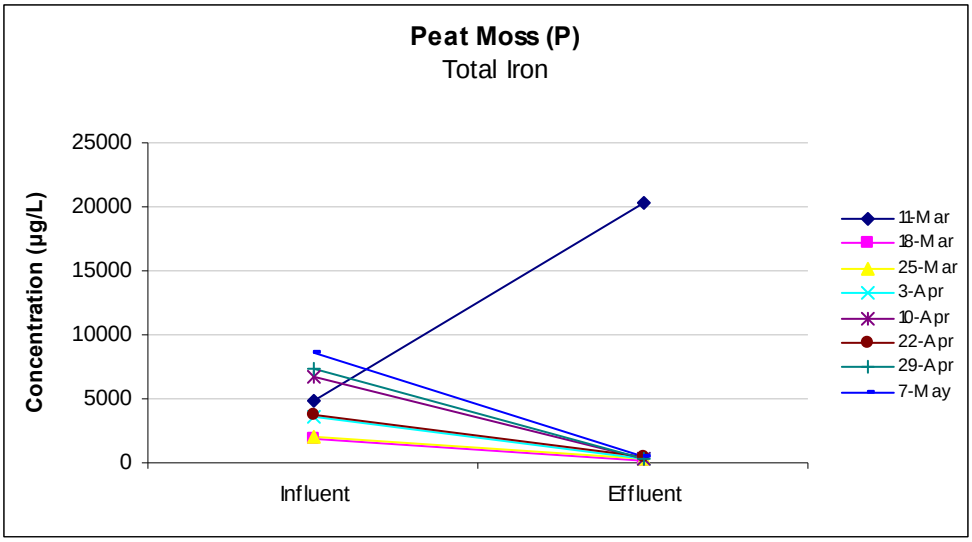
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	105.937	105.937	0.000	0.999
Residual	6.000	349422015.563	58237002.594		
Total	7.000	349422121.500			

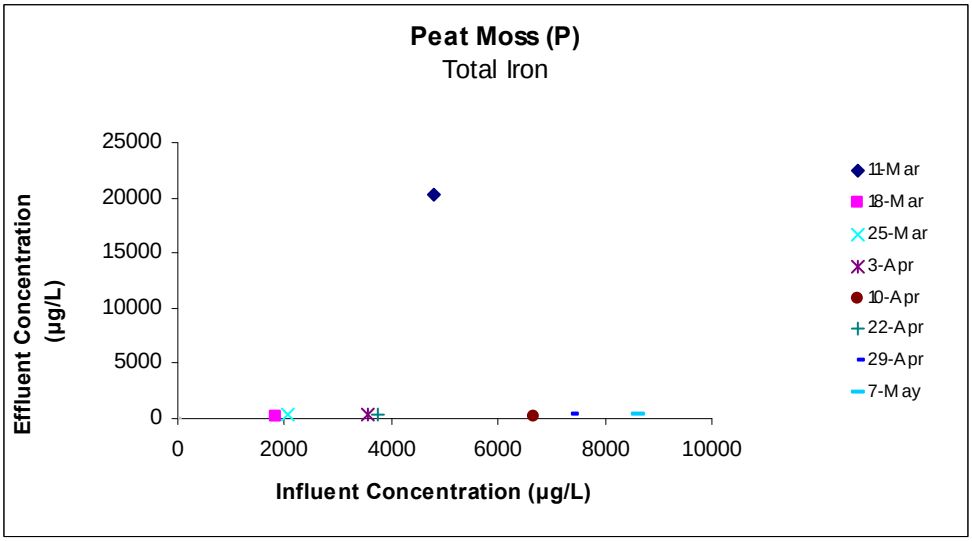
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	2794.741	6187.090	0.452	0.667	-12344.523	17934.004	-12344.523	17934.004
X Variable 1	0.002	1.152	0.001	0.999	-2.816	2.819	-2.816	2.819

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	2802.213	17483.787
2	2797.567	-2692.567
3	2797.922	-2421.922
4	2800.267	-2514.267
5	2805.122	-2557.122
6	2800.565	-2380.565
7	2806.222	-2513.222
8	2808.122	-2404.122




Peat Moss (P)
Total Iron
Concentration (µg/L)
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Total Iron
Effluent Concentration (µg/L)
25000
20000
15000
10000
5000
0
0
2000
4000
6000
8000
10000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Fe

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.823
R Square	0.677
Adjusted R Square	0.534
Standard Error	93.638
Observations	8.000

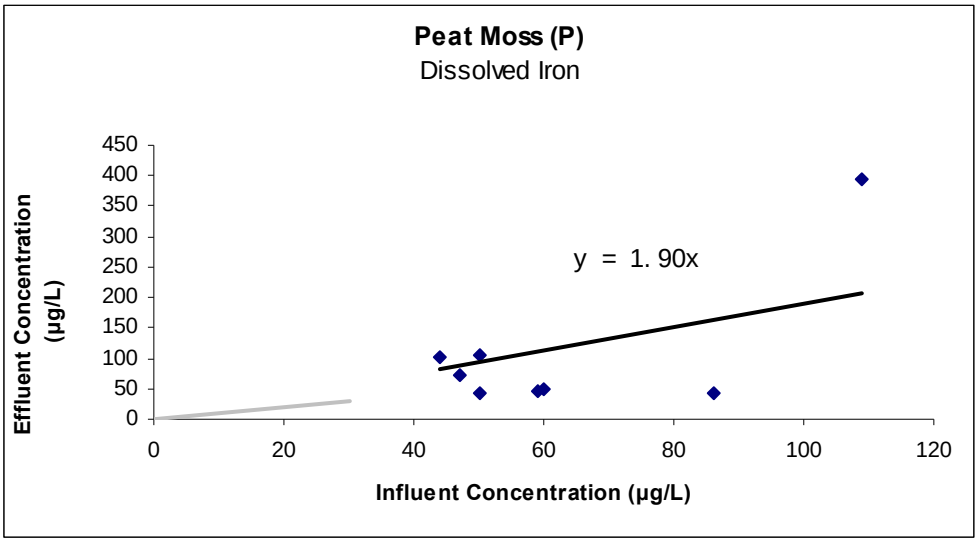
ANOVA

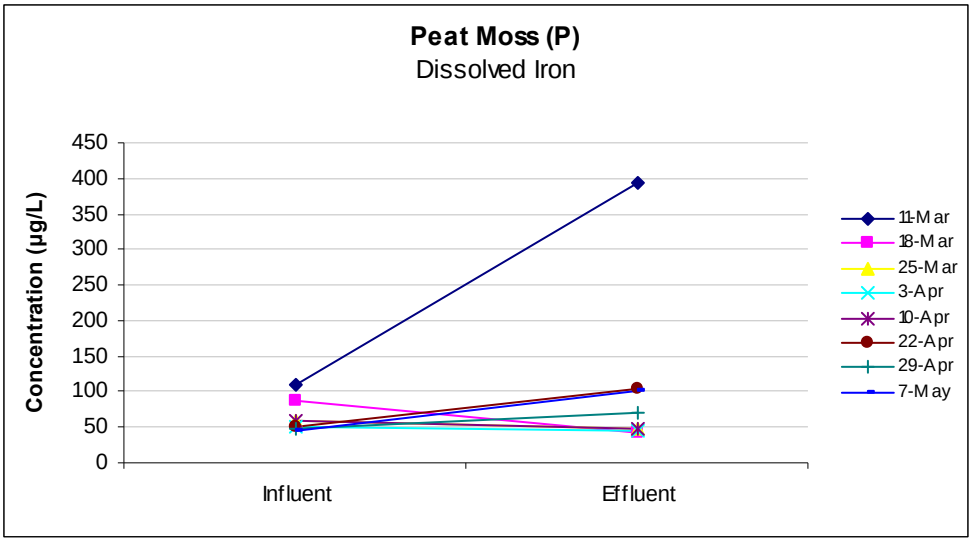
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	128417.894	128417.894	14.646	0.009
Residual	7.000	61377.106	8768.158		
Total	8.000	189795.000			

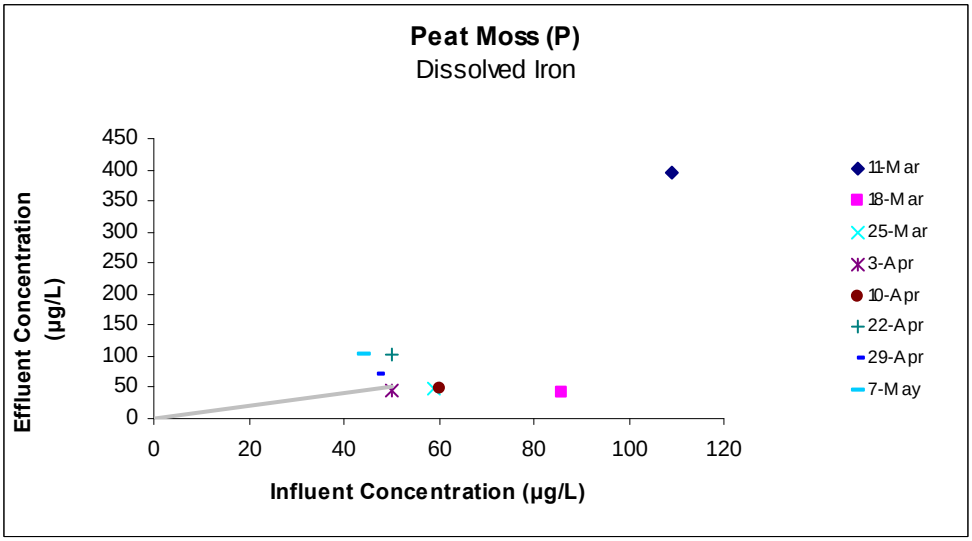
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	1.902	0.497	3.827	0.006	0.727	3.077	0.727	3.077

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	207.304	186.696
2	163.561	-120.561
3	112.210	-65.210
4	95.093	-51.093
5	114.112	-66.112
6	95.093	8.907
7	89.388	-18.388
8	83.682	18.318




Peat Moss (P)
Dissolved Iron
Concentration (µg/L)
450
400
350
300
250
200
150
100
50
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Dissolved Iron
Effluent Concentration (µg/L)
450
400
350
300
250
200
150
100
50
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Mg

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.737
R Square	0.543
Adjusted R Square	0.467
Standard Error	1827.897
Observations	8.000

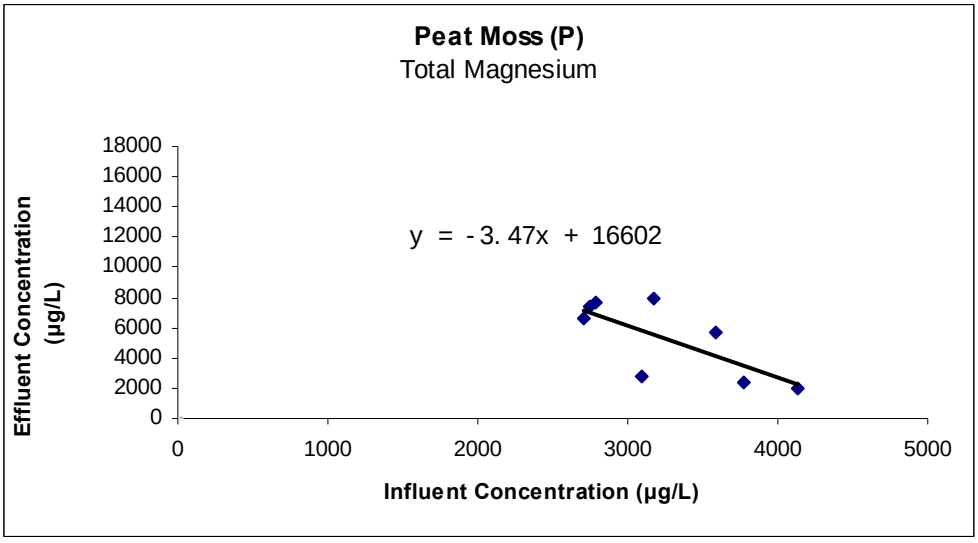
ANOVA

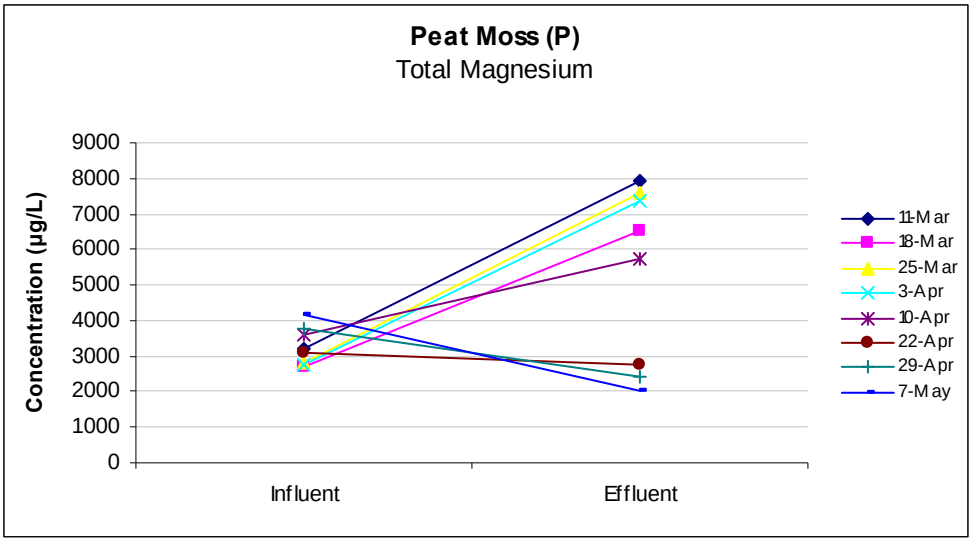
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	23813404.861	23813404.861	7.127	0.037
Residual	6.000	20047238.014	3341206.336		
Total	7.000	43860642.875			

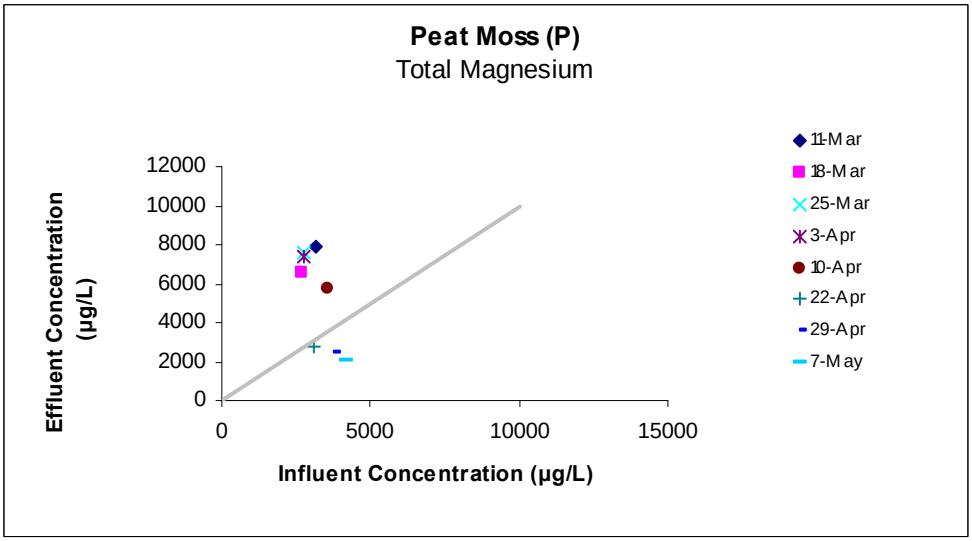
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	16602.371	4281.491	3.878	0.008	6125.941	27078.801	6125.941	27078.801
X Variable 1	-3.474	1.301	-2.670	0.037	-6.659	-0.290	-6.659	-0.290

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	5557.616	2387.384
2	7204.428	-651.428
3	6912.588	707.412
4	7068.931	304.069
5	4129.685	1597.315
6	5835.559	-3102.559
7	3493.891	-1057.891
8	2222.302	-184.302




Peat Moss (P)
Total Magnesium
Concentration (µg/L)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Total Magnesium
Effluent Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Mg

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.200
R Square	0.040
Adjusted R Square	-0.120
Standard Error	2388.836
Observations	8.000

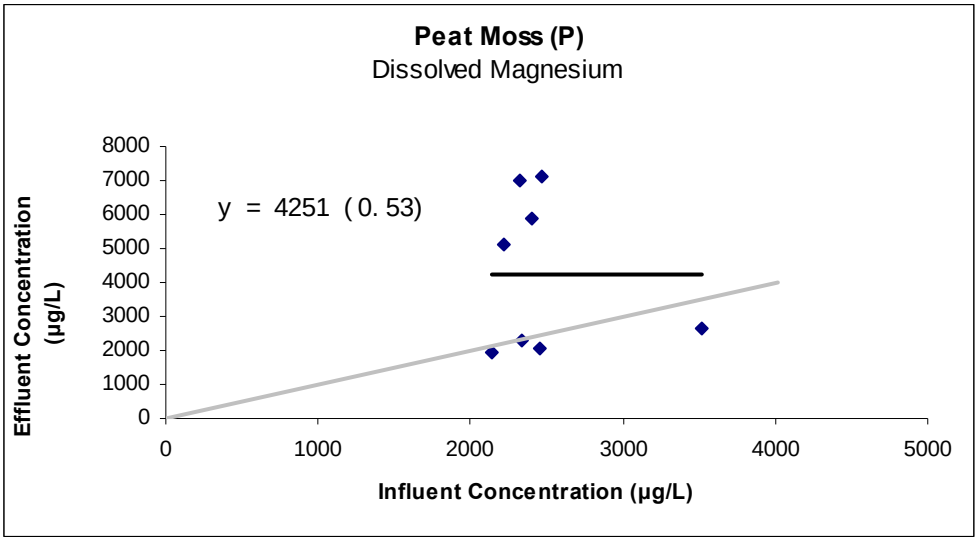
ANOVA

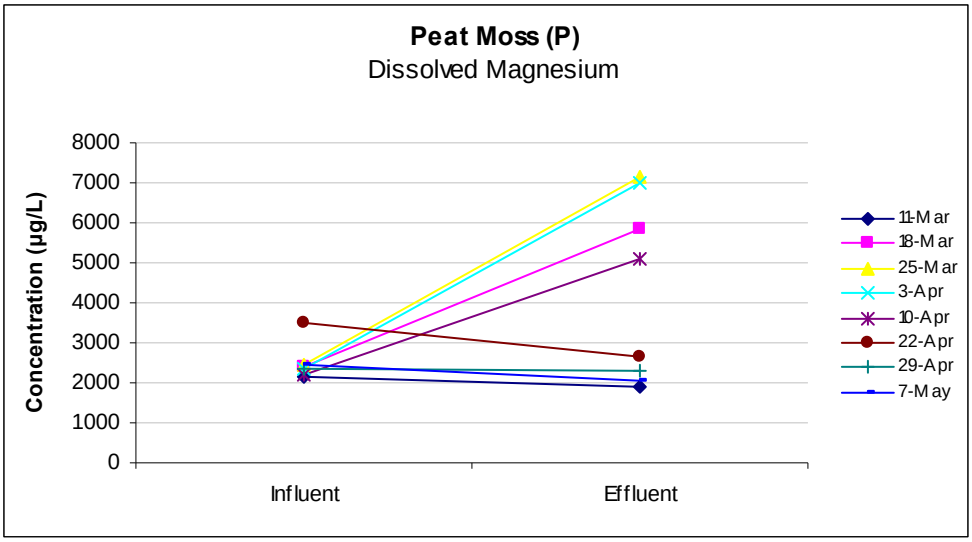
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	1431229.227	1431229.227	0.251	0.634
Residual	6.000	34239228.273	5706538.045		
Total	7.000	35670457.500			

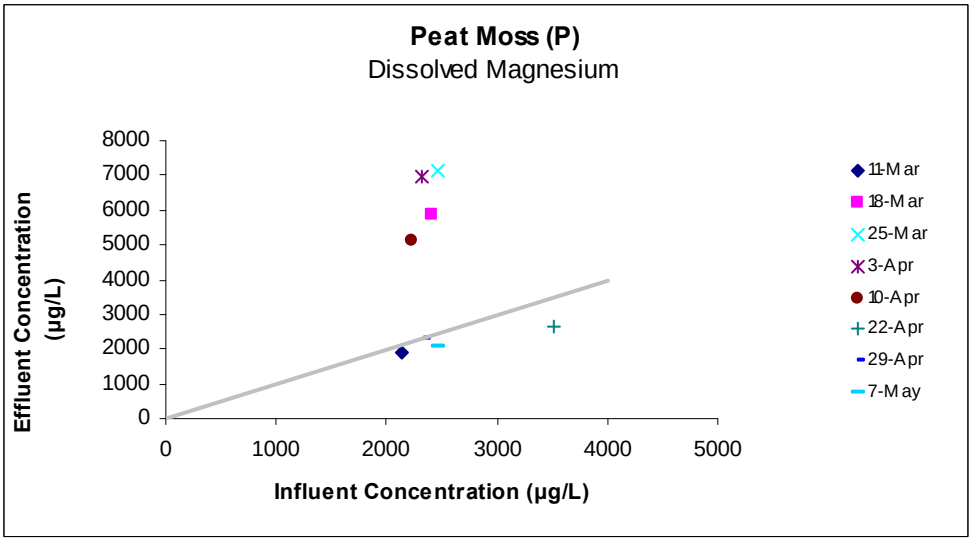
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	6851.319	5259.046	1.303	0.240	-6017.104	19719.741	-6017.104	19719.741
X Variable 1	-1.047	2.090	-0.501	0.634	-6.161	4.068	-6.161	4.068

RESIDUAL OUTPUT

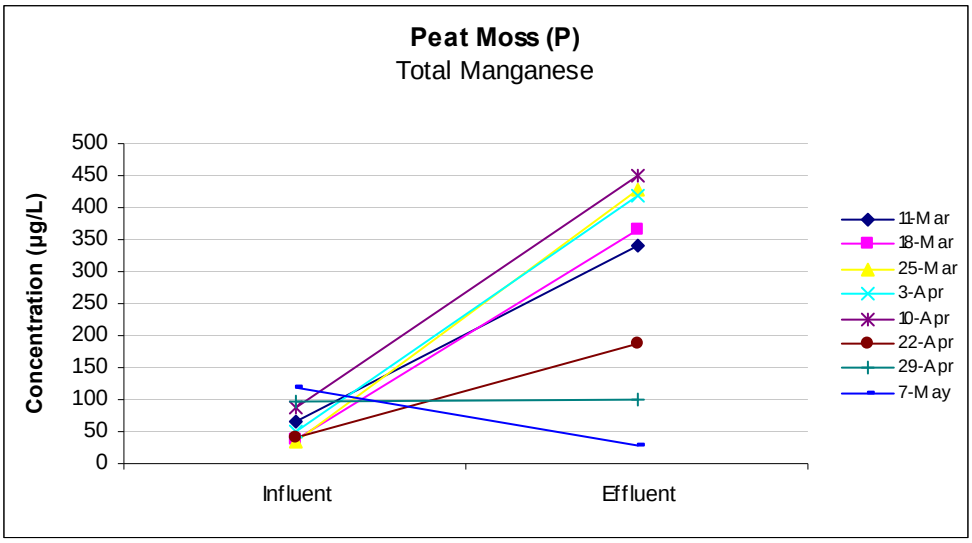
Observation	*Predicted Y*	*Residuals*
1	4607.117	-2693.117
2	4334.966	1526.034
3	4273.208	2854.792
4	4415.564	2560.436
5	4526.518	595.482
6	3169.948	-528.948
7	4407.190	-2089.190
8	4279.489	-2225.489

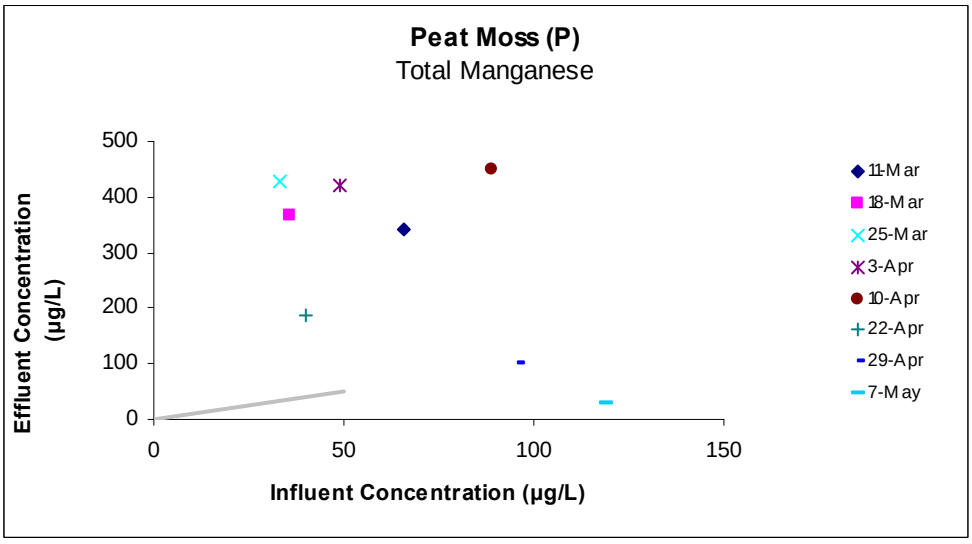



Peat Moss (P)
Dissolved Magnesium
Concentration (µg/L)
8000
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

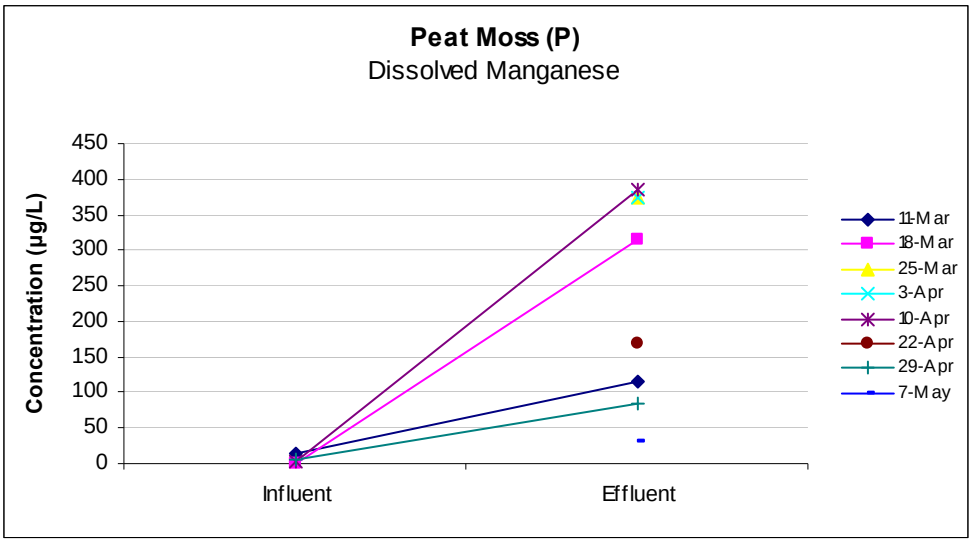

Peat Moss (P)
Dissolved Magnesium
Effluent Concentration (µg/L)
8000
7000
6000
5000
4000
3000
2000
1000
0
0
1000
2000
3000
4000
5000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

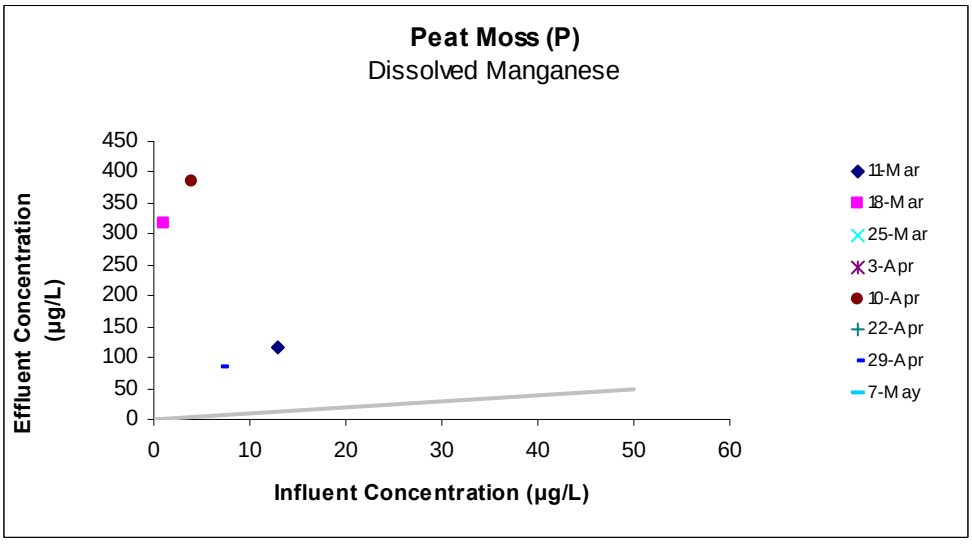
Total Mn


Peat Moss (P)
Total Manganese
Concentration (µg/L)
500
450
400
350
300
250
200
150
100
50
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

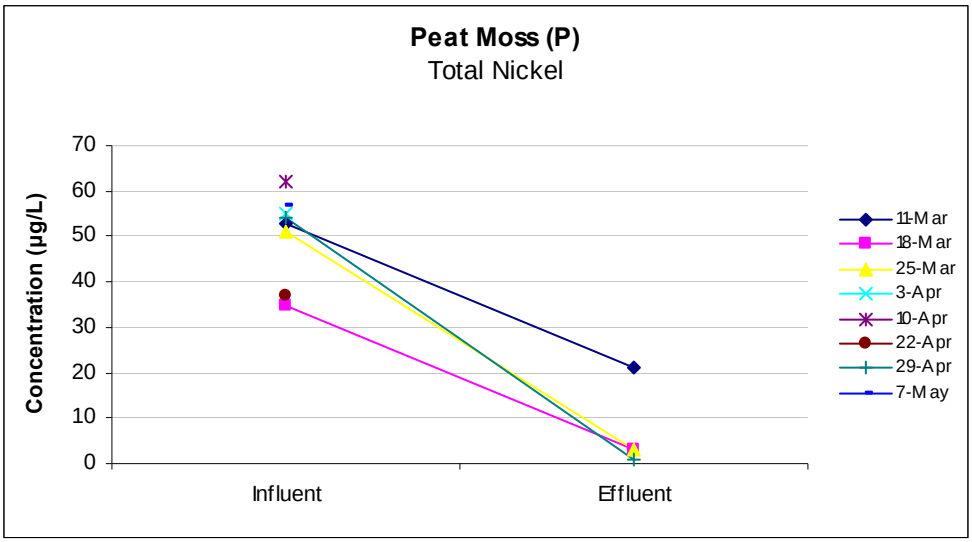

Peat Moss (P)
Total Manganese
Effluent Concentration (µg/L)
500
400
300
200
100
0
0
50
100
150
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

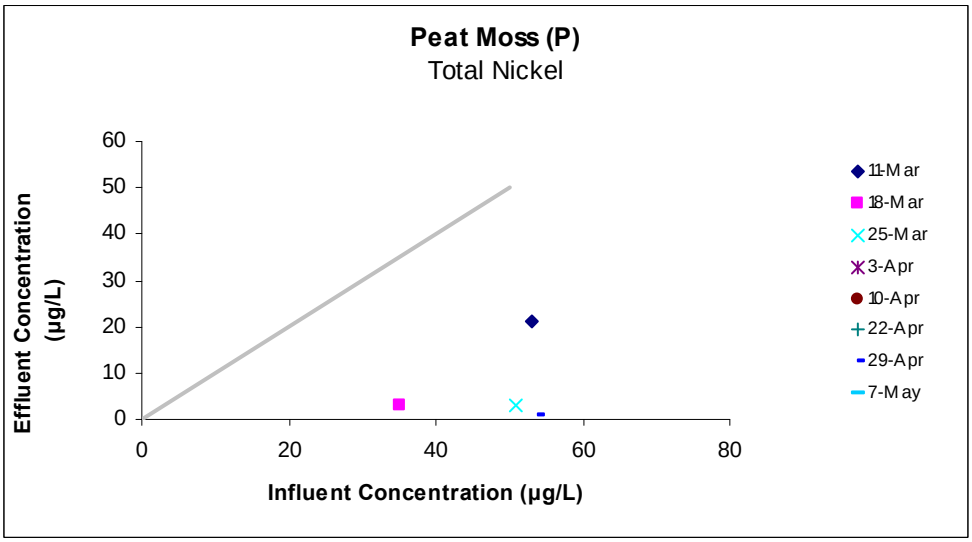
Dissolved Mn



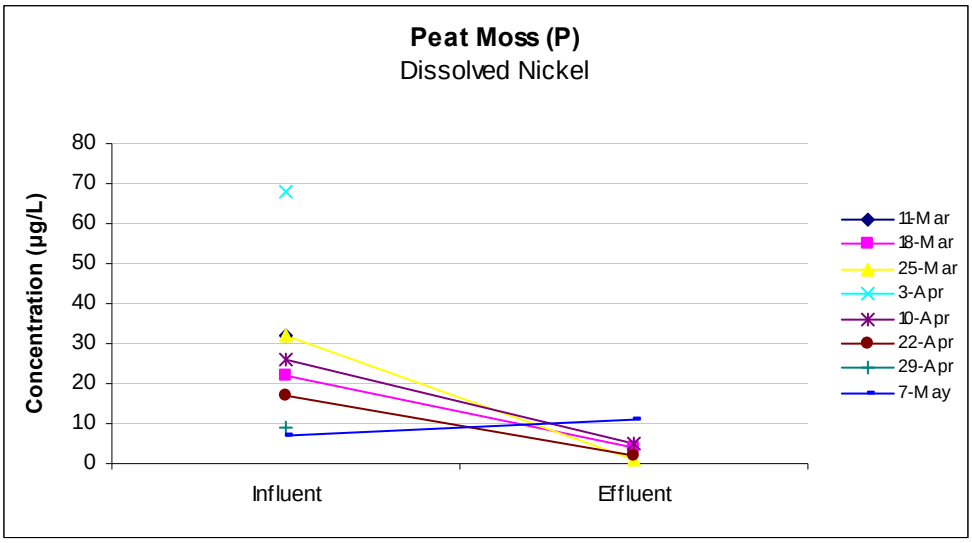


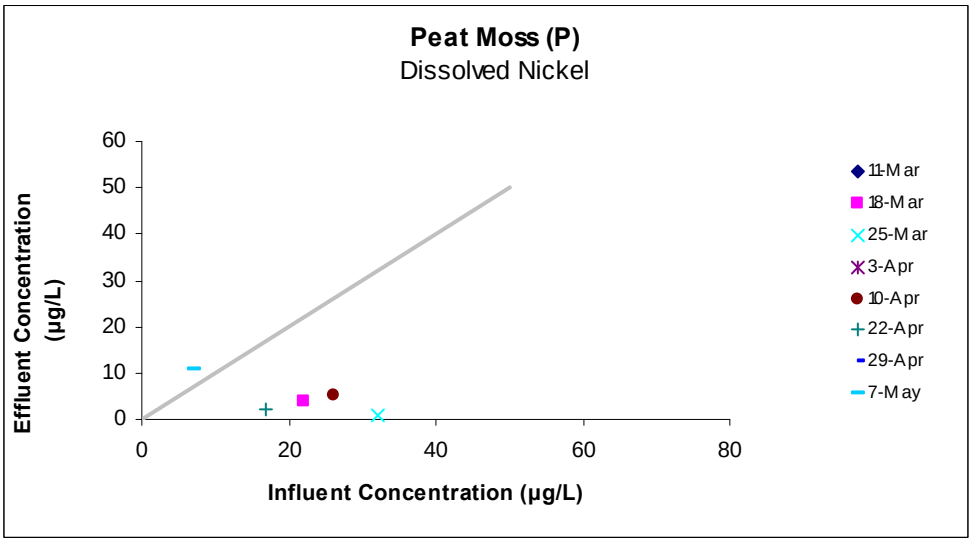
Total Ni


Peat Moss (P)
Total Nickel
Concentration (µg/L)
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

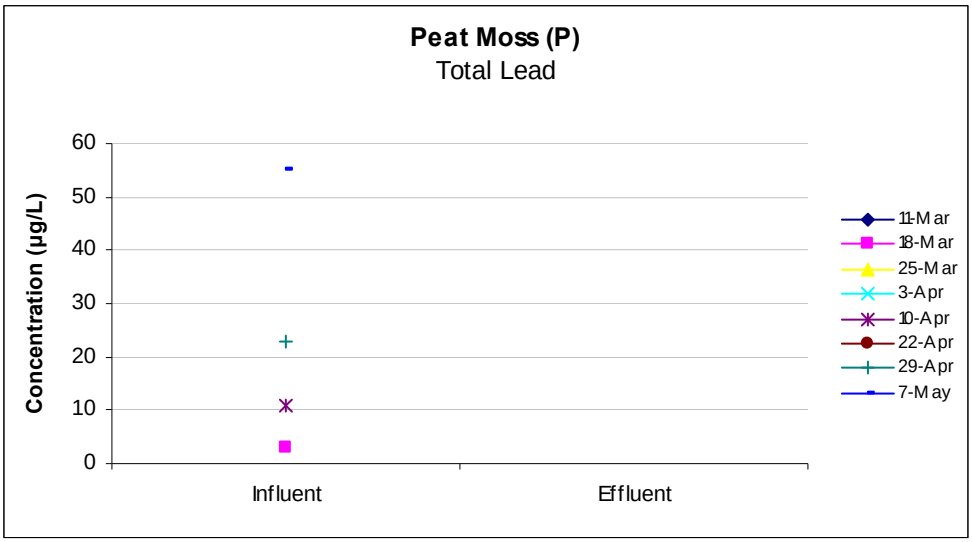

Peat Moss (P)
Total Nickel
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

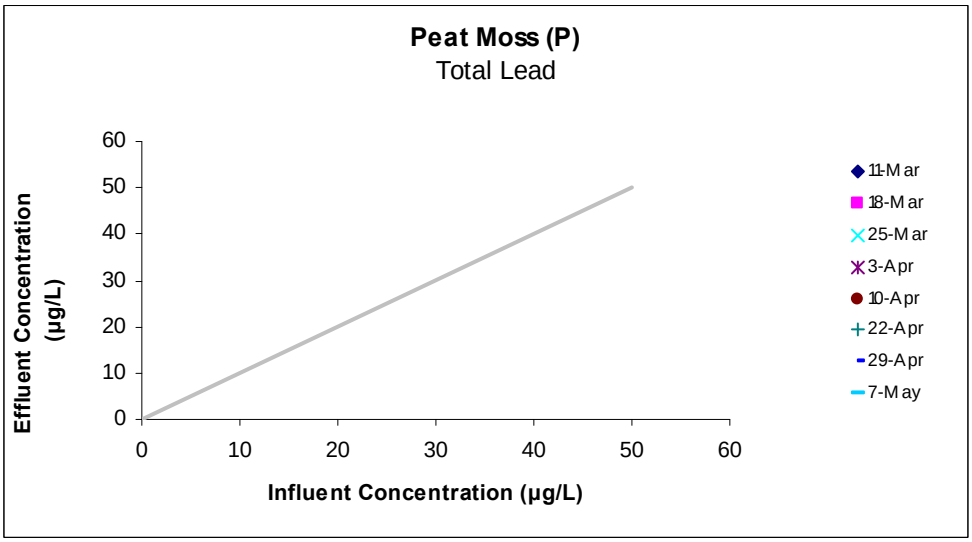
Dissolved Ni



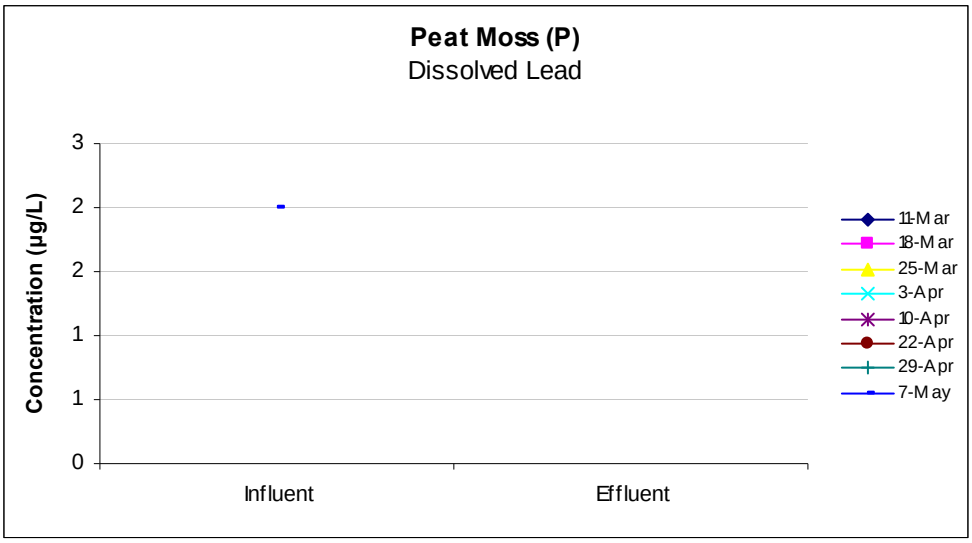


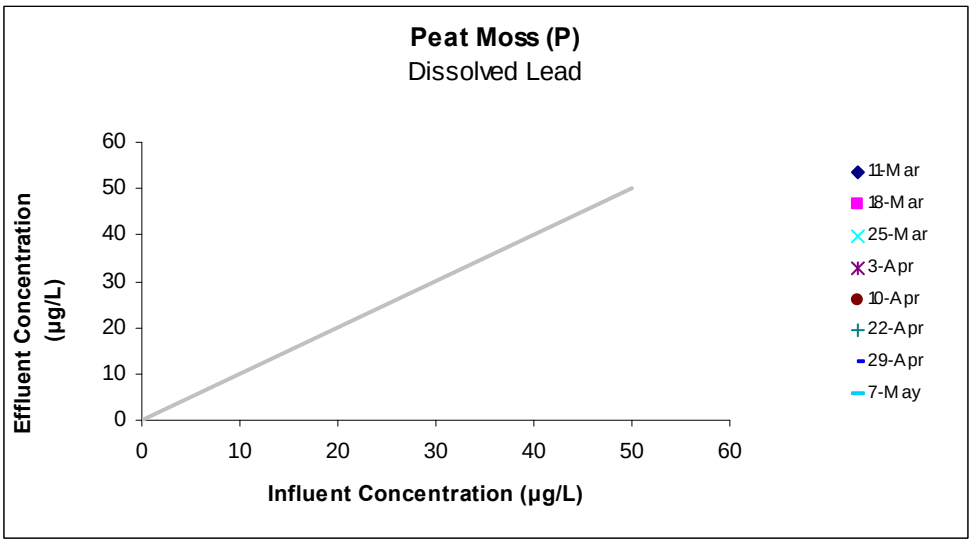
Total Pb


Peat Moss (P)
Total Lead
Concentration (µg/L)
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Total Lead
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Pb





Total Zn

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.261
R Square	0.068
Adjusted R Square	-0.087
Standard Error	30.594
Observations	8.000

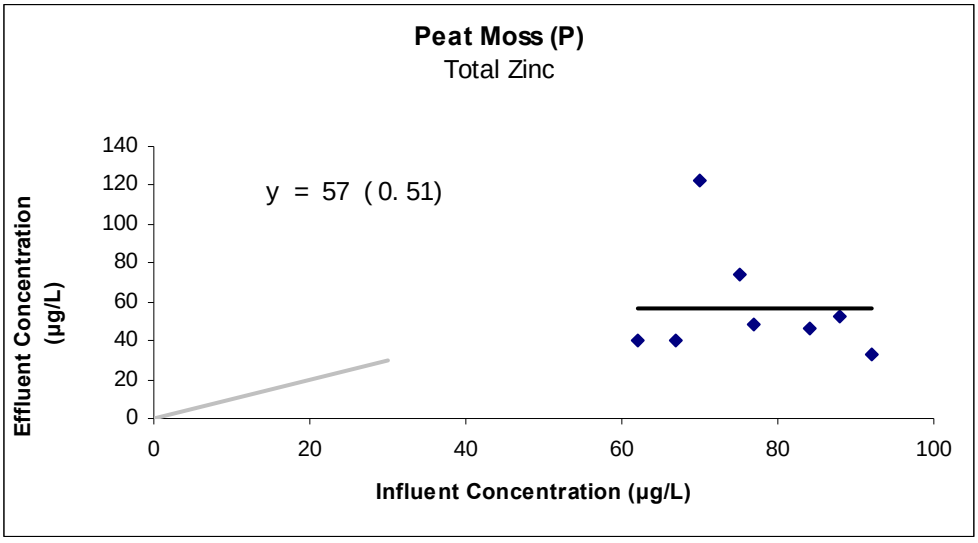
ANOVA

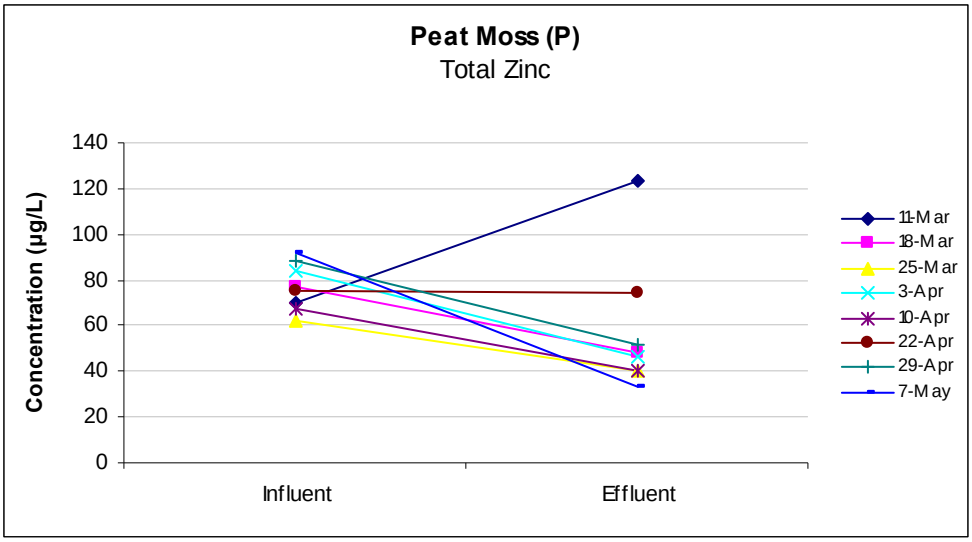
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	410.117	410.117	0.438	0.533
Residual	6.000	5615.883	935.981		
Total	7.000	6026.000			

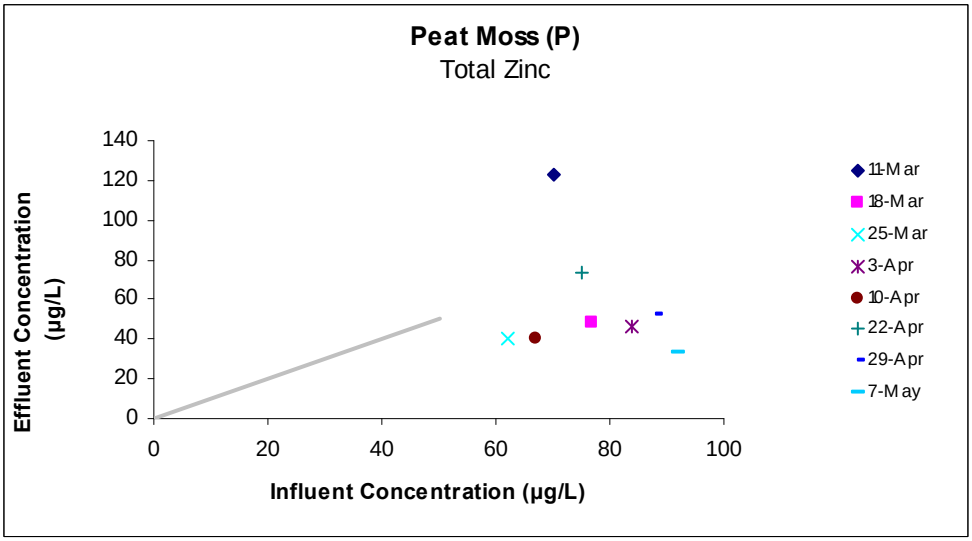
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	113.000	85.287	1.325	0.233	-95.691	321.690	-95.691	321.690
X Variable 1	-0.728	1.100	-0.662	0.533	-3.421	1.964	-3.421	1.964

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	62.008	60.992
2	56.909	-8.909
3	67.836	-27.836
4	51.810	-5.810
5	64.193	-24.193
6	58.366	15.634
7	48.896	3.104
8	45.982	-12.982




Peat Moss (P)
Total Zinc
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Total Zinc
Effluent Concentration (µg/L)
140
120
100
80
60
40
20
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Zn

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.742
R Square	0.551
Adjusted R Square	0.476
Standard Error	9.198
Observations	8.000

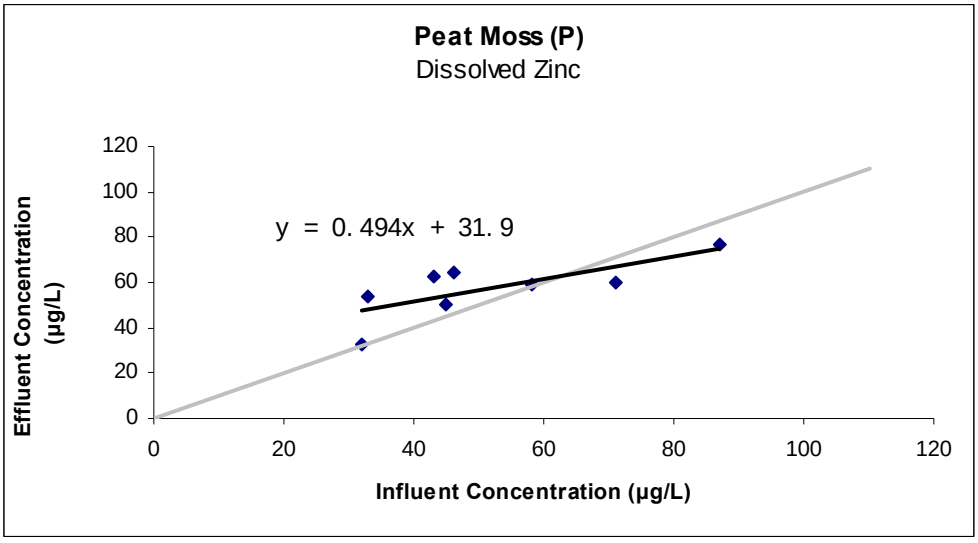
ANOVA

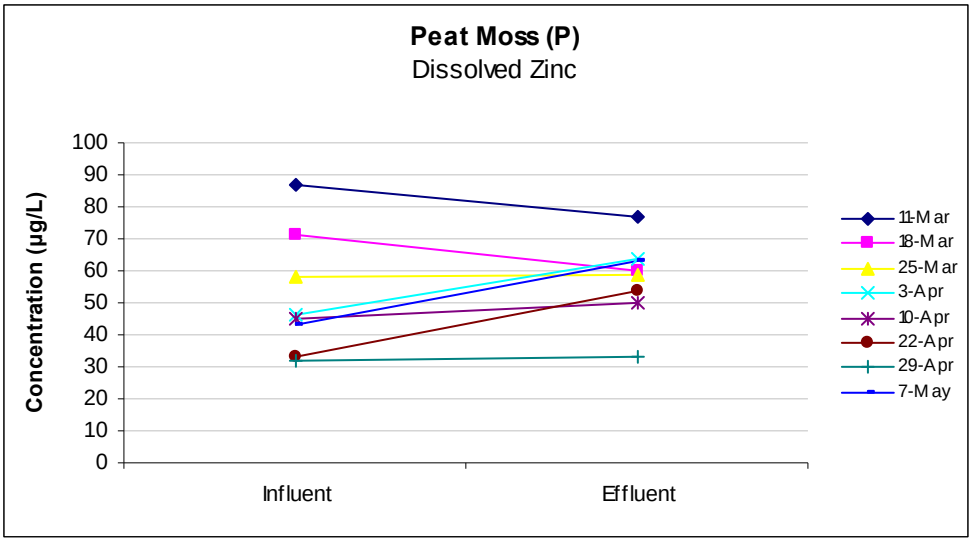
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	622.369	622.369	7.356	0.035
Residual	6.000	507.631	84.605		
Total	7.000	1130.000			

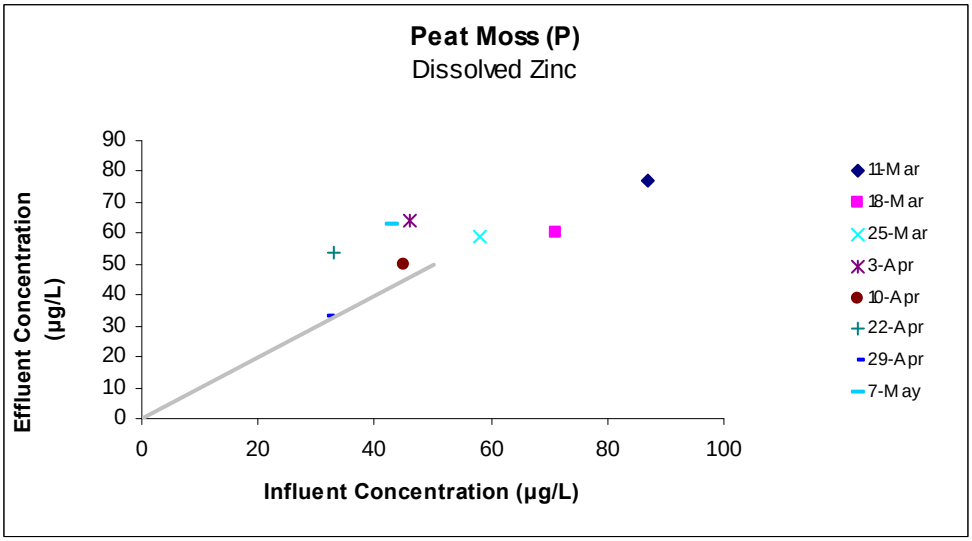
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	31.867	9.995	3.188	0.019	7.410	56.323	7.410	56.323
X Variable 1	0.494	0.182	2.712	0.035	0.048	0.940	0.048	0.940

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	74.857	2.143
2	66.950	-6.950
3	60.527	-1.527
4	54.597	9.403
5	54.103	-4.103
6	48.173	5.827
7	47.679	-14.679
8	53.115	9.885




Peat Moss (P)
Dissolved Zinc
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Dissolved Zinc
Effluent Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total K

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.186
R Square	0.034
Adjusted R Square	-0.126
Standard Error	2080.945
Observations	8.000

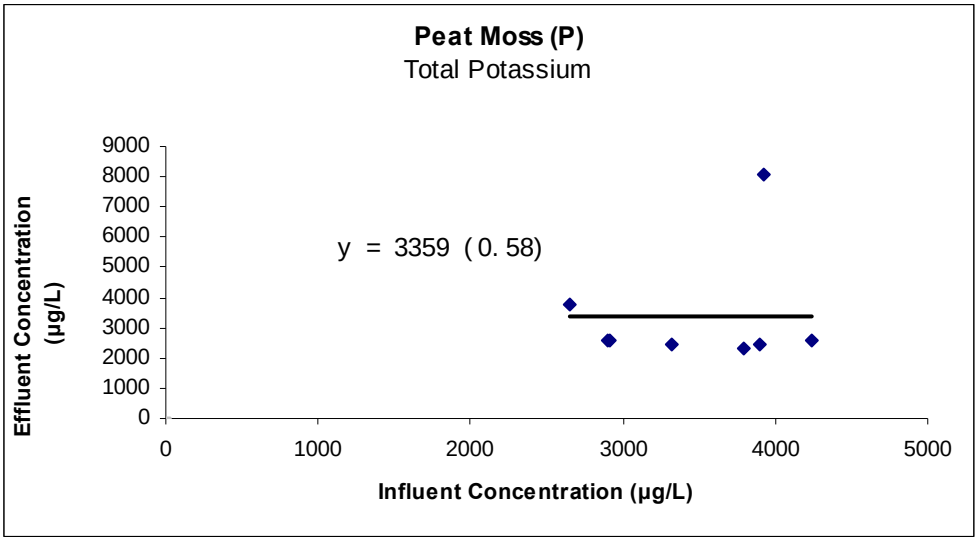
ANOVA

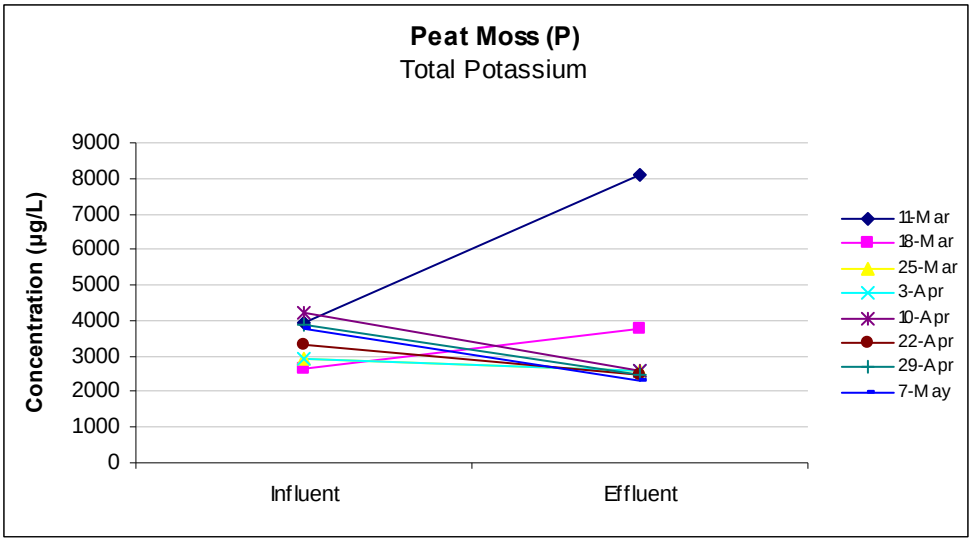
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	927673.752	927673.752	0.214	0.660
Residual	6.000	25981985.123	4330330.854		
Total	7.000	26909658.875			

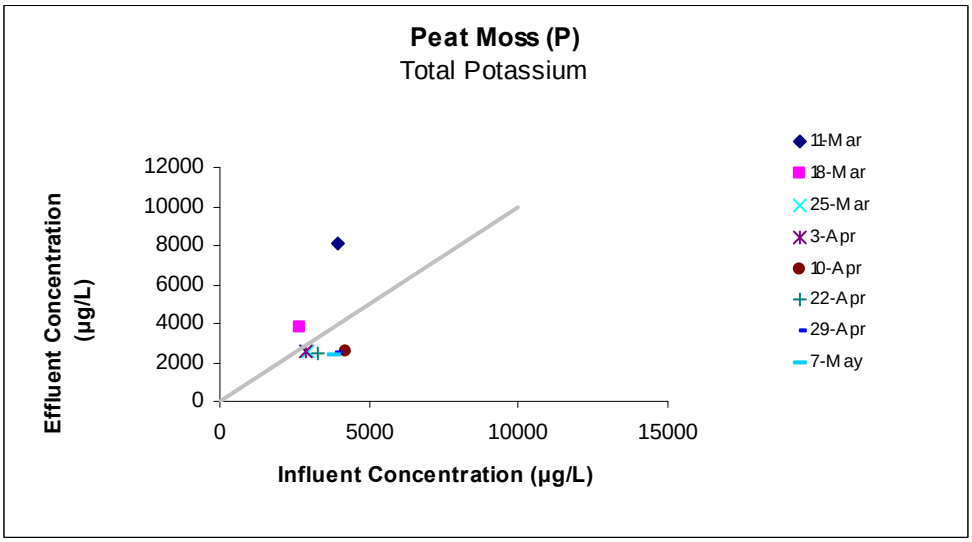
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1213.210	4694.354	0.258	0.805	-10273.461	12699.880	-10273.461	12699.880
X Variable 1	0.621	1.342	0.463	0.660	-2.664	3.906	-2.664	3.906

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	3648.286	4436.714
2	2860.413	892.587
3	3025.071	-432.071
4	3015.751	-430.751
5	3847.119	-1264.119
6	3272.369	-796.369
7	3635.238	-1171.238
8	3568.753	-1234.753




Peat Moss (P)
Total Potassium
Concentration (µg/L)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Total Potassium
Effluent Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved K

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.001
R Square	0.000
Adjusted R Square	-0.167
Standard Error	414.449
Observations	8.000

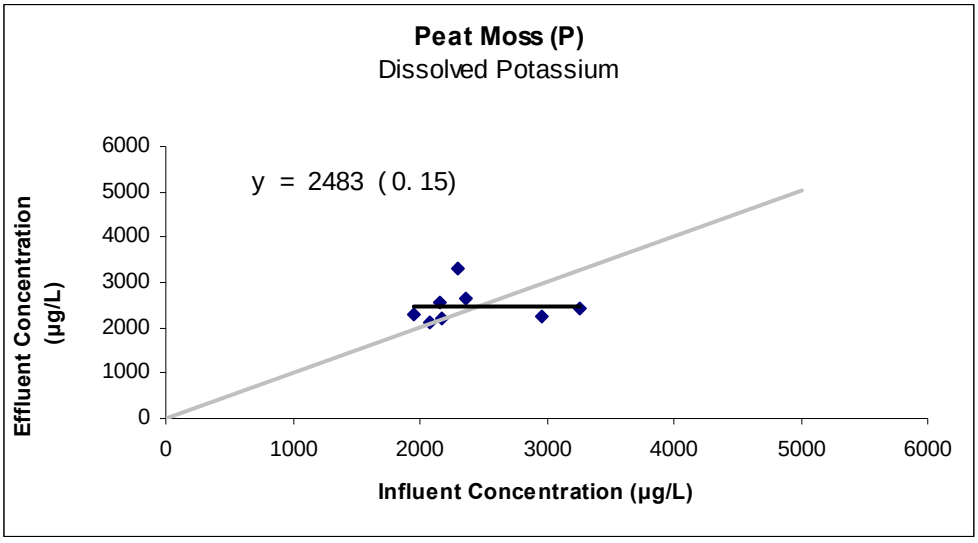
ANOVA

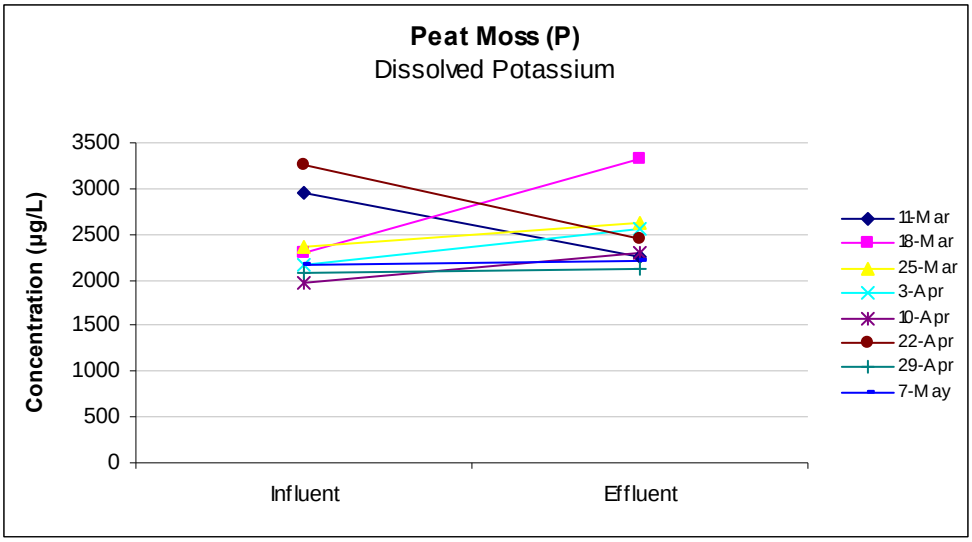
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	0.949	0.949	0.000	0.998
Residual	6.000	1030606.926	171767.821		
Total	7.000	1030607.875			

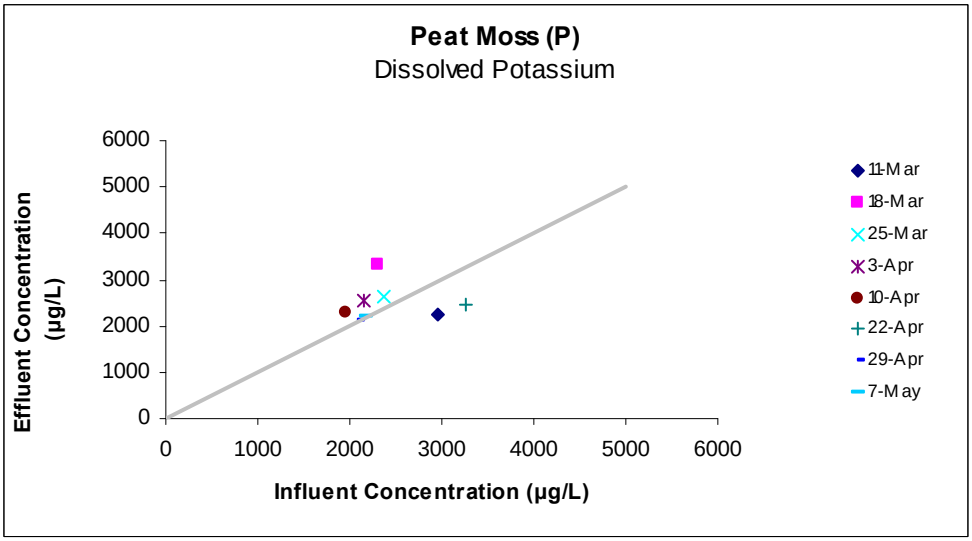
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	2483.570	840.356	2.955	0.025	427.292	4539.848	427.292	4539.848
X Variable 1	-0.001	0.344	-0.002	0.998	-0.842	0.840	-0.842	0.840

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	2481.181	-225.181
2	2481.708	846.292
3	2481.656	151.344
4	2481.823	69.177
5	2481.986	-178.986
6	2480.940	-32.940
7	2481.888	-362.888
8	2481.816	-266.816




Peat Moss (P)
Dissolved Potassium
Concentration (µg/L)
3500
3000
2500
2000
1500
1000
500
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Dissolved Potassium
Effluent Concentration (µg/L)
6000
5000
4000
3000
2000
1000
0
0
1000
2000
3000
4000
5000
6000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Na

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.292
R Square	0.085
Adjusted R Square	-0.067
Standard Error	6097.255
Observations	8.000

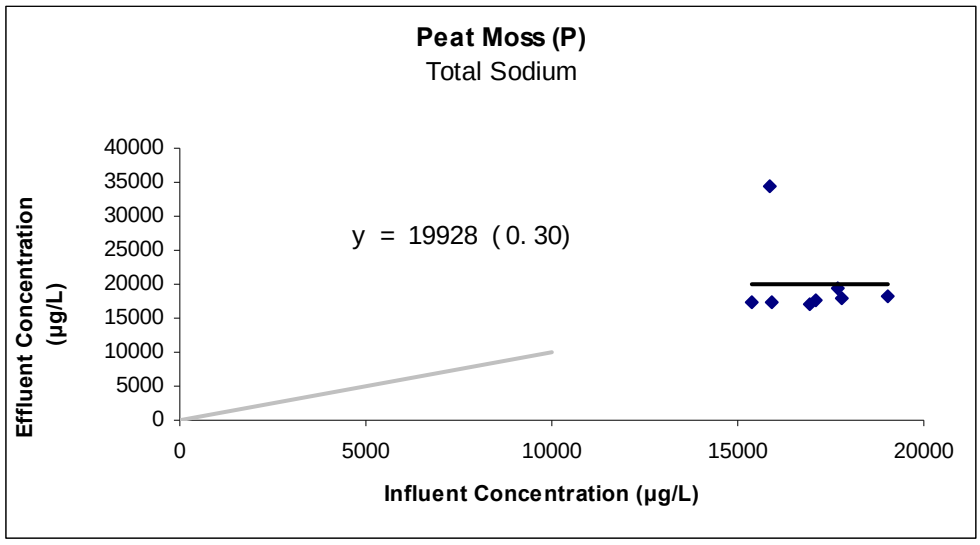
ANOVA

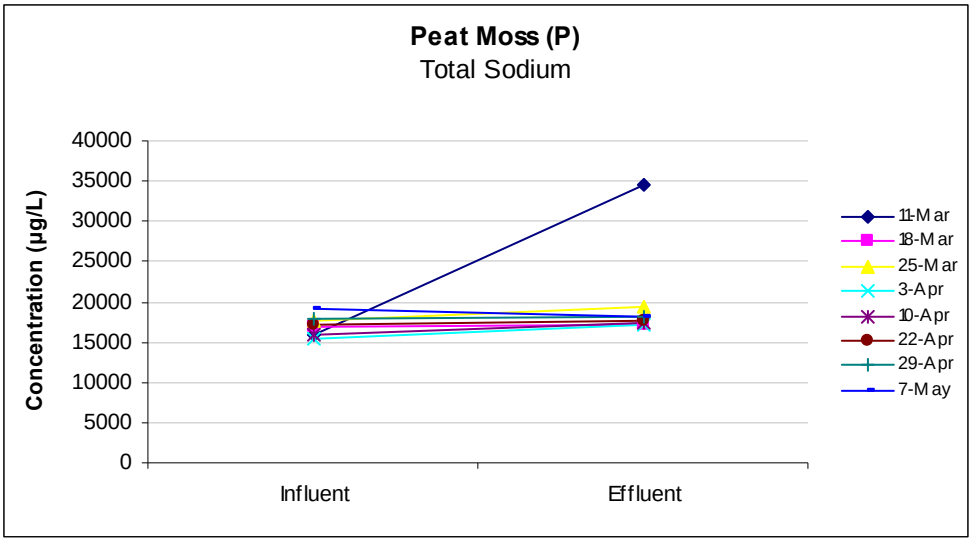
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	20818317.699	20818317.699	0.560	0.483
Residual	6.000	223059096.301	37176516.050		
Total	7.000	243877414.000			

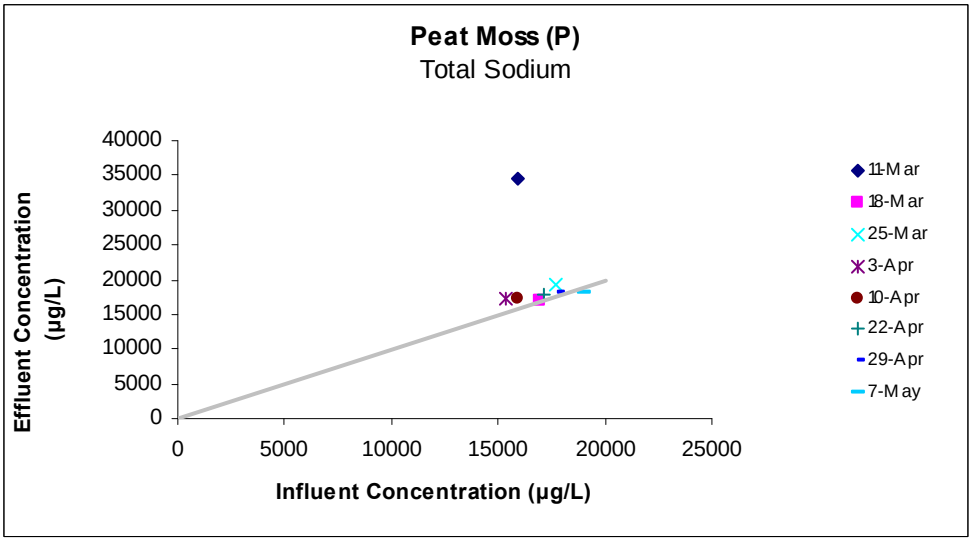
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	43941.358	32162.602	1.366	0.221	-34757.694	122640.410	-34757.694	122640.410
X Variable 1	-1.415	1.891	-0.748	0.483	-6.042	3.212	-6.042	3.212

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	21473.517	12946.483
2	20013.115	-2957.115
3	18916.398	504.602
4	22198.058	-4986.058
5	21385.780	-3984.780
6	19720.185	-1991.185
7	18721.111	-670.111
8	16991.836	1138.164




Peat Moss (P)
Total Sodium
Concentration (µg/L)
40000
35000
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Total Sodium
Effluent Concentration (µg/L)
40000
35000
30000
25000
20000
15000
10000
5000
0
0
5000
10000
15000
20000
25000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Na

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.264
R Square	0.070
Adjusted R Square	-0.085
Standard Error	5677.878
Observations	8.000

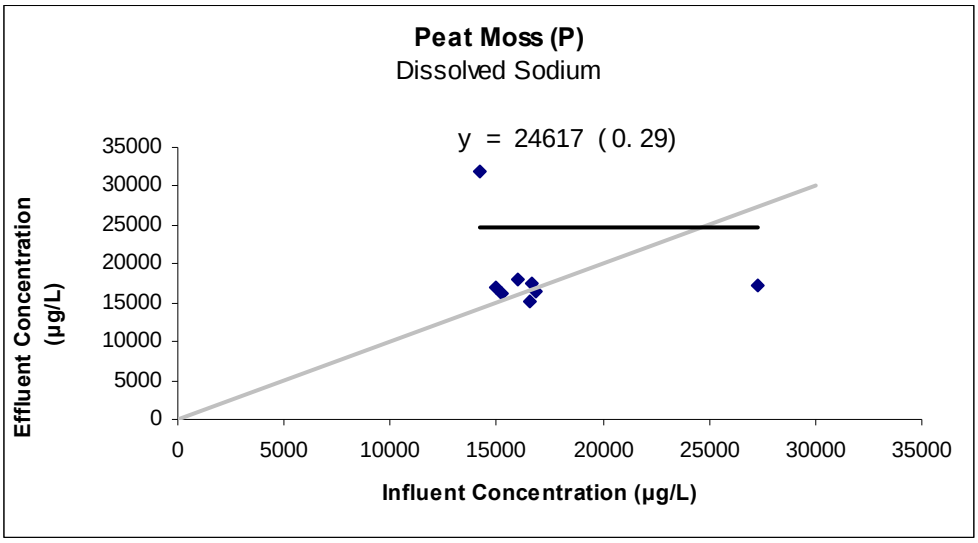
ANOVA

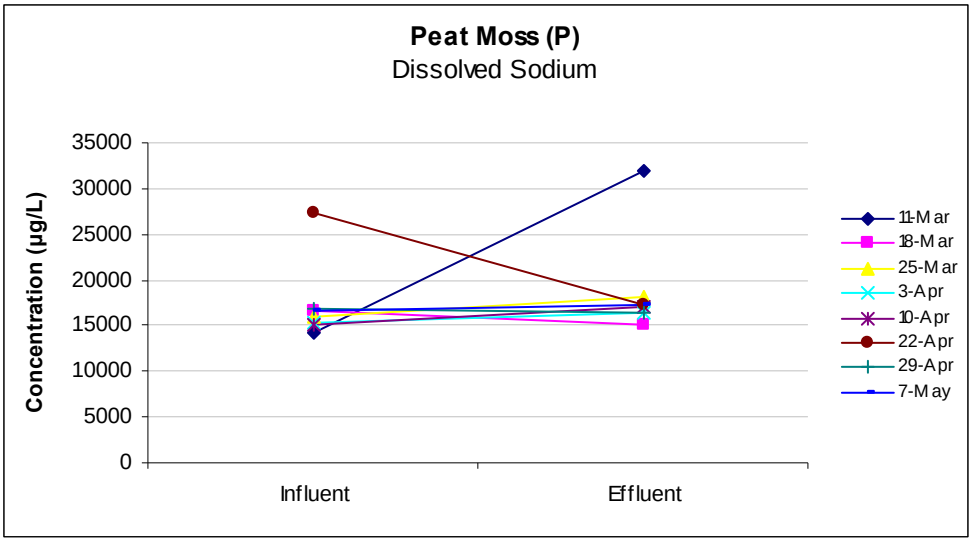
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	14504682.899	14504682.899	0.450	0.527
Residual	6.000	193429790.976	32238298.496		
Total	7.000	207934473.875			

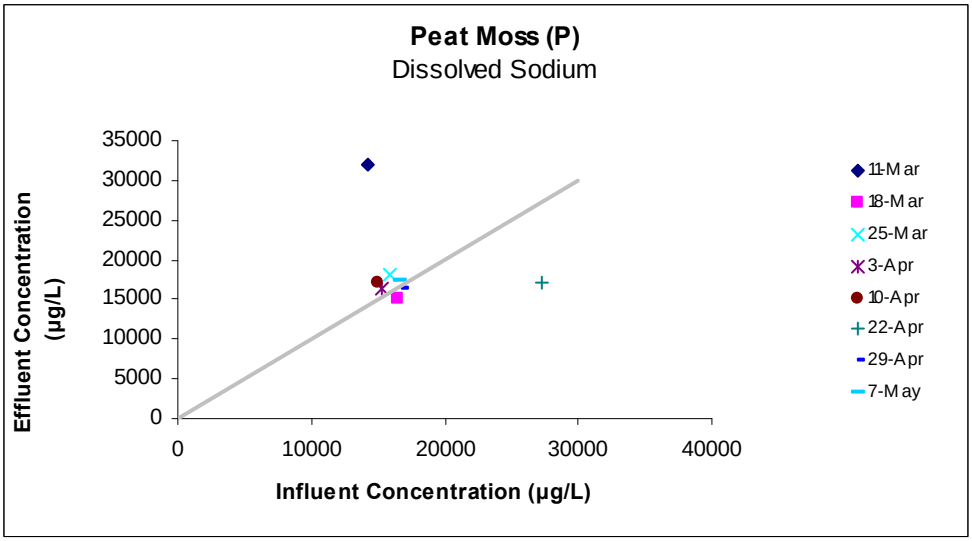
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	24617.206	9043.694	2.722	0.035	2488.083	46746.329	2488.083	46746.329
X Variable 1	-0.344	0.512	-0.671	0.527	-1.597	0.910	-1.597	0.910

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	19747.543	12266.457
2	18936.563	-3801.563
3	19134.497	-1048.497
4	19370.918	-3056.918
5	19461.638	-2393.638
6	15225.640	2007.360
7	18834.503	-2442.503
8	18907.697	-1530.697




Peat Moss (P)
Dissolved Sodium
Concentration (µg/L)
35000
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Dissolved Sodium
Effluent Concentration (µg/L)
35000
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Cr

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.111
R Square	0.012
Adjusted R Square	-0.235
Standard Error	9.254
Observations	6.000

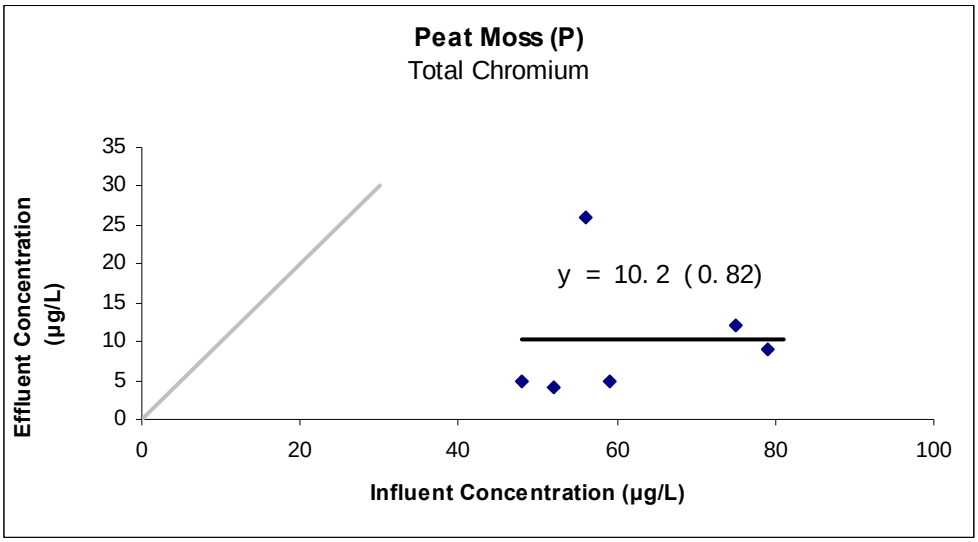
ANOVA

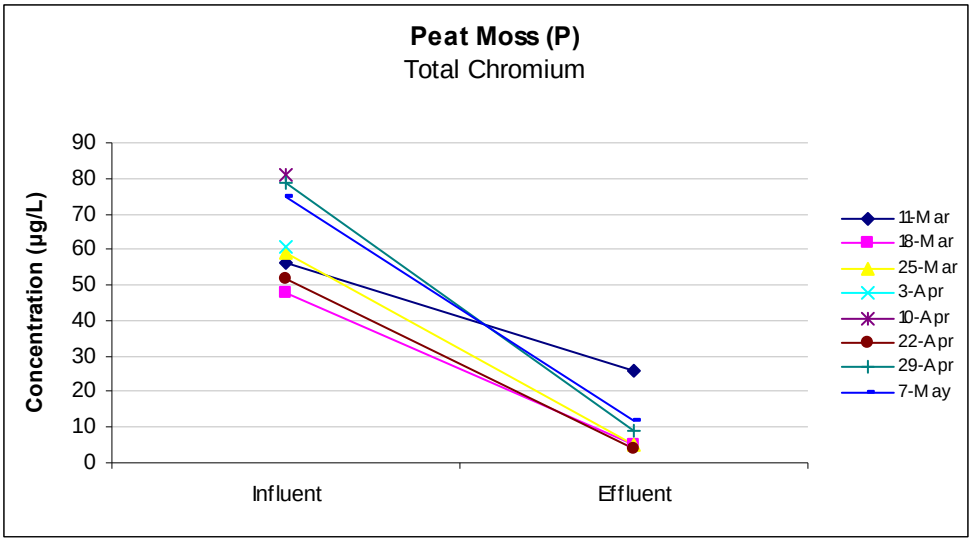
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	4.291	4.291	0.050	0.834
Residual	4.000	342.542	85.636		
Total	5.000	346.833			

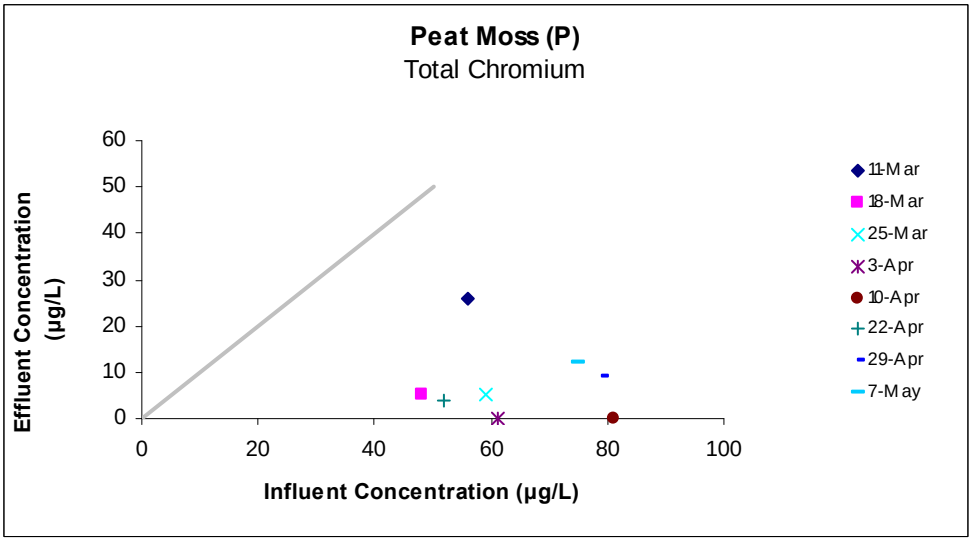
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	5.655	20.504	0.276	0.796	-51.273	62.583	-51.273	62.583
X Variable 1	0.073	0.328	0.224	0.834	-0.836	0.983	-0.836	0.983

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	9.763	16.237
2	9.176	-4.176
3	9.983	-4.983
4	9.470	-5.470
5	11.450	-2.450
6	11.157	0.843




Peat Moss (P)
Total Chromium
Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Total Chromium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cr

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.762
R Square	0.580
Adjusted R Square	0.475
Standard Error	2.309
Observations	6.000

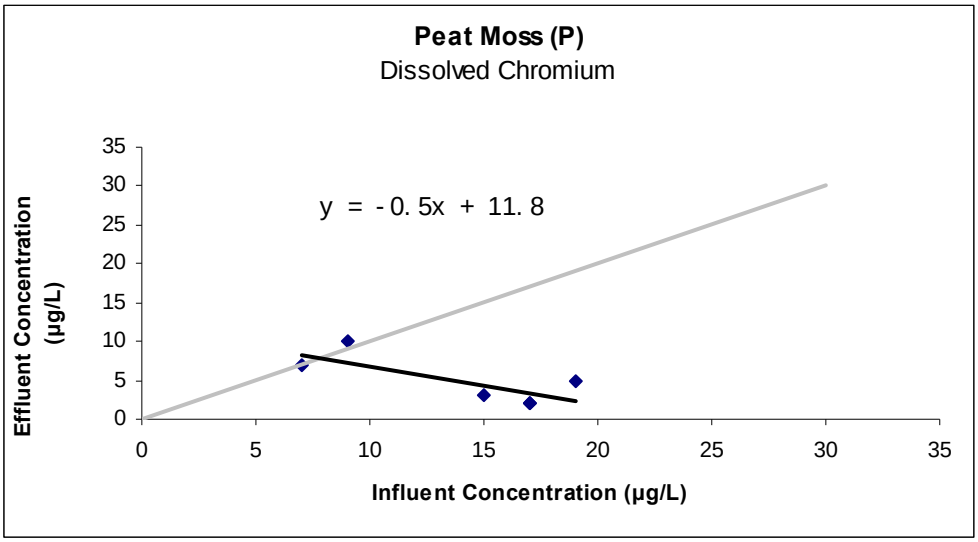
ANOVA

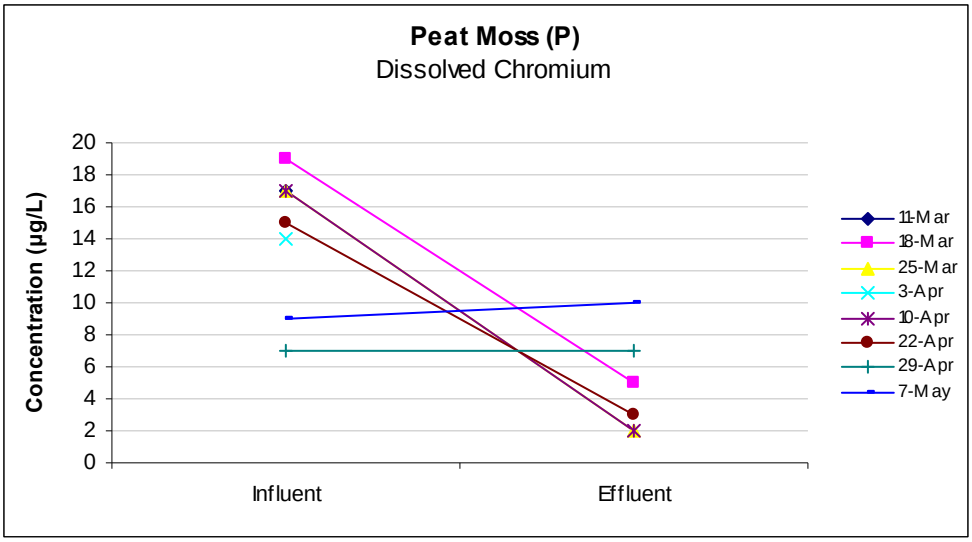
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	29.500	29.500	5.531	0.078
Residual	4.000	21.333	5.333		
Total	5.000	50.833			

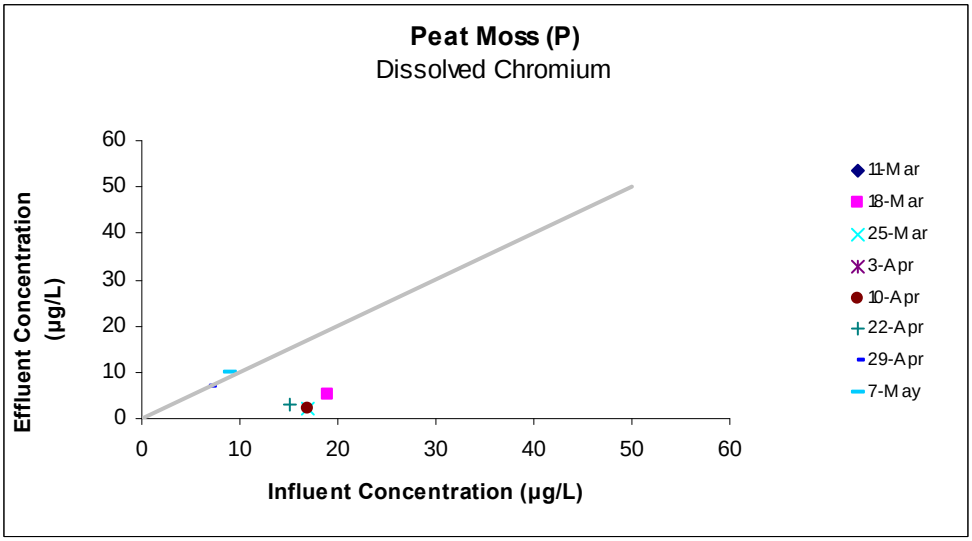
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	11.833	3.122	3.790	0.019	3.165	20.502	3.165	20.502
X Variable 1	-0.500	0.213	-2.352	0.078	-1.090	0.090	-1.090	0.090

RESIDUAL OUTPUT

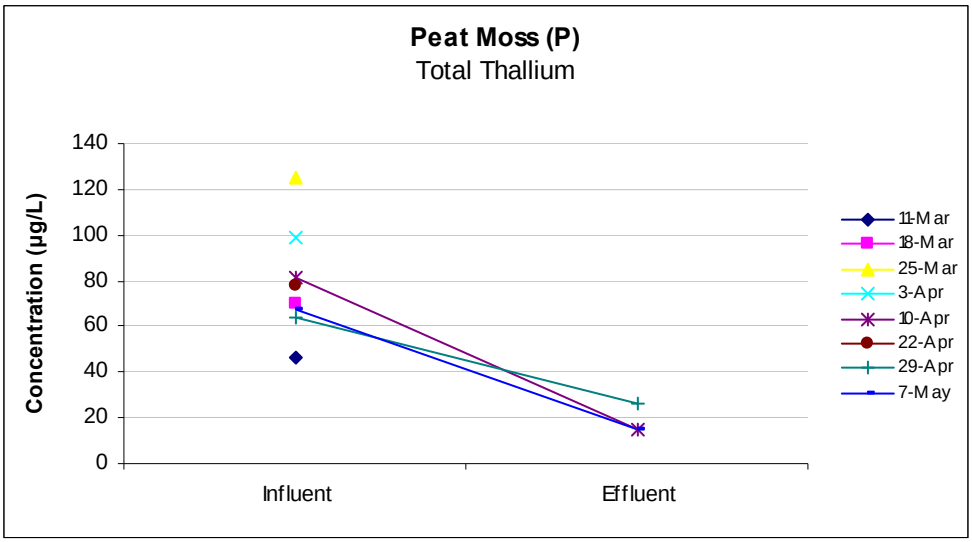
Observation	*Predicted Y*	*Residuals*
1	2.333	2.667
2	3.333	-1.333
3	3.333	-1.333
4	4.333	-1.333
5	8.333	-1.333
6	7.333	2.667

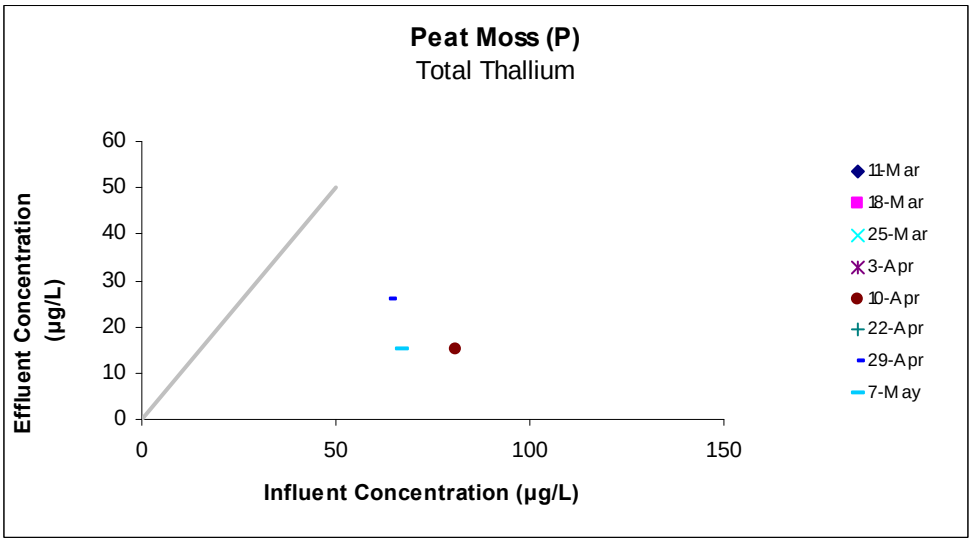



Peat Moss (P)
Dissolved Chromium
Concentration (µg/L)
20
18
16
14
12
10
8
6
4
2
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

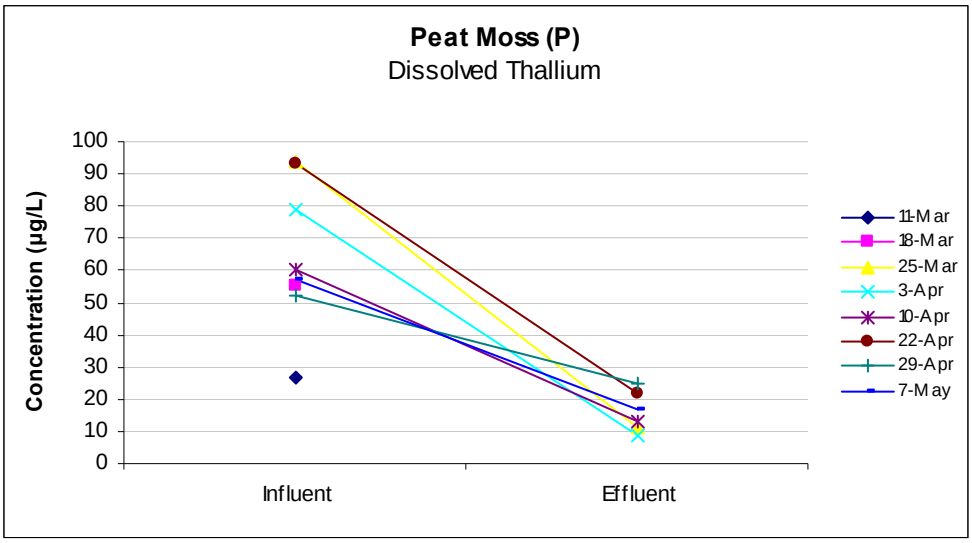

Peat Moss (P)
Dissolved Chromium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

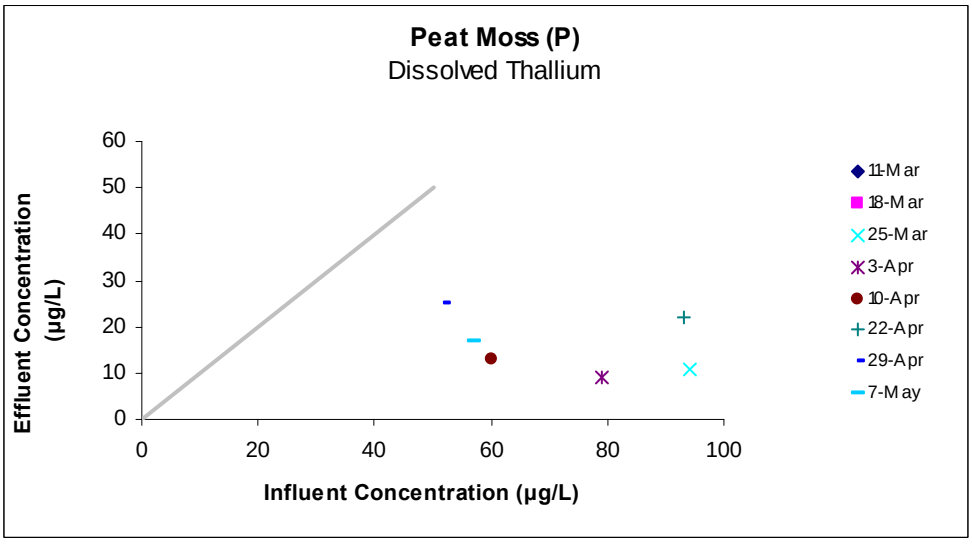
Total Tl


Peat Moss (P)
Total Thallium
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Total Thallium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
50
100
150
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Tl





Total Sb

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	1
R Square	1
Adjusted R Square	65535
Standard Error	0
Observations	2

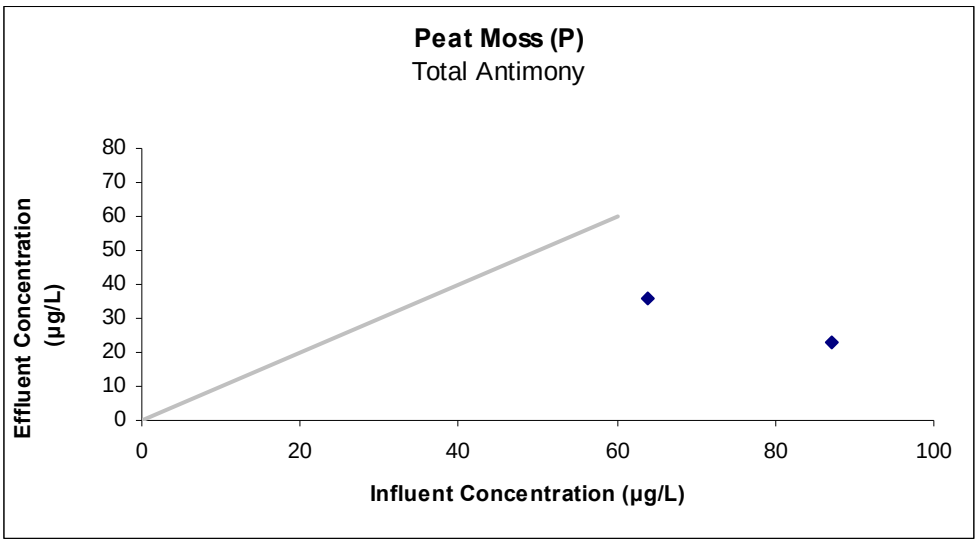
ANOVA

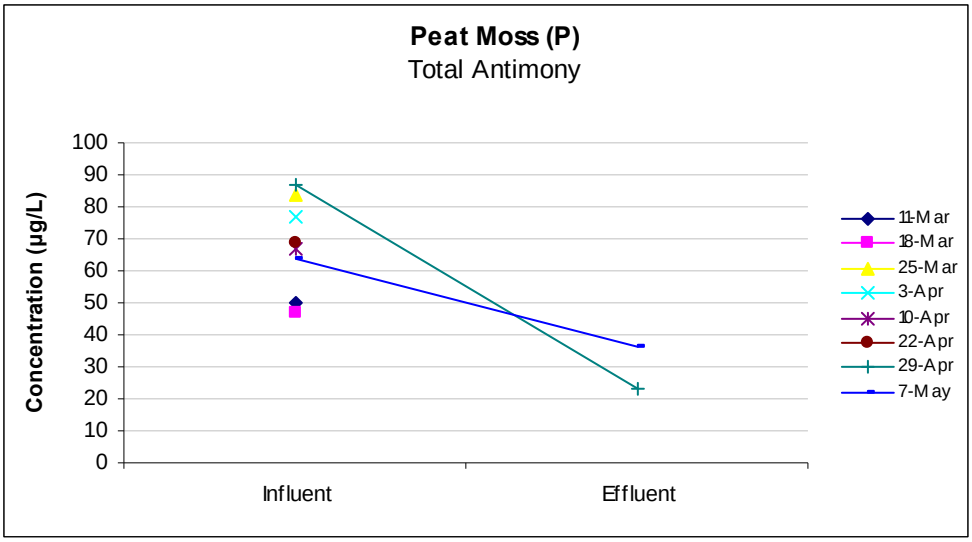
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	84.5	84.5	#NUM!	#NUM!
Residual	0	0	65535		
Total	1	84.5			

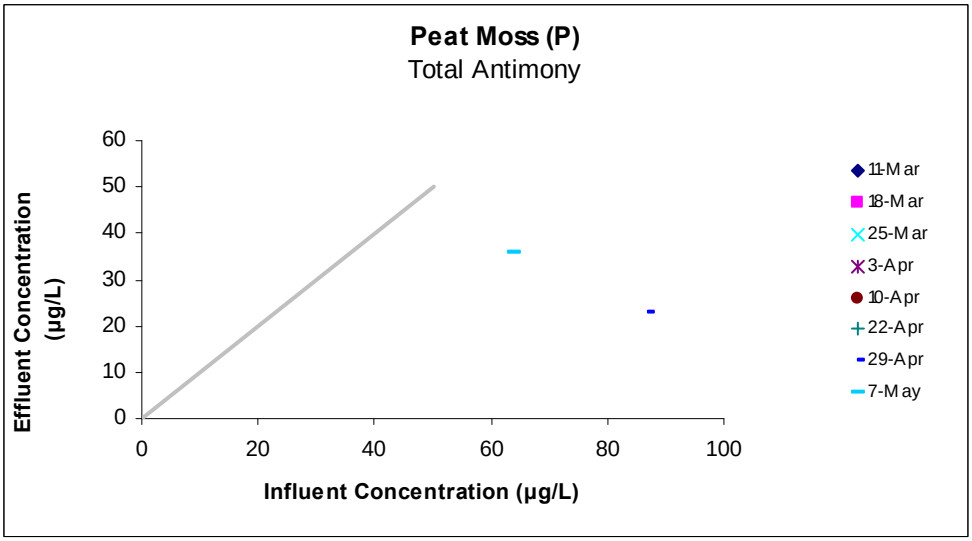
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	72.17391304	0	65535	#NUM!	72.17391304	72.17391304	72.17391304	72.17391304
X Variable 1	-0.565217391	0	65535	#NUM!	-0.565217391	-0.565217391	-0.565217391	-0.565217391

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	23	0
2	36	0




Peat Moss (P)
Total Antimony
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Total Antimony
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Sb

Peat Moss

SUMMARY OUTPUT

Regression Statistics	
Multiple R	1
R Square	1
Adjusted R Square	65535
Standard Error	0
Observations	2

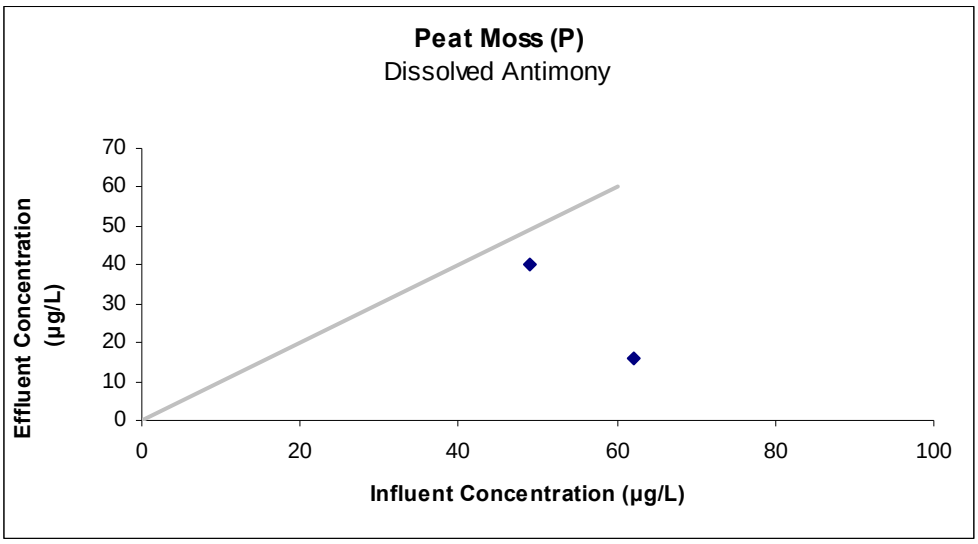
ANOVA

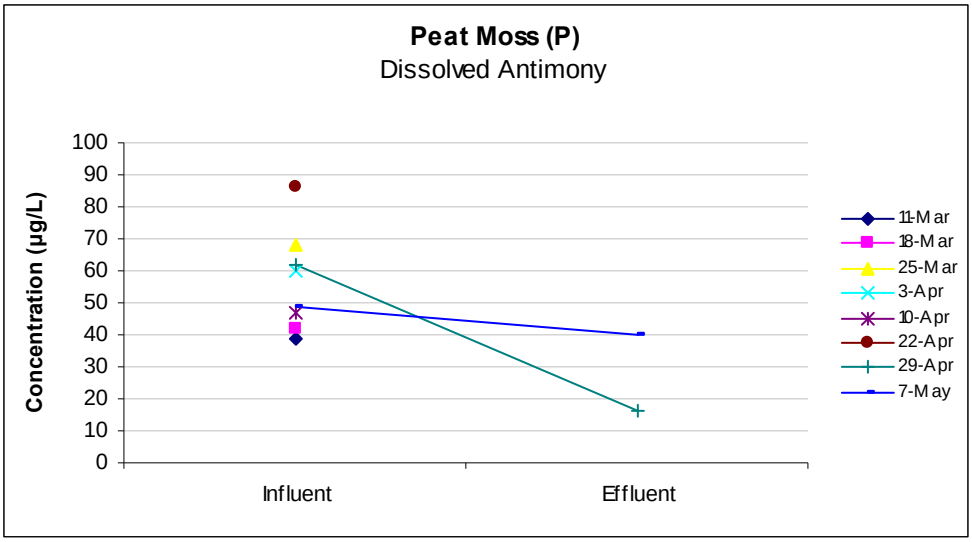
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	288	288	#NUM!	#NUM!
Residual	0	0	65535		
Total	1	288			

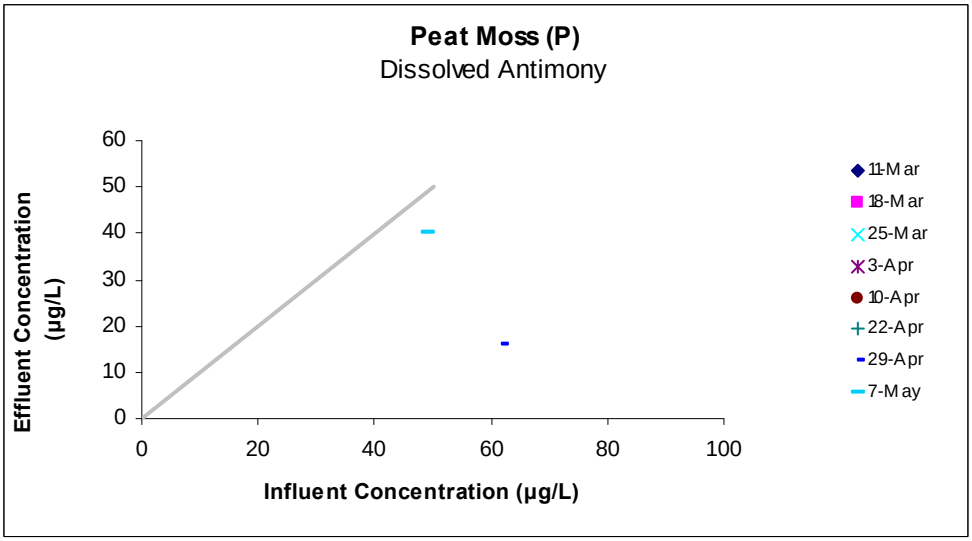
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	130.4615385	0	65535	#NUM!	130.4615385	130.4615385	130.4615385	130.4615385
X Variable 1	-1.846153846	0	65535	#NUM!	-1.846153846	-1.846153846	-1.846153846	-1.846153846

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	16	0
2	40	0




Peat Moss (P)
Dissolved Antimony
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Peat Moss (P)
Dissolved Antimony
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Rhyolite Sand (R)

Total As

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.984
R Square	0.968
Adjusted R Square	0.959
Standard Error	3.279
Observations	6.000

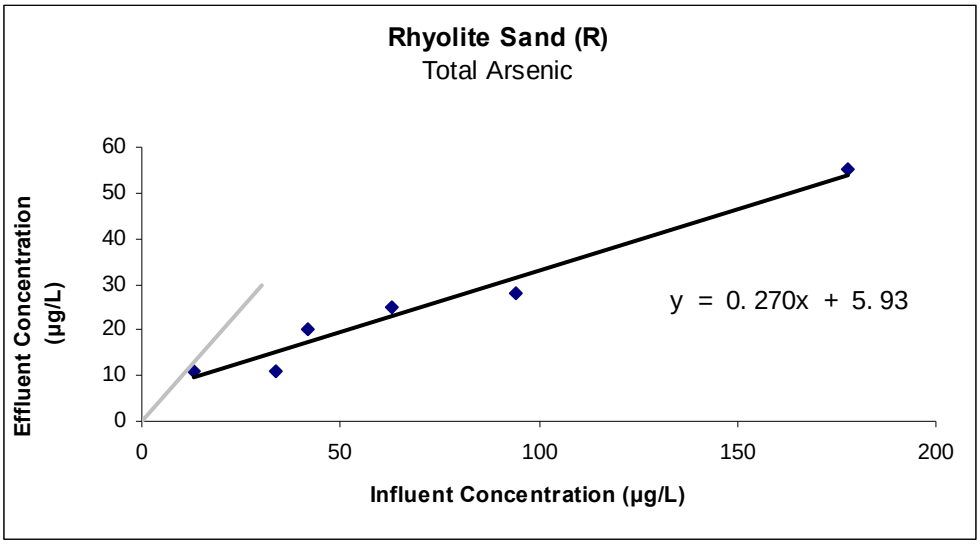
ANOVA

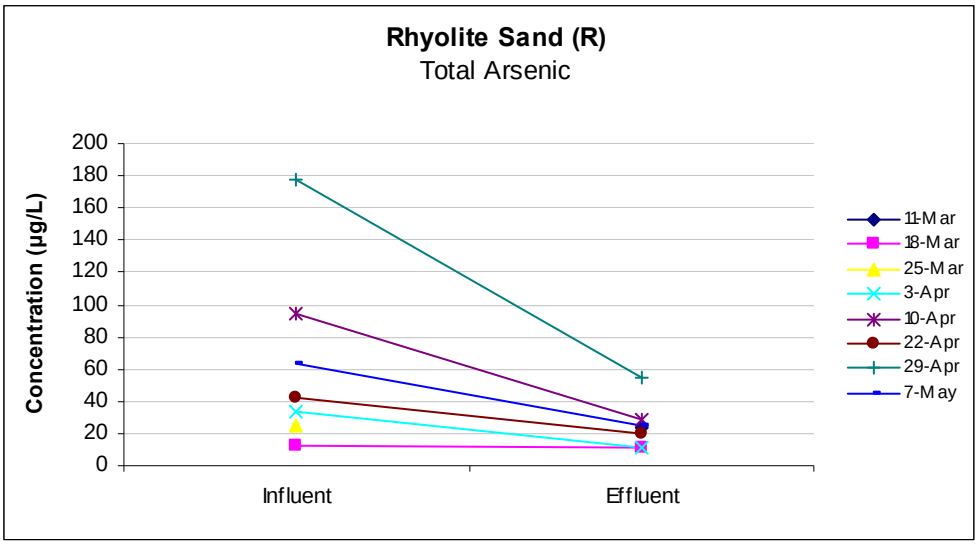
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	1283.002	1283.002	119.356	0.000
Residual	4.000	42.998	10.749		
Total	5.000	1326.000			

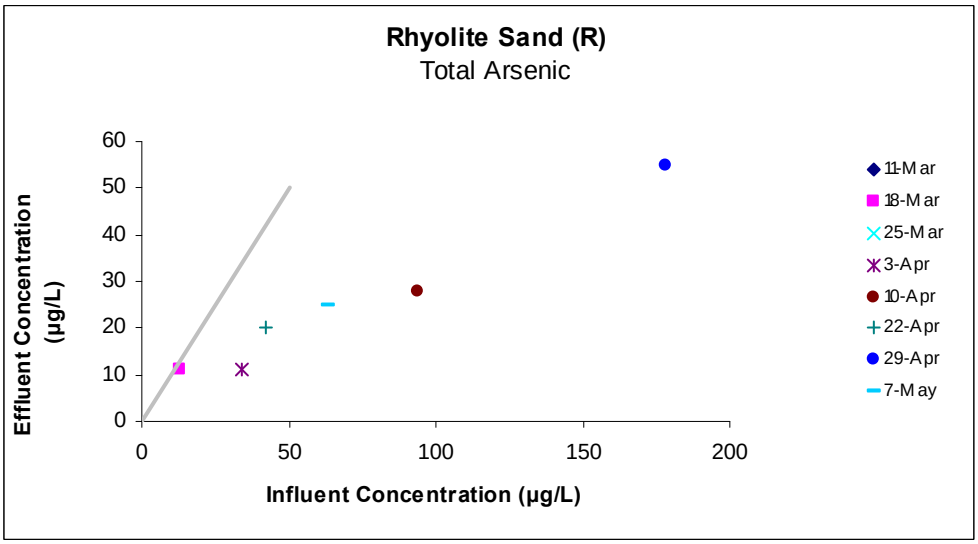
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	5.929	2.200	2.695	0.054	-0.179	12.036	-0.179	12.036
X Variable 1	0.270	0.025	10.925	0.000	0.201	0.338	0.201	0.338

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	9.437	1.563
2	15.104	-4.104
3	31.297	-3.297
4	17.263	2.737
5	53.967	1.033
6	22.931	2.069




Rhyolite Sand (R)
Total Arsenic
Concentration (µg/L)
200
180
160
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Total Arsenic
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
50
100
150
200
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved As

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.871
R Square	0.759
Adjusted R Square	0.699
Standard Error	5.708
Observations	6.000

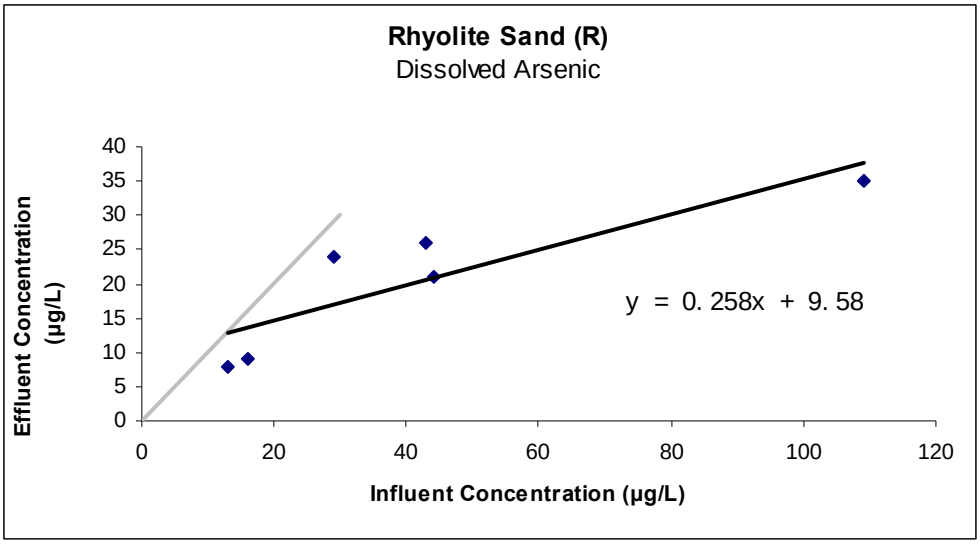
ANOVA

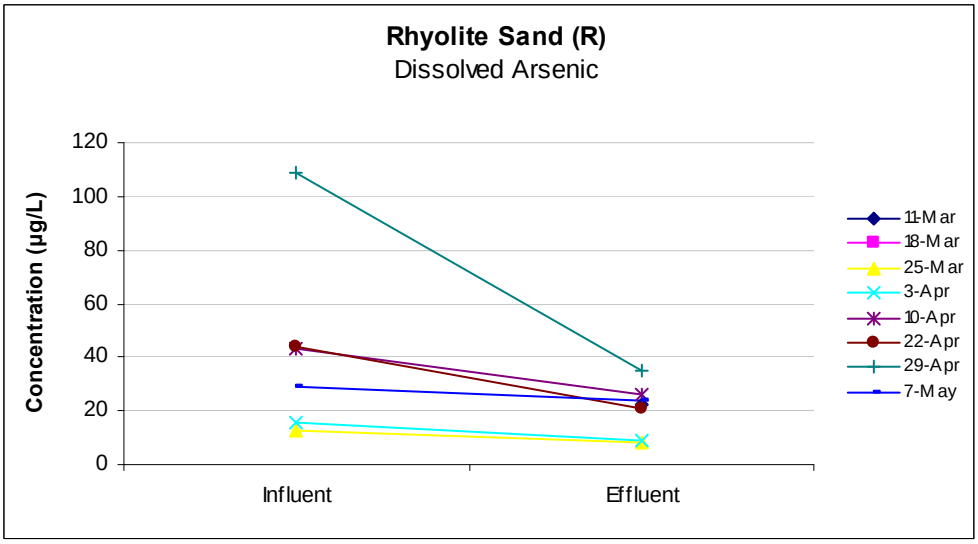
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	411.183	411.183	12.621	0.024
Residual	4.000	130.317	32.579		
Total	5.000	541.500			

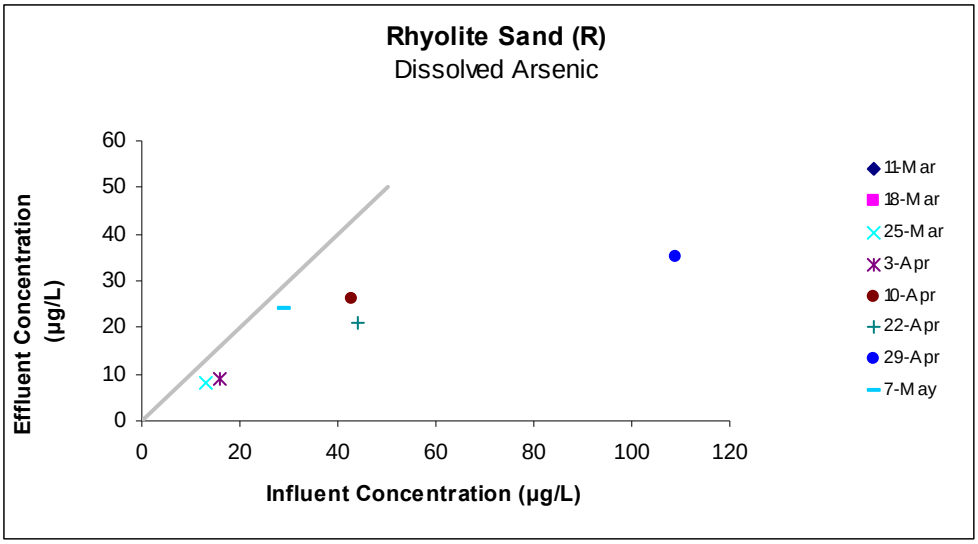
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	9.580	3.857	2.484	0.068	-1.130	20.289	-1.130	20.289
X Variable 1	0.258	0.073	3.553	0.024	0.056	0.460	0.056	0.460

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	12.933	-4.933
2	13.707	-4.707
3	20.672	5.328
4	20.930	0.070
5	37.697	-2.697
6	17.061	6.939


Rhyolite Sand (R)
Dissolved Arsenic
Effluent Concentration (µg/L)
Influent Concentration (µg/L)
y = 0.258x + 9.58
0
5
10
15
20
25
30
35
40
0
20
40
60
80
100
120


Rhyolite Sand (R)
Dissolved Arsenic
Concentration (µg/L)
0
20
40
60
80
100
120
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Dissolved Arsenic
Effluent Concentration (µg/L)
Influent Concentration (µg/L)
0
10
20
30
40
50
60
0
20
40
60
80
100
120
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Al

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.196
R Square	0.038
Adjusted R Square	-0.122
Standard Error	3543.162
Observations	8.000

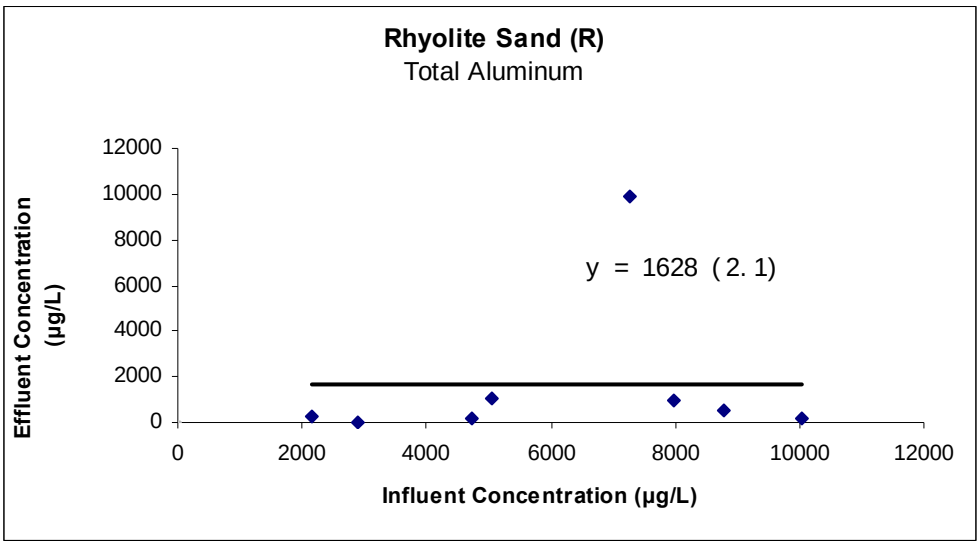
ANOVA

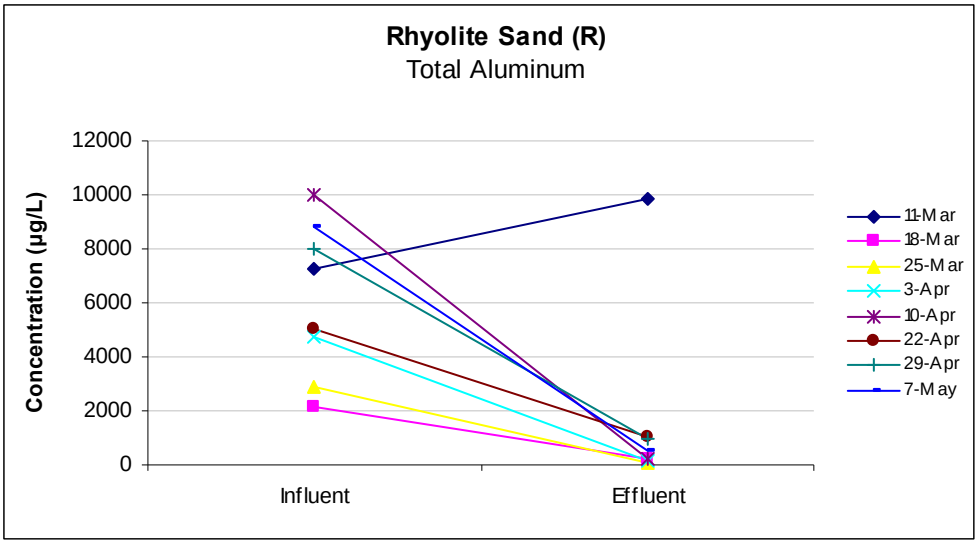
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	2994787.308	2994787.308	0.239	0.643
Residual	6.000	75323988.567	12553998.094		
Total	7.000	78318775.875			

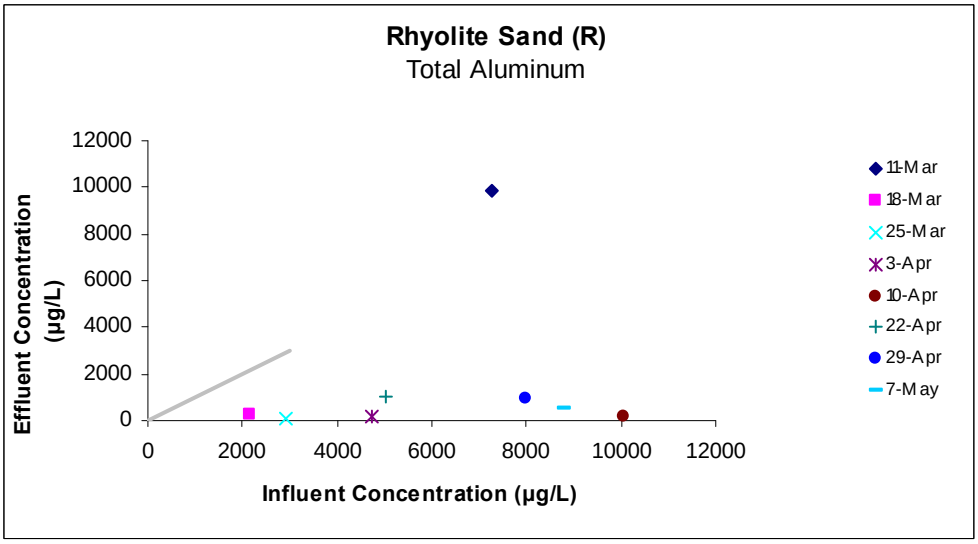
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	218.772	3146.668	0.070	0.947	-7480.848	7918.393	-7480.848	7918.393
X Variable 1	0.231	0.472	0.488	0.643	-0.925	1.386	-0.925	1.386

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	1896.310	7959.690
2	715.693	-472.693
3	889.557	-846.557
4	1309.691	-1143.691
5	2533.198	-2335.198
6	1382.327	-348.327
7	2059.337	-1100.337
8	2242.886	-1712.886




Rhyolite Sand (R)
Total Aluminum
Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Total Aluminum
Effluent Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Al

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.044
R Square	0.002
Adjusted R Square	-0.198
Standard Error	434.909
Observations	7.000

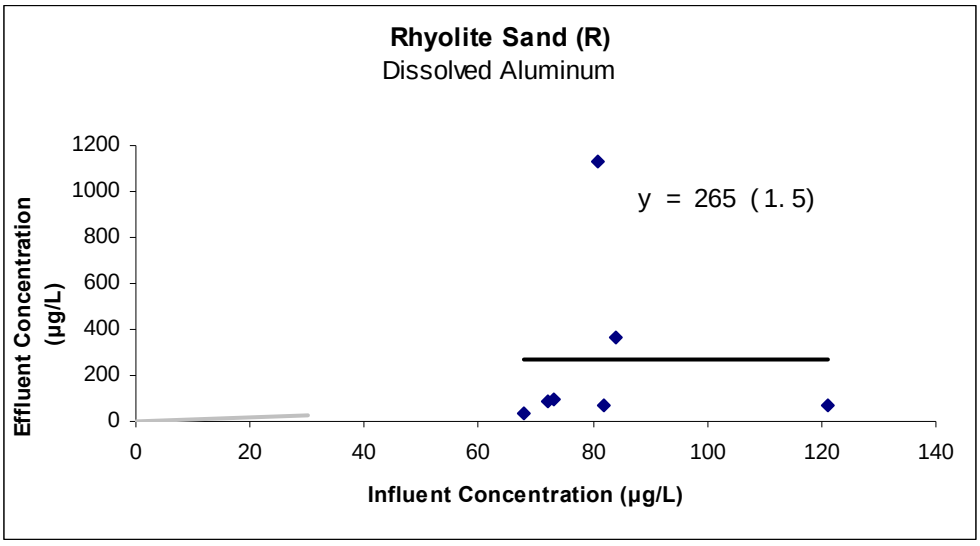
ANOVA

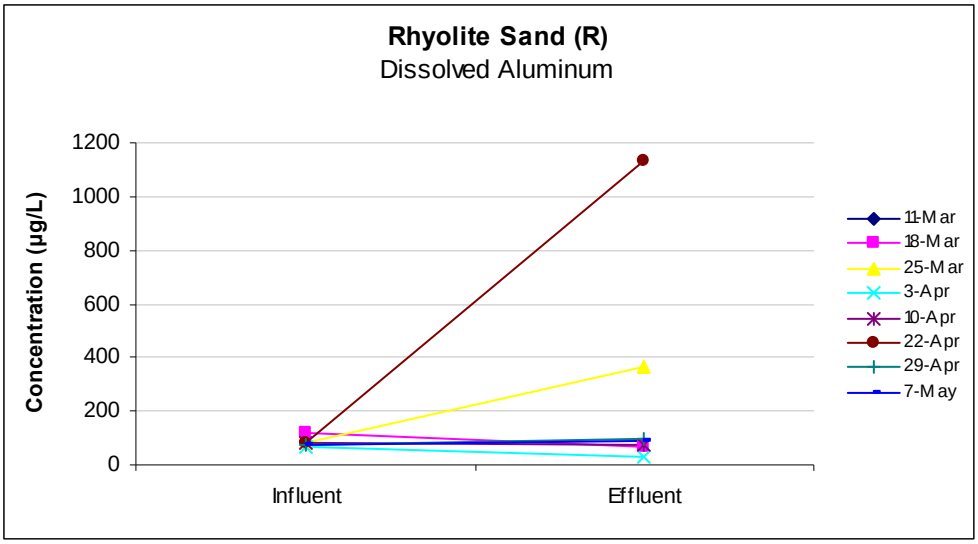
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	1820.762	1820.762	0.010	0.926
Residual	5.000	945728.953	189145.791		
Total	6.000	947549.714			

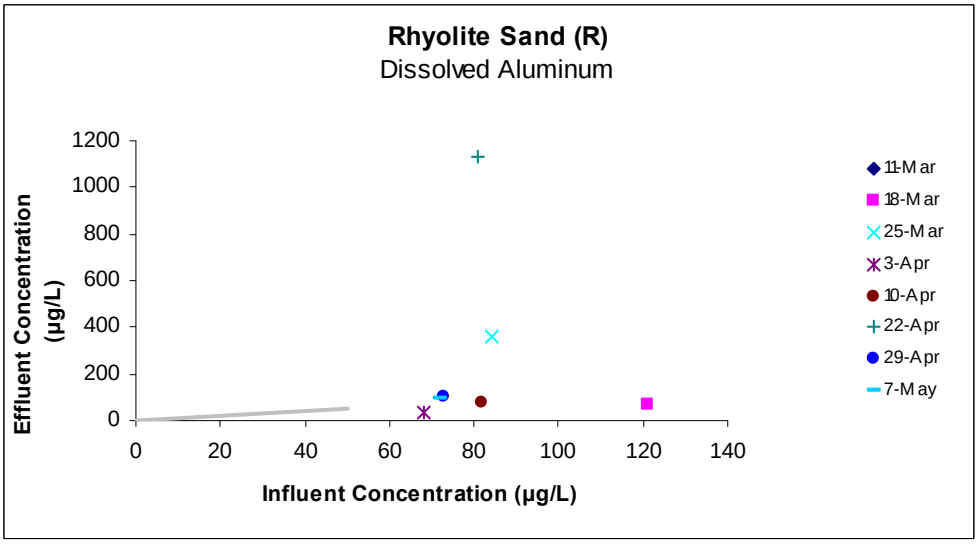
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	346.765	845.145	0.410	0.699	-1825.750	2519.280	-1825.750	2519.280
X Variable 1	-0.980	9.988	-0.098	0.926	-26.655	24.695	-26.655	24.695

RESIDUAL OUTPUT

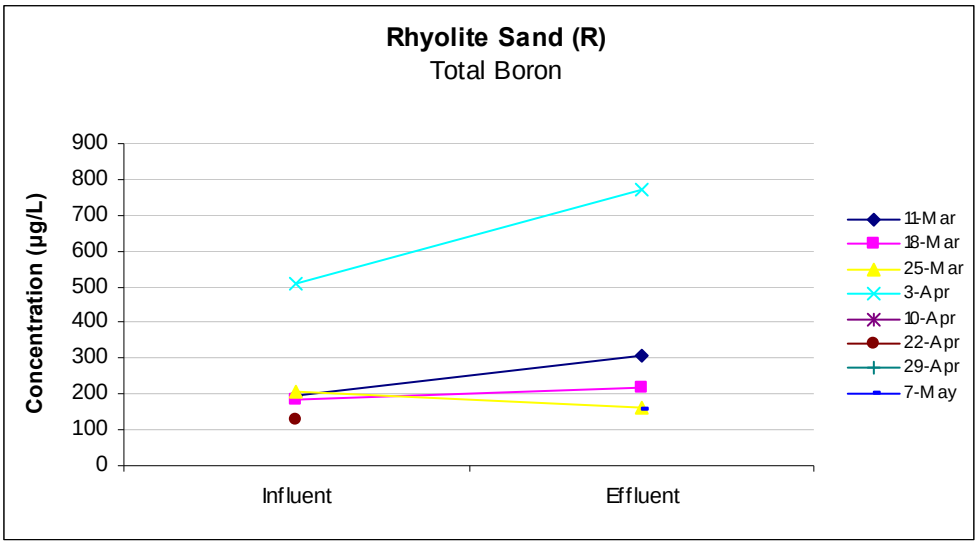
Observation	*Predicted Y*	*Residuals*
1	228.190	-160.190
2	264.449	99.551
3	280.128	-248.128
4	266.409	-193.409
5	267.388	863.612
6	275.228	-176.228
7	276.208	-185.208

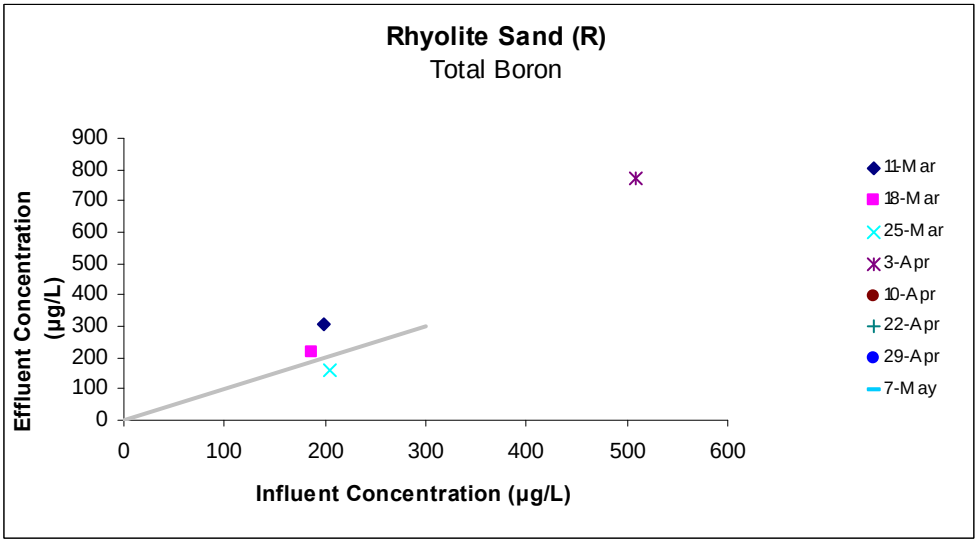



Rhyolite Sand (R)
Dissolved Aluminum
Concentration (µg/L)
1200
1000
800
600
400
200
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

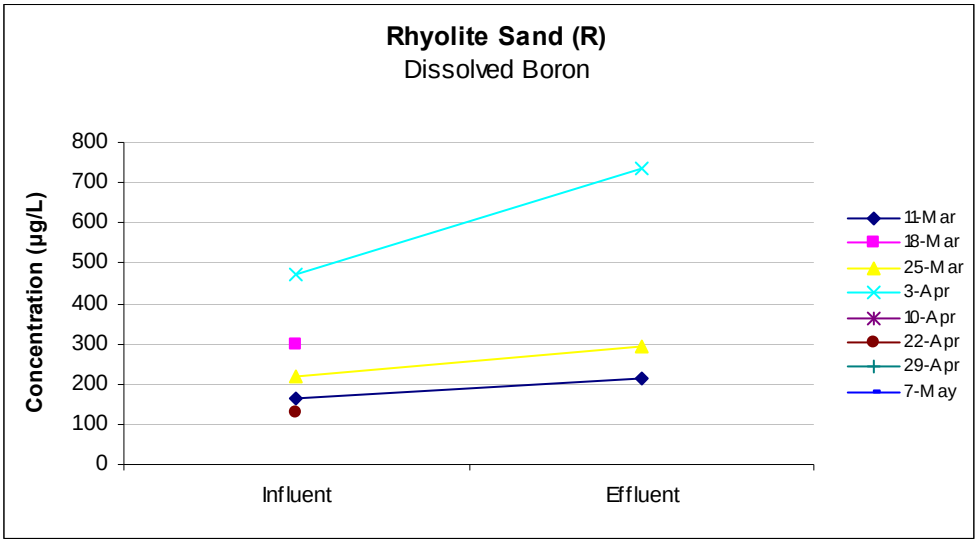

Rhyolite Sand (R)
Dissolved Aluminum
Effluent Concentration (µg/L)
1200
1000
800
600
400
200
0
0
20
40
60
80
100
120
140
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

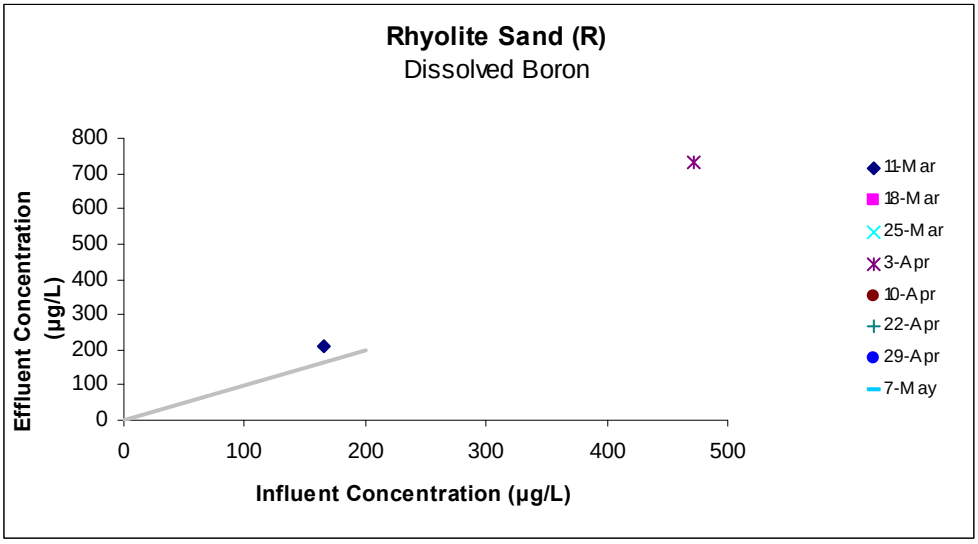
Total B


Rhyolite Sand (R)
Total Boron
Concentration (µg/L)
900
800
700
600
500
400
300
200
100
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Total Boron
Effluent Concentration (µg/L)
900
800
700
600
500
400
300
200
100
0
0
100
200
300
400
500
600
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved B


Rhyolite Sand (R)
Dissolved Boron
Concentration (µg/L)
800
700
600
500
400
300
200
100
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Dissolved Boron
Effluent Concentration (µg/L)
800
700
600
500
400
300
200
100
0
0
100
200
300
400
500
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Ca

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.977
R Square	0.955
Adjusted R Square	0.812
Standard Error	7372.705
Observations	8.000

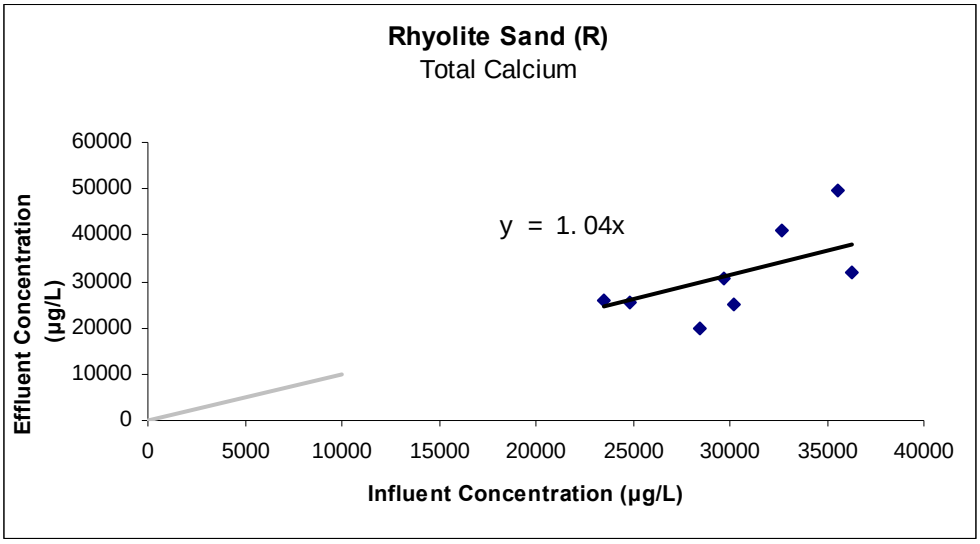
ANOVA

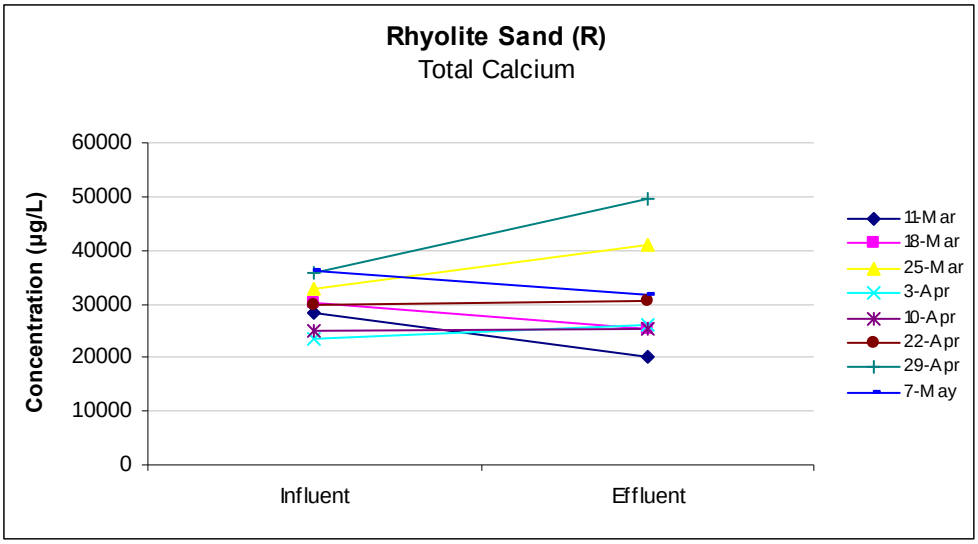
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	8092916877.716	8092916877.716	148.885	0.000
Residual	7.000	380497403.284	54356771.898		
Total	8.000	8473414281.000			

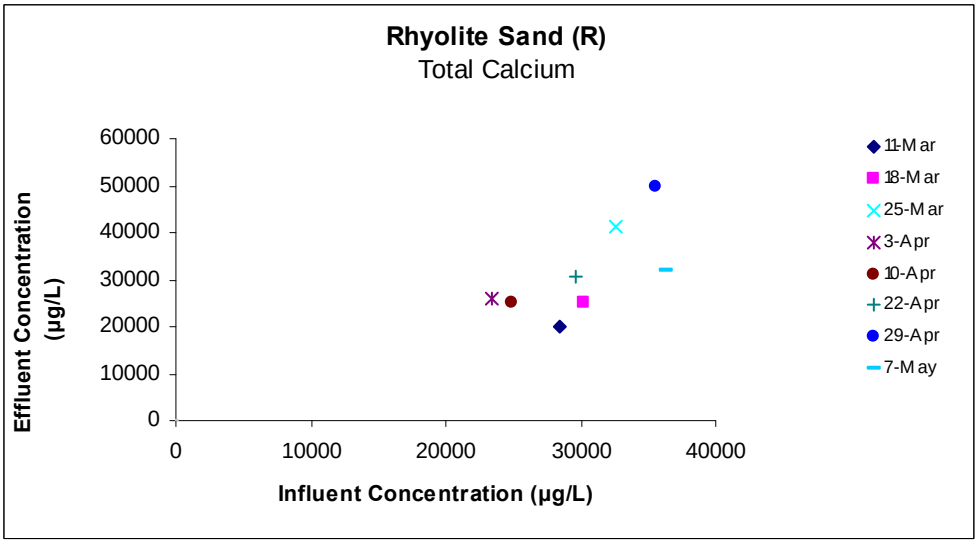
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	1.045	0.086	12.202	0.000	0.842	1.247	0.842	1.247

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	29686.416	-9662.416
2	31555.070	-6320.070
3	34091.174	7041.826
4	24526.468	1548.532
5	25973.133	-694.133
6	30980.581	-250.581
7	37185.054	12534.946
8	37881.751	-6126.751




Rhyolite Sand (R)
Total Calcium
Concentration (µg/L)
60000
50000
40000
30000
20000
10000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Total Calcium
Effluent Concentration (µg/L)
60000
50000
40000
30000
20000
10000
0
0
10000
20000
30000
40000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Ca

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.413
R Square	0.171
Adjusted R Square	0.032
Standard Error	6913.299
Observations	8.000

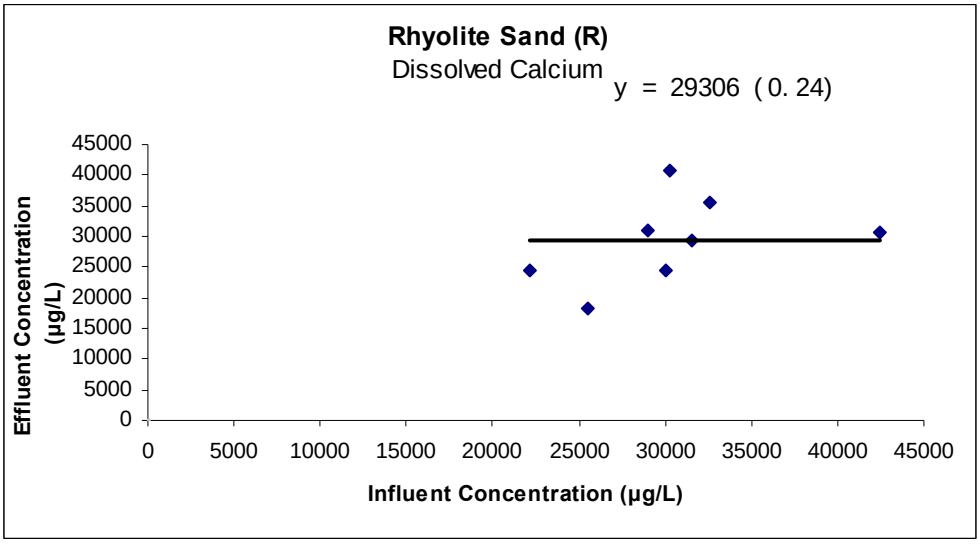
ANOVA

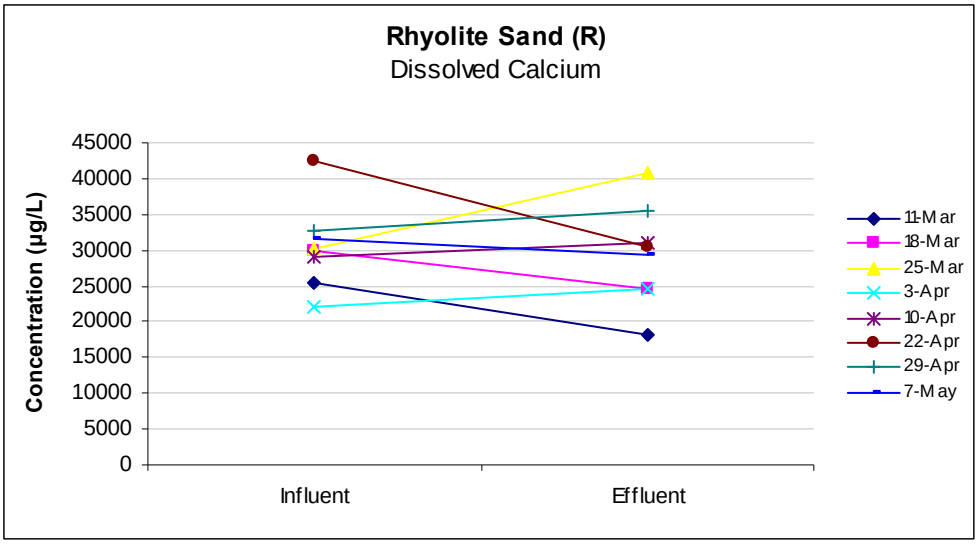
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	59031754.648	59031754.648	1.235	0.309
Residual	6.000	286762223.352	47793703.892		
Total	7.000	345793978.000			

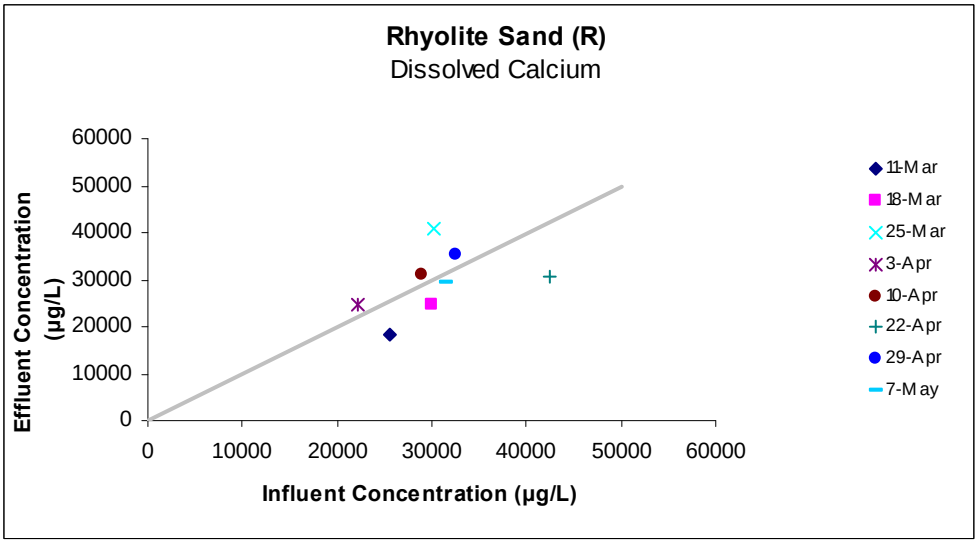
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	14363.778	13664.829	1.051	0.334	-19072.854	47800.409	-19072.854	47800.409
X Variable 1	0.491	0.442	1.111	0.309	-0.590	1.572	-0.590	1.572

RESIDUAL OUTPUT

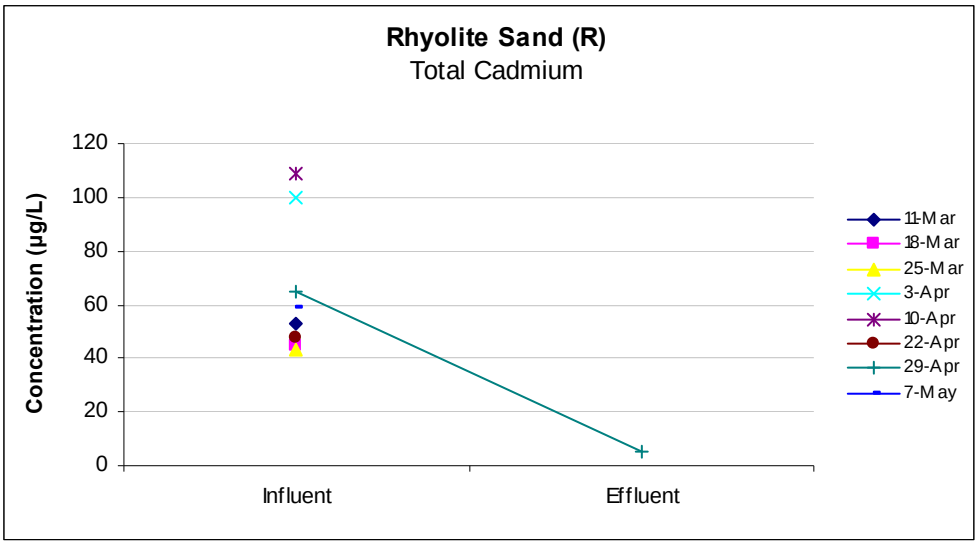
Observation	*Predicted Y*	*Residuals*
1	26886.037	-8687.037
2	29086.921	-4569.921
3	29225.398	11644.602
4	25239.056	-728.056
5	28588.997	2408.003
6	35189.196	-4689.196
7	30386.730	5123.270
8	29841.665	-501.665

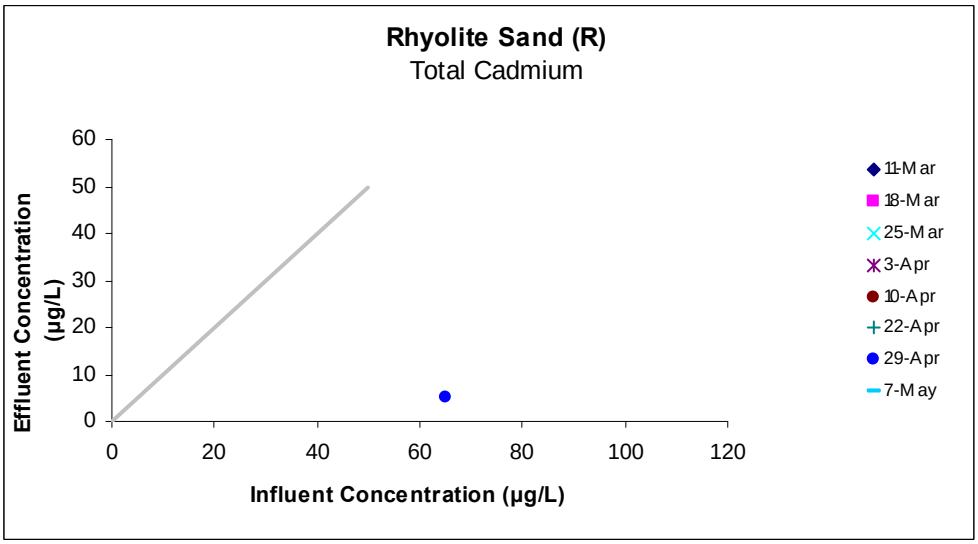



Rhyolite Sand (R)
Dissolved Calcium
Concentration (µg/L)
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

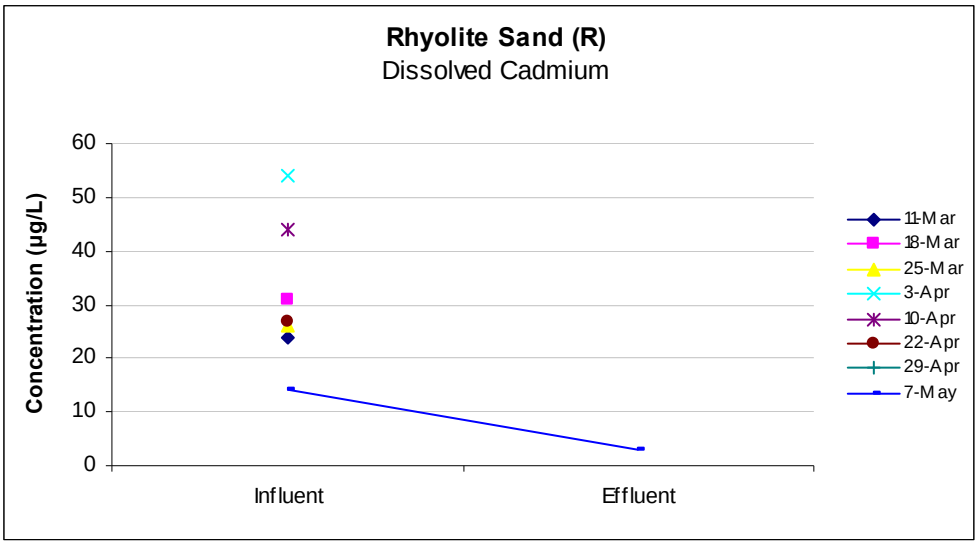

Rhyolite Sand (R)
Dissolved Calcium
Effluent Concentration (µg/L)
60000
50000
40000
30000
20000
10000
0
0
10000
20000
30000
40000
50000
60000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

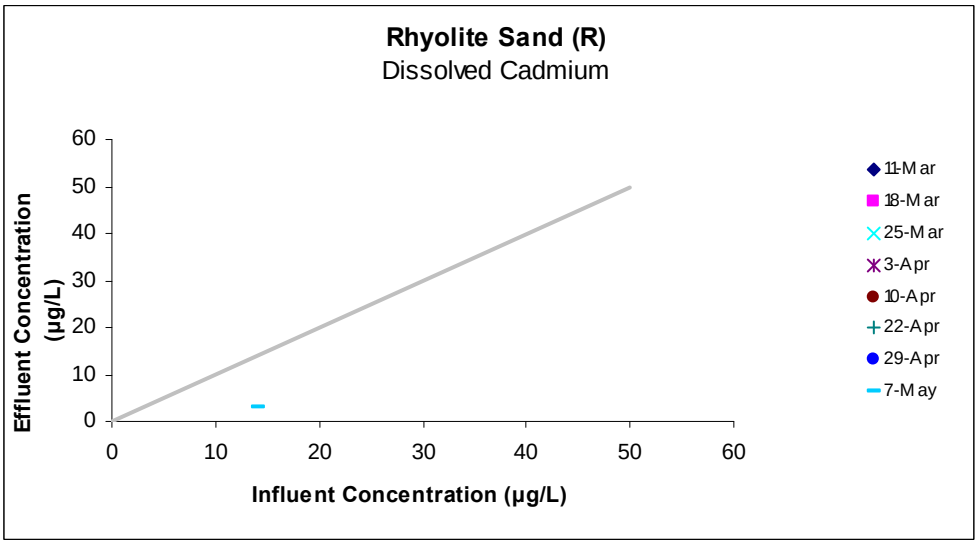
Total Cd


Rhyolite Sand (R)
Total Cadmium
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Total Cadmium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cd





Total Cu

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.138
R Square	0.019
Adjusted R Square	-0.144
Standard Error	14.855
Observations	8.000

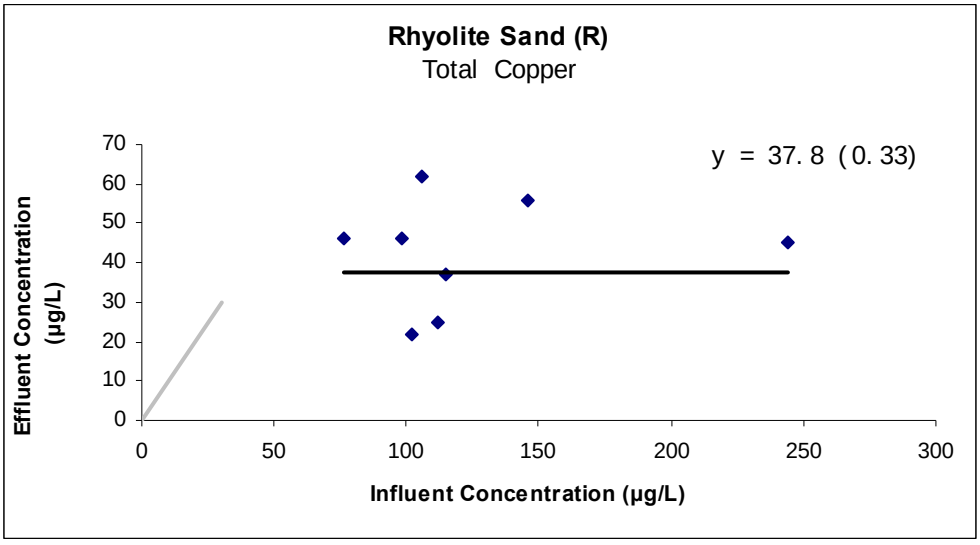
ANOVA

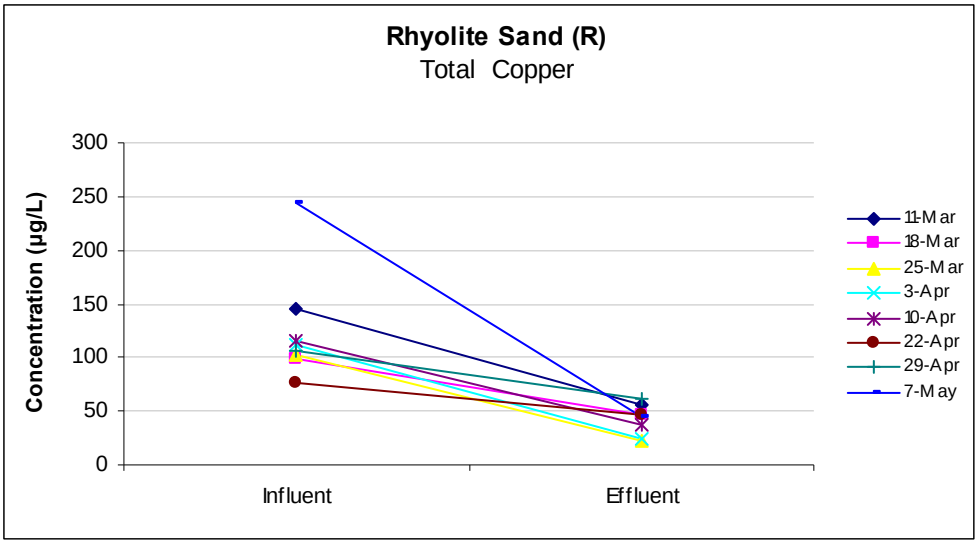
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	25.818	25.818	0.117	0.744
Residual	6.000	1324.057	220.676		
Total	7.000	1349.875			

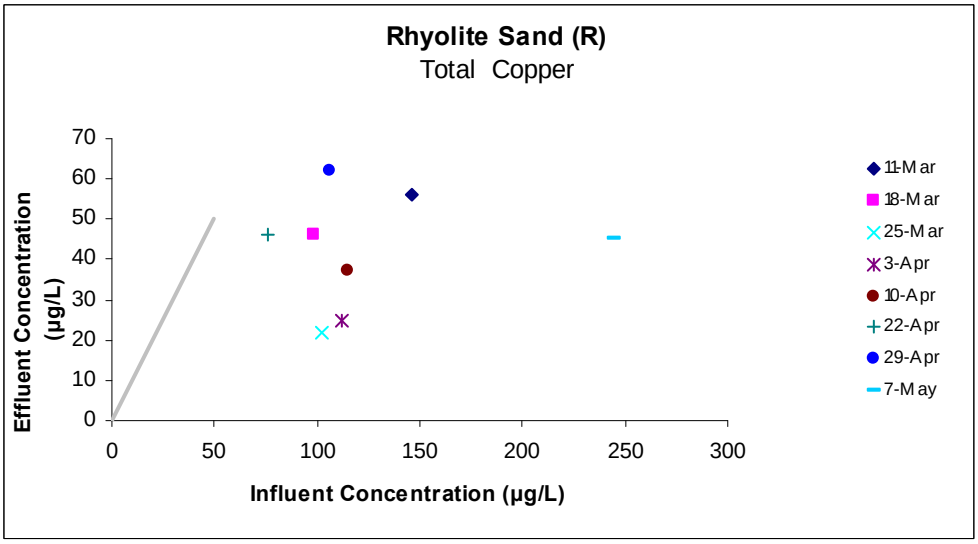
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	37.759	14.483	2.607	0.040	2.321	73.196	2.321	73.196
X Variable 1	0.037	0.108	0.342	0.744	-0.227	0.301	-0.227	0.301

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	43.156	12.844
2	41.381	4.619
3	41.529	-19.529
4	41.899	-16.899
5	42.010	-5.010
6	40.568	5.432
7	41.677	20.323
8	46.779	-1.779




Rhyolite Sand (R)
Total Copper
Concentration (µg/L)
300
250
200
150
100
50
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Total Copper
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0
50
100
150
200
250
300
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cu

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.148
R Square	0.022
Adjusted R Square	-0.141
Standard Error	6.176
Observations	8.000

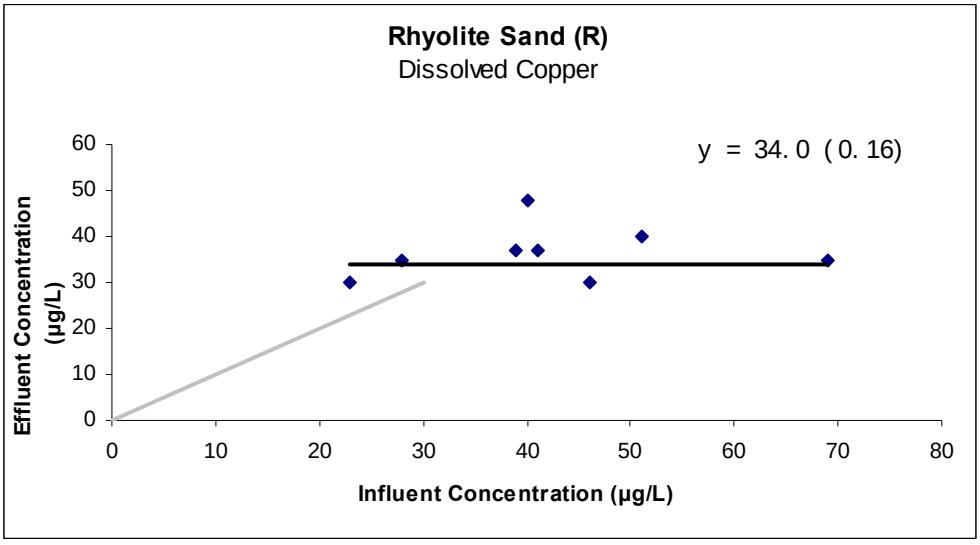
ANOVA

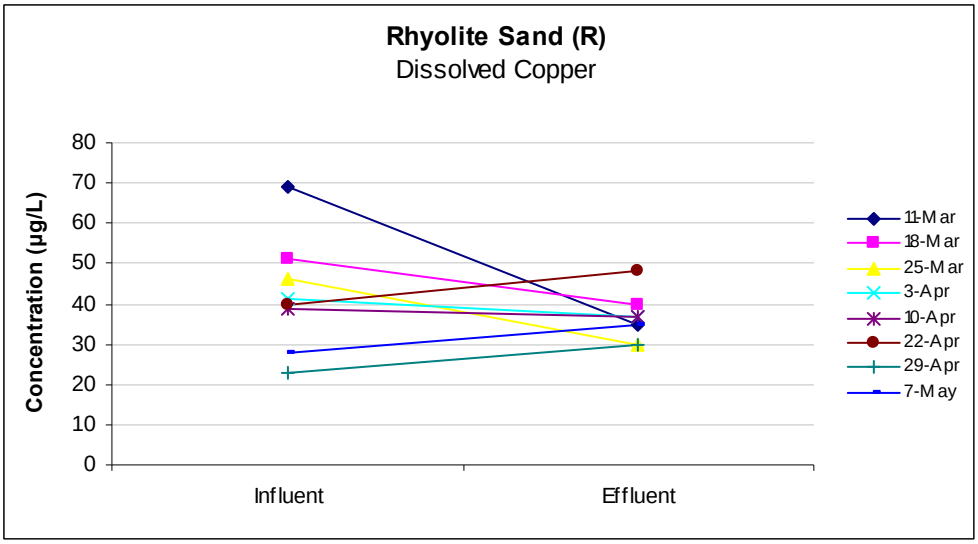
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	5.112	5.112	0.134	0.727
Residual	6.000	228.888	38.148		
Total	7.000	234.000			

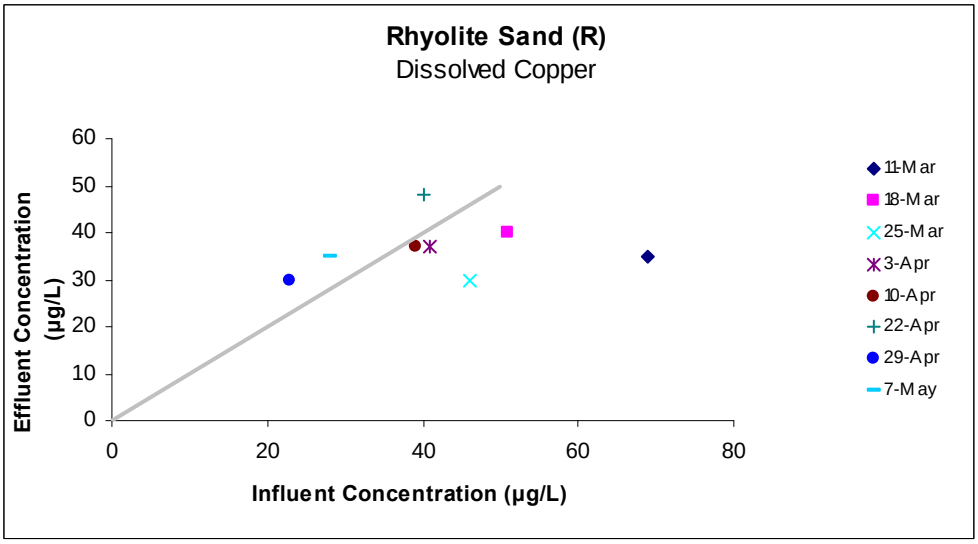
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	33.952	7.296	4.654	0.003	16.099	51.804	16.099	51.804
X Variable 1	0.060	0.165	0.366	0.727	-0.344	0.465	-0.344	0.465

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	38.126	-3.126
2	37.037	2.963
3	36.734	-6.734
4	36.432	0.568
5	36.311	0.689
6	36.371	11.629
7	35.343	-5.343
8	35.646	-0.646




Rhyolite Sand (R)
Dissolved Copper
Concentration (µg/L)
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Dissolved Copper
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Fe

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.077
R Square	0.006
Adjusted R Square	-0.160
Standard Error	2245.073
Observations	8.000

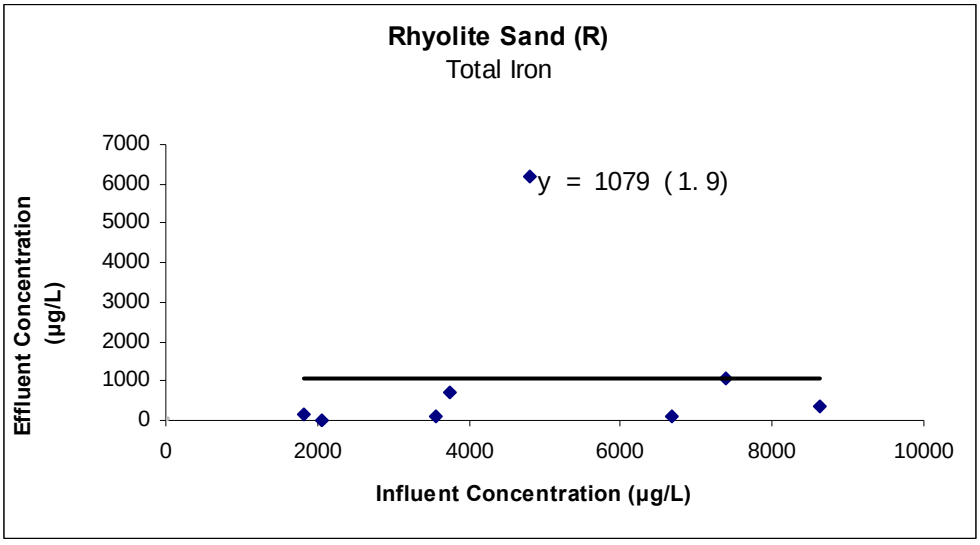
ANOVA

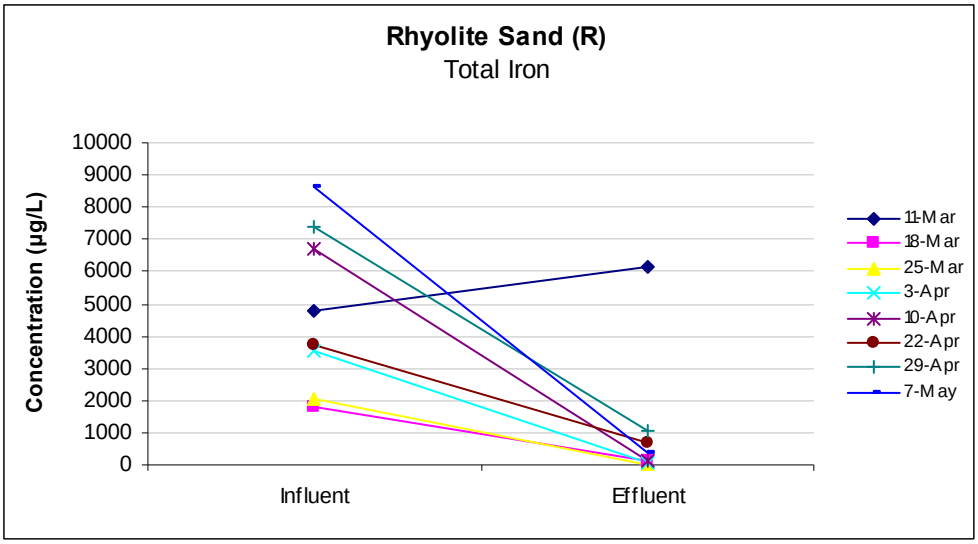
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	182479.297	182479.297	0.036	0.855
Residual	6.000	30242116.703	5040352.784		
Total	7.000	30424596.000			

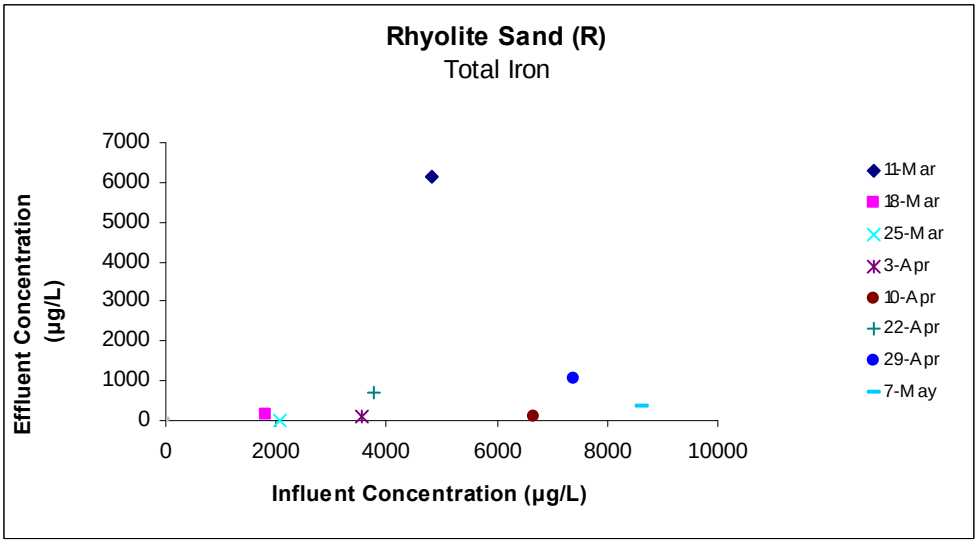
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	767.333	1820.193	0.422	0.688	-3686.519	5221.184	-3686.519	5221.184
X Variable 1	0.064	0.339	0.190	0.855	-0.765	0.893	-0.765	0.893

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	1077.469	5086.531
2	884.657	-749.657
3	899.355	-882.355
4	996.696	-903.696
5	1198.210	-1083.210
6	1009.073	-319.073
7	1243.851	-201.851
8	1322.690	-946.690




Rhyolite Sand (R)
Total Iron
Concentration (µg/L)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Total Iron
Effluent Concentration (µg/L)
7000
6000
5000
4000
3000
2000
1000
0
0
2000
4000
6000
8000
10000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Fe

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.216
R Square	0.047
Adjusted R Square	-0.144
Standard Error	306.794
Observations	7.000

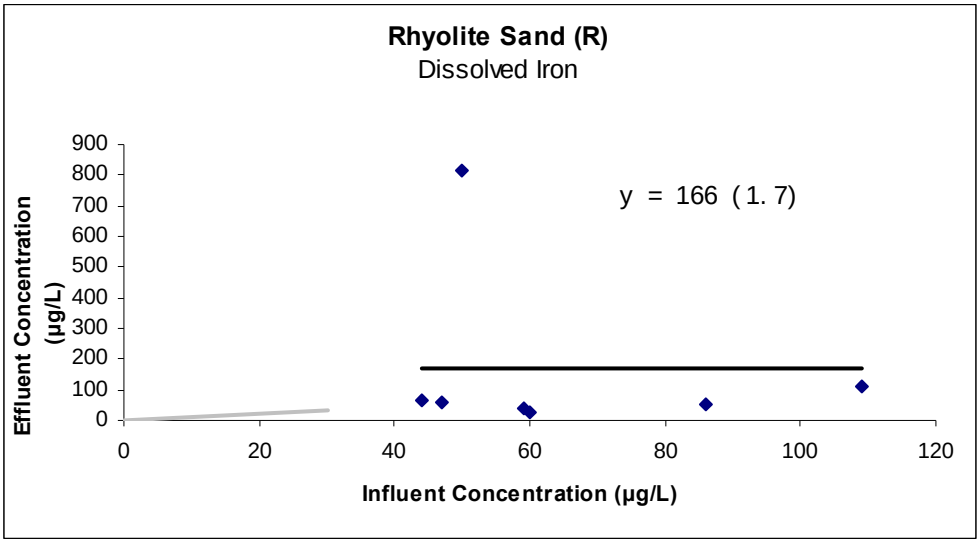
ANOVA

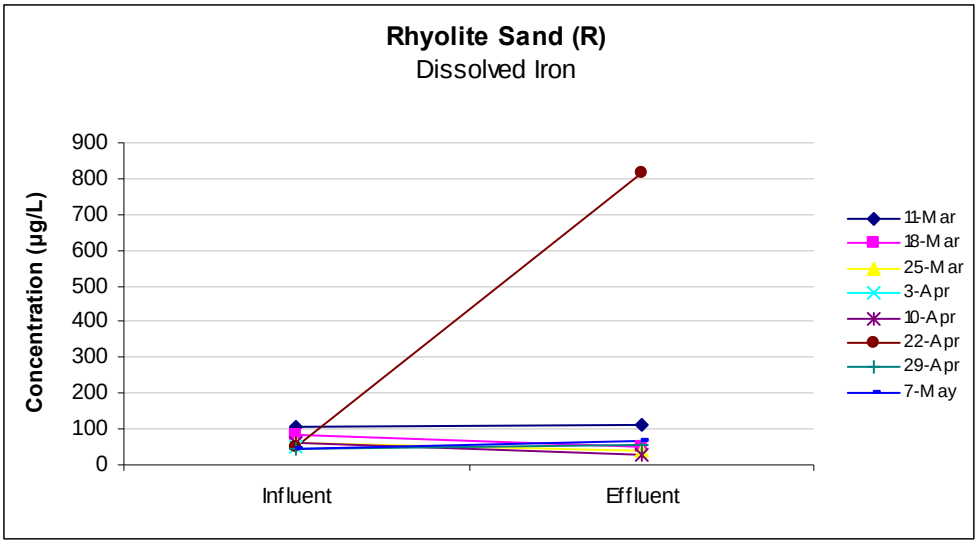
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	23080.812	23080.812	0.245	0.641
Residual	5.000	470612.902	94122.580		
Total	6.000	493693.714			

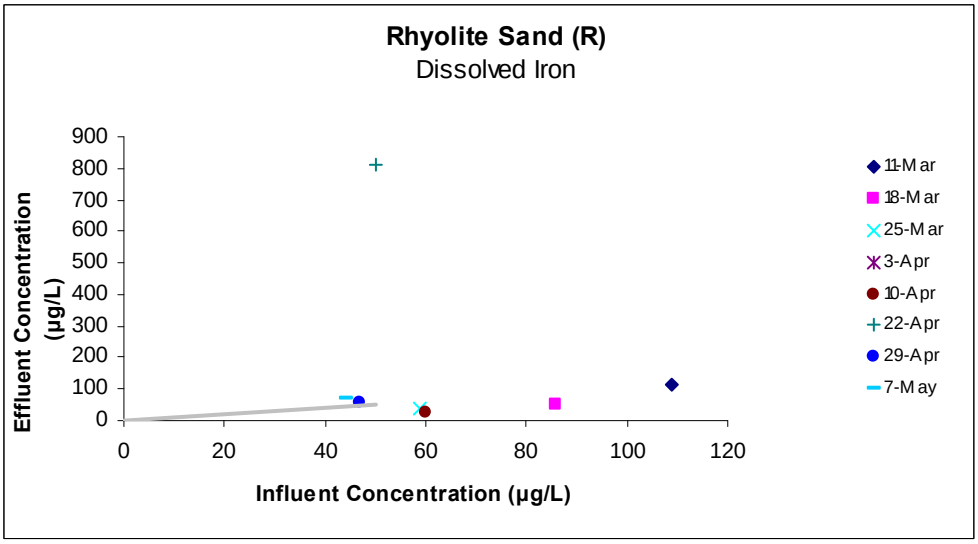
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	335.234	359.794	0.932	0.394	-589.647	1260.114	-589.647	1260.114
X Variable 1	-2.595	5.240	-0.495	0.641	-16.065	10.875	-16.065	10.875

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	52.400	61.600
2	112.080	-61.080
3	182.140	-145.140
4	179.545	-152.545
5	205.494	608.506
6	213.278	-157.278
7	221.062	-154.062




Rhyolite Sand (R)
Dissolved Iron
Concentration (µg/L)
900
800
700
600
500
400
300
200
100
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Dissolved Iron
Effluent Concentration (µg/L)
900
800
700
600
500
400
300
200
100
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Mg

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.086
R Square	0.007
Adjusted R Square	-0.158
Standard Error	1276.709
Observations	8.000

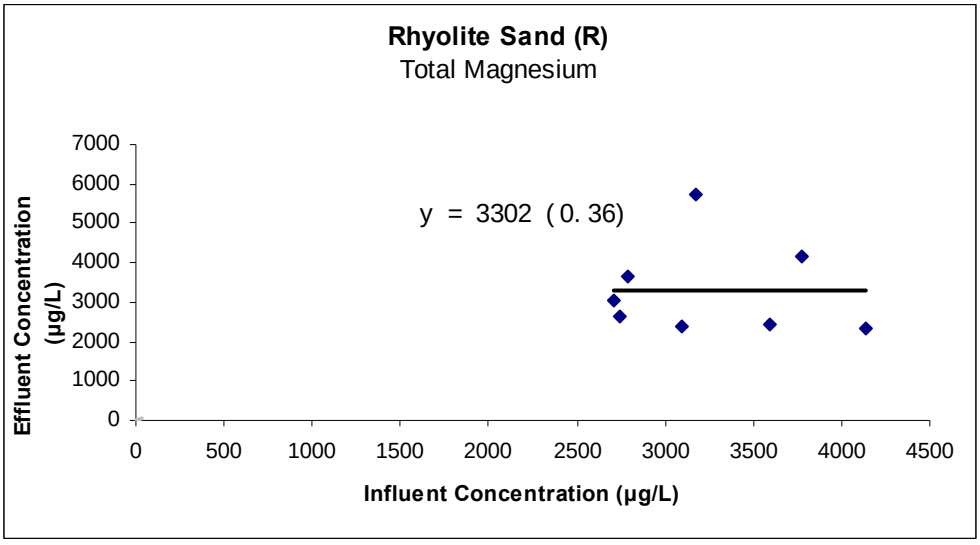
ANOVA

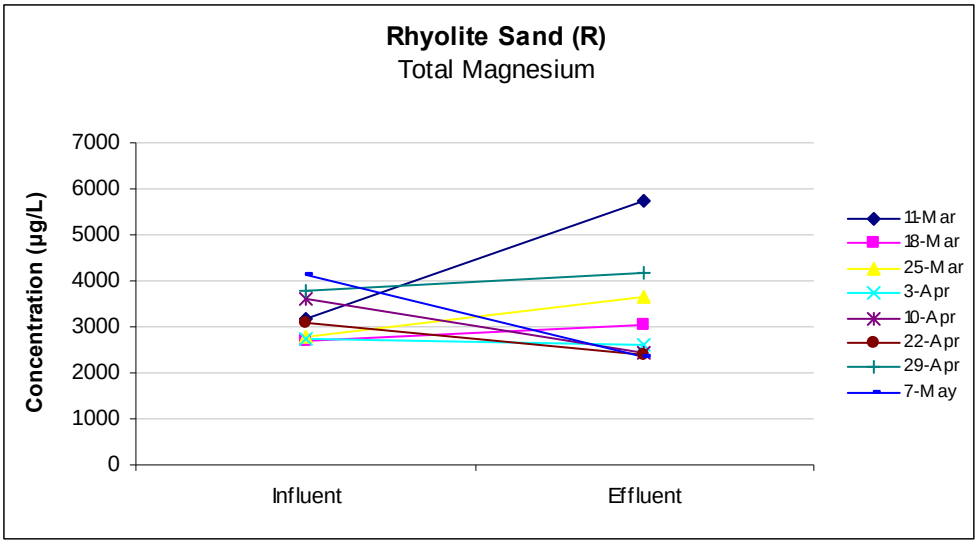
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	72858.005	72858.005	0.045	0.840
Residual	6.000	9779912.870	1629985.478		
Total	7.000	9852770.875			

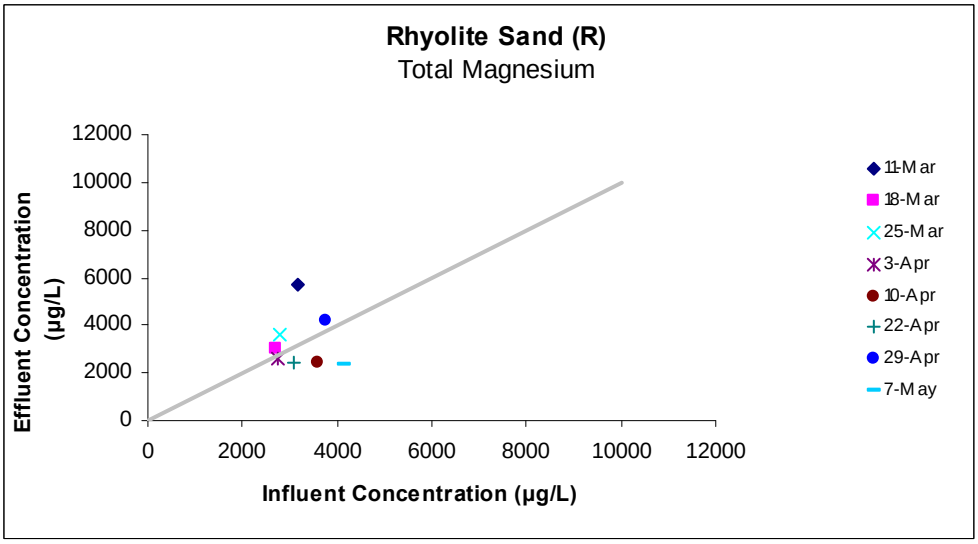
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3927.121	2990.441	1.313	0.237	-3390.224	11244.466	-3390.224	11244.466
X Variable 1	-0.192	0.909	-0.211	0.840	-2.416	2.032	-2.416	2.032

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	3316.202	2429.798
2	3407.292	-385.292
3	3391.149	252.851
4	3399.797	-777.797
5	3237.218	-792.218
6	3331.576	-923.576
7	3202.051	980.949
8	3131.715	-784.715




Rhyolite Sand (R)
Total Magnesium
Concentration (µg/L)
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Total Magnesium
Effluent Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Mg

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.321
R Square	0.103
Adjusted R Square	-0.046
Standard Error	417.141
Observations	8.000

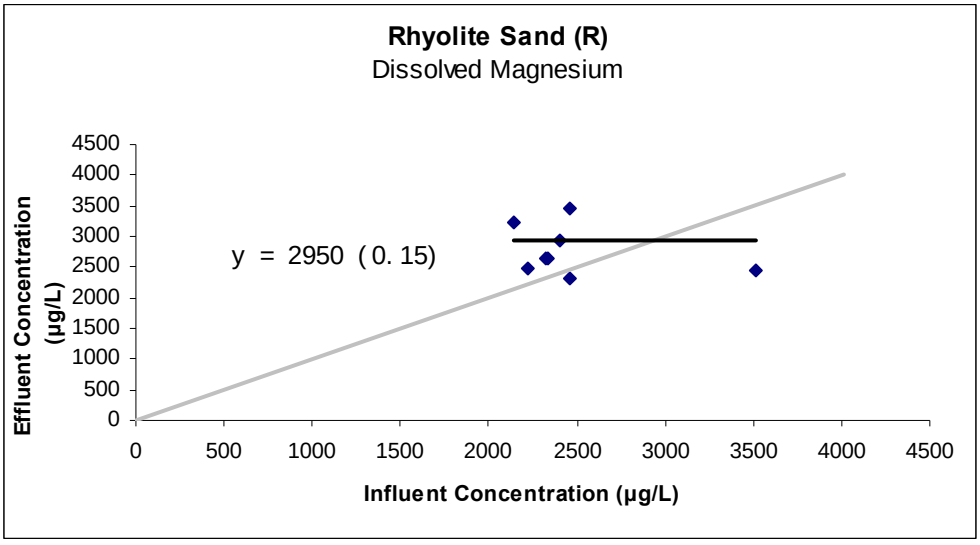
ANOVA

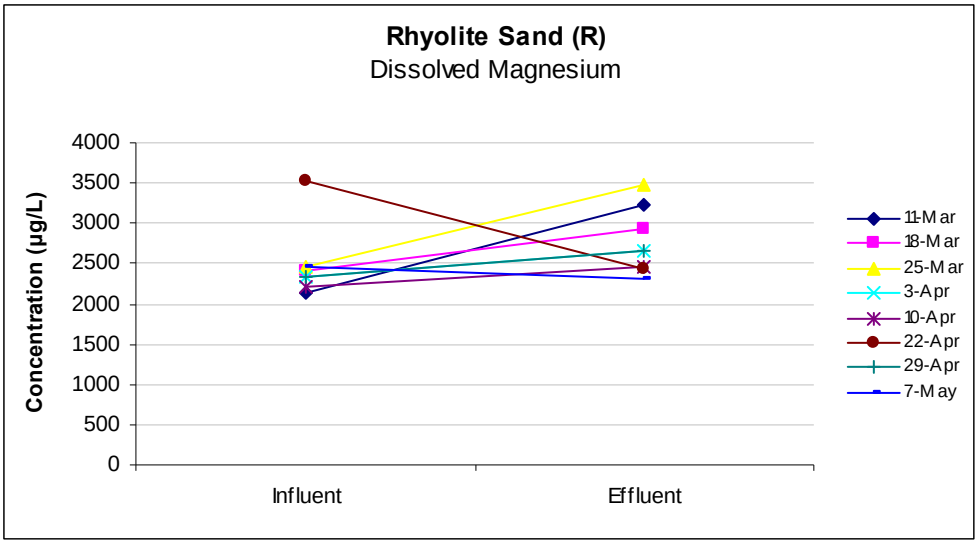
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	120009.640	120009.640	0.690	0.438
Residual	6.000	1044041.235	174006.873		
Total	7.000	1164050.875			

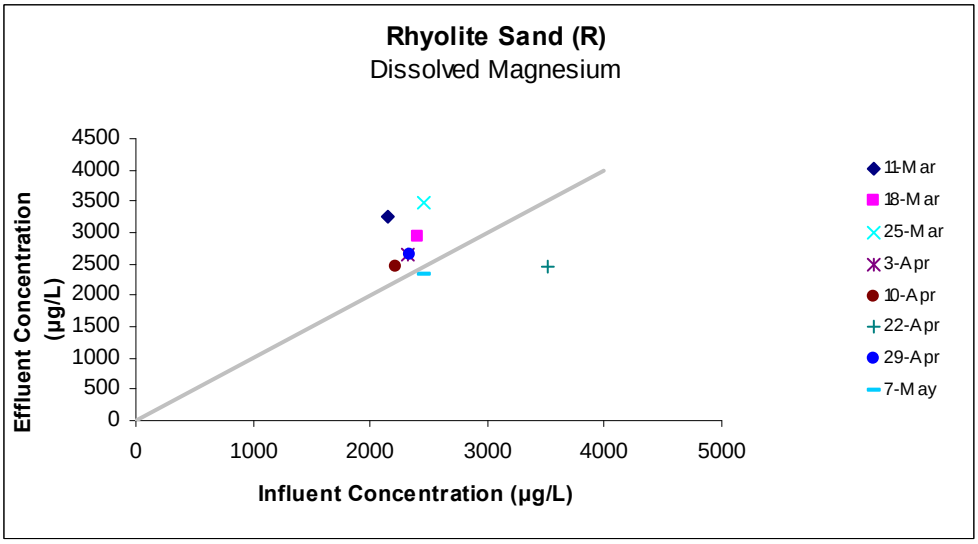
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3523.882	918.341	3.837	0.009	1276.783	5770.981	1276.783	5770.981
X Variable 1	-0.303	0.365	-0.830	0.438	-1.196	0.590	-1.196	0.590

RESIDUAL OUTPUT

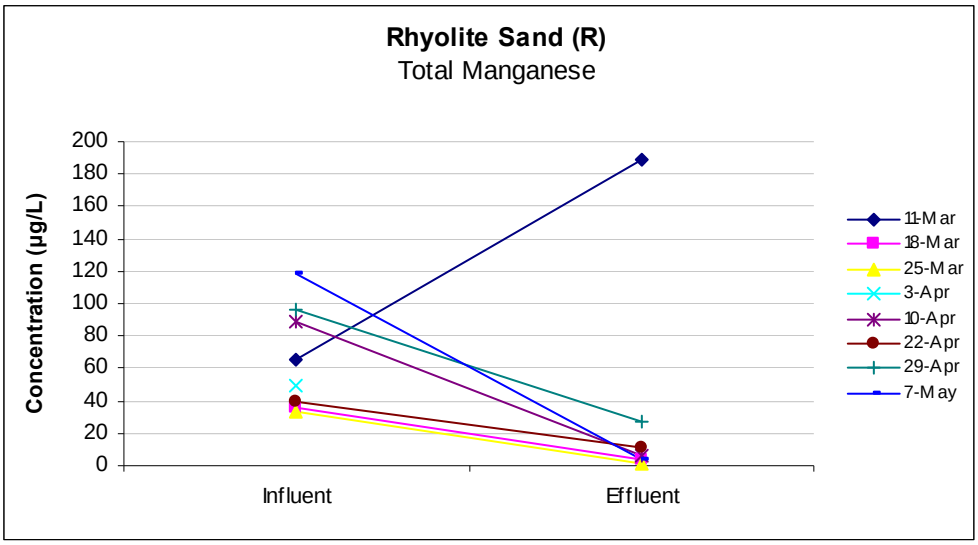
Observation	*Predicted Y*	*Residuals*
1	2874.029	366.971
2	2795.222	129.778
3	2777.339	692.661
4	2818.561	-171.561
5	2850.690	-381.690
6	2457.868	-13.868
7	2816.136	-163.136
8	2779.157	-459.157

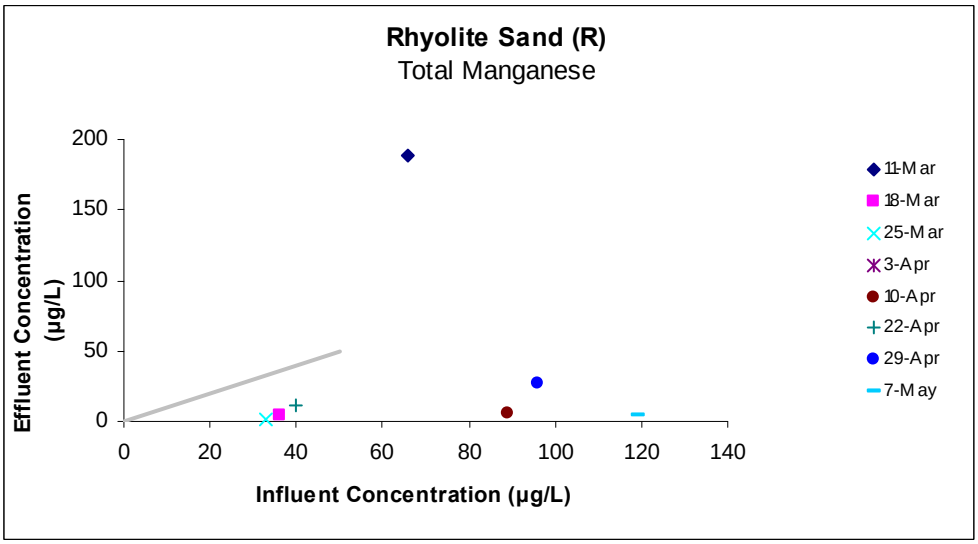



Rhyolite Sand (R)
Dissolved Magnesium
Concentration (µg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

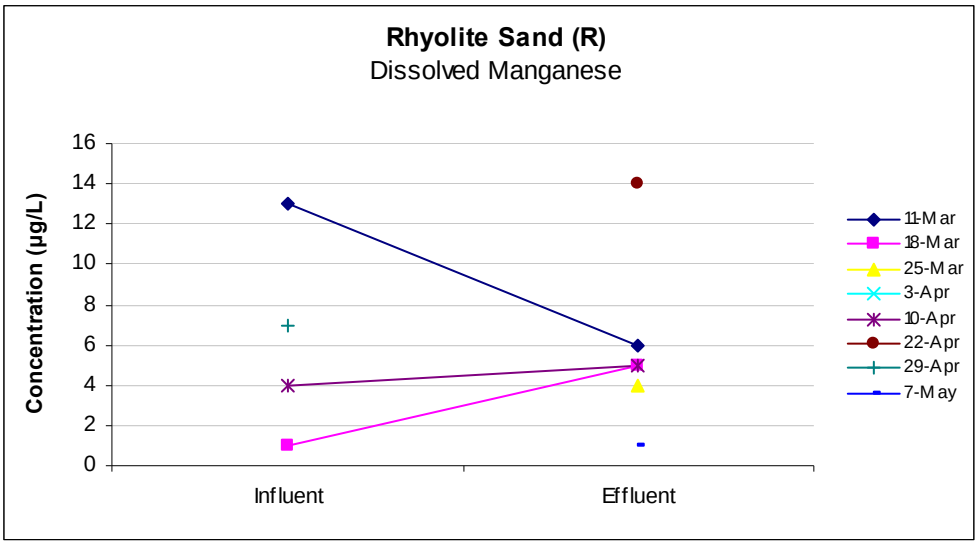

Rhyolite Sand (R)
Dissolved Magnesium
Effluent Concentration (µg/L)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
0
1000
2000
3000
4000
5000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

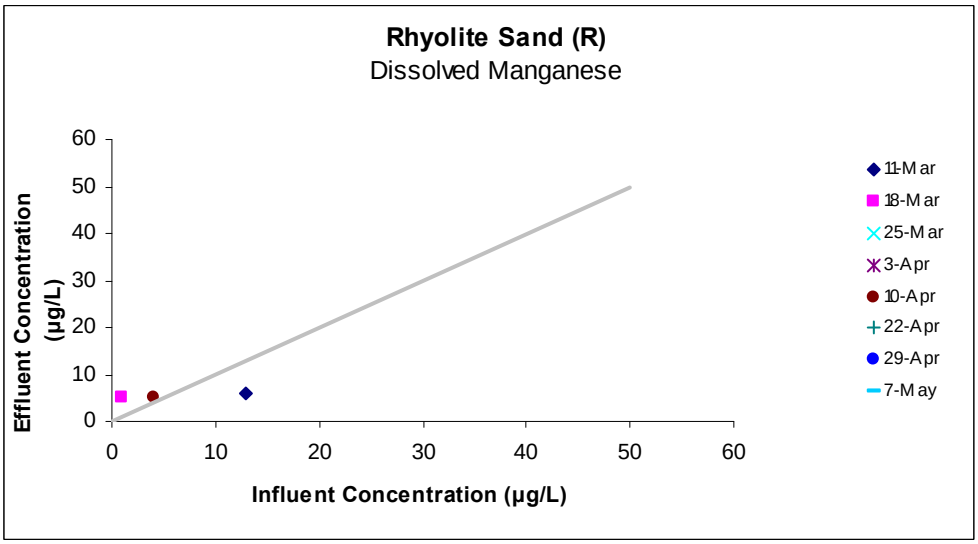
Total Mn


Rhyolite Sand (R)
Total Manganese
Concentration (µg/L)
200
180
160
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

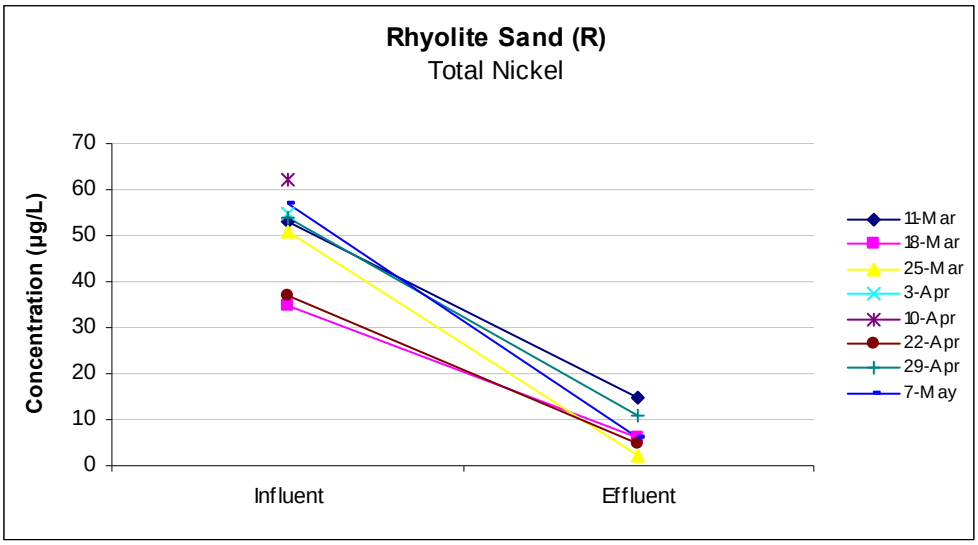

Rhyolite Sand (R)
Total Manganese
Effluent Concentration (µg/L)
200
150
100
50
0
0
20
40
60
80
100
120
140
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

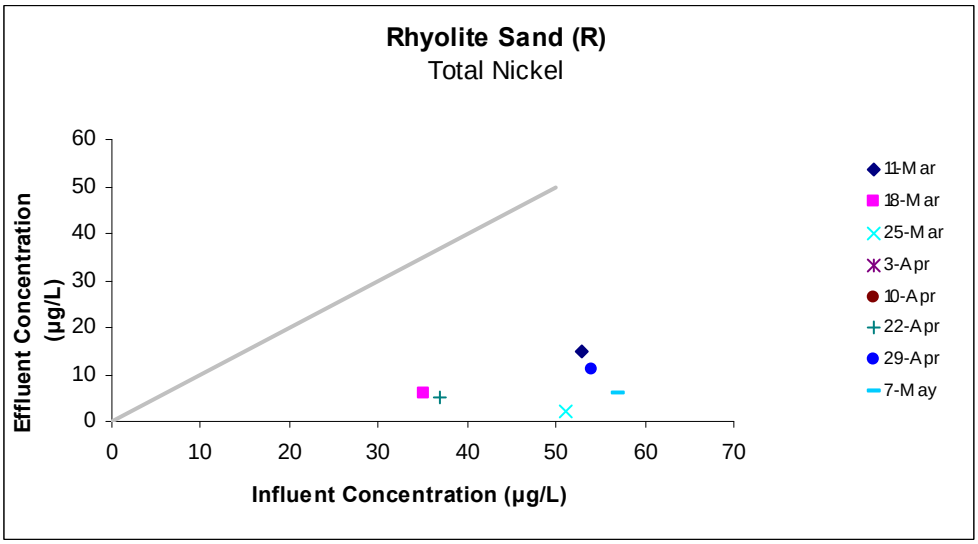
Dissolved Mn



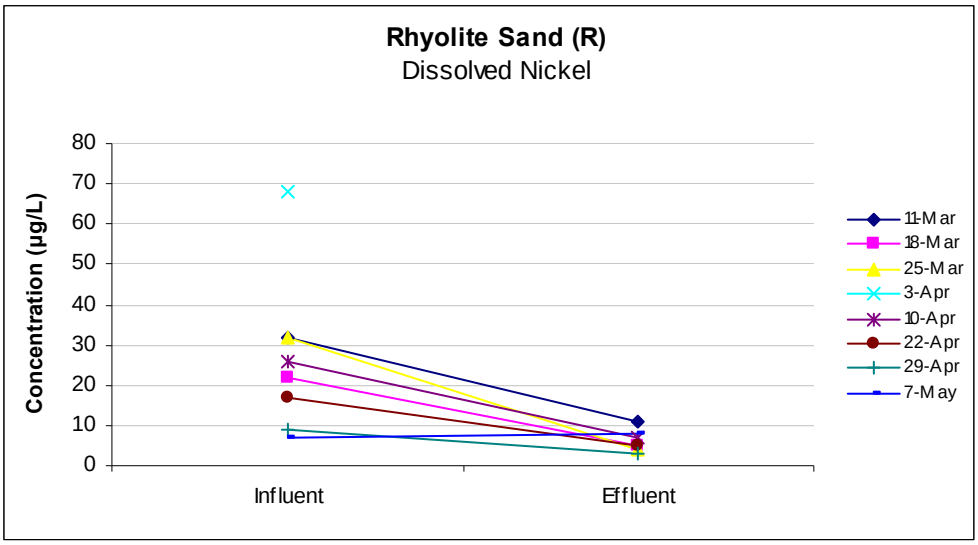


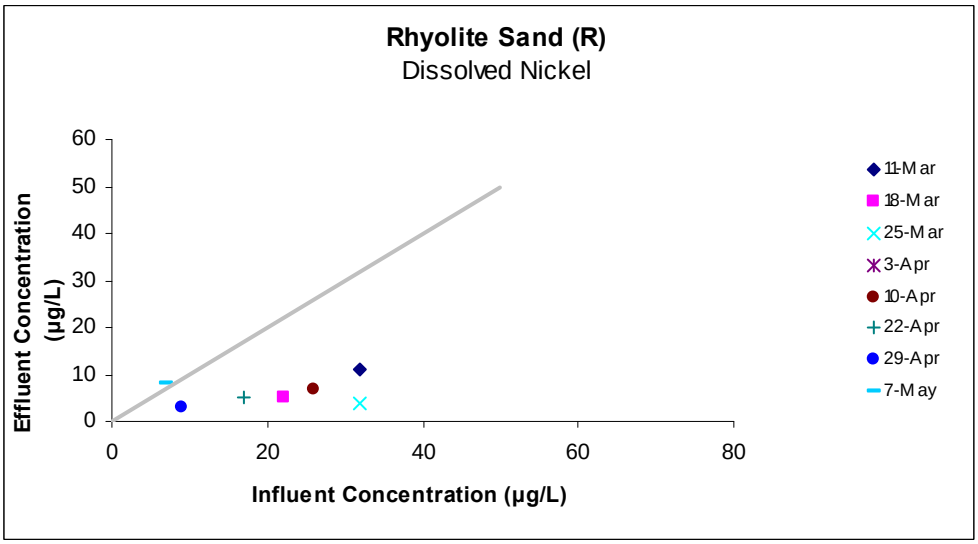
Total Ni


Rhyolite Sand (R)
Total Nickel
Concentration (µg/L)
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

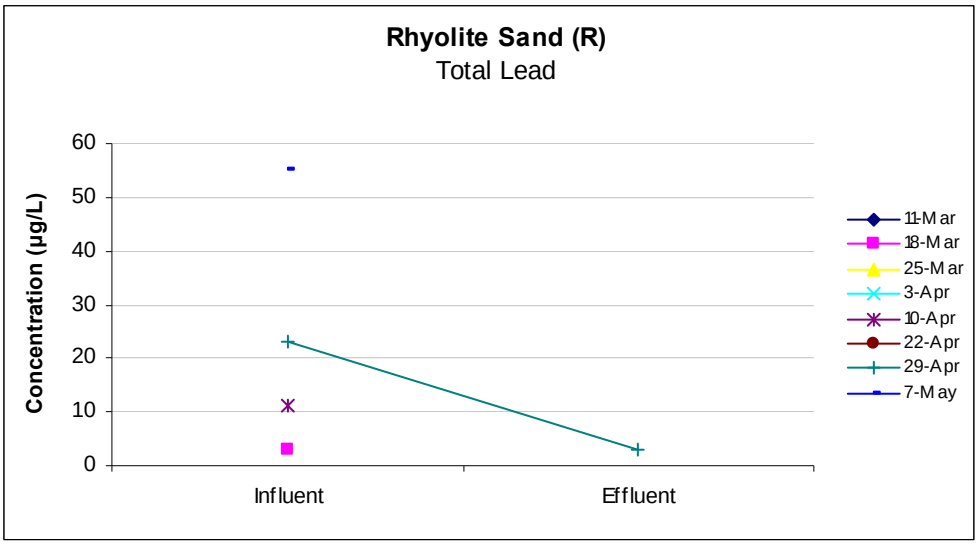

Rhyolite Sand (R)
Total Nickel
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
70
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

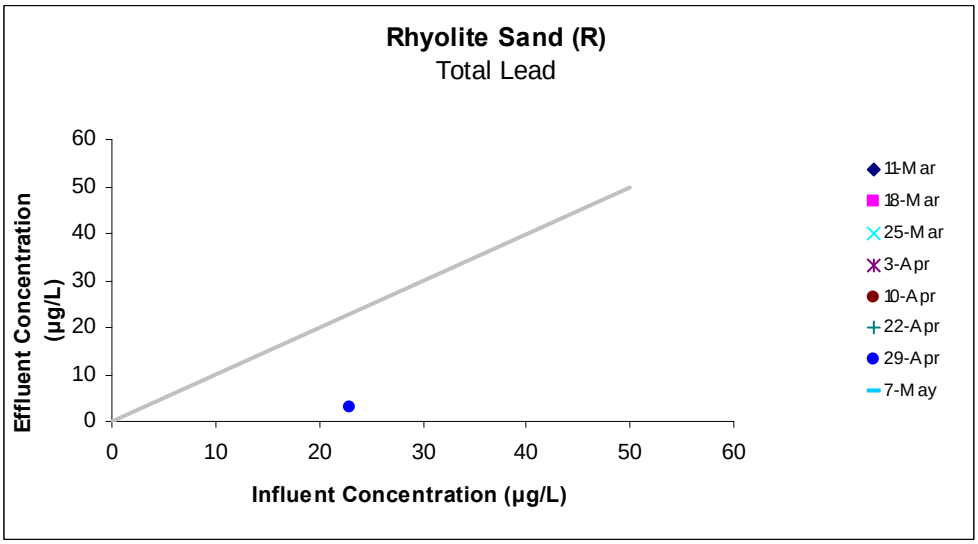
Dissolved Ni



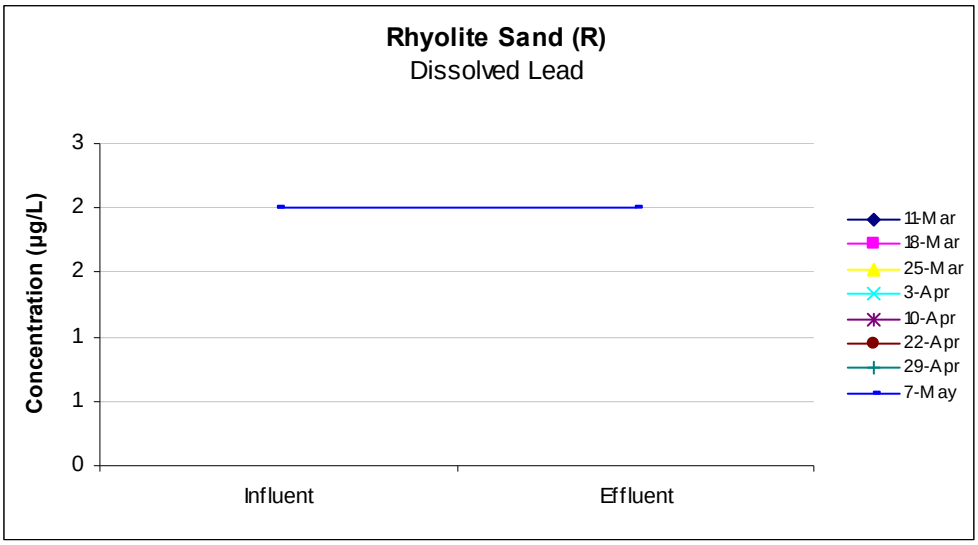


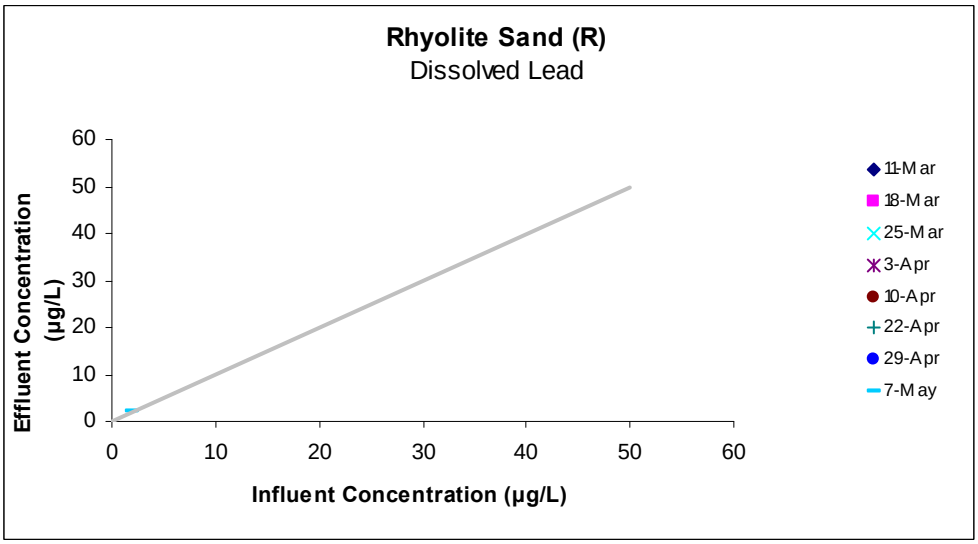
Total Pb


Rhyolite Sand (R)
Total Lead
Concentration (µg/L)
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Total Lead
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Pb





Total Zn

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.162
R Square	0.026
Adjusted R Square	-0.136
Standard Error	16.000
Observations	8.000

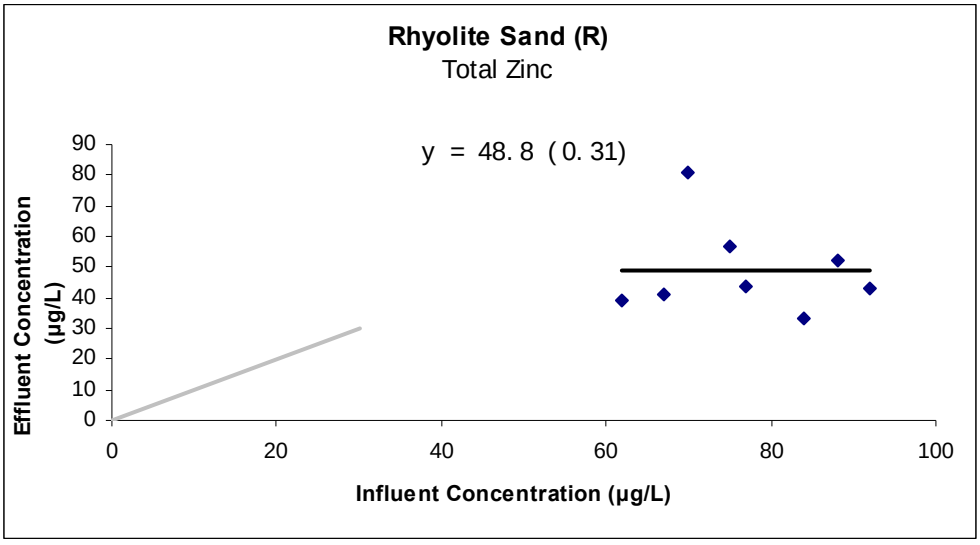
ANOVA

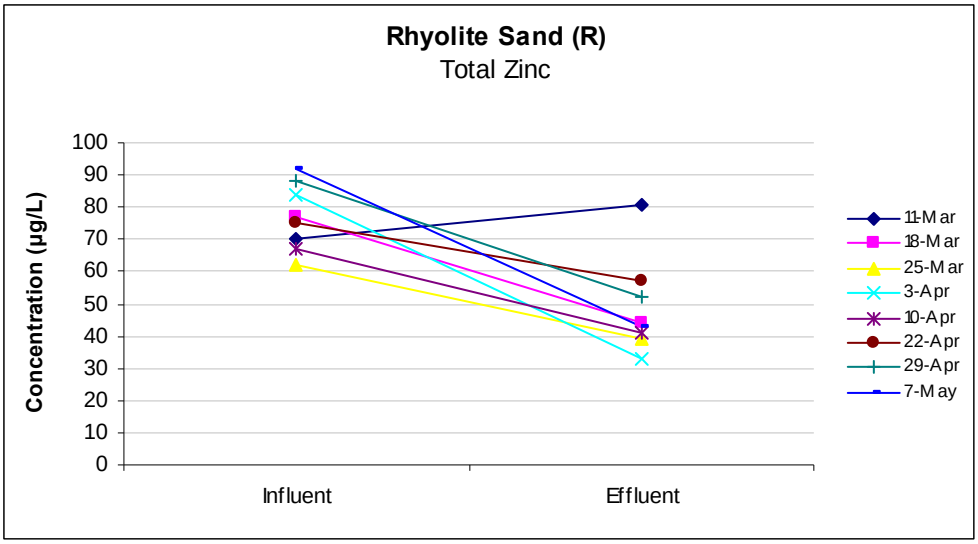
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	41.573	41.573	0.162	0.701
Residual	6.000	1535.927	255.988		
Total	7.000	1577.500			

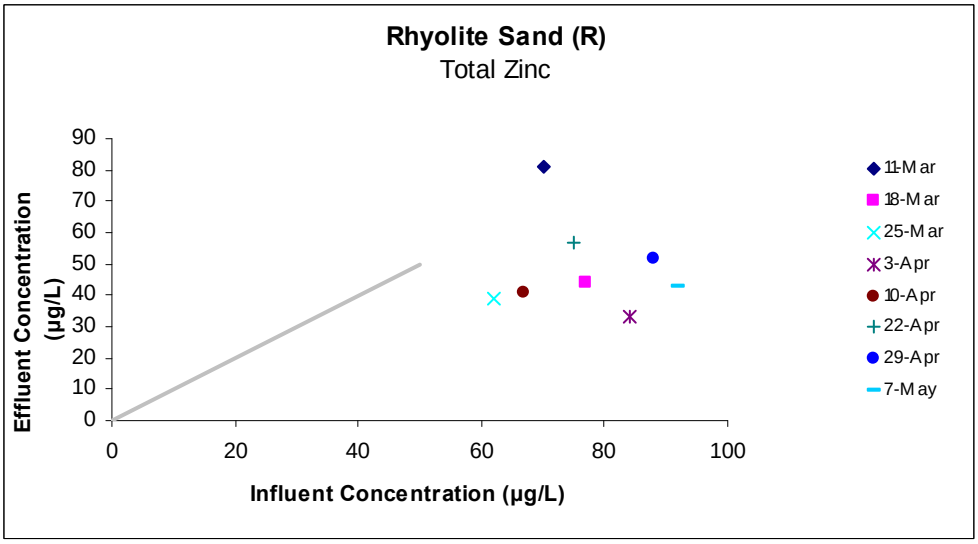
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	66.579	44.603	1.493	0.186	-42.560	175.718	-42.560	175.718
X Variable 1	-0.232	0.576	-0.403	0.701	-1.640	1.176	-1.640	1.176

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	50.344	30.656
2	48.721	-4.721
3	52.200	-13.200
4	47.098	-14.098
5	51.040	-10.040
6	49.185	7.815
7	46.170	5.830
8	45.242	-2.242




Rhyolite Sand (R)
Total Zinc
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Total Zinc
Effluent Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Zn

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.703
R Square	0.494
Adjusted R Square	0.409
Standard Error	9.333
Observations	8.000

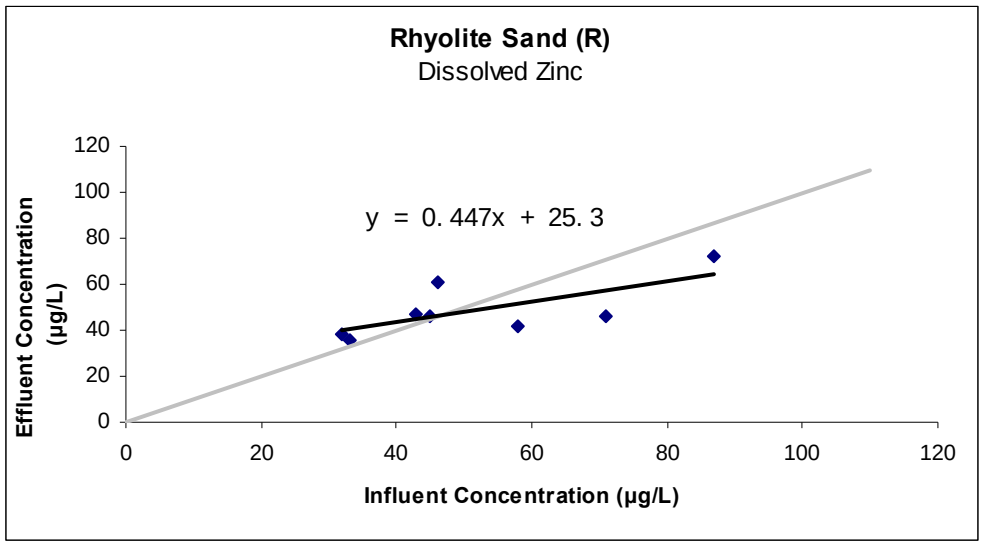
ANOVA

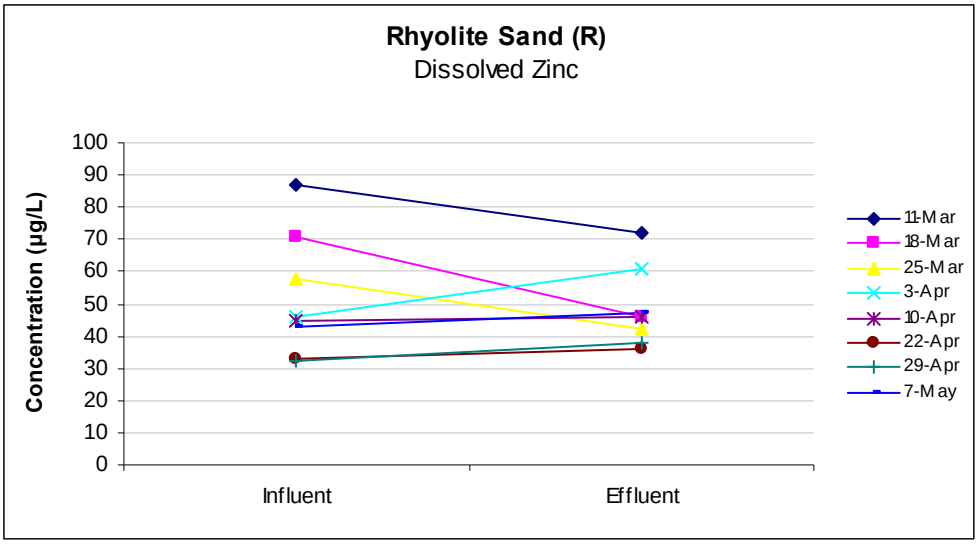
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	509.425	509.425	5.849	0.052
Residual	6.000	522.575	87.096		
Total	7.000	1032.000			

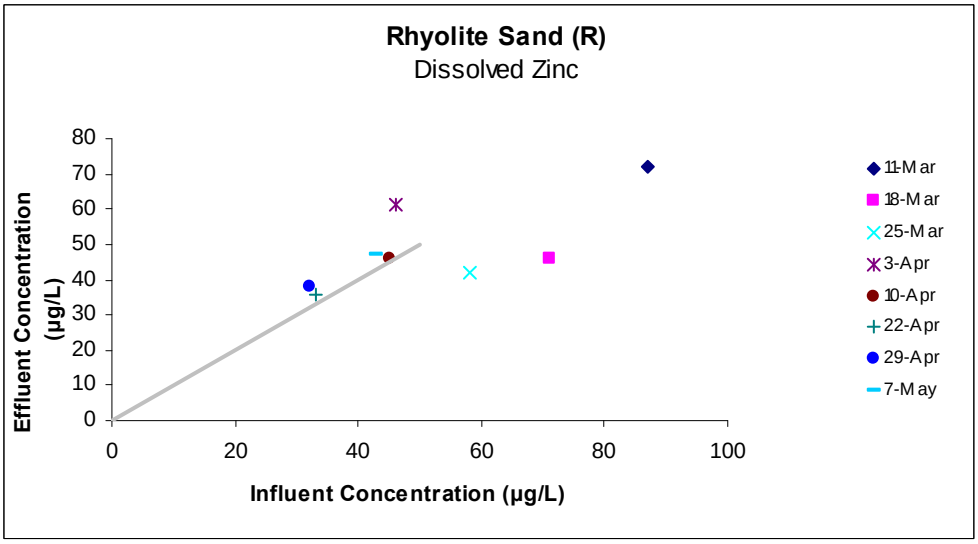
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	25.309	10.141	2.496	0.047	0.495	50.123	0.495	50.123
X Variable 1	0.447	0.185	2.418	0.052	-0.005	0.899	-0.005	0.899

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	64.203	7.797
2	57.050	-11.050
3	51.238	-9.238
4	45.874	15.126
5	45.426	0.574
6	40.062	-4.062
7	39.615	-1.615
8	44.532	2.468




Rhyolite Sand (R)
Dissolved Zinc
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Dissolved Zinc
Effluent Concentration (µg/L)
80
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total K

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.524
R Square	0.275
Adjusted R Square	0.154
Standard Error	1947.358
Observations	8.000

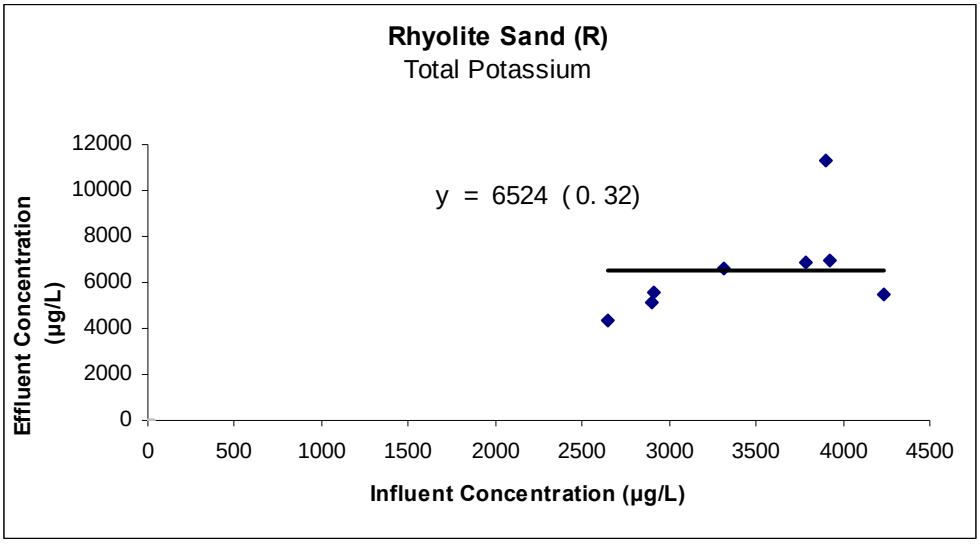
ANOVA

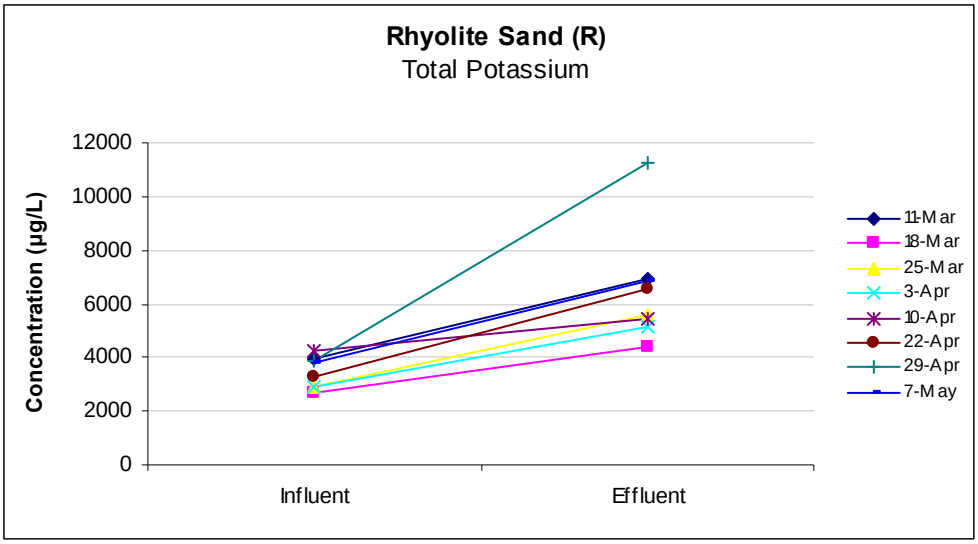
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	8625278.367	8625278.367	2.274	0.182
Residual	6.000	22753221.633	3792203.606		
Total	7.000	31378500.000			

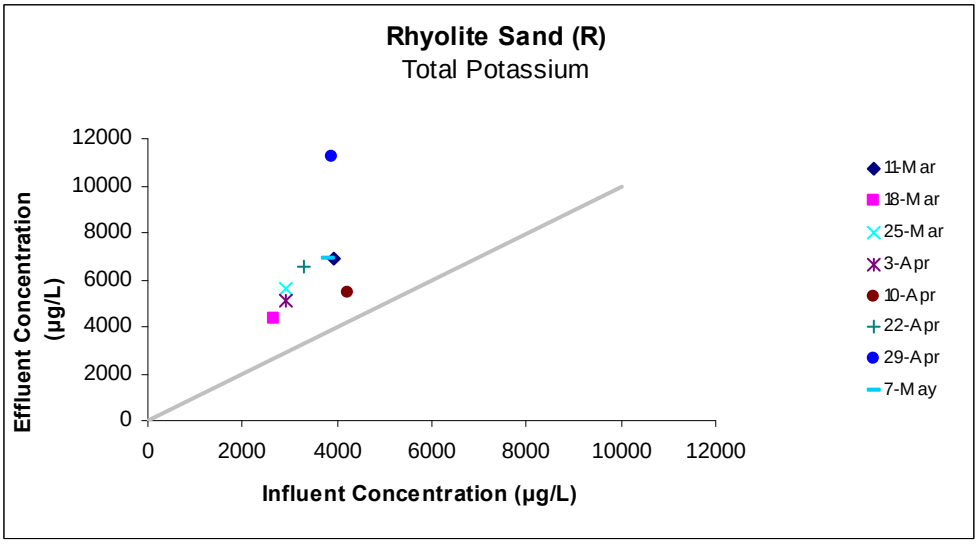
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-19.370	4392.999	-0.004	0.997	-10768.652	10729.911	-10768.652	10729.911
X Variable 1	1.895	1.256	1.508	0.182	-1.179	4.969	-1.179	4.969

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	7405.717	-476.717
2	5003.316	-637.316
3	5505.395	89.605
4	5476.976	-332.976
5	8012.002	-2564.002
6	6259.461	319.539
7	7365.930	3903.070
8	7163.204	-301.204




Rhyolite Sand (R)
Total Potassium
Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Total Potassium
Effluent Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved K

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.009
R Square	0.000
Adjusted R Square	-0.167
Standard Error	1357.255
Observations	8.000

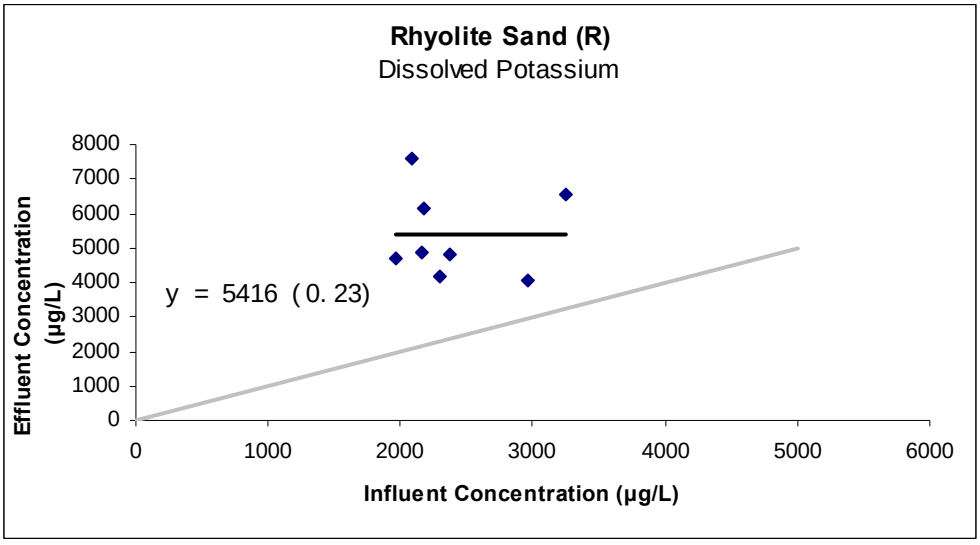
ANOVA

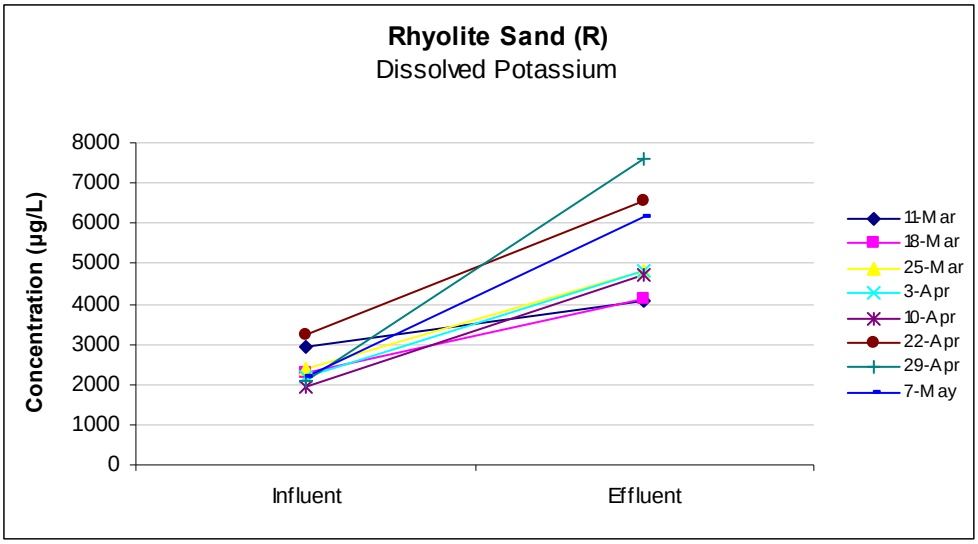
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	955.352	955.352	0.001	0.983
Residual	6.000	11052854.523	1842142.421		
Total	7.000	11053809.875			

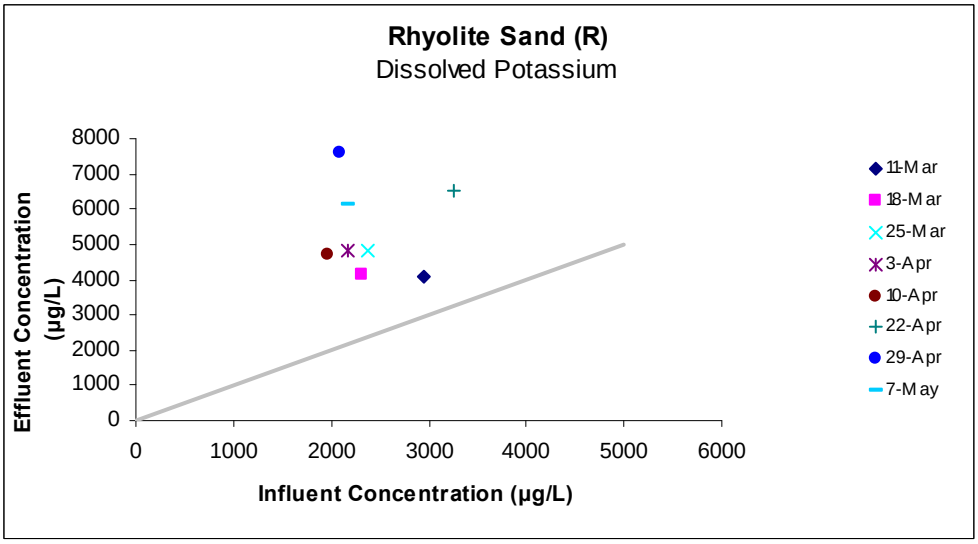
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	5416.337	2752.036	1.968	0.097	-1317.653	12150.327	-1317.653	12150.327
X Variable 1	-0.026	1.126	-0.023	0.983	-2.781	2.729	-2.781	2.729

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	5340.545	-1262.545
2	5357.263	-1211.263
3	5355.622	-543.622
4	5360.904	-518.904
5	5366.083	-668.083
6	5332.905	1213.095
7	5362.980	2215.020
8	5360.698	776.302




Rhyolite Sand (R)
Dissolved Potassium
Concentration (µg/L)
8000
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Dissolved Potassium
Effluent Concentration (µg/L)
8000
7000
6000
5000
4000
3000
2000
1000
0
0
1000
2000
3000
4000
5000
6000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Na

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.065
R Square	0.004
Adjusted R Square	-0.162
Standard Error	4132.350
Observations	8.000

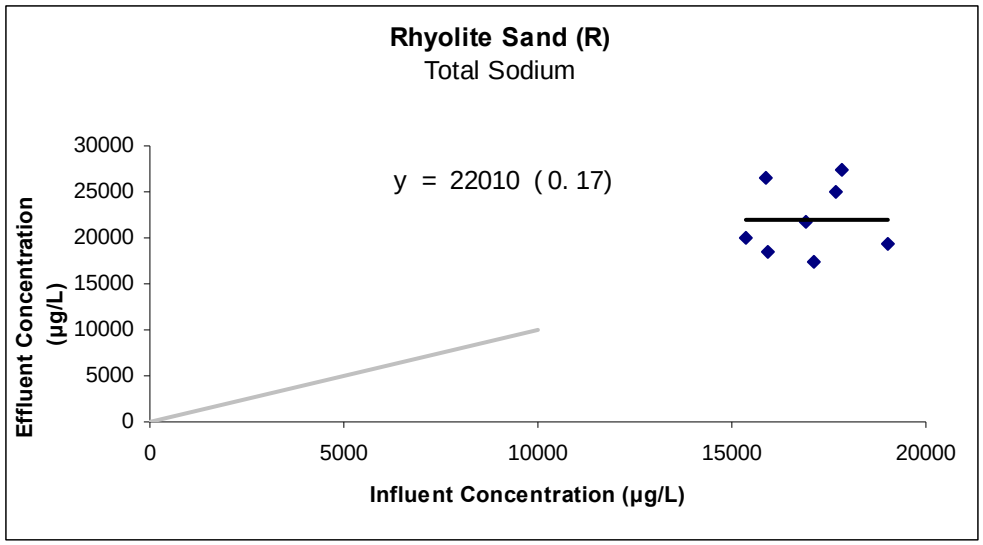
ANOVA

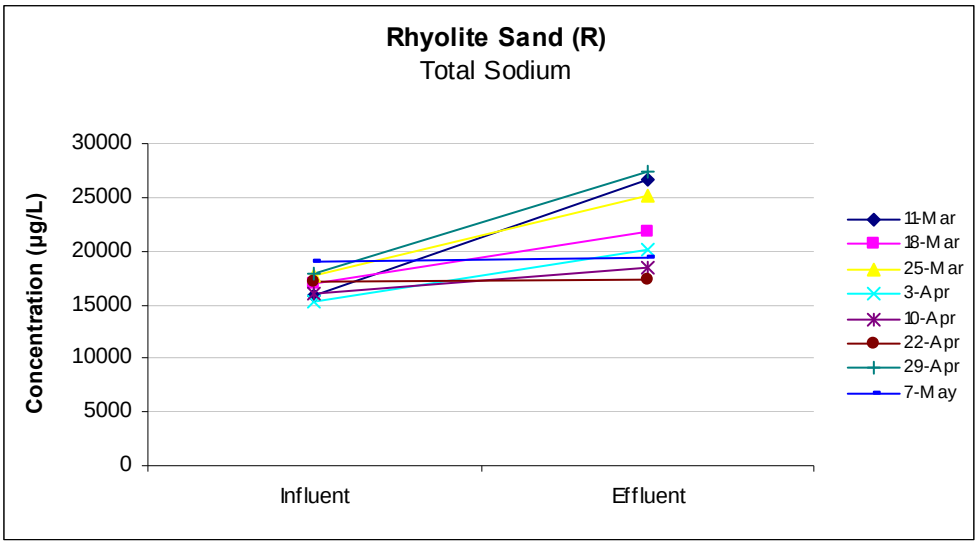
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	428788.717	428788.717	0.025	0.879
Residual	6.000	102457875.283	17076312.547		
Total	7.000	102886664.000			

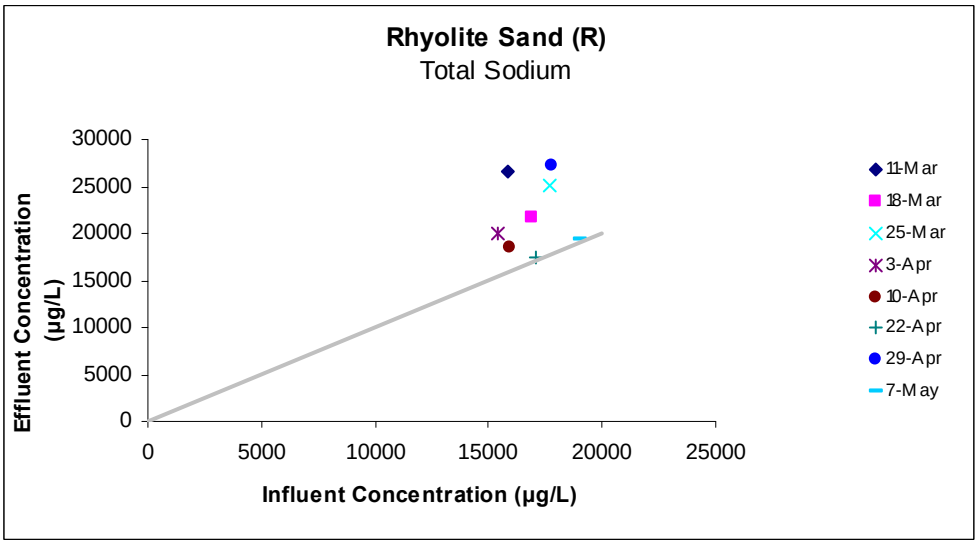
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	18563.639	21797.861	0.852	0.427	-34773.806	71901.083	-34773.806	71901.083
X Variable 1	0.203	1.282	0.158	0.879	-2.933	3.339	-2.933	3.339

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	21788.123	4780.877
2	21997.713	-233.713
3	22155.109	2929.891
4	21684.140	-1589.140
5	21800.714	-3268.714
6	22039.753	-4626.753
7	22183.136	5146.864
8	22431.313	-3139.313




Rhyolite Sand (R)
Total Sodium
Concentration (µg/L)
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Total Sodium
Effluent Concentration (µg/L)
30000
25000
20000
15000
10000
5000
0
0
5000
10000
15000
20000
25000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Na

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.476
R Square	0.227
Adjusted R Square	0.098
Standard Error	2405.185
Observations	8.000

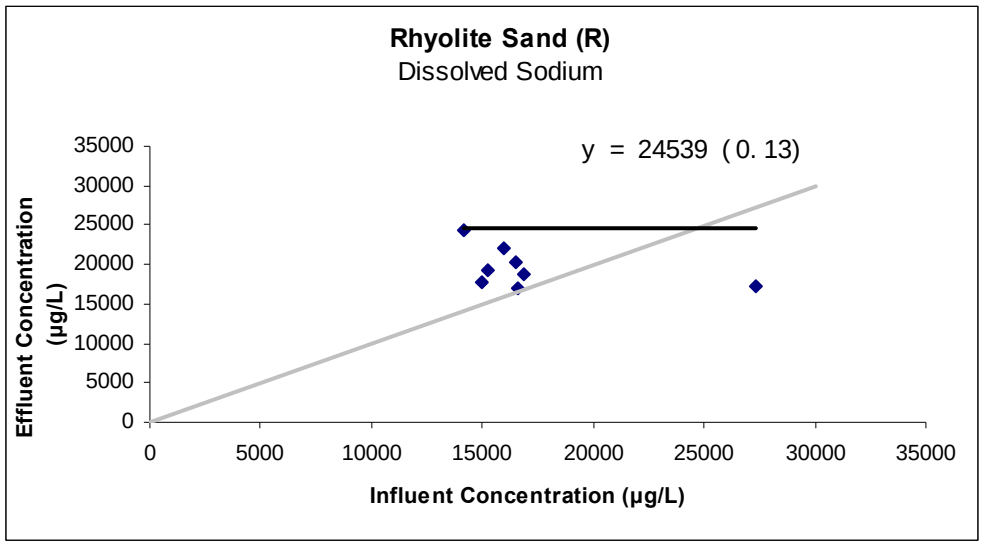
ANOVA

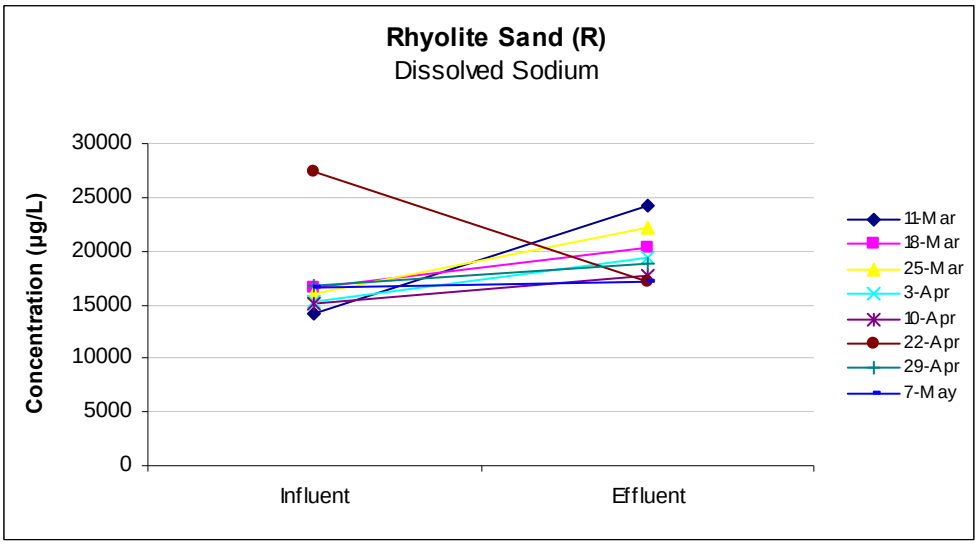
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	10189517.979	10189517.979	1.761	0.233
Residual	6.000	34709490.021	5784915.003		
Total	7.000	44899008.000			

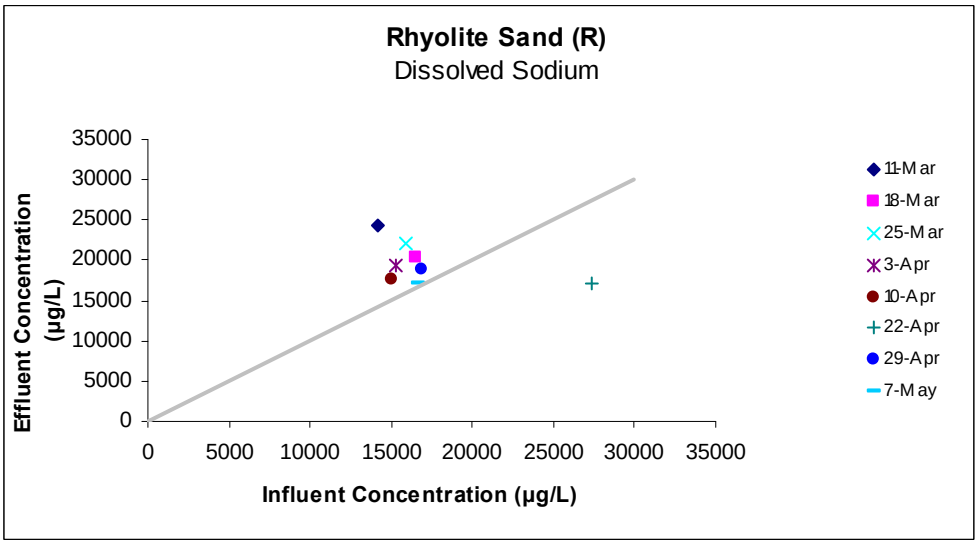
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	24538.526	3830.966	6.405	0.001	15164.490	33912.563	15164.490	33912.563
X Variable 1	-0.288	0.217	-1.327	0.233	-0.819	0.243	-0.819	0.243

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	20457.010	3791.990
2	19777.285	461.715
3	19943.184	2176.816
4	20141.341	-831.341
5	20217.378	-2498.378
6	16666.968	541.032
7	19691.743	-948.743
8	19753.091	-2693.091




Rhyolite Sand (R)
Dissolved Sodium
Concentration (µg/L)
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Dissolved Sodium
Effluent Concentration (µg/L)
35000
30000
25000
20000
15000
10000
5000
0
0
5000
10000
15000
20000
25000
30000
35000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Cr

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.092
R Square	0.008
Adjusted R Square	-0.157
Standard Error	15.647
Observations	8.000

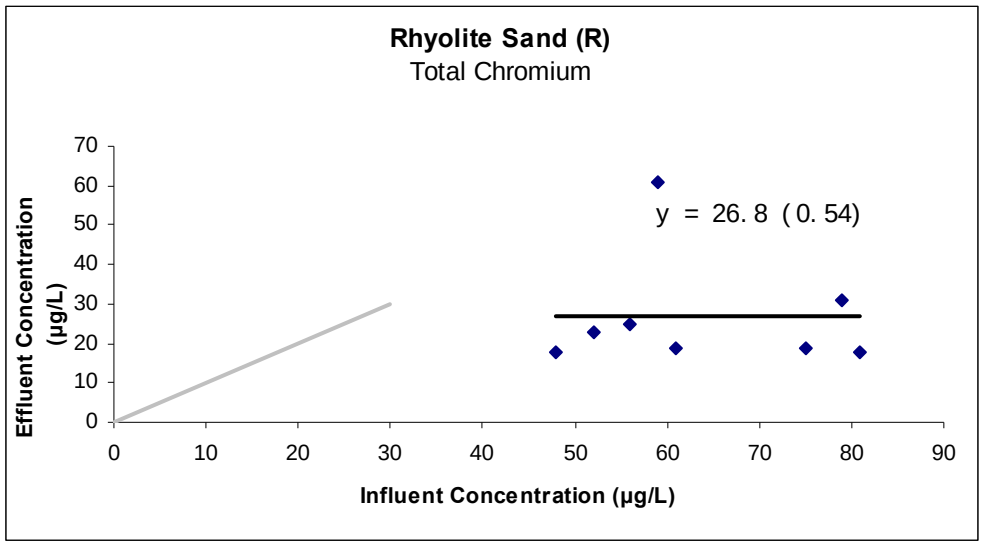
ANOVA

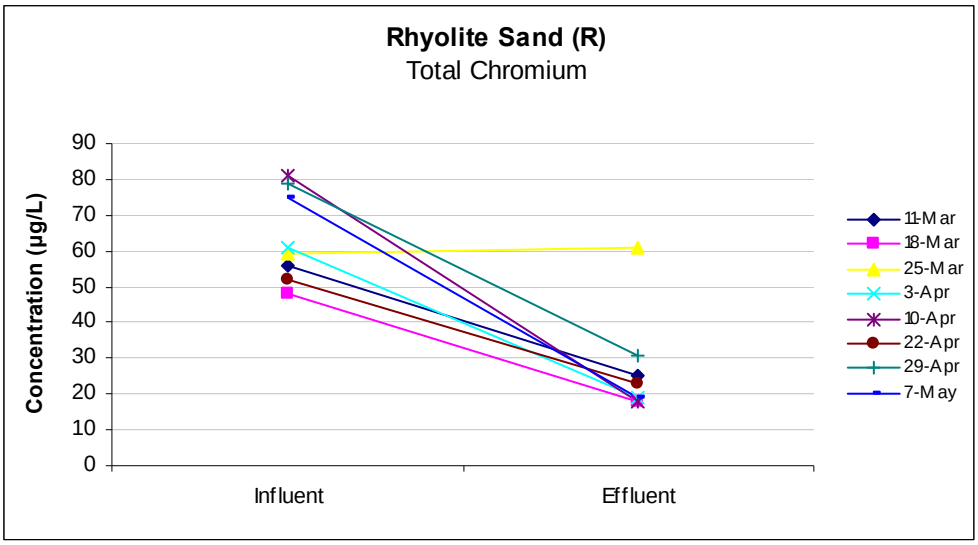
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	12.553	12.553	0.051	0.828
Residual	6.000	1468.947	244.825		
Total	7.000	1481.500			

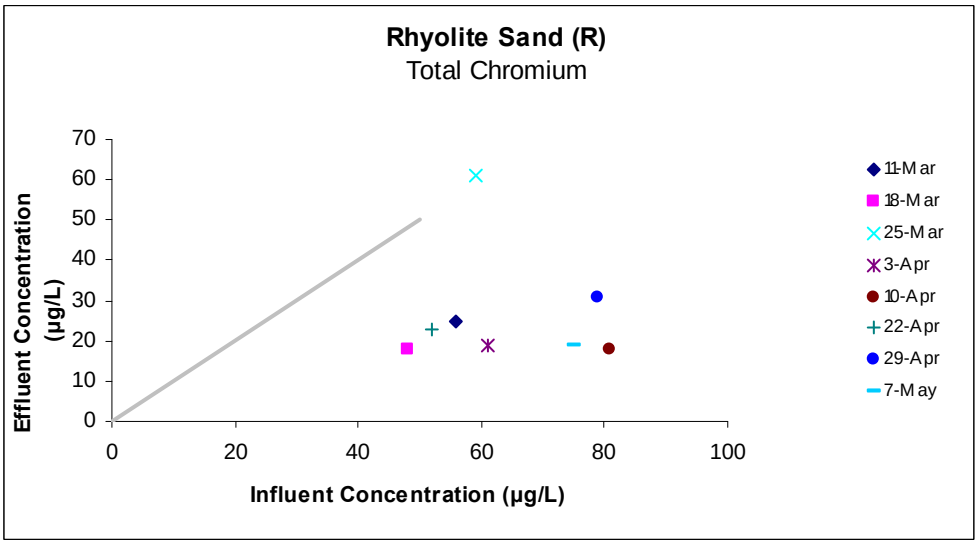
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	33.474	30.205	1.108	0.310	-40.435	107.382	-40.435	107.382
X Variable 1	-0.105	0.465	-0.226	0.828	-1.243	1.032	-1.243	1.032

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	27.579	-2.579
2	28.421	-10.421
3	27.263	33.737
4	27.053	-8.053
5	24.947	-6.947
6	28.000	-5.000
7	25.158	5.842
8	25.579	-6.579




Rhyolite Sand (R)
Total Chromium
Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Total Chromium
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cr

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.320
R Square	0.102
Adjusted R Square	-0.047
Standard Error	15.721
Observations	8.000

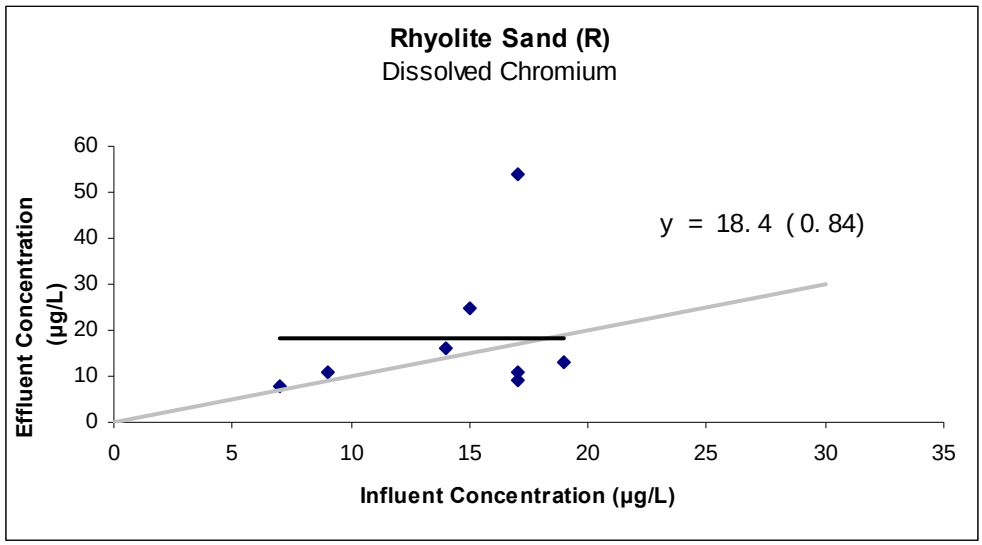
ANOVA

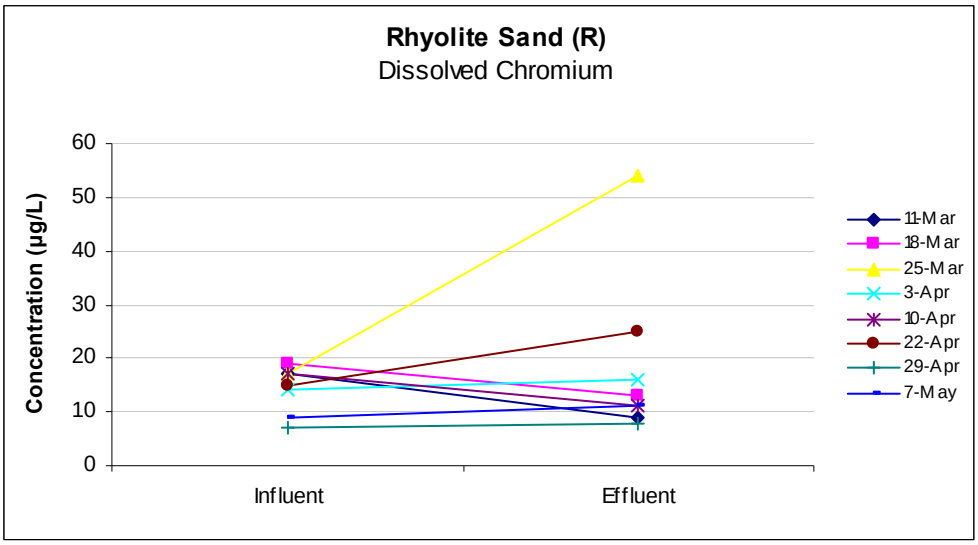
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	169.053	169.053	0.684	0.440
Residual	6.000	1482.822	247.137		
Total	7.000	1651.875			

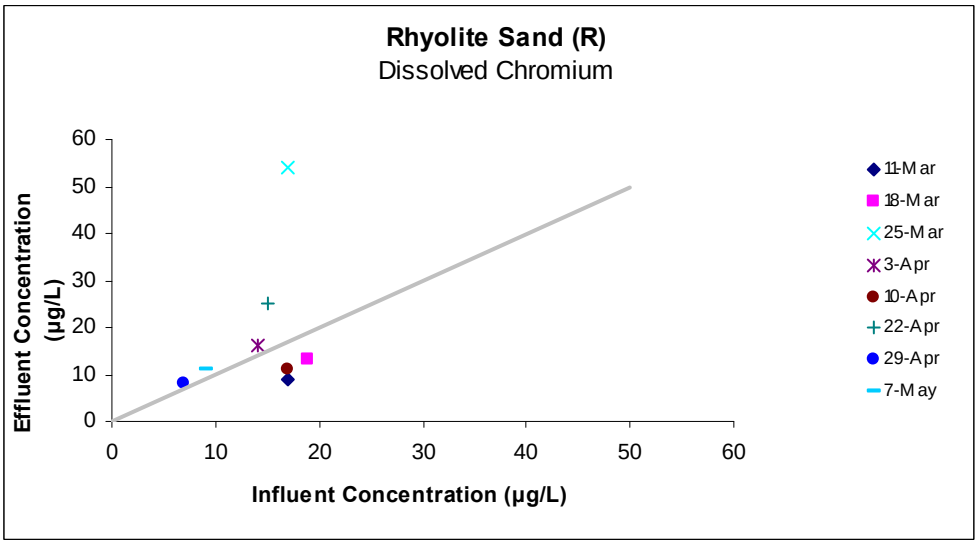
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1.716	20.895	0.082	0.937	-49.412	52.844	-49.412	52.844
X Variable 1	1.159	1.401	0.827	0.440	-2.270	4.587	-2.270	4.587

RESIDUAL OUTPUT

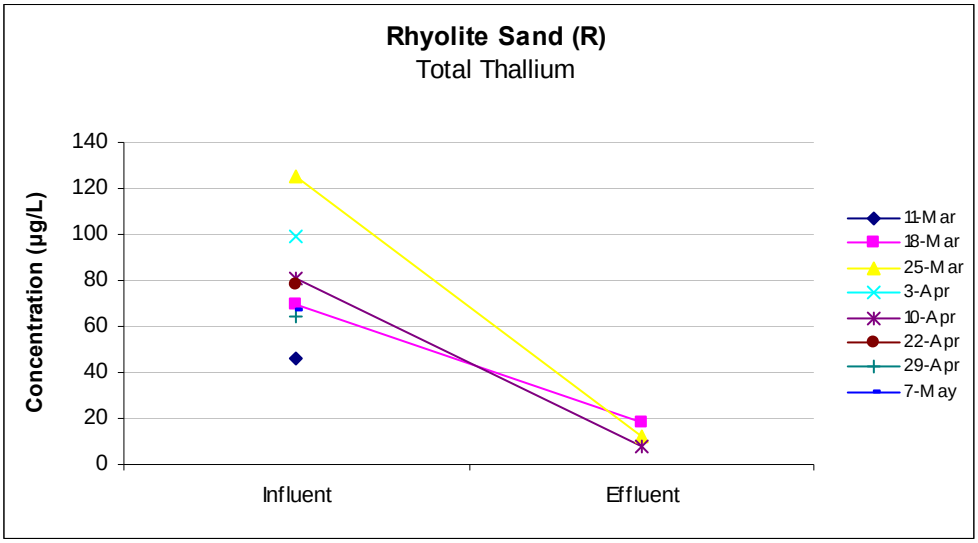
Observation	*Predicted Y*	*Residuals*
1	21.417	-12.417
2	23.735	-10.735
3	21.417	32.583
4	17.940	-1.940
5	21.417	-10.417
6	19.099	5.901
7	9.828	-1.828
8	12.146	-1.146

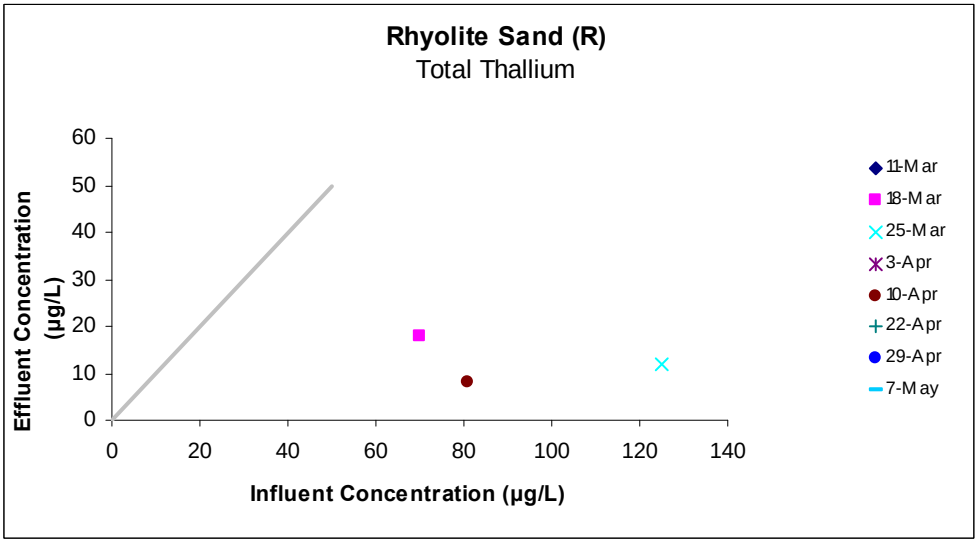



Rhyolite Sand (R)
Dissolved Chromium
Concentration (µg/L)
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

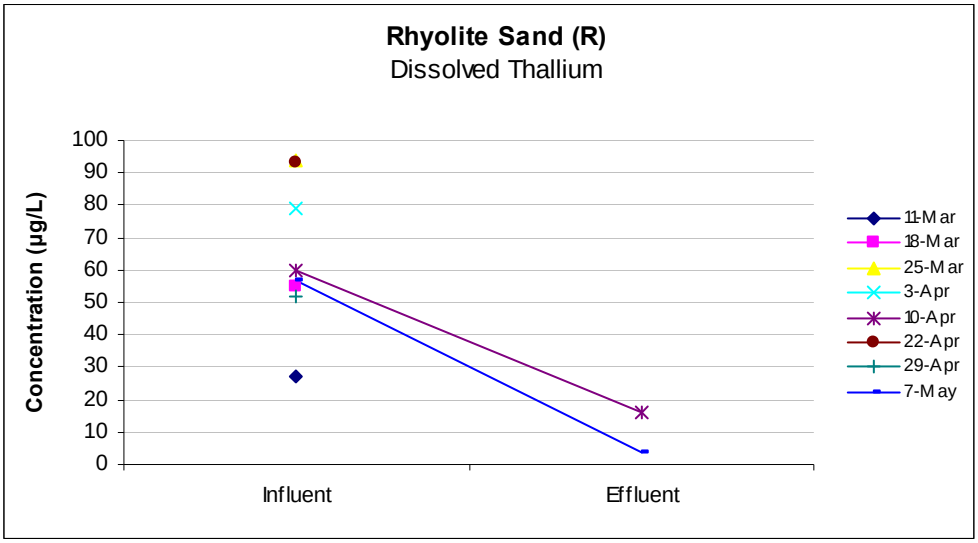

Rhyolite Sand (R)
Dissolved Chromium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

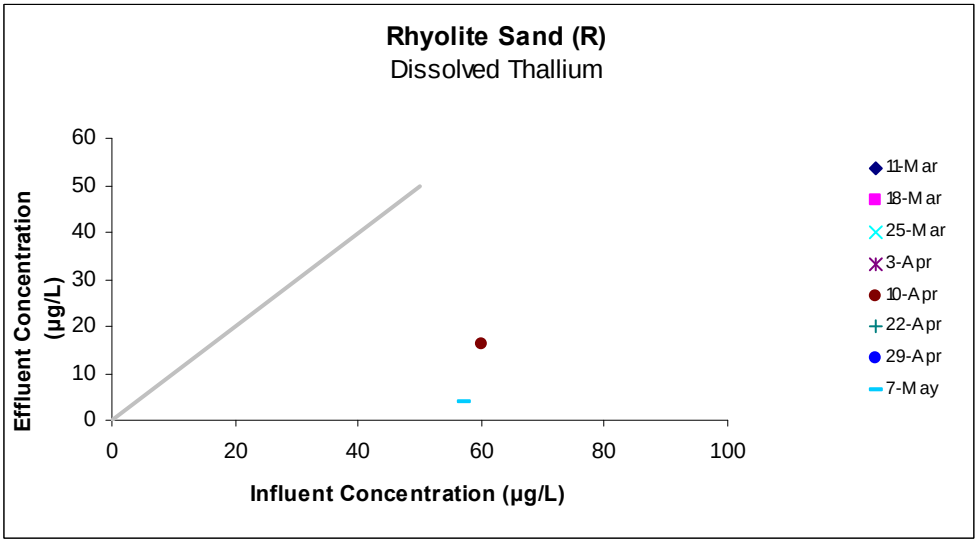
Total Tl


Rhyolite Sand (R)
Total Thallium
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Total Thallium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
140
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Tl





Total Sb

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.865
R Square	0.748
Adjusted R Square	0.606
Standard Error	35.929
Observations	8.000

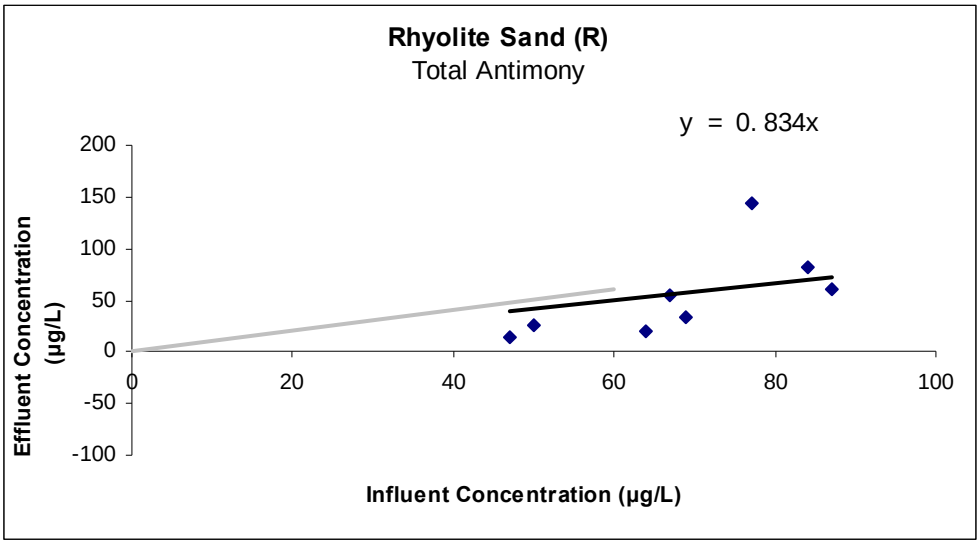
ANOVA

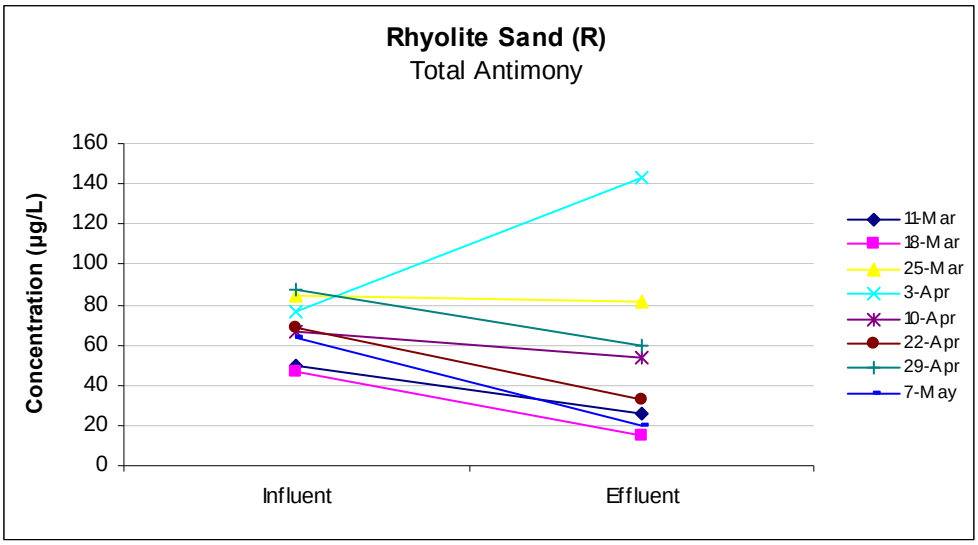
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	26879.904	26879.904	20.823	0.004
Residual	7.000	9036.096	1290.871		
Total	8.000	35916.000			

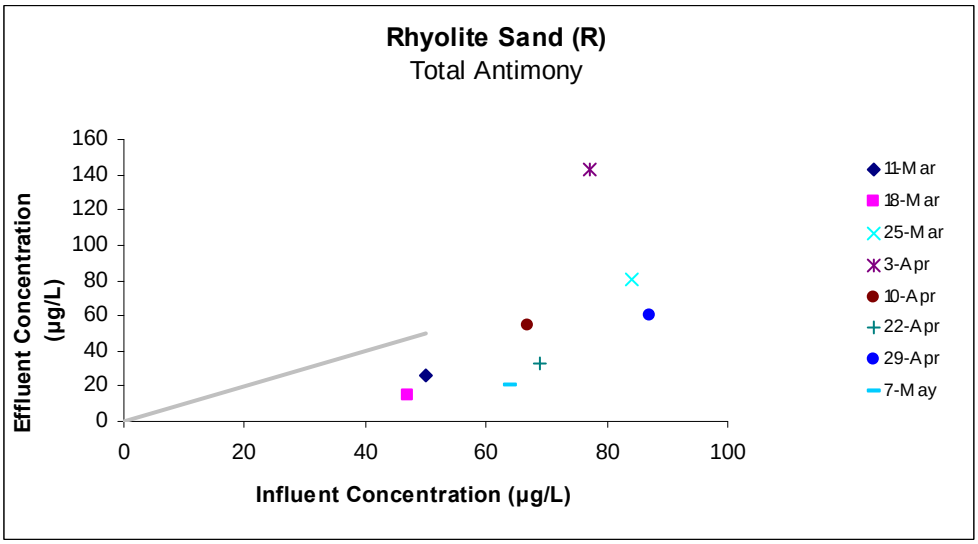
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.834	0.183	4.563	0.003	0.402	1.267	0.402	1.267

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	41.720	-15.720
2	39.216	-24.216
3	70.089	10.911
4	64.248	78.752
5	55.904	-1.904
6	57.573	-24.573
7	72.592	-12.592
8	53.401	-33.401




Rhyolite Sand (R)
Total Antimony
Concentration (µg/L)
160
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Total Antimony
Effluent Concentration (µg/L)
160
140
120
100
80
60
40
20
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Sb

Rhyolite Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.191
R Square	0.036
Adjusted R Square	-0.156
Standard Error	43.581
Observations	7.000

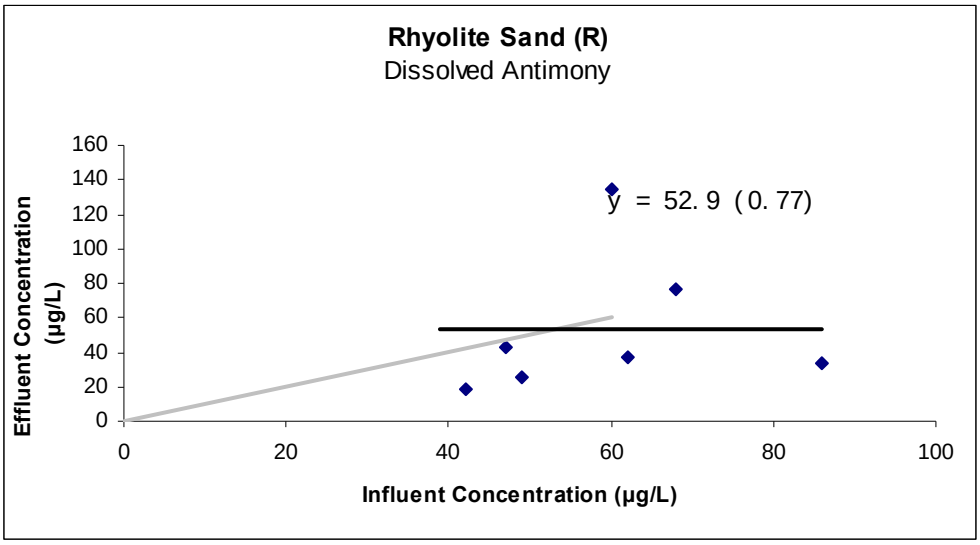
ANOVA

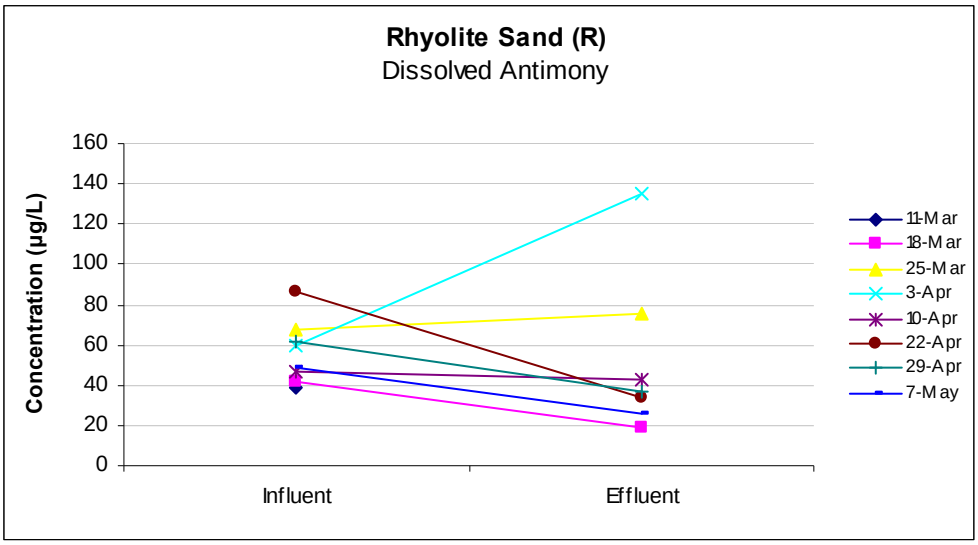
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	358.216	358.216	0.189	0.682
Residual	5.000	9496.641	1899.328		
Total	6.000	9854.857			

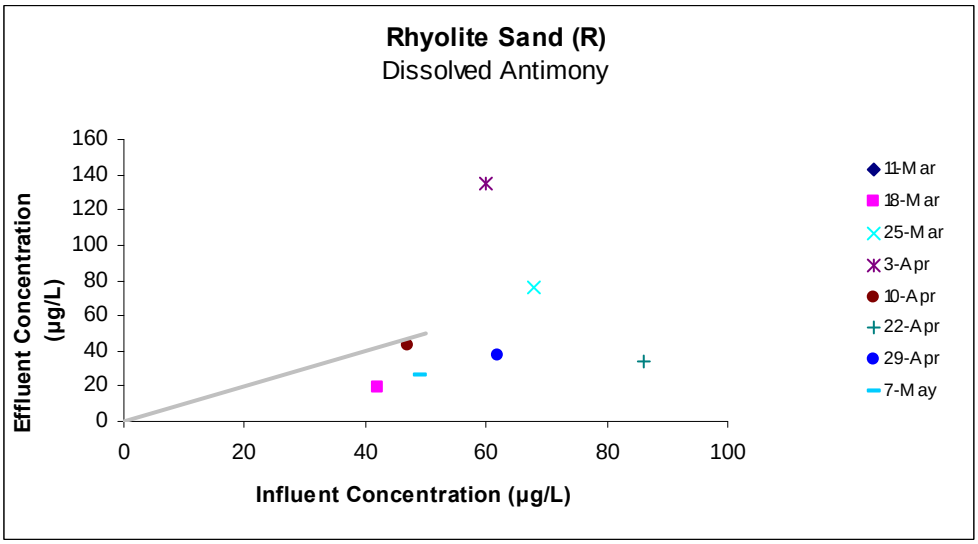
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	22.424	71.987	0.311	0.768	-162.625	207.473	-162.625	207.473
X Variable 1	0.515	1.185	0.434	0.682	-2.531	3.560	-2.531	3.560

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	44.036	-25.036
2	57.415	18.585
3	53.298	81.702
4	46.609	-3.609
5	66.677	-32.677
6	54.327	-17.327
7	47.638	-21.638




Rhyolite Sand (R)
Dissolved Antimony
Concentration (µg/L)
160
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand (R)
Dissolved Antimony
Effluent Concentration (µg/L)
160
140
120
100
80
60
40
20
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Site Sand (S)

As Total

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.947
R Square	0.896
Adjusted R Square	0.793
Standard Error	3.030
Observations	3.000

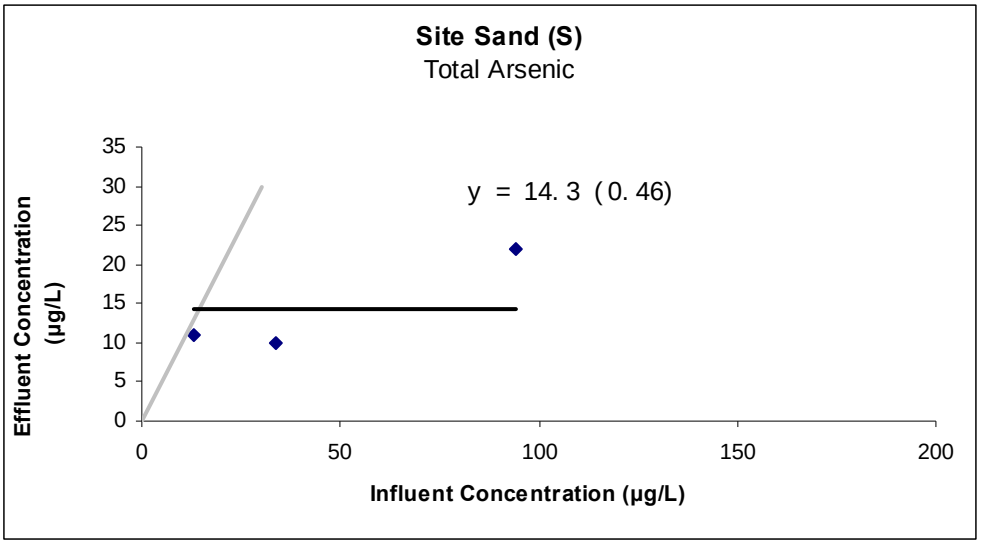
ANOVA

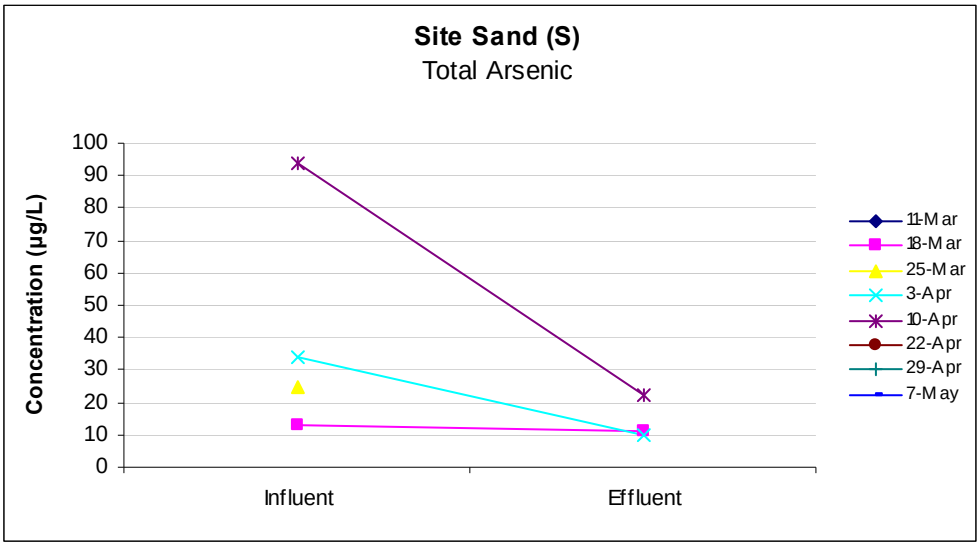
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	79.485	79.485	8.657	0.209
Residual	1.000	9.182	9.182		
Total	2.000	88.667			

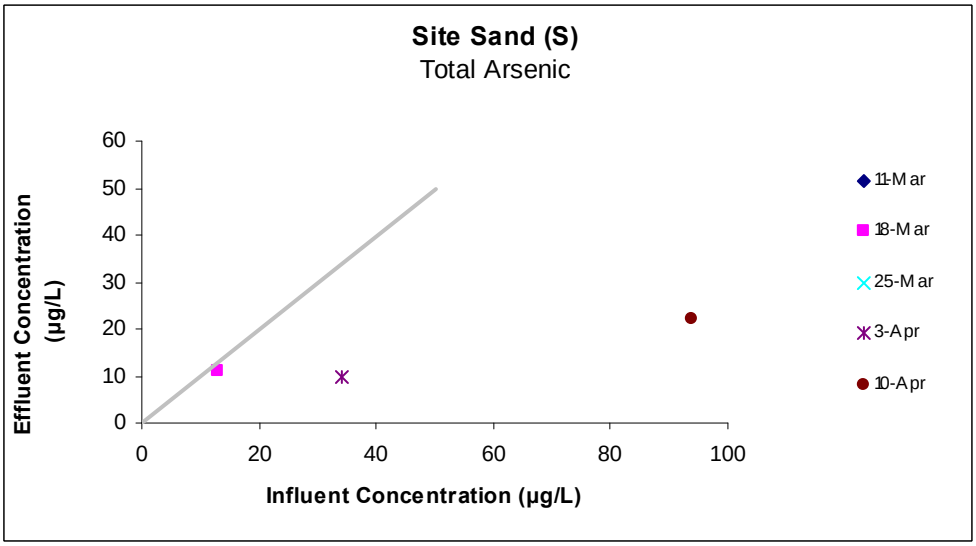
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	7.285	2.966	2.456	0.246	-30.407	44.977	-30.407	44.977
X Variable 1	0.150	0.051	2.942	0.209	-0.498	0.798	-0.498	0.798

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	9.234	1.766
2	12.384	-2.384
3	21.382	0.618




Site Sand (S)
Total Arsenic
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Total Arsenic
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Dissolved As

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	1
R Square	1
Adjusted R Square	65535
Standard Error	0
Observations	2

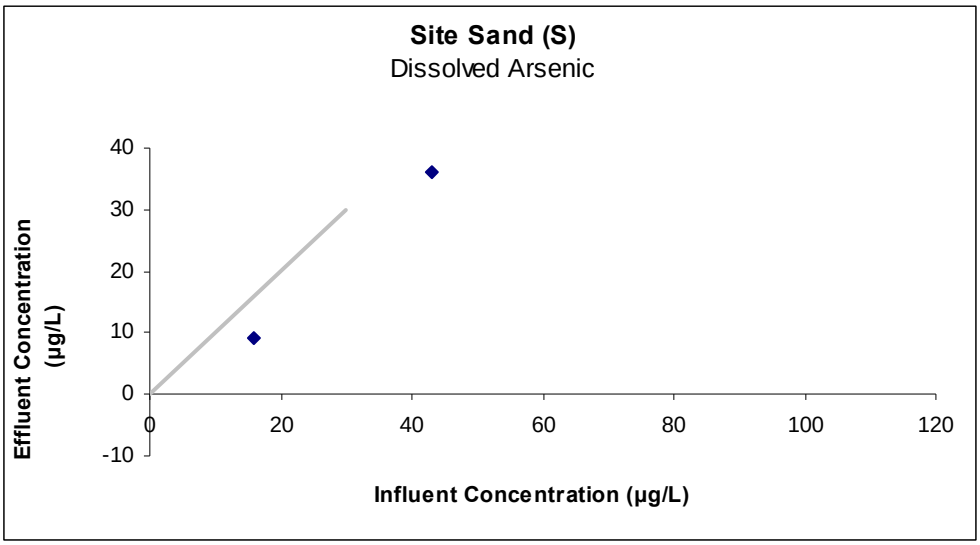
ANOVA

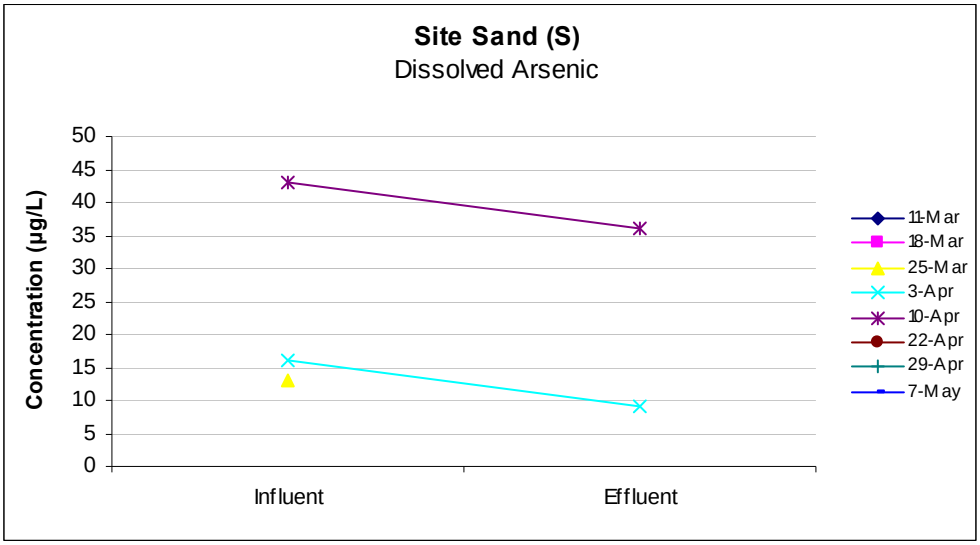
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	364.5	364.5	#NUM!	#NUM!
Residual	0	0	65535		
Total	1	364.5			

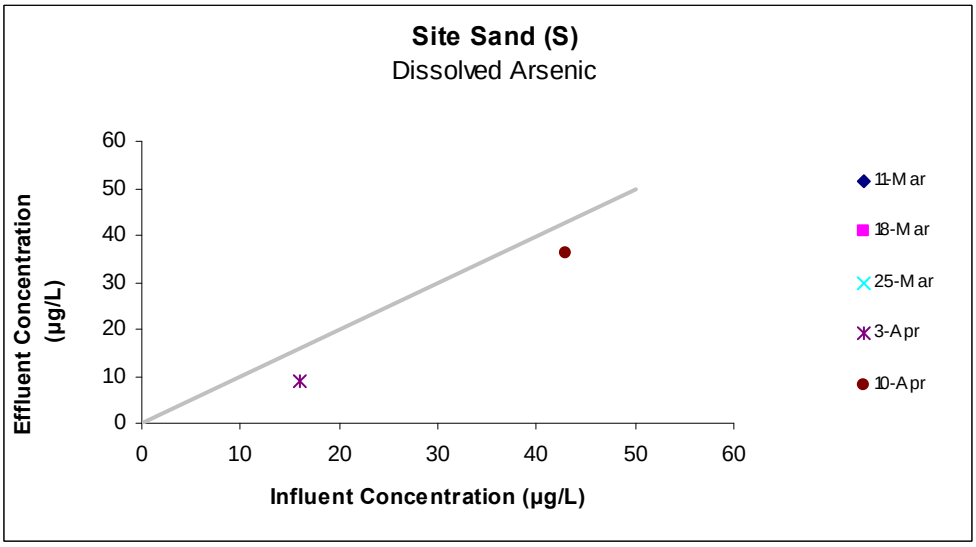
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-7	0	65535	#NUM!	-7	-7	-7	-7
X Variable 1	1	0	65535	#NUM!	1	1	1	1

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	9	-3.55271E-15
2	36	0




Site Sand (S)
Dissolved Arsenic
Concentration (µg/L)
50
45
40
35
30
25
20
15
10
5
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Dissolved Arsenic
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Total Al

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.048
R Square	0.002
Adjusted R Square	-0.330
Standard Error	495.418
Observations	5.000

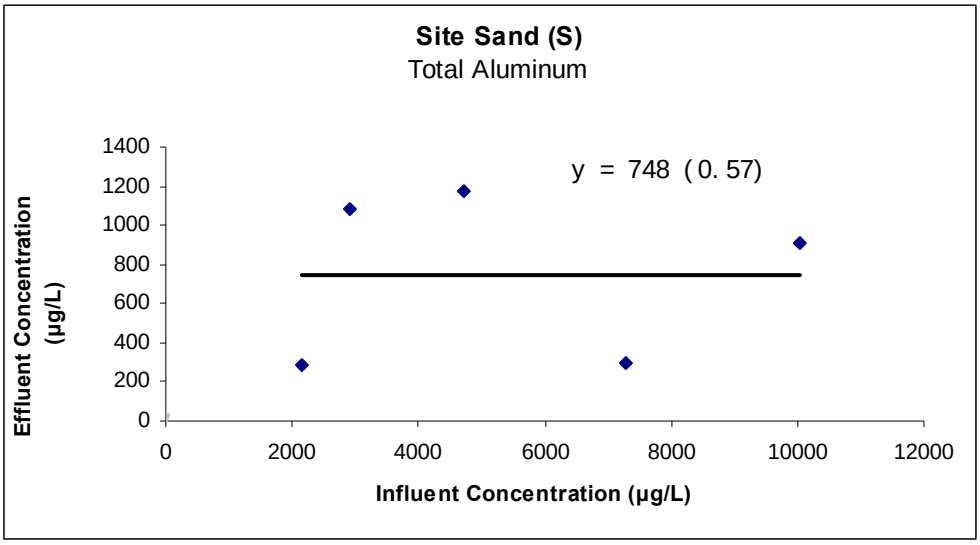
ANOVA

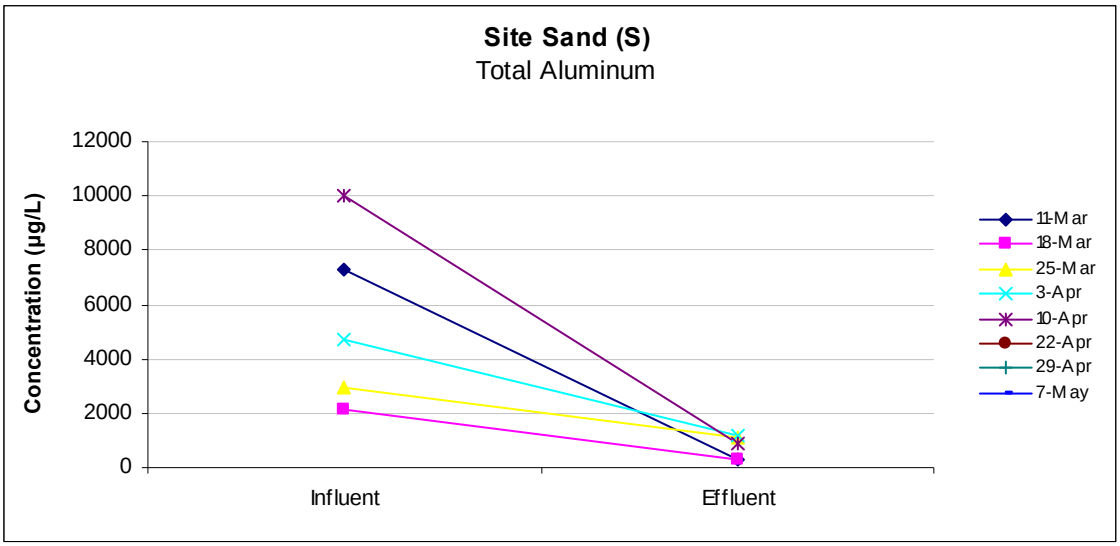
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	1733.117	1733.117	0.007	0.938
Residual	3.000	736317.683	245439.228		
Total	4.000	738050.800			

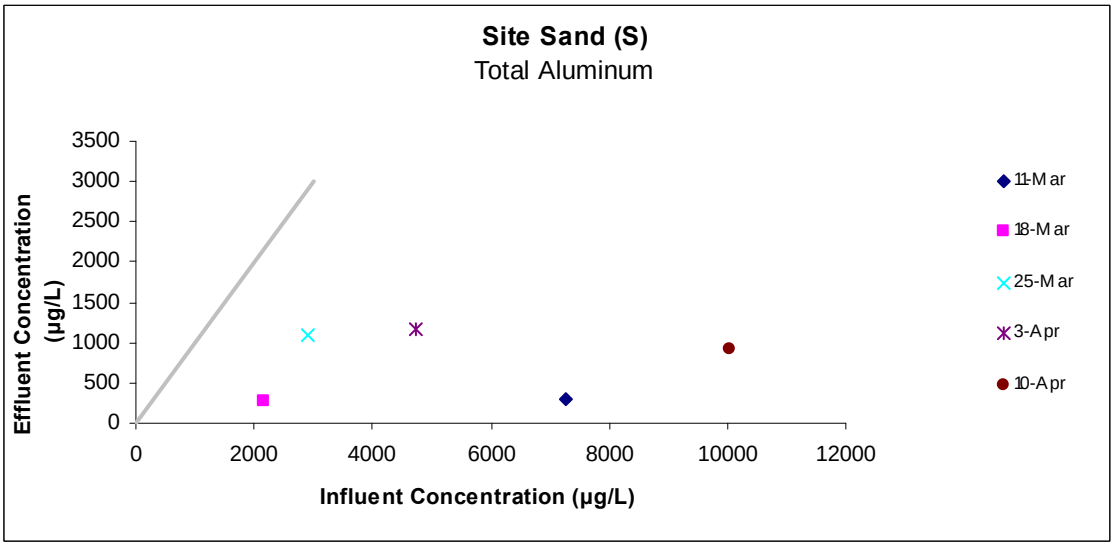
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	714.056	469.085	1.522	0.225	-778.783	2206.895	-778.783	2206.895
X Variable 1	0.006	0.076	0.084	0.938	-0.236	0.249	-0.236	0.249

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	760.679	-464.679
2	727.867	-443.867
3	732.699	353.301
4	744.375	426.625
5	778.380	128.620




Site Sand (S)
Total Aluminum
Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Total Aluminum
Effluent Concentration (µg/L)
3500
3000
2500
2000
1500
1000
500
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Dissolved Al

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.940
R Square	0.884
Adjusted R Square	0.826
Standard Error	8.894
Observations	4.000

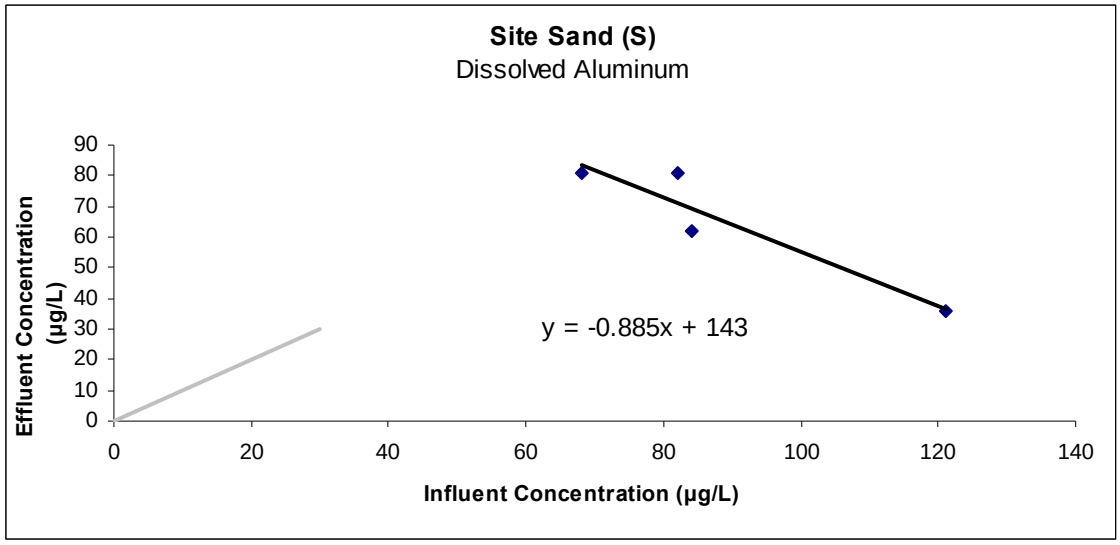
ANOVA

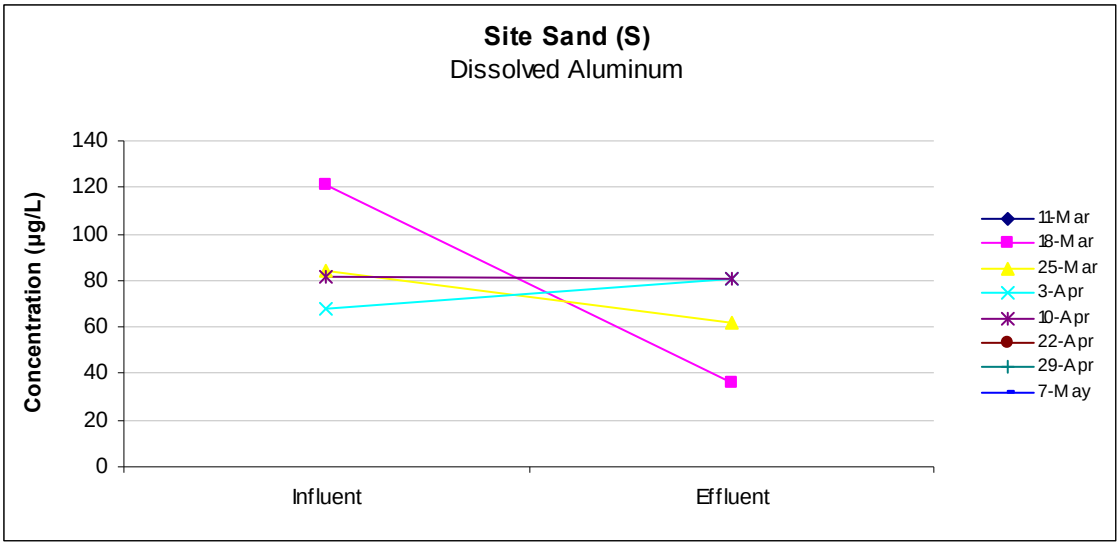
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	1203.783	1203.783	15.217	0.060
Residual	2.000	158.217	79.109		
Total	3.000	1362.000			

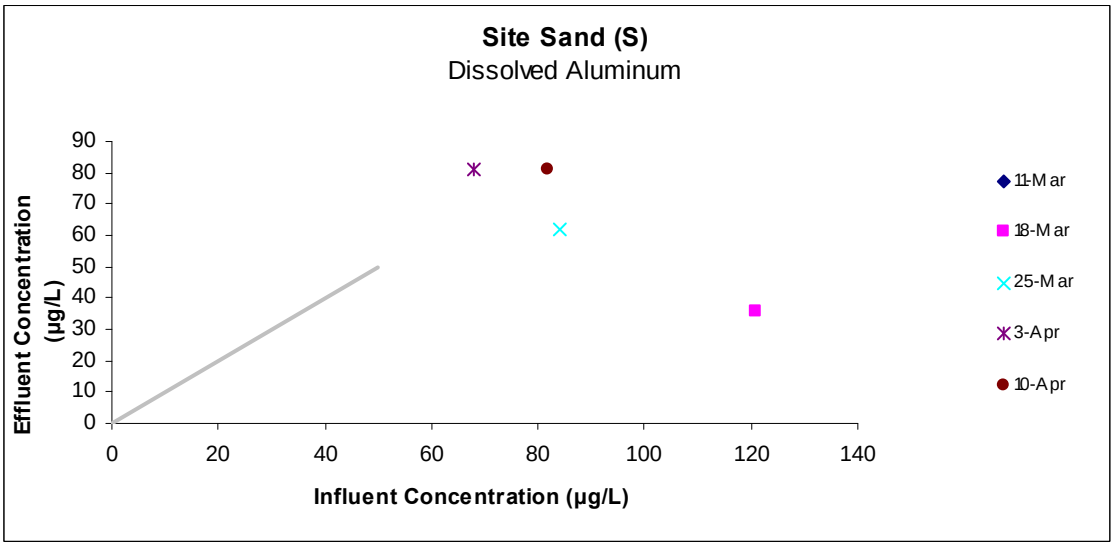
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	143.498	20.609	6.963	0.020	54.826	232.170	54.826	232.170
X Variable 1	-0.884	0.227	-3.901	0.060	-1.860	0.091	-1.860	0.091

RESIDUAL OUTPUT

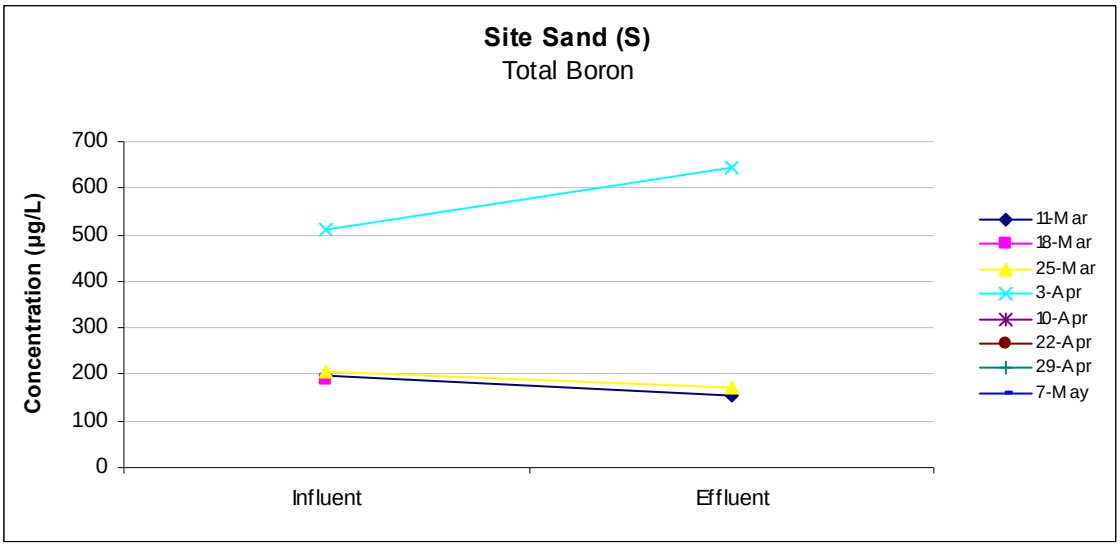
Observation	*Predicted Y*	*Residuals*
1	36.475	-0.475
2	69.201	-7.201
3	83.353	-2.353
4	70.970	10.030

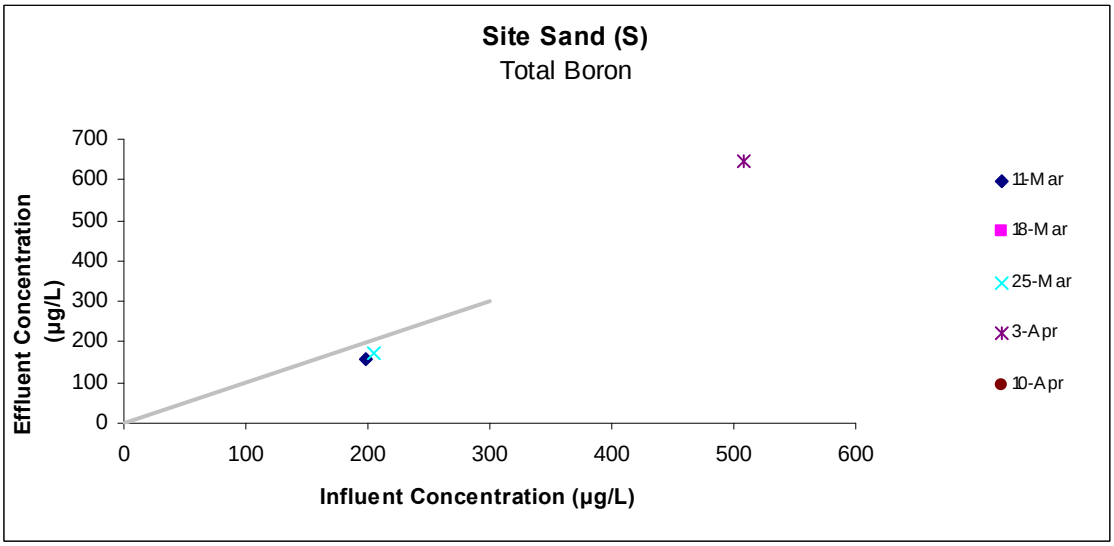



Site Sand (S)
Dissolved Aluminum
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

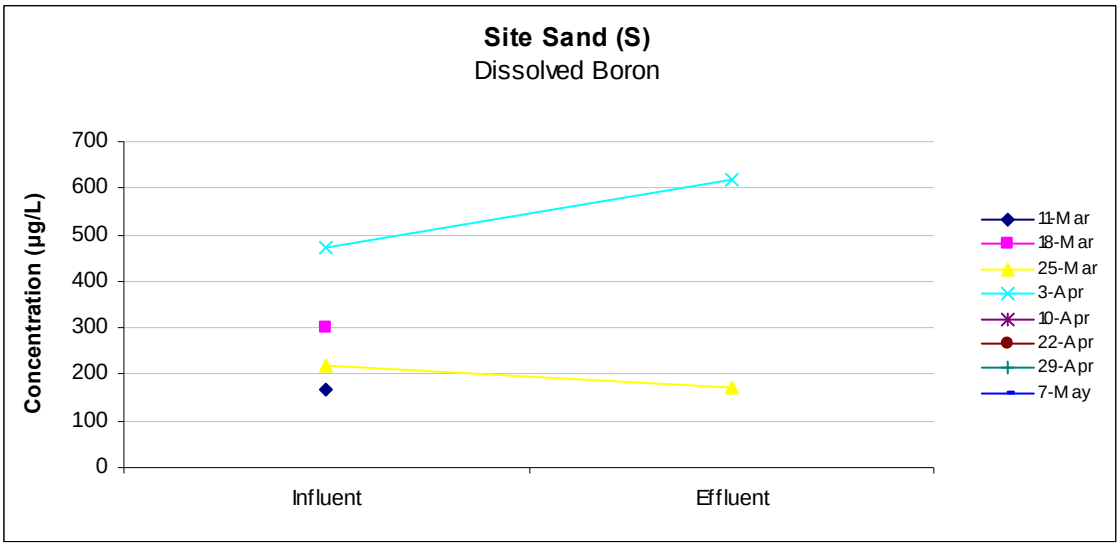

Site Sand (S)
Dissolved Aluminum
Effluent Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
0
20
40
60
80
100
120
140
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

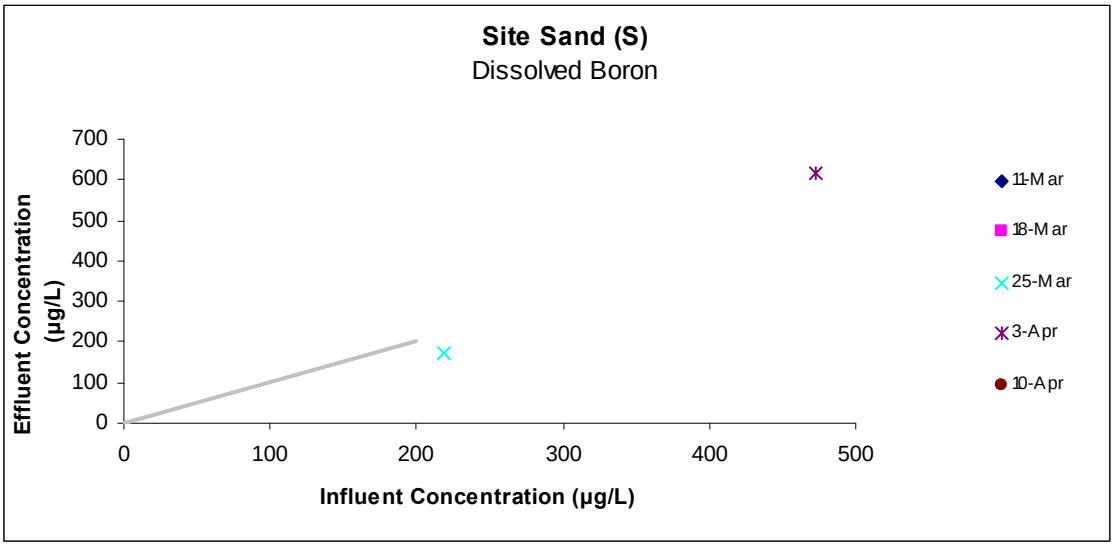
Total B


Site Sand (S)
Total Boron
Concentration (µg/L)
700
600
500
400
300
200
100
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Total Boron
Effluent Concentration (µg/L)
700
600
500
400
300
200
100
0
0
100
200
300
400
500
600
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Dissolved B


Site Sand (S)
Dissolved Boron
Concentration (µg/L)
700
600
500
400
300
200
100
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Dissolved Boron
Effluent Concentration (µg/L)
700
600
500
400
300
200
100
0
0
100
200
300
400
500
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Total Ca

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.761
R Square	0.579
Adjusted R Square	0.438
Standard Error	1926.646
Observations	5.000

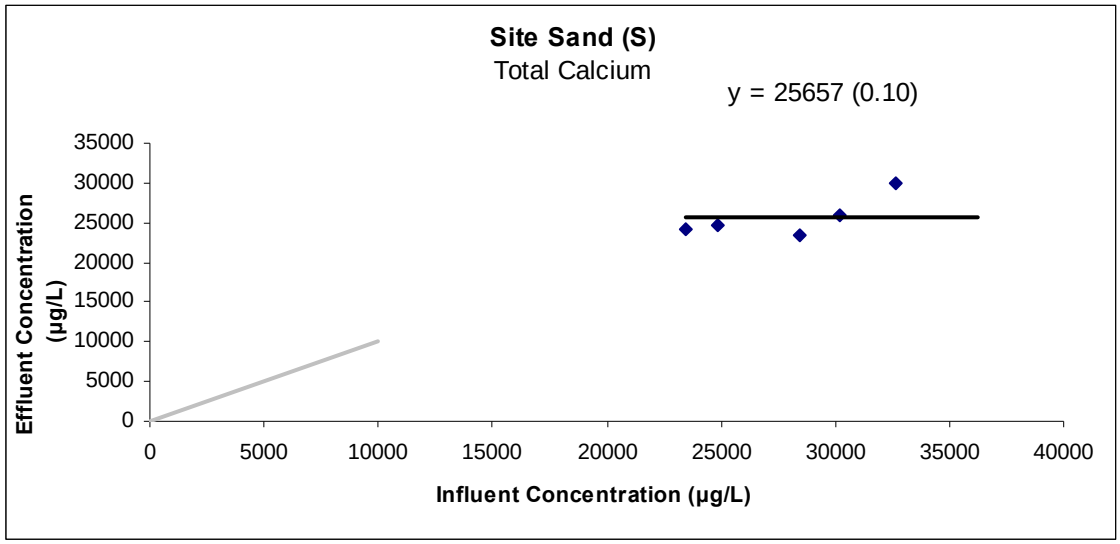
ANOVA

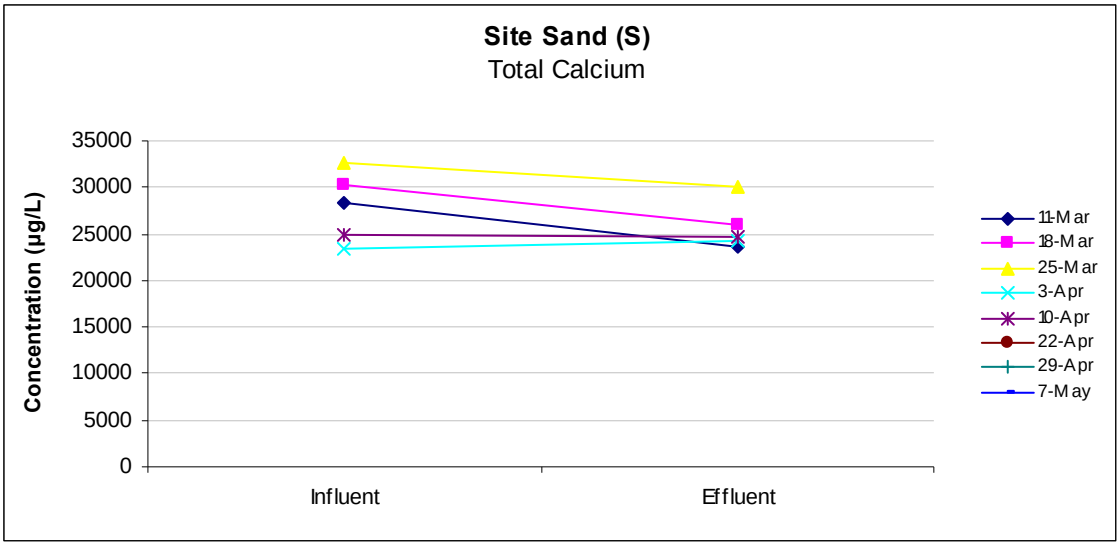
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	15286838.185	15286838.185	4.118	0.135
Residual	3.000	11135898.615	3711966.205		
Total	4.000	26422736.800			

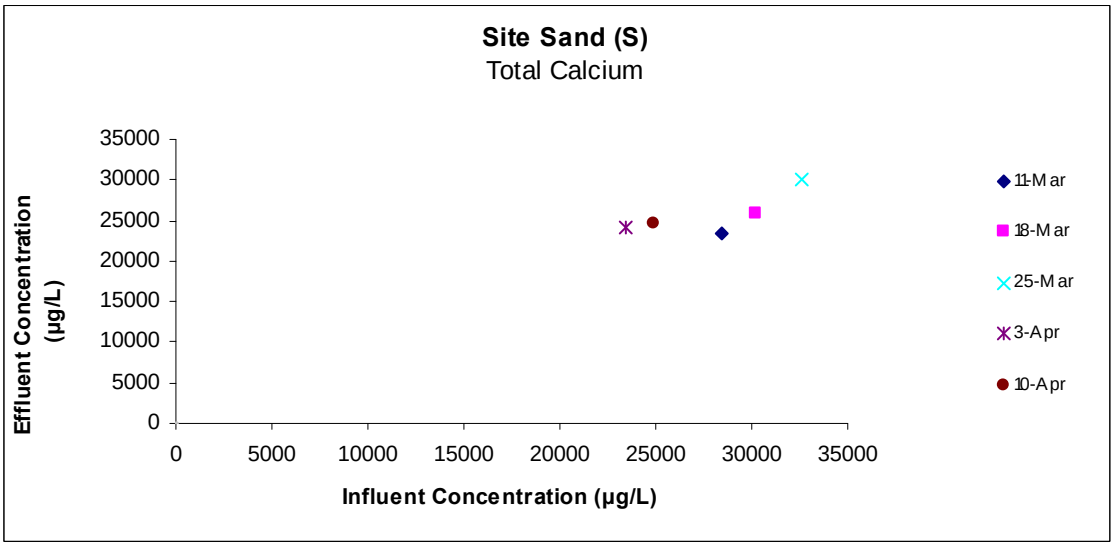
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	11169.396	7190.944	1.553	0.218	-11715.398	34054.189	-11715.398	34054.189
X Variable 1	0.519	0.256	2.029	0.135	-0.295	1.333	-0.295	1.333

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	25915.481	-2386.481
2	26843.694	-925.694
3	28103.449	1877.551
4	23352.388	838.612
5	24070.988	596.012




Site Sand (S)
Total Calcium
Concentration (µg/L)
35000
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Total Calcium
Effluent Concentration (µg/L)
35000
30000
25000
20000
15000
10000
5000
0
0
5000
10000
15000
20000
25000
30000
35000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Dissolved Ca

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.351
R Square	0.123
Adjusted R Square	-0.169
Standard Error	14709.912
Observations	5.000

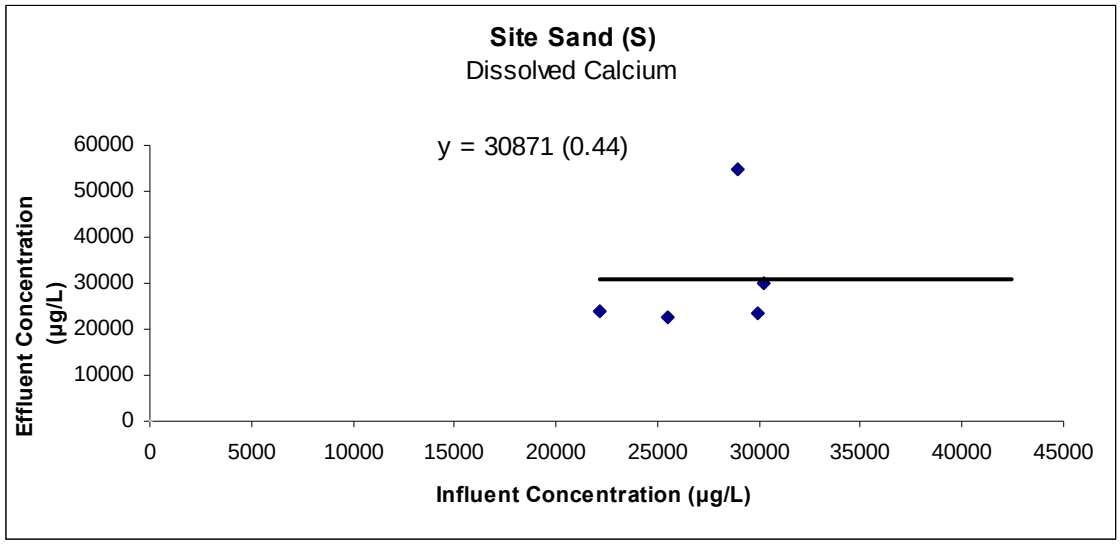
ANOVA

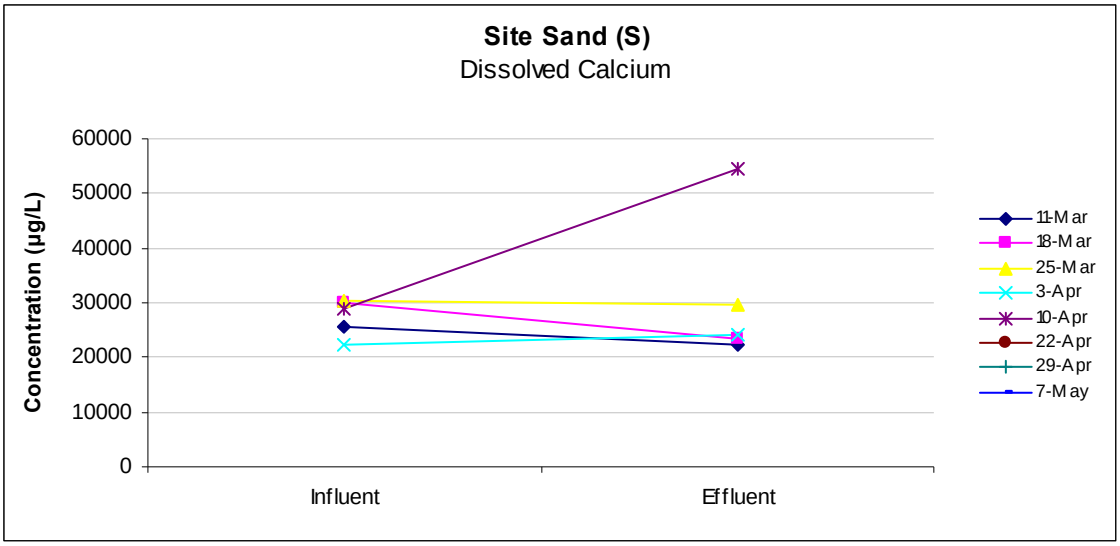
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	90976292.299	90976292.299	0.420	0.563
Residual	3.000	649144508.901	216381502.967		
Total	4.000	740120801.200			

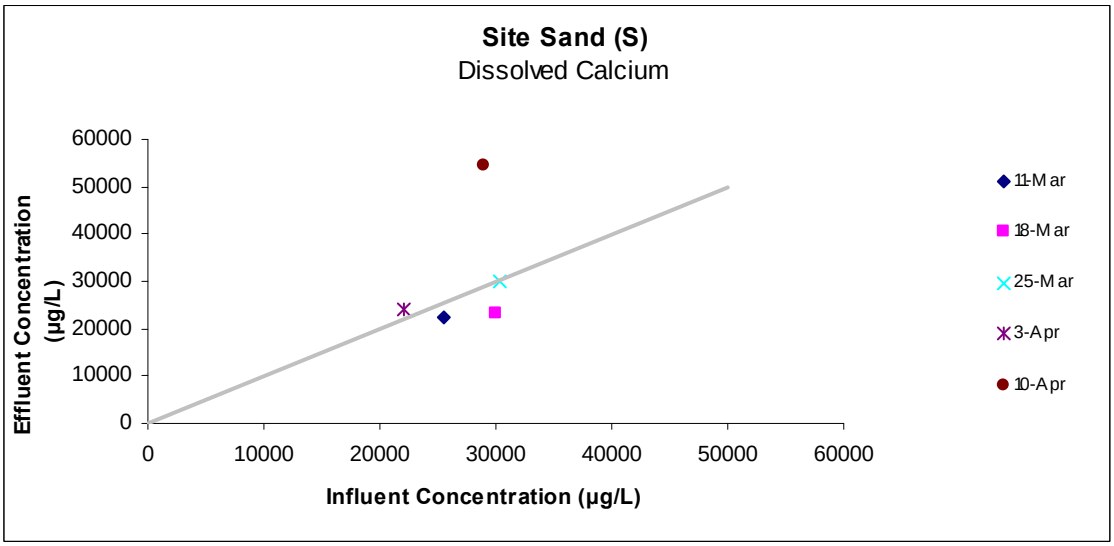
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-6604.570	58168.096	-0.114	0.917	-191721.412	178512.272	-191721.412	178512.272
X Variable 1	1.369	2.111	0.648	0.563	-5.350	8.088	-5.350	8.088

RESIDUAL OUTPUT

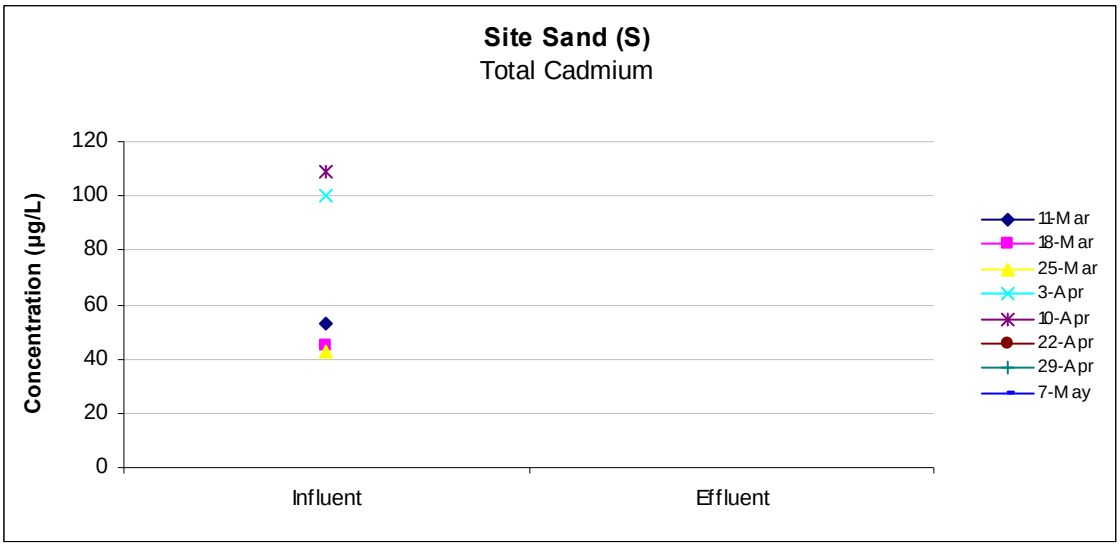
Observation	*Predicted Y*	*Residuals*
1	28307.727	-5914.727
2	34443.836	-11053.836
3	34829.910	-5035.910
4	23715.913	407.087
5	33055.613	21597.387

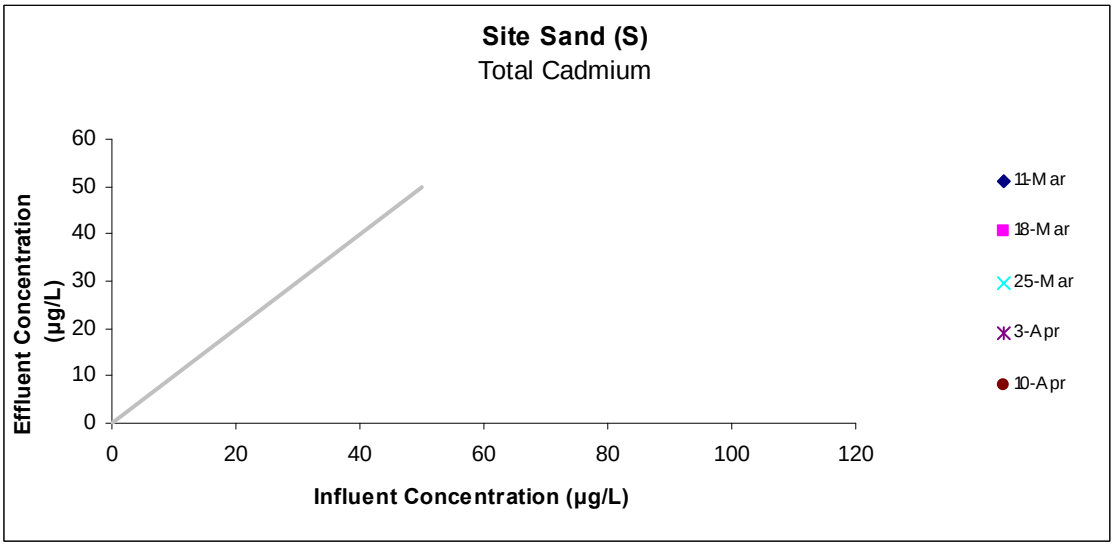



Site Sand (S)
Dissolved Calcium
Concentration (µg/L)
60000
50000
40000
30000
20000
10000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

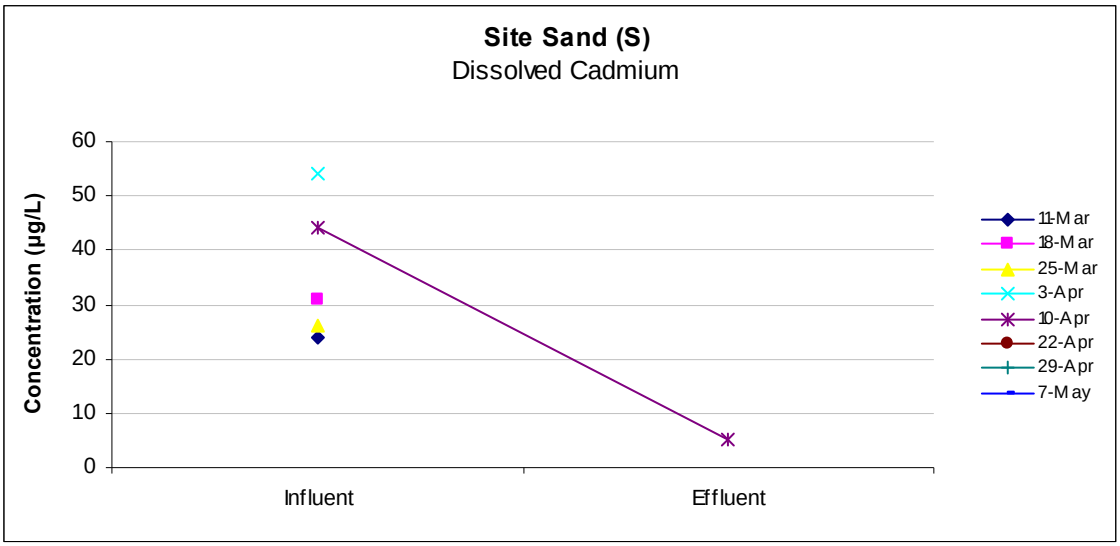

Site Sand (S)
Dissolved Calcium
Effluent Concentration (µg/L)
60000
50000
40000
30000
20000
10000
0
0
10000
20000
30000
40000
50000
60000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

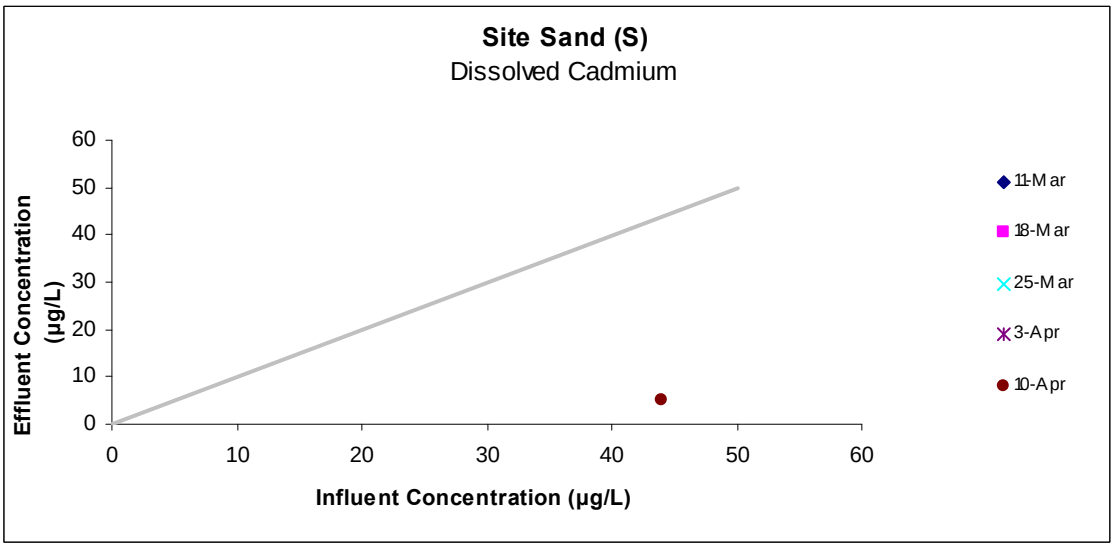
Total Cd


Site Sand (S)
Total Cadmium
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Total Cadmium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Dissolved Cd





Total Cu

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.763
R Square	0.582
Adjusted R Square	0.443
Standard Error	7.852
Observations	5.000

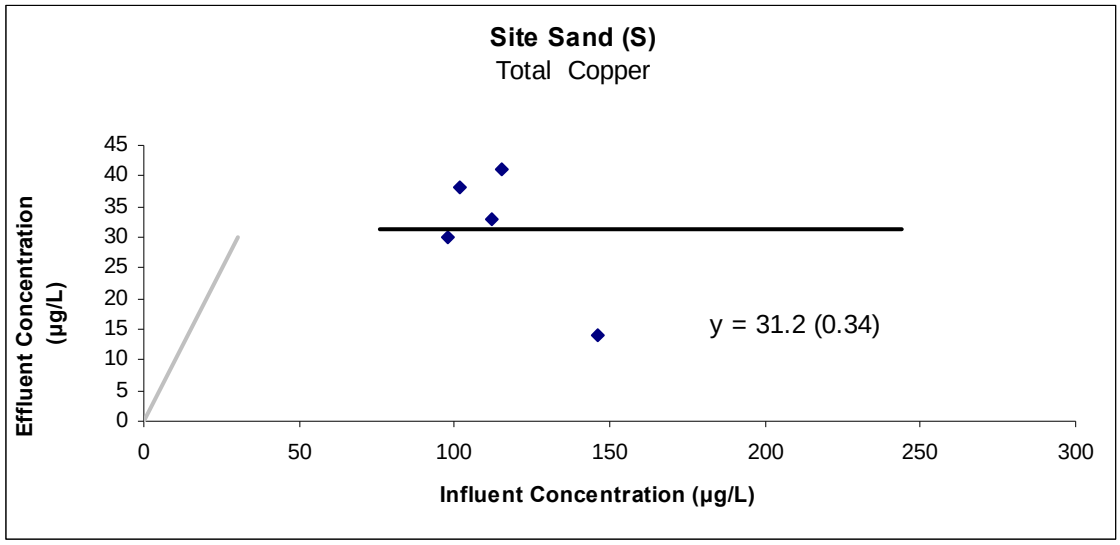
ANOVA

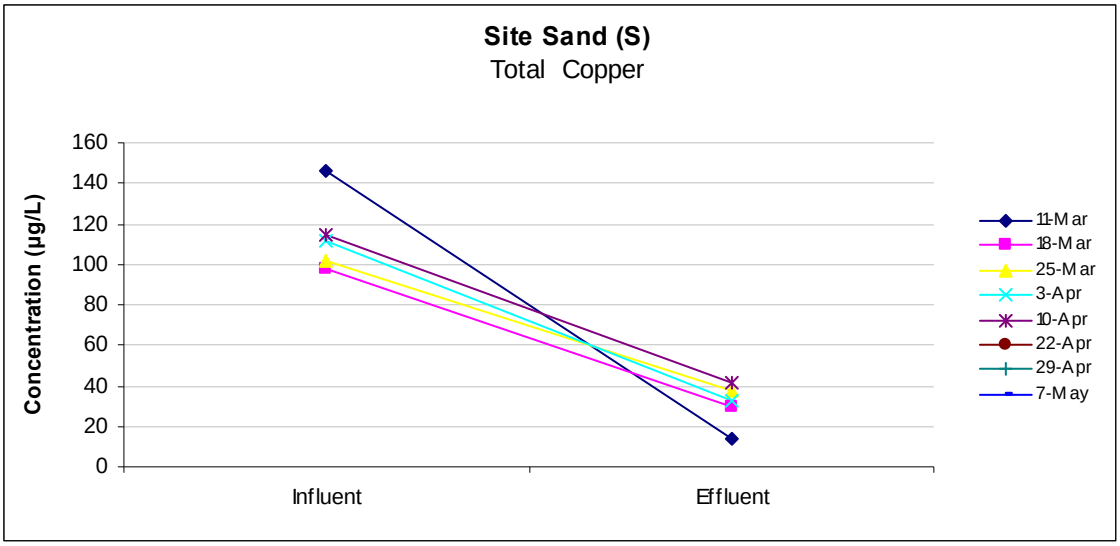
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	257.822	257.822	4.181	0.133
Residual	3.000	184.978	61.659		
Total	4.000	442.800			

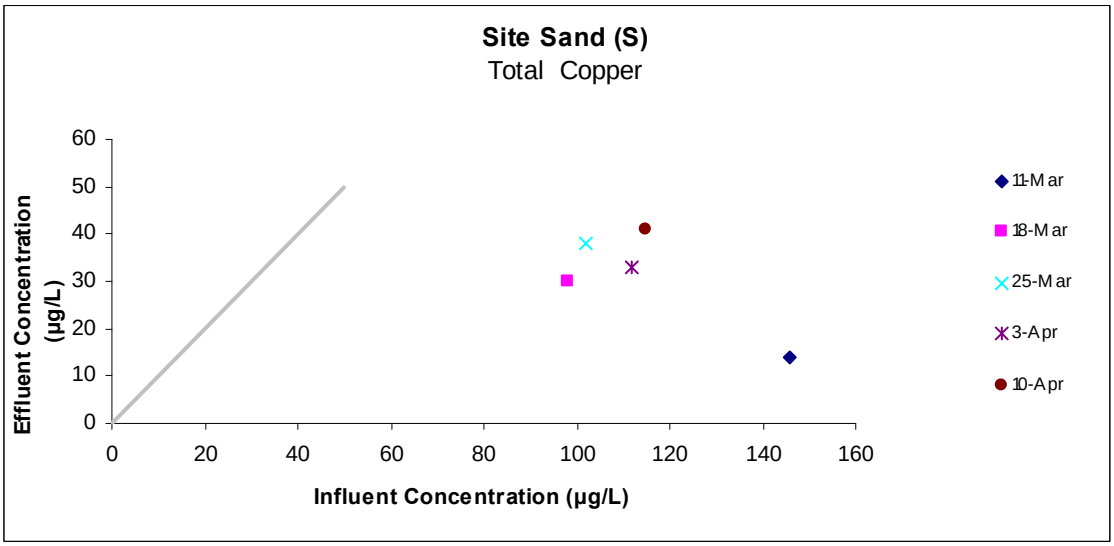
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	79.908	24.077	3.319	0.045	3.283	156.533	3.283	156.533
X Variable 1	-0.425	0.208	-2.045	0.133	-1.087	0.236	-1.087	0.236

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	17.854	-3.854
2	38.255	-8.255
3	36.555	1.445
4	32.305	0.695
5	31.030	9.970




Site Sand (S)
Total Copper
Concentration (µg/L)
160
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Total Copper
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
140
160
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Dissolved Cu

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.783
R Square	0.613
Adjusted R Square	0.484
Standard Error	13.435
Observations	5.000

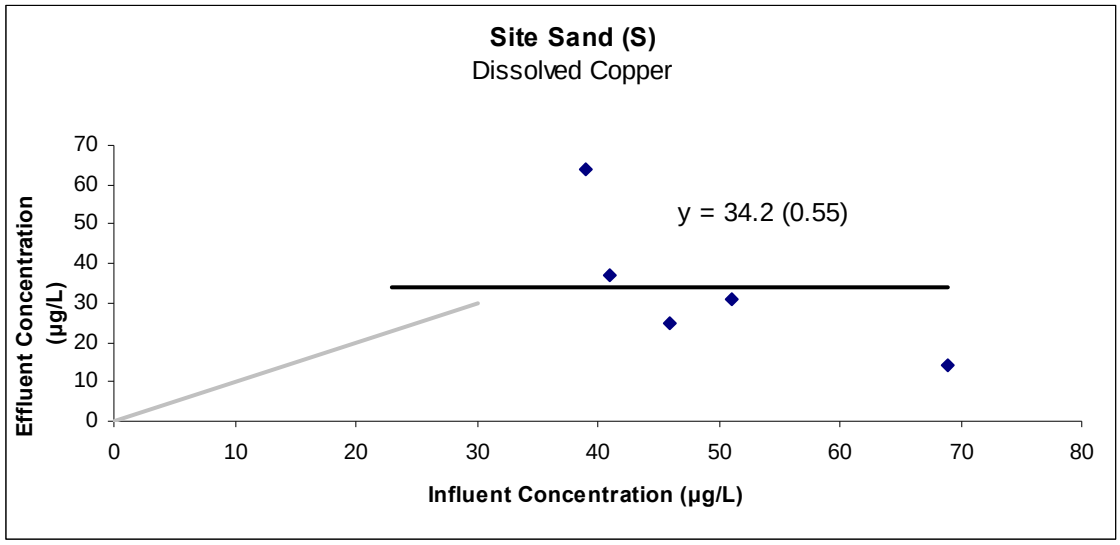
ANOVA

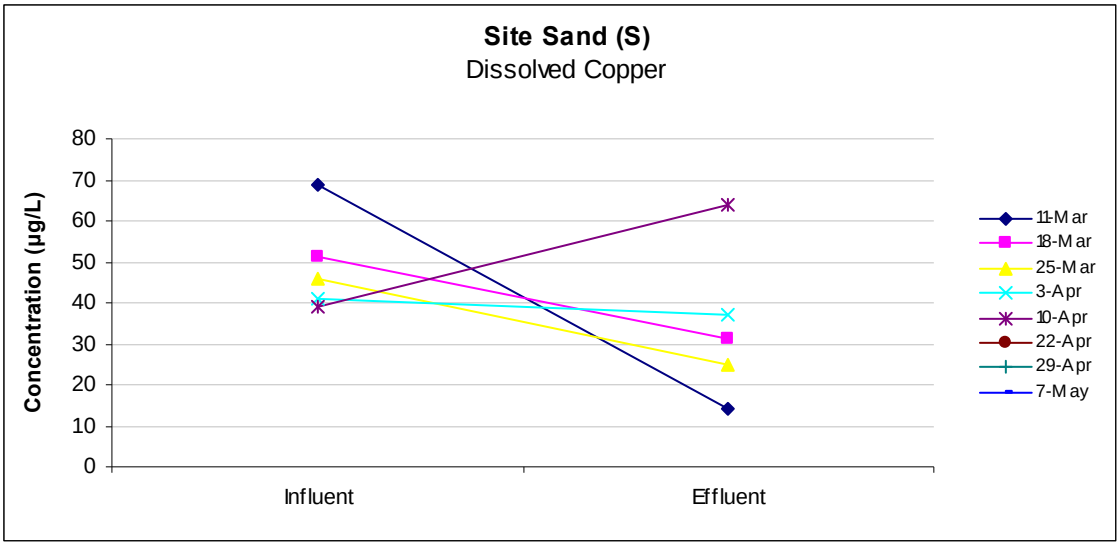
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	857.299	857.299	4.750	0.117
Residual	3.000	541.501	180.500		
Total	4.000	1398.800			

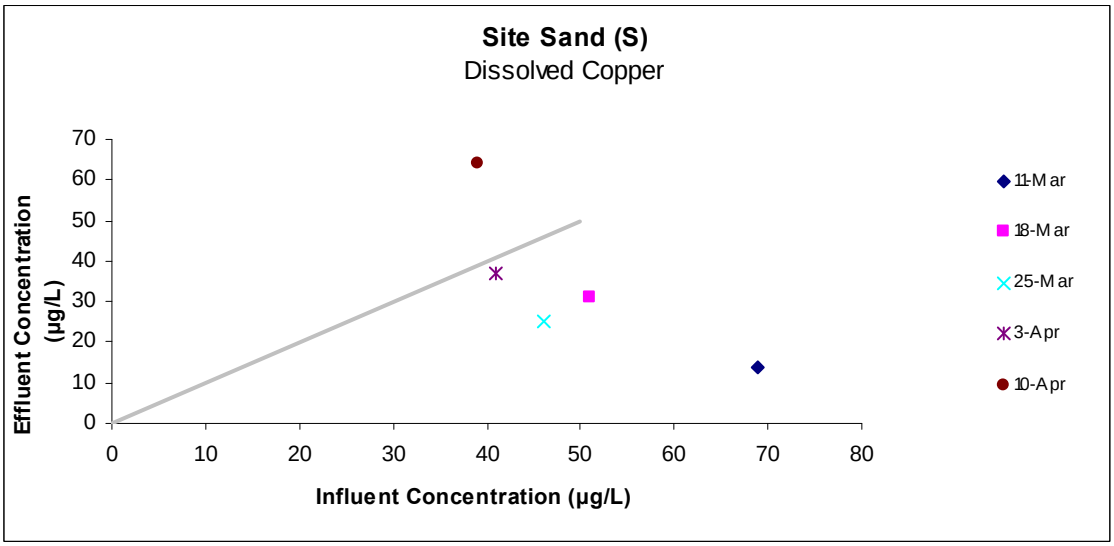
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	94.182	28.171	3.343	0.044	4.529	183.834	4.529	183.834
X Variable 1	-1.219	0.559	-2.179	0.117	-2.999	0.561	-2.999	0.561

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	10.061	3.939
2	32.006	-1.006
3	38.101	-13.101
4	44.197	-7.197
5	46.635	17.365




Site Sand (S)
Dissolved Copper
Concentration (µg/L)
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Dissolved Copper
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0
10
20
30
40
50
60
70
80
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Total Fe

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.038
R Square	0.001
Adjusted R Square	-0.331
Standard Error	376.572
Observations	5.000

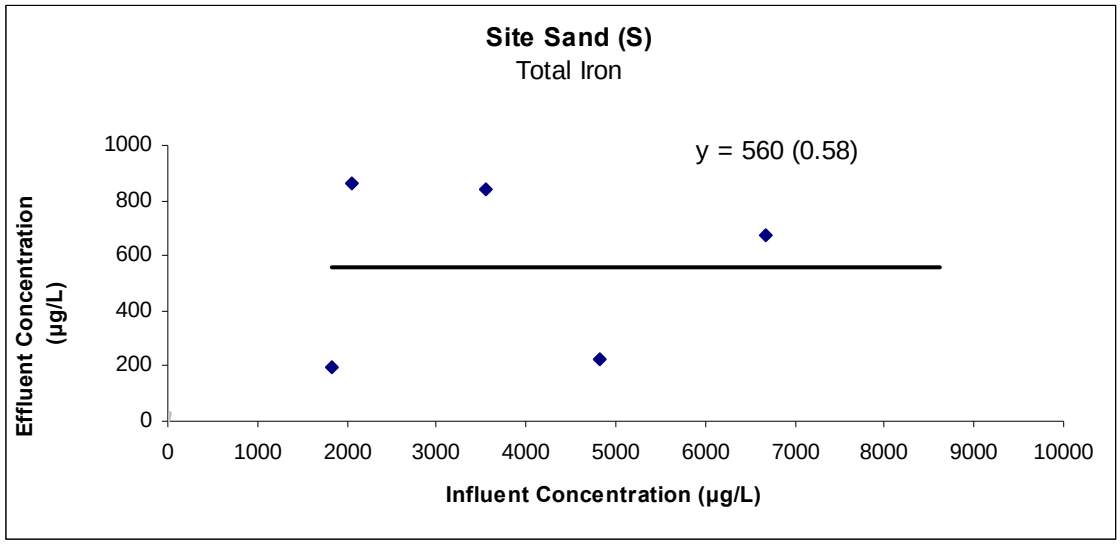
ANOVA

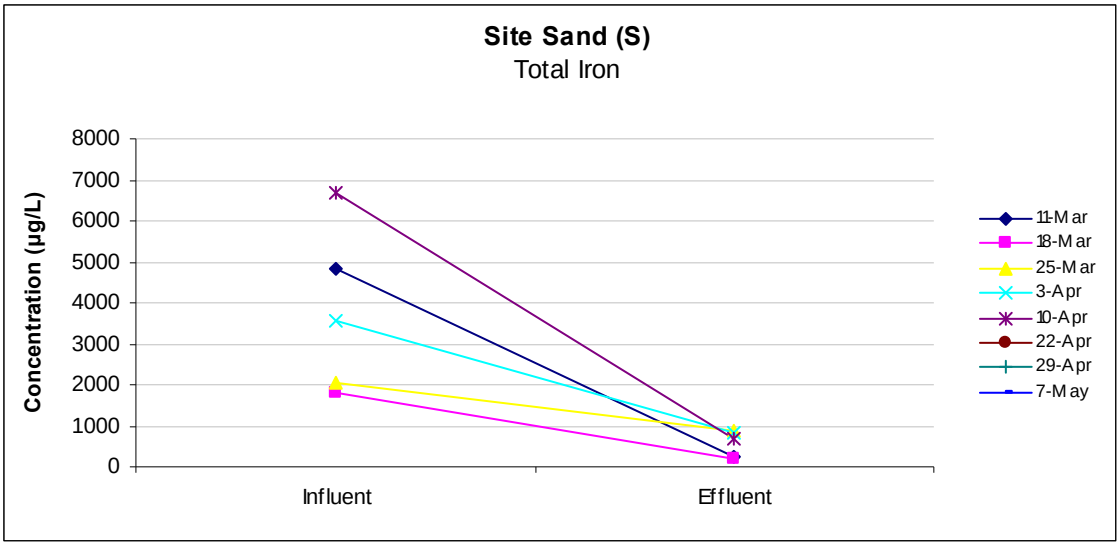
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	631.311	631.311	0.004	0.951
Residual	3.000	425419.489	141806.496		
Total	4.000	426050.800			

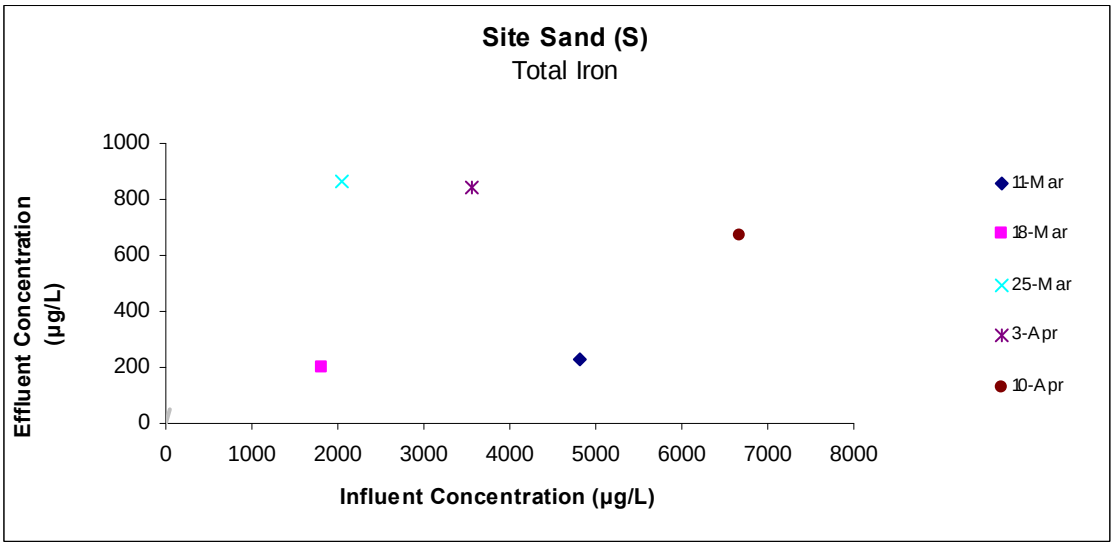
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	537.312	390.236	1.377	0.262	-704.592	1779.216	-704.592	1779.216
X Variable 1	0.006	0.093	0.067	0.951	-0.290	0.302	-0.290	0.302

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	567.173	-339.173
2	548.608	-350.608
3	550.024	312.976
4	559.396	284.604
5	578.799	92.201




Site Sand (S)
Total Iron
Concentration (µg/L)
8000
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Total Iron
Effluent Concentration (µg/L)
1000
800
600
400
200
0
0
1000
2000
3000
4000
5000
6000
7000
8000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Dissolved Fe

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.794
R Square	0.630
Adjusted R Square	0.506
Standard Error	9.045
Observations	5.000

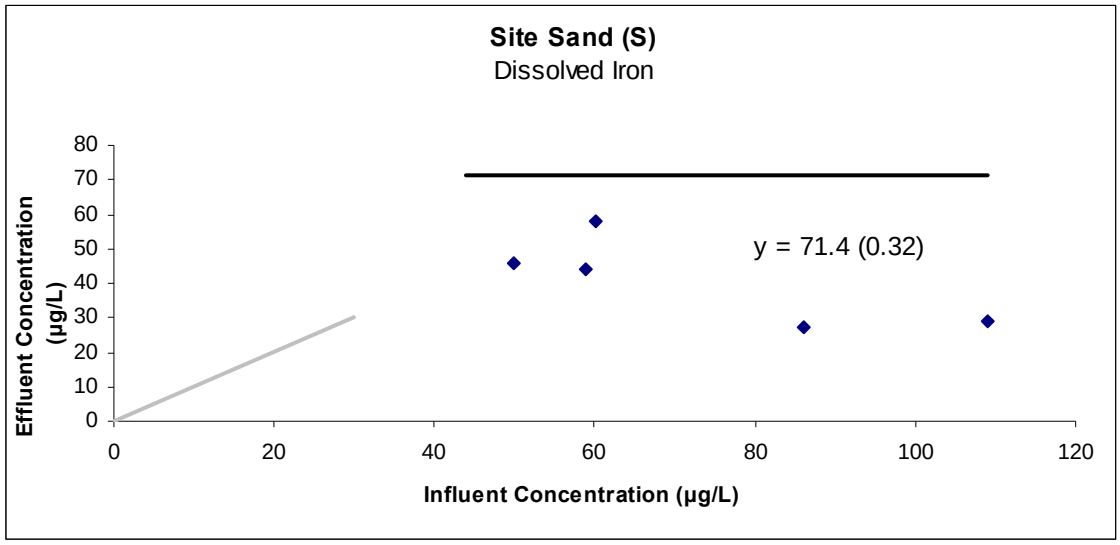
ANOVA

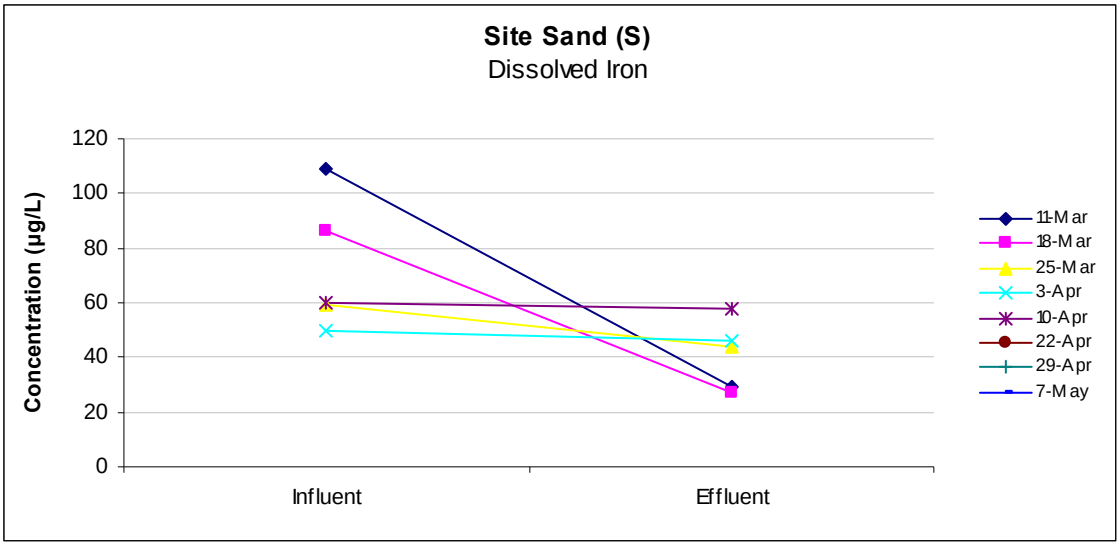
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	417.357	417.357	5.101	0.109
Residual	3.000	245.443	81.814		
Total	4.000	662.800			

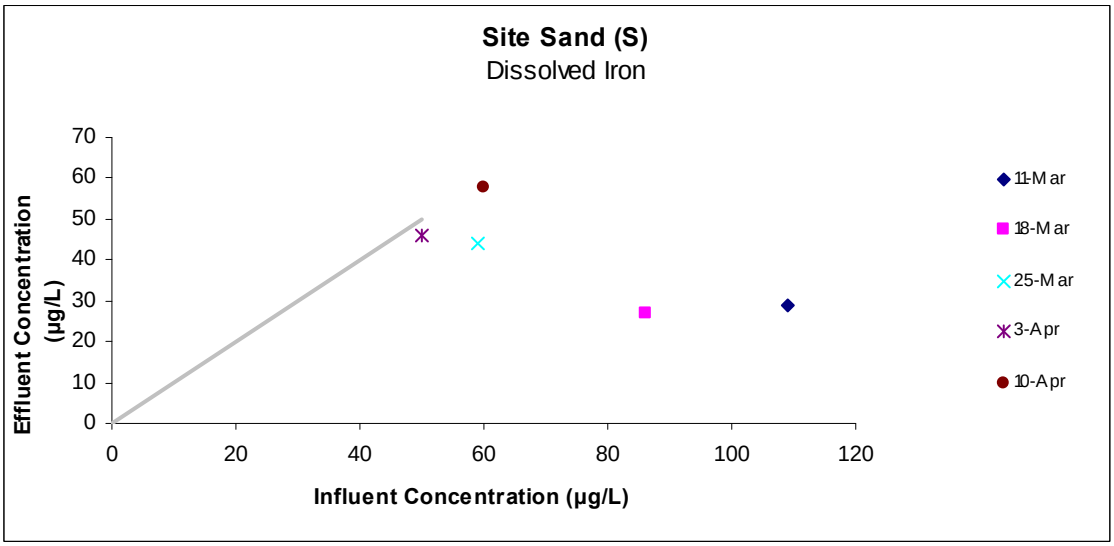
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	71.422	14.149	5.048	0.015	26.395	116.450	26.395	116.450
X Variable 1	-0.421	0.186	-2.259	0.109	-1.013	0.172	-1.013	0.172

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	25.573	3.427
2	35.248	-8.248
3	46.605	-2.605
4	50.391	-4.391
5	46.184	11.816




Site Sand (S)
Dissolved Iron
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Dissolved Iron
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Total Mg

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.308
R Square	0.095
Adjusted R Square	-0.207
Standard Error	1193.217
Observations	5.000

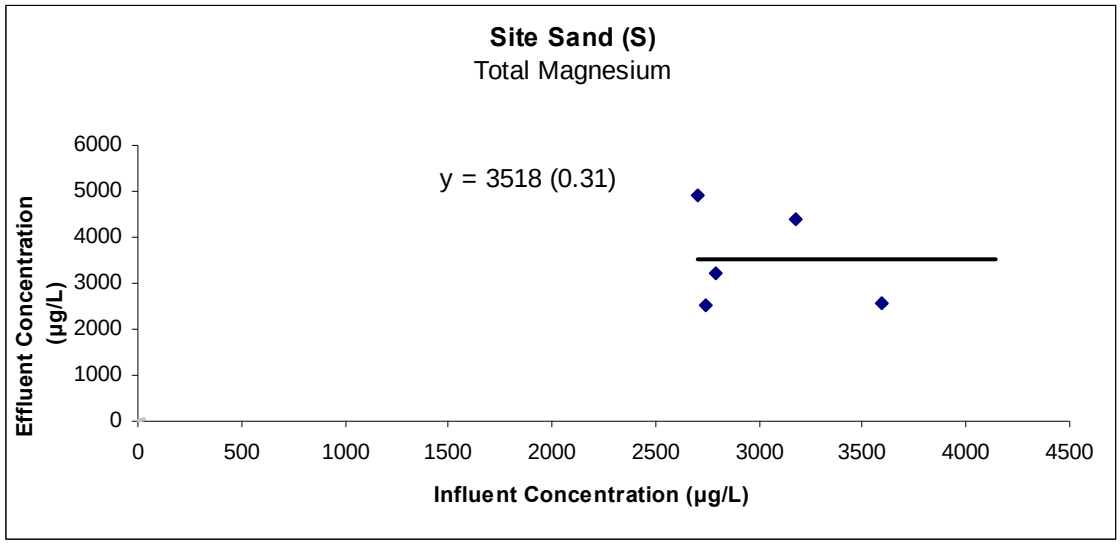
ANOVA

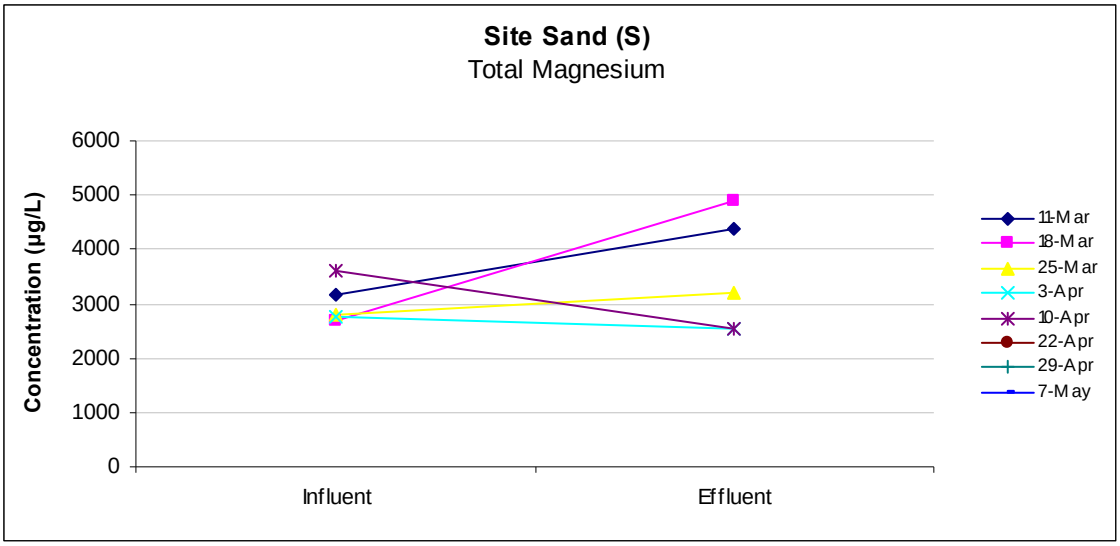
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	447293.476	447293.476	0.314	0.614
Residual	3.000	4271299.724	1423766.575		
Total	4.000	4718593.200			

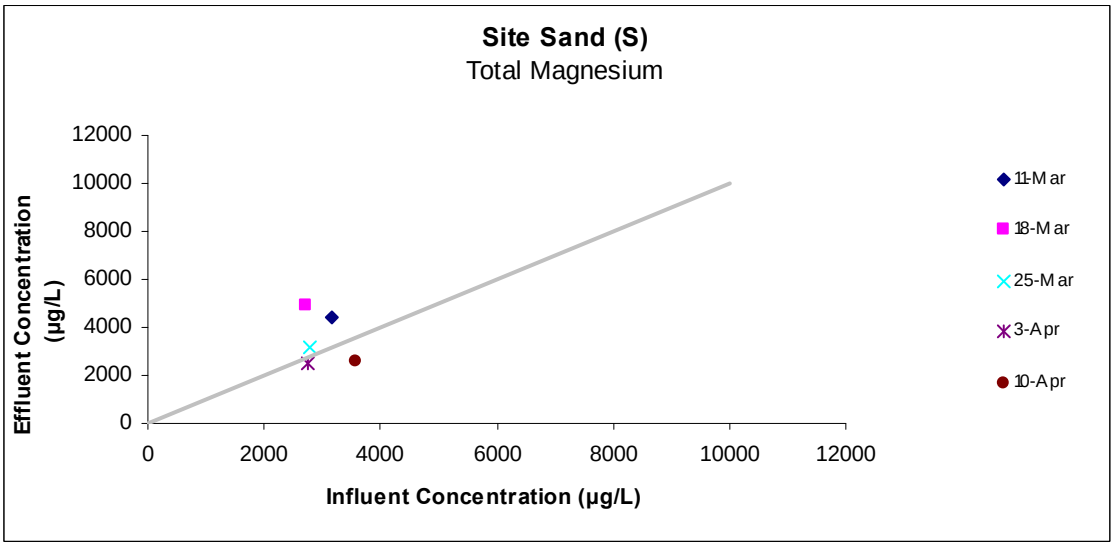
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	6160.517	4743.951	1.299	0.285	-8936.853	21257.887	-8936.853	21257.887
X Variable 1	-0.880	1.571	-0.561	0.614	-5.878	4.118	-5.878	4.118

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	3362.060	1031.940
2	3779.319	1134.681
3	3705.375	-508.375
4	3744.988	-1206.988
5	3000.258	-451.258




Site Sand (S)
Total Magnesium
Concentration (µg/L)
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Total Magnesium
Effluent Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Dissolved Mg

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.256
R Square	0.065
Adjusted R Square	-0.246
Standard Error	819.690
Observations	5.000

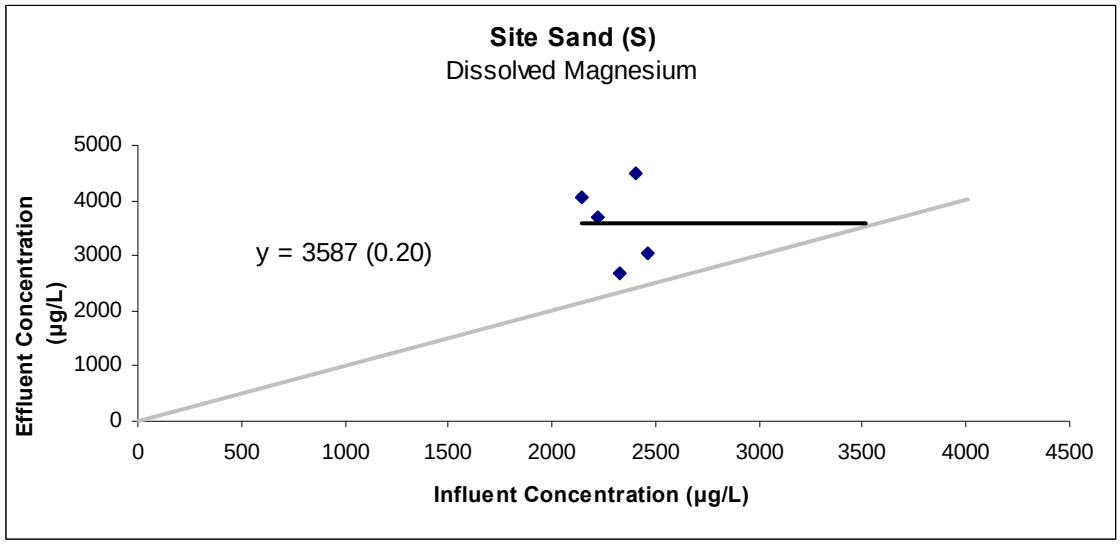
ANOVA

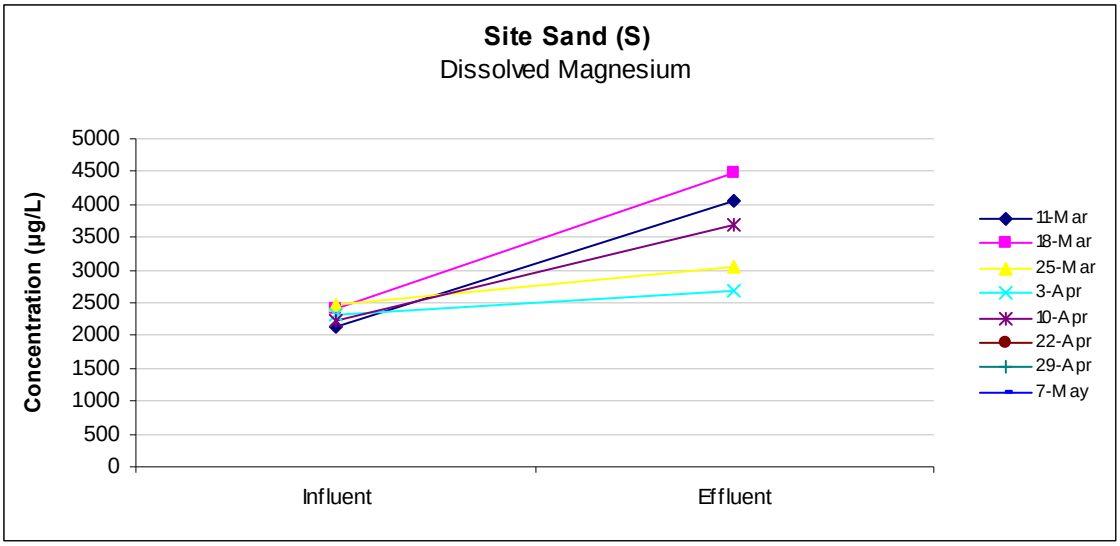
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	140909.036	140909.036	0.210	0.678
Residual	3.000	2015676.964	671892.321		
Total	4.000	2156586.000			

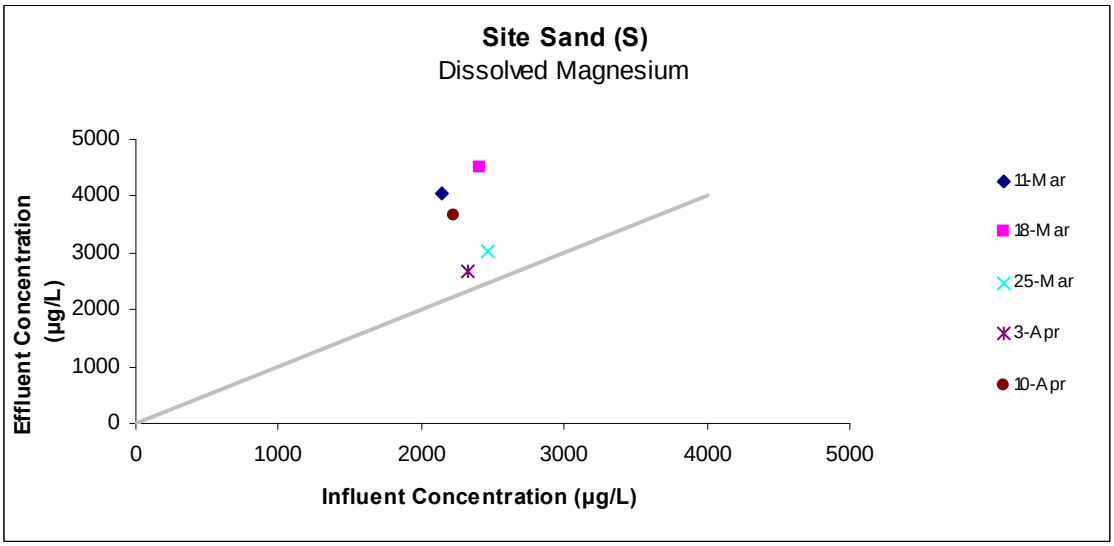
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	6914.989	7276.358	0.950	0.412	-16241.631	30071.608	-16241.631	30071.608
X Variable 1	-1.440	3.143	-0.458	0.678	-11.444	8.564	-11.444	8.564

RESIDUAL OUTPUT

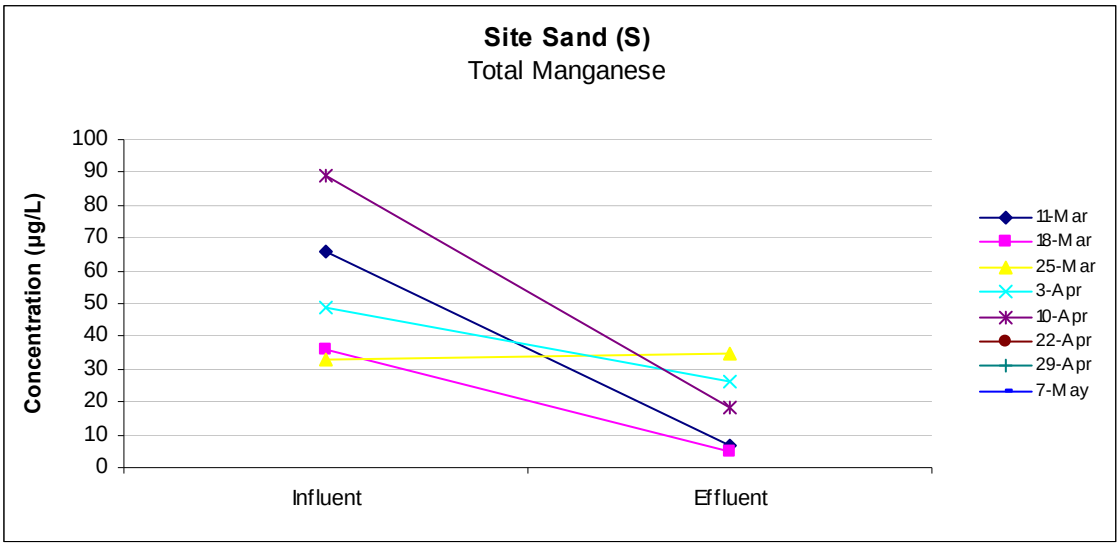
Observation	*Predicted Y*	*Residuals*
1	3828.559	216.441
2	3454.272	1035.728
3	3369.338	-325.338
4	3565.119	-888.119
5	3717.713	-38.713

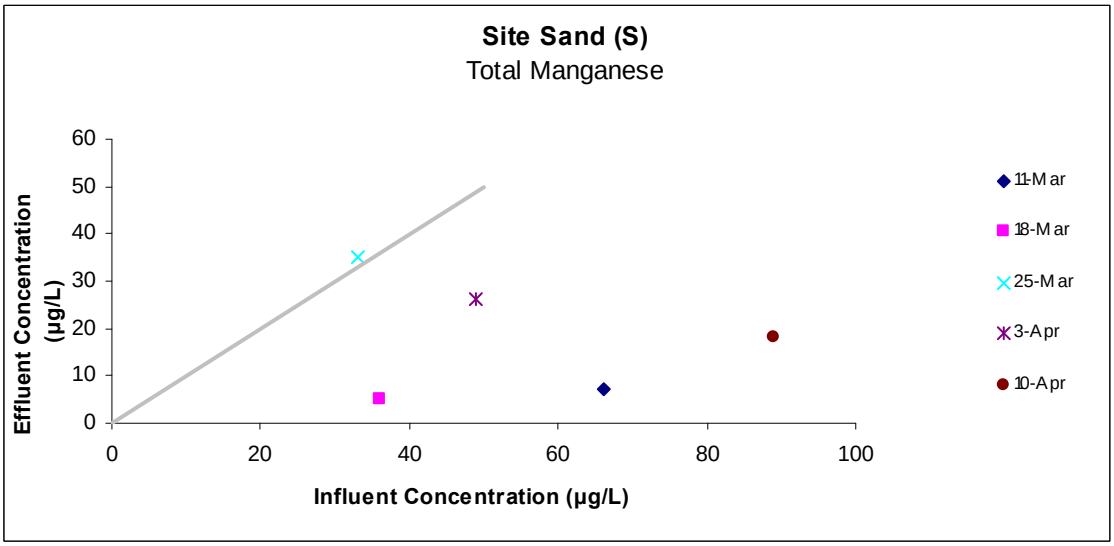



Site Sand (S)
Dissolved Magnesium
Concentration (µg/L)
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

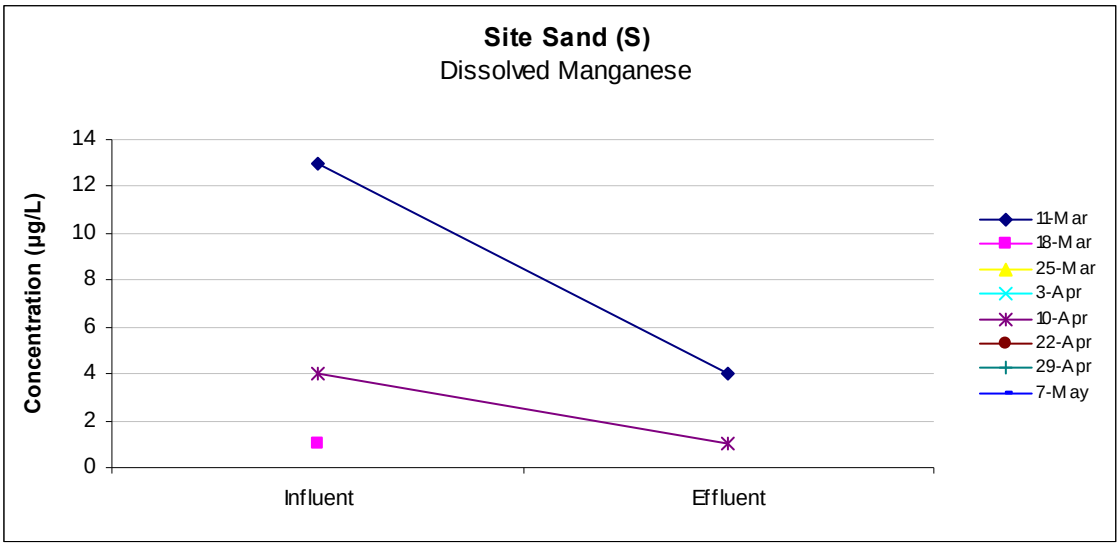

Site Sand (S)
Dissolved Magnesium
Effluent Concentration (µg/L)
5000
4000
3000
2000
1000
0
0
1000
2000
3000
4000
5000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

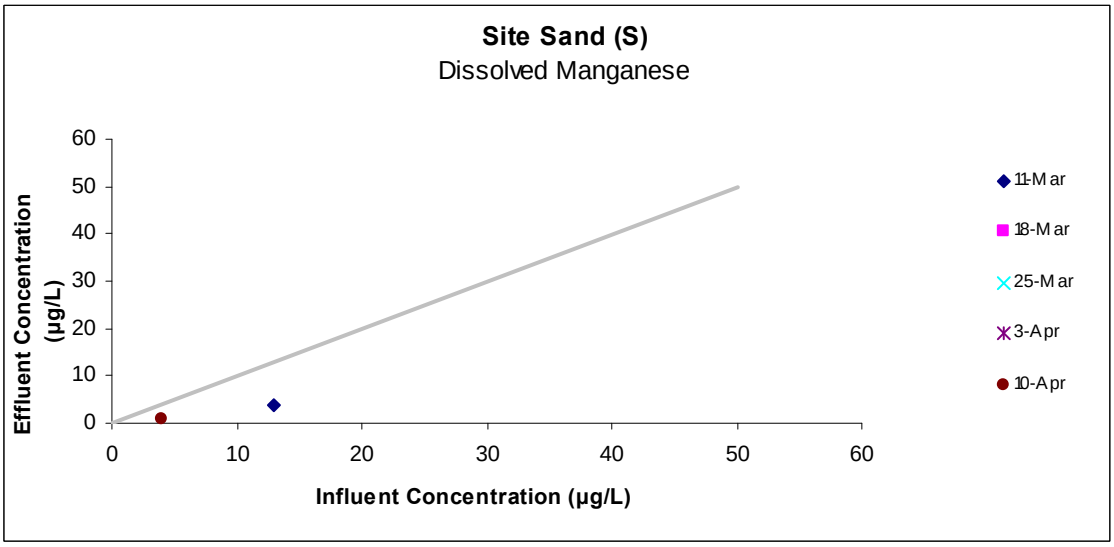
Total Mn


Site Sand (S)
Total Manganese
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

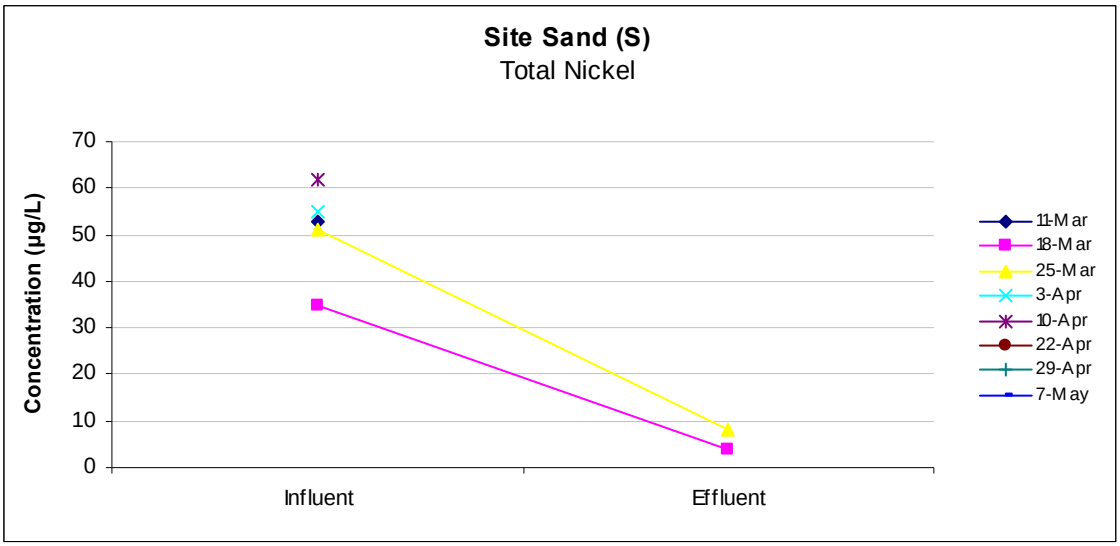

Site Sand (S)
Total Manganese
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

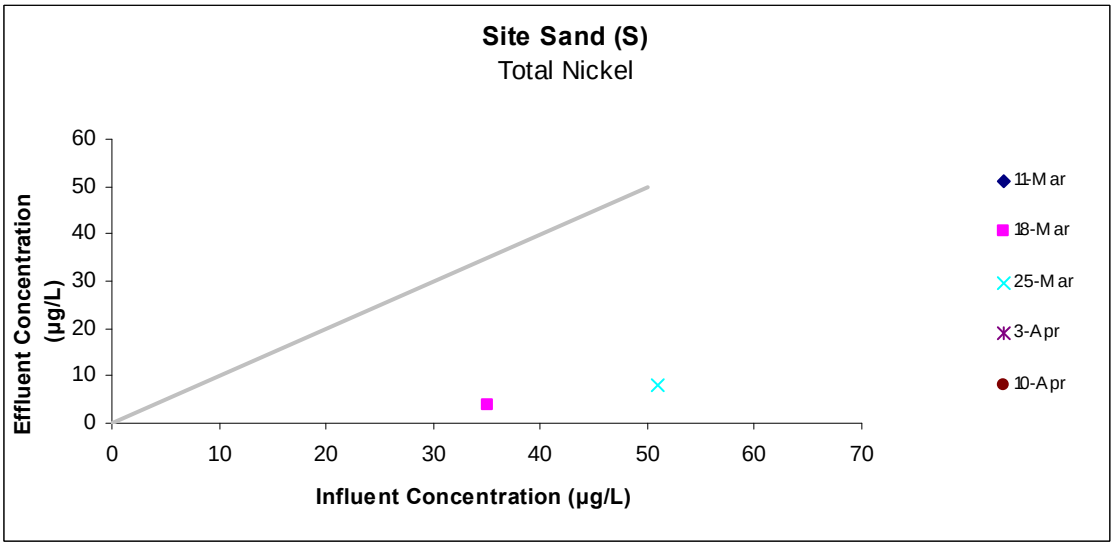
Dissolved Mn



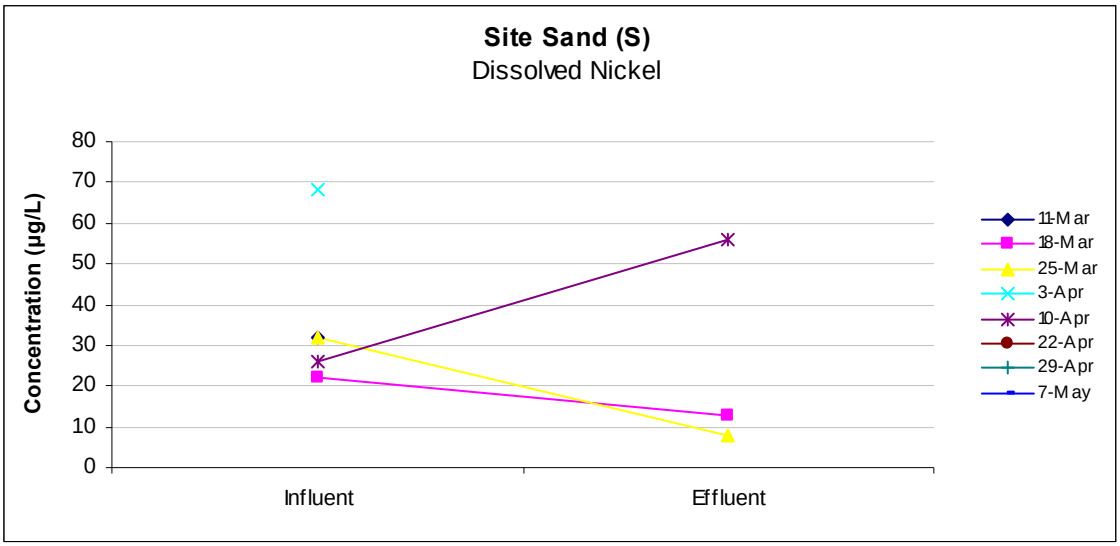


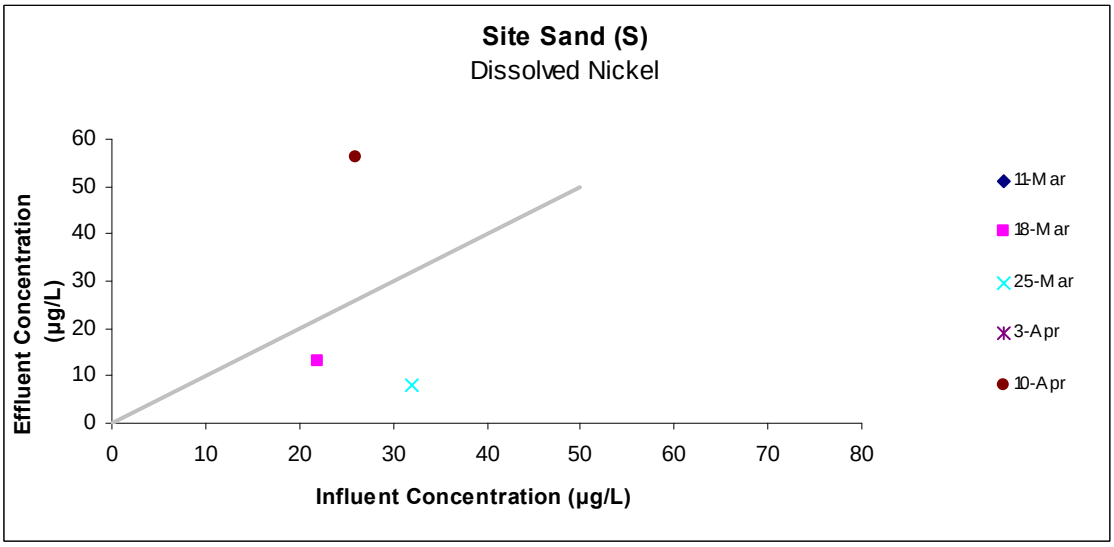
Total Ni


Site Sand (S)
Total Nickel
Concentration (µg/L)
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

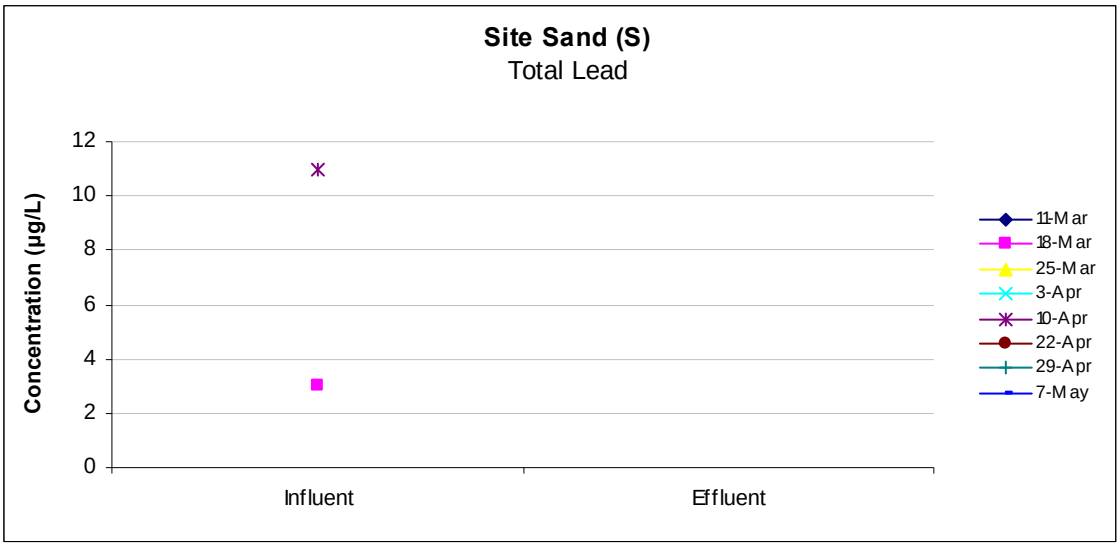

Site Sand (S)
Total Nickel
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
70
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

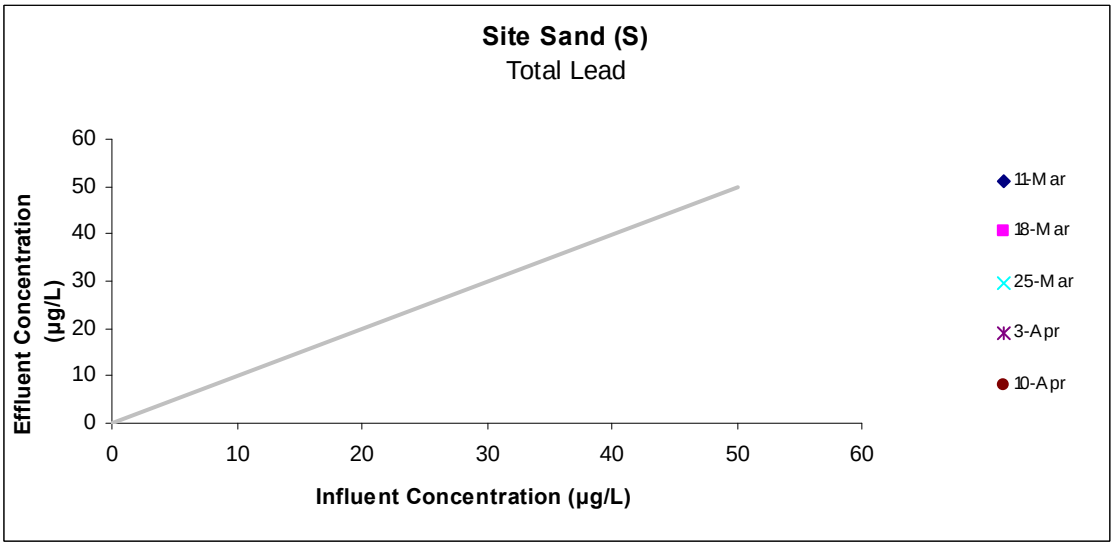
Dissolved Ni



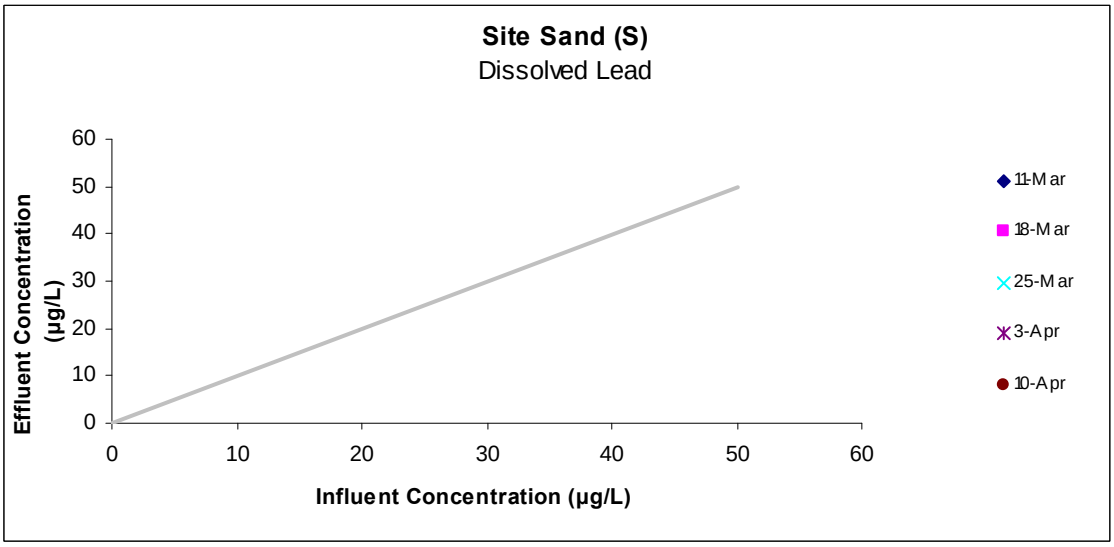


Total Pb


Site Sand (S)
Total Lead
Concentration (µg/L)
12
10
8
6
4
2
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Total Lead
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Dissolved Pb



Total Zn

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.185
R Square	0.034
Adjusted R Square	-0.288
Standard Error	6.568
Observations	5.000

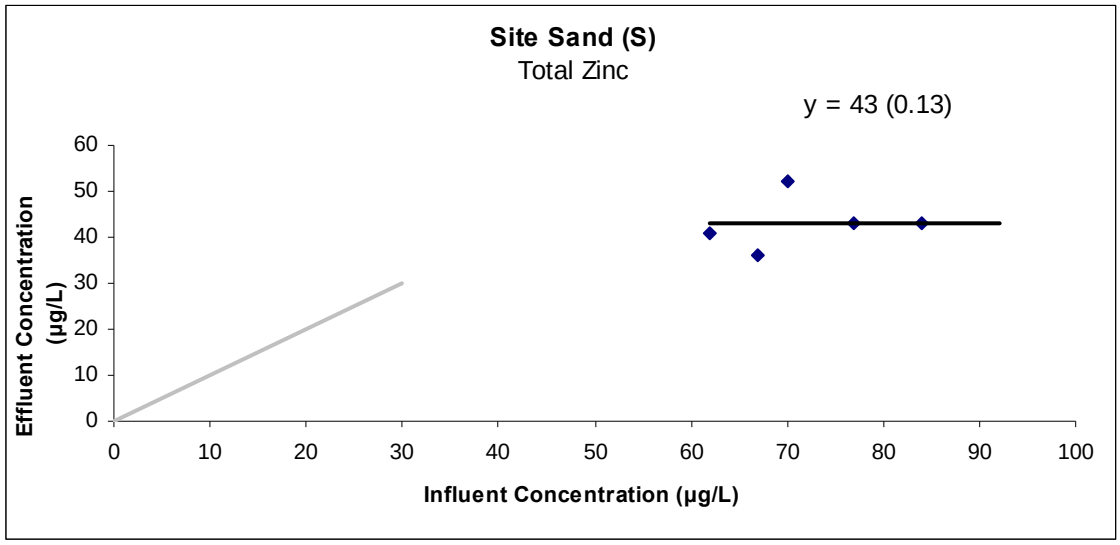
ANOVA

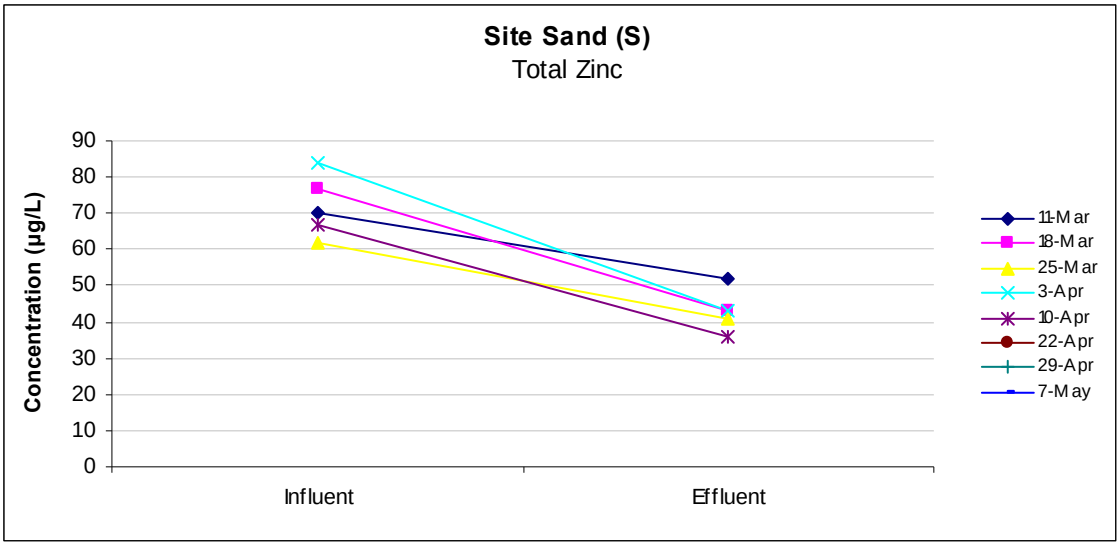
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	4.594	4.594	0.107	0.766
Residual	3.000	129.406	43.135		
Total	4.000	134.000			

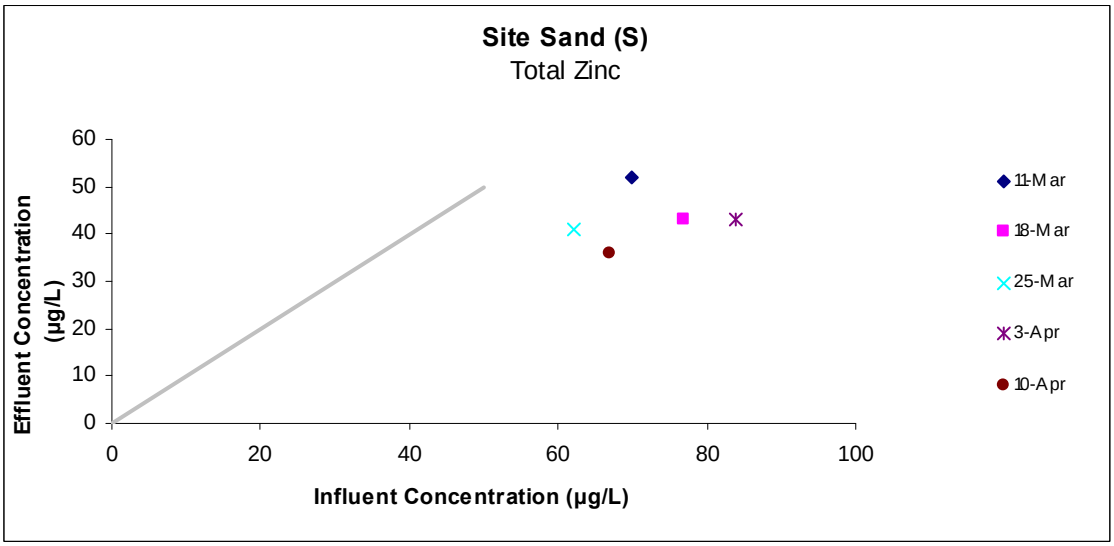
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	34.060	27.550	1.236	0.304	-53.616	121.737	-53.616	121.737
X Variable 1	0.124	0.380	0.326	0.766	-1.087	1.335	-1.087	1.335

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	42.752	9.248
2	43.621	-0.621
3	41.758	-0.758
4	44.490	-1.490
5	42.379	-6.379




Site Sand (S)
Total Zinc
Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Total Zinc
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Dissolved Zn

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.073
R Square	0.005
Adjusted R Square	-0.326
Standard Error	16.233
Observations	5.000

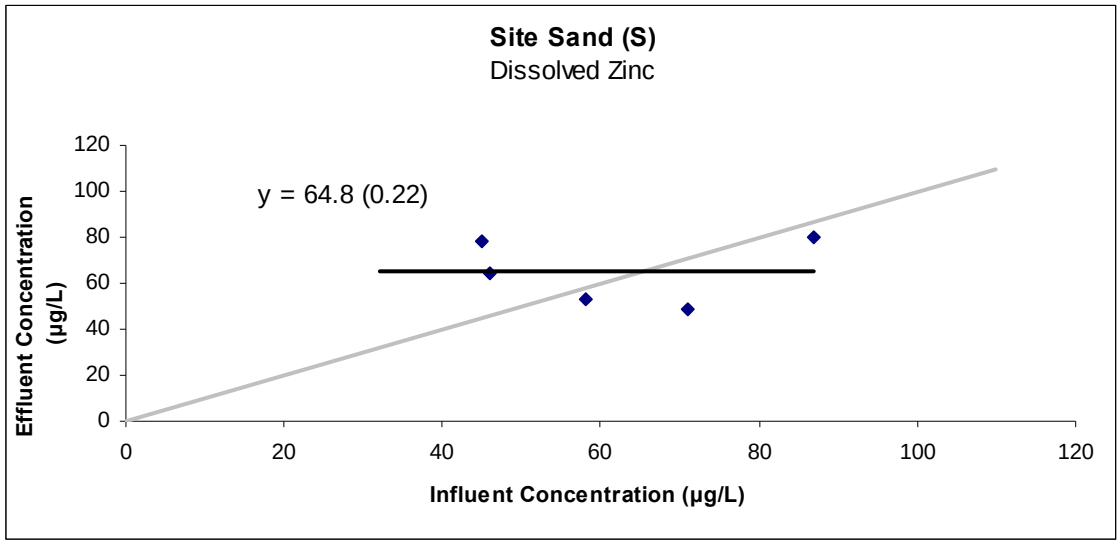
ANOVA

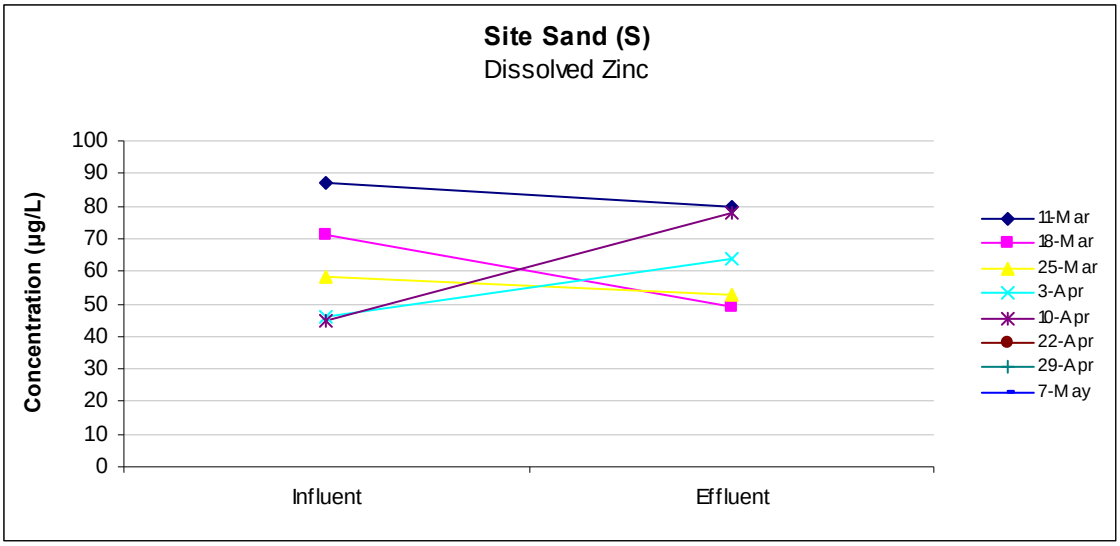
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	4.258	4.258	0.016	0.907
Residual	3.000	790.542	263.514		
Total	4.000	794.800			

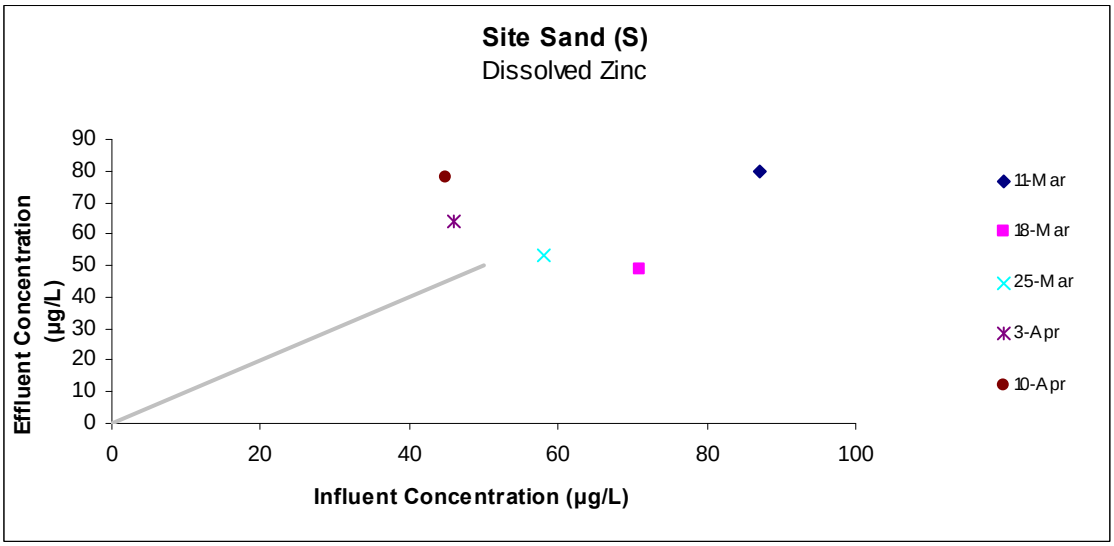
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	61.238	28.947	2.116	0.125	-30.883	153.359	-30.883	153.359
X Variable 1	0.058	0.456	0.127	0.907	-1.394	1.510	-1.394	1.510

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	66.285	13.715
2	65.357	-16.357
3	64.603	-11.603
4	63.907	0.093
5	63.849	14.151




Site Sand (S)
Dissolved Zinc
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Dissolved Zinc
Effluent Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Total K

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.653
R Square	0.426
Adjusted R Square	0.235
Standard Error	293.801
Observations	5.000

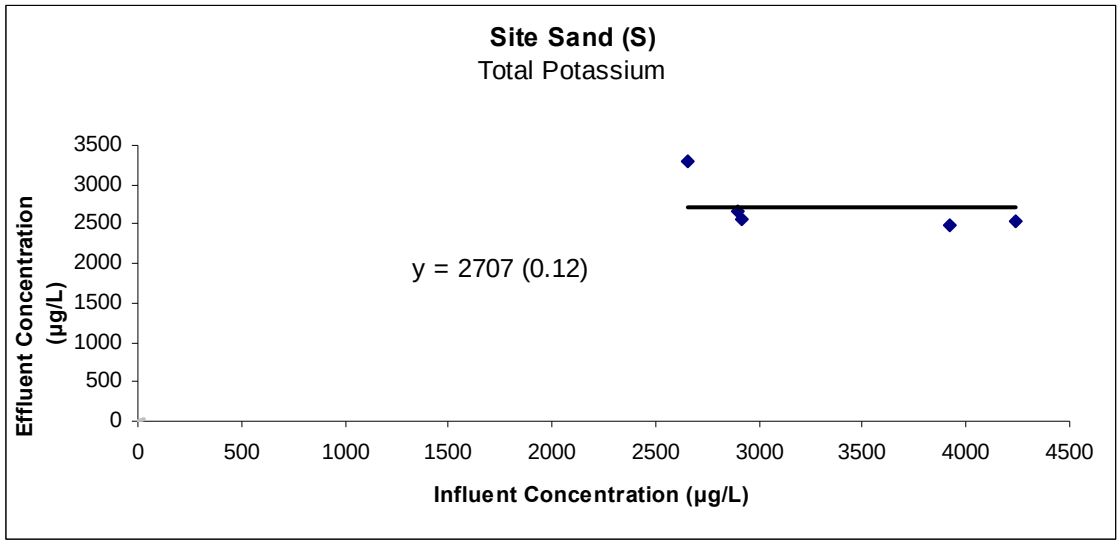
ANOVA

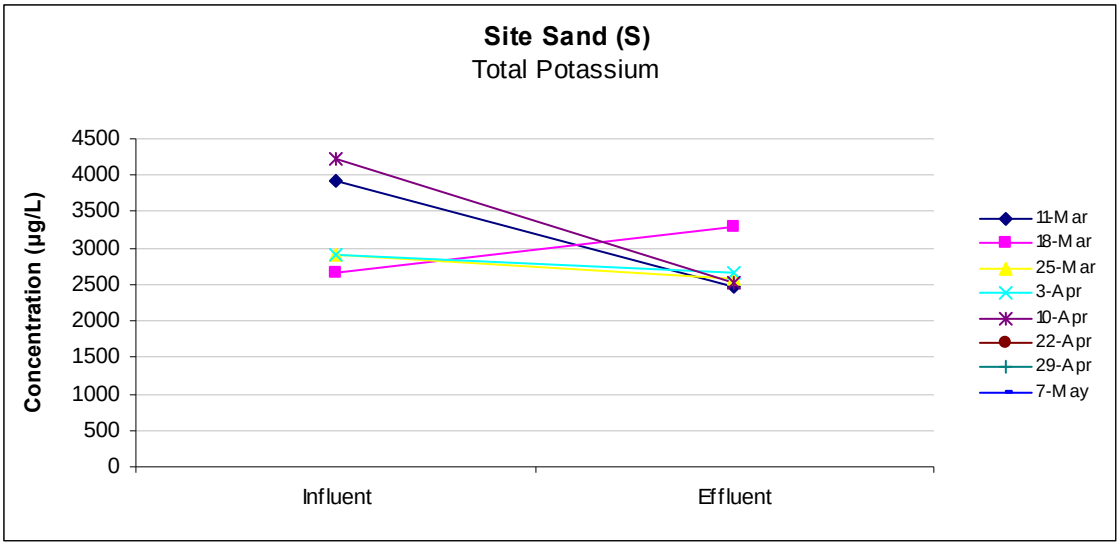
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	192303.932	192303.932	2.228	0.232
Residual	3.000	258957.268	86319.089		
Total	4.000	451261.200			

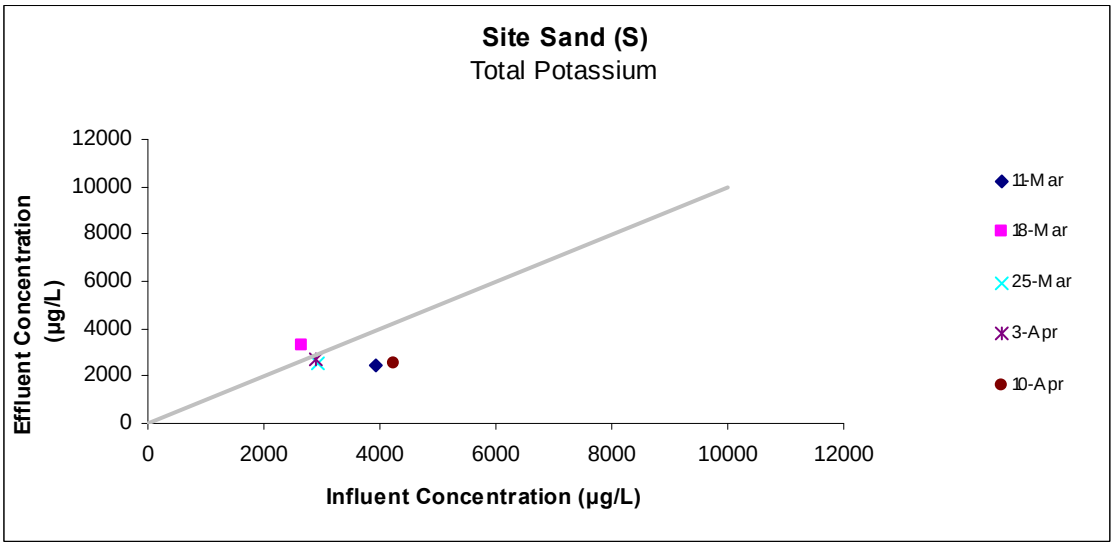
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3741.391	704.968	5.307	0.013	1497.868	5984.914	1497.868	5984.914
X Variable 1	-0.311	0.208	-1.493	0.232	-0.974	0.352	-0.974	0.352

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	2522.990	-46.990
2	2917.206	378.794
3	2834.819	-264.819
4	2839.482	-176.482
5	2423.503	109.497




Site Sand (S)
Total Potassium
Concentration (µg/L)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Total Potassium
Effluent Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Dissolved K

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.712
R Square	0.506
Adjusted R Square	0.342
Standard Error	585.920
Observations	5.000

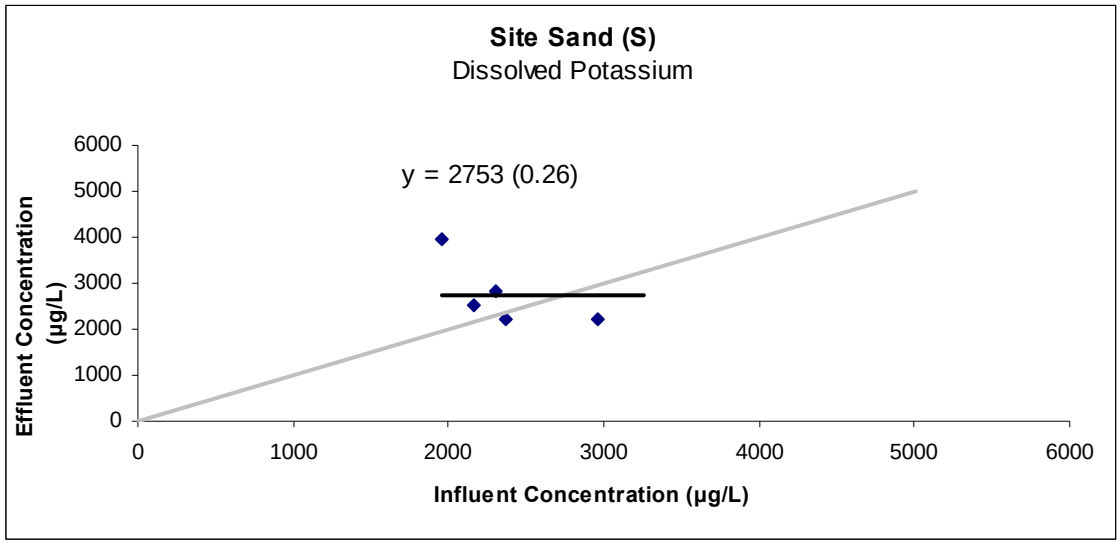
ANOVA

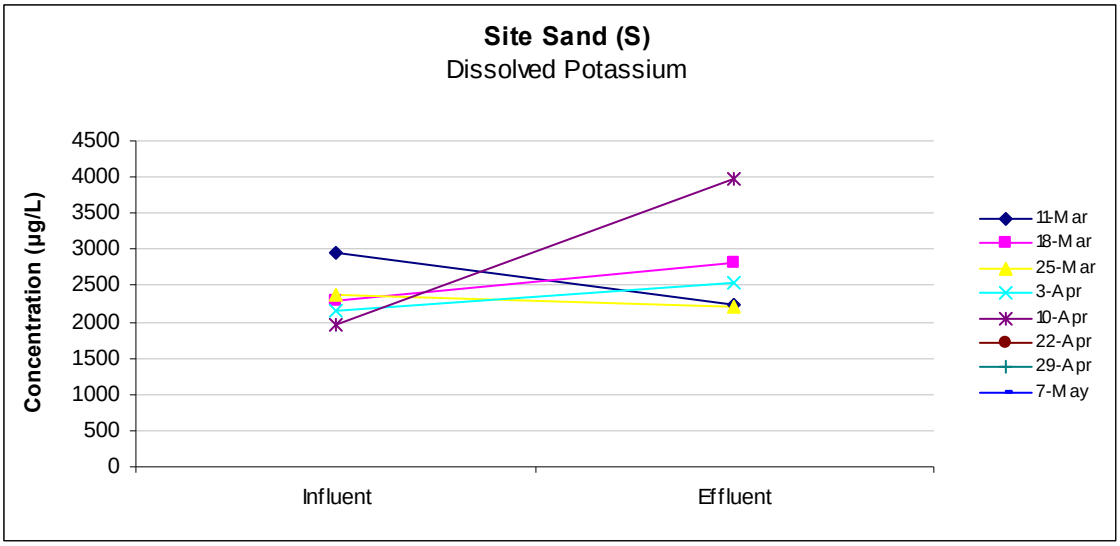
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	1055963.175	1055963.175	3.076	0.178
Residual	3.000	1029906.025	343302.008		
Total	4.000	2085869.200			

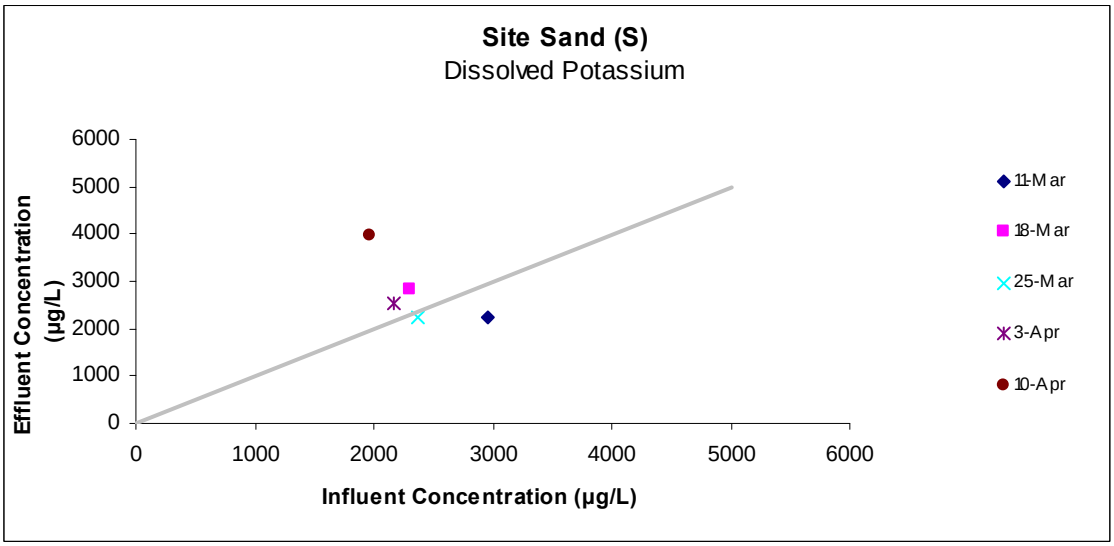
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	5988.725	1863.242	3.214	0.049	59.057	11918.393	59.057	11918.393
X Variable 1	-1.377	0.785	-1.754	0.178	-3.875	1.121	-3.875	1.121

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	1919.099	303.901
2	2816.730	-1.730
3	2728.619	-506.619
4	3012.226	-472.226
5	3290.326	676.674




Site Sand (S)
Dissolved Potassium
Concentration (µg/L)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Dissolved Potassium
Effluent Concentration (µg/L)
6000
5000
4000
3000
2000
1000
0
0
1000
2000
3000
4000
5000
6000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Total Na

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.129
R Square	0.017
Adjusted R Square	-0.311
Standard Error	552.523
Observations	5.000

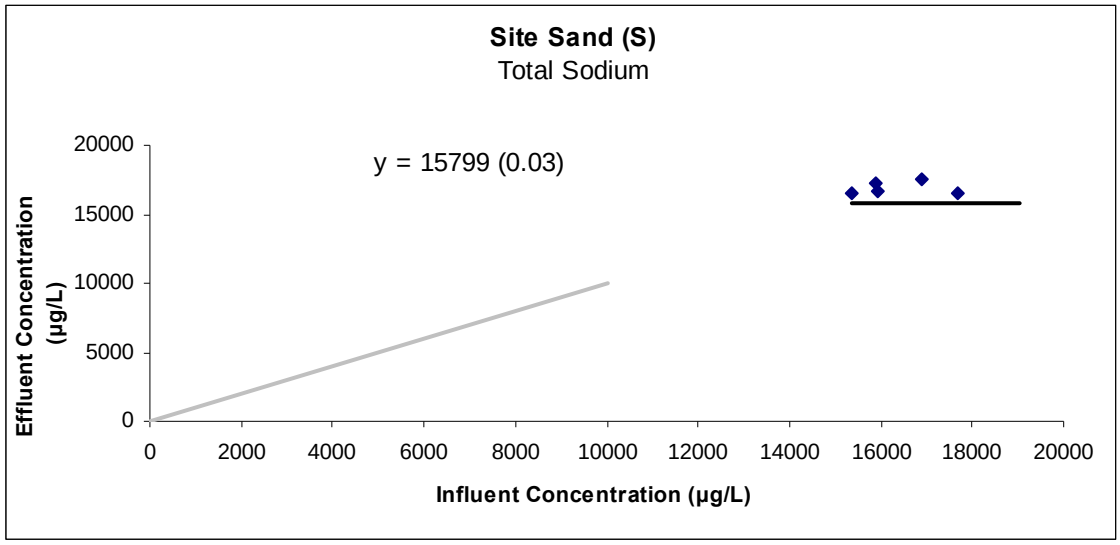
ANOVA

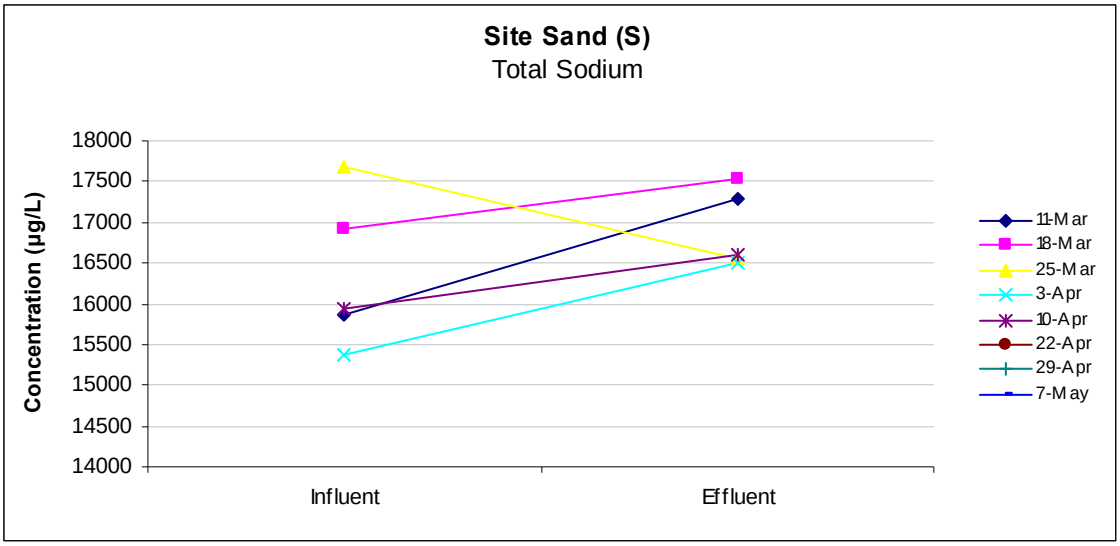
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	15542.022	15542.022	0.051	0.836
Residual	3.000	915844.778	305281.593		
Total	4.000	931386.800			

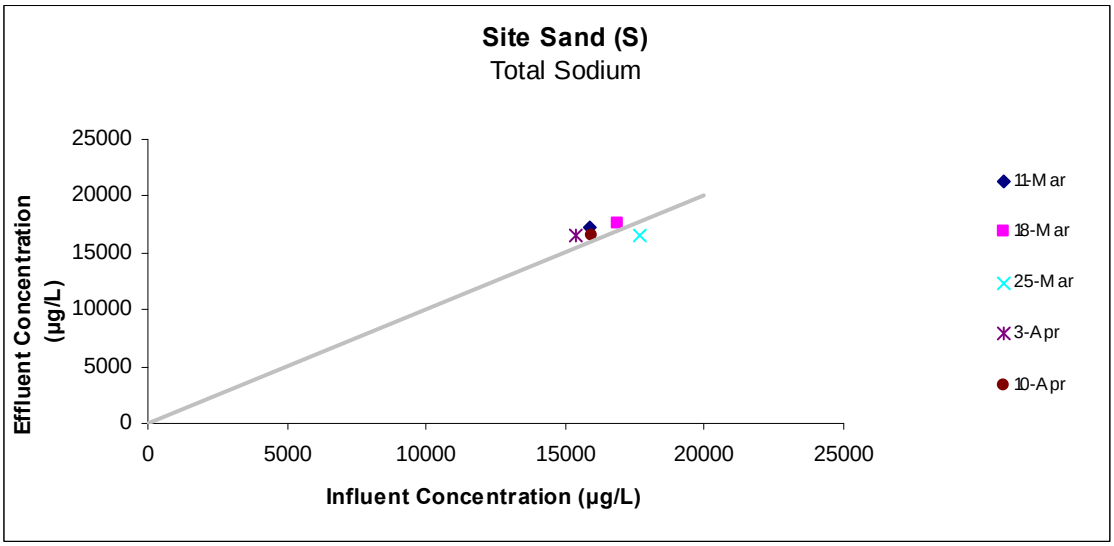
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	15798.848	4867.932	3.245	0.048	306.915	31290.780	306.915	31290.780
X Variable 1	0.067	0.297	0.226	0.836	-0.879	1.013	-0.879	1.013

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	16863.753	435.247
2	16932.971	598.029
3	16984.952	-427.952
4	16829.412	-337.412
5	16867.911	-267.911




Site Sand (S)
Total Sodium
Concentration (µg/L)
18000
17500
17000
16500
16000
15500
15000
14500
14000
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Total Sodium
Effluent Concentration (µg/L)
25000
20000
15000
10000
5000
0
0
5000
10000
15000
20000
25000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Dissolved Na

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.282
R Square	0.079
Adjusted R Square	-0.228
Standard Error	6799.700
Observations	5.000

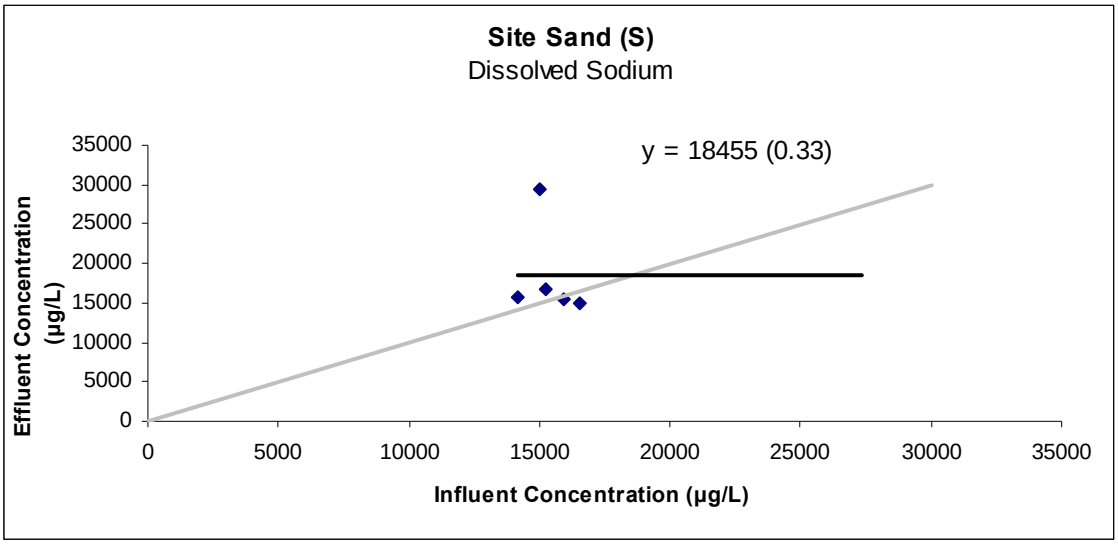
ANOVA

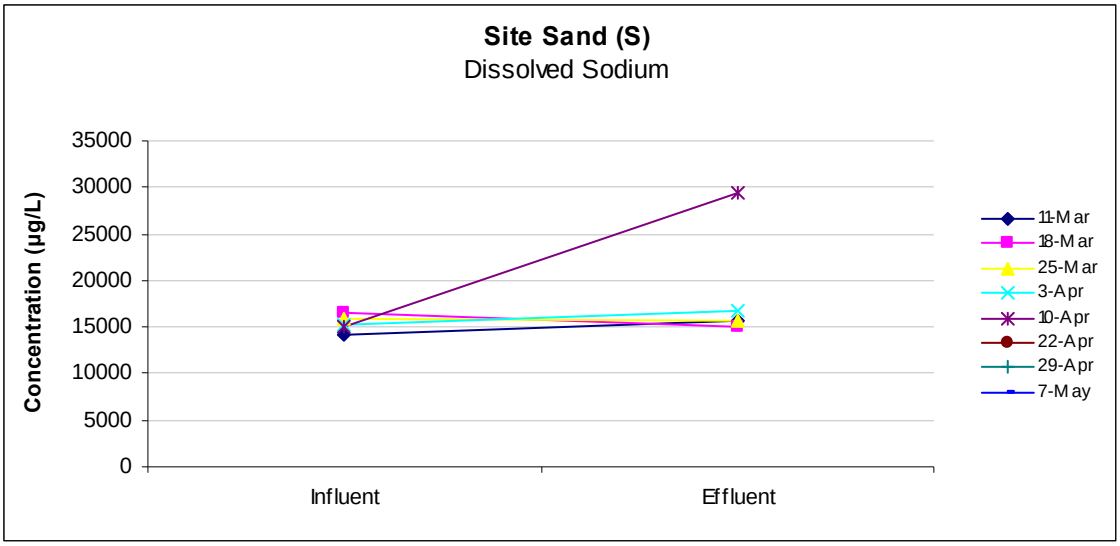
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	11953666.854	11953666.854	0.259	0.646
Residual	3.000	138707771.146	46235923.715		
Total	4.000	150661438.000			

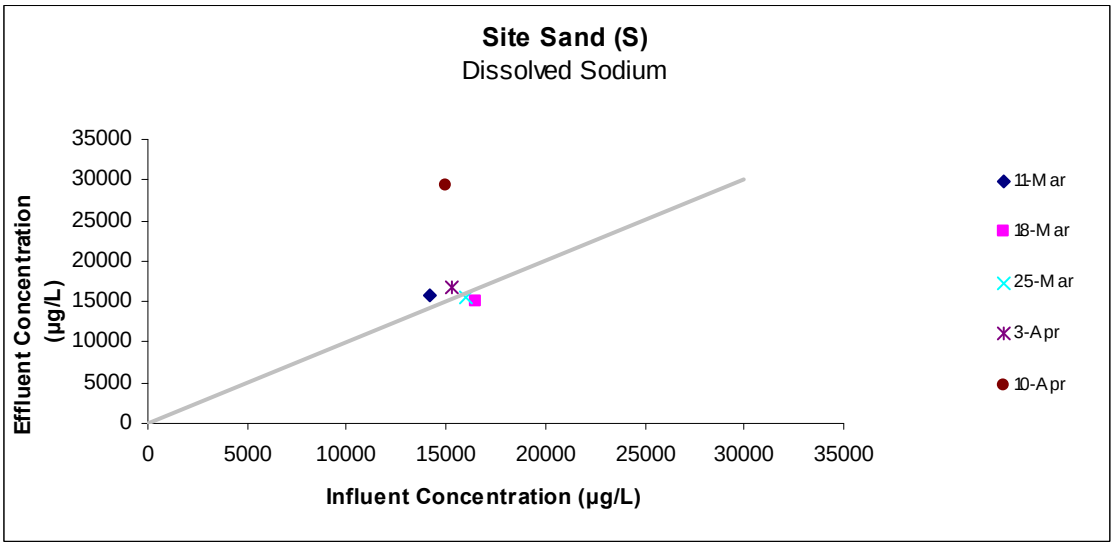
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	47862.768	57916.288	0.826	0.469	-136452.709	232178.245	-136452.709	232178.245
X Variable 1	-1.911	3.759	-0.508	0.646	-13.875	10.052	-13.875	10.052

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	20776.213	-5113.213
2	16265.292	-1335.292
3	17366.262	-1783.262
4	18681.311	-1955.311
5	19185.922	10187.078




Site Sand (S)
Dissolved Sodium
Concentration (µg/L)
35000
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Dissolved Sodium
Effluent Concentration (µg/L)
35000
30000
25000
20000
15000
10000
5000
0
0
5000
10000
15000
20000
25000
30000
35000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Total Cr

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.540
R Square	0.292
Adjusted R Square	0.056
Standard Error	7.316
Observations	5.000

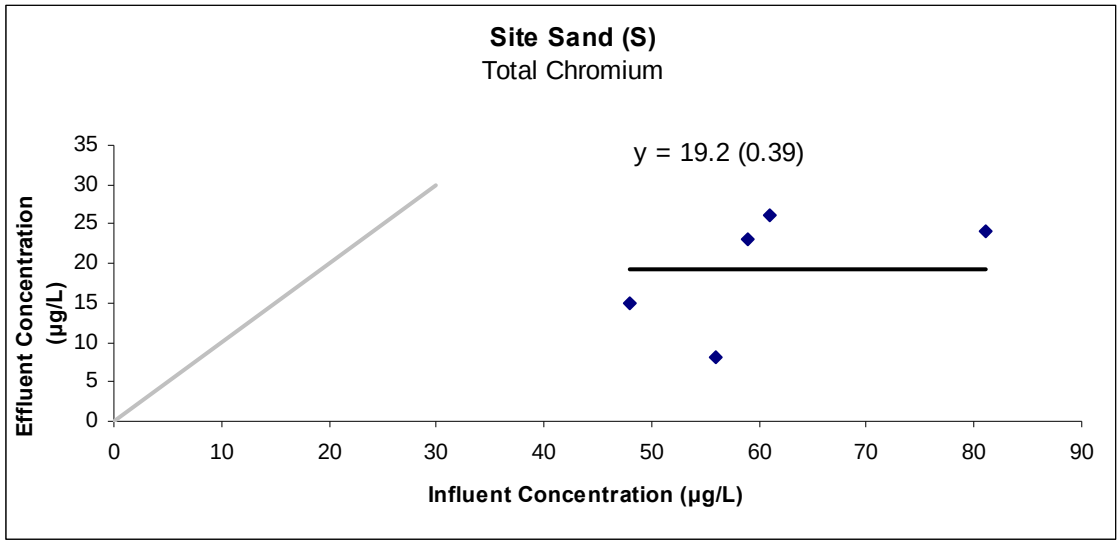
ANOVA

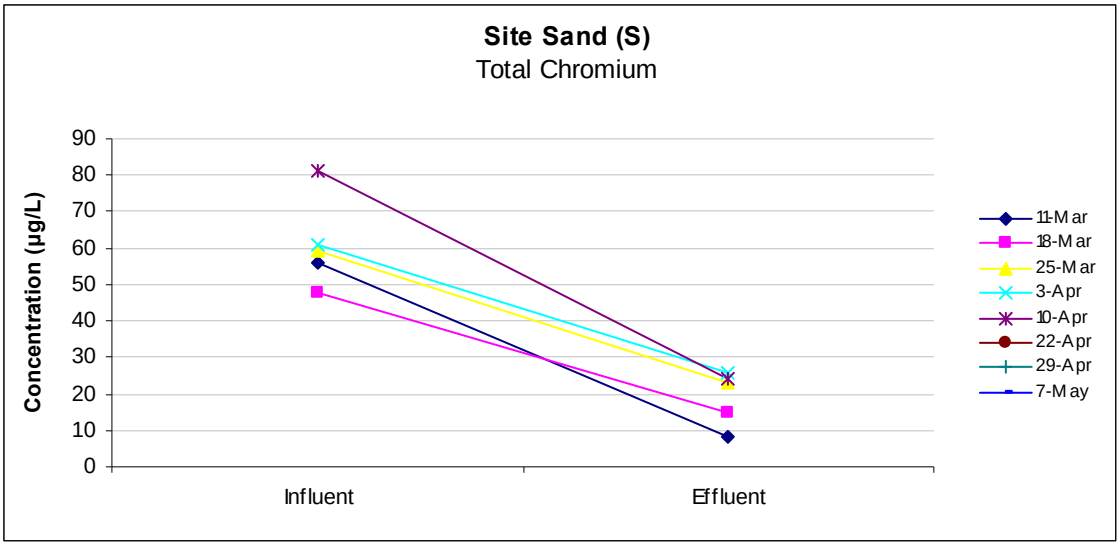
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	66.222	66.222	1.237	0.347
Residual	3.000	160.578	53.526		
Total	4.000	226.800			

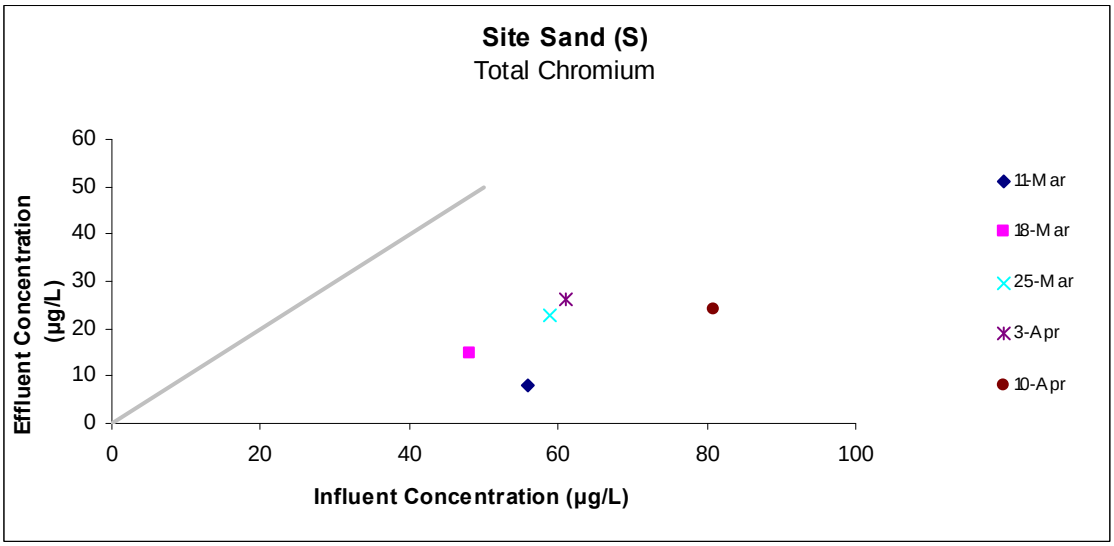
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-1.099	18.541	-0.059	0.956	-60.105	57.906	-60.105	57.906
X Variable 1	0.333	0.299	1.112	0.347	-0.619	1.285	-0.619	1.285

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	17.536	-9.536
2	14.874	0.126
3	18.534	4.466
4	19.200	6.800
5	25.856	-1.856




Site Sand (S)
Total Chromium
Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Total Chromium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Dissolved Cr

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.320
R Square	0.102
Adjusted R Square	-0.197
Standard Error	6.700
Observations	5.000

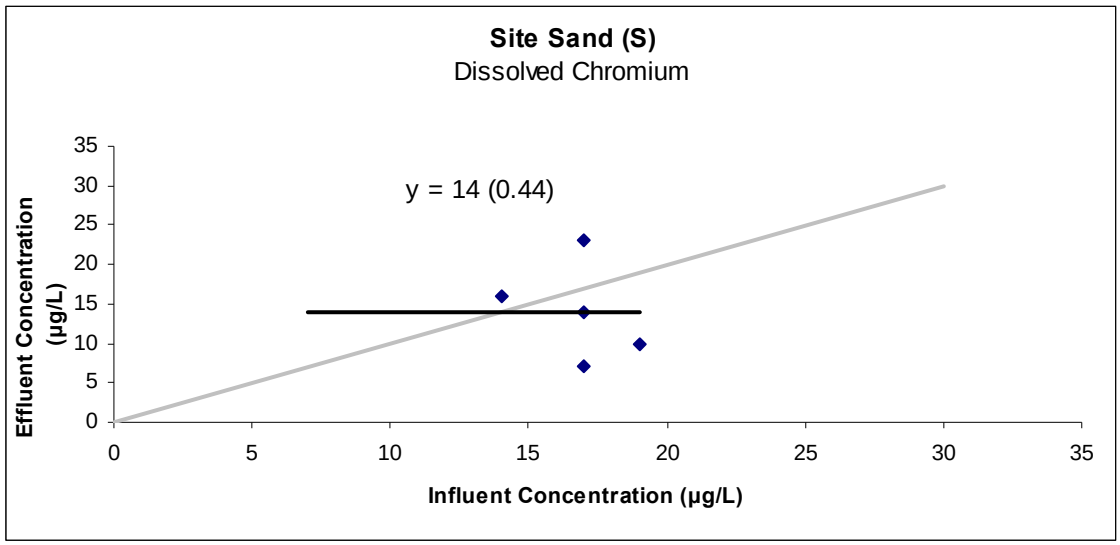
ANOVA

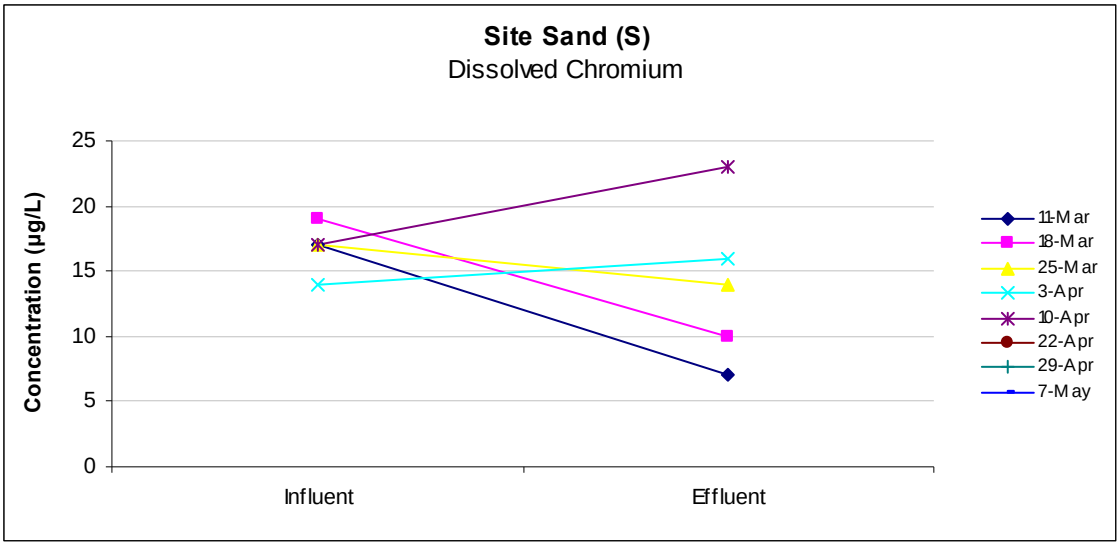
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	15.313	15.313	0.341	0.600
Residual	3.000	134.688	44.896		
Total	4.000	150.000			

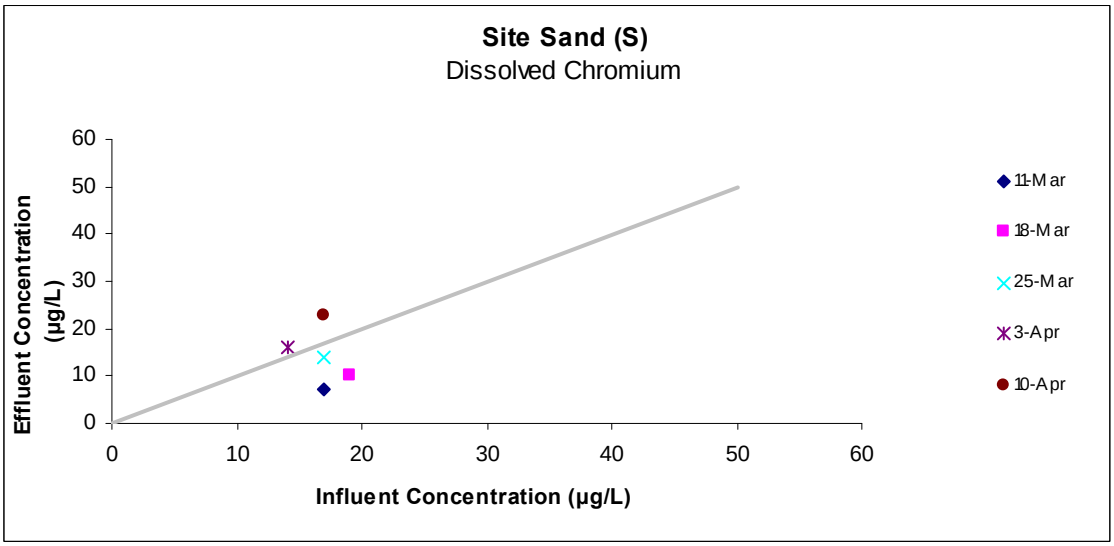
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	32.375	31.606	1.024	0.381	-68.209	132.959	-68.209	132.959
X Variable 1	-1.094	1.873	-0.584	0.600	-7.054	4.866	-7.054	4.866

RESIDUAL OUTPUT

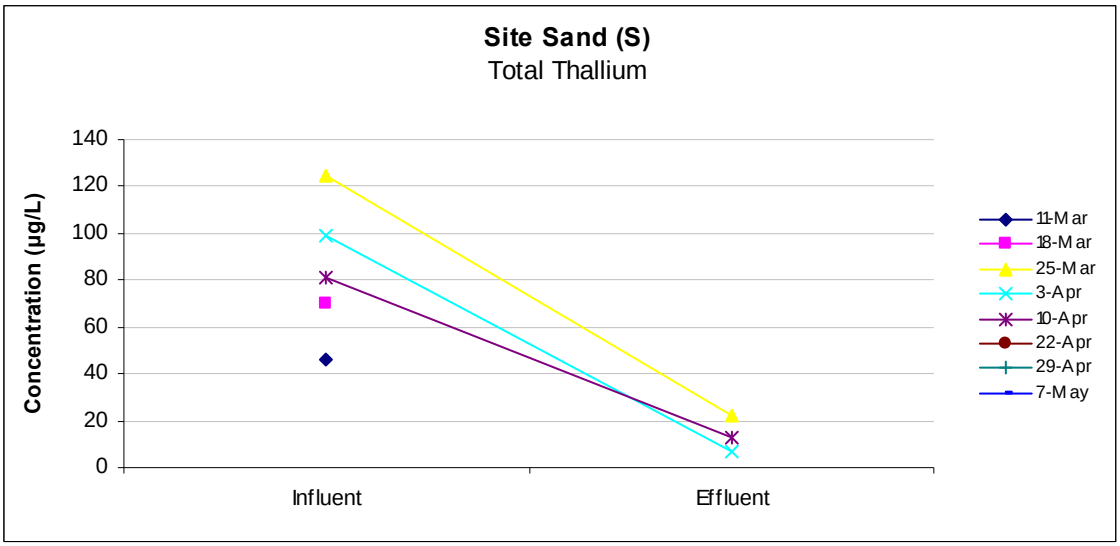
Observation	*Predicted Y*	*Residuals*
1	13.781	-6.781
2	11.594	-1.594
3	13.781	0.219
4	17.063	-1.063

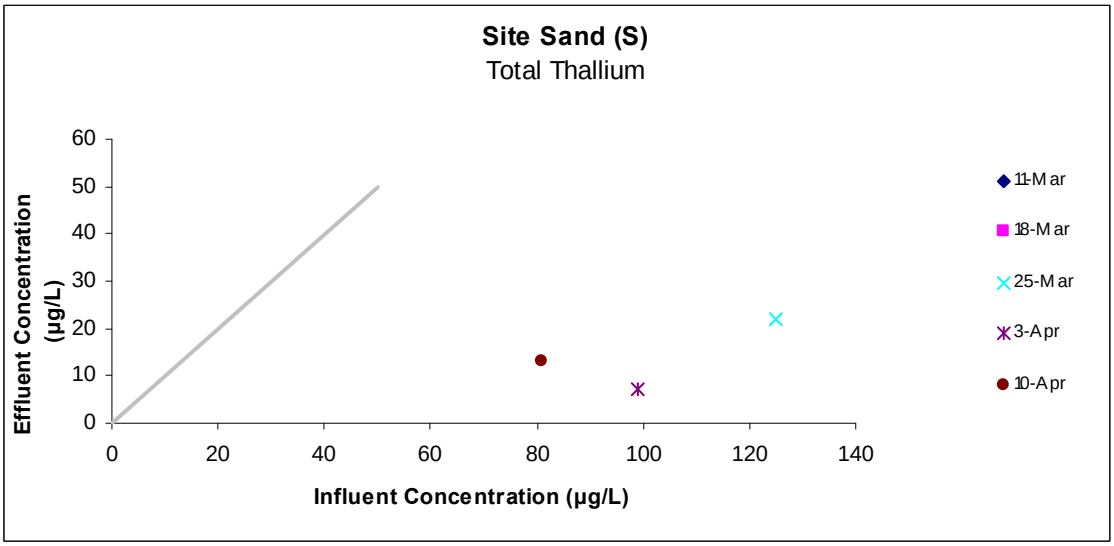



Site Sand (S)
Dissolved Chromium
Concentration (µg/L)
25
20
15
10
5
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

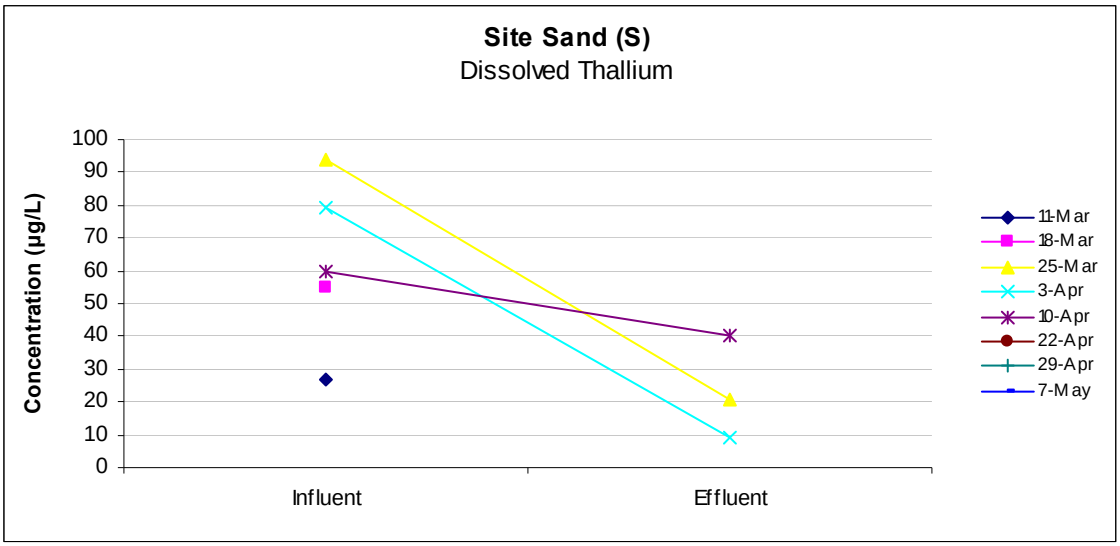

Site Sand (S)
Dissolved Chromium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

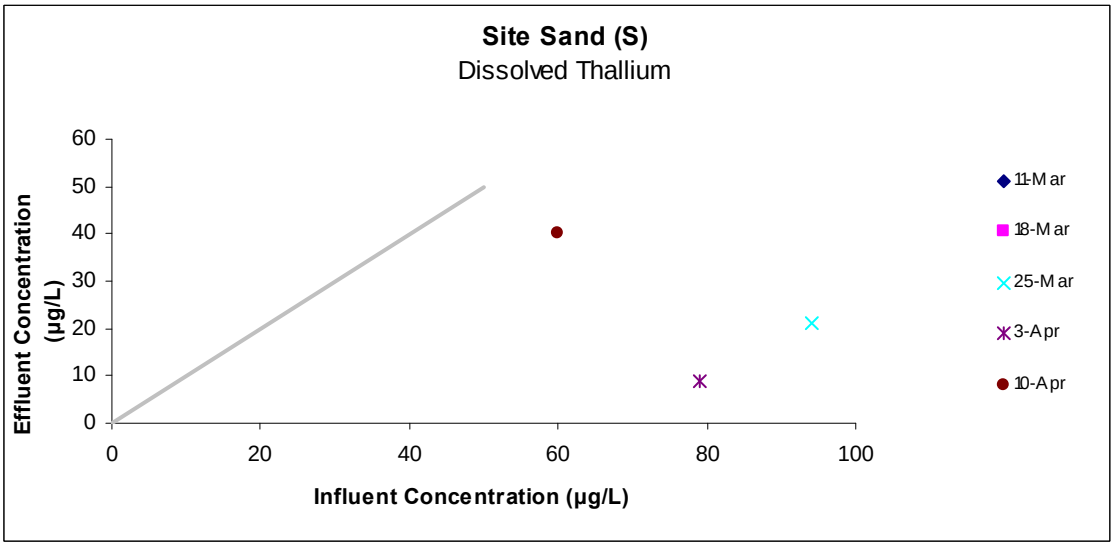
Total Tl


Site Sand (S)
Total Thallium
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Total Thallium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
140
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Dissolved Tl





Total Sb

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.595
R Square	0.354
Adjusted R Square	0.031
Standard Error	22.298
Observations	4.000

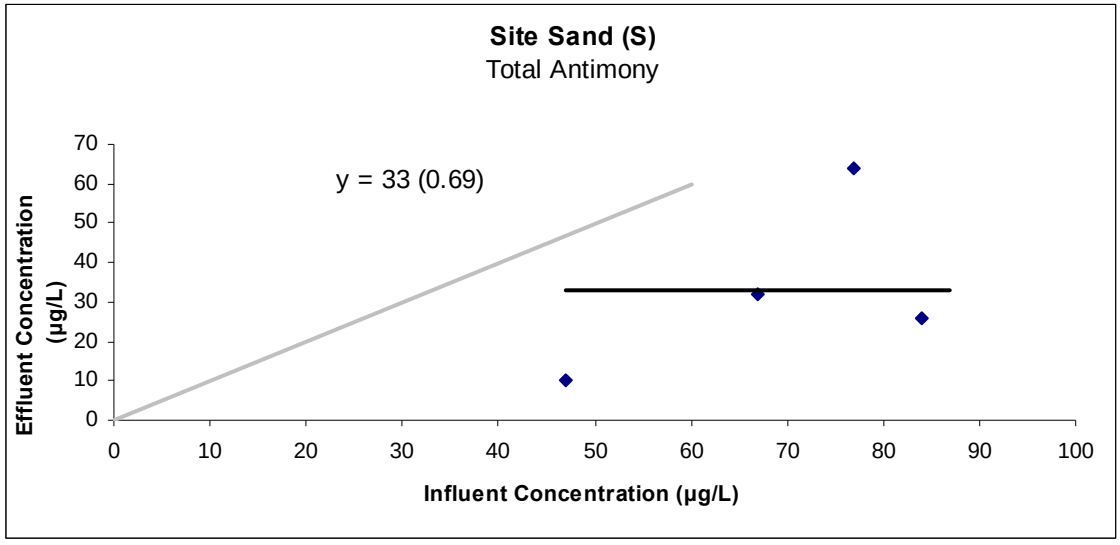
ANOVA

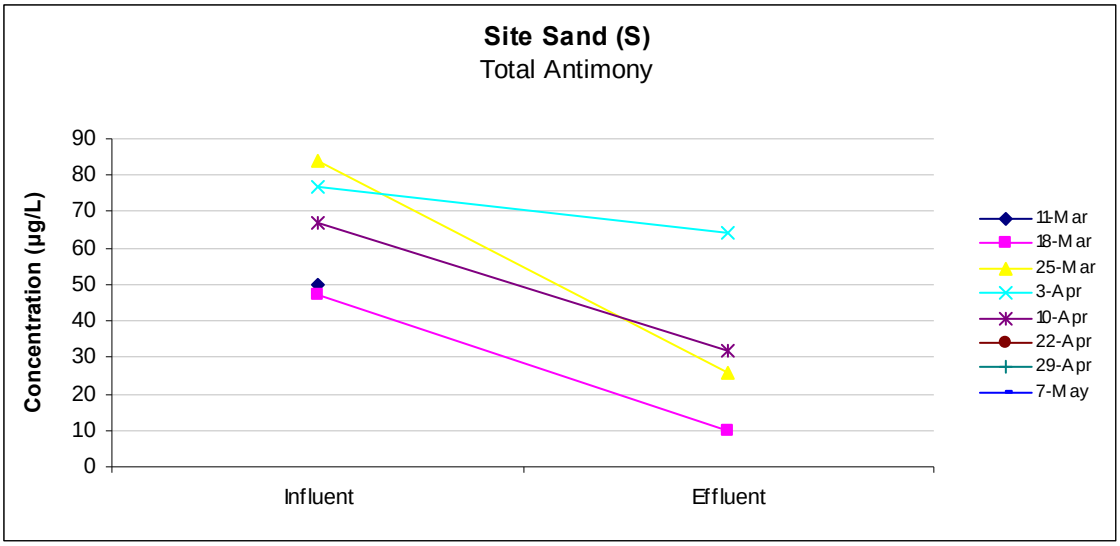
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	545.608	545.608	1.097	0.405
Residual	2.000	994.392	497.196		
Total	3.000	1540.000			

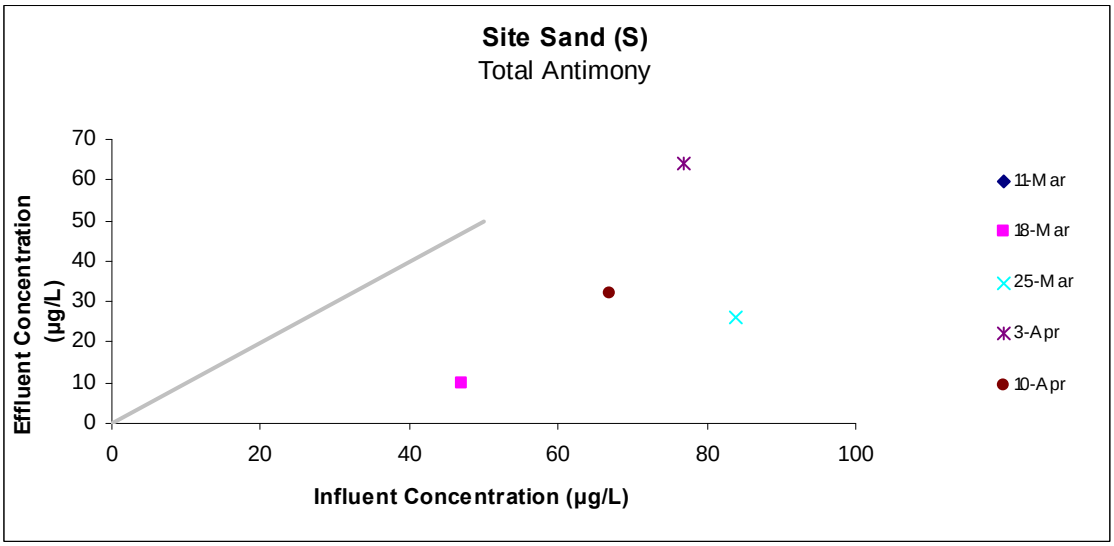
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-24.620	56.123	-0.439	0.704	-266.097	216.857	-266.097	216.857
X Variable 1	0.838	0.800	1.048	0.405	-2.604	4.280	-2.604	4.280

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	14.771	-4.771
2	45.781	-19.781
3	39.914	24.086
4	31.533	0.467




Site Sand (S)
Total Antimony
Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Total Antimony
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Dissolved Sb

MWH Sand

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.360
R Square	0.129
Adjusted R Square	-0.306
Standard Error	27.402
Observations	4.000

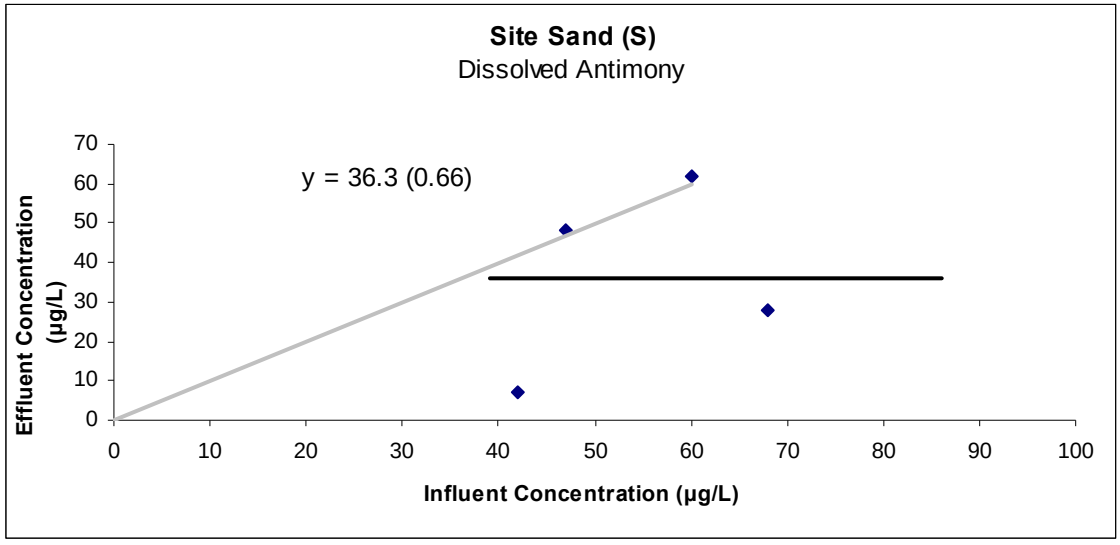
ANOVA

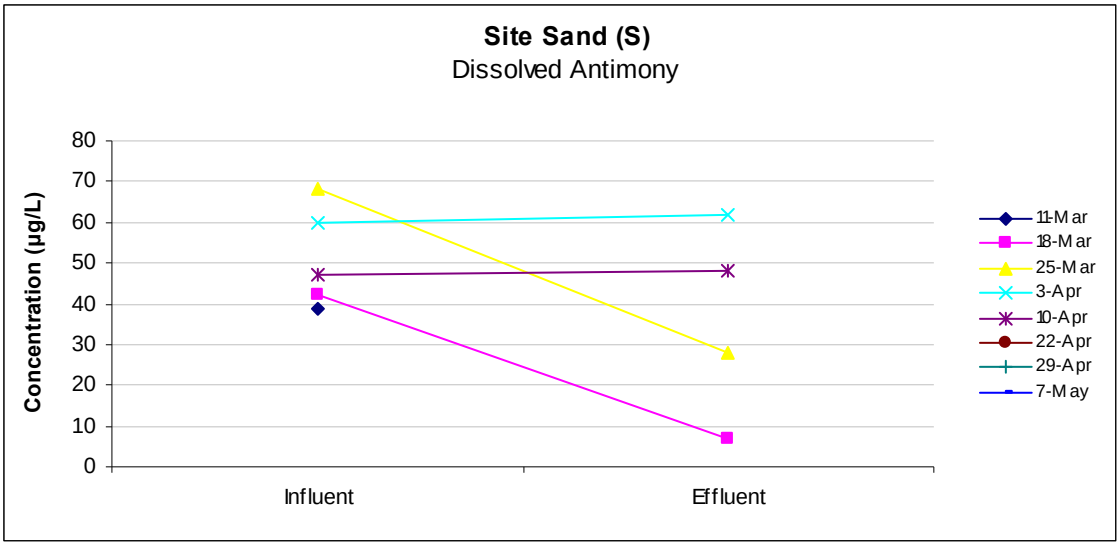
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	222.978	222.978	0.297	0.640
Residual	2.000	1501.772	750.886		
Total	3.000	1724.750			

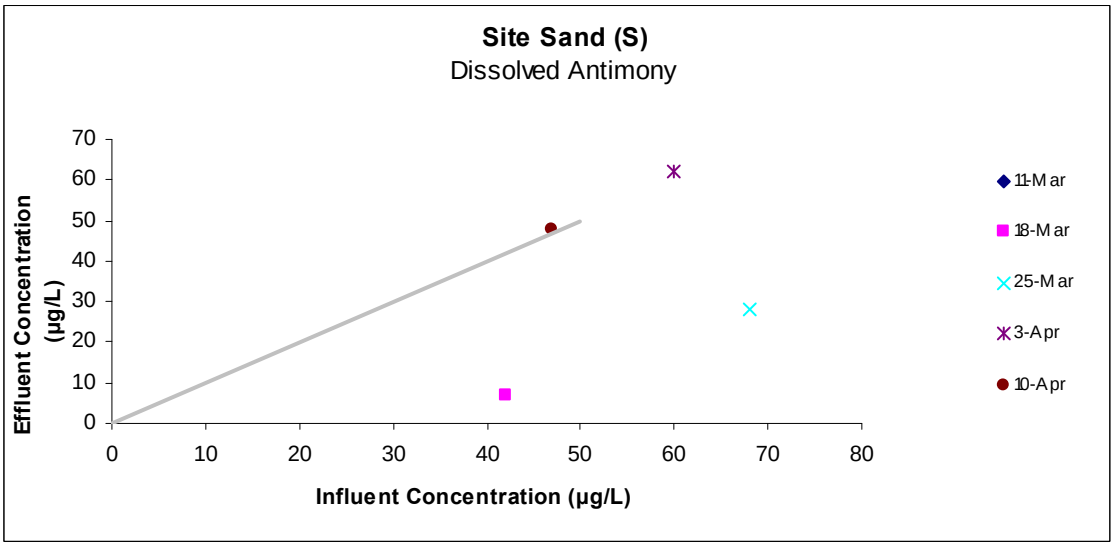
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-3.057	73.420	-0.042	0.971	-318.959	312.846	-318.959	312.846
X Variable 1	0.725	1.330	0.545	0.640	-4.996	6.445	-4.996	6.445

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	27.374	-20.374
2	46.212	-18.212
3	40.416	21.584
4	30.997	17.003




Site Sand (S)
Dissolved Antimony
Concentration (µg/L)
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Sand (S)
Dissolved Antimony
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0
10
20
30
40
50
60
70
80
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr

Site Zeolite

Total As

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.740
R Square	0.547
Adjusted R Square	0.457
Standard Error	6.232
Observations	7.000

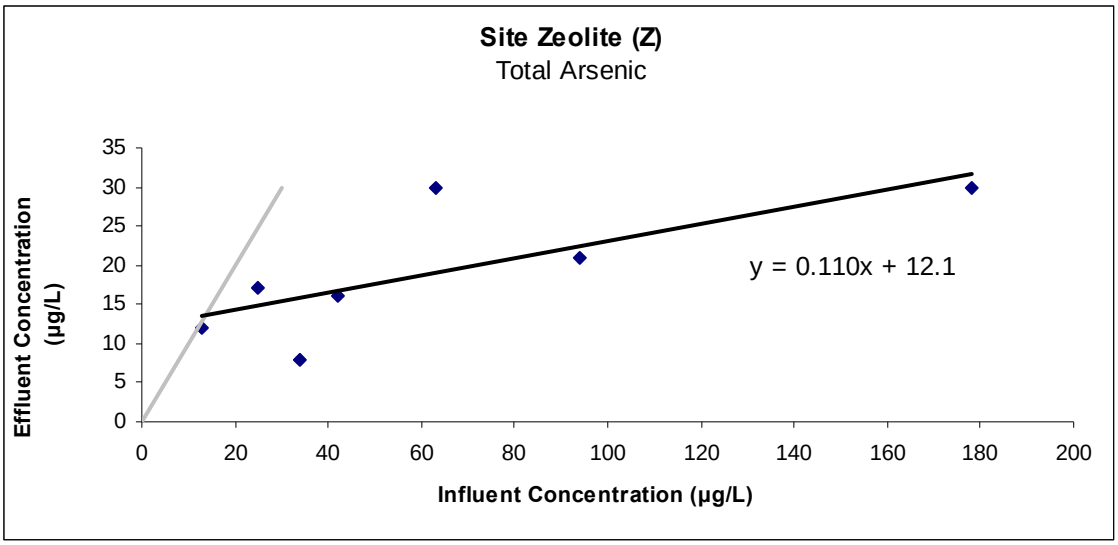
ANOVA

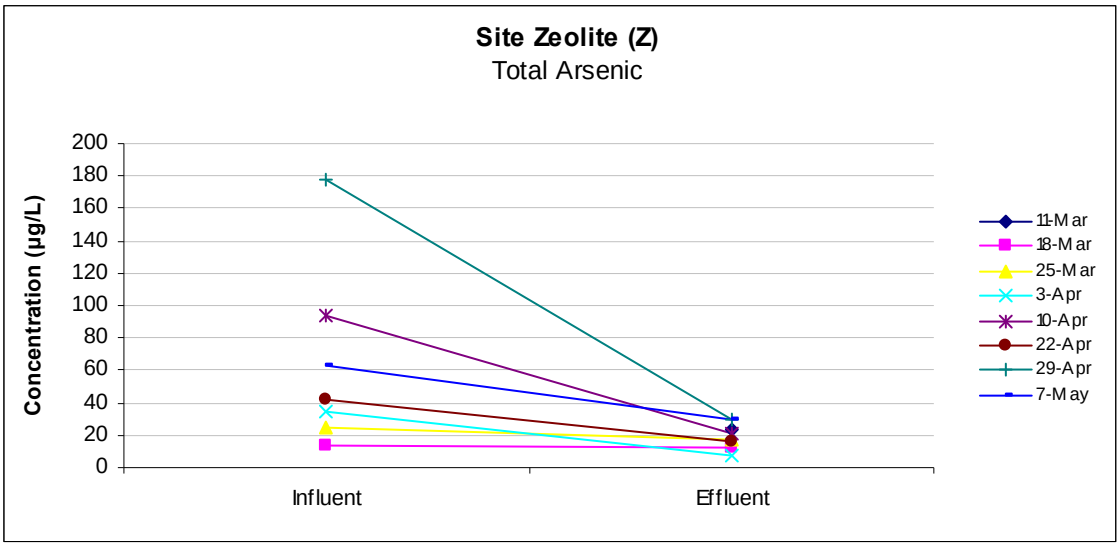
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	234.674	234.674	6.043	0.057
Residual	5.000	194.183	38.837		
Total	6.000	428.857			

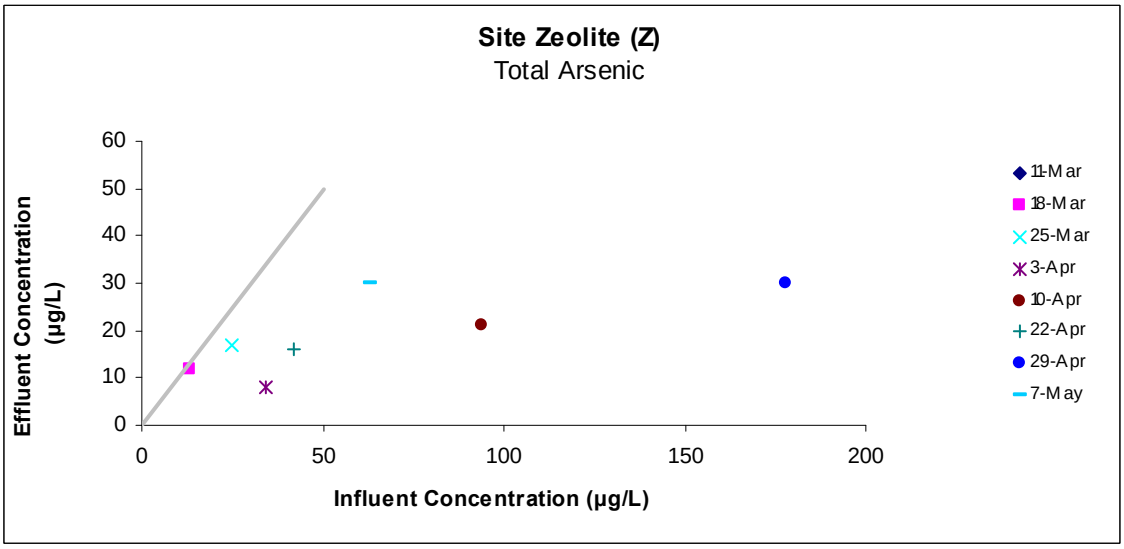
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	12.089	3.713	3.256	0.023	2.545	21.632	2.545	21.632
X Variable 1	0.110	0.045	2.458	0.057	-0.005	0.225	-0.005	0.225

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	13.518	-1.518
2	14.838	2.162
3	15.828	-7.828
4	22.426	-1.426
5	16.708	-0.708
6	31.664	-1.664
7	19.017	10.983




Site Zeolite (Z)
Total Arsenic
Concentration (µg/L)
200
180
160
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Total Arsenic
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
50
100
150
200
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved As

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.604
R Square	0.365
Adjusted R Square	0.153
Standard Error	7.503
Observations	5.000

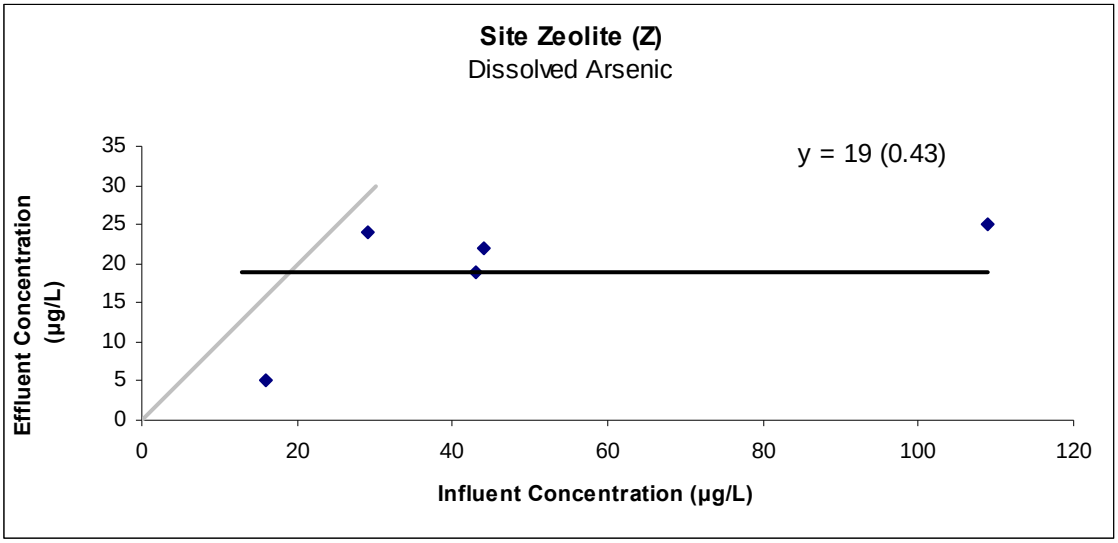
ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	97.118	97.118	1.725	0.280
Residual	3.000	168.882	56.294		
Total	4.000	266.000			

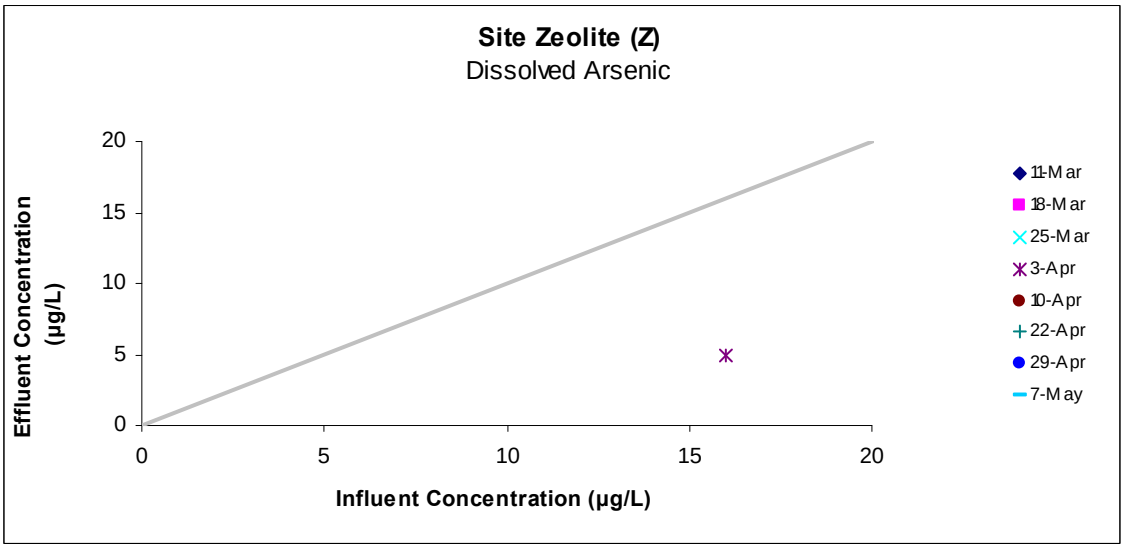
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	12.379	6.056	2.044	0.134	-6.893	31.650	-6.893	31.650
X Variable 1	0.137	0.105	1.313	0.280	-0.195	0.470	-0.195	0.470

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	14.577	-9.577
2	18.286	0.714
3	18.423	3.577
4	27.352	-2.352
5	16.363	7.637



Site Zeolite (Z)
Dissolved Arsenic
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Dissolved Arsenic
Effluent Concentration (µg/L)
20
15
10
5
0
0
5
10
15
20
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Al

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.221
R Square	0.049
Adjusted R Square	-0.110
Standard Error	183.689
Observations	8.000

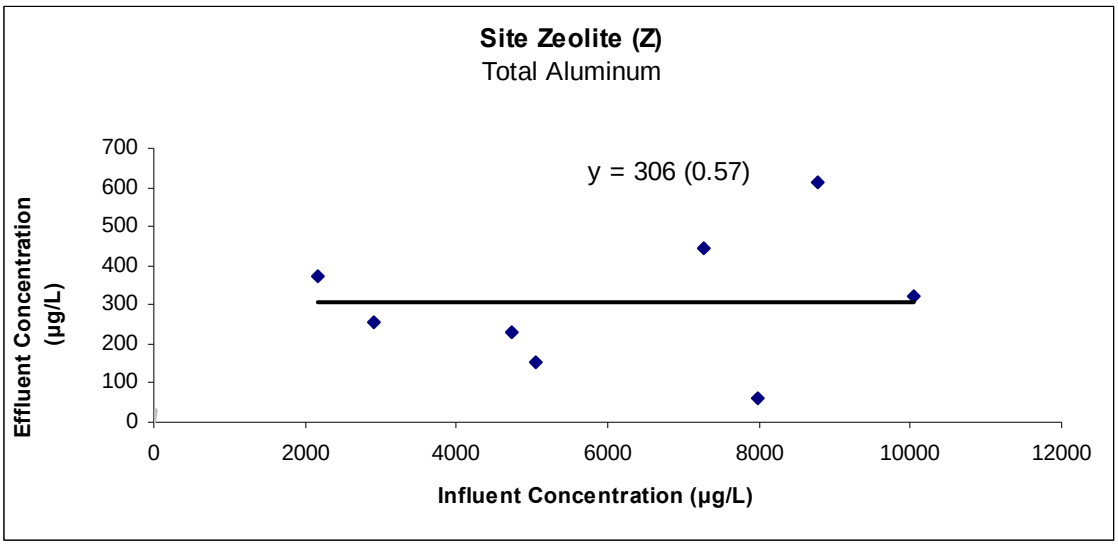
ANOVA

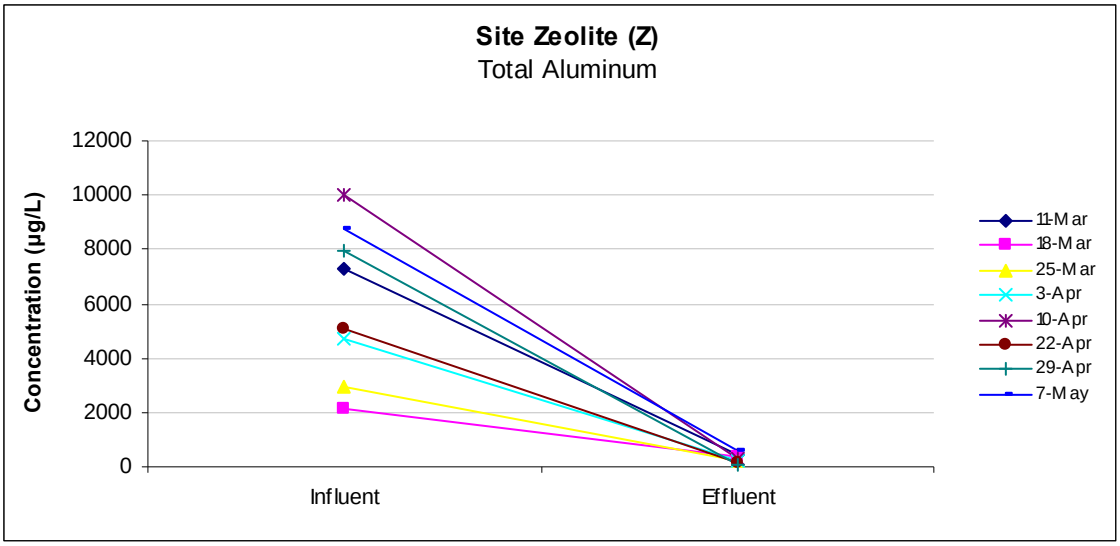
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	10367.970	10367.970	0.307	0.599
Residual	6.000	202448.905	33741.484		
Total	7.000	212816.875			

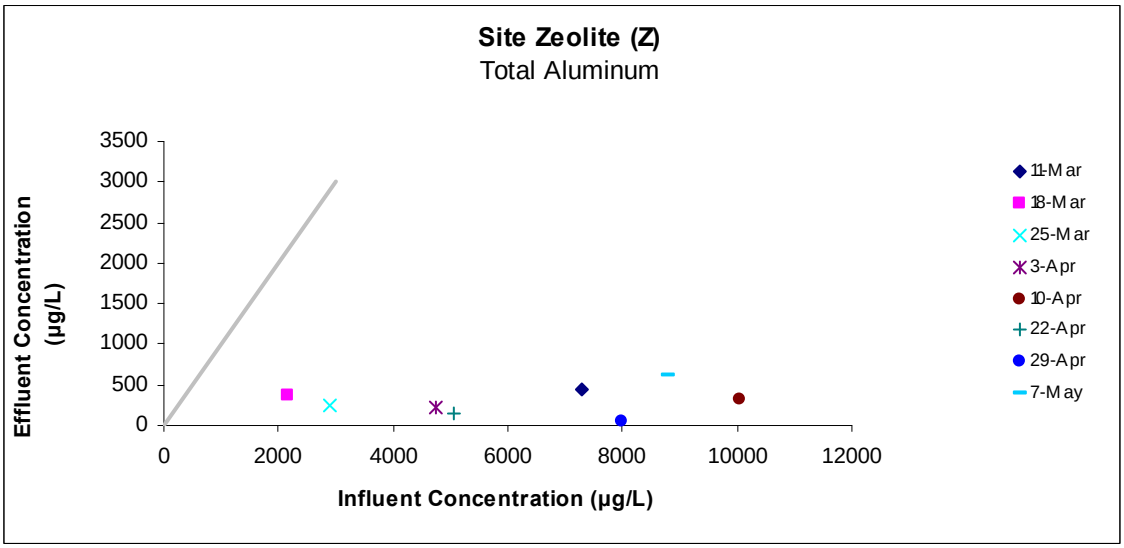
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	223.171	183.133	1.368	0.220	-176.001	622.343	-176.001	622.343
X Variable 1	0.014	0.024	0.554	0.599	-0.046	0.073	-0.046	0.073

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	321.875	124.125
2	252.409	118.591
3	262.639	-7.639
4	287.359	-58.359
5	359.349	-37.349
6	291.633	-139.633
7	331.468	-272.468
8	342.267	272.733




Site Zeolite (Z)
Total Aluminum
Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Total Aluminum
Effluent Concentration (µg/L)
3500
3000
2500
2000
1500
1000
500
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Al

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.944
R Square	0.892
Adjusted R Square	0.725
Standard Error	25.344
Observations	7.000

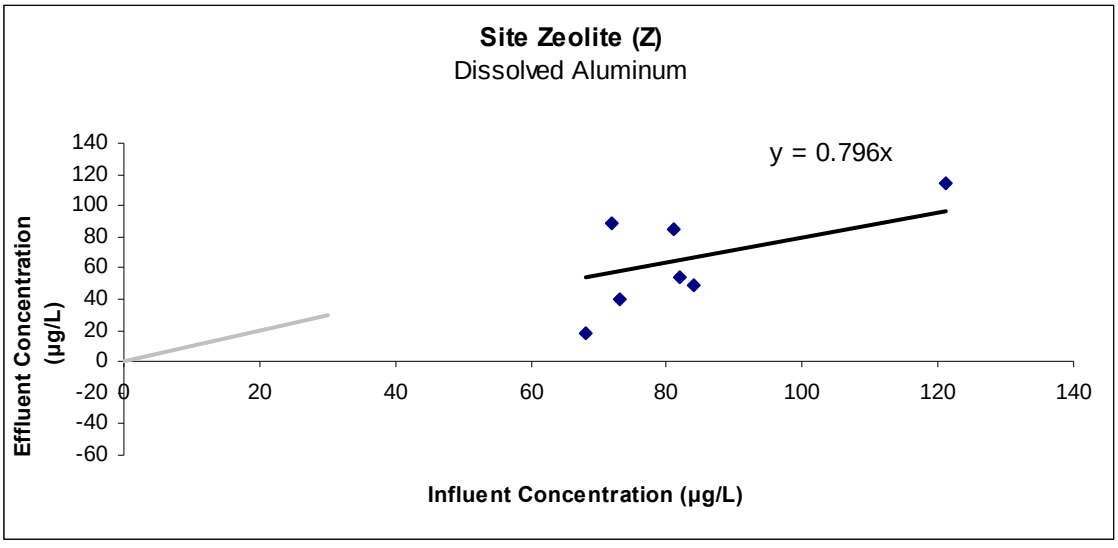
ANOVA

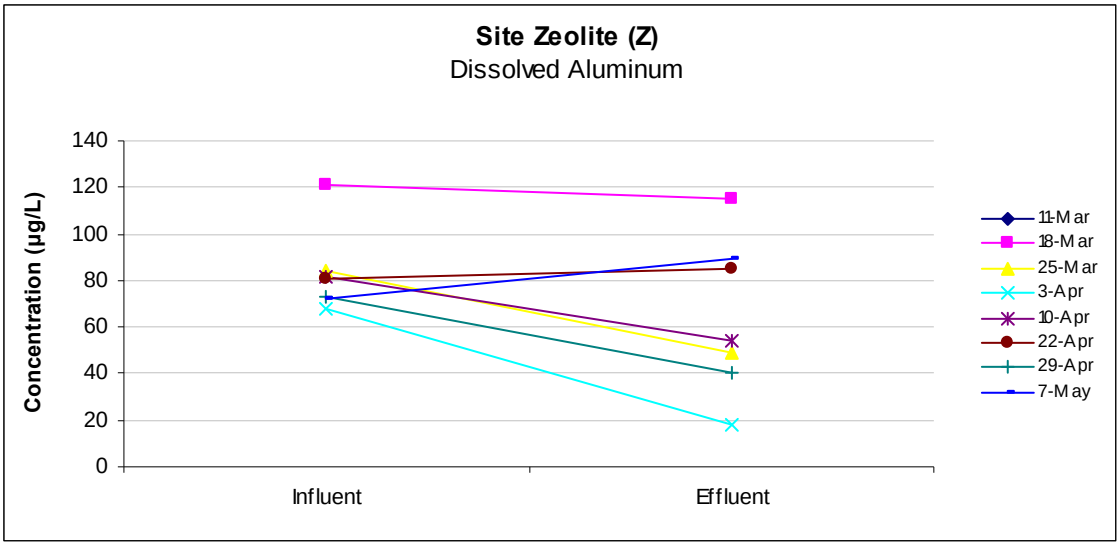
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	31758.232	31758.232	49.445	0.001
Residual	6.000	3853.768	642.295		
Total	7.000	35612.000			

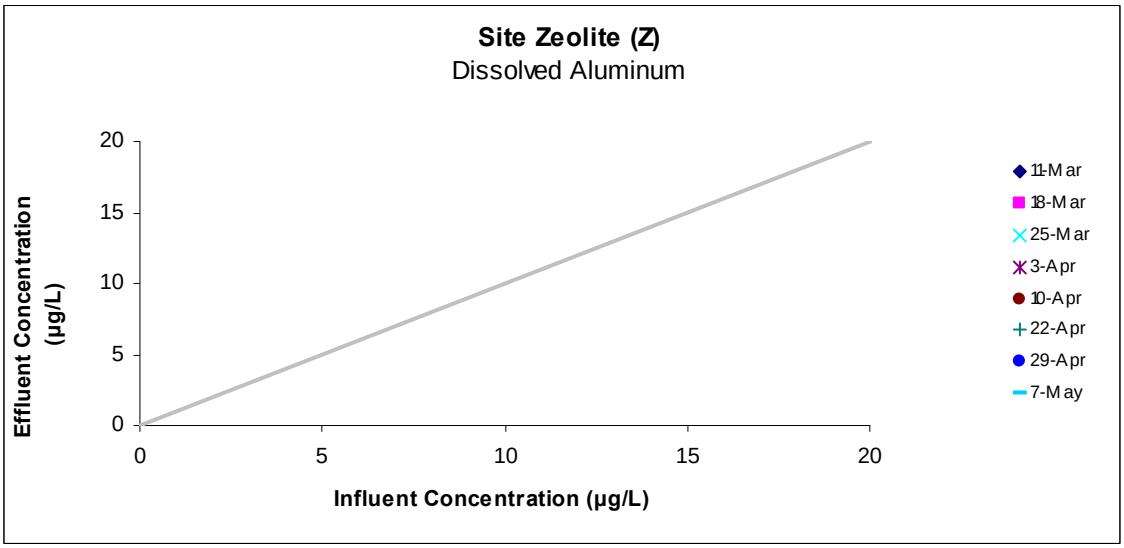
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.796	0.113	7.032	0.000	0.519	1.073	0.519	1.073

RESIDUAL OUTPUT

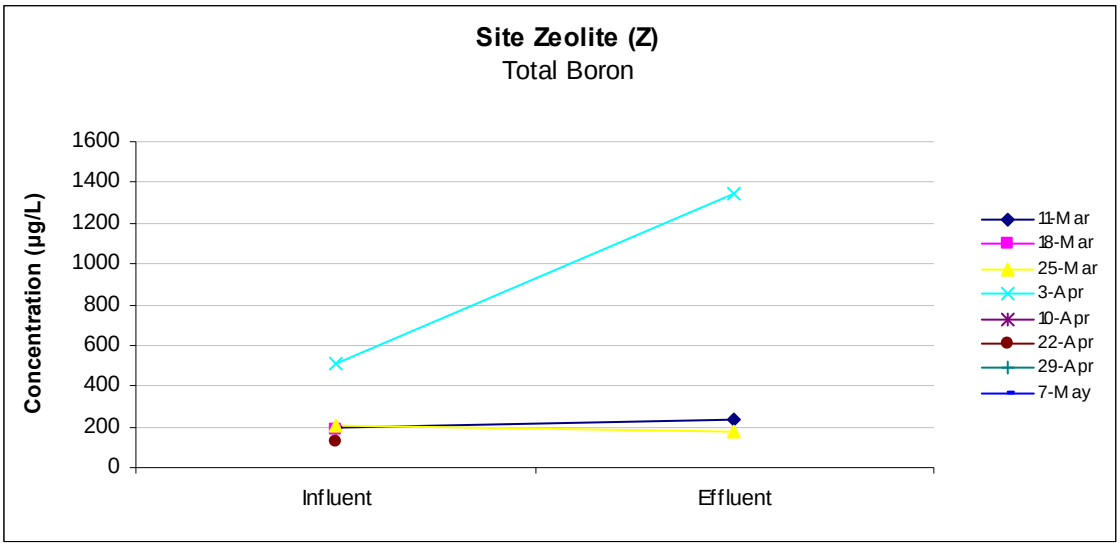
Observation	*Predicted Y*	*Residuals*
1	96.319	18.681
2	66.866	-17.866
3	54.130	-36.130
4	65.274	-11.274
5	64.478	20.522
6	58.110	-18.110
7	57.314	31.686

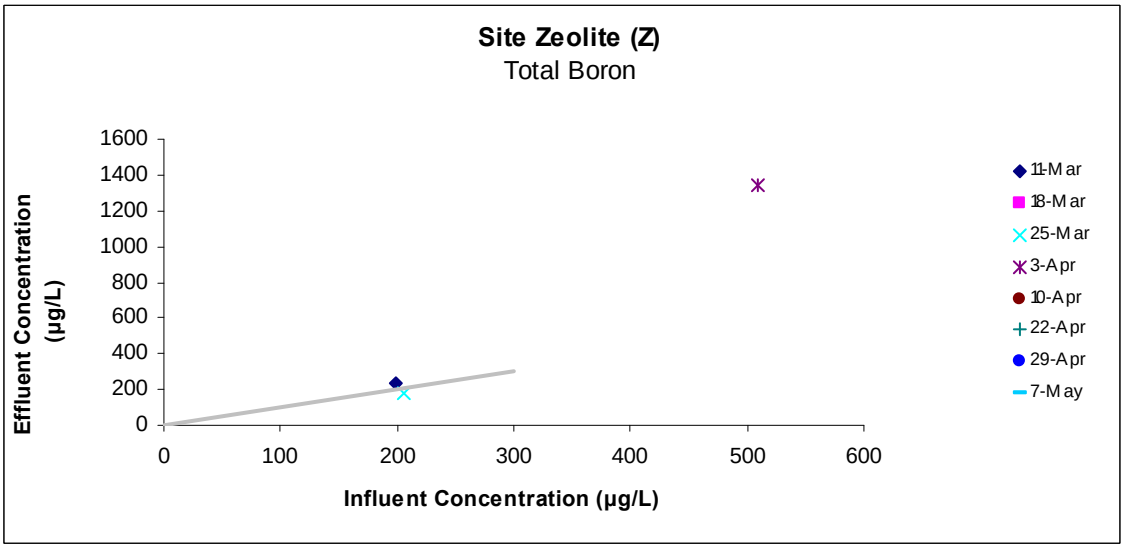



Site Zeolite (Z)
Dissolved Aluminum
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

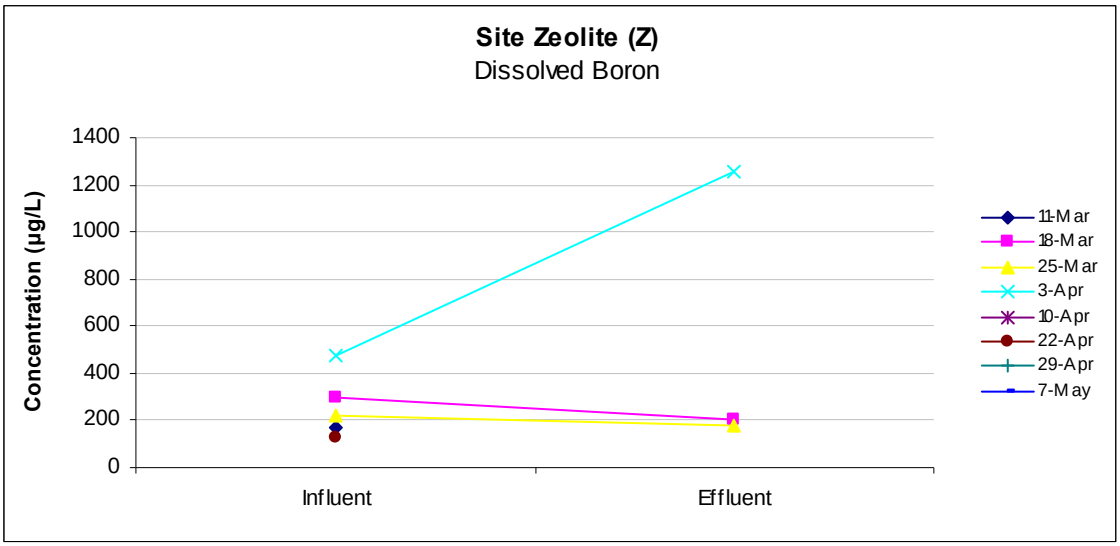

Site Zeolite (Z)
Dissolved Aluminum
Effluent Concentration (µg/L)
20
15
10
5
0
0
5
10
15
20
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

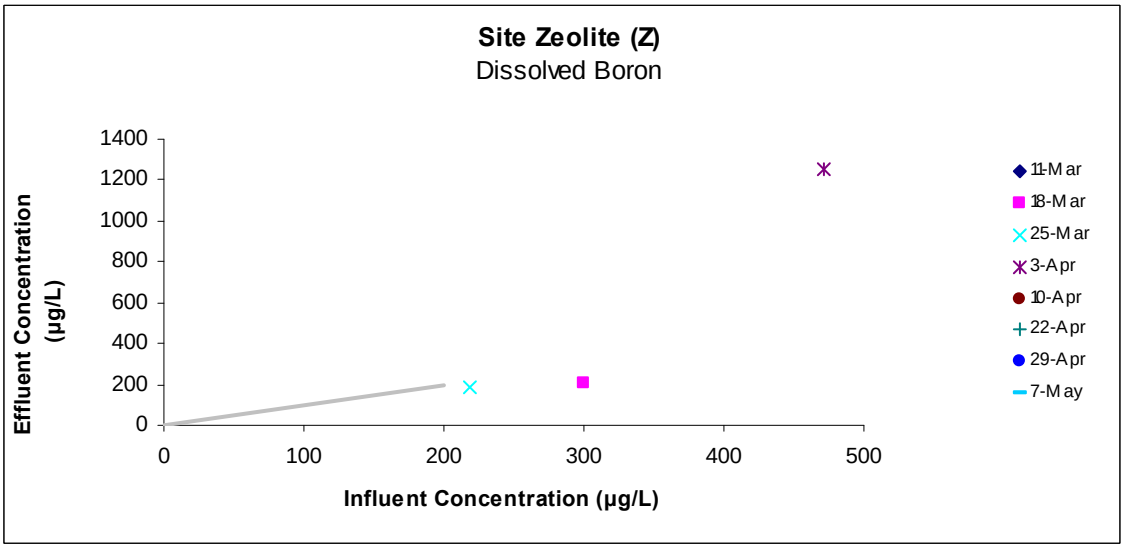
Total B


Site Zeolite (Z)
Total Boron
Concentration (µg/L)
1600
1400
1200
1000
800
600
400
200
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Total Boron
Effluent Concentration (µg/L)
1600
1400
1200
1000
800
600
400
200
0
0
100
200
300
400
500
600
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved B


Site Zeolite (Z)
Dissolved Boron
Concentration (µg/L)
1400
1200
1000
800
600
400
200
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Dissolved Boron
Effluent Concentration (µg/L)
1400
1200
1000
800
600
400
200
0
0
100
200
300
400
500
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Ca

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.219
R Square	0.048
Adjusted R Square	-0.111
Standard Error	7647.729
Observations	8.000

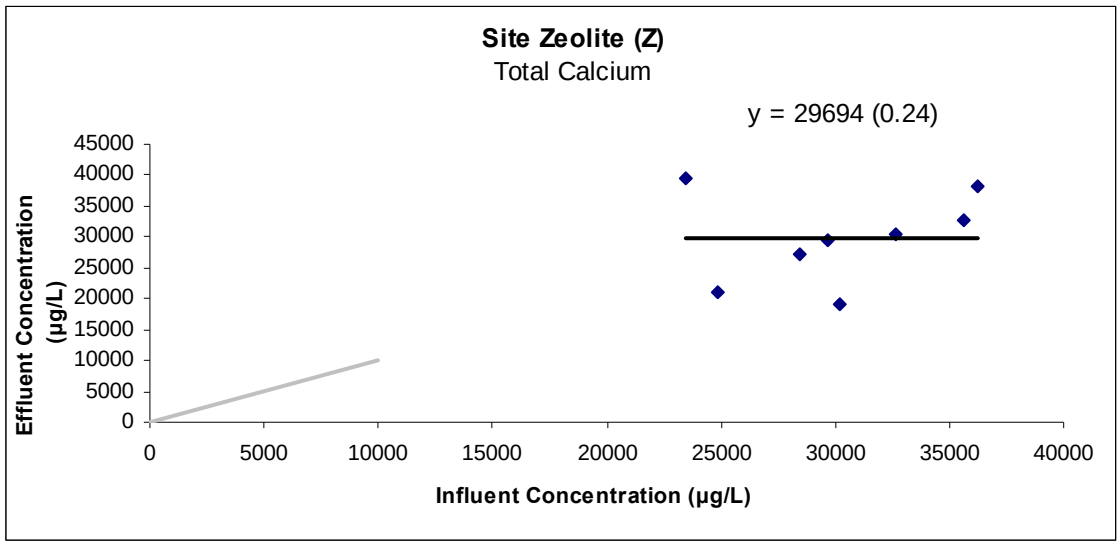
ANOVA

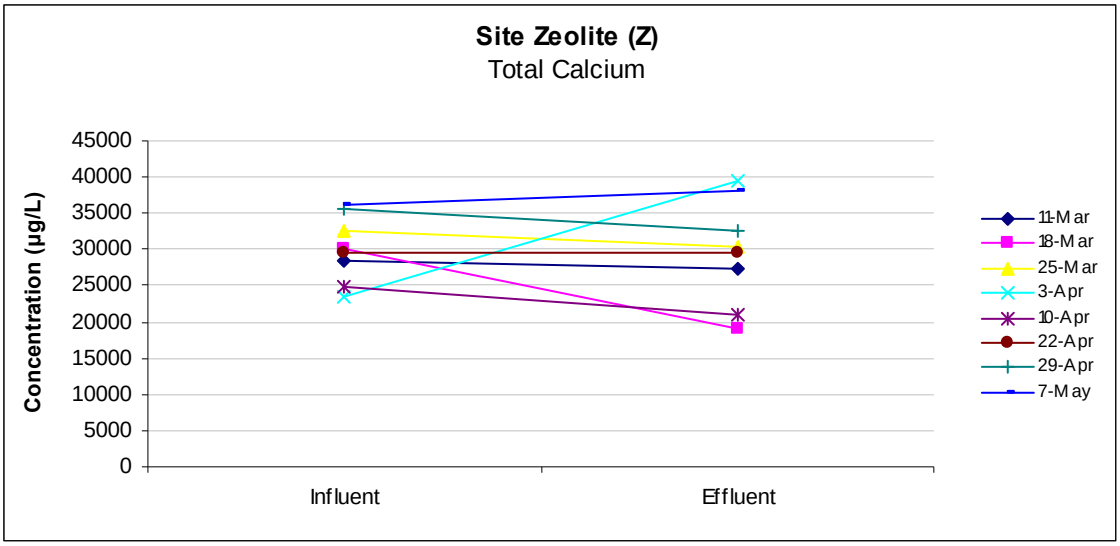
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	17682507.289	17682507.289	0.302	0.602
Residual	6.000	350926598.586	58487766.431		
Total	7.000	368609105.875			

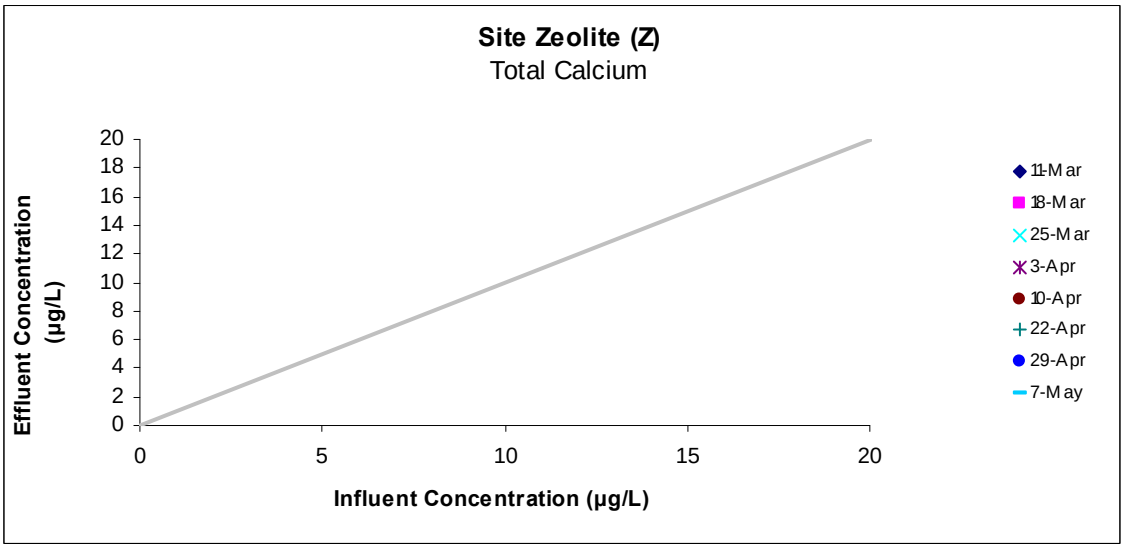
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	19308.288	19081.698	1.012	0.351	-27382.945	65999.520	-27382.945	65999.520
X Variable 1	0.345	0.627	0.550	0.602	-1.189	1.878	-1.189	1.878

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	29101.082	-1835.082
2	29717.504	-10602.504
3	30554.100	-211.100
4	27398.946	12207.054
5	27876.165	-6773.165
6	29527.995	-17.995
7	31574.693	965.307
8	31804.515	6267.485




Site Zeolite (Z)
Total Calcium
Concentration (µg/L)
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Total Calcium
Effluent Concentration (µg/L)
20
18
16
14
12
10
8
6
4
2
0
0
5
10
15
20
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Ca

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.455
R Square	0.207
Adjusted R Square	0.075
Standard Error	8494.553
Observations	8.000

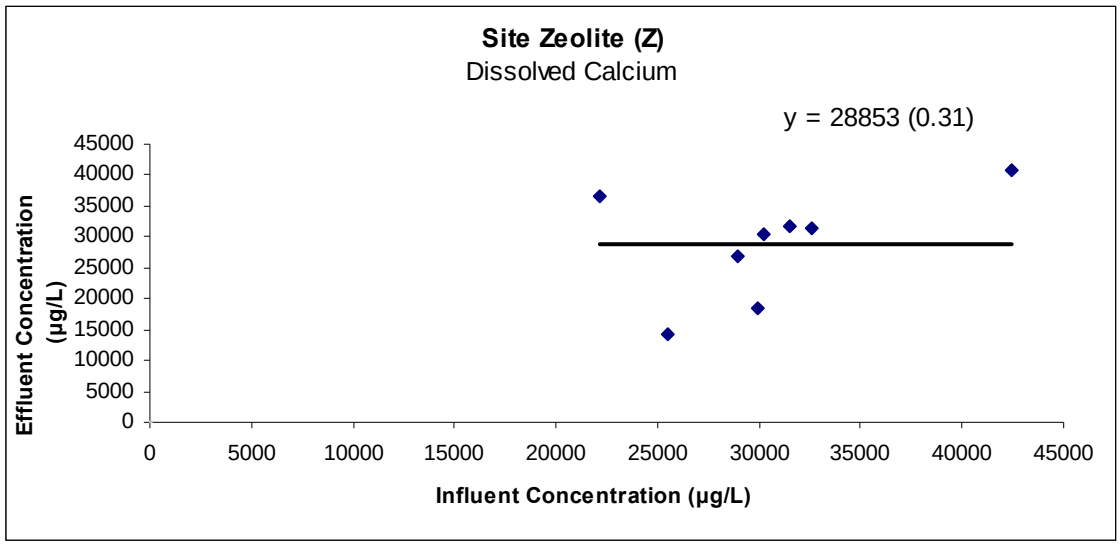
ANOVA

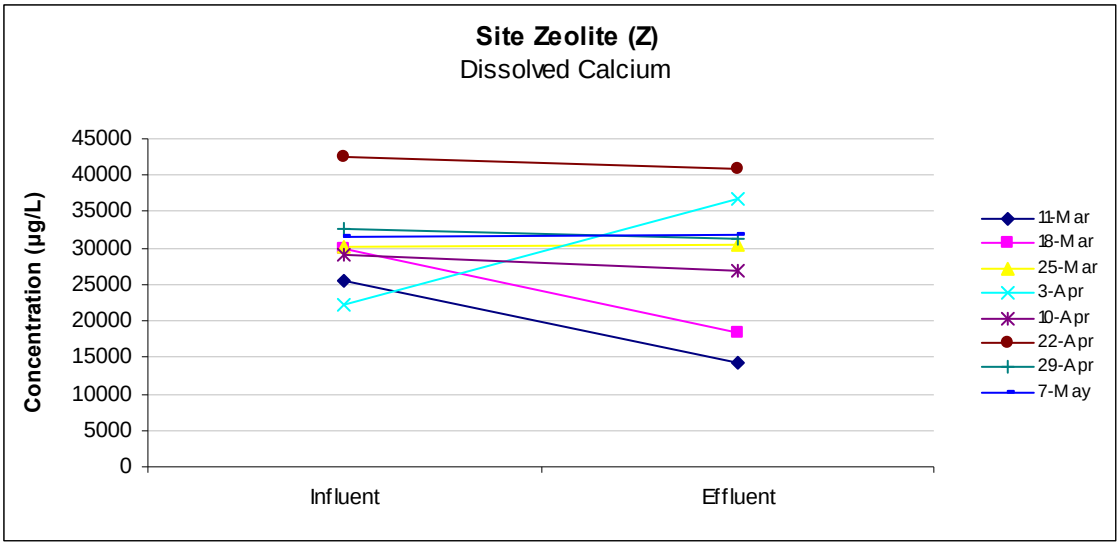
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	113186119.411	113186119.411	1.569	0.257
Residual	6.000	432944568.089	72157428.015		
Total	7.000	546130687.500			

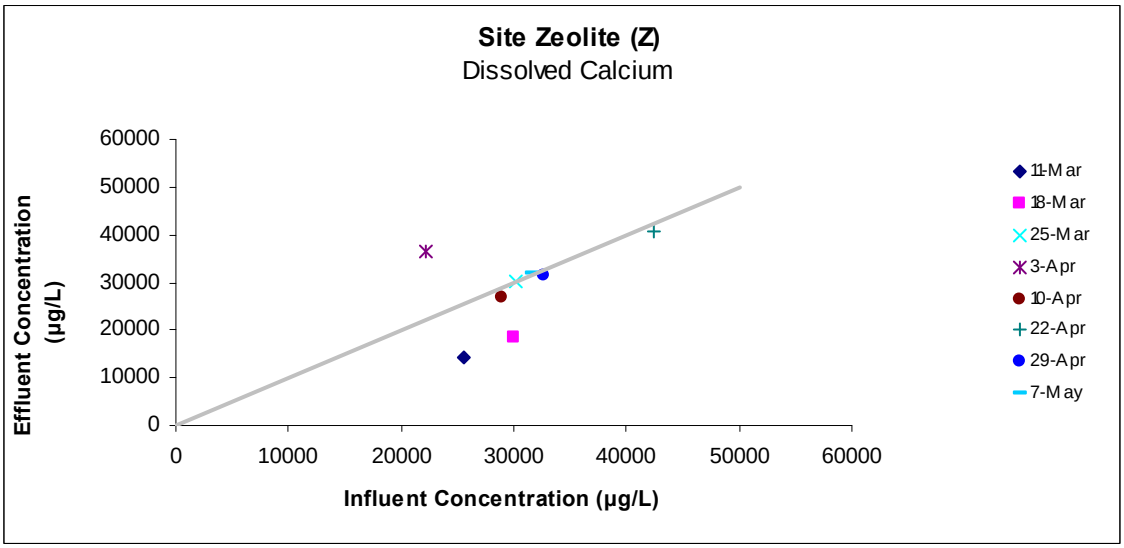
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	8163.540	16790.336	0.486	0.644	-32920.931	49248.011	-32920.931	49248.011
X Variable 1	0.680	0.543	1.252	0.257	-0.648	2.008	-0.648	2.008

RESIDUAL OUTPUT

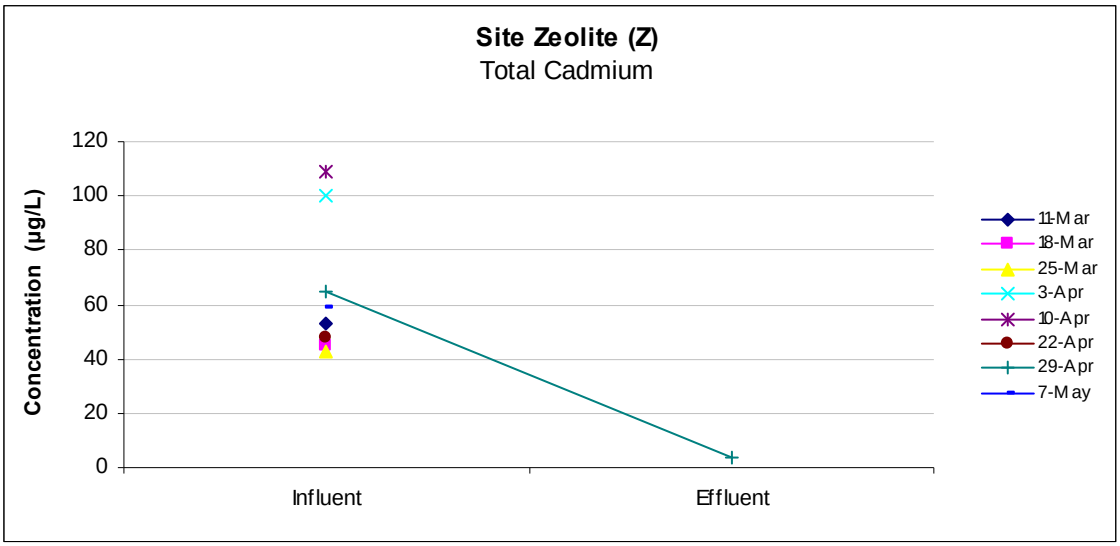
Observation	*Predicted Y*	*Residuals*
1	25503.034	-11144.034
2	28550.586	-10133.586
3	28742.333	1597.667
4	23222.470	13476.530
5	27861.113	-910.113
6	37000.368	3879.632
7	30350.423	989.577
8	29595.674	2244.326

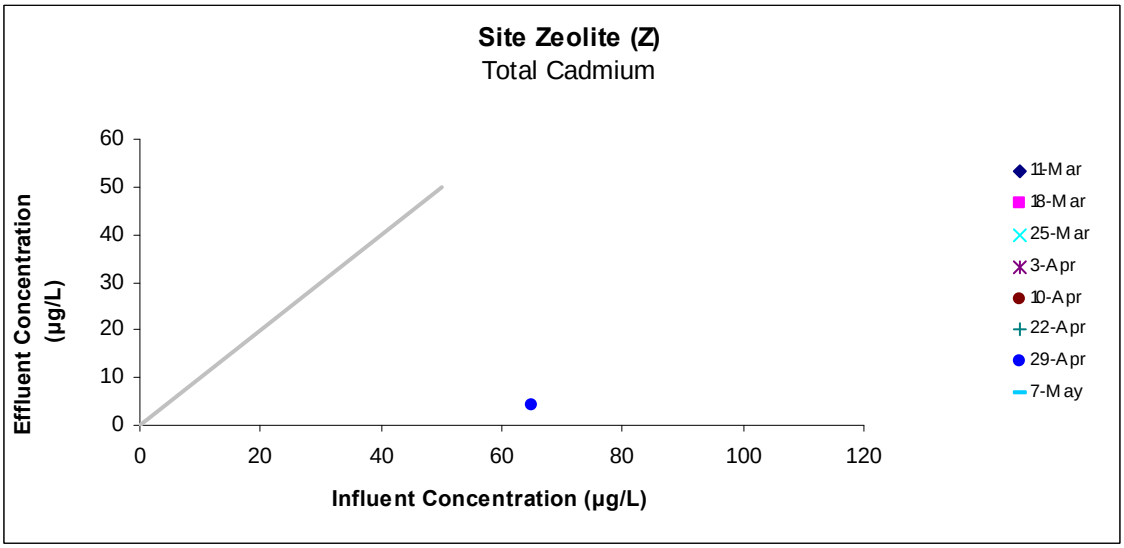



Site Zeolite (Z)
Dissolved Calcium
Concentration (µg/L)
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

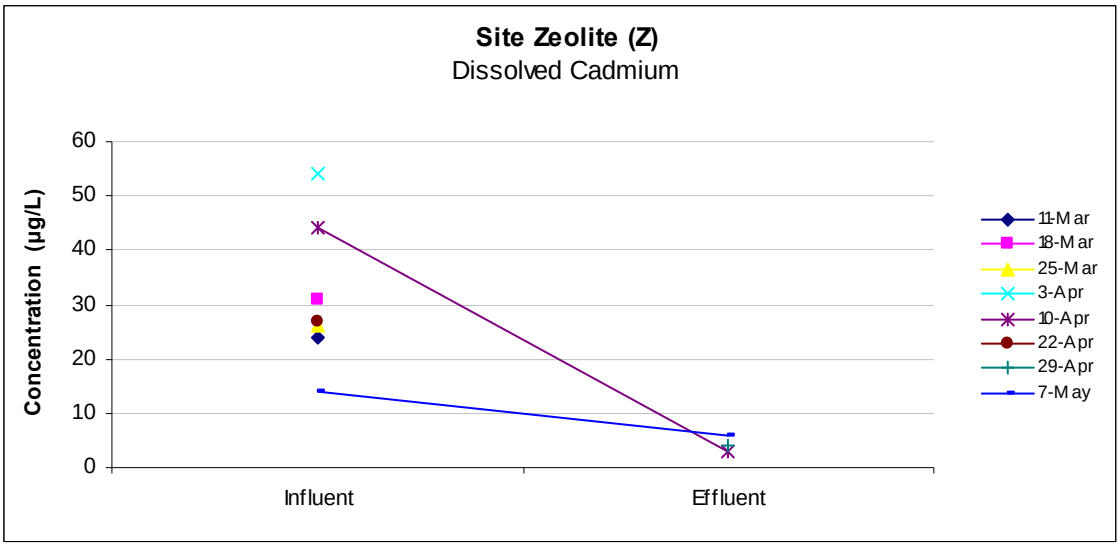

Site Zeolite (Z)
Dissolved Calcium
Effluent Concentration (µg/L)
60000
50000
40000
30000
20000
10000
0
0
10000
20000
30000
40000
50000
60000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

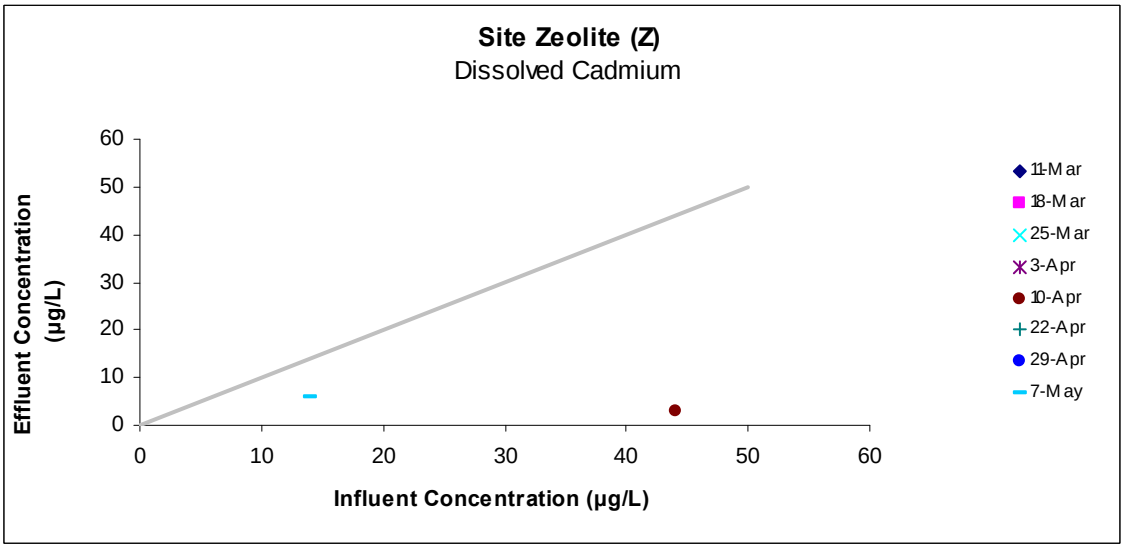
Total Cd


Site Zeolite (Z)
Total Cadmium
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Total Cadmium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cd





Total Cu

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.948
R Square	0.898
Adjusted R Square	0.755
Standard Error	15.569
Observations	8.000

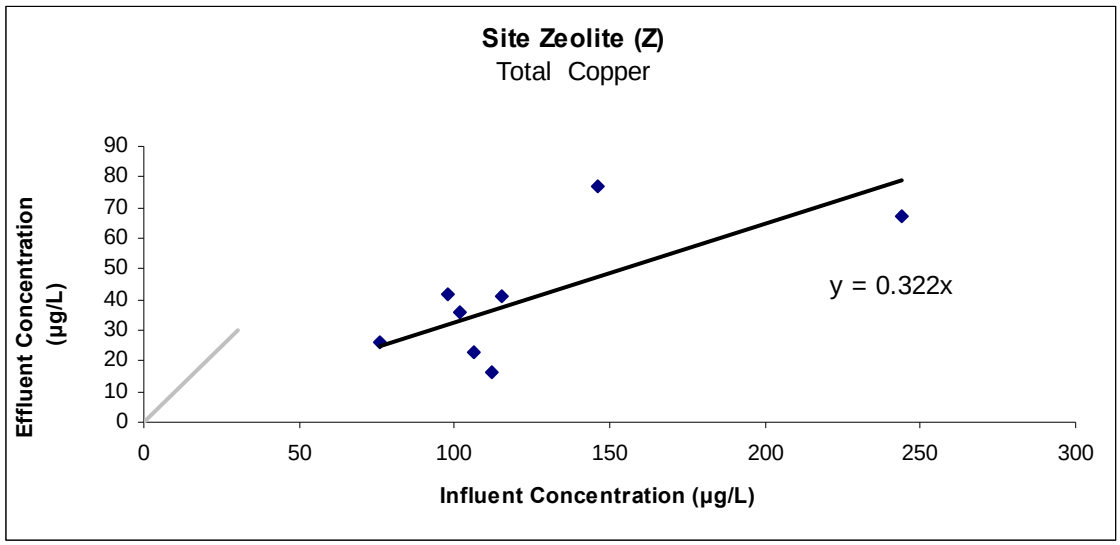
ANOVA

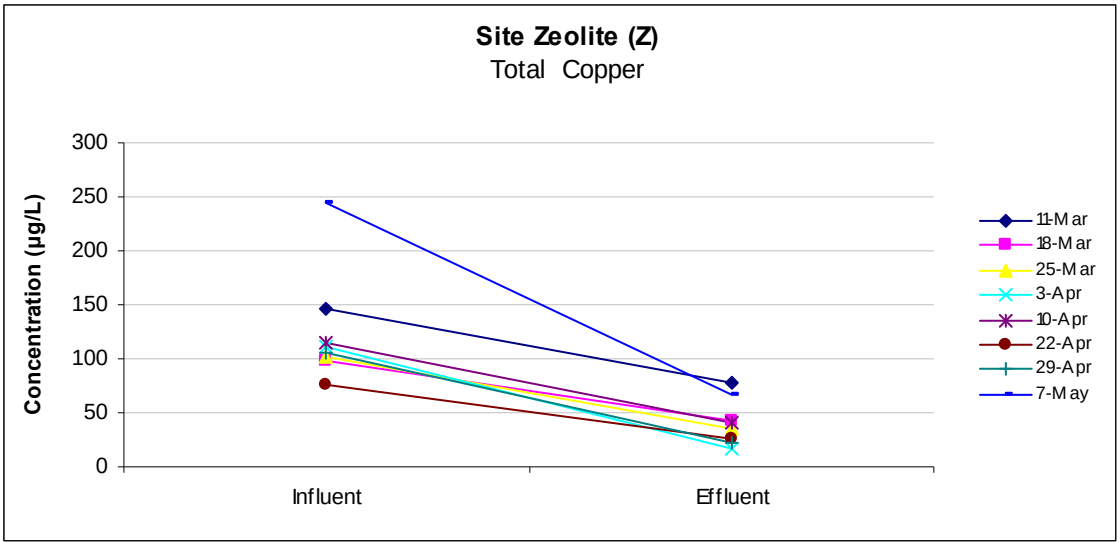
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	14923.298	14923.298	61.568	0.000
Residual	7.000	1696.702	242.386		
Total	8.000	16620.000			

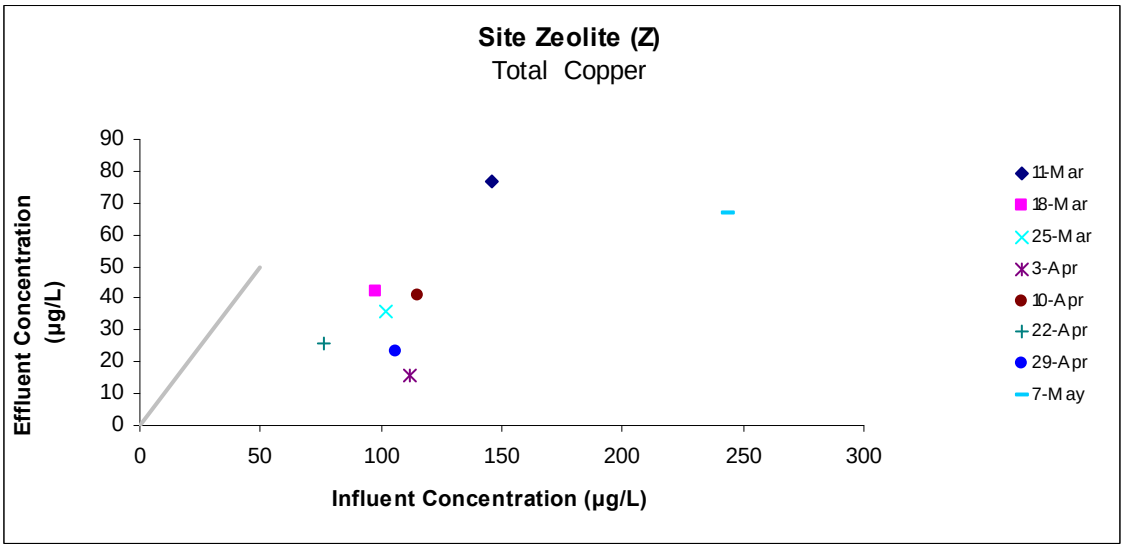
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.322	0.041	7.847	0.000	0.225	0.419	0.225	0.419

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	47.059	29.941
2	31.588	10.412
3	32.877	3.123
4	36.100	-20.100
5	37.067	3.933
6	24.497	1.503
7	34.166	-11.166
8	78.647	-11.647




Site Zeolite (Z)
Total Copper
Concentration (µg/L)
300
250
200
150
100
50
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Total Copper
Effluent Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
0
50
100
150
200
250
300
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cu

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.249
R Square	0.062
Adjusted R Square	-0.094
Standard Error	8.658
Observations	8.000

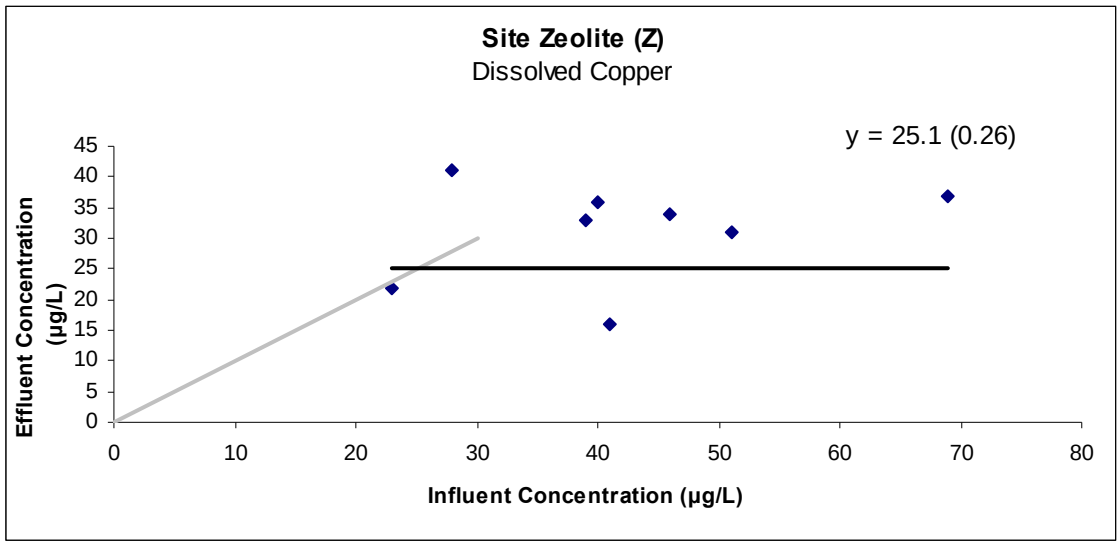
ANOVA

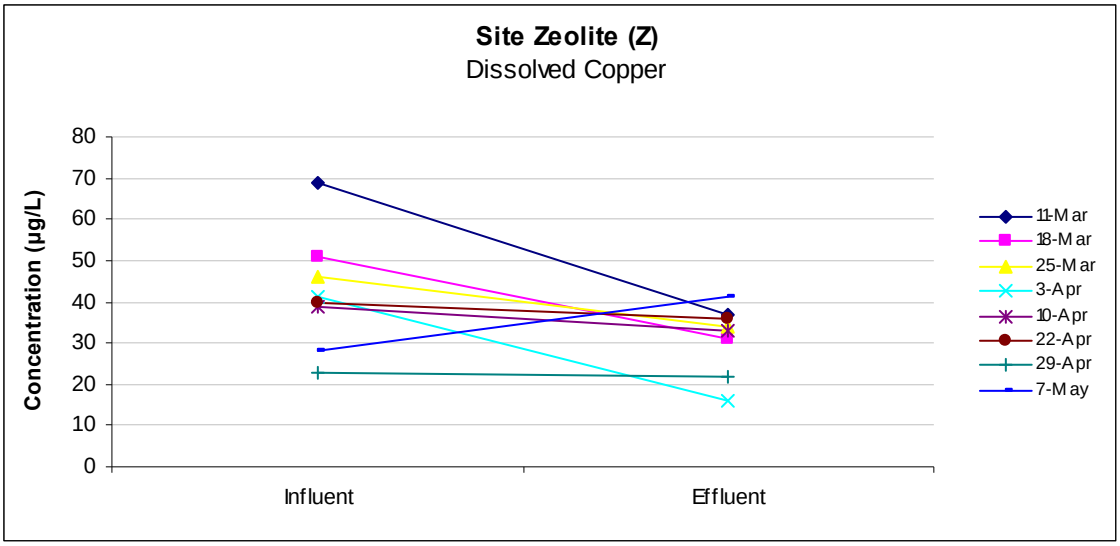
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	29.719	29.719	0.396	0.552
Residual	6.000	449.781	74.963		
Total	7.000	479.500			

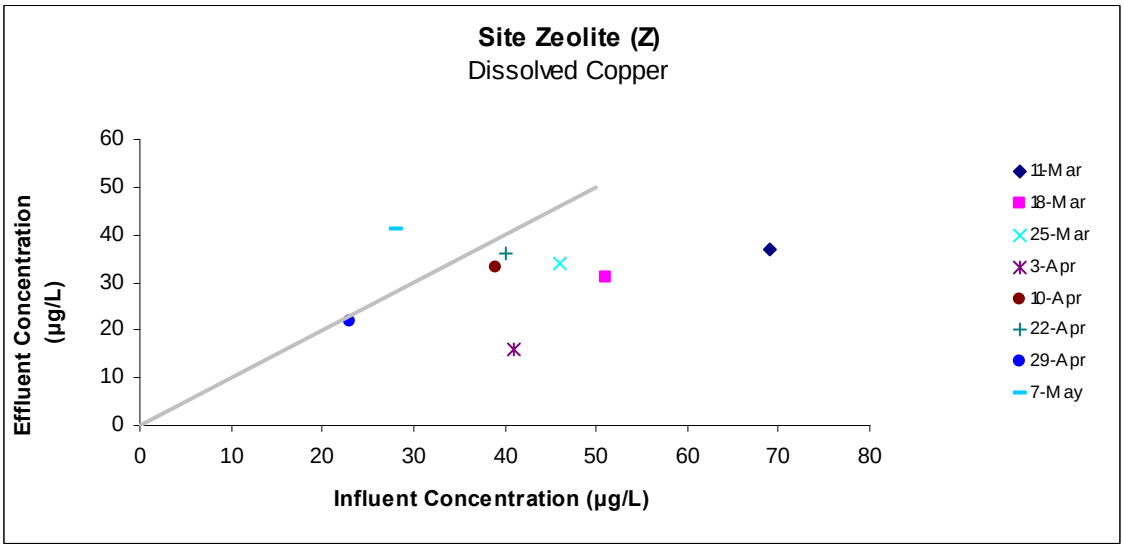
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	25.106	10.227	2.455	0.049	0.080	50.131	0.080	50.131
X Variable 1	0.146	0.232	0.630	0.552	-0.421	0.713	-0.421	0.713

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	35.170	1.830
2	32.545	-1.545
3	31.815	2.185
4	31.086	-15.086
5	30.794	2.206
6	30.940	5.060
7	28.460	-6.460
8	29.190	11.810




Site Zeolite (Z)
Dissolved Copper
Concentration (µg/L)
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Dissolved Copper
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
70
80
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Fe

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.235
R Square	0.055
Adjusted R Square	-0.102
Standard Error	187.000
Observations	8.000

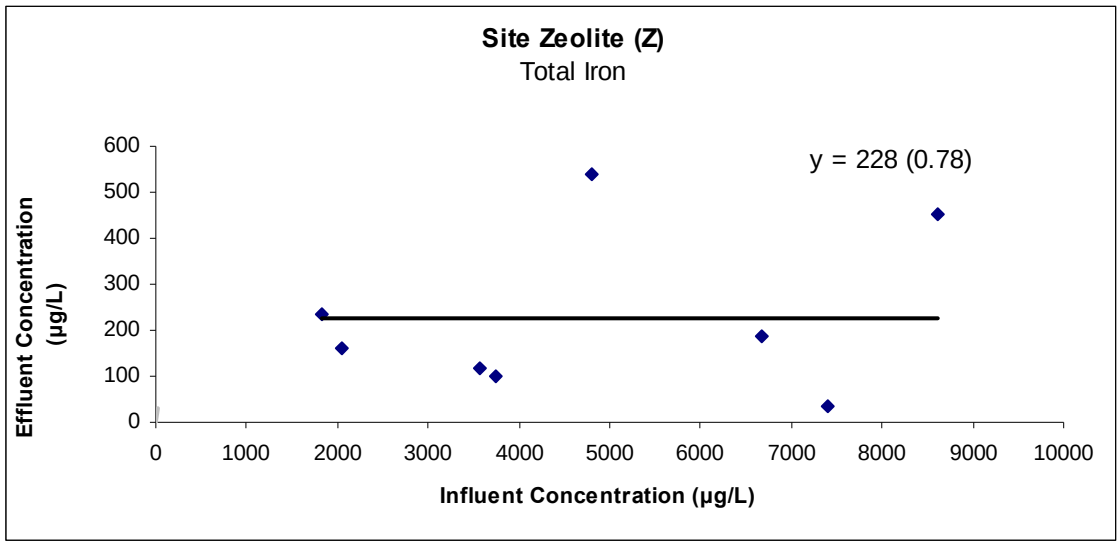
ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	12224.873	12224.873	0.350	0.576
Residual	6.000	209814.627	34969.105		
Total	7.000	222039.500			

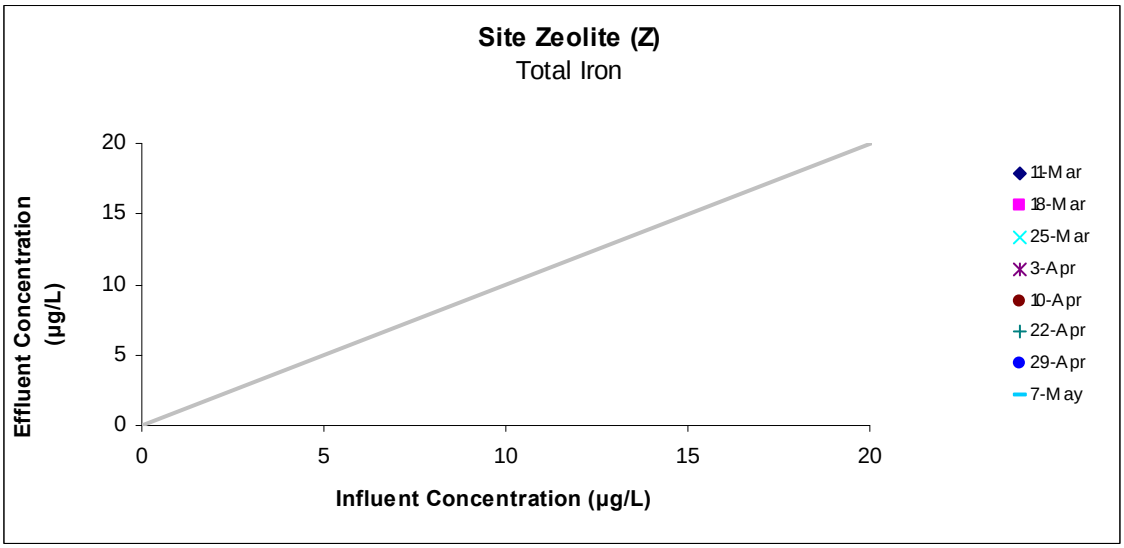
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	147.581	151.610	0.973	0.368	-223.396	518.558	-223.396	518.558
X Variable 1	0.017	0.028	0.591	0.576	-0.052	0.086	-0.052	0.086

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	227.854	313.146
2	177.948	56.052
3	181.752	-22.752
4	206.947	-89.947
5	259.105	-71.105
6	210.151	-111.151
7	270.918	-236.918
8	291.324	162.676



Site Zeolite (Z)
Total Iron
Concentration (µg/L)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Total Iron
Effluent Concentration (µg/L)
20
15
10
5
0
0
5
10
15
20
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Fe

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.964
R Square	0.929
Adjusted R Square	0.762
Standard Error	15.692
Observations	7.000

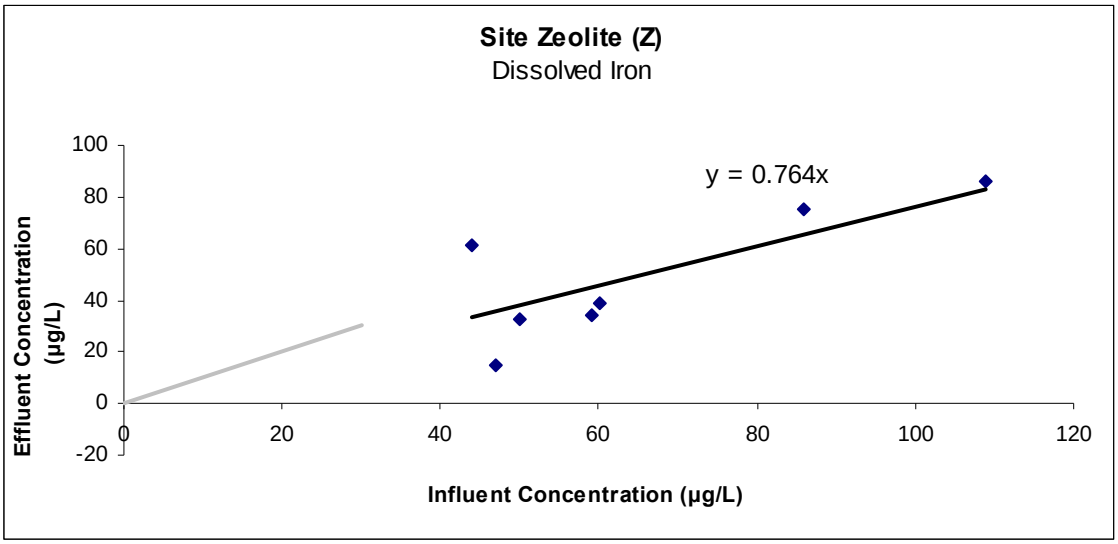
ANOVA

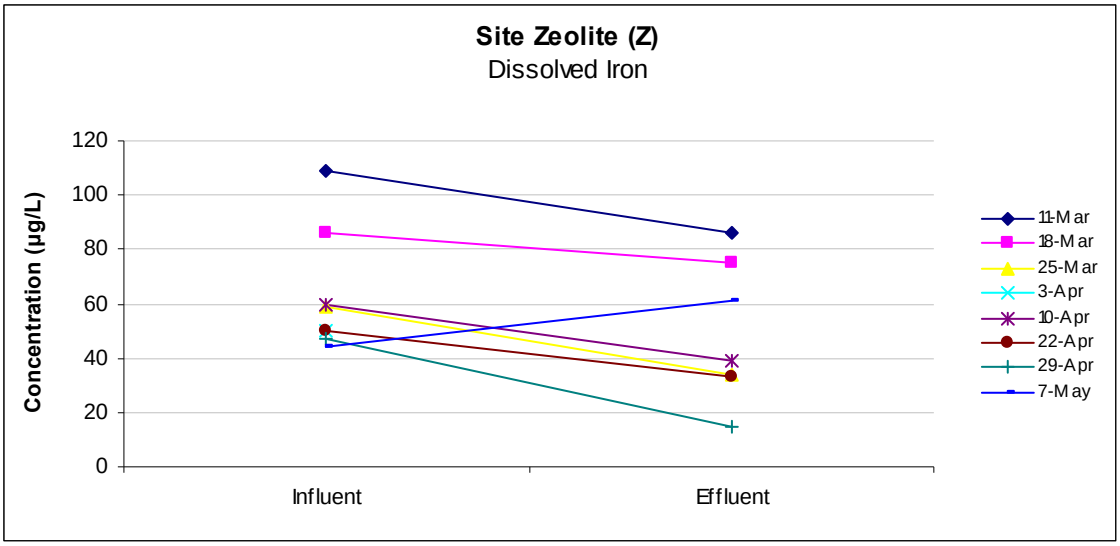
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	19255.634	19255.634	78.203	0.000
Residual	6.000	1477.366	246.228		
Total	7.000	20733.000			

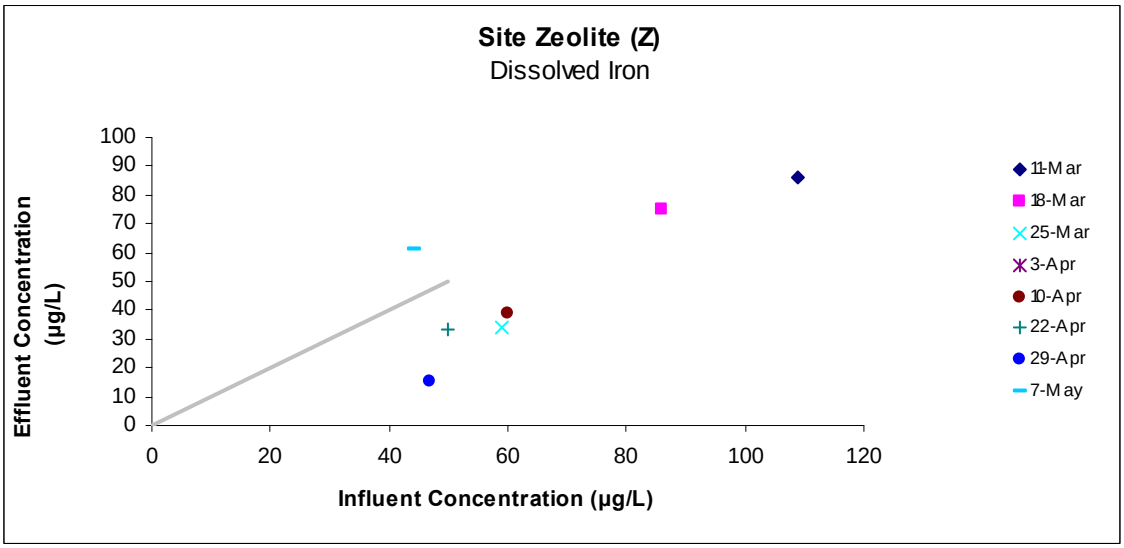
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.764	0.086	8.843	0.000	0.552	0.975	0.552	0.975

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	83.259	2.741
2	65.690	9.310
3	45.067	-11.067
4	45.830	-6.830
5	38.192	-5.192
6	35.900	-20.900
7	33.609	27.391




Site Zeolite (Z)
Dissolved Iron
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Dissolved Iron
Effluent Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Mg

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.481
R Square	0.231
Adjusted R Square	0.103
Standard Error	475.473
Observations	8.000

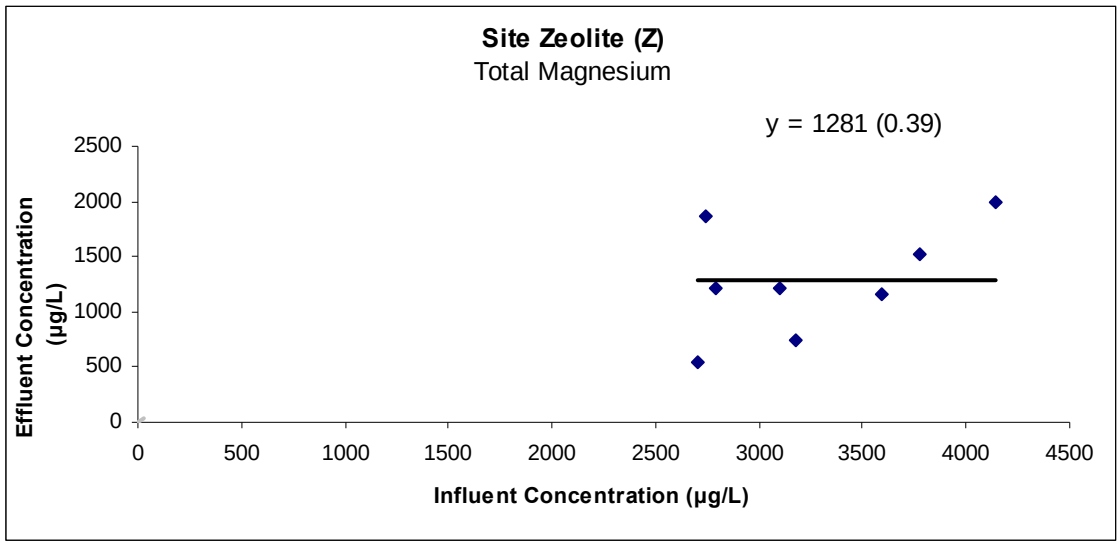
ANOVA

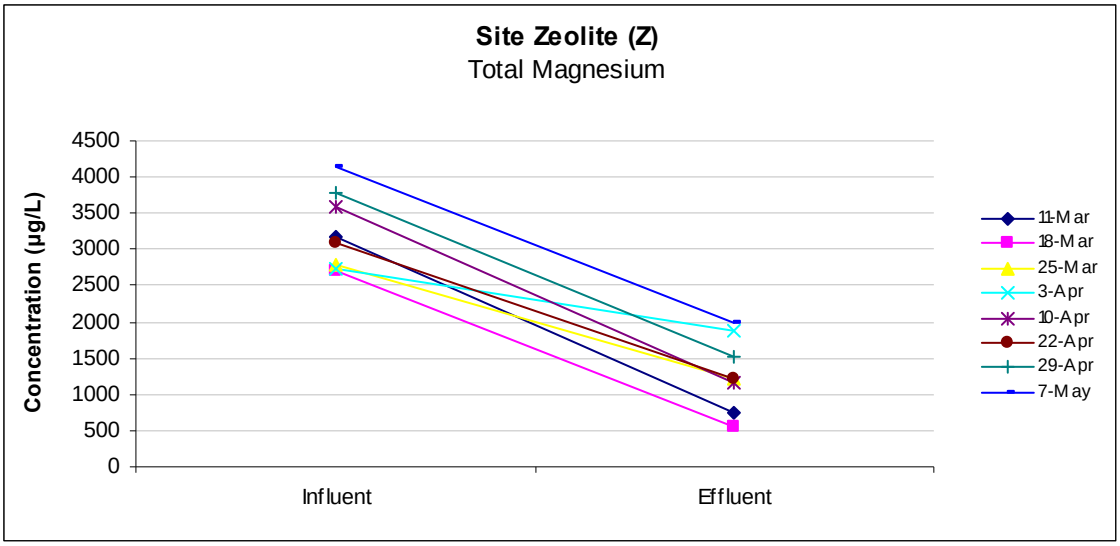
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	408013.964	408013.964	1.805	0.228
Residual	6.000	1356445.536	226074.256		
Total	7.000	1764459.500			

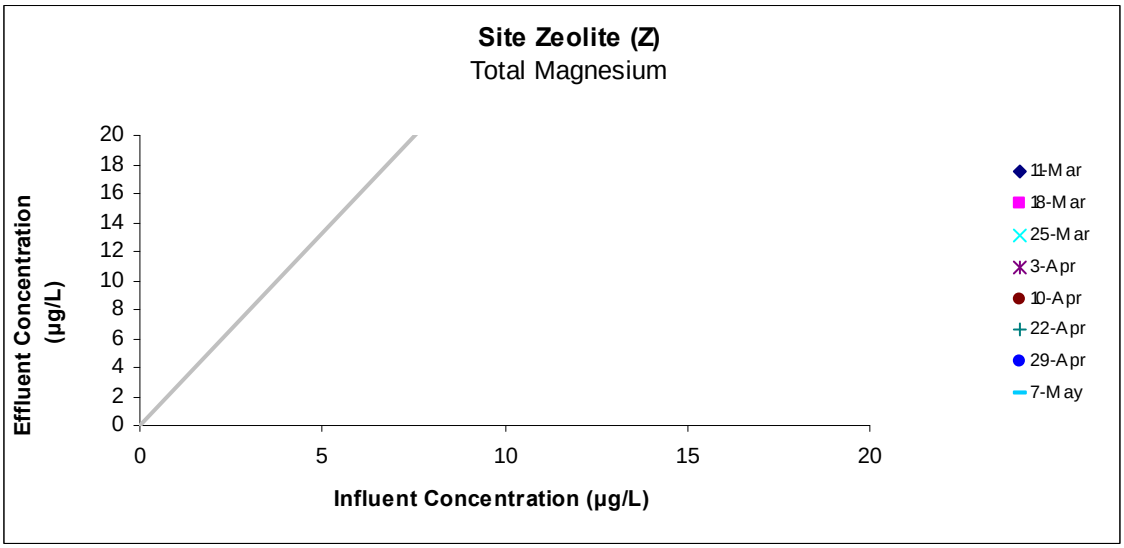
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-197.277	1113.702	-0.177	0.865	-2922.407	2527.853	-2922.407	2527.853
X Variable 1	0.455	0.339	1.343	0.228	-0.374	1.283	-0.374	1.283

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	1248.438	-512.438
2	1032.877	-481.877
3	1071.078	139.922
4	1050.613	819.387
5	1435.349	-275.349
6	1212.056	1.944
7	1518.572	0.428
8	1685.018	307.982




Site Zeolite (Z)
Total Magnesium
Concentration (µg/L)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Total Magnesium
Effluent Concentration (µg/L)
20
18
16
14
12
10
8
6
4
2
0
0
5
10
15
20
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Mg

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.403
R Square	0.162
Adjusted R Square	0.023
Standard Error	563.514
Observations	8.000

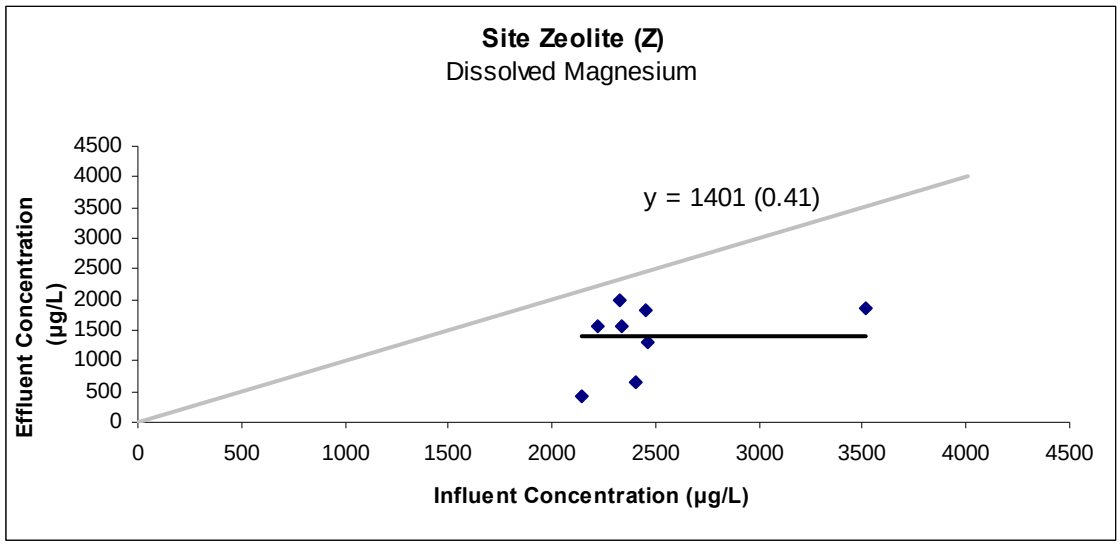
ANOVA

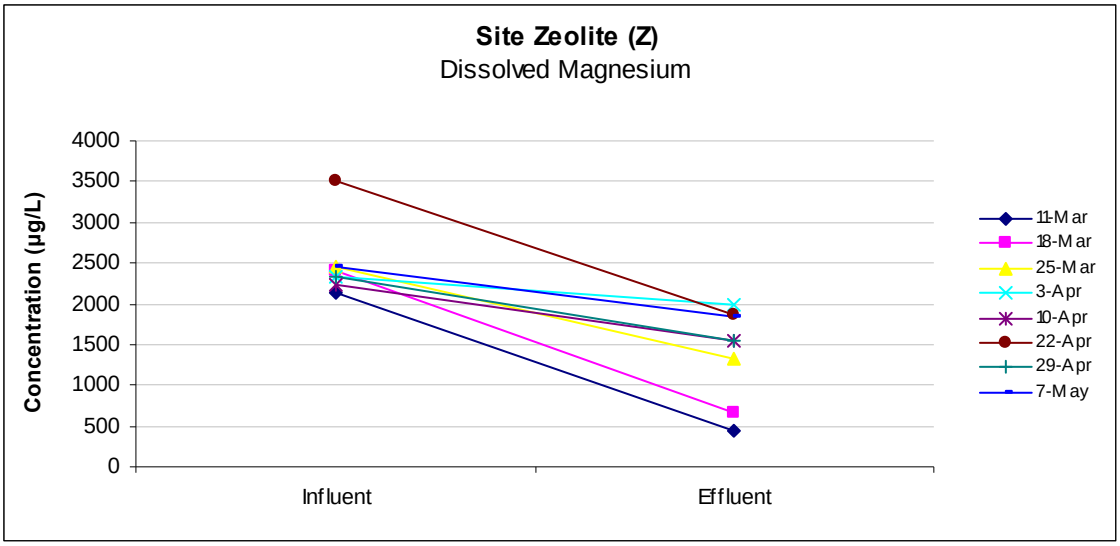
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	369005.199	369005.199	1.162	0.322
Residual	6.000	1905289.676	317548.279		
Total	7.000	2274294.875			

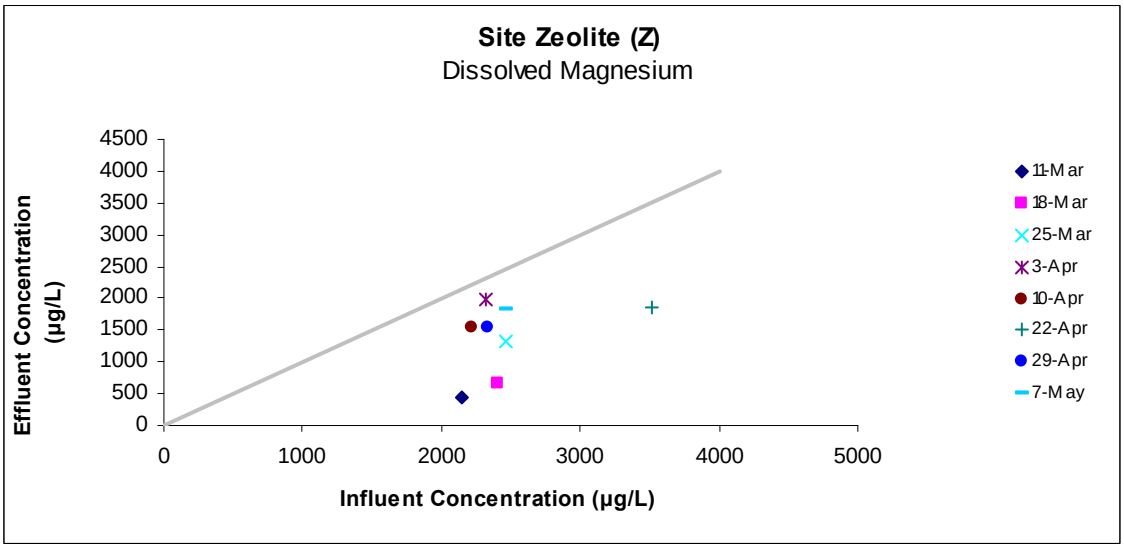
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	81.158	1240.582	0.065	0.950	-2954.437	3116.753	-2954.437	3116.753
X Variable 1	0.531	0.493	1.078	0.322	-0.675	1.738	-0.675	1.738

RESIDUAL OUTPUT

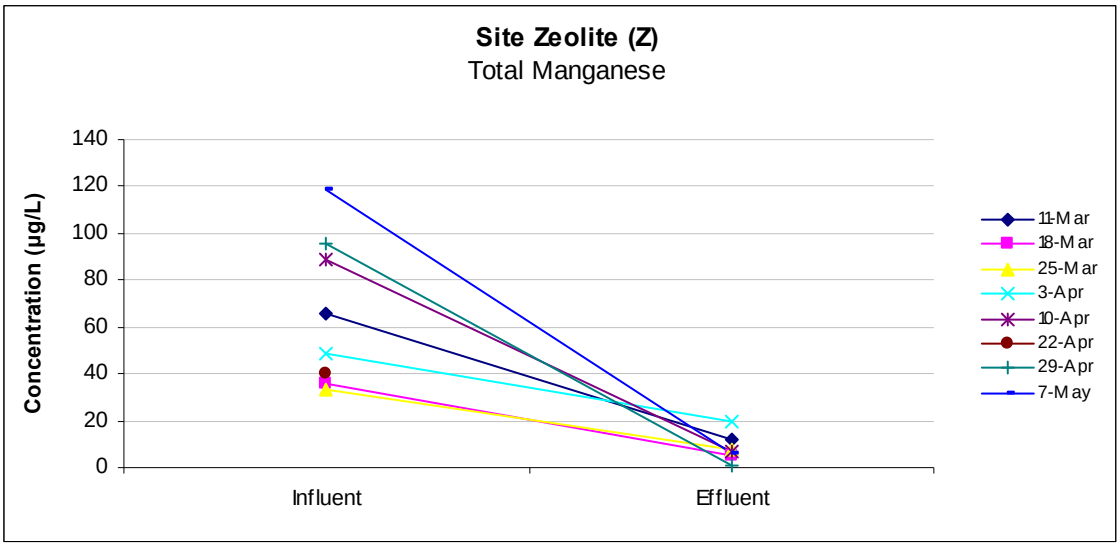
Observation	*Predicted Y*	*Residuals*
1	1220.683	-786.683
2	1358.871	-691.871
3	1390.229	-71.229
4	1317.946	679.054
5	1261.608	287.392
6	1950.425	-92.425
7	1322.198	232.802
8	1387.040	442.960

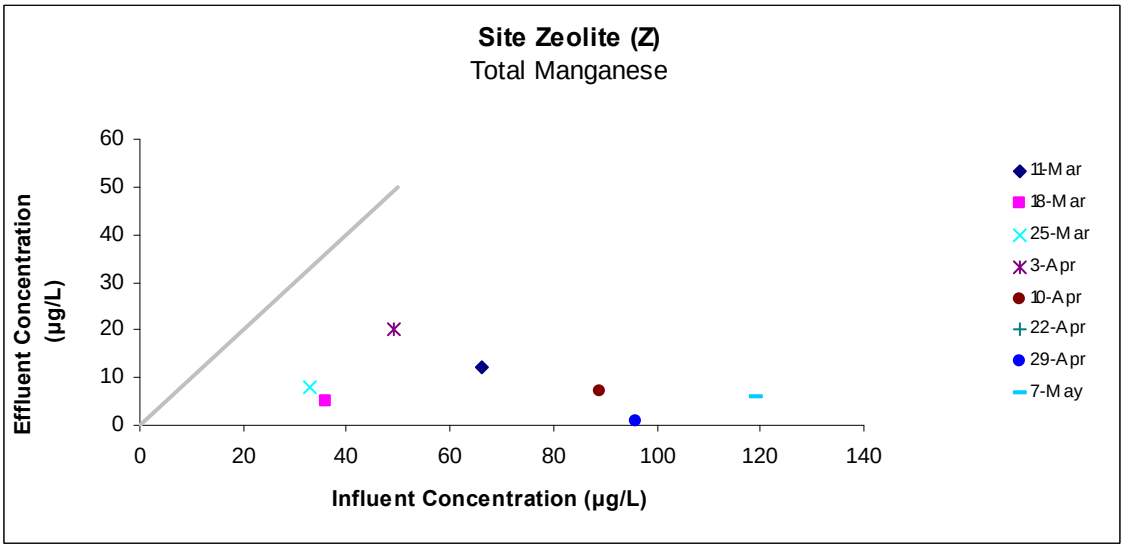



Site Zeolite (Z)
Dissolved Magnesium
Concentration (µg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

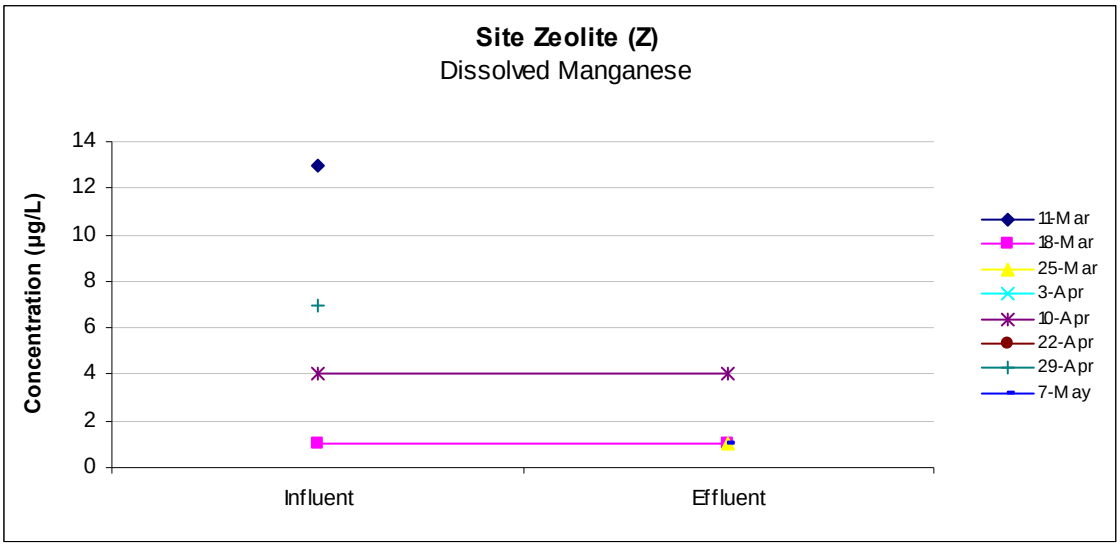

Site Zeolite (Z)
Dissolved Magnesium
Effluent Concentration (µg/L)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
0
1000
2000
3000
4000
5000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

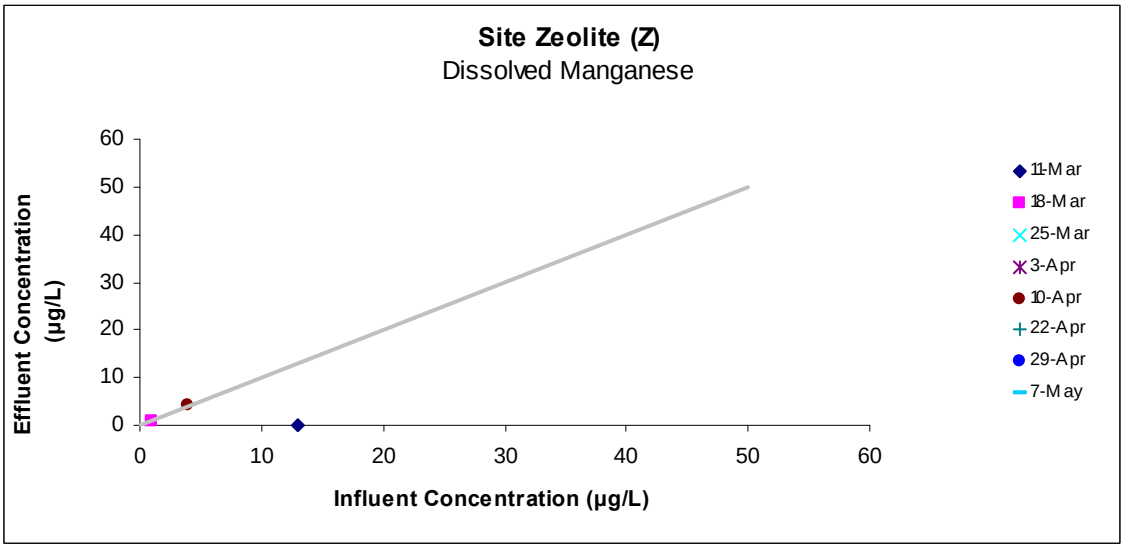
Total Mn


Site Zeolite (Z)
Total Manganese
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Total Manganese
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
140
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

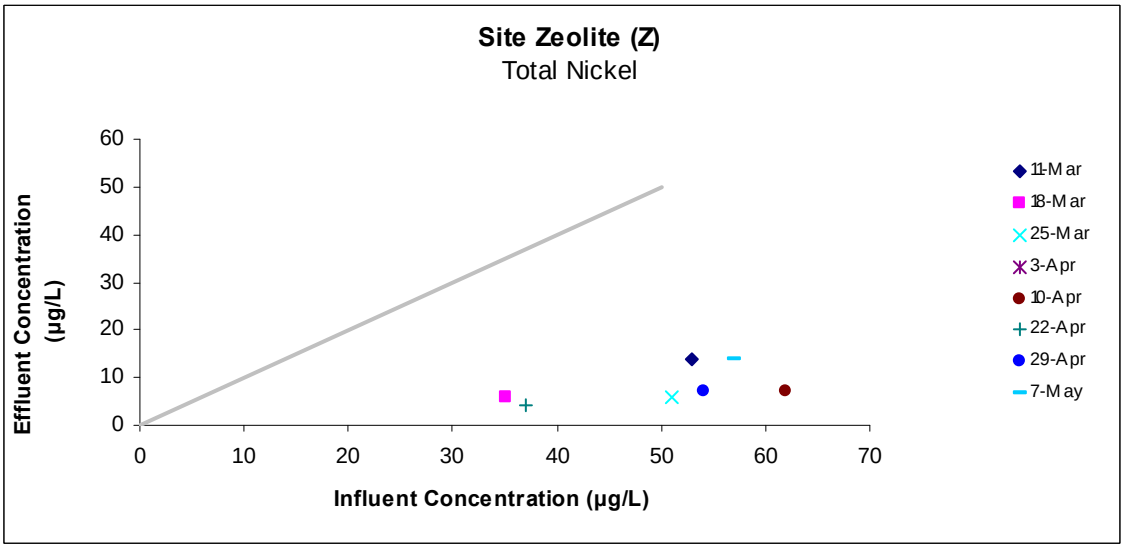
Dissolved Mn



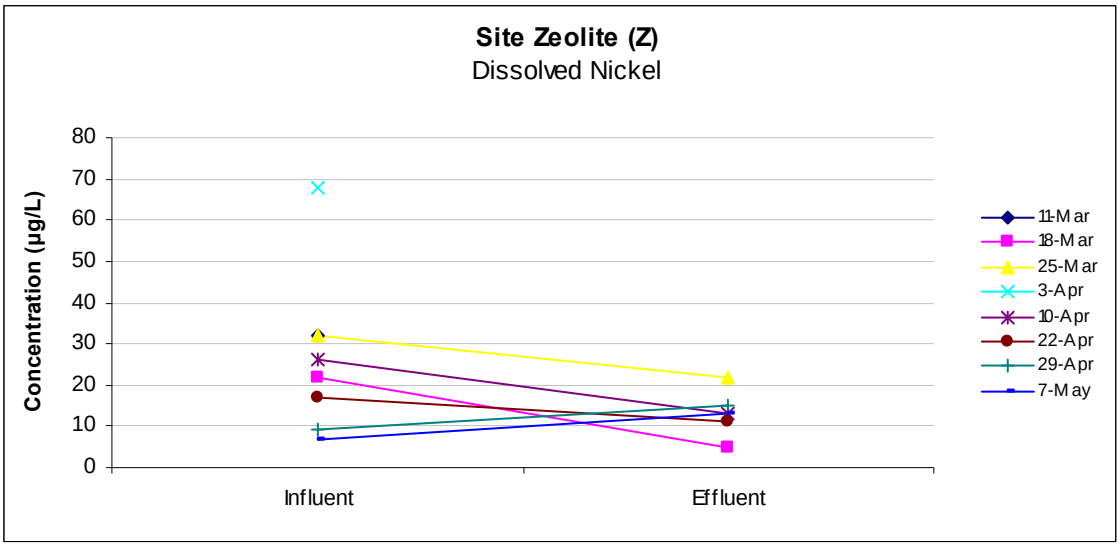


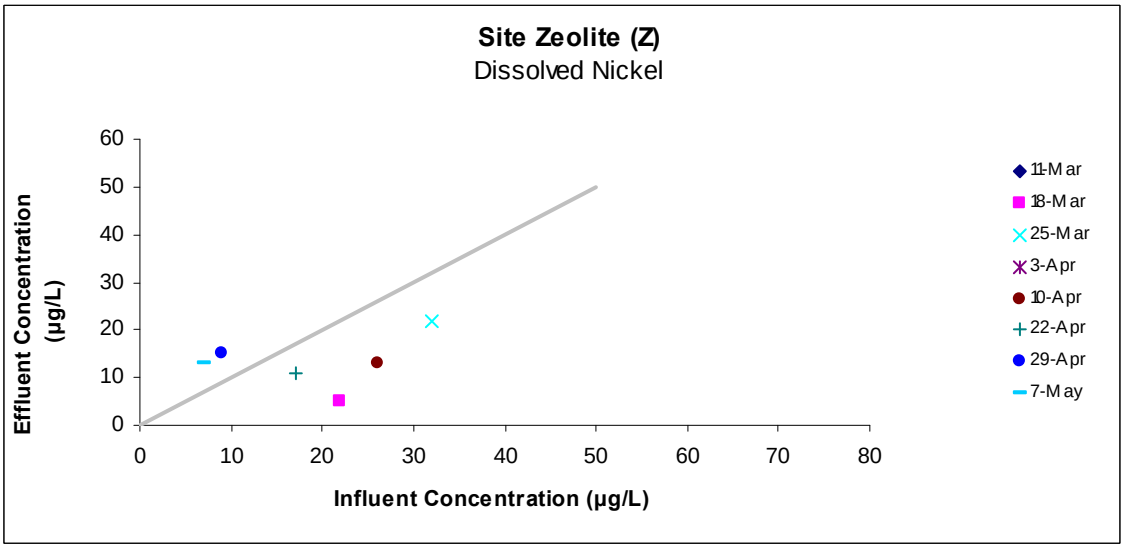
Total Ni

Site Zeolite (Z)
Total Nickel
Concentration (µg/L)
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

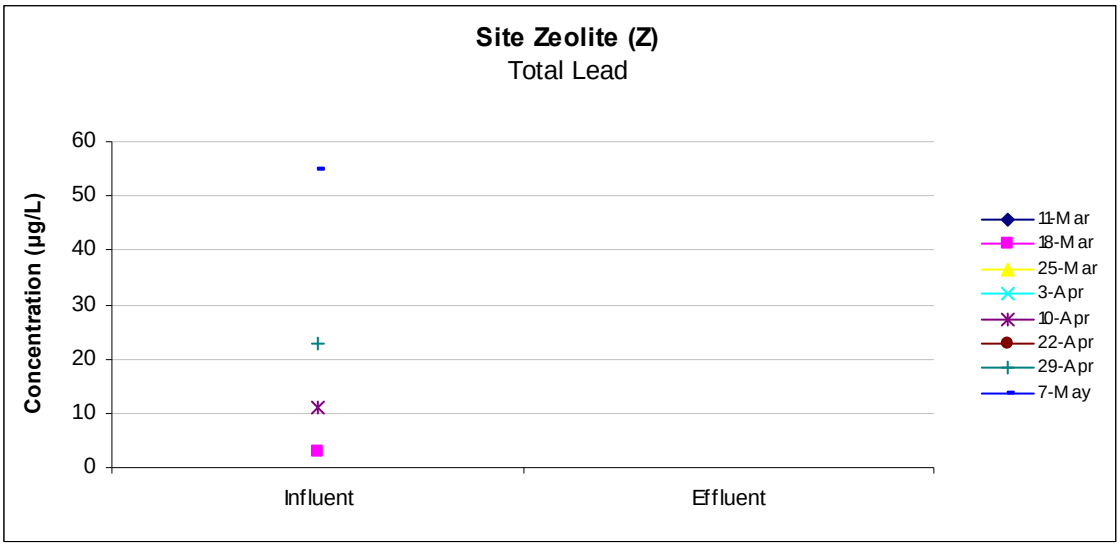

Site Zeolite (Z)
Total Nickel
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
70
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

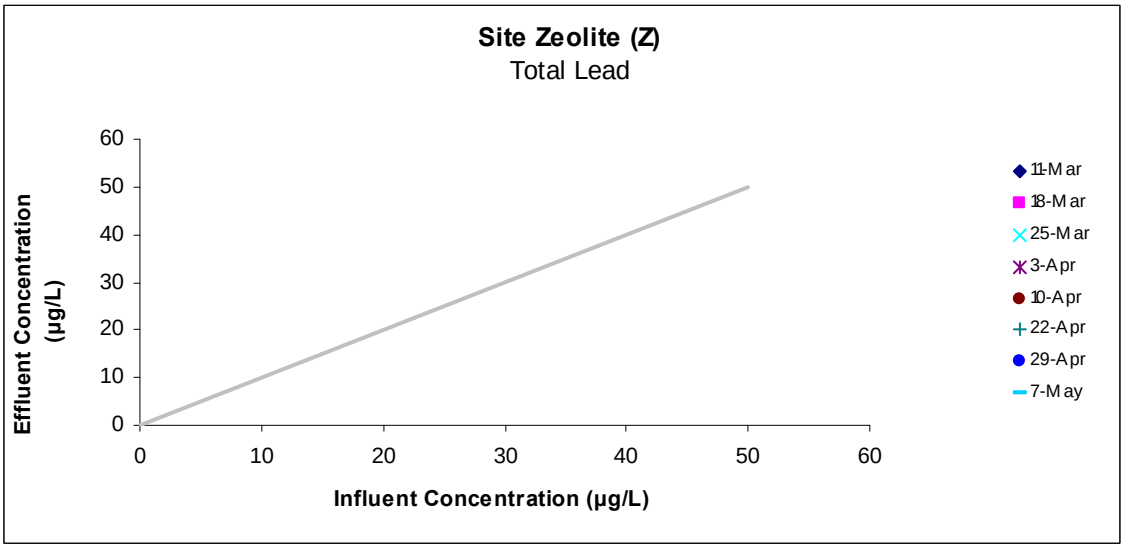
Dissolved Ni



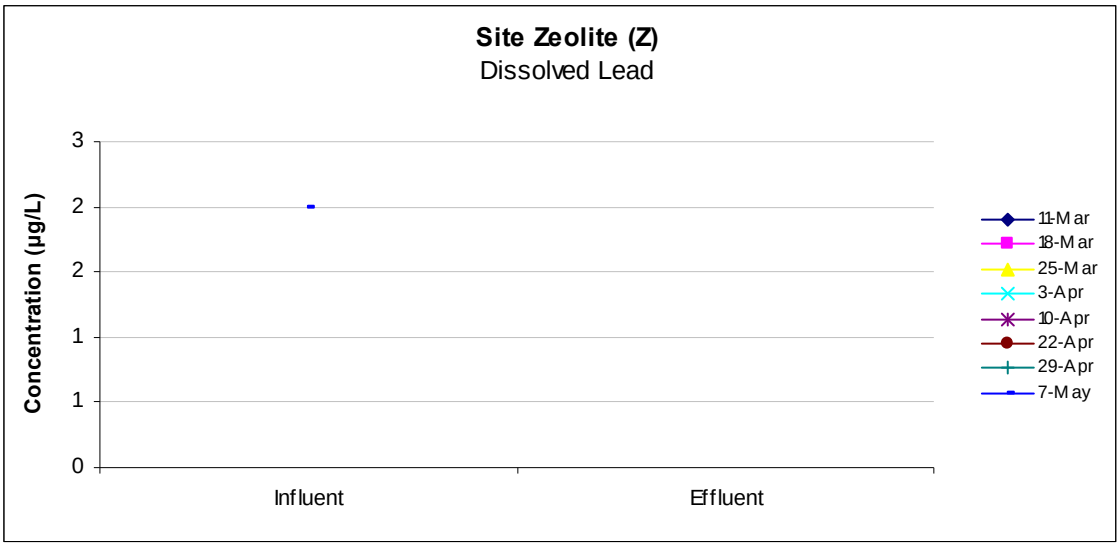


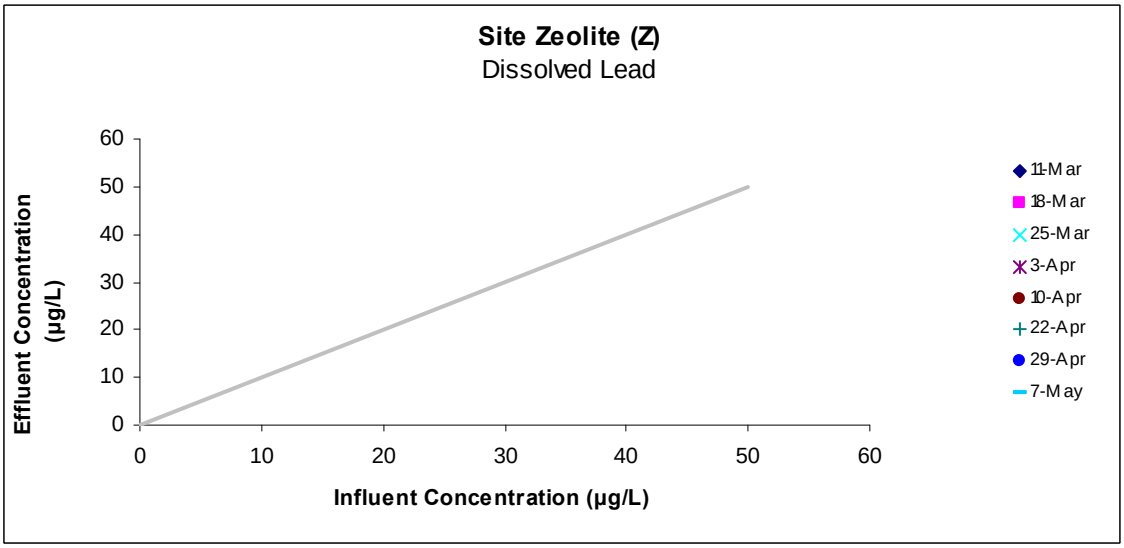
Total Pb


Site Zeolite (Z)
Total Lead
Concentration (µg/L)
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Total Lead
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Pb





Total Zn

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.131
R Square	0.017
Adjusted R Square	-0.147
Standard Error	15.586
Observations	8.000

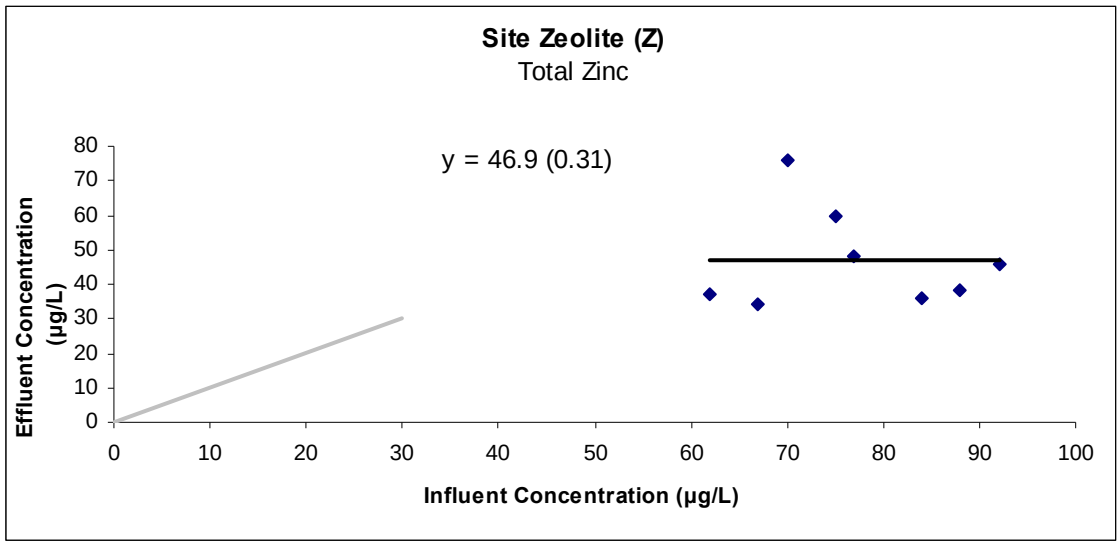
ANOVA

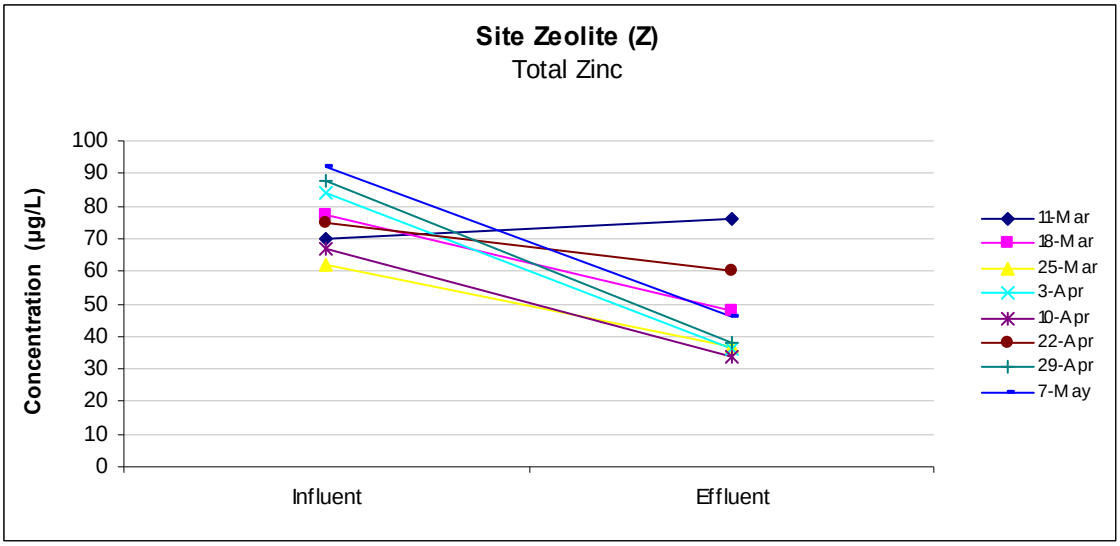
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	25.405	25.405	0.105	0.757
Residual	6.000	1457.470	242.912		
Total	7.000	1482.875			

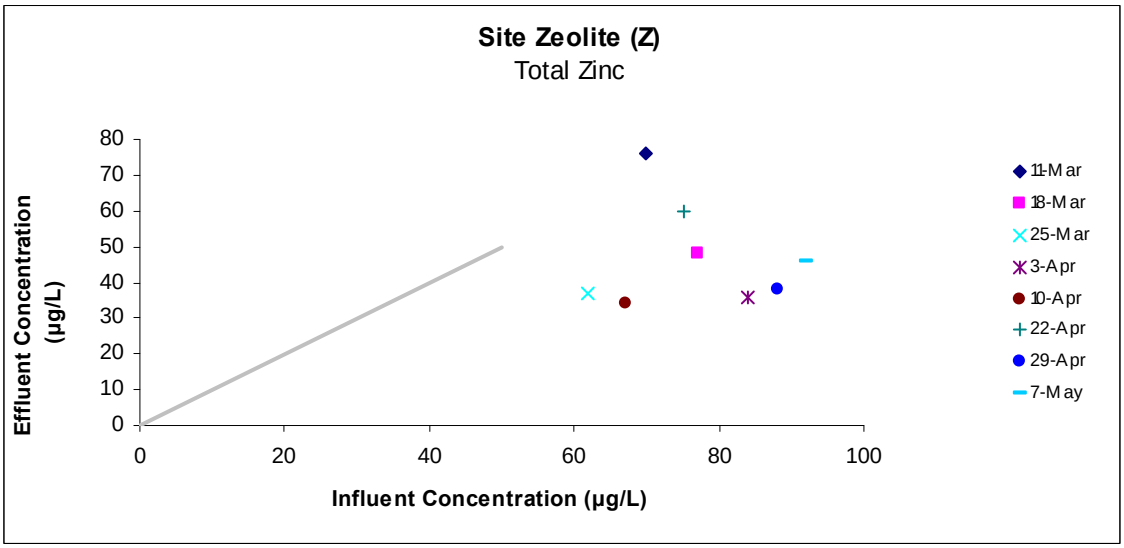
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	60.813	43.449	1.400	0.211	-45.502	167.128	-45.502	167.128
X Variable 1	-0.181	0.561	-0.323	0.757	-1.553	1.190	-1.553	1.190

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	48.121	27.879
2	46.852	1.148
3	49.572	-12.572
4	45.583	-9.583
5	48.665	-14.665
6	47.215	12.785
7	44.858	-6.858
8	44.133	1.867




Site Zeolite (Z)
Total Zinc
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Total Zinc
Effluent Concentration (µg/L)
80
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Zn

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.092
R Square	0.009
Adjusted R Square	-0.157
Standard Error	20.964
Observations	8.000

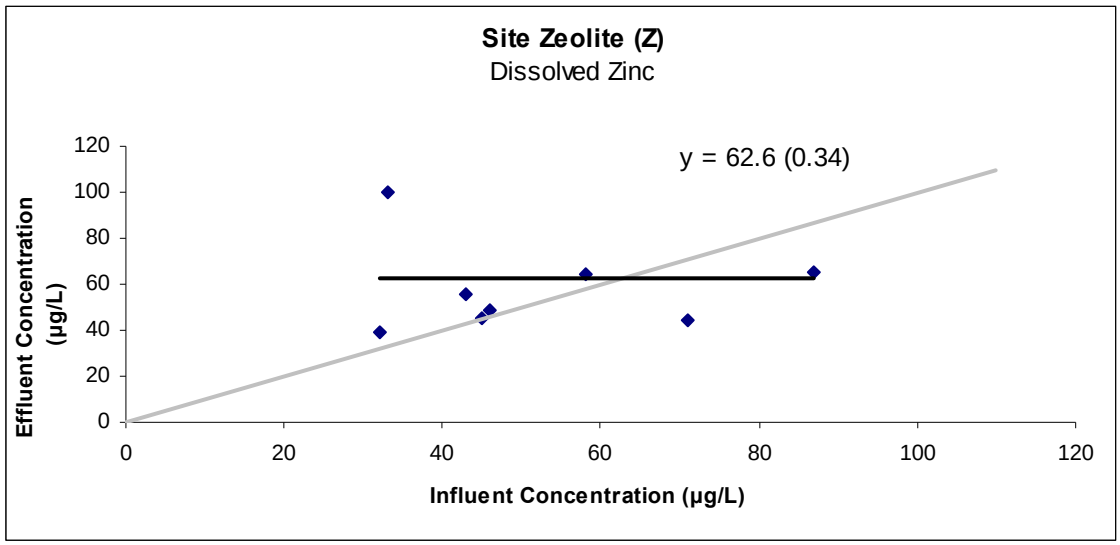
ANOVA

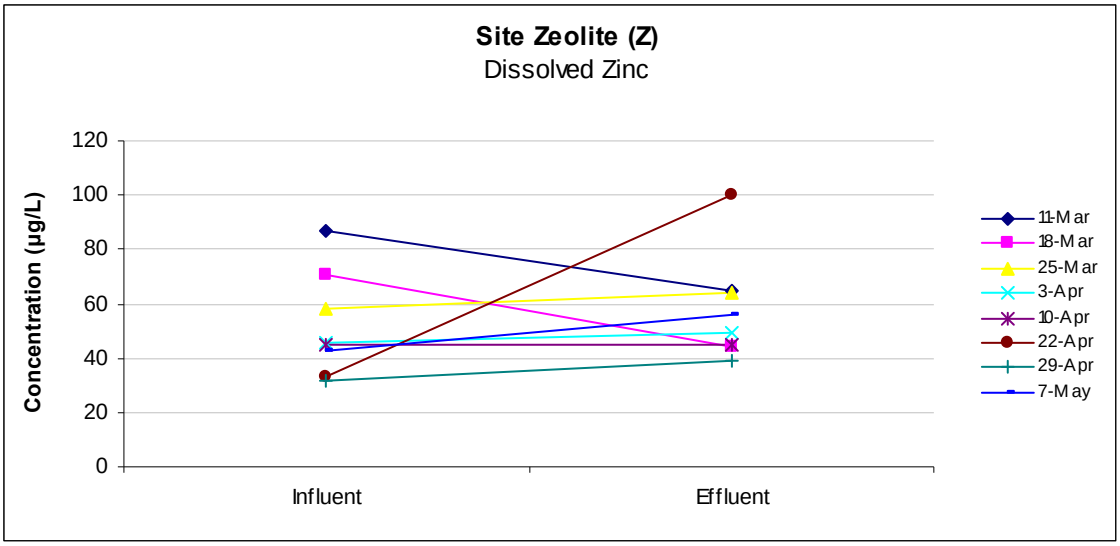
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	22.645	22.645	0.052	0.828
Residual	6.000	2636.855	439.476		
Total	7.000	2659.500			

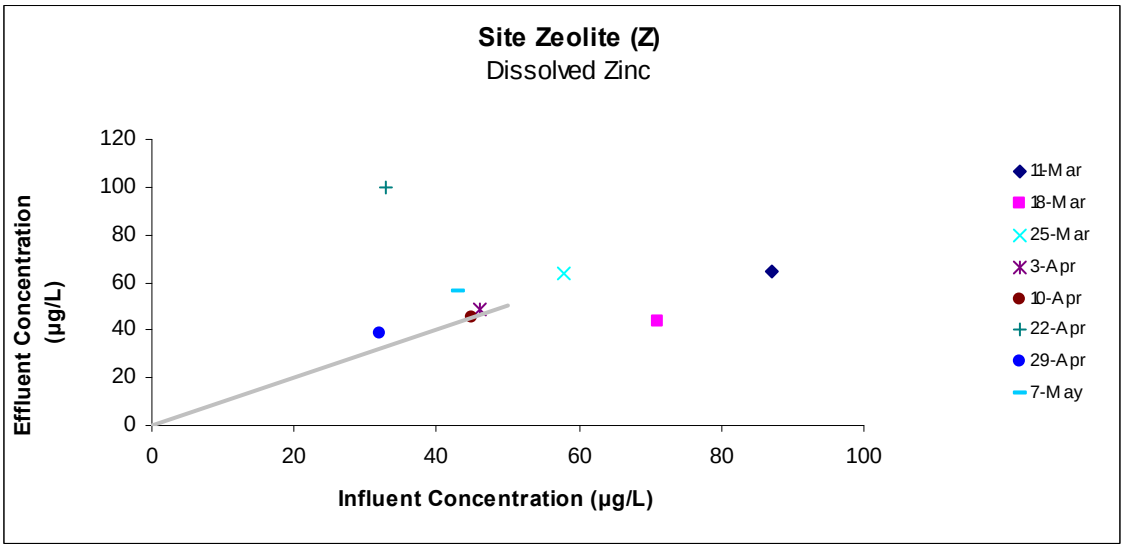
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	62.640	22.780	2.750	0.033	6.899	118.380	6.899	118.380
X Variable 1	-0.094	0.415	-0.227	0.828	-1.110	0.922	-1.110	0.922

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	54.439	10.561
2	55.947	-11.947
3	57.173	6.827
4	58.304	-9.304
5	58.398	-13.398
6	59.529	40.471
7	59.623	-20.623
8	58.587	-2.587




Site Zeolite (Z)
Dissolved Zinc
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Dissolved Zinc
Effluent Concentration (µg/L)
120
100
80
60
40
20
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total K

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.271
R Square	0.074
Adjusted R Square	-0.081
Standard Error	864.337
Observations	8.000

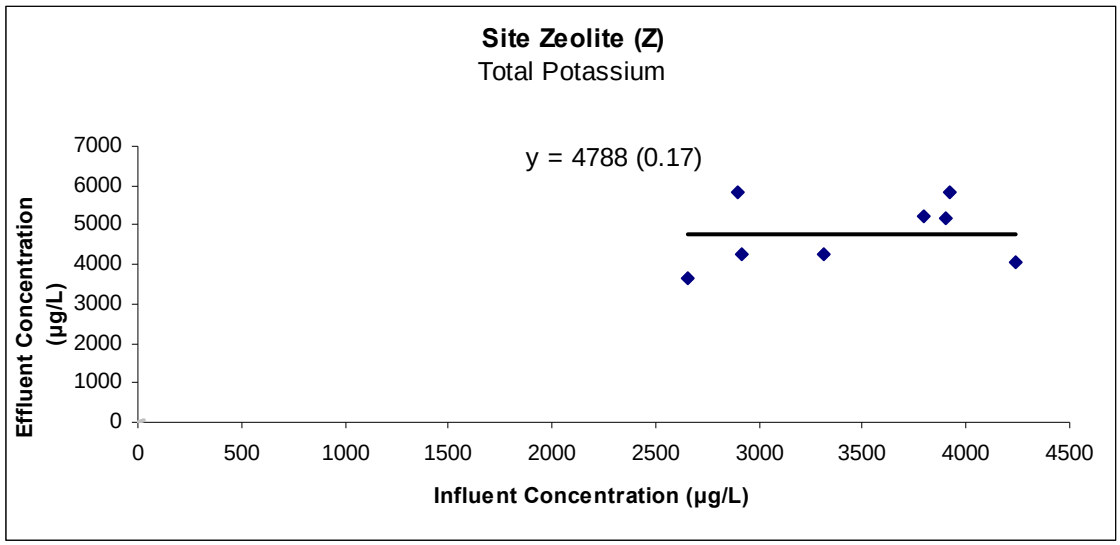
ANOVA

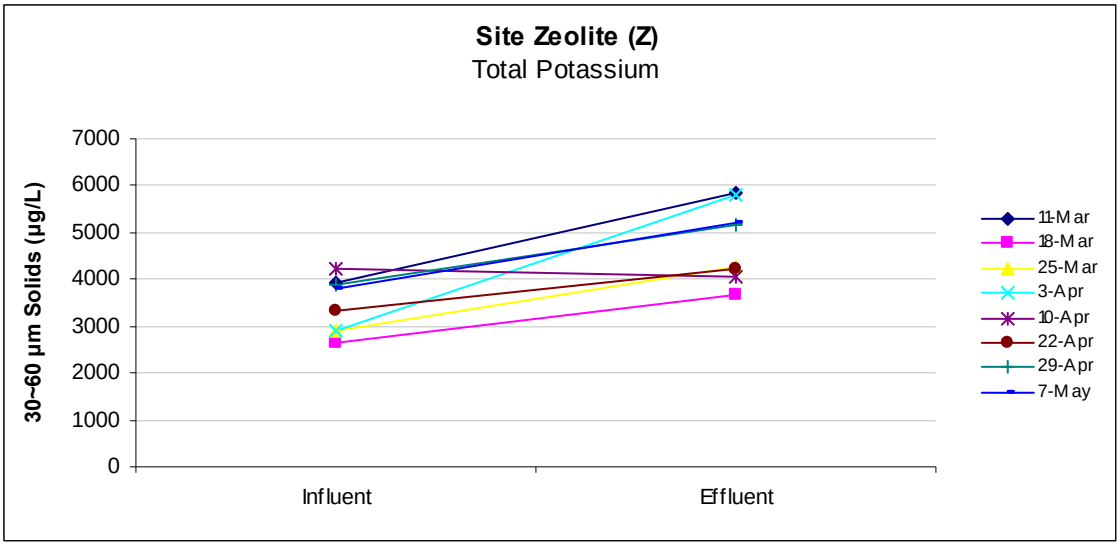
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	355966.459	355966.459	0.476	0.516
Residual	6.000	4482471.416	747078.569		
Total	7.000	4838437.875			

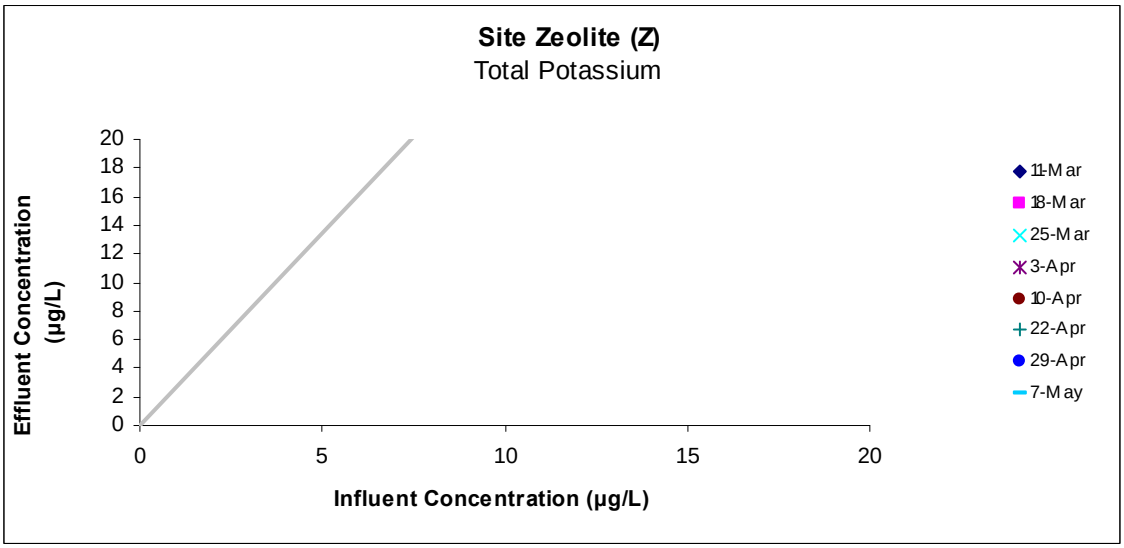
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3459.086	1949.838	1.774	0.126	-1311.995	8230.166	-1311.995	8230.166
X Variable 1	0.385	0.558	0.690	0.516	-0.980	1.749	-0.980	1.749

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	4967.496	860.504
2	4479.447	-817.447
3	4581.445	-305.445
4	4575.671	1250.329
5	5090.663	-1016.663
6	4734.634	-493.634
7	4959.414	219.586
8	4918.230	302.770




Site Zeolite (Z)
Total Potassium
30–60 µm Solids (µg/L)
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Total Potassium
Effluent Concentration (µg/L)
20
18
16
14
12
10
8
6
4
2
0
0
5
10
15
20
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved K

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.170
R Square	0.029
Adjusted R Square	-0.133
Standard Error	1072.963
Observations	8.000

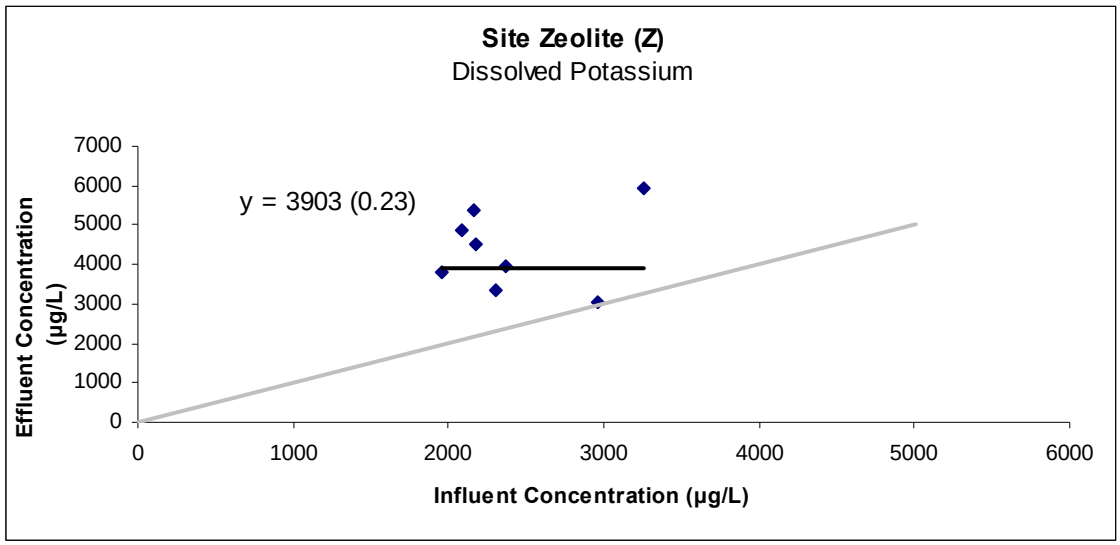
ANOVA

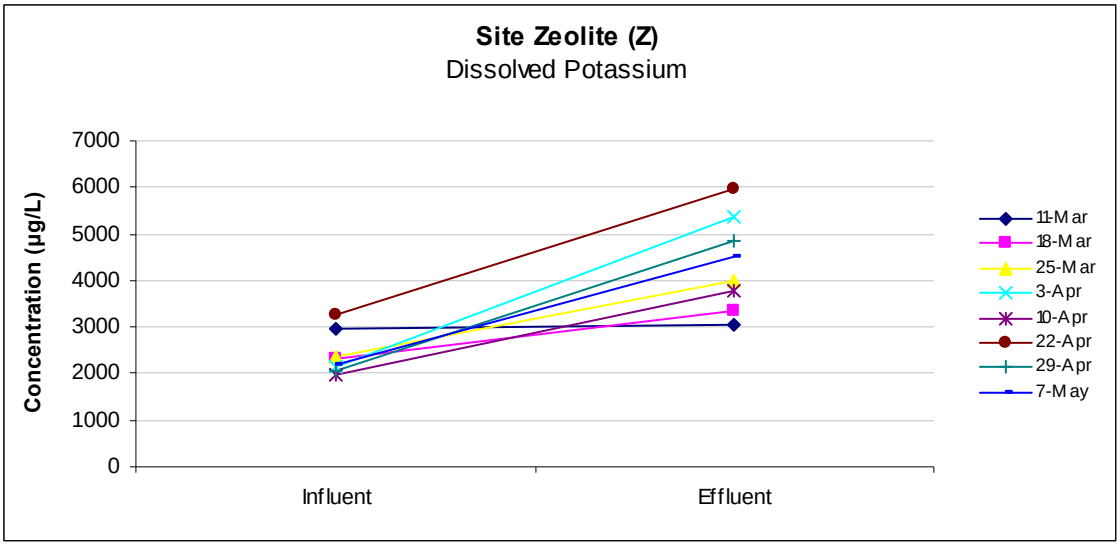
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	204664.679	204664.679	0.178	0.688
Residual	6.000	6907501.196	1151250.199		
Total	7.000	7112165.875			

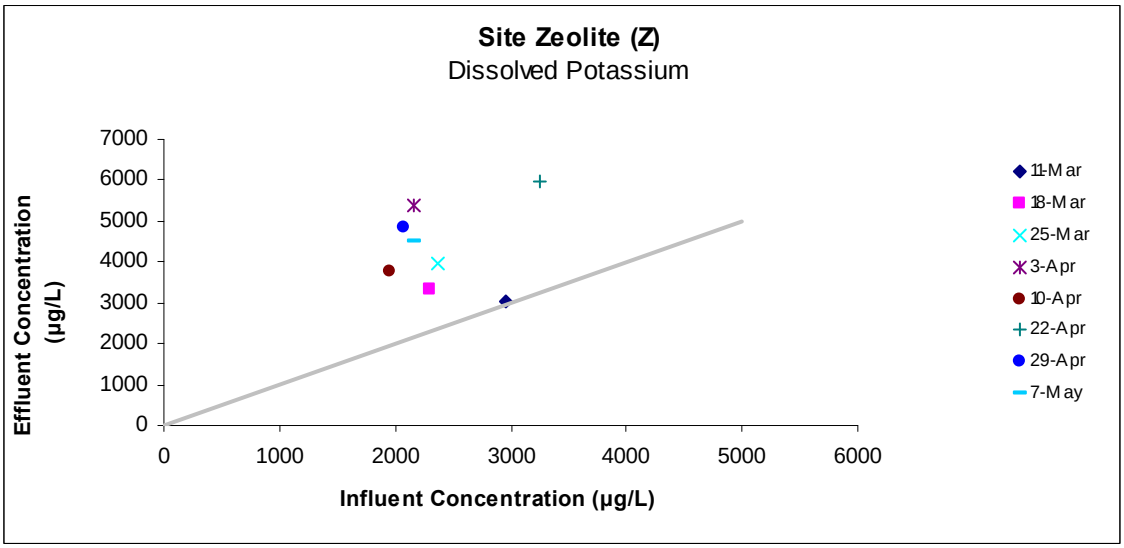
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3451.372	2175.592	1.586	0.164	-1872.109	8774.853	-1872.109	8774.853
X Variable 1	0.375	0.890	0.422	0.688	-1.803	2.553	-1.803	2.553

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	4560.701	-1528.701
2	4316.018	-966.018
3	4340.036	-367.036
4	4262.728	1118.272
5	4186.922	-405.922
6	4672.534	1276.466
7	4232.330	632.670
8	4265.730	240.270




Site Zeolite (Z)
Dissolved Potassium
Concentration (µg/L)
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Dissolved Potassium
Effluent Concentration (µg/L)
7000
6000
5000
4000
3000
2000
1000
0
0
1000
2000
3000
4000
5000
6000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Na

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.585
R Square	0.342
Adjusted R Square	0.233
Standard Error	13117.145
Observations	8.000

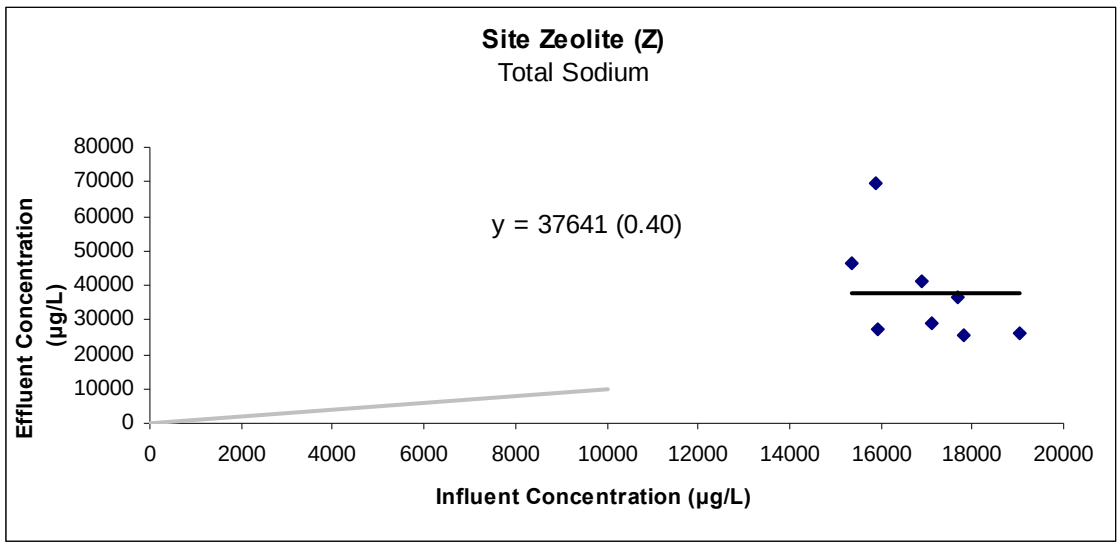
ANOVA

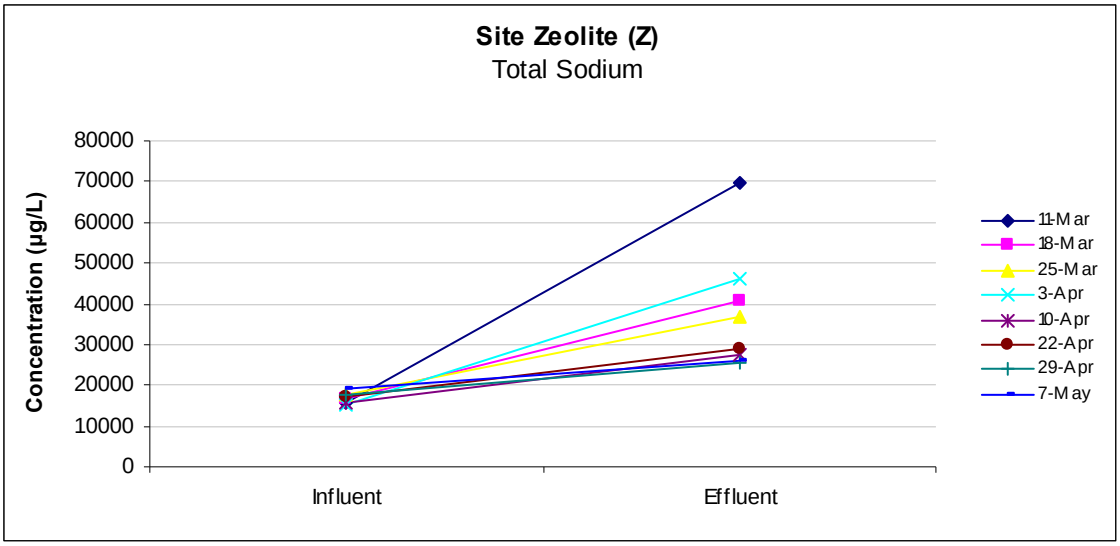
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	537229492.988	537229492.988	3.122	0.128
Residual	6.000	1032357035.012	172059505.835		
Total	7.000	1569586528.000			

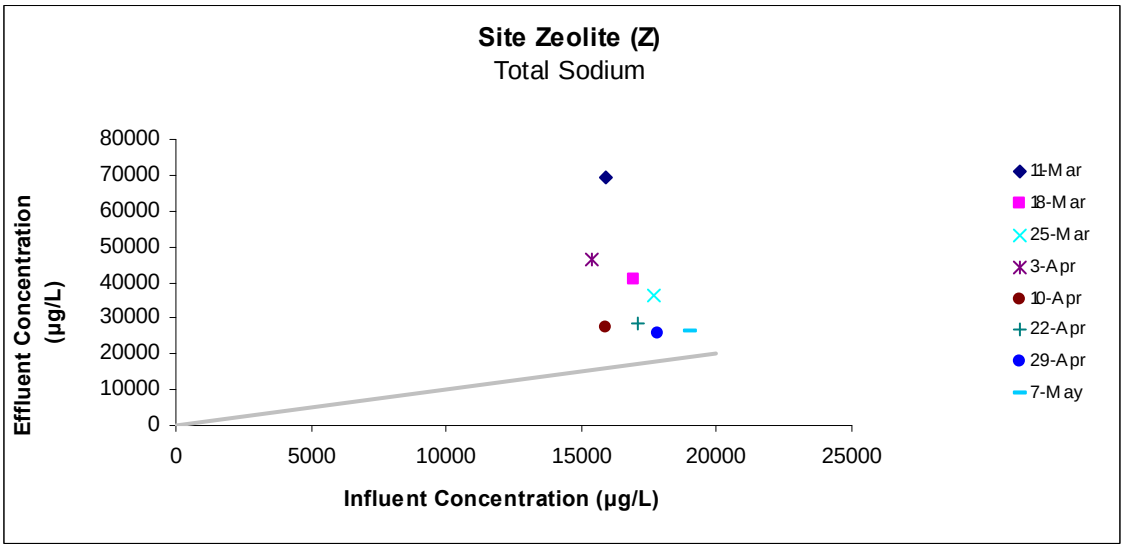
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	159629.545	69192.045	2.307	0.061	-9677.290	328936.380	-9677.290	328936.380
X Variable 1	-7.189	4.068	-1.767	0.128	-17.143	2.766	-17.143	2.766

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	45494.648	24080.352
2	38075.916	2811.084
3	32504.678	4084.322
4	49175.260	-2888.260
5	45048.949	-17674.949
6	36587.856	-7837.856
7	31512.638	-5892.638
8	22728.054	3317.946




Site Zeolite (Z)
Total Sodium
Concentration (µg/L)
80000
70000
60000
50000
40000
30000
20000
10000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Total Sodium
Effluent Concentration (µg/L)
80000
70000
60000
50000
40000
30000
20000
10000
0
0
5000
10000
15000
20000
25000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Na

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.245
R Square	0.060
Adjusted R Square	-0.097
Standard Error	7671.277
Observations	8.000

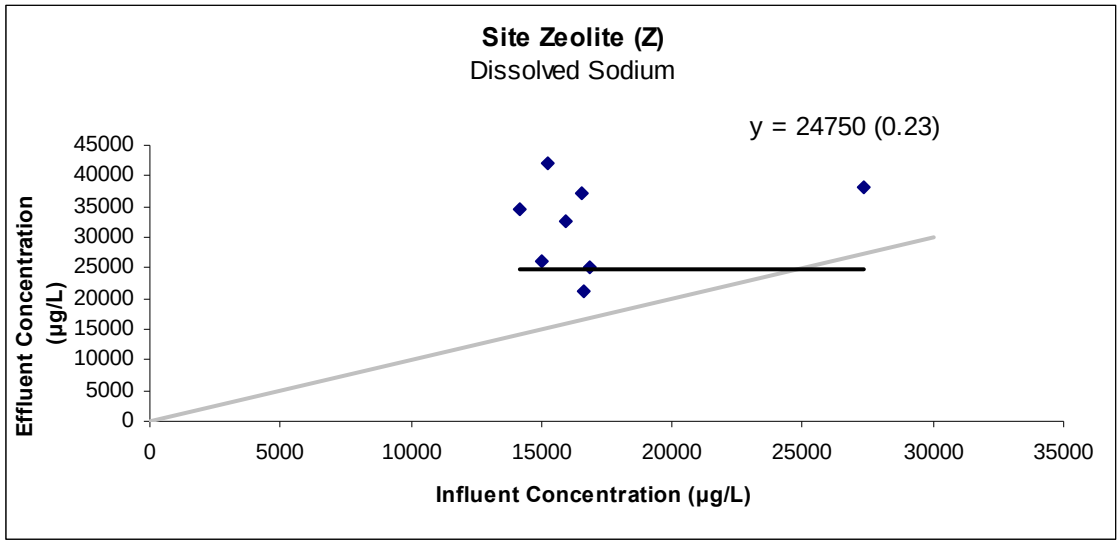
ANOVA

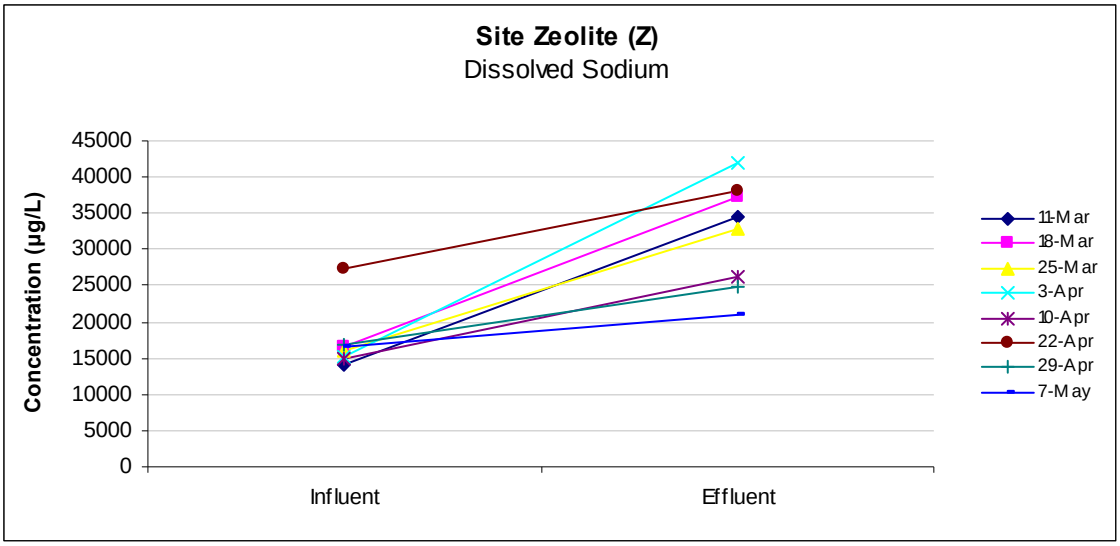
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	22552550.134	22552550.134	0.383	0.559
Residual	6.000	353090911.366	58848485.228		
Total	7.000	375643461.500			

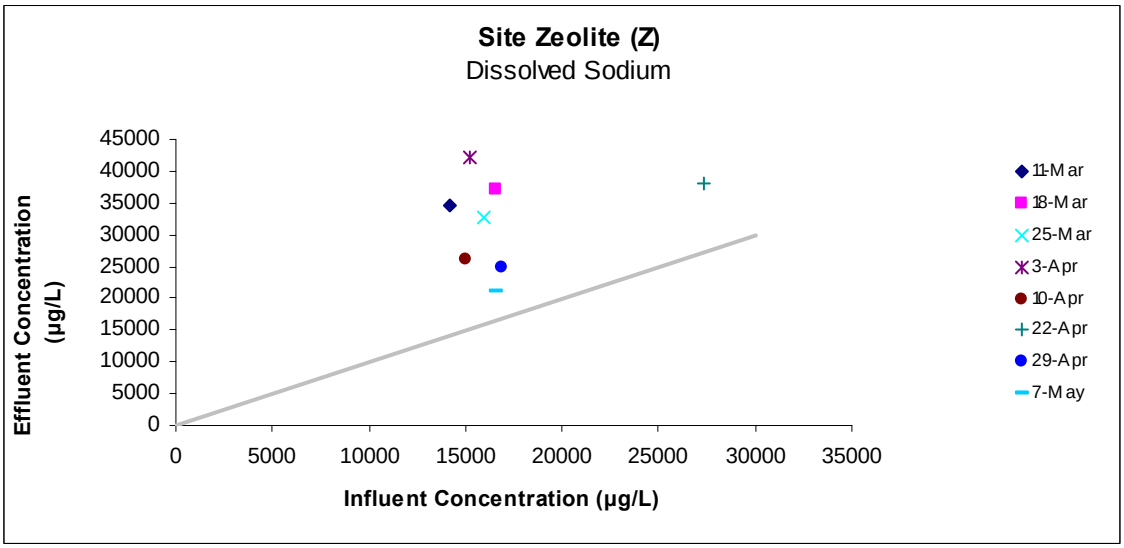
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	24749.842	12218.769	2.026	0.089	-5148.409	54648.094	-5148.409	54648.094
X Variable 1	0.428	0.692	0.619	0.559	-1.265	2.122	-1.265	2.122

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	30821.993	3654.007
2	31833.233	5455.767
3	31586.422	1133.578
4	31291.620	10777.380
5	31178.498	-4930.498
6	36460.512	1699.488
7	31960.495	-7010.495
8	31869.226	-10779.226




Site Zeolite (Z)
Dissolved Sodium
Concentration (µg/L)
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Dissolved Sodium
Effluent Concentration (µg/L)
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
0
5000
10000
15000
20000
25000
30000
35000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Cr

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.045
R Square	0.002
Adjusted R Square	-0.164
Standard Error	11.650
Observations	8.000

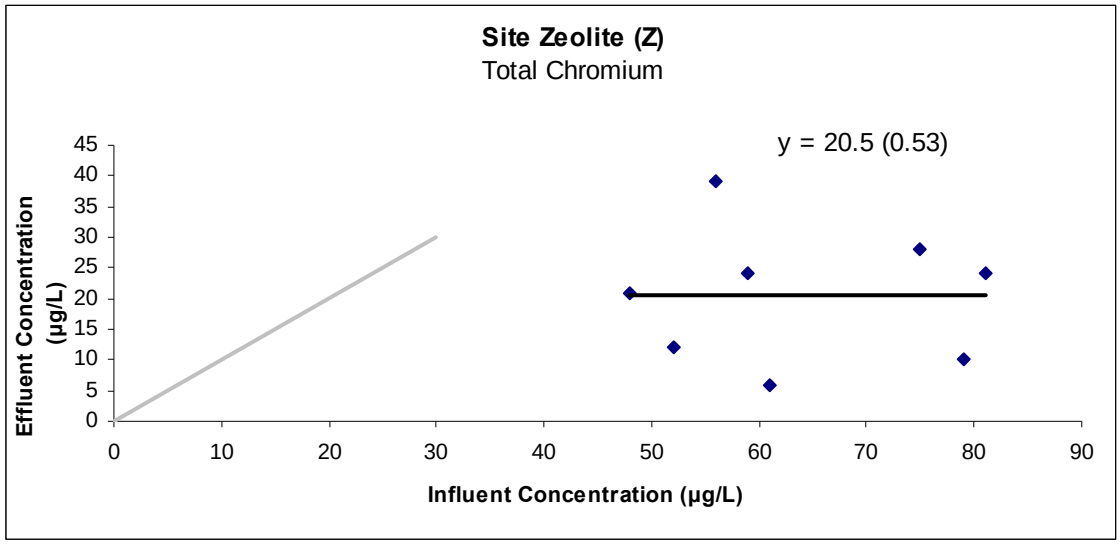
ANOVA

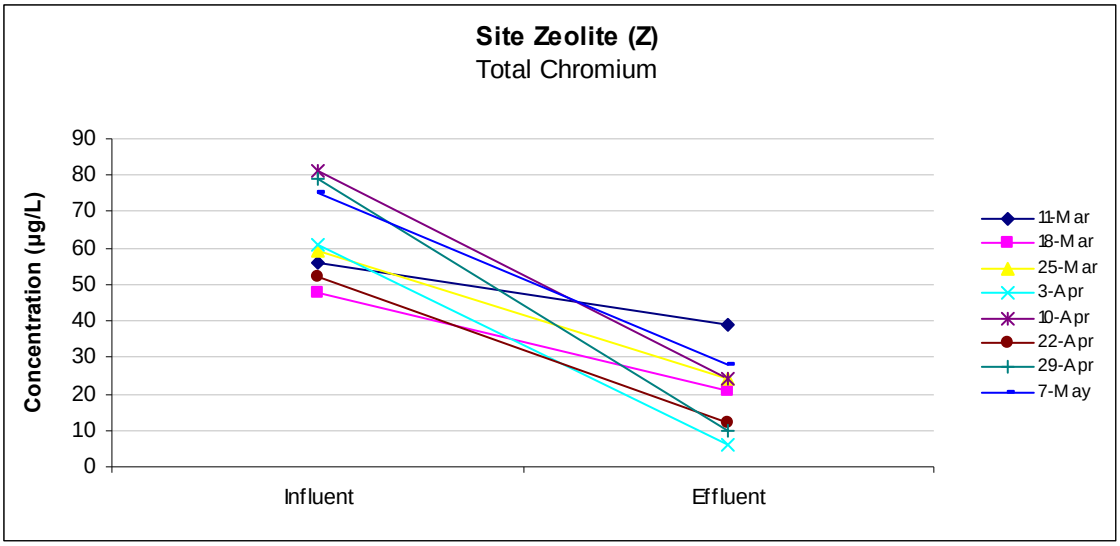
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	1.670	1.670	0.012	0.915
Residual	6.000	814.330	135.722		
Total	7.000	816.000			

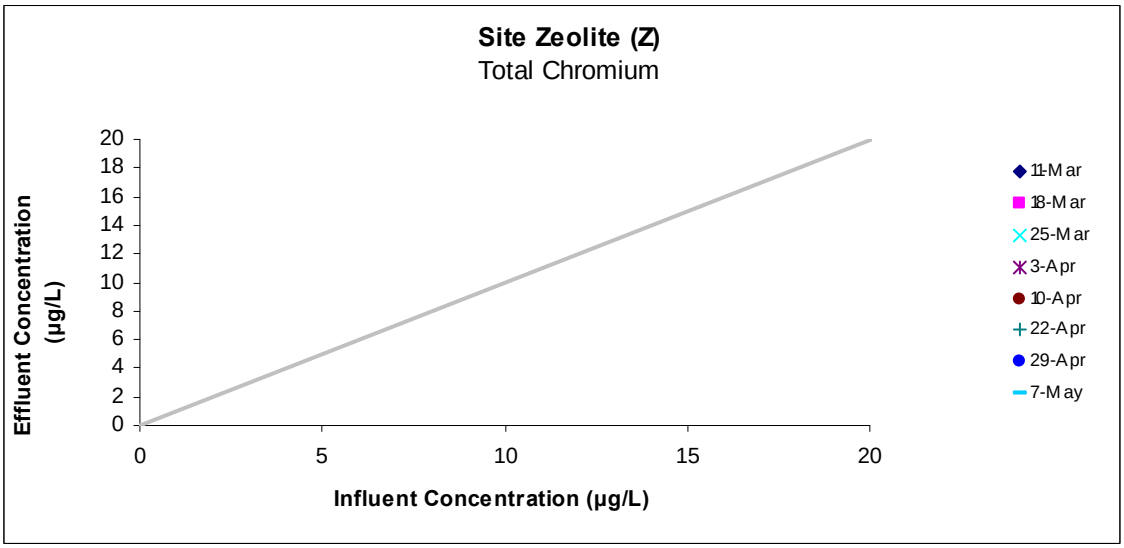
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	22.953	22.489	1.021	0.347	-32.076	77.982	-32.076	77.982
X Variable 1	-0.038	0.346	-0.111	0.915	-0.885	0.809	-0.885	0.809

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	20.802	18.198
2	21.110	-0.110
3	20.687	3.313
4	20.610	-14.610
5	19.842	4.158
6	20.956	-8.956
7	19.919	-9.919
8	20.073	7.927




Site Zeolite (Z)
Total Chromium
Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Total Chromium
Effluent Concentration (µg/L)
20
18
16
14
12
10
8
6
4
2
0
0
5
10
15
20
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cr

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.980
R Square	0.961
Adjusted R Square	0.794
Standard Error	2.833
Observations	7.000

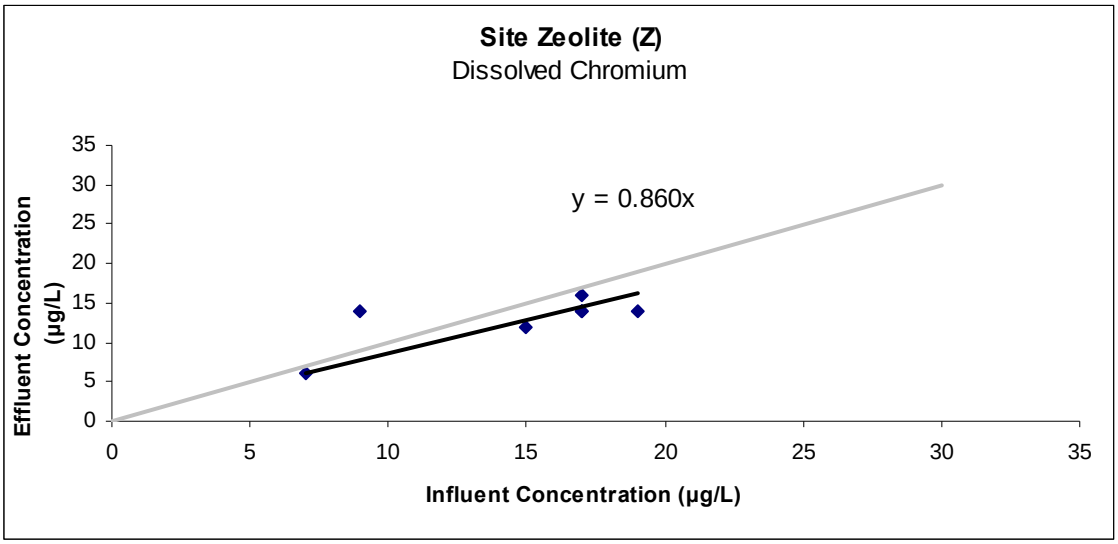
ANOVA

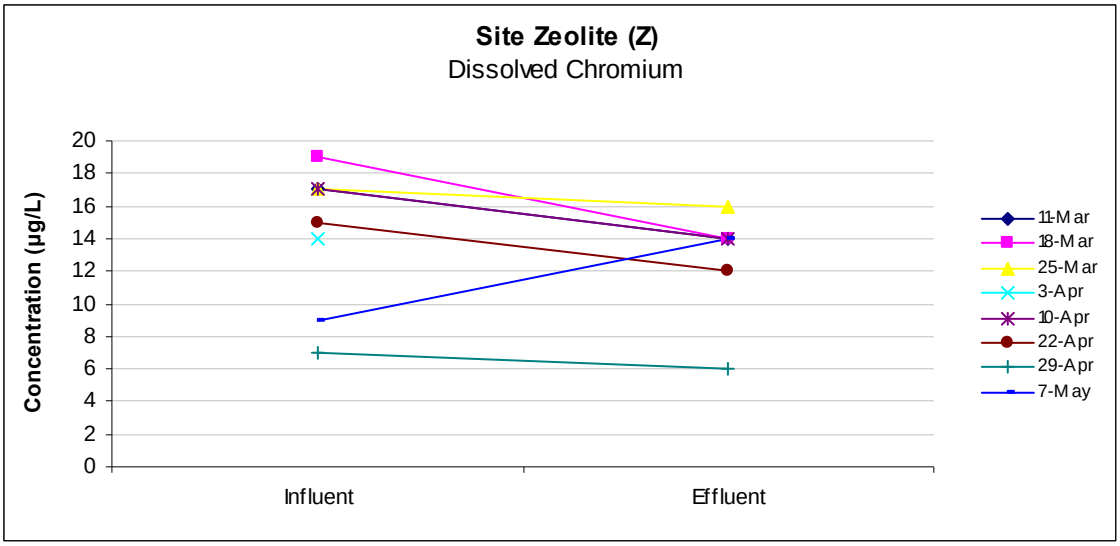
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	1171.853	1171.853	146.036	0.000
Residual	6.000	48.147	8.024		
Total	7.000	1220.000			

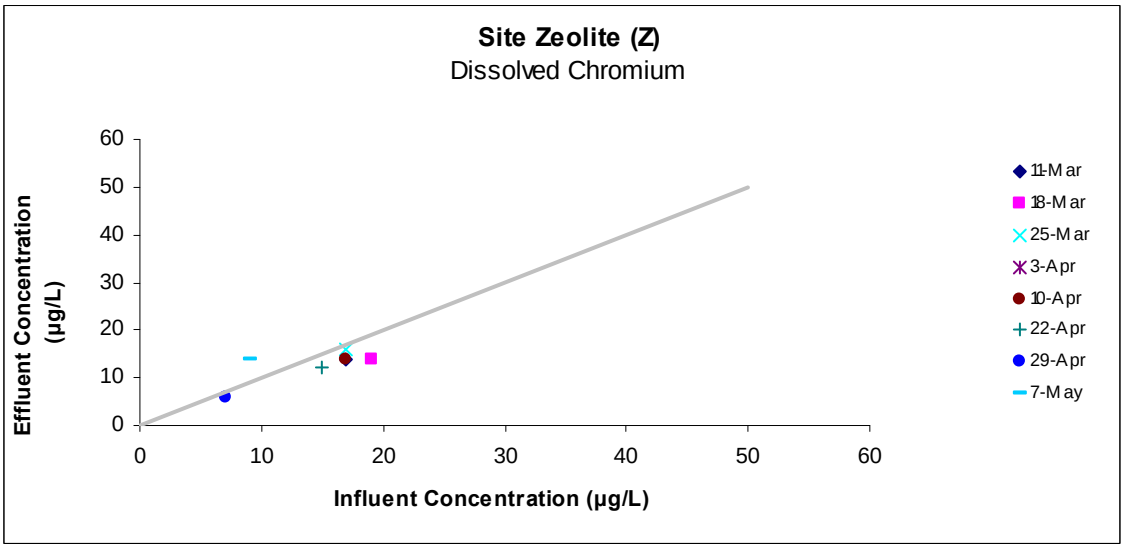
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.860	0.071	12.085	0.000	0.686	1.035	0.686	1.035

RESIDUAL OUTPUT

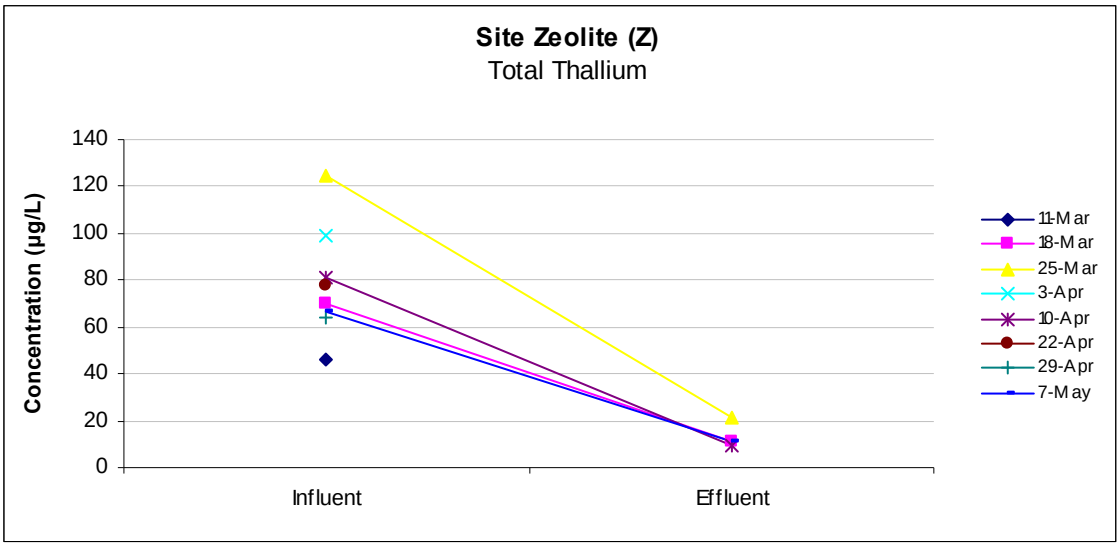
Observation	*Predicted Y*	*Residuals*
1	14.627	-0.627
2	16.347	-2.347
3	14.627	1.373
4	14.627	-0.627
5	12.906	-0.906
6	6.023	-0.023
7	7.744	6.256

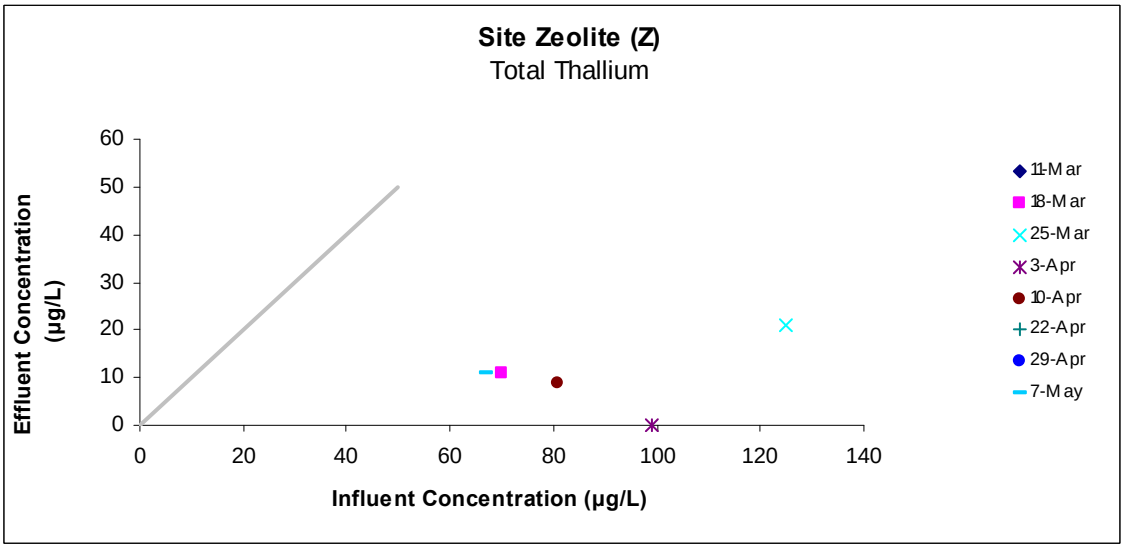



Site Zeolite (Z)
Dissolved Chromium
Concentration (µg/L)
20
18
16
14
12
10
8
6
4
2
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

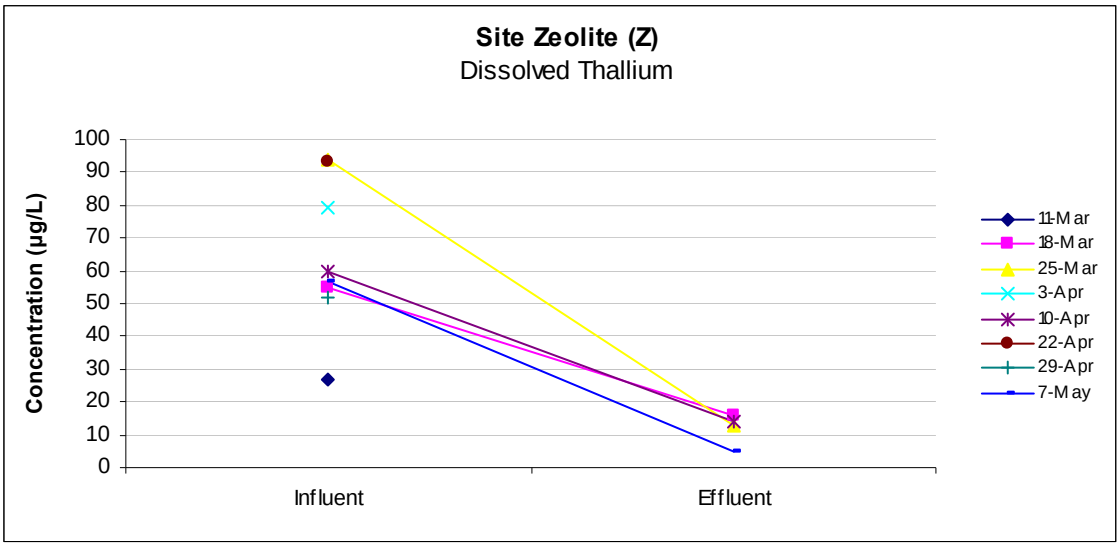

Site Zeolite (Z)
Dissolved Chromium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

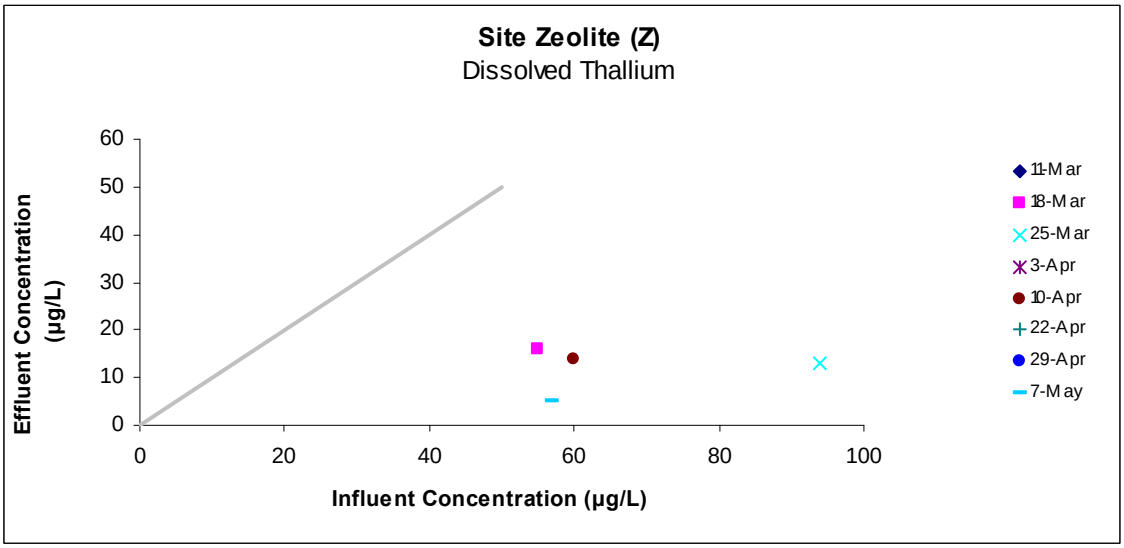
Total Tl


Site Zeolite (Z)
Total Thallium
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Total Thallium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
140
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Tl





Total Sb

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.554
R Square	0.307
Adjusted R Square	0.191
Standard Error	13.704
Observations	8.000

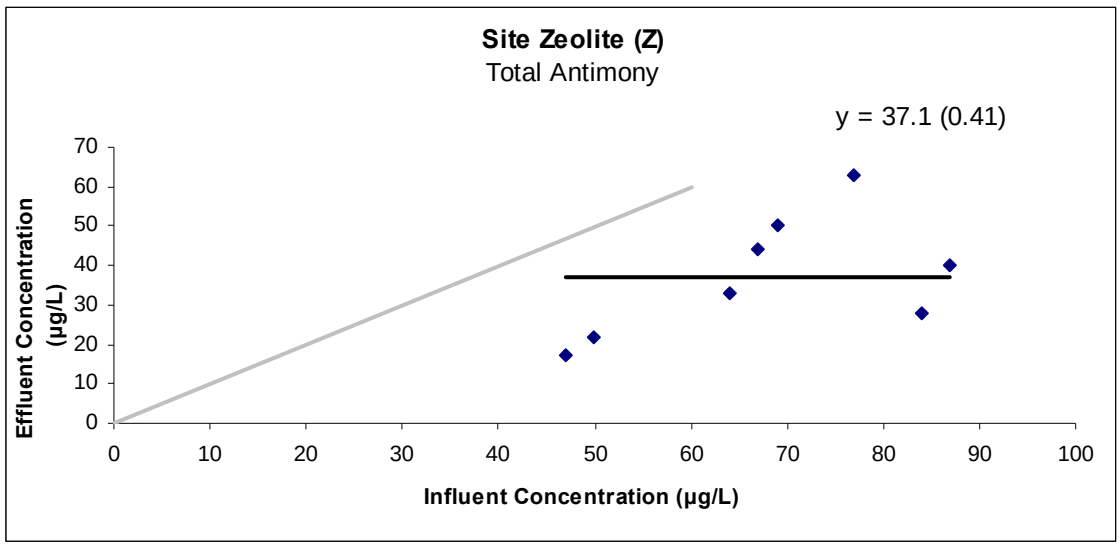
ANOVA

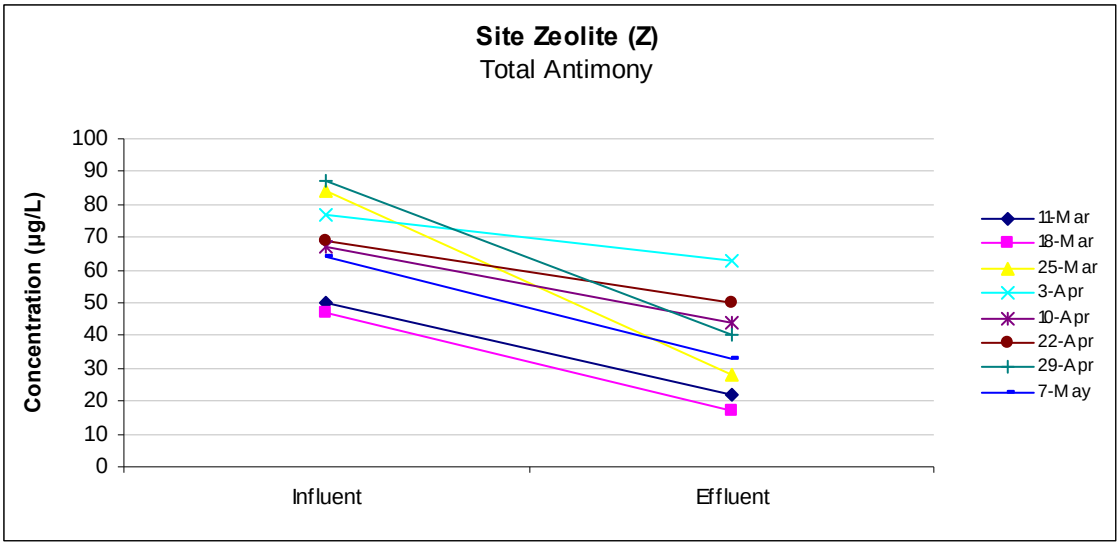
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	498.129	498.129	2.653	0.155
Residual	6.000	1126.746	187.791		
Total	7.000	1624.875			

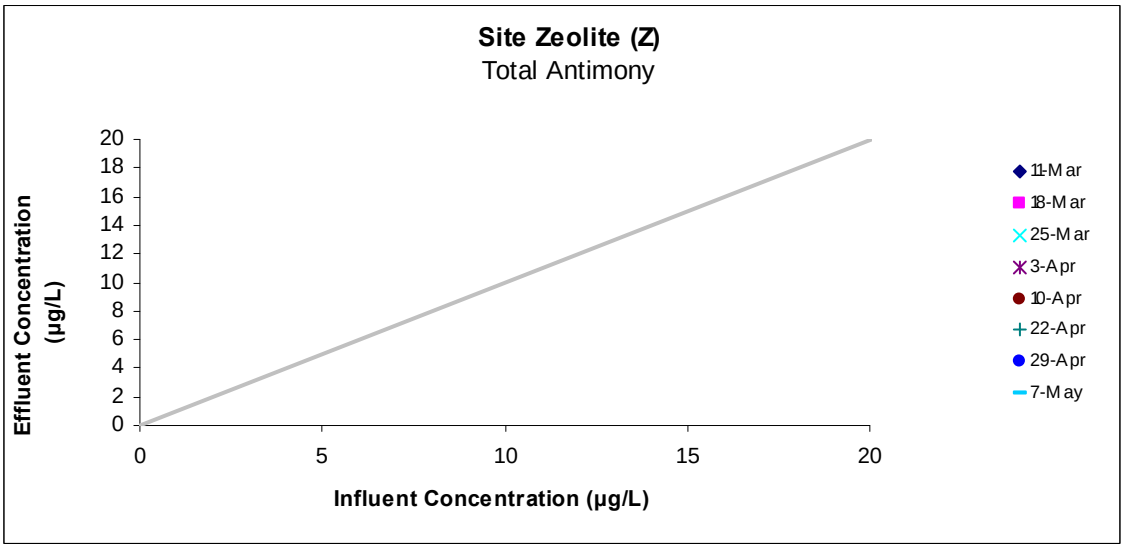
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-2.386	24.739	-0.096	0.926	-62.920	58.148	-62.920	58.148
X Variable 1	0.580	0.356	1.629	0.155	-0.291	1.451	-0.291	1.451

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	26.613	-4.613
2	24.873	-7.873
3	46.332	-18.332
4	42.272	20.728
5	36.473	7.527
6	37.632	12.368
7	48.072	-8.072
8	34.733	-1.733




Site Zeolite (Z)
Total Antimony
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Total Antimony
Effluent Concentration (µg/L)
20
18
16
14
12
10
8
6
4
2
0
0
5
10
15
20
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Sb

MWH Zeolite

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.956
R Square	0.915
Adjusted R Square	0.748
Standard Error	14.501
Observations	7.000

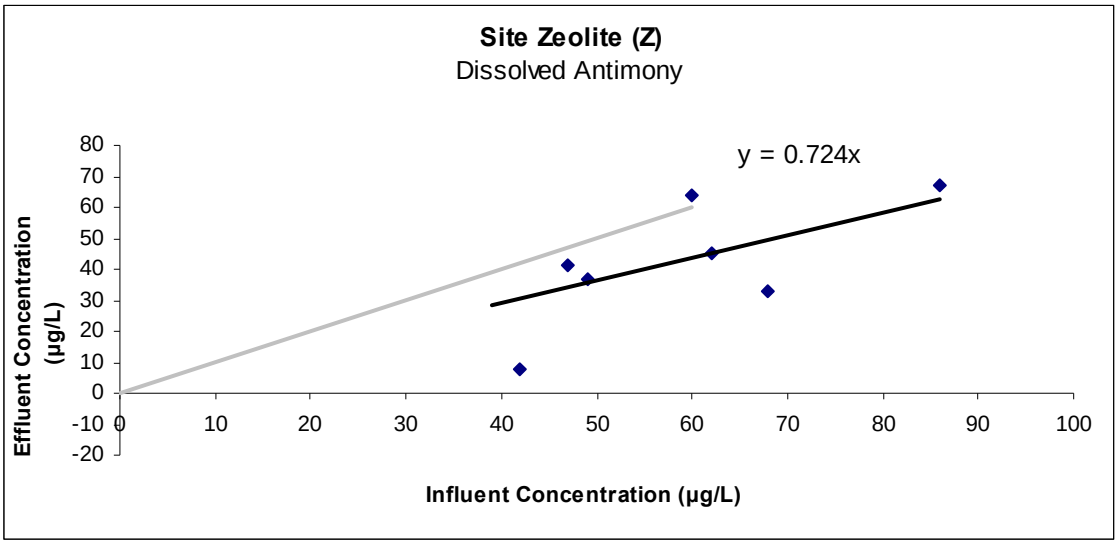
ANOVA

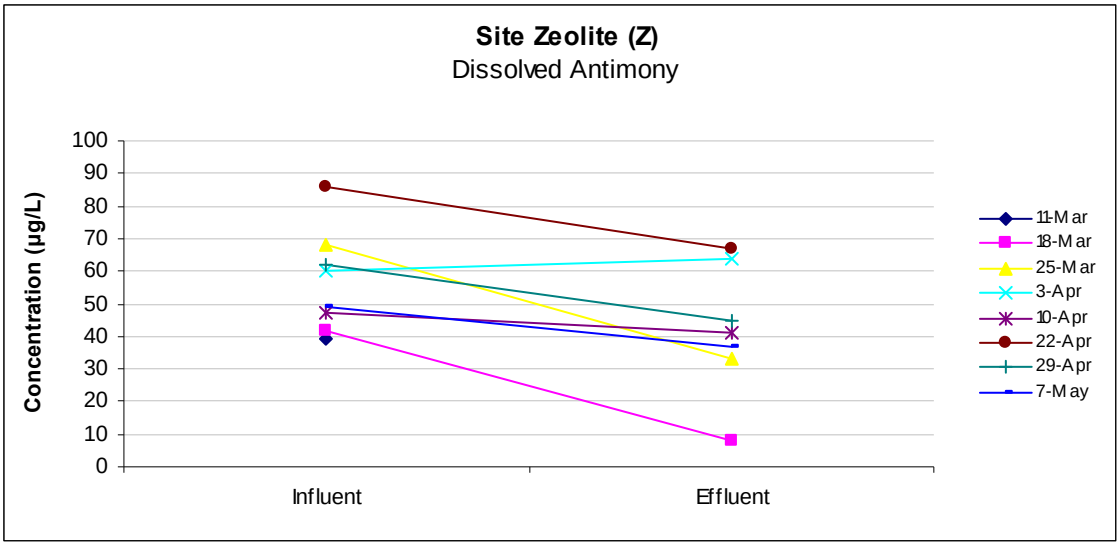
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	13551.318	13551.318	64.444	0.000
Residual	6.000	1261.682	210.280		
Total	7.000	14813.000			

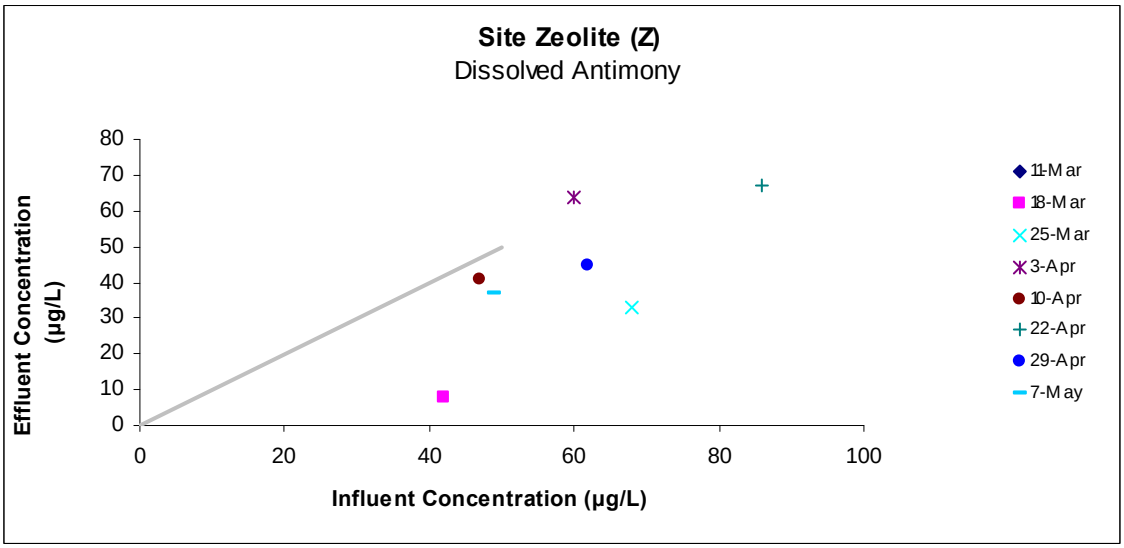
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.724	0.090	8.028	0.000	0.503	0.945	0.503	0.945

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	30.417	-22.417
2	49.246	-16.246
3	43.452	20.548
4	34.038	6.962
5	62.282	4.718
6	44.901	0.099
7	35.486	1.514




Site Zeolite (Z)
Dissolved Antimony
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Site Zeolite (Z)
Dissolved Antimony
Effluent Concentration (µg/L)
80
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

SMZ

Total As

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.824
R Square	0.680
Adjusted R Square	0.600
Standard Error	7.343
Observations	6.000

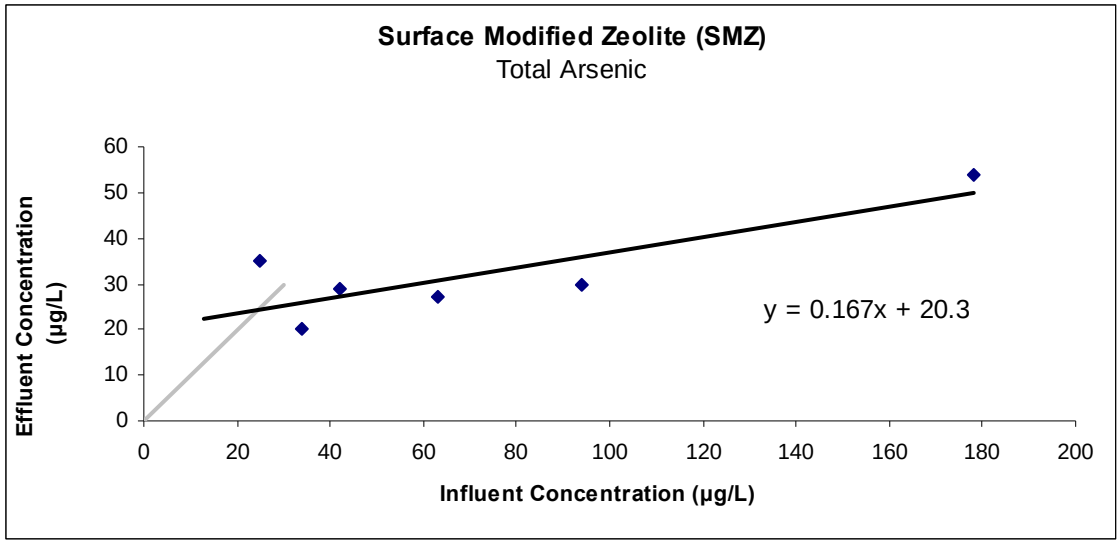
ANOVA

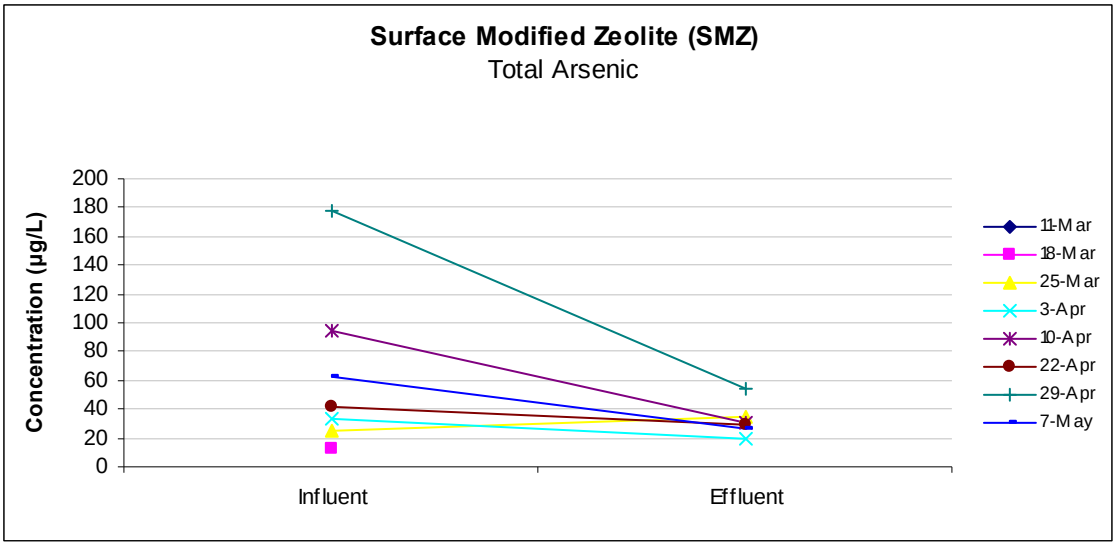
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	457.803	457.803	8.490	0.044
Residual	4.000	215.697	53.924		
Total	5.000	673.500			

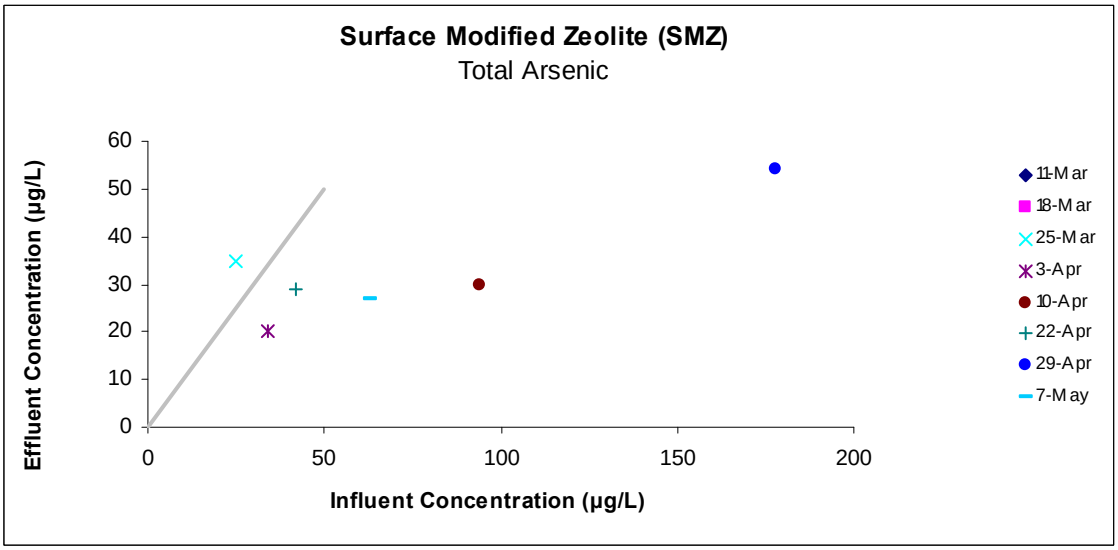
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	20.341	5.138	3.959	0.017	6.075	34.607	6.075	34.607
X Variable 1	0.167	0.057	2.914	0.044	0.008	0.327	0.008	0.327

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	24.524	10.476
2	26.030	-6.030
3	36.070	-6.070
4	27.369	1.631
5	50.125	3.875
6	30.883	-3.883




Surface Modified Zeolite (SMZ)
Total Arsenic
Concentration (µg/L)
200
180
160
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Total Arsenic
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
50
100
150
200
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved As

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.308
R Square	0.095
Adjusted R Square	-0.131
Standard Error	5.786
Observations	6.000

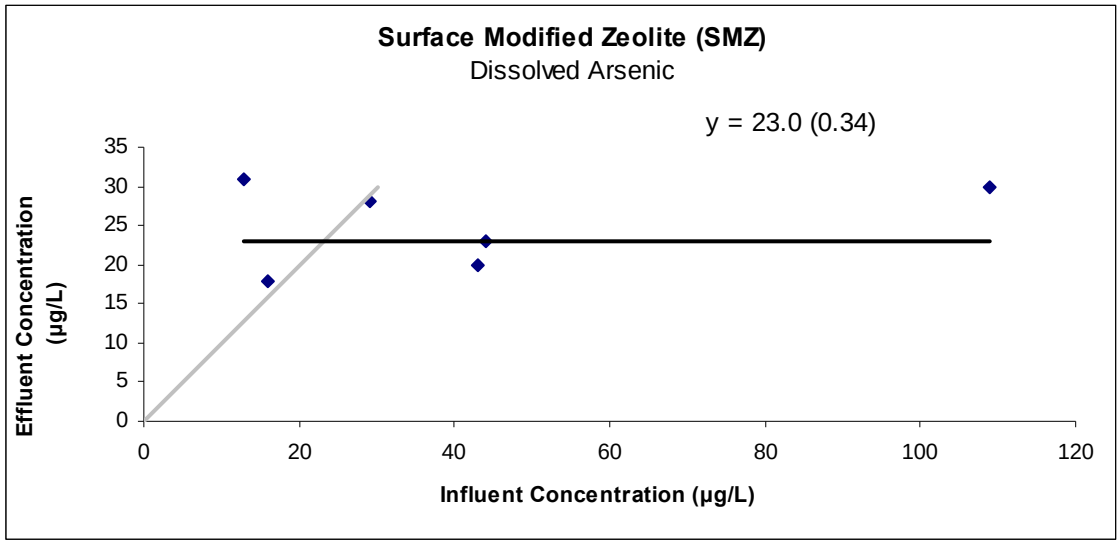
ANOVA

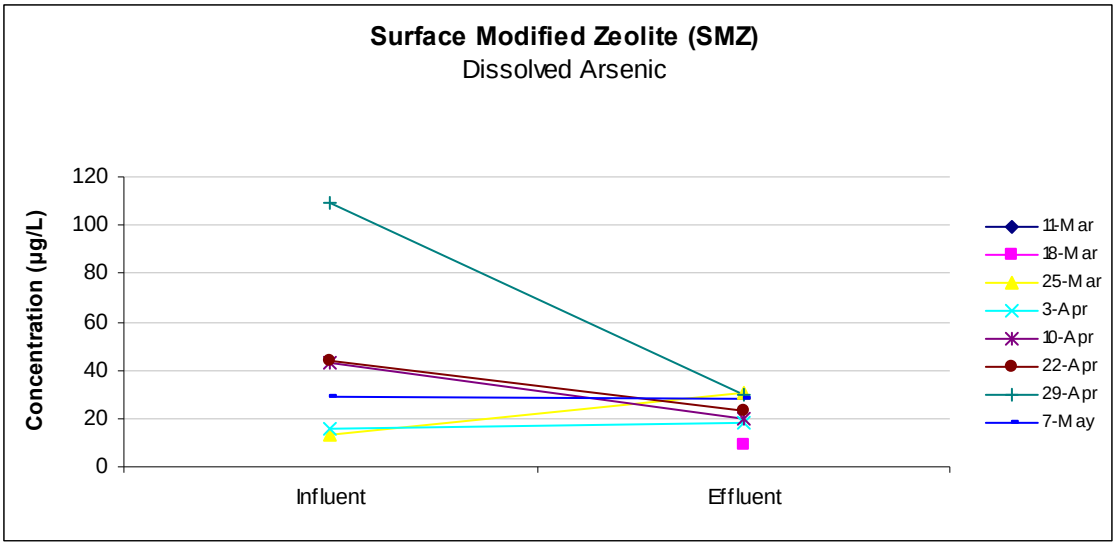
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	14.083	14.083	0.421	0.552
Residual	4.000	133.917	33.479		
Total	5.000	148.000			

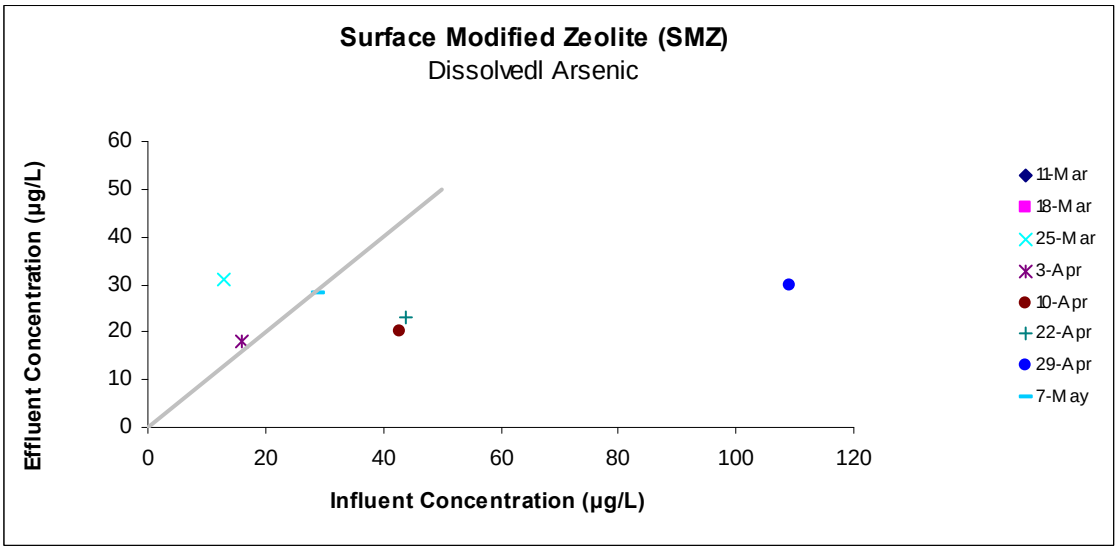
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	22.979	3.910	5.877	0.004	12.123	33.835	12.123	33.835
X Variable 1	0.048	0.074	0.649	0.552	-0.157	0.252	-0.157	0.252

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	23.600	7.400
2	23.743	-5.743
3	25.032	-5.032
4	25.080	-2.080
5	28.183	1.817
6	24.363	3.637




Surface Modified Zeolite (SMZ)
Dissolved Arsenic
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Dissolvedl Arsenic
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Al

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.504
R Square	0.254
Adjusted R Square	0.104
Standard Error	104.780
Observations	7.000

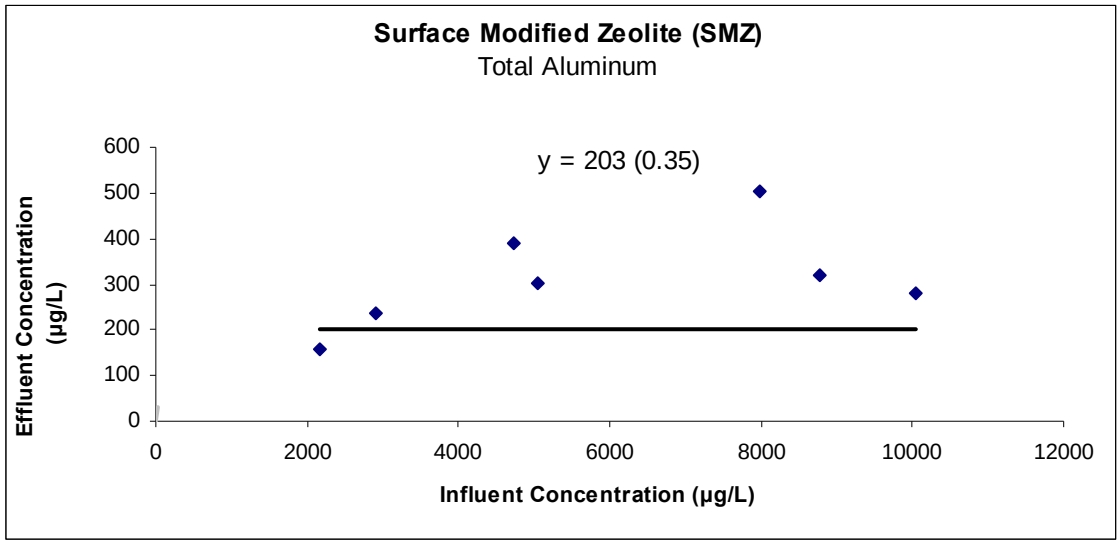
ANOVA

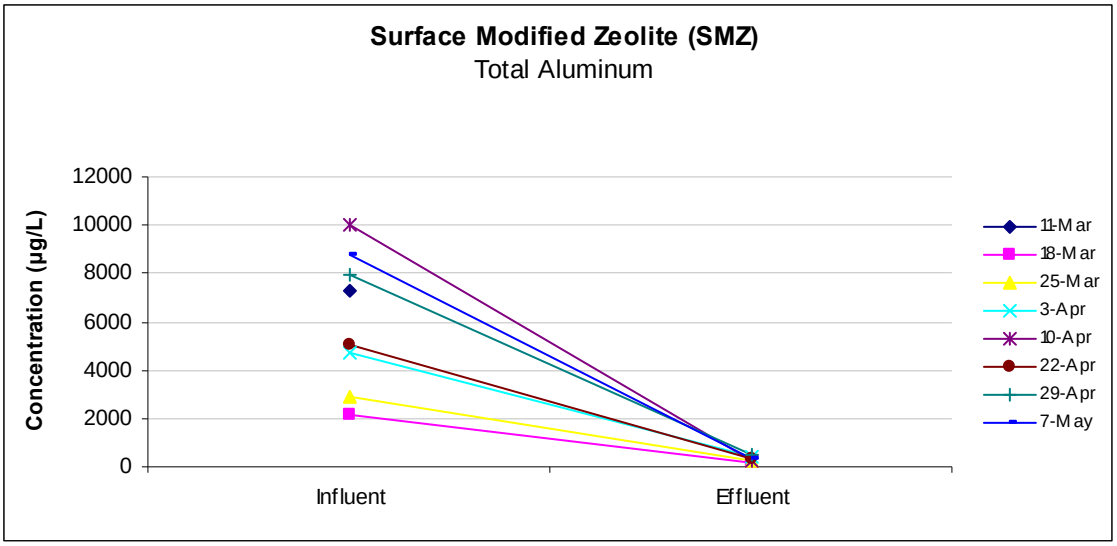
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	18654.987	18654.987	1.699	0.249
Residual	5.000	54893.871	10978.774		
Total	6.000	73548.857			

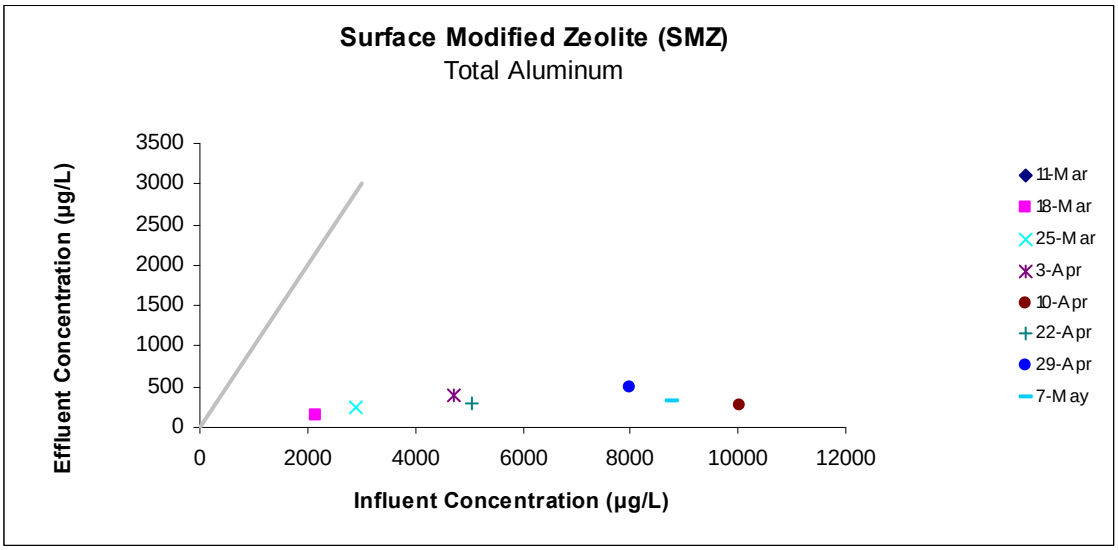
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	203.377	93.054	2.186	0.081	-35.827	442.581	-35.827	442.581
X Variable 1	0.018	0.014	1.304	0.249	-0.018	0.055	-0.018	0.055

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	243.144	-86.144
2	257.058	-20.058
3	290.680	100.320
4	388.593	-108.593
5	296.493	6.507
6	350.672	152.328
7	365.360	-44.360




Surface Modified Zeolite (SMZ)
Total Aluminum
Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Total Aluminum
Effluent Concentration (µg/L)
3500
3000
2500
2000
1500
1000
500
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Al

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.990
R Square	0.979
Adjusted R Square	0.813
Standard Error	8.603
Observations	7.000

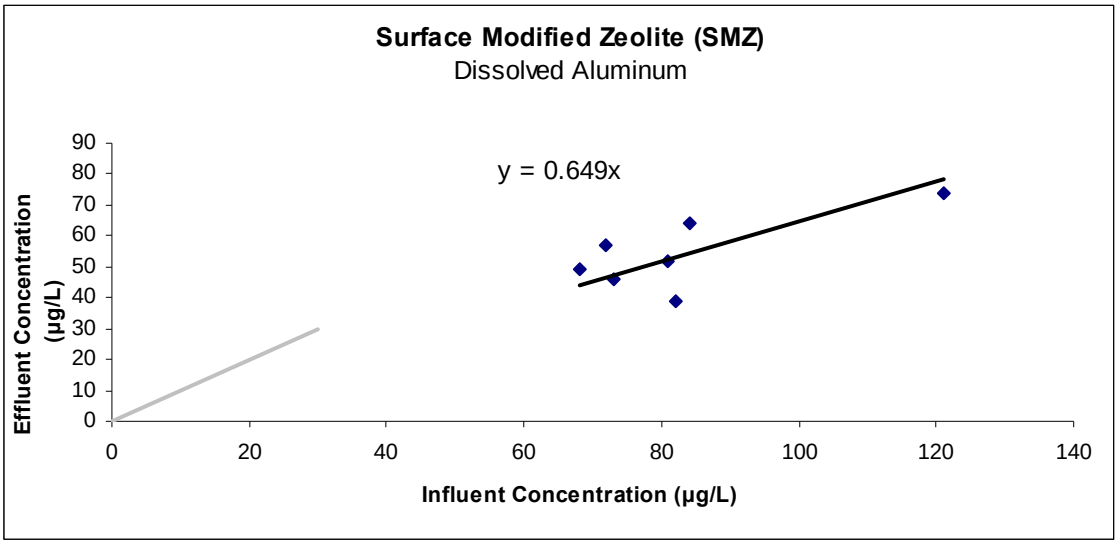
ANOVA

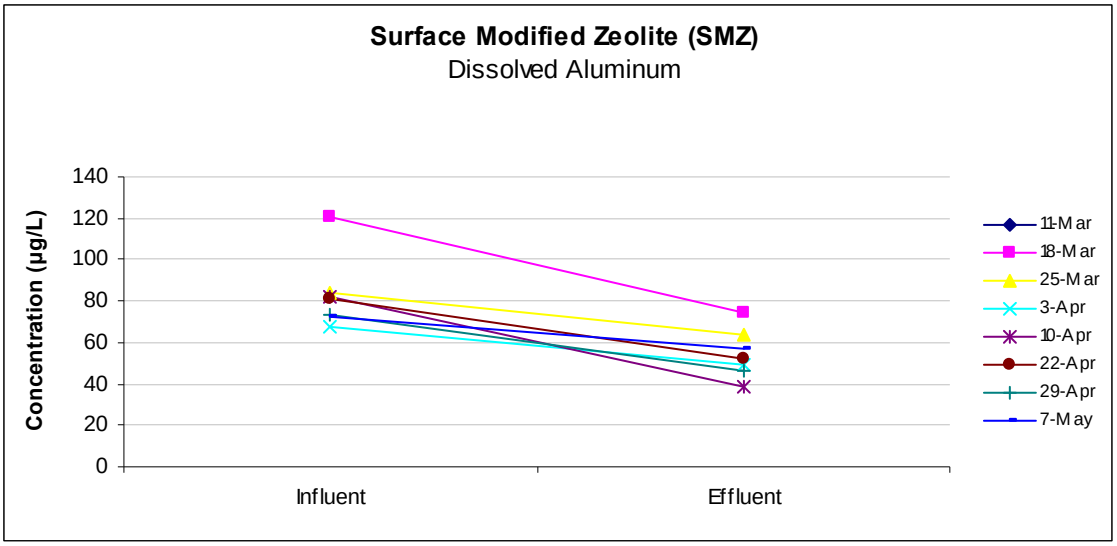
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	21118.960	21118.960	285.366	0.000
Residual	6.000	444.040	74.007		
Total	7.000	21563.000			

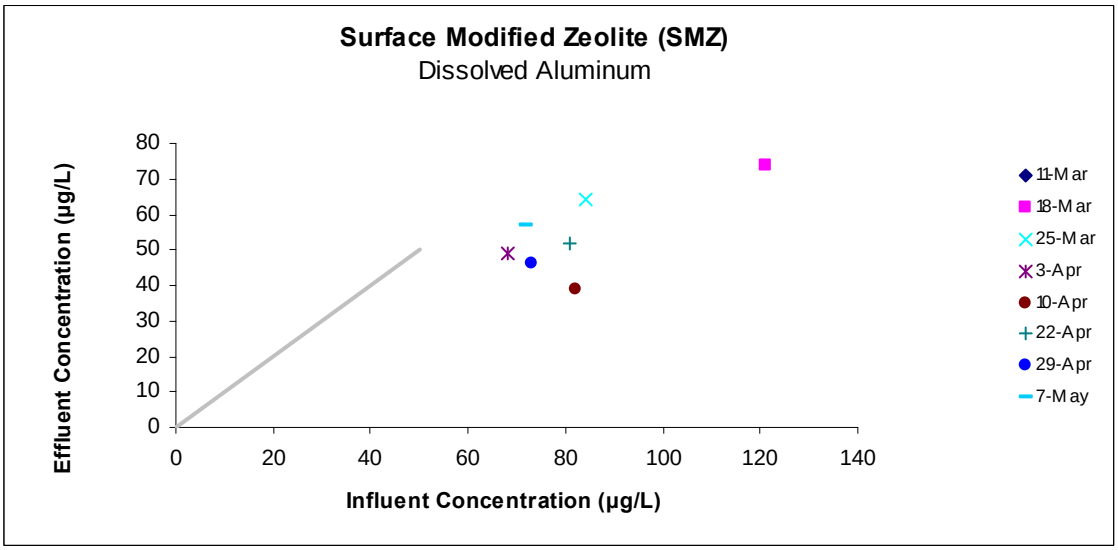
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.649	0.038	16.893	0.000	0.555	0.743	0.555	0.743

RESIDUAL OUTPUT

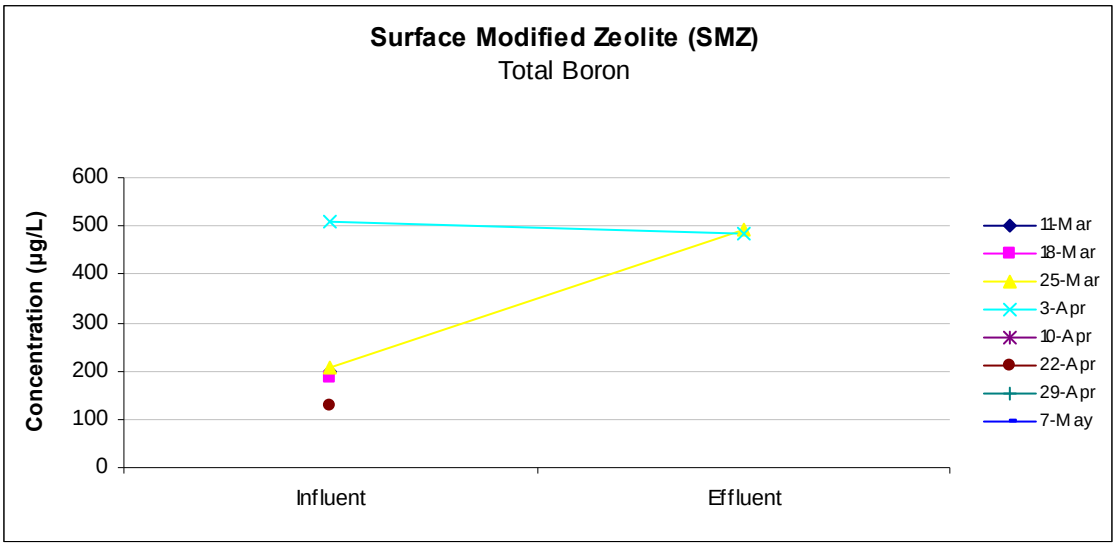
Observation	*Predicted Y*	*Residuals*
1	78.545	-4.545
2	54.527	9.473
3	44.141	4.859
4	53.229	-14.229
5	52.580	-0.580
6	47.387	-1.387
7	46.738	10.262

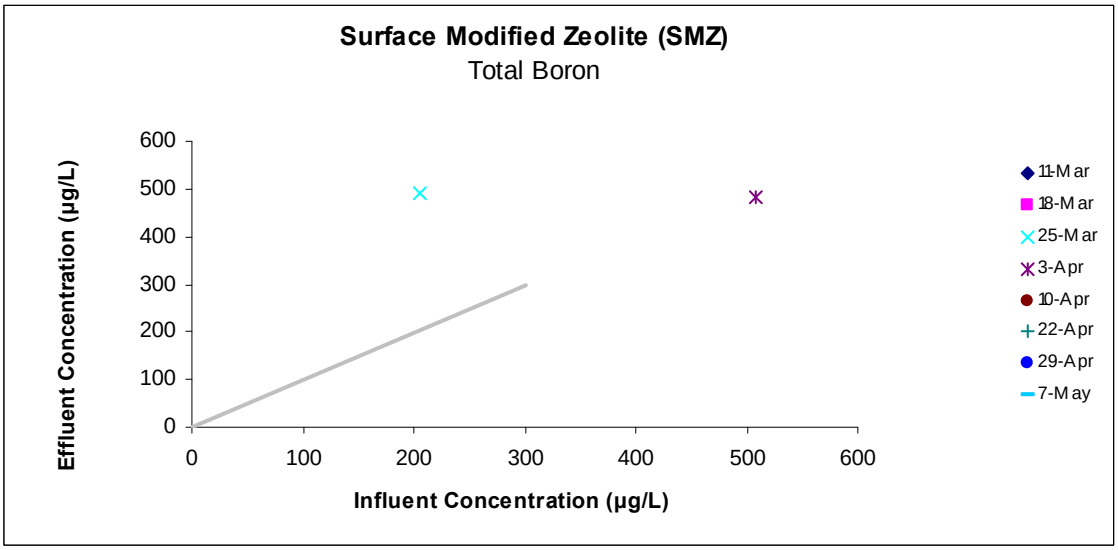



Surface Modified Zeolite (SMZ)
Dissolved Aluminum
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

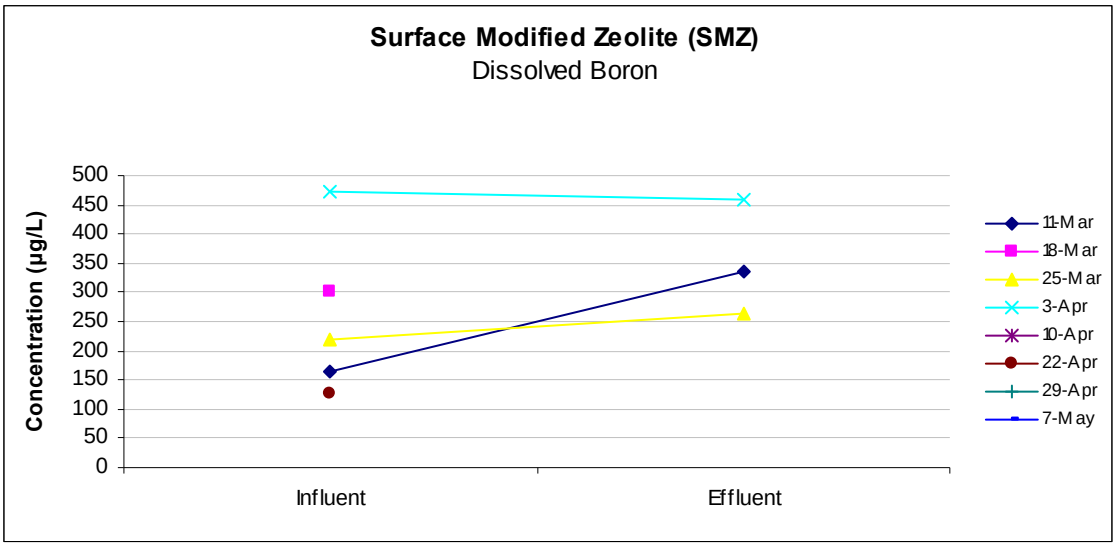

Surface Modified Zeolite (SMZ)
Dissolved Aluminum
Effluent Concentration (µg/L)
80
70
60
50
40
30
20
10
0
0
20
40
60
80
100
120
140
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

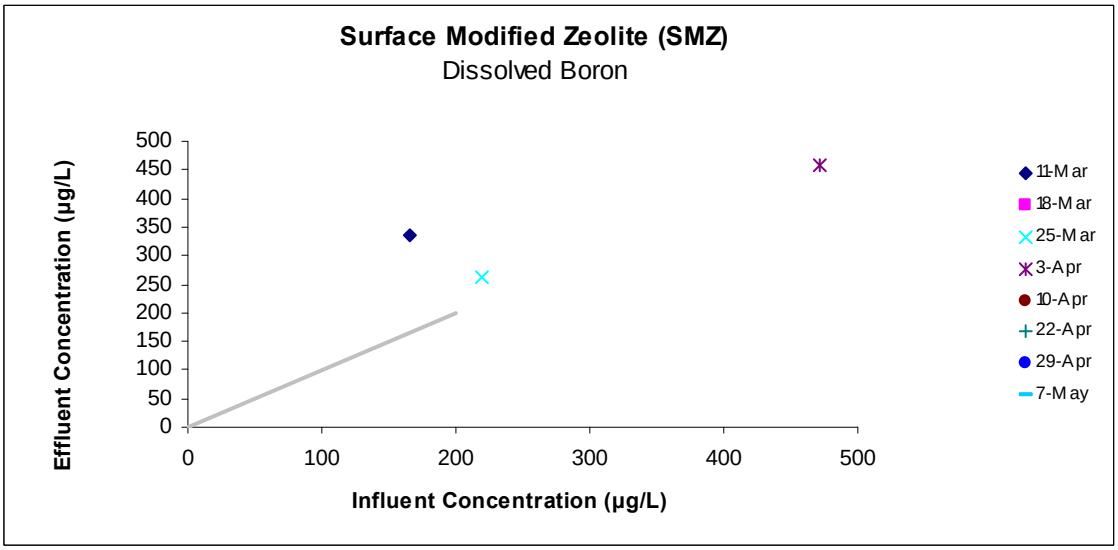
Total B


Surface Modified Zeolite (SMZ)
Total Boron
Concentration (µg/L)
600
500
400
300
200
100
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Total Boron
Effluent Concentration (µg/L)
600
500
400
300
200
100
0
0
100
200
300
400
500
600
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved B


Surface Modified Zeolite (SMZ)
Dissolved Boron
Concentration (µg/L)
500
450
400
350
300
250
200
150
100
50
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Dissolved Boron
Effluent Concentration (µg/L)
500
450
400
350
300
250
200
150
100
50
0
0
100
200
300
400
500
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Ca

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.966
R Square	0.934
Adjusted R Square	0.791
Standard Error	10156.194
Observations	8.000

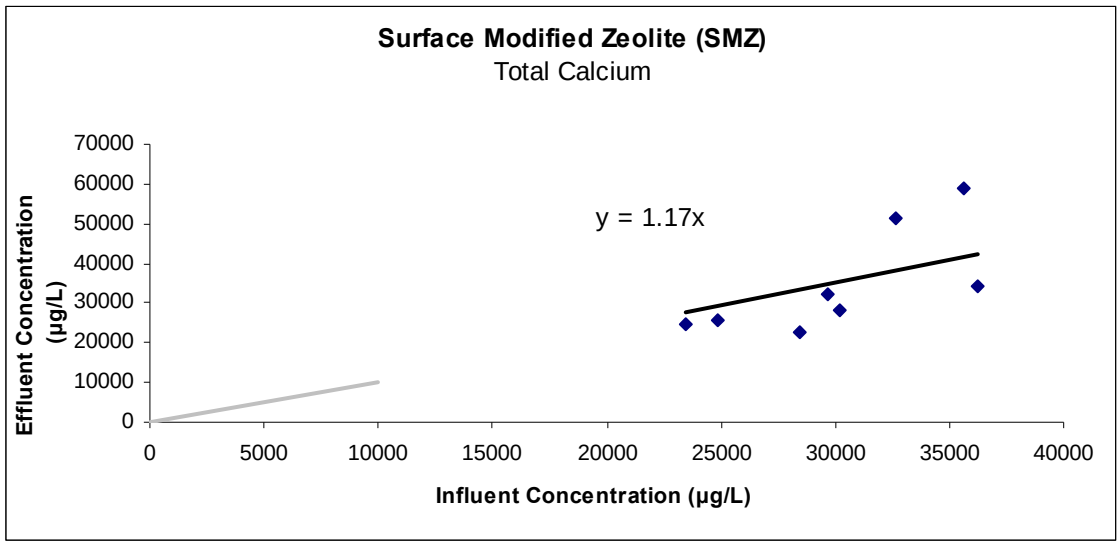
ANOVA

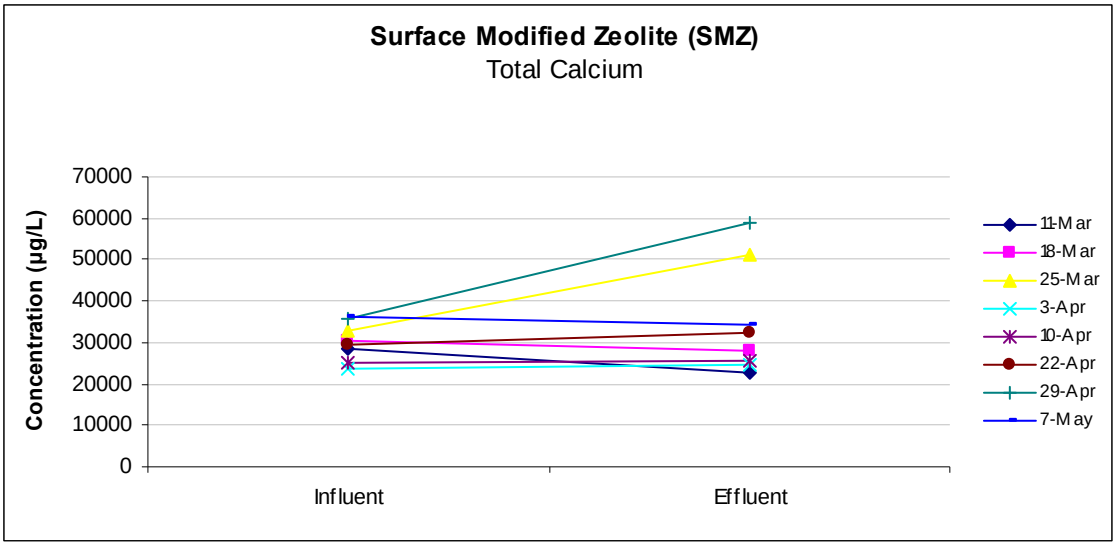
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	10177942499.331	10177942499.331	98.673	0.000
Residual	7.000	722037933.670	103148276.239		
Total	8.000	10899980433.000			

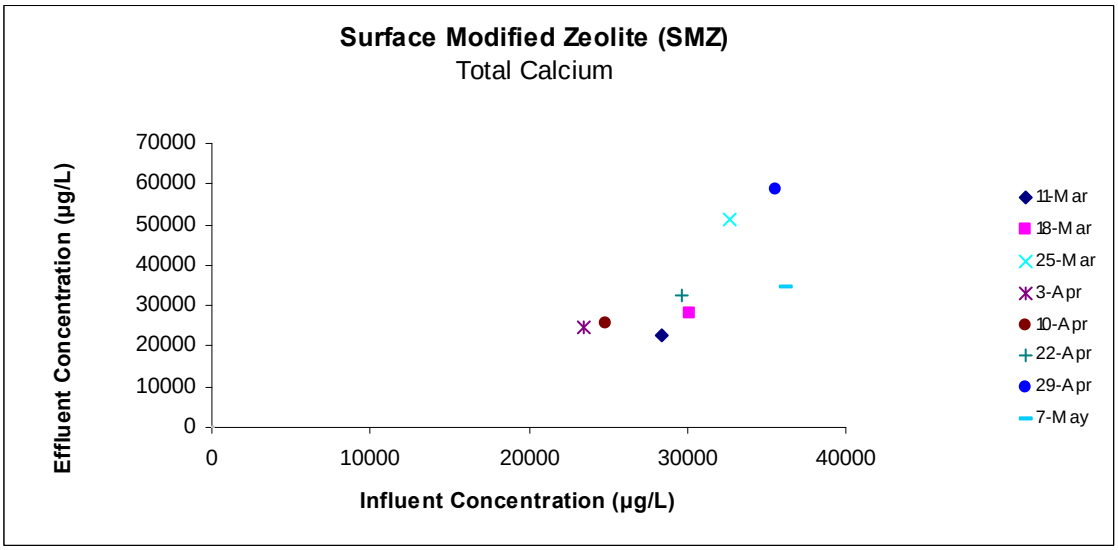
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	1.171	0.118	9.933	0.000	0.893	1.450	0.893	1.450

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	33291.643	-10772.643
2	35387.232	-7180.232
3	38231.330	13091.670
4	27505.051	-2832.051
5	29127.406	-3323.406
6	34742.976	-2312.976
7	41700.943	17099.057
8	42482.250	-8139.250




Surface Modified Zeolite (SMZ)
Total Calcium
Concentration (µg/L)
70000
60000
50000
40000
30000
20000
10000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Total Calcium
Effluent Concentration (µg/L)
70000
60000
50000
40000
30000
20000
10000
0
0
10000
20000
30000
40000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Ca

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.209
R Square	0.044
Adjusted R Square	-0.116
Standard Error	11073.569
Observations	8.000

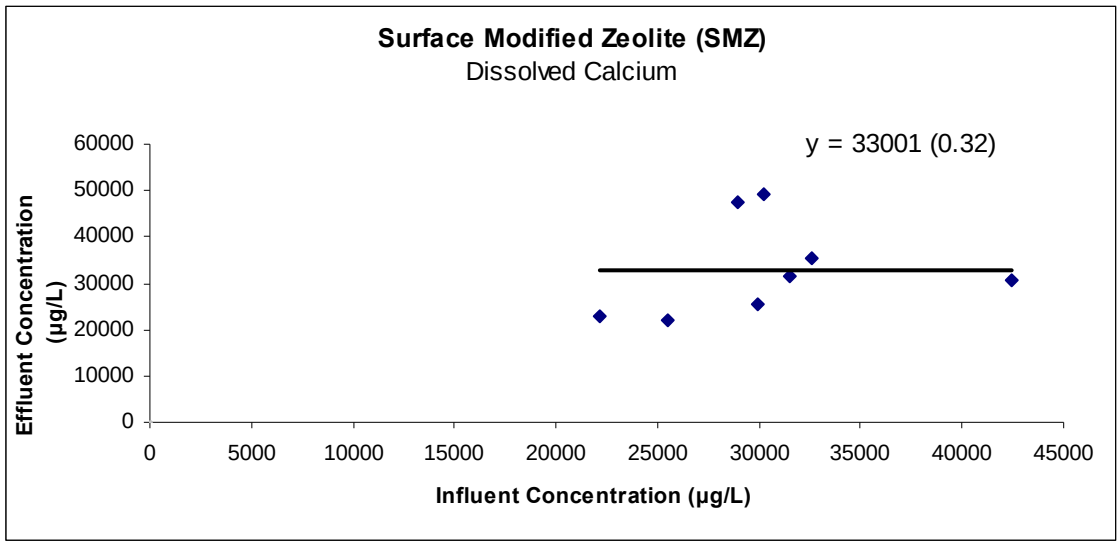
ANOVA

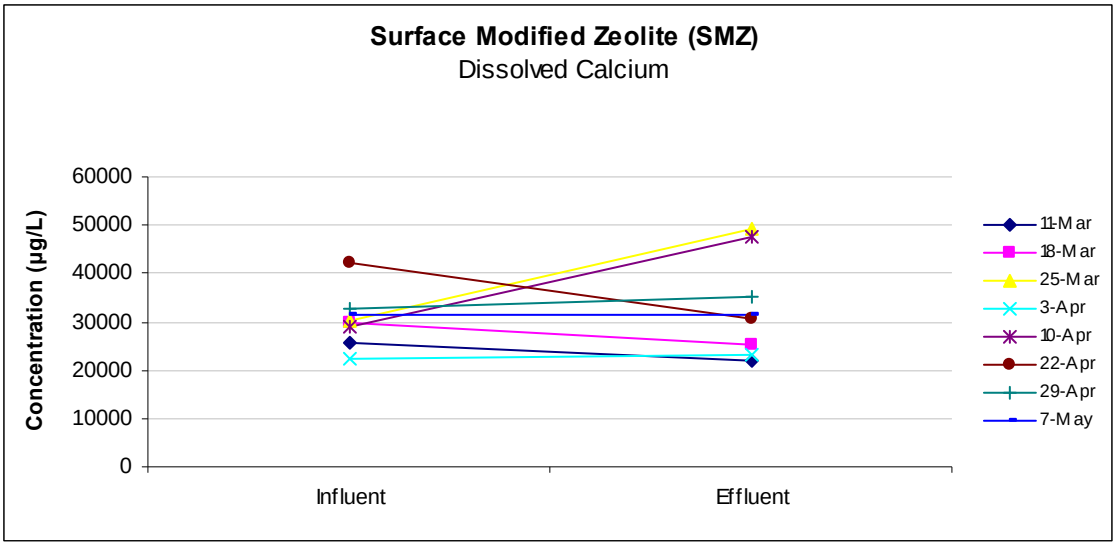
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	33512910.779	33512910.779	0.273	0.620
Residual	6.000	735743578.721	122623929.787		
Total	7.000	769256489.500			

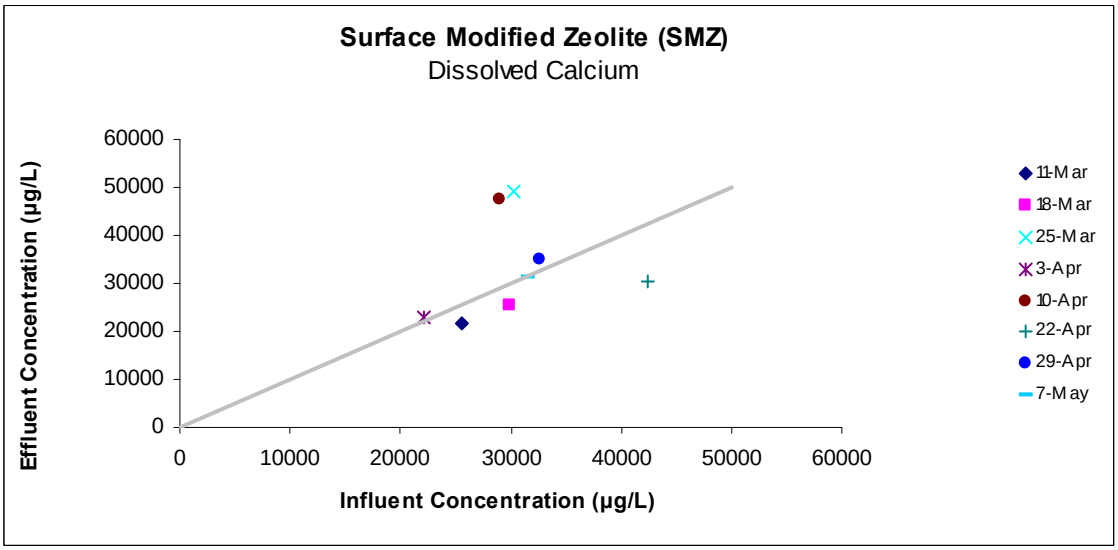
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	21742.681	21888.020	0.993	0.359	-31815.373	75300.736	-31815.373	75300.736
X Variable 1	0.370	0.708	0.523	0.620	-1.362	2.102	-1.362	2.102

RESIDUAL OUTPUT

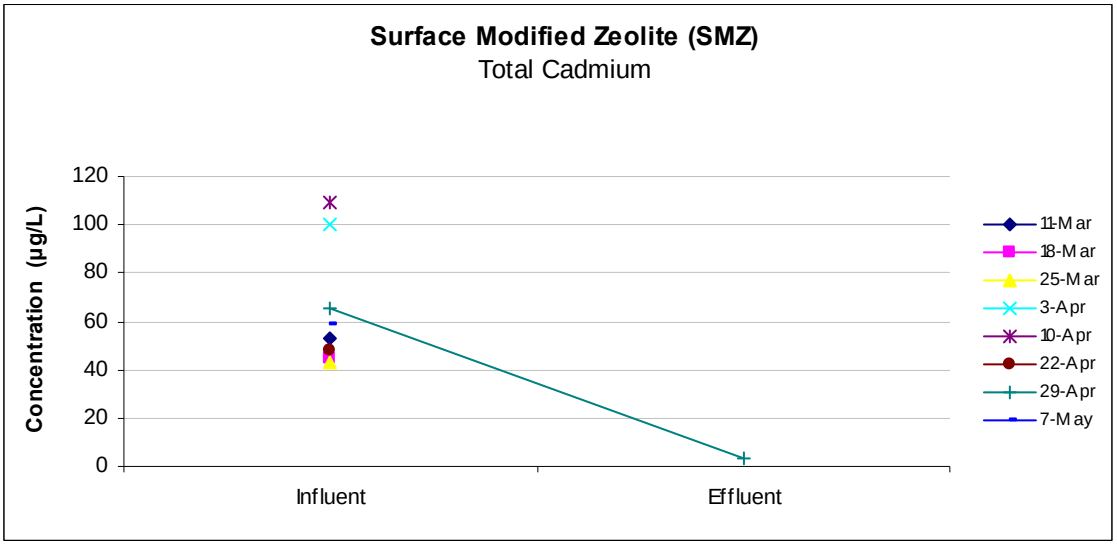
Observation	*Predicted Y*	*Residuals*
1	31177.768	-9322.768
2	32836.059	-7560.059
3	32940.396	16156.604
4	29936.826	-6876.826
5	32460.890	15167.110
6	37433.911	-6863.911
7	33815.419	1374.581
8	33404.732	-2074.732

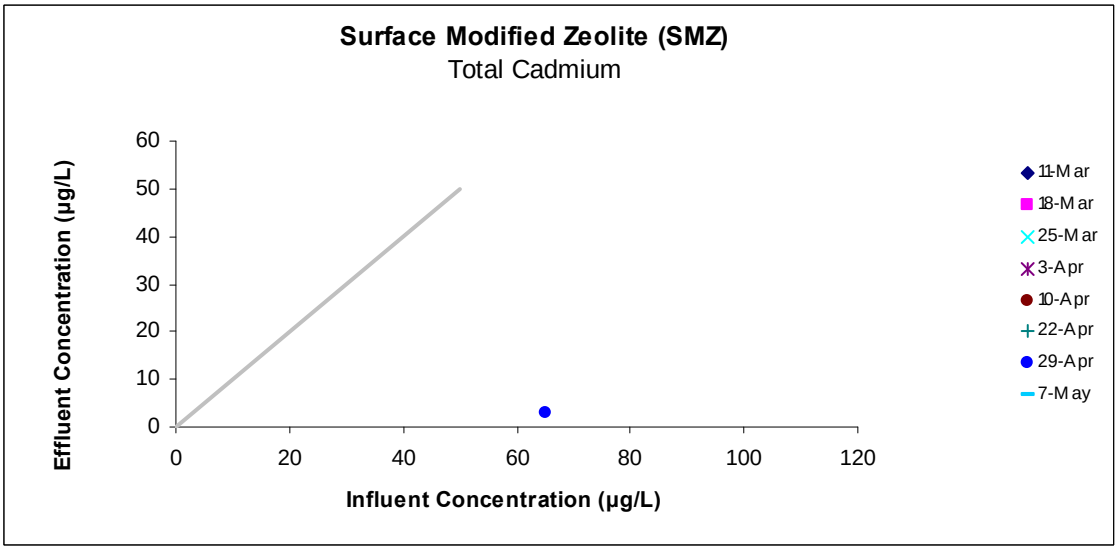



Surface Modified Zeolite (SMZ)
Dissolved Calcium
Concentration (µg/L)
60000
50000
40000
30000
20000
10000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

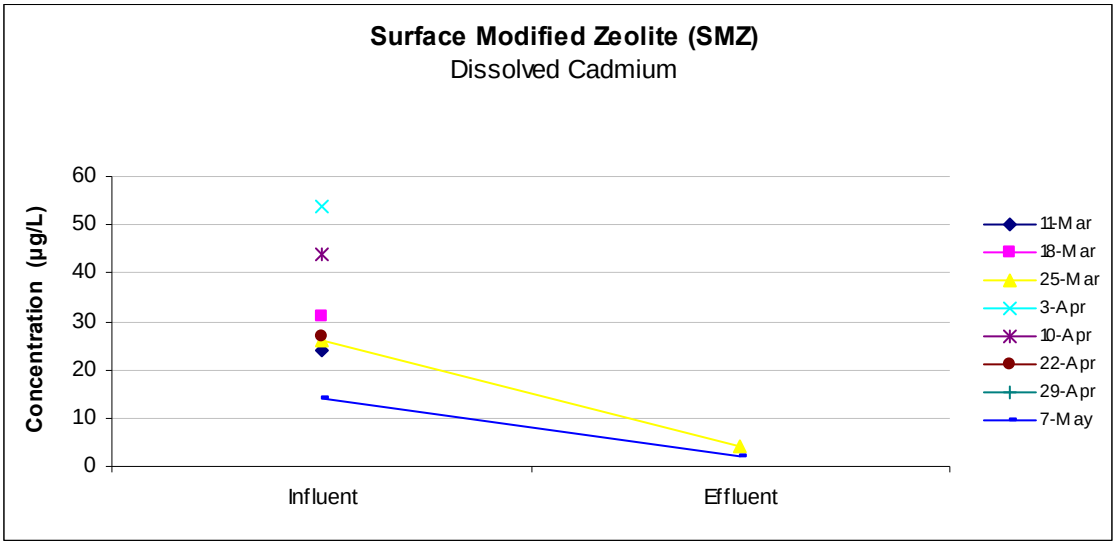

Surface Modified Zeolite (SMZ)
Dissolved Calcium
Effluent Concentration (µg/L)
60000
50000
40000
30000
20000
10000
0
0
10000
20000
30000
40000
50000
60000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

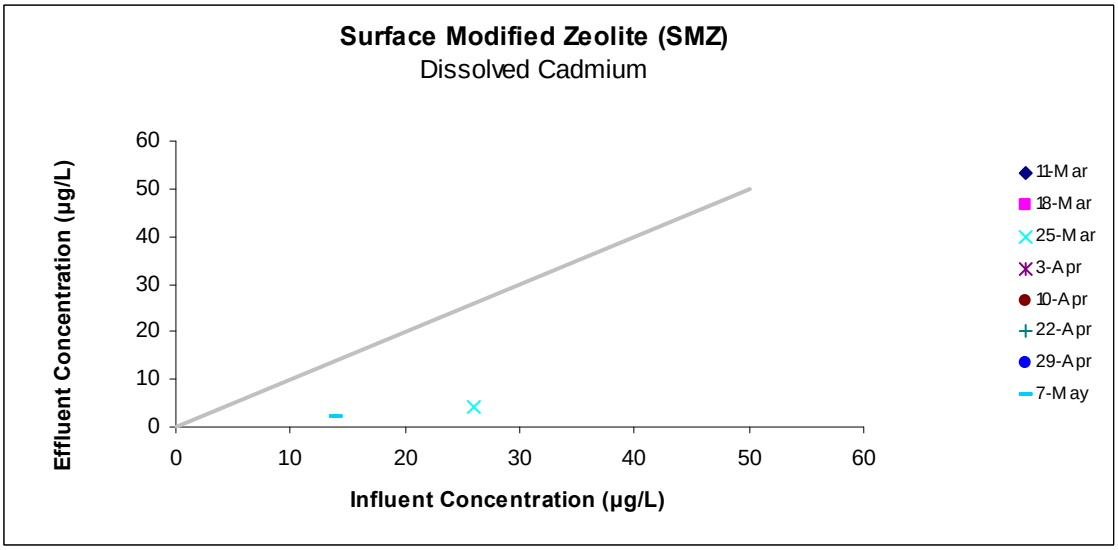
Total Cd


Surface Modified Zeolite (SMZ)
Total Cadmium
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Total Cadmium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cd





Total Cu

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.162
R Square	0.026
Adjusted R Square	-0.136
Standard Error	9.850
Observations	8.000

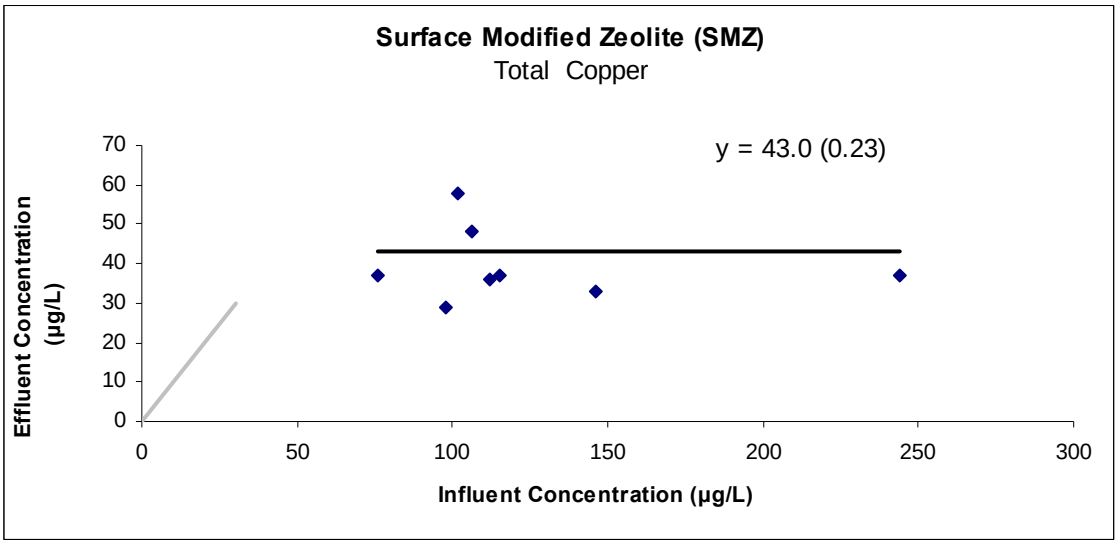
ANOVA

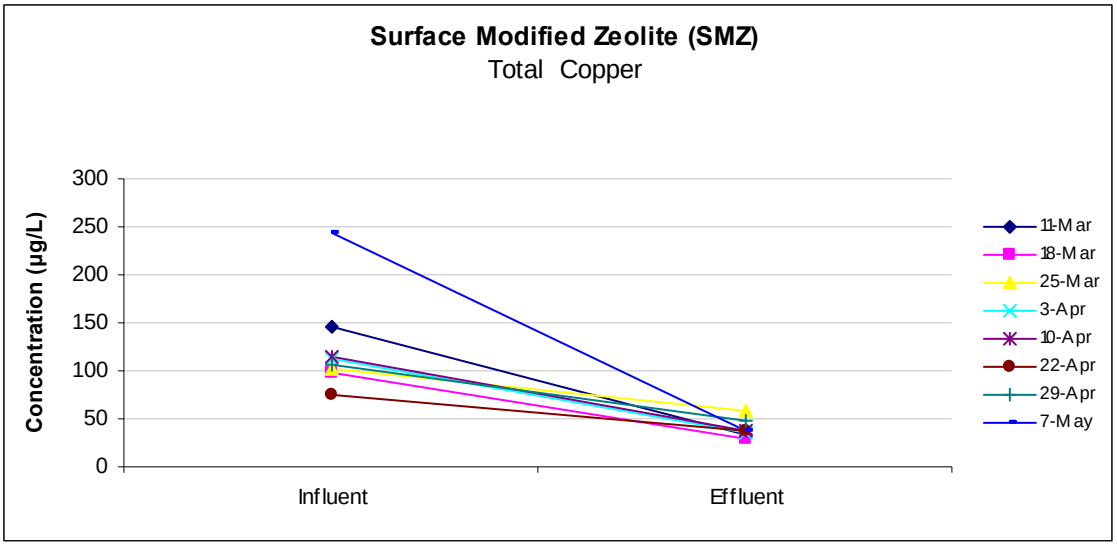
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	15.702	15.702	0.162	0.701
Residual	6.000	582.173	97.029		
Total	7.000	597.875			

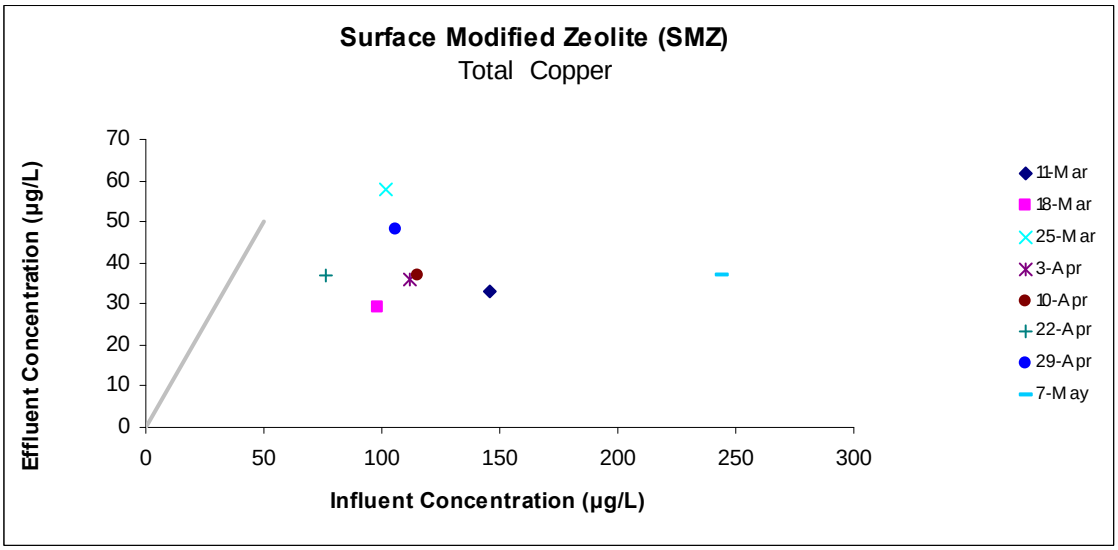
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	42.975	9.603	4.475	0.004	19.477	66.473	19.477	66.473
X Variable 1	-0.029	0.072	-0.402	0.701	-0.204	0.147	-0.204	0.147

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	38.766	-5.766
2	40.150	-11.150
3	40.034	17.966
4	39.746	-3.746
5	39.660	-2.660
6	40.784	-3.784
7	39.919	8.081
8	35.941	1.059




Surface Modified Zeolite (SMZ)
Total Copper
Concentration (µg/L)
300
250
200
150
100
50
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Total Copper
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0
50
100
150
200
250
300
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cu

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.504
R Square	0.254
Adjusted R Square	0.130
Standard Error	14.556
Observations	8.000

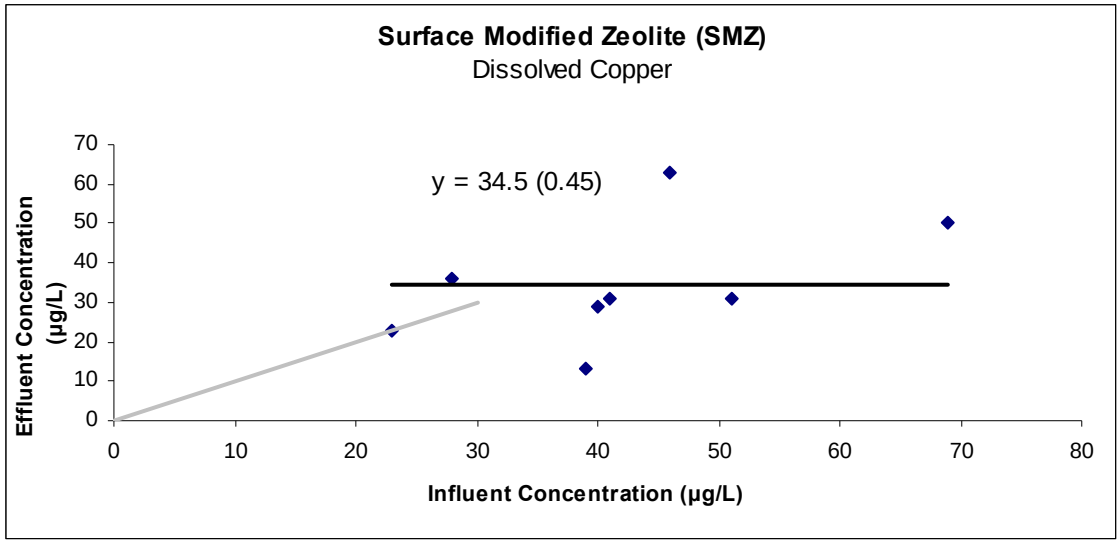
ANOVA

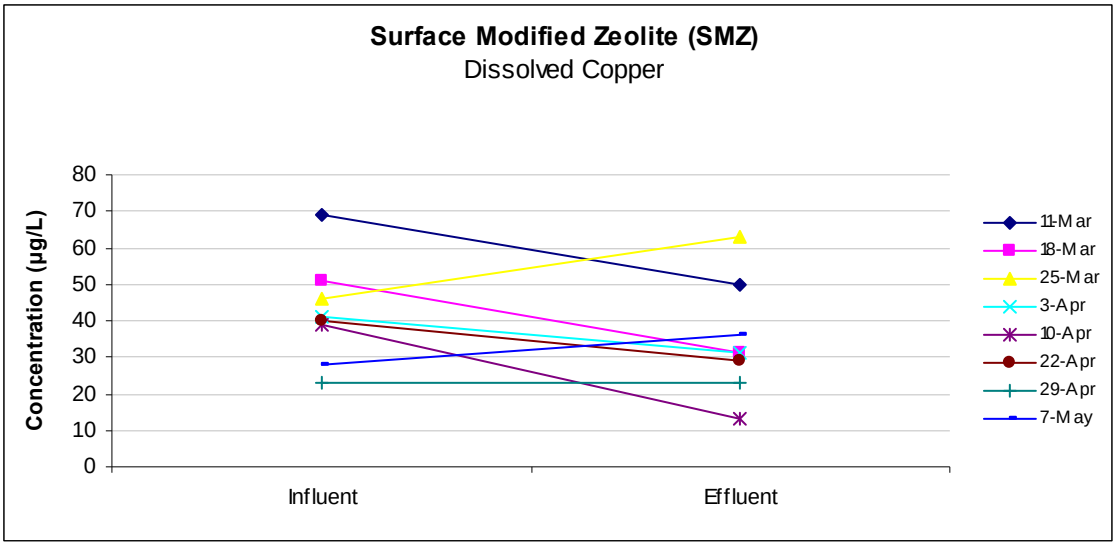
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	432.756	432.756	2.043	0.203
Residual	6.000	1271.244	211.874		
Total	7.000	1704.000			

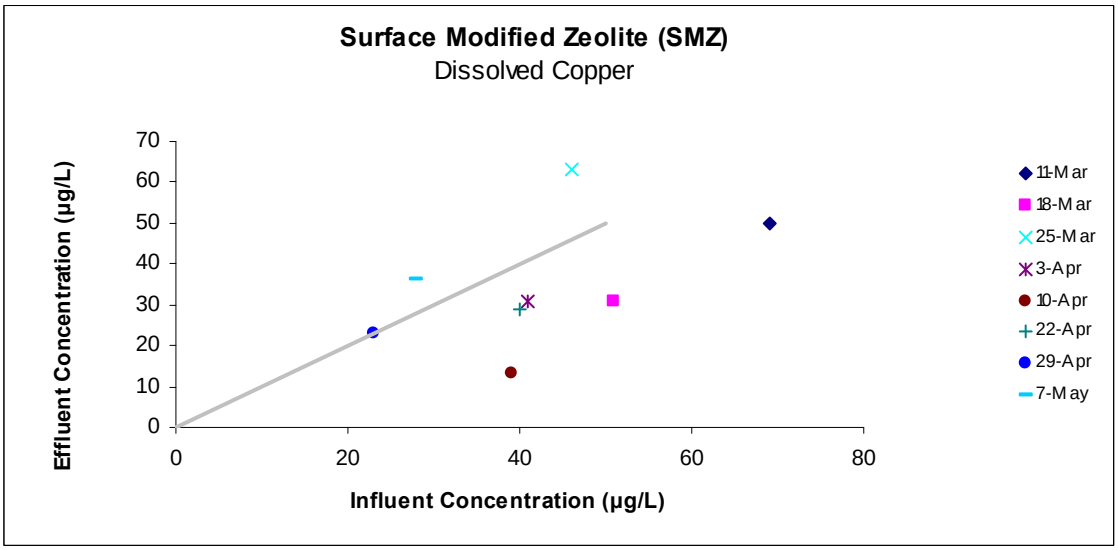
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	11.053	17.194	0.643	0.544	-31.019	53.126	-31.019	53.126
X Variable 1	0.557	0.389	1.429	0.203	-0.396	1.510	-0.396	1.510

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	49.459	0.541
2	39.440	-8.440
3	36.657	26.343
4	33.874	-2.874
5	32.761	-19.761
6	33.317	-4.317
7	23.855	-0.855
8	26.638	9.362




Surface Modified Zeolite (SMZ)
Dissolved Copper
Concentration (µg/L)
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Dissolved Copper
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0
20
40
60
80
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Fe

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.541
R Square	0.292
Adjusted R Square	0.174
Standard Error	80.717
Observations	8.000

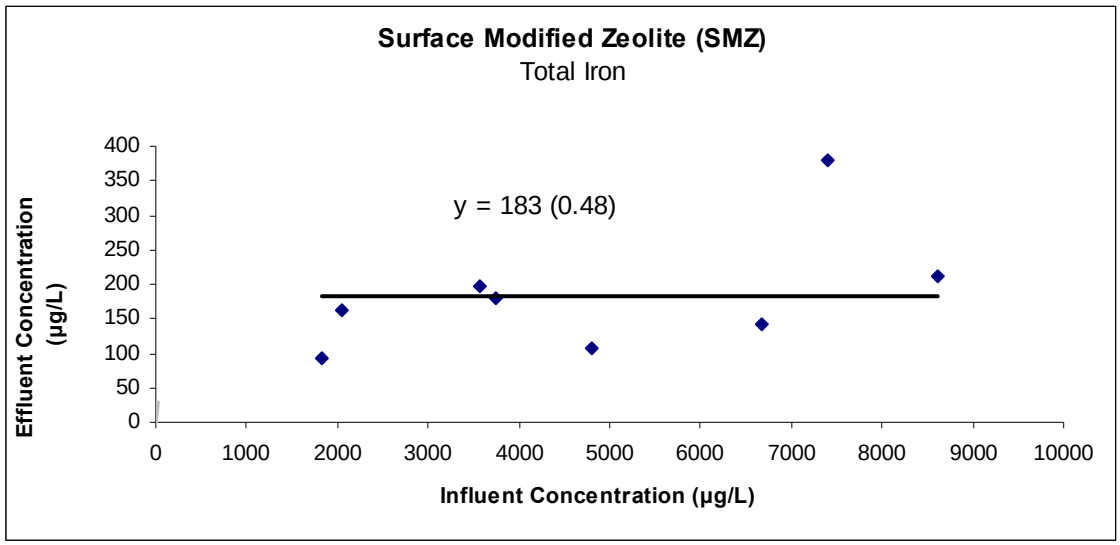
ANOVA

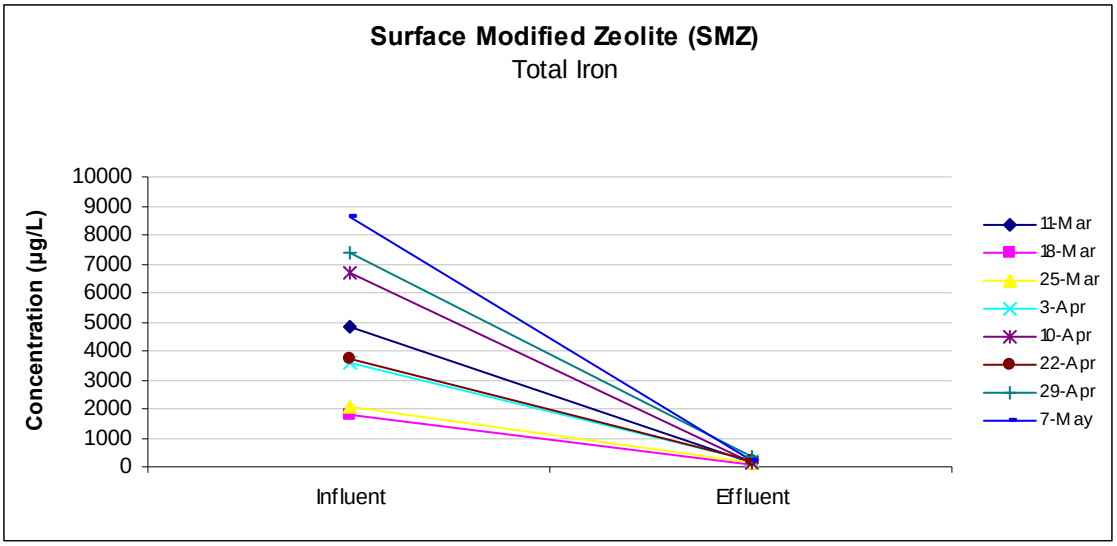
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	16141.766	16141.766	2.478	0.167
Residual	6.000	39091.109	6515.185		
Total	7.000	55232.875			

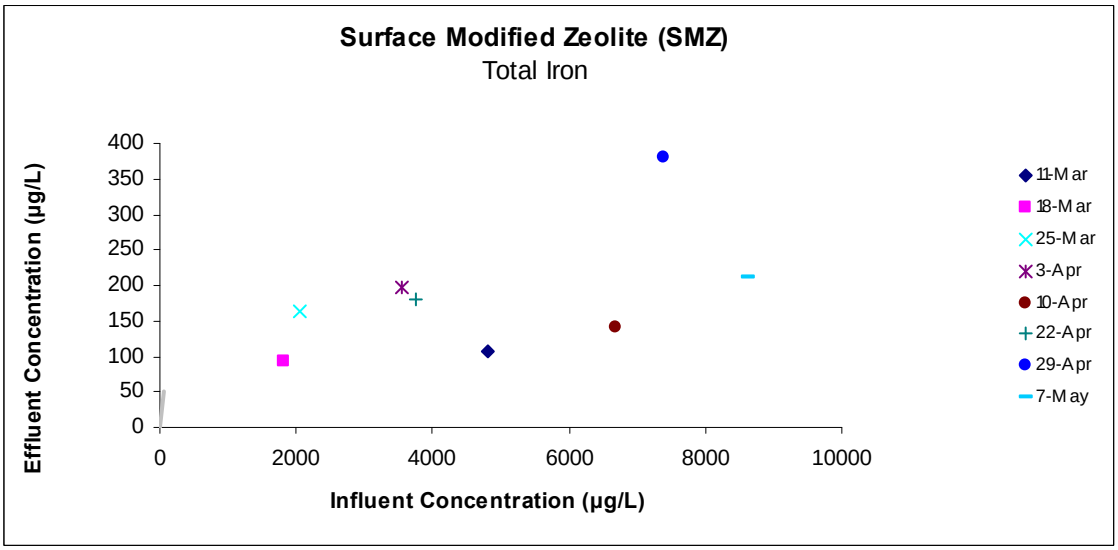
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	91.179	65.441	1.393	0.213	-68.949	251.308	-68.949	251.308
X Variable 1	0.019	0.012	1.574	0.167	-0.011	0.049	-0.011	0.049

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	183.420	-76.420
2	126.074	-32.074
3	130.445	32.555
4	159.396	36.604
5	219.330	-78.330
6	163.077	16.923
7	232.905	146.095
8	256.353	-45.353




Surface Modified Zeolite (SMZ)
Total Iron
Concentration (µg/L)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Total Iron
Effluent Concentration (µg/L)
400
350
300
250
200
150
100
50
0
0
2000
4000
6000
8000
10000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Fe

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.415
R Square	0.172
Adjusted R Square	0.034
Standard Error	10.413
Observations	8.000

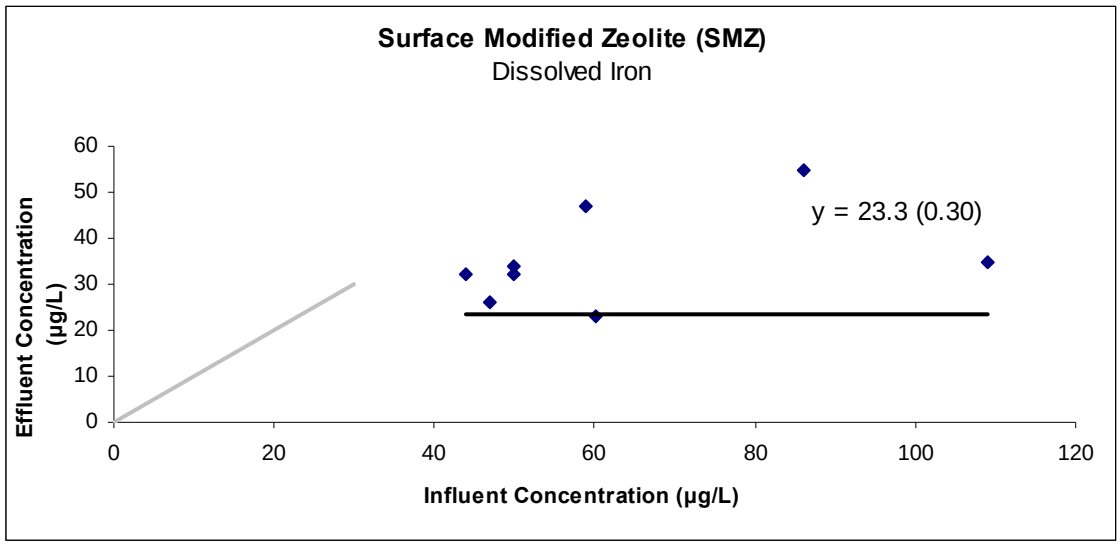
ANOVA

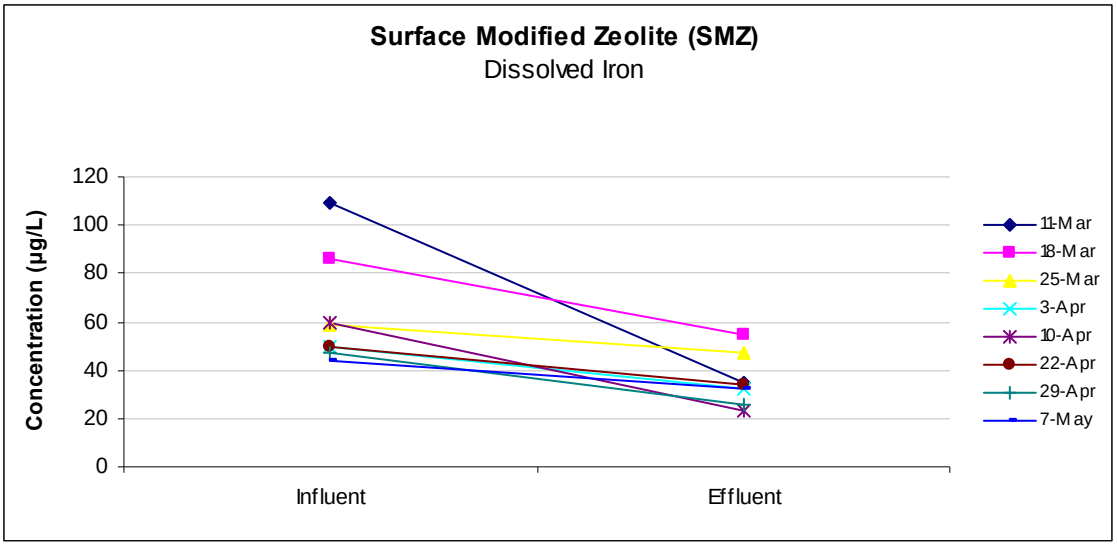
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	135.370	135.370	1.248	0.307
Residual	6.000	650.630	108.438		
Total	7.000	786.000			

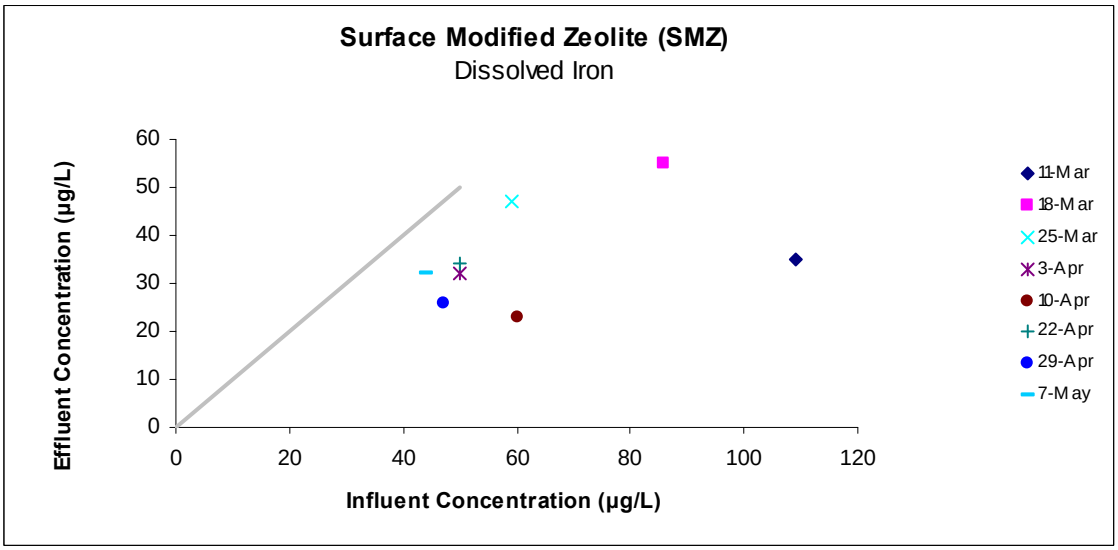
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	23.301	11.522	2.022	0.090	-4.892	51.495	-4.892	51.495
X Variable 1	0.193	0.173	1.117	0.307	-0.230	0.616	-0.230	0.616

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	44.365	-9.365
2	39.921	15.079
3	34.703	12.297
4	32.964	-0.964
5	34.896	-11.896
6	32.964	1.036
7	32.384	-6.384
8	31.804	0.196




Surface Modified Zeolite (SMZ)
Dissolved Iron
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Dissolved Iron
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Mg

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.522
R Square	0.272
Adjusted R Square	0.151
Standard Error	1476.421
Observations	8.000

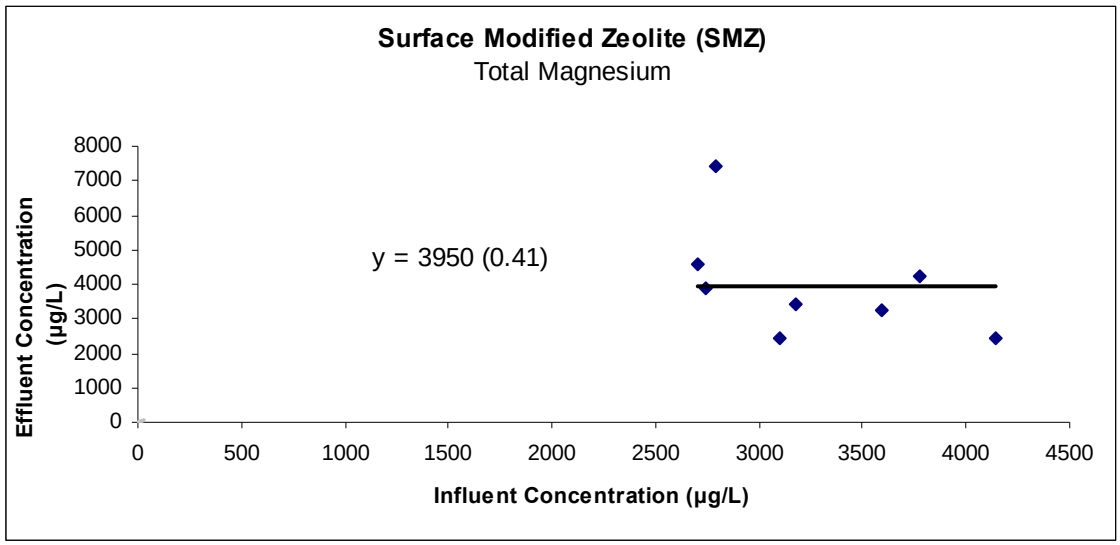
ANOVA

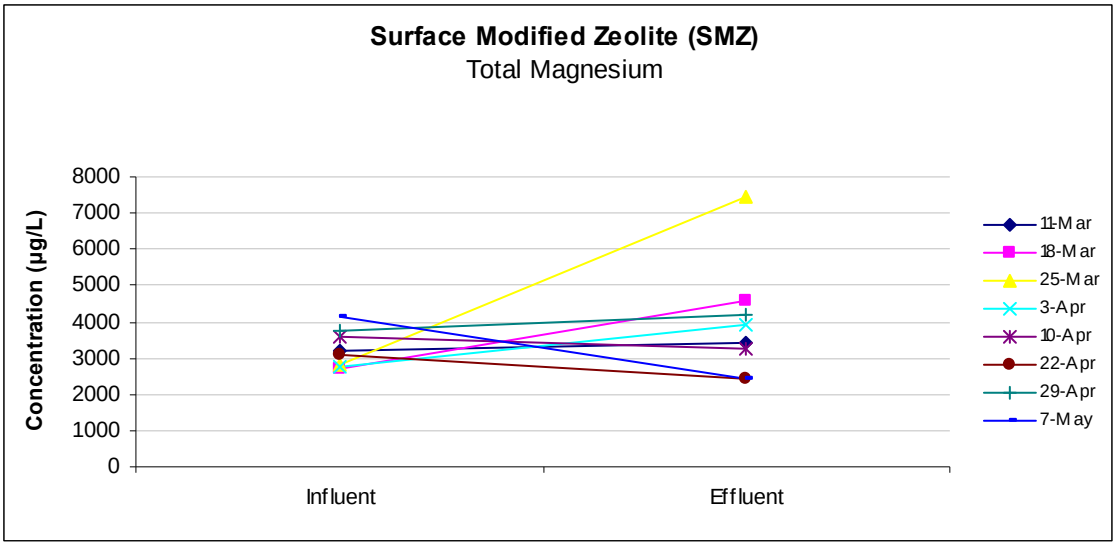
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	4891251.422	4891251.422	2.244	0.185
Residual	6.000	13078916.078	2179819.346		
Total	7.000	17970167.500			

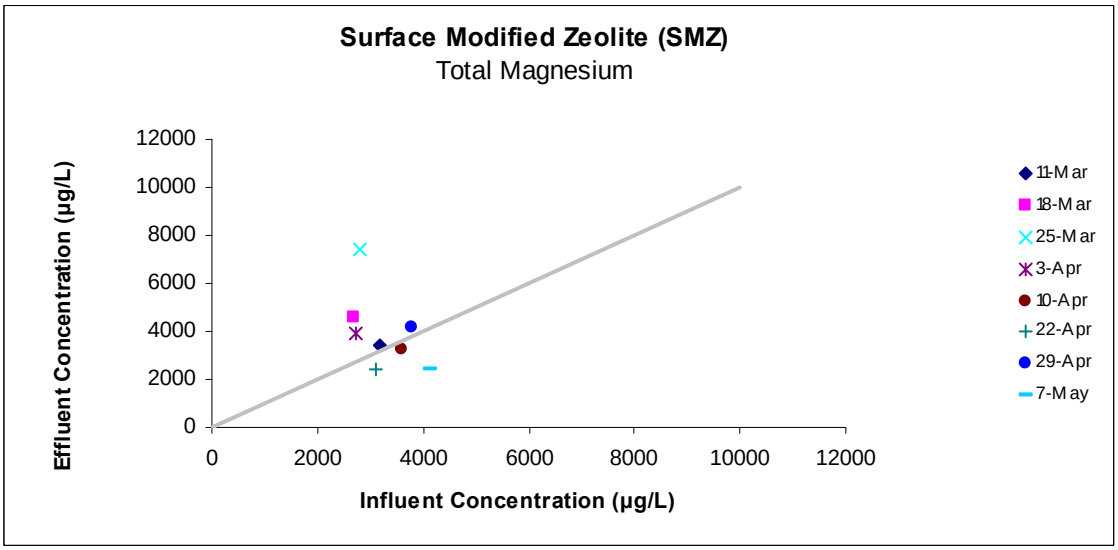
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	9071.678	3458.228	2.623	0.039	609.700	17533.657	609.700	17533.657
X Variable 1	-1.575	1.051	-1.498	0.185	-4.147	0.997	-4.147	0.997

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	4066.088	-619.088
2	4812.439	-252.439
3	4680.174	2746.826
4	4751.030	-861.030
5	3418.936	-183.936
6	4192.054	-1772.054
7	3130.787	1074.213
8	2554.491	-132.491




Surface Modified Zeolite (SMZ)
Total Magnesium
Concentration (µg/L)
8000
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Total Magnesium
Effluent Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Mg

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.268
R Square	0.072
Adjusted R Square	-0.083
Standard Error	1465.723
Observations	8.000

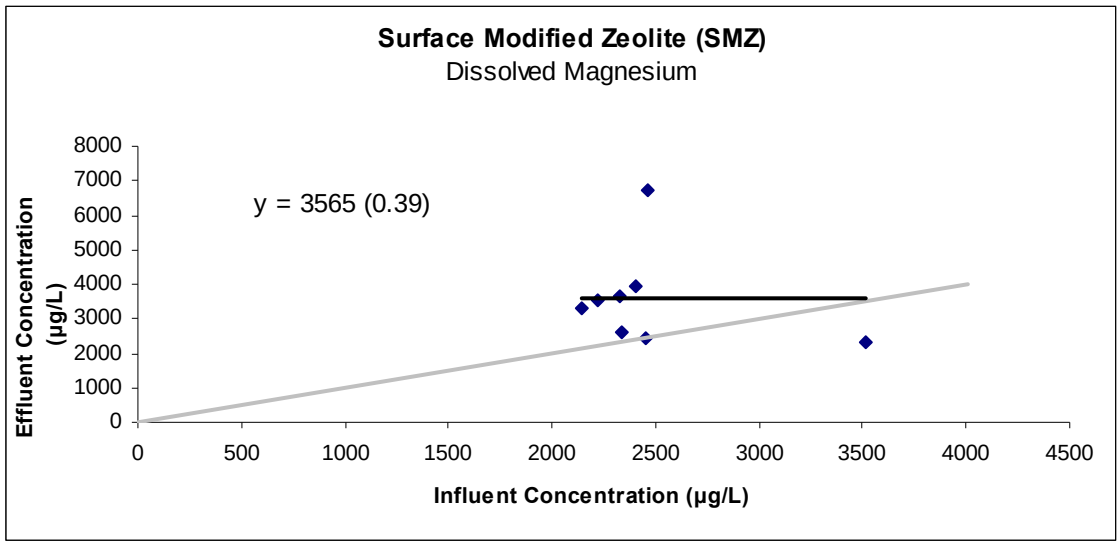
ANOVA

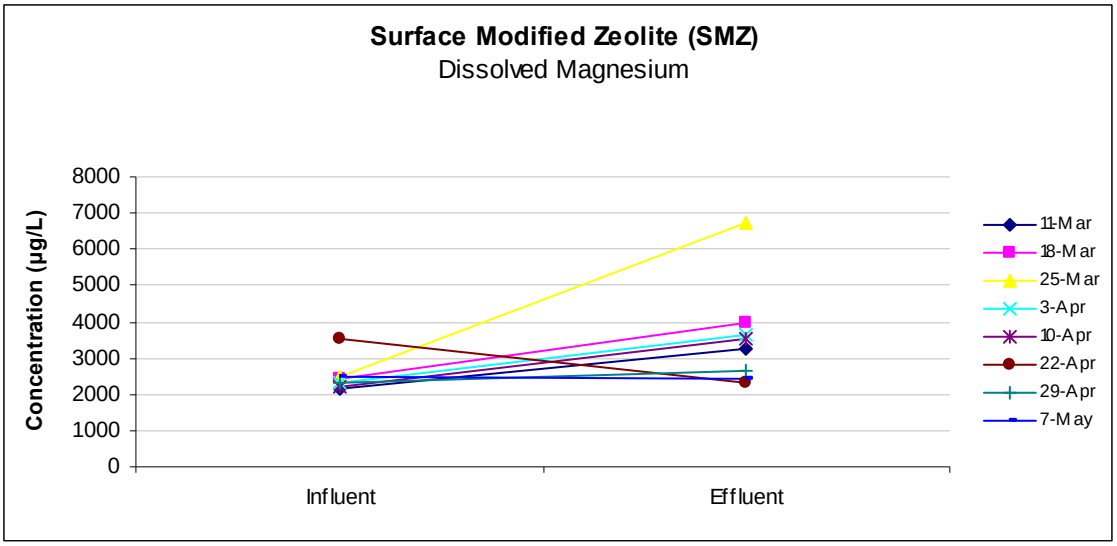
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	993854.524	993854.524	0.463	0.522
Residual	6.000	12890059.476	2148343.246		
Total	7.000	13883914.000			

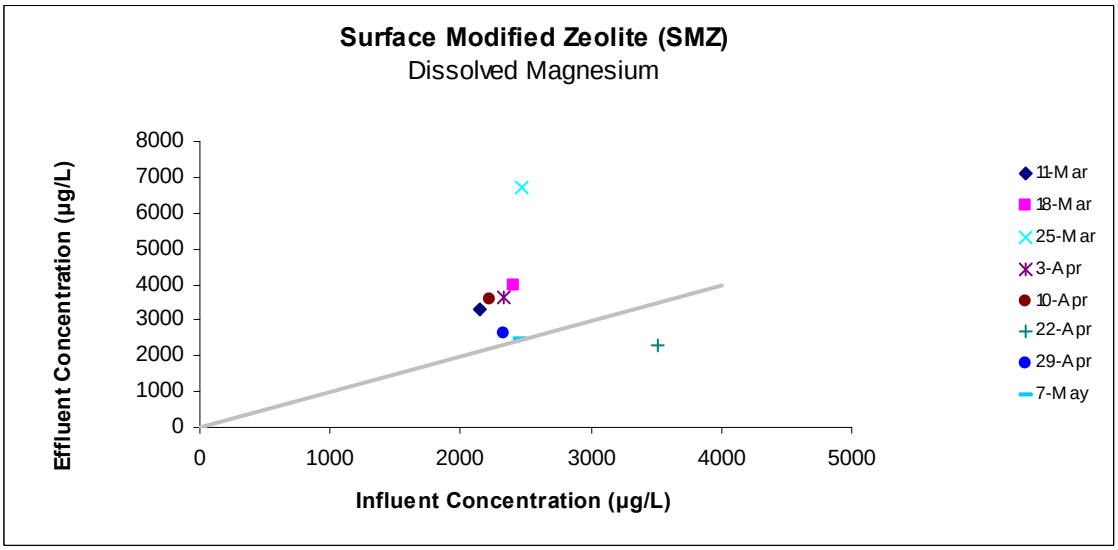
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	5731.748	3226.803	1.776	0.126	-2163.955	13627.450	-2163.955	13627.450
X Variable 1	-0.872	1.282	-0.680	0.522	-4.010	2.266	-4.010	2.266

RESIDUAL OUTPUT

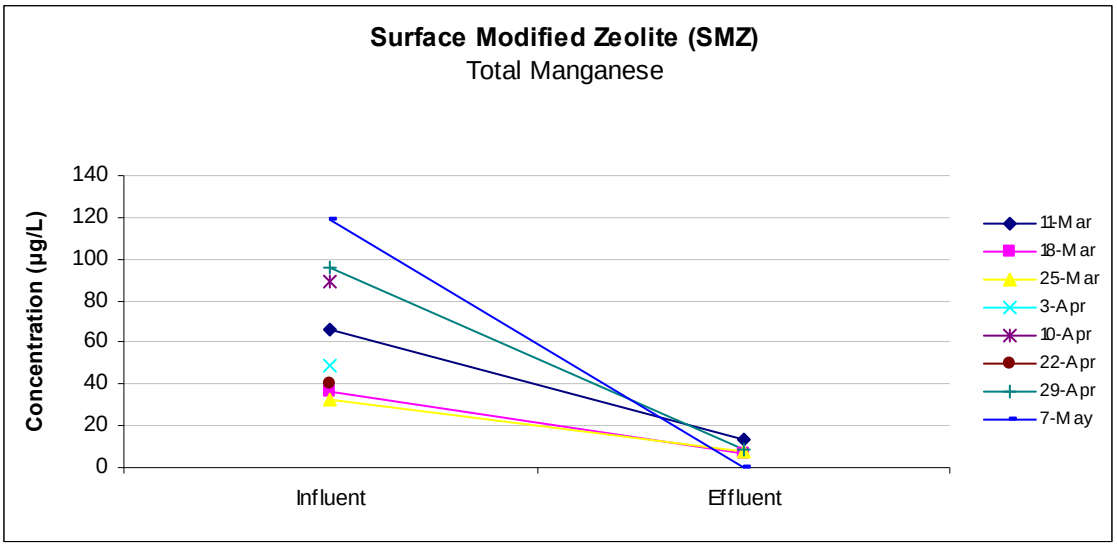
Observation	*Predicted Y*	*Residuals*
1	3861.631	-581.631
2	3634.844	322.156
3	3583.381	3129.619
4	3702.008	-57.008
5	3794.467	-237.467
6	2664.023	-356.023
7	3695.030	-1067.030
8	3588.615	-1152.615

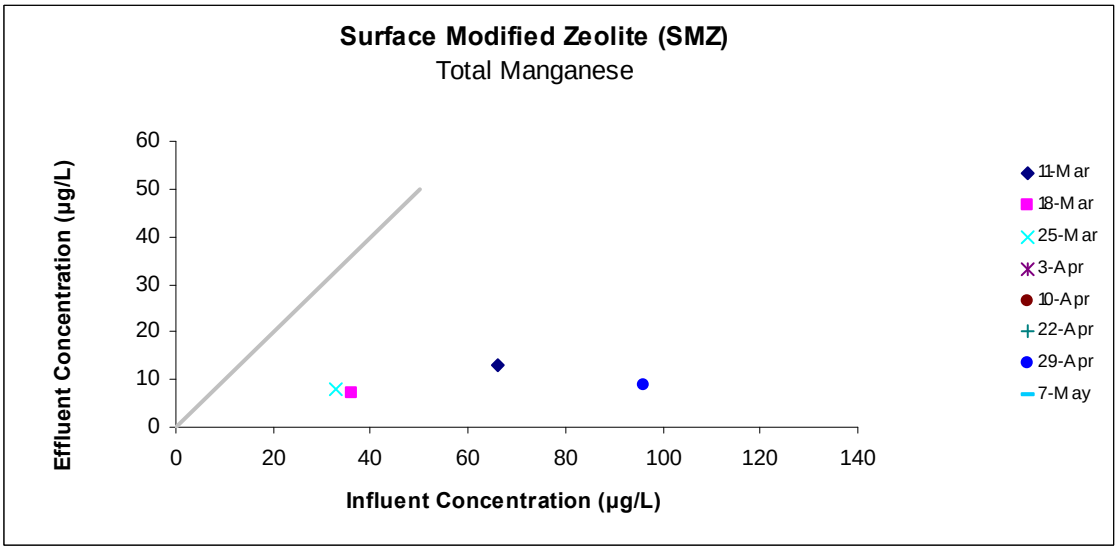



Surface Modified Zeolite (SMZ)
Dissolved Magnesium
Concentration (µg/L)
8000
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

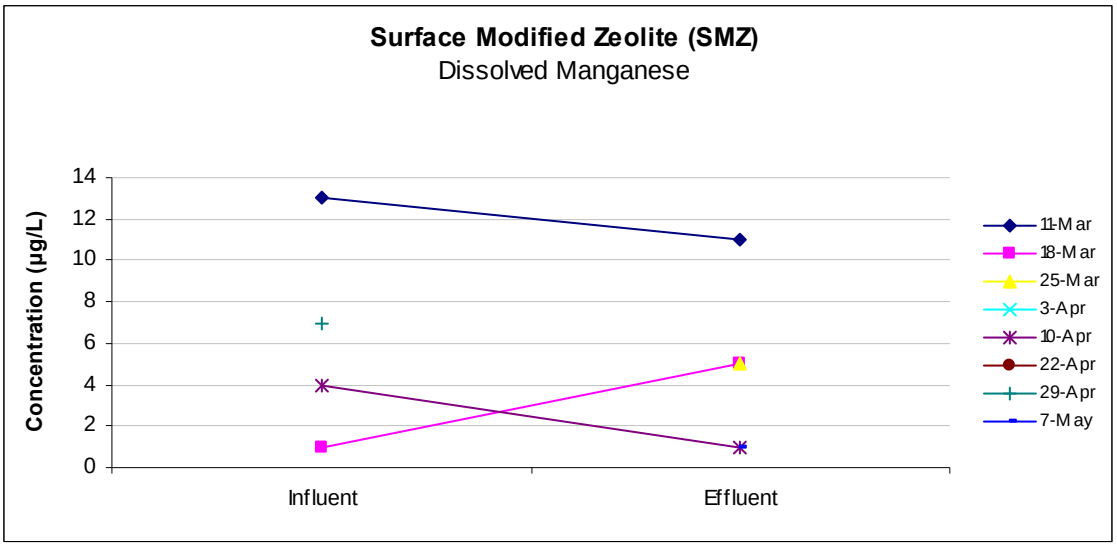

Surface Modified Zeolite (SMZ)
Dissolved Magnesium
Effluent Concentration (µg/L)
8000
7000
6000
5000
4000
3000
2000
1000
0
0
1000
2000
3000
4000
5000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

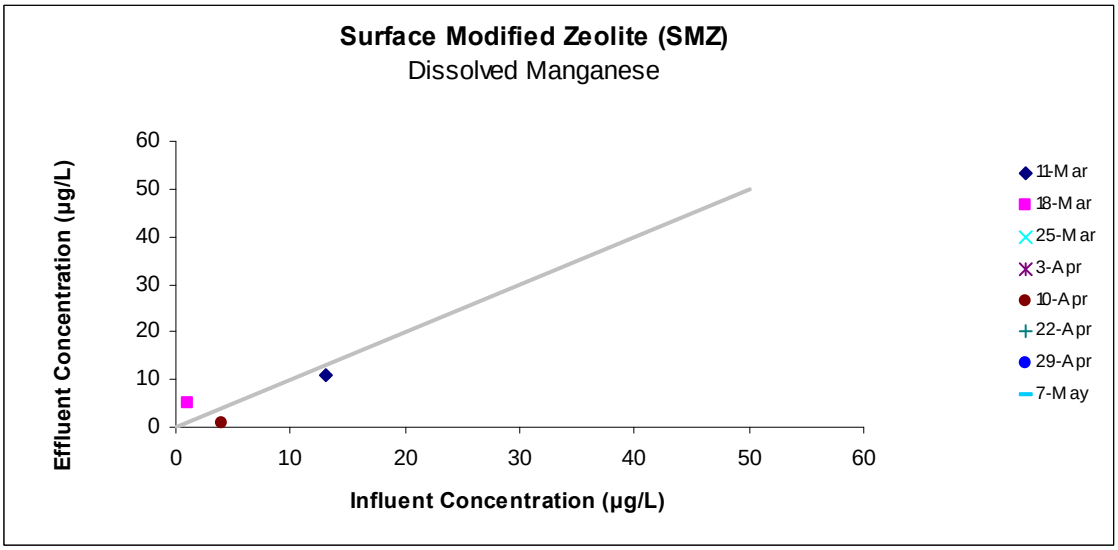
Total Mn


Surface Modified Zeolite (SMZ)
Total Manganese
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

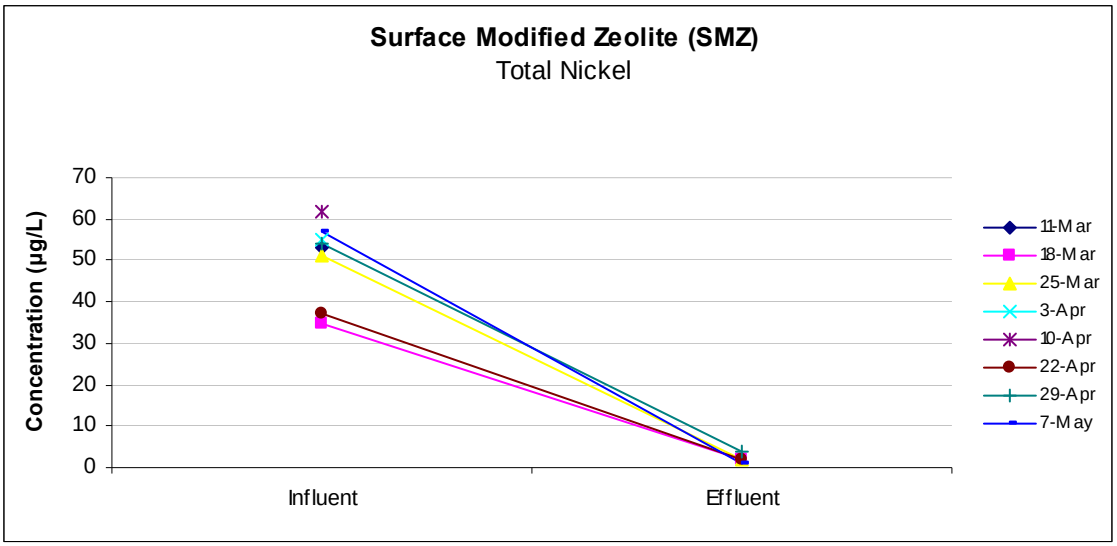

Surface Modified Zeolite (SMZ)
Total Manganese
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
140
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

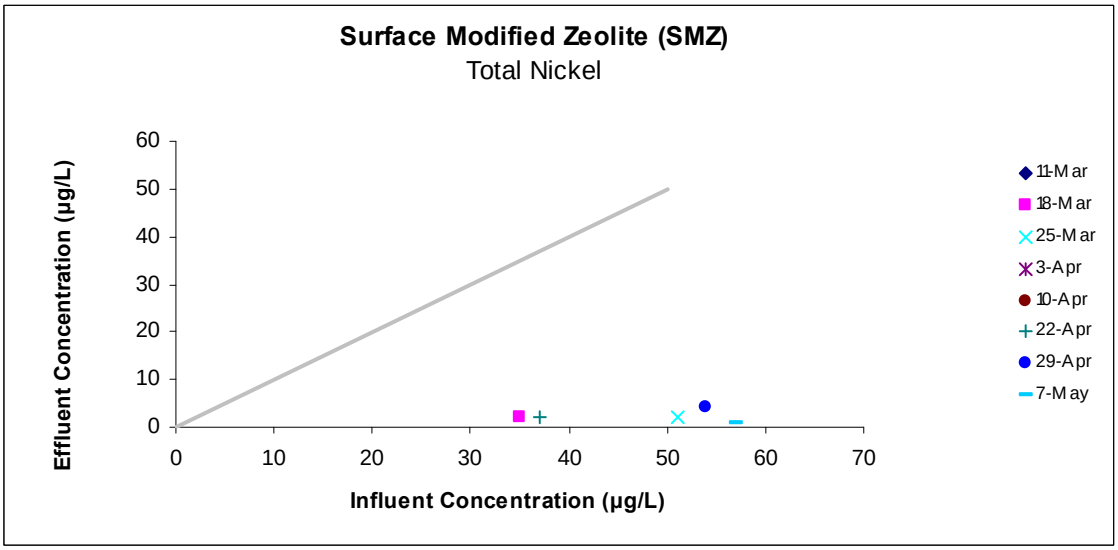
Dissolved Mn



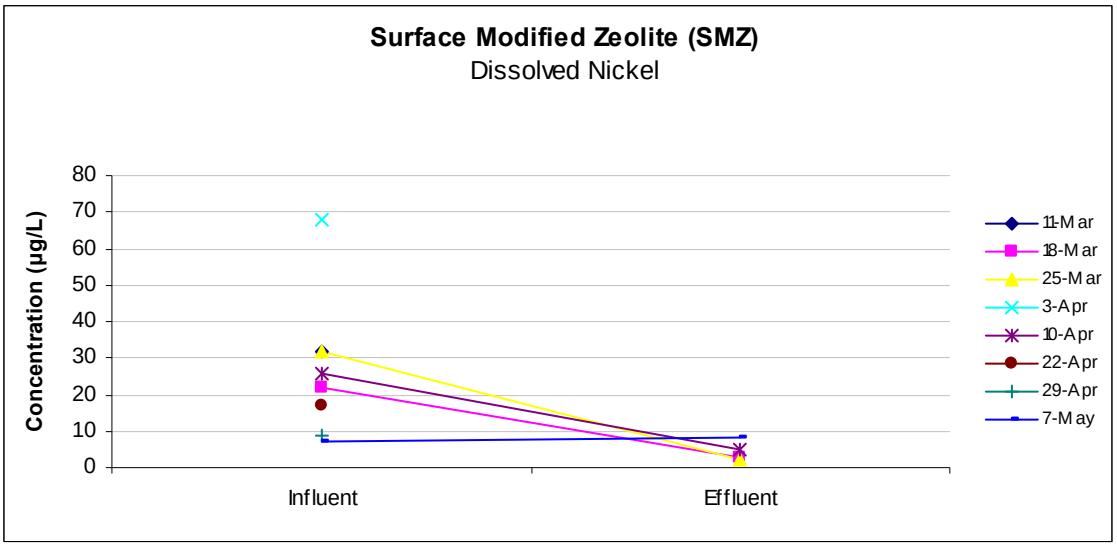


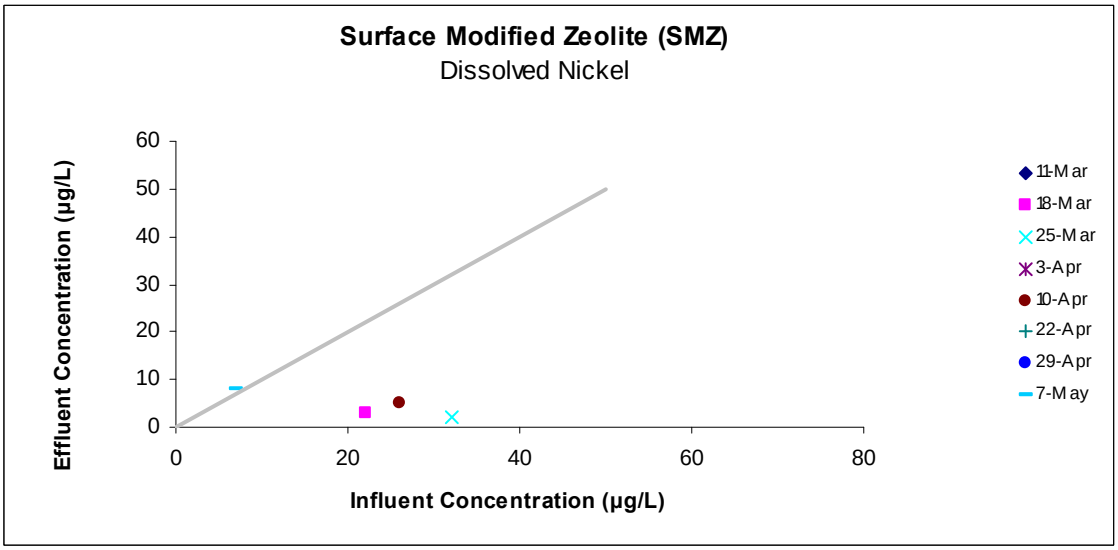
Total Ni


Surface Modified Zeolite (SMZ)
Total Nickel
Concentration (µg/L)
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

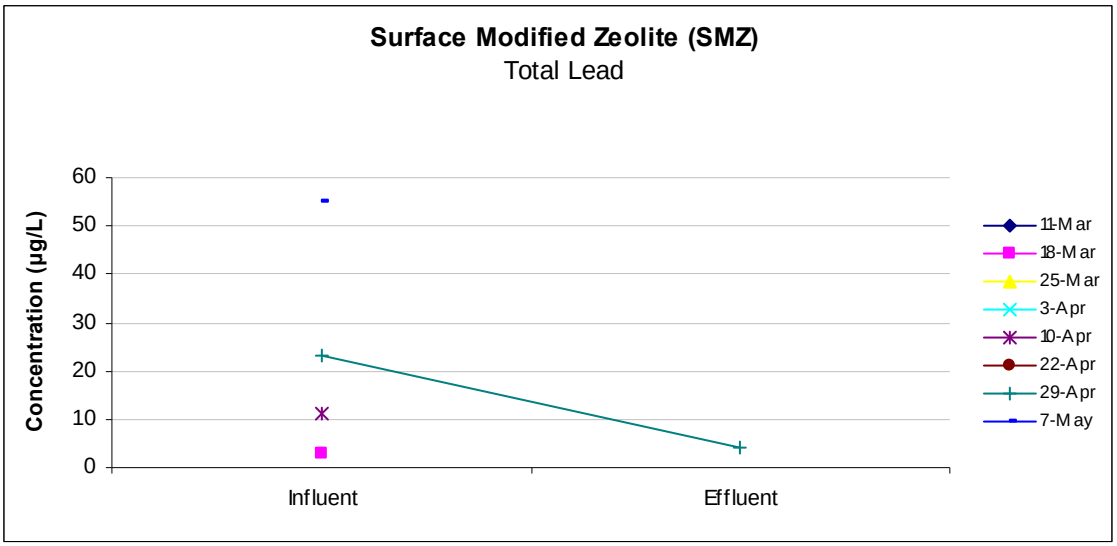

Surface Modified Zeolite (SMZ)
Total Nickel
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
70
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

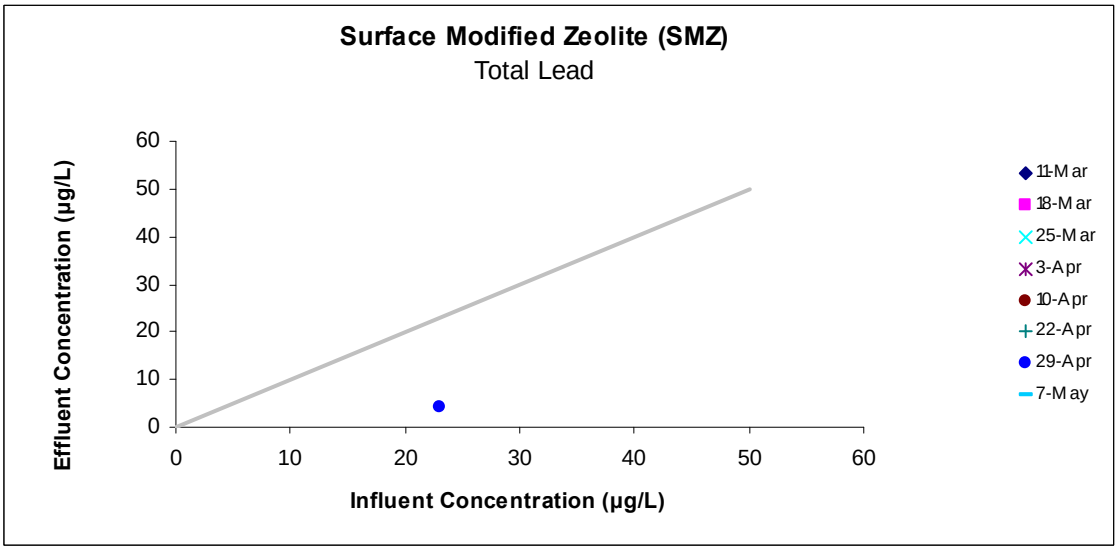
Dissolved Ni



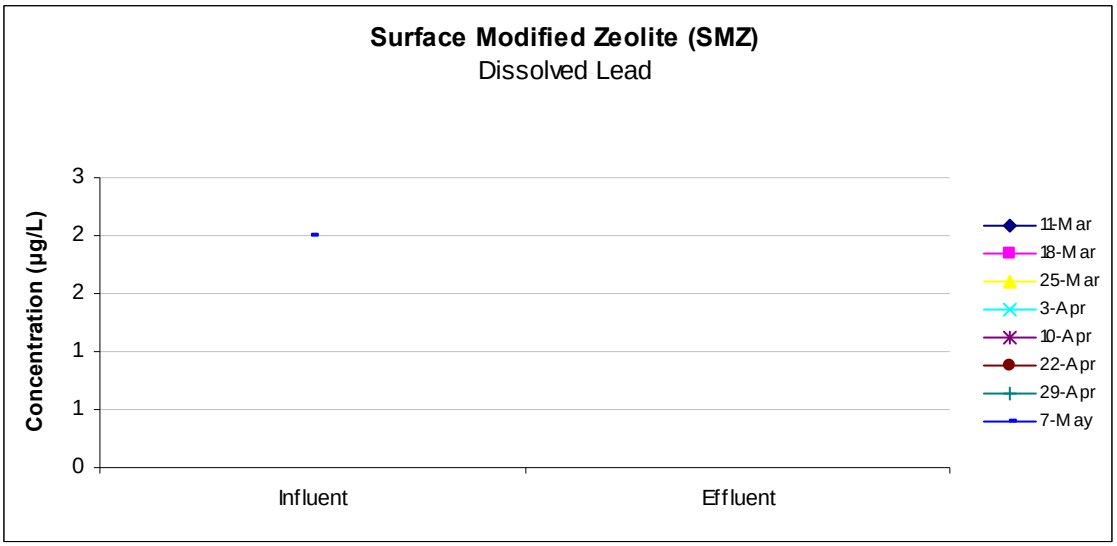


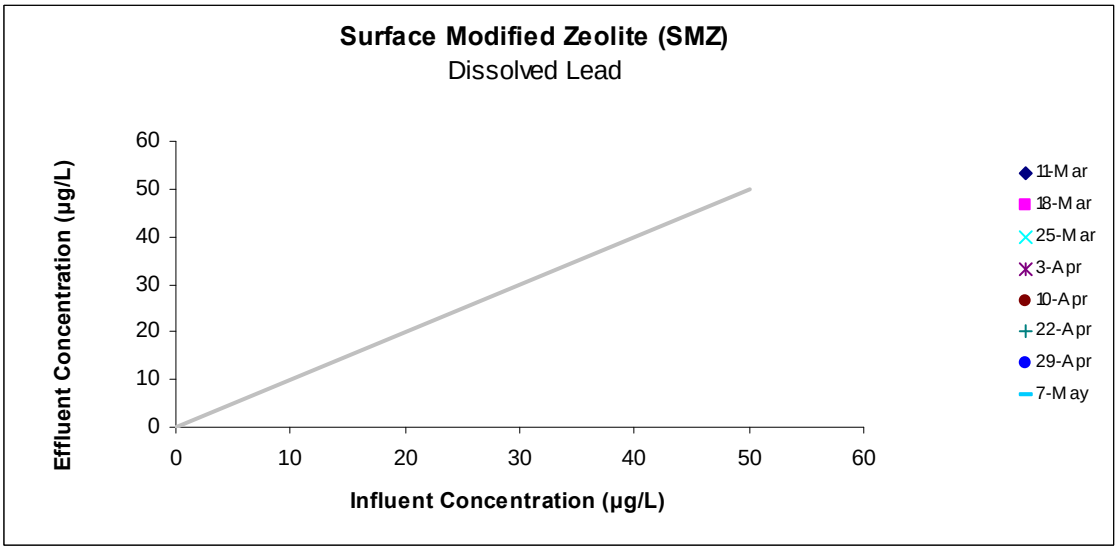
Total Pb


Surface Modified Zeolite (SMZ)
Total Lead
Concentration (µg/L)
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Total Lead
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Pb





Total Zn

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.170
R Square	0.029
Adjusted R Square	-0.133
Standard Error	11.563
Observations	8.000

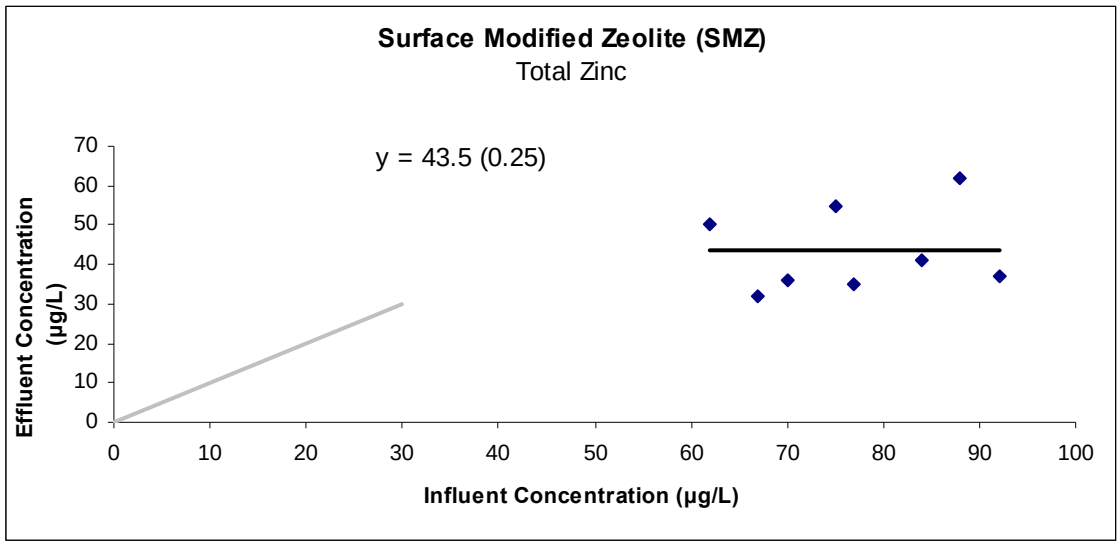
ANOVA

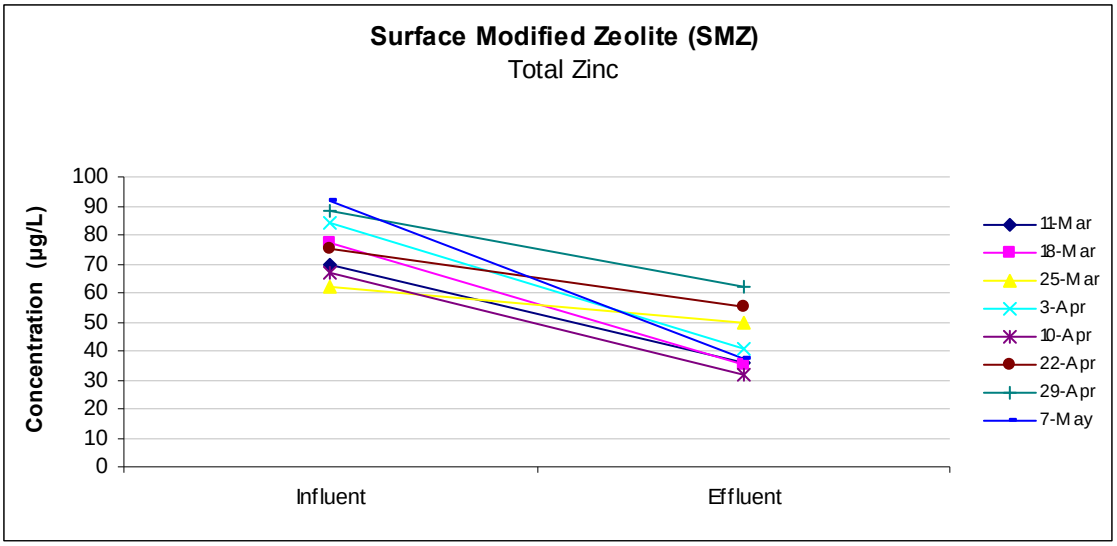
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	23.756	23.756	0.178	0.688
Residual	6.000	802.244	133.707		
Total	7.000	826.000			

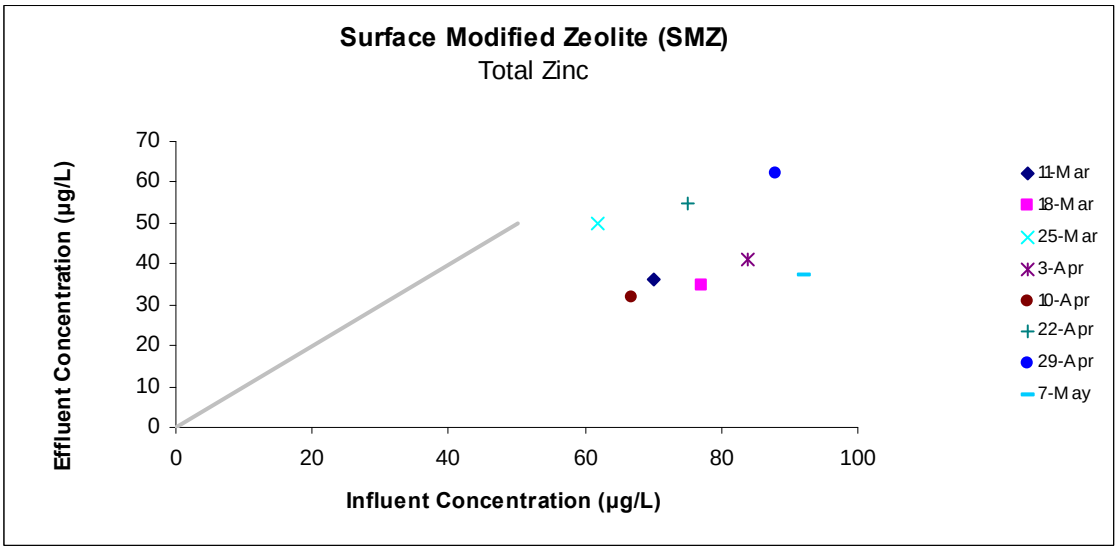
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	30.022	32.235	0.931	0.388	-48.854	108.899	-48.854	108.899
X Variable 1	0.175	0.416	0.422	0.688	-0.842	1.193	-0.842	1.193

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	42.295	-6.295
2	43.522	-8.522
3	40.892	9.108
4	44.749	-3.749
5	41.769	-9.769
6	43.171	11.829
7	45.450	16.550
8	46.152	-9.152




Surface Modified Zeolite (SMZ)
Total Zinc
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Total Zinc
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Zn

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.669
R Square	0.448
Adjusted R Square	0.356
Standard Error	8.101
Observations	8.000

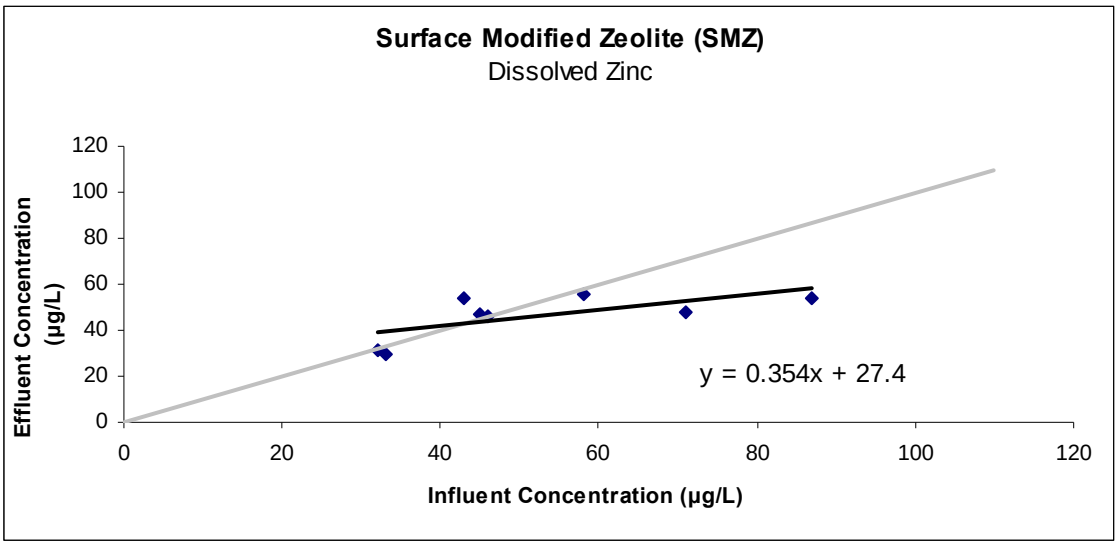
ANOVA

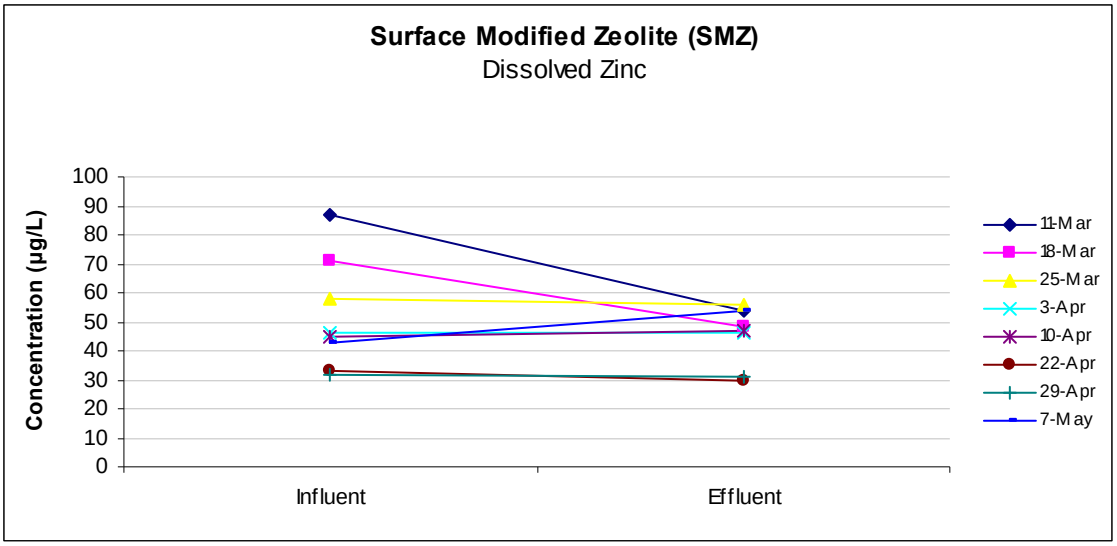
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	319.732	319.732	4.872	0.069
Residual	6.000	393.768	65.628		
Total	7.000	713.500			

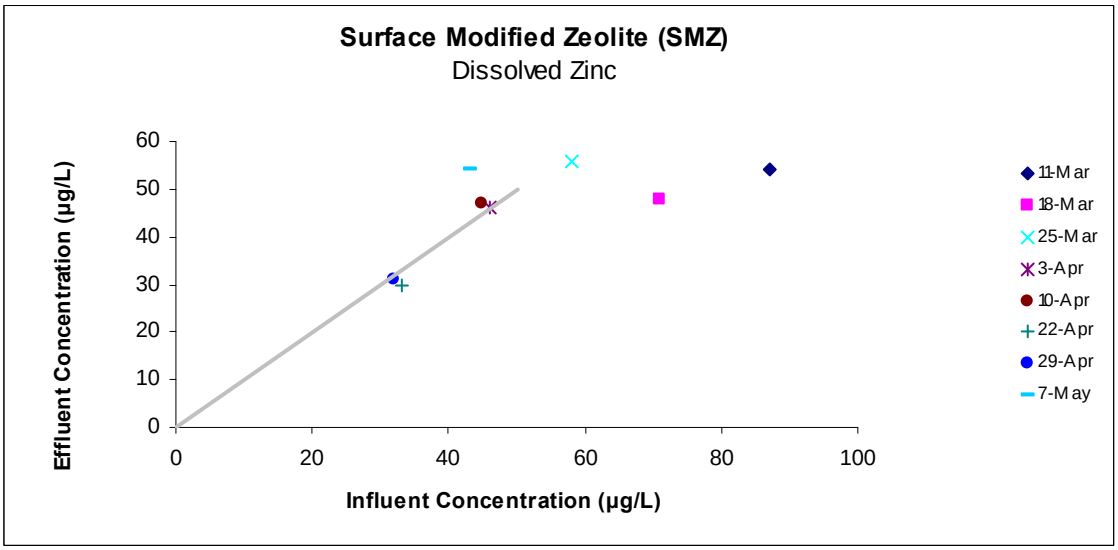
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	27.377	8.803	3.110	0.021	5.837	48.917	5.837	48.917
X Variable 1	0.354	0.160	2.207	0.069	-0.038	0.747	-0.038	0.747

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	58.190	-4.190
2	52.524	-4.524
3	47.919	8.081
4	43.669	2.331
5	43.315	3.685
6	39.065	-9.065
7	38.711	-7.711
8	42.607	11.393




Surface Modified Zeolite (SMZ)
Dissolved Zinc
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Dissolved Zinc
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total K

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.097
R Square	0.009
Adjusted R Square	-0.156
Standard Error	1225.250
Observations	8.000

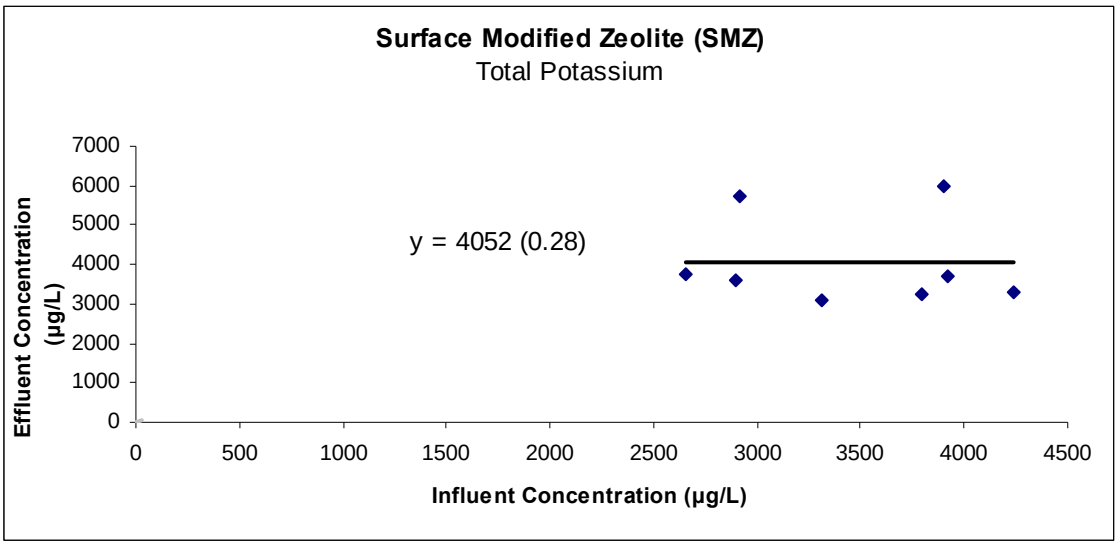
ANOVA

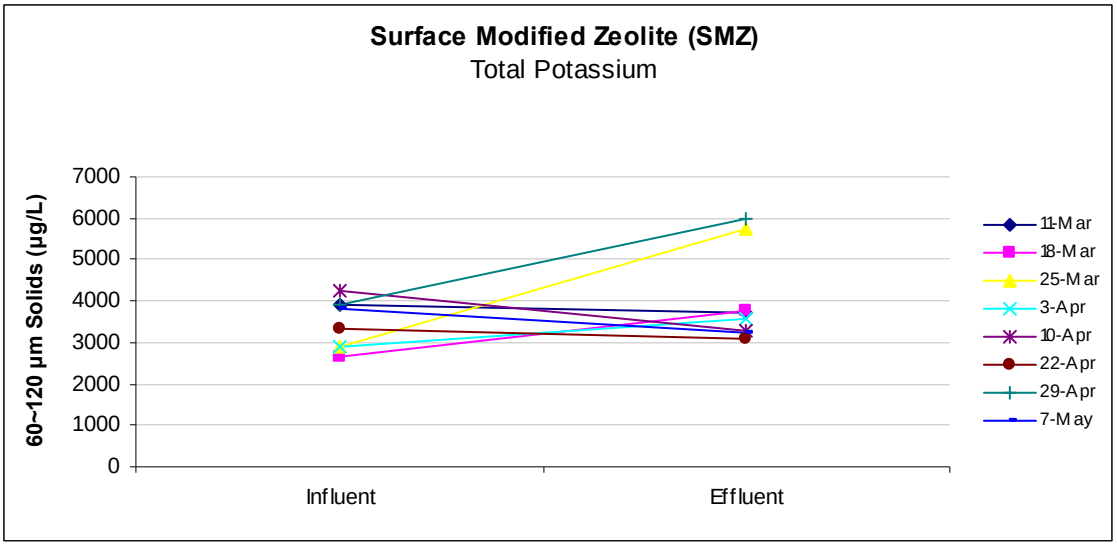
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	84936.542	84936.542	0.057	0.820
Residual	6.000	9007430.958	1501238.493		
Total	7.000	9092367.500			

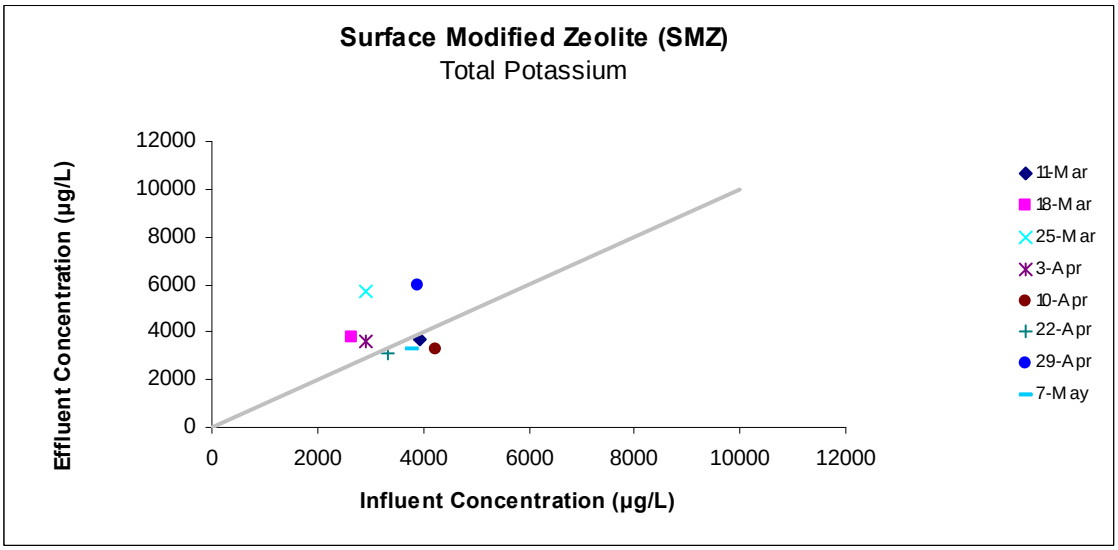
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	4702.075	2764.013	1.701	0.140	-2061.222	11465.372	-2061.222	11465.372
X Variable 1	-0.188	0.790	-0.238	0.820	-2.122	1.746	-2.122	1.746

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	3965.254	-249.254
2	4203.654	-436.654
3	4153.830	1587.170
4	4156.650	-578.650
5	3905.090	-613.090
6	4079.001	-981.001
7	3969.202	2005.798
8	3989.319	-734.319




Surface Modified Zeolite (SMZ)
Total Potassium
60~120 µm Solids (µg/L)
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Total Potassium
Effluent Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved K

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.430
R Square	0.185
Adjusted R Square	0.049
Standard Error	1261.240
Observations	8.000

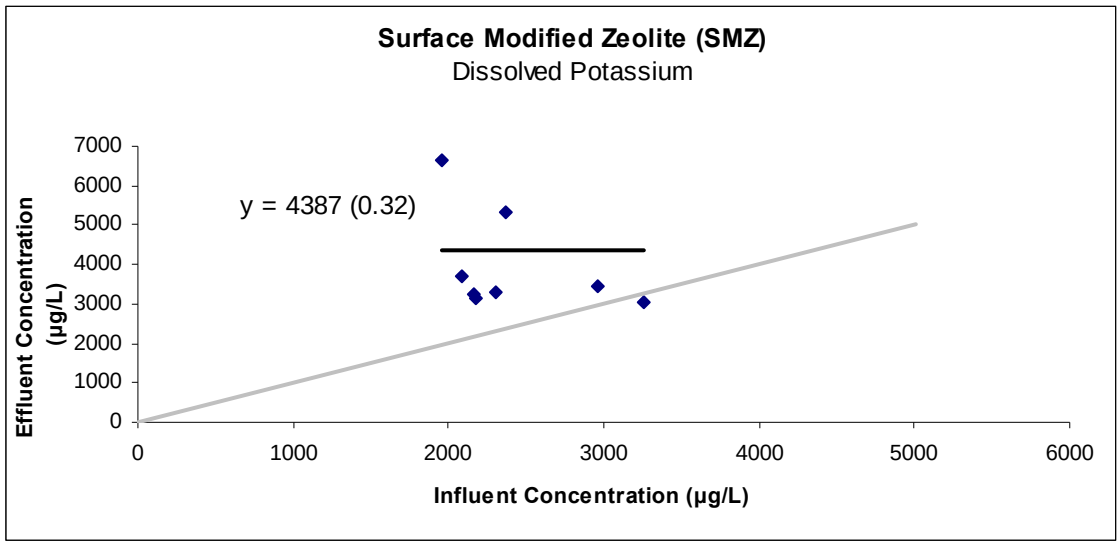
ANOVA

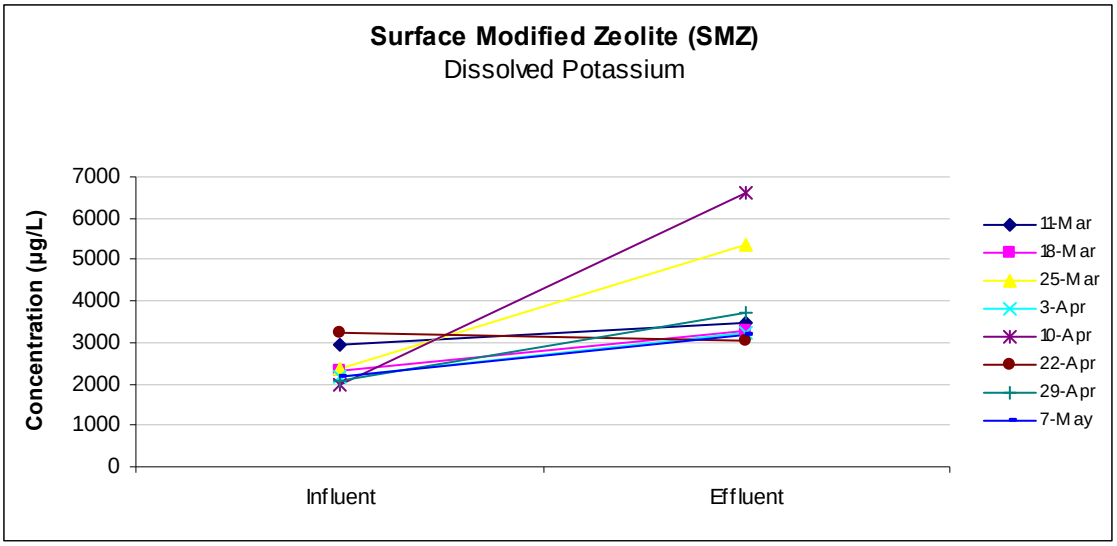
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	2160195.687	2160195.687	1.358	0.288
Residual	6.000	9544357.813	1590726.302		
Total	7.000	11704553.500			

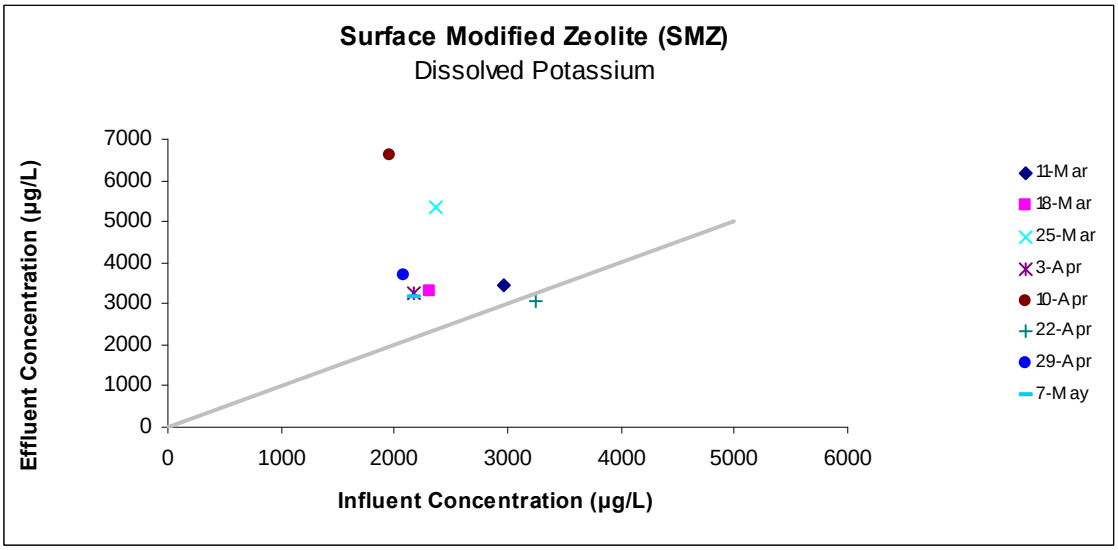
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	6919.253	2557.350	2.706	0.035	661.642	13176.864	661.642	13176.864
X Variable 1	-1.219	1.046	-1.165	0.288	-3.779	1.341	-3.779	1.341

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	3315.247	141.753
2	4110.177	-824.177
3	4032.147	1302.853
4	4283.306	-1045.306
5	4529.588	2092.412
6	2951.921	104.079
7	4382.062	-666.062
8	4273.552	-1105.552




Surface Modified Zeolite (SMZ)
Dissolved Potassium
Concentration (µg/L)
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Dissolved Potassium
Effluent Concentration (µg/L)
7000
6000
5000
4000
3000
2000
1000
0
0
1000
2000
3000
4000
5000
6000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Na

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.536
R Square	0.287
Adjusted R Square	0.168
Standard Error	5312.601
Observations	8.000

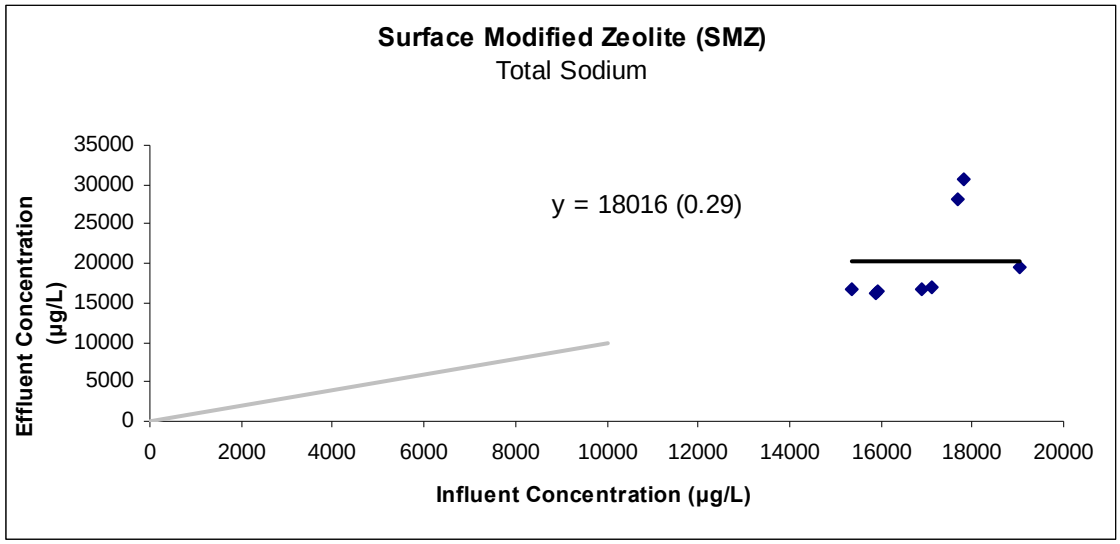
ANOVA

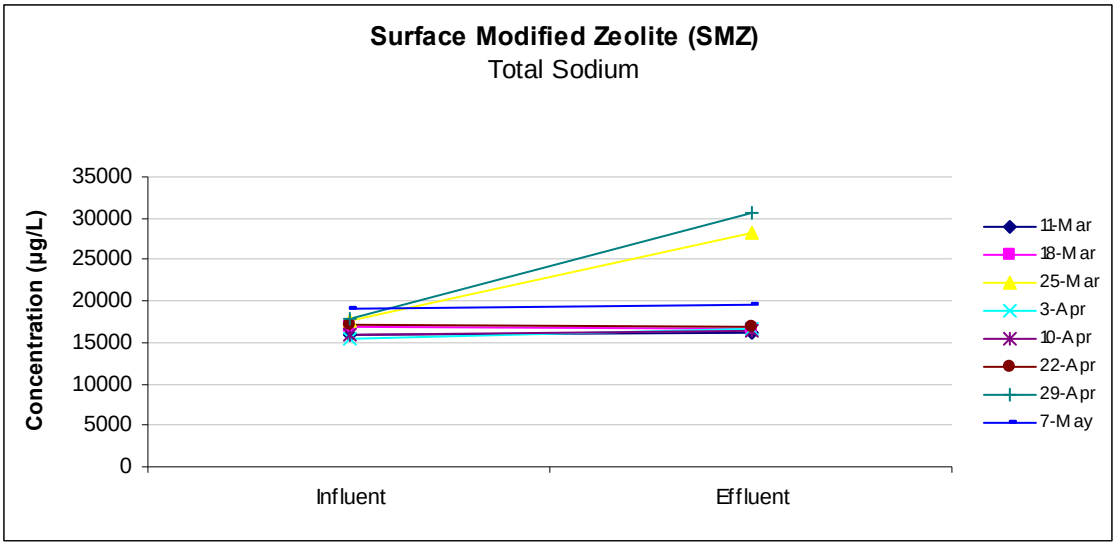
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	68222693.094	68222693.094	2.417	0.171
Residual	6.000	169342346.781	28223724.463		
Total	7.000	237565039.875			

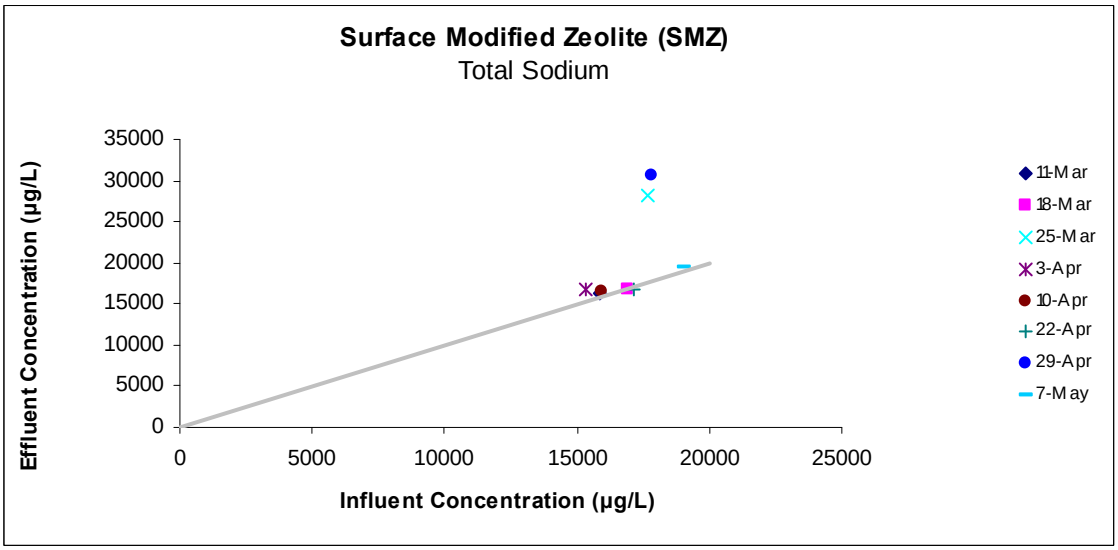
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-23295.768	28023.604	-0.831	0.438	-91867.058	45275.522	-91867.058	45275.522
X Variable 1	2.562	1.648	1.555	0.171	-1.470	6.594	-1.470	6.594

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	17376.928	-1100.928
2	20020.640	-3352.640
3	22005.986	6188.014
4	16065.318	643.682
5	17535.755	-1007.755
6	20550.919	-3684.919
7	22359.506	8260.494
8	25489.948	-5945.948




Surface Modified Zeolite (SMZ)
Total Sodium
Concentration (µg/L)
35000
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Total Sodium
Effluent Concentration (µg/L)
35000
30000
25000
20000
15000
10000
5000
0
0
5000
10000
15000
20000
25000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Na

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.068
R Square	0.005
Adjusted R Square	-0.161
Standard Error	3922.204
Observations	8.000

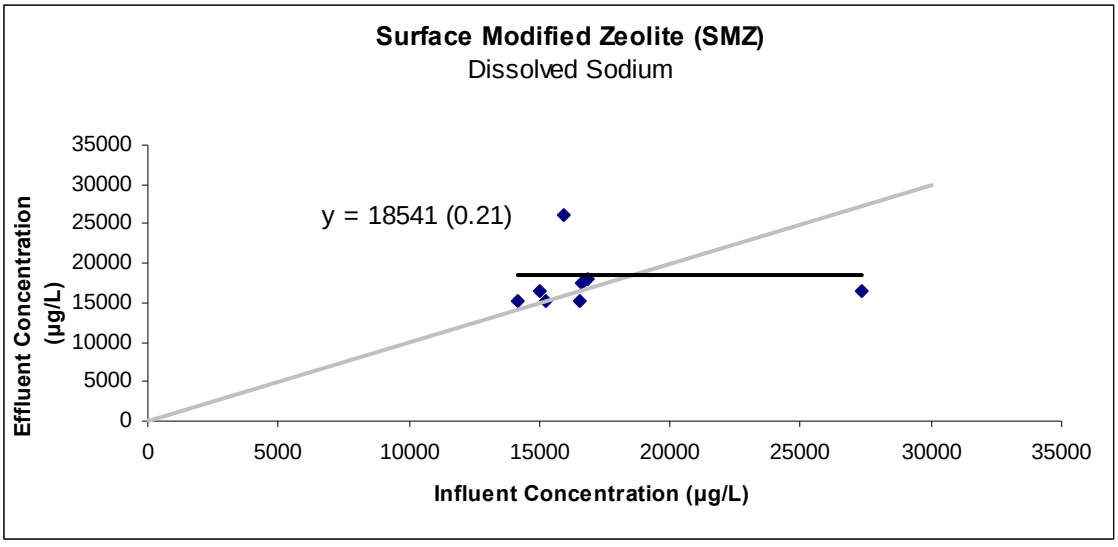
ANOVA

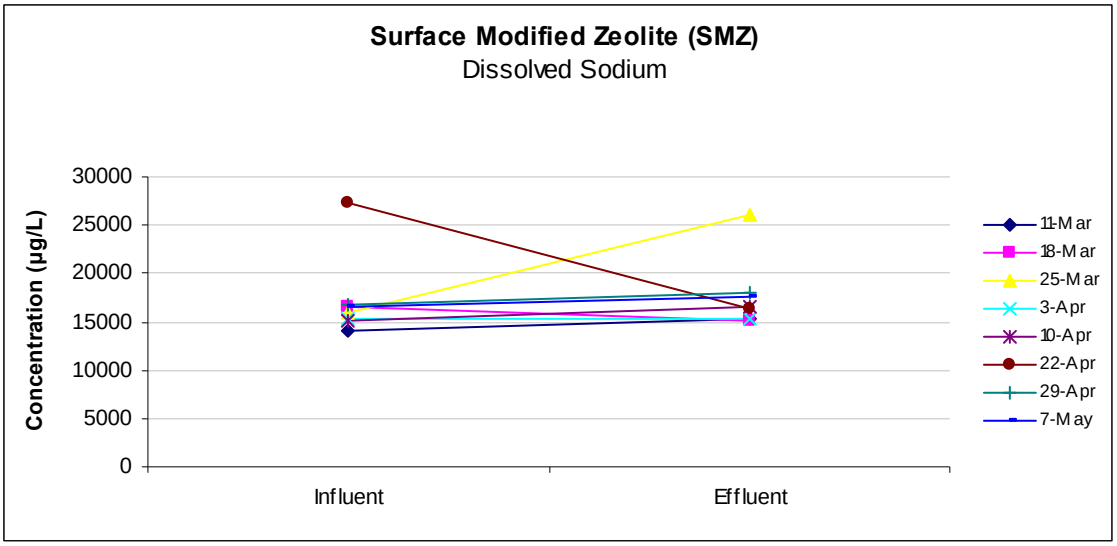
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	424562.430	424562.430	0.028	0.874
Residual	6.000	92302085.070	15383680.845		
Total	7.000	92726647.500			

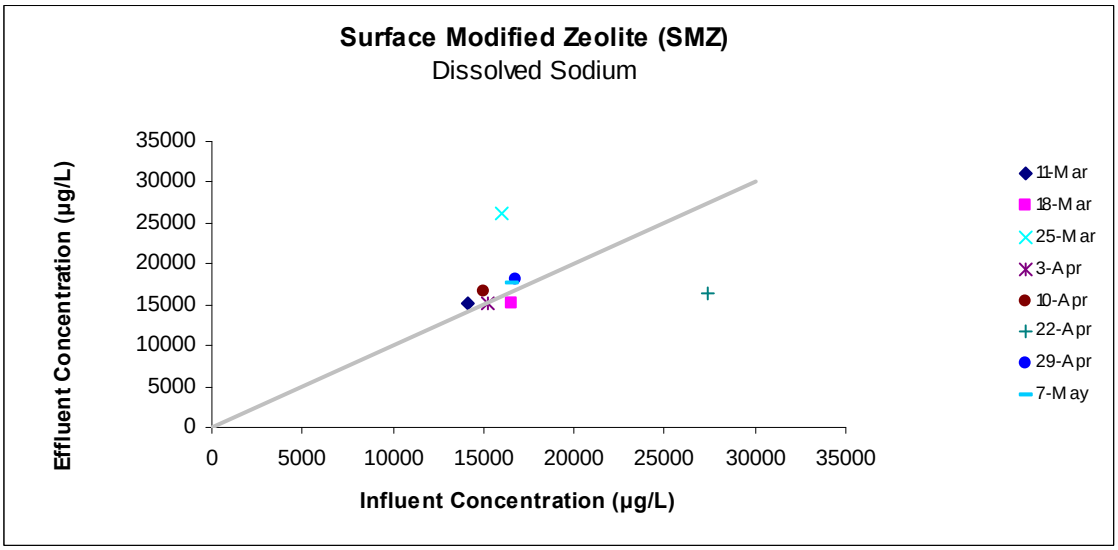
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	18541.200	6247.265	2.968	0.025	3254.692	33827.707	3254.692	33827.707
X Variable 1	-0.059	0.354	-0.166	0.874	-0.925	0.807	-0.925	0.807

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	17708.065	-2496.065
2	17569.316	-2421.316
3	17603.180	8531.820
4	17643.629	-2383.629
5	17659.150	-1116.150
6	16934.426	-539.426
7	17551.855	445.145
8	17564.378	-20.378




Surface Modified Zeolite (SMZ)
Dissolved Sodium
Concentration (µg/L)
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Dissolved Sodium
Effluent Concentration (µg/L)
35000
30000
25000
20000
15000
10000
5000
0
0
5000
10000
15000
20000
25000
30000
35000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Cr

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.031
R Square	0.001
Adjusted R Square	-0.166
Standard Error	11.695
Observations	8.000

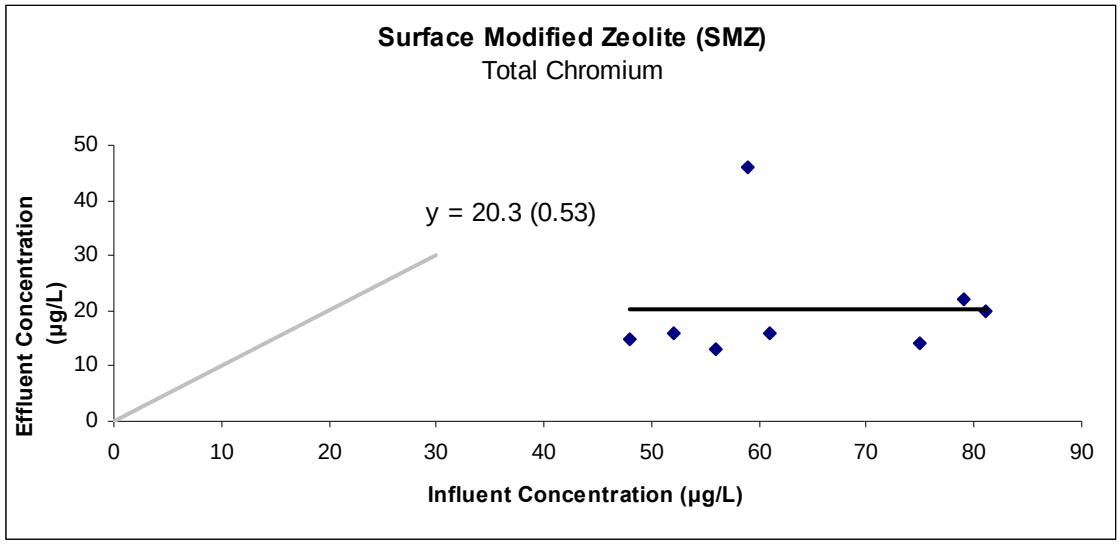
ANOVA

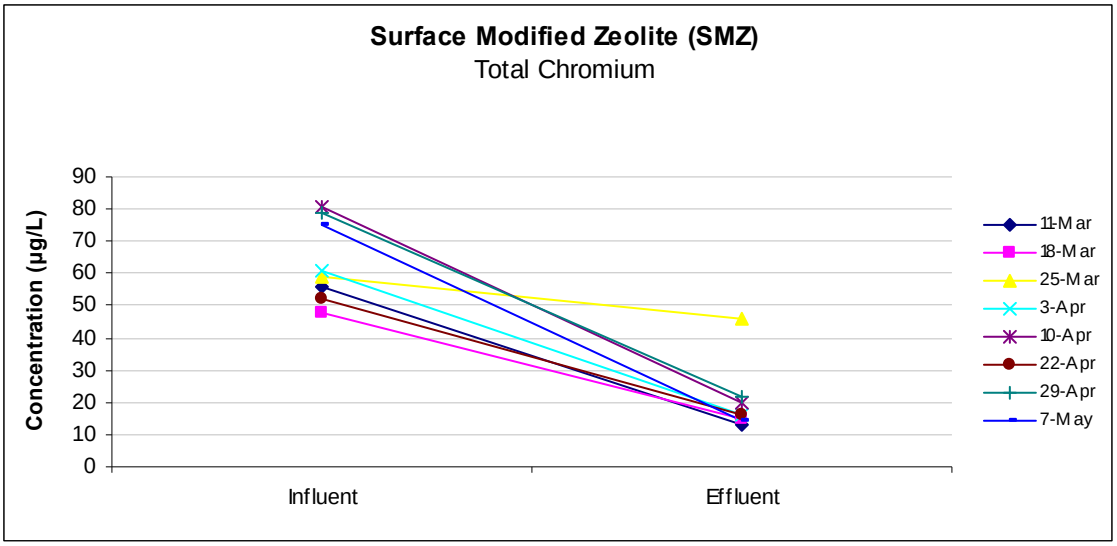
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	0.808	0.808	0.006	0.941
Residual	6.000	820.692	136.782		
Total	7.000	821.500			

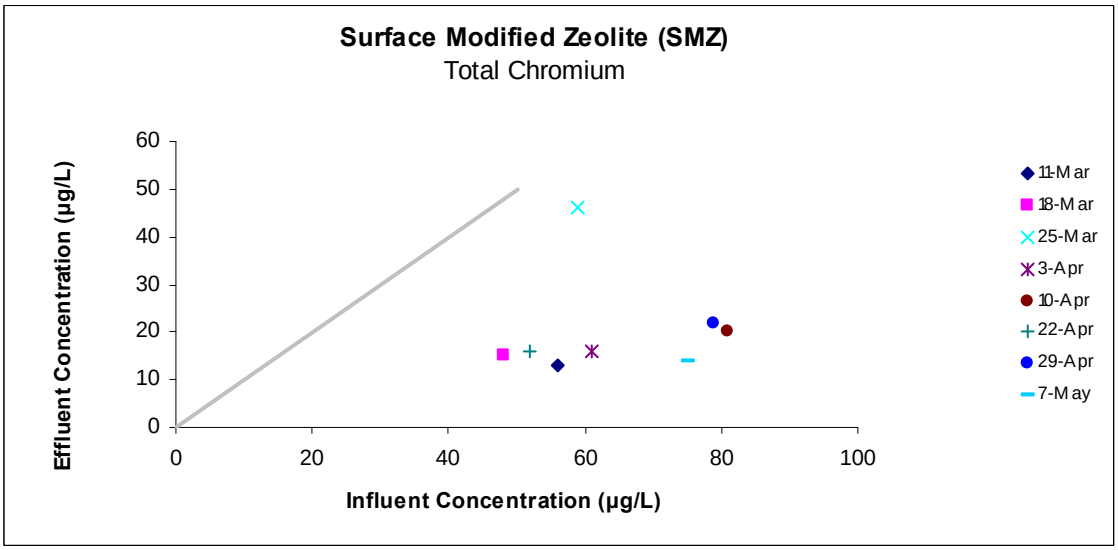
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	18.544	22.577	0.821	0.443	-36.699	73.788	-36.699	73.788
X Variable 1	0.027	0.347	0.077	0.941	-0.824	0.877	-0.824	0.877

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	20.040	-7.040
2	19.826	-4.826
3	20.120	25.880
4	20.173	-4.173
5	20.707	-0.707
6	19.933	-3.933
7	20.654	1.346
8	20.547	-6.547




Surface Modified Zeolite (SMZ)
Total Chromium
Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Total Chromium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cr

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.370
R Square	0.137
Adjusted R Square	-0.007
Standard Error	10.200
Observations	8.000

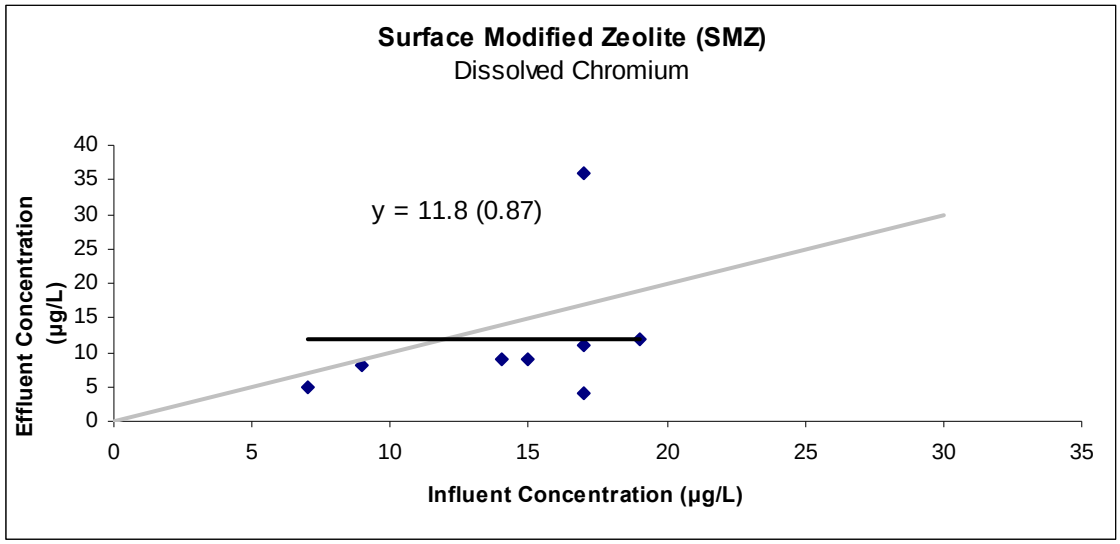
ANOVA

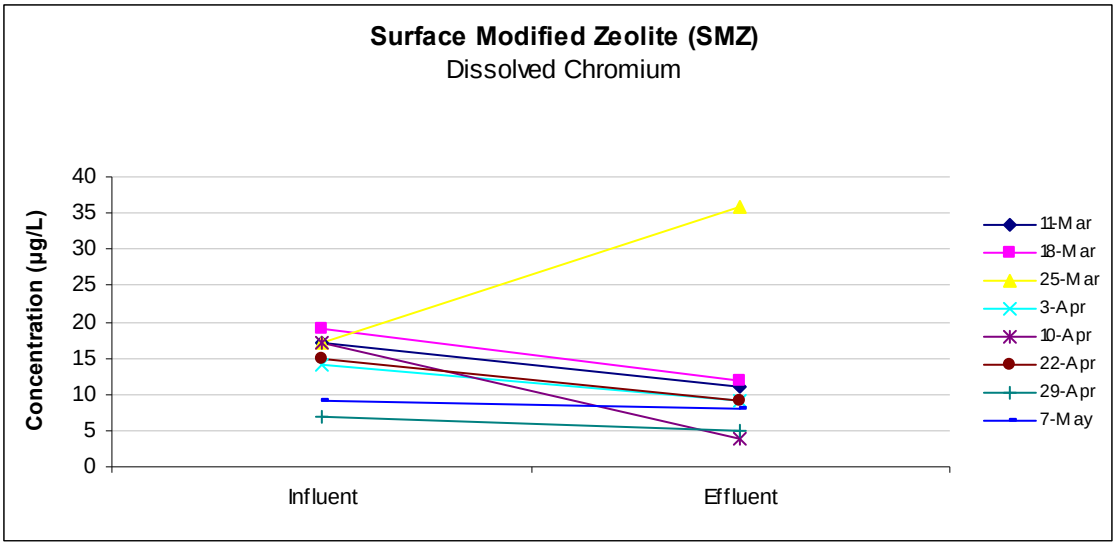
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	99.210	99.210	0.953	0.367
Residual	6.000	624.290	104.048		
Total	7.000	723.500			

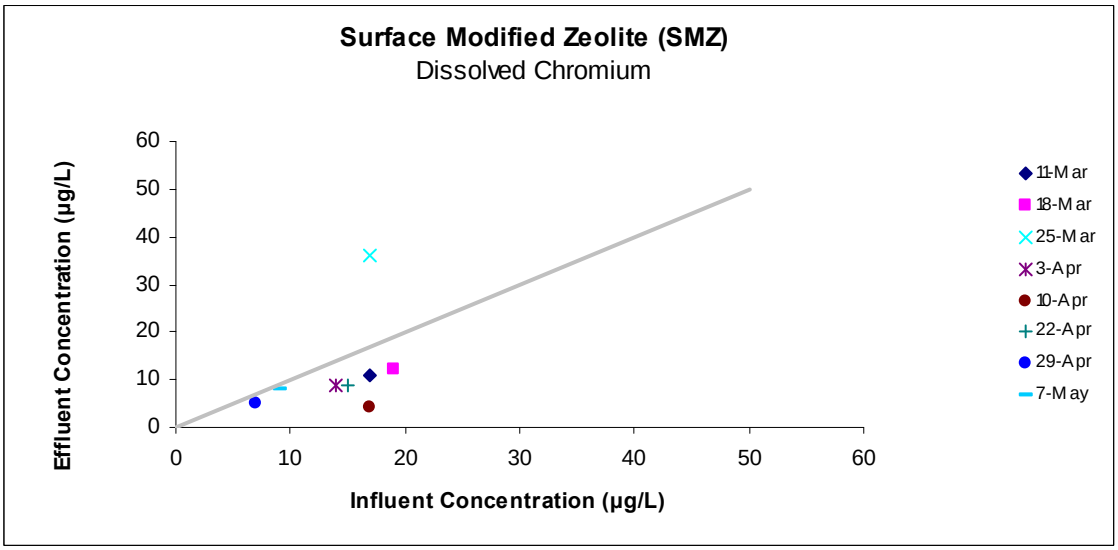
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-1.012	13.558	-0.075	0.943	-34.187	32.163	-34.187	32.163
X Variable 1	0.888	0.909	0.976	0.367	-1.337	3.112	-1.337	3.112

RESIDUAL OUTPUT

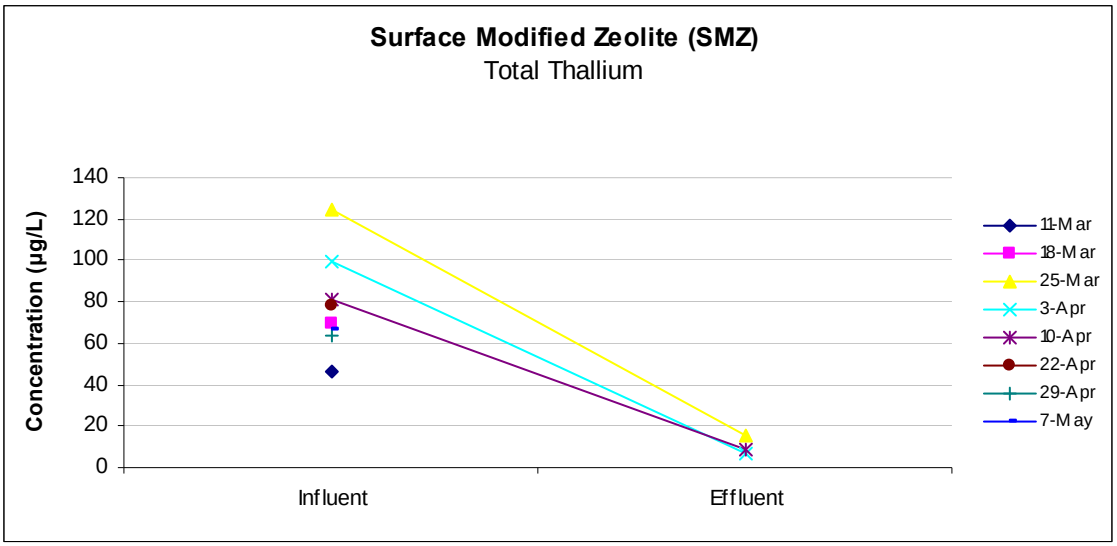
Observation	*Predicted Y*	*Residuals*
1	14.080	-3.080
2	15.856	-3.856
3	14.080	21.920
4	11.417	-2.417
5	14.080	-10.080
6	12.305	-3.305
7	5.203	-0.203
8	6.978	1.022

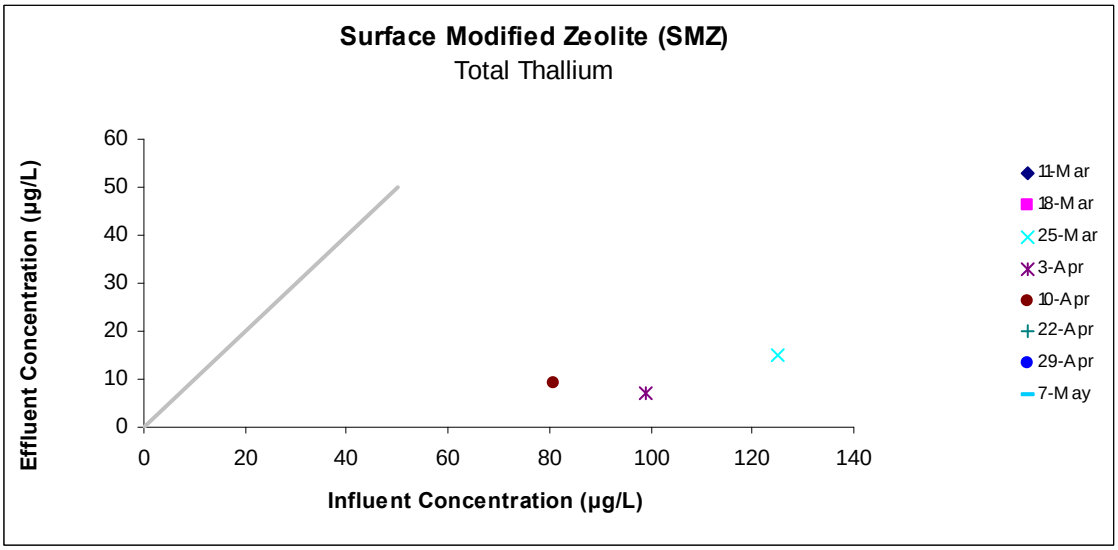



Surface Modified Zeolite (SMZ)
Dissolved Chromium
Concentration (µg/L)
40
35
30
25
20
15
10
5
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

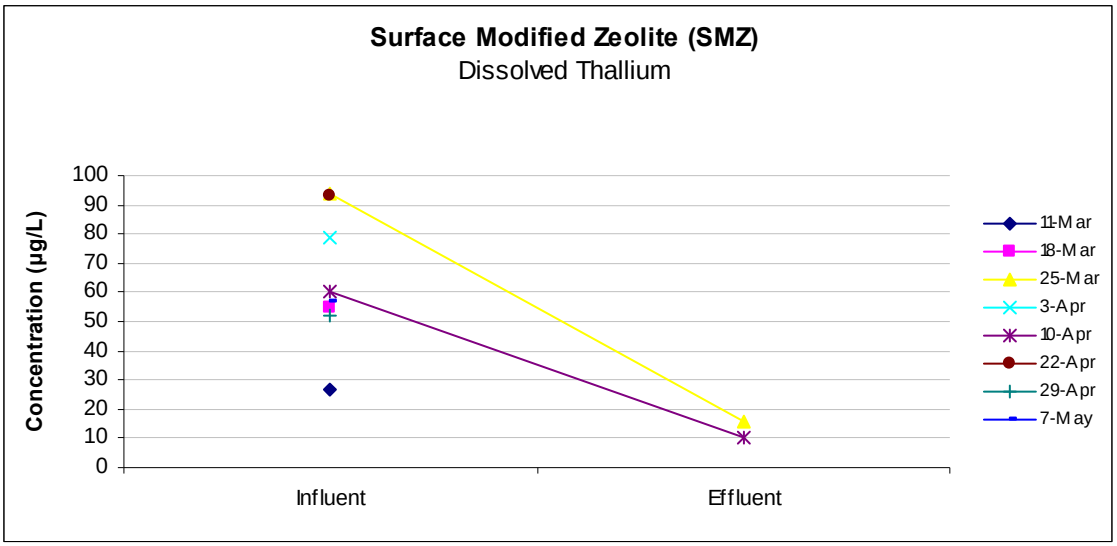

Surface Modified Zeolite (SMZ)
Dissolved Chromium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

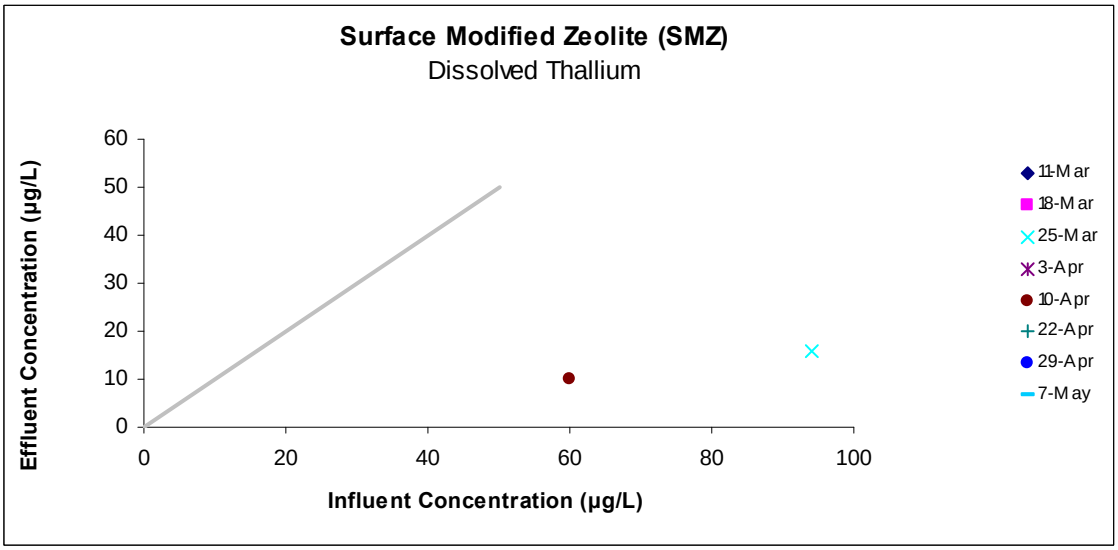
Total Tl


Surface Modified Zeolite (SMZ)
Total Thallium
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Total Thallium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
140
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Tl





Total Sb

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.871
R Square	0.759
Adjusted R Square	0.719
Standard Error	11.336
Observations	8.000

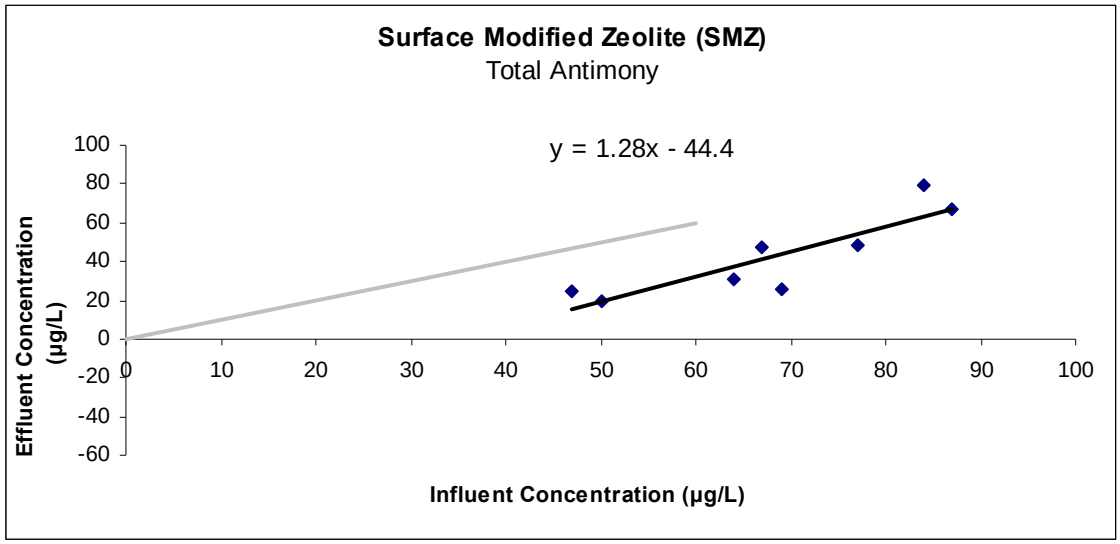
ANOVA

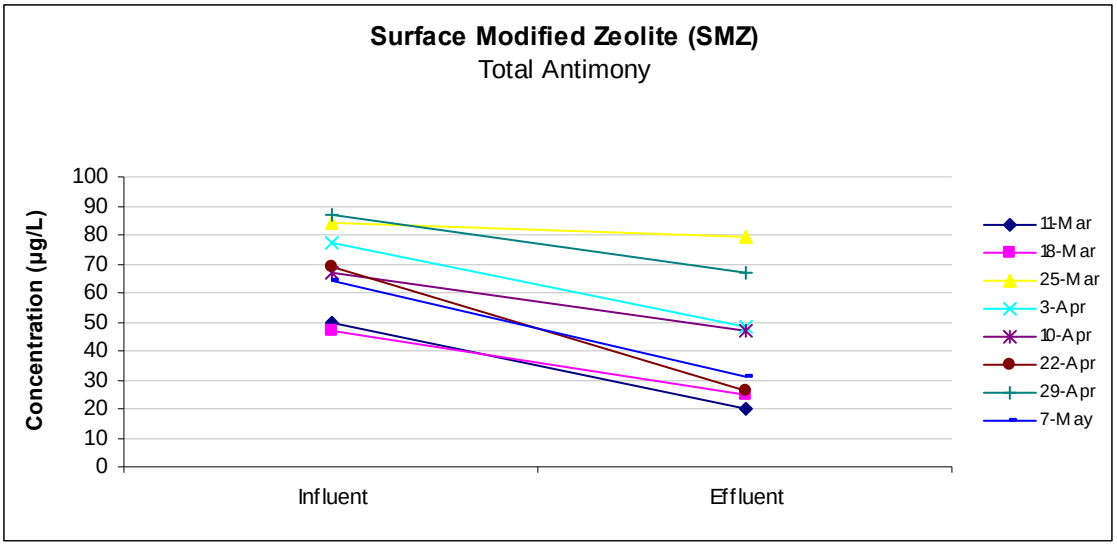
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	2427.815	2427.815	18.892	0.005
Residual	6.000	771.060	128.510		
Total	7.000	3198.875			

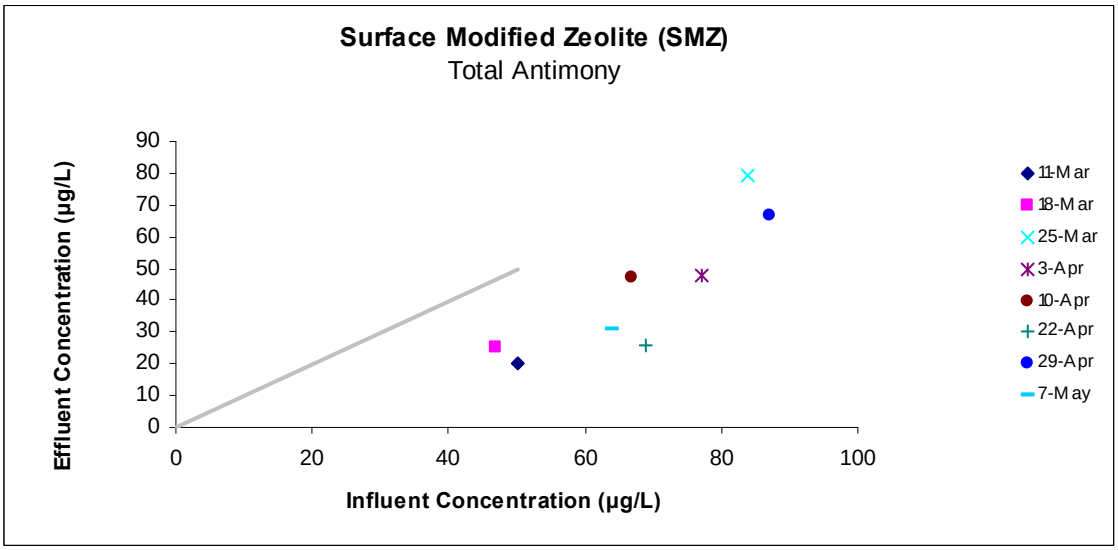
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-44.353	20.465	-2.167	0.073	-94.429	5.723	-94.429	5.723
X Variable 1	1.280	0.295	4.346	0.005	0.560	2.001	0.560	2.001

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	19.668	0.332
2	15.826	9.174
3	63.201	15.799
4	54.239	-6.239
5	41.435	5.565
6	43.995	-17.995
7	67.043	-0.043
8	37.593	-6.593




Surface Modified Zeolite (SMZ)
Total Antimony
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Total Antimony
Effluent Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Sb

SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.482
R Square	0.232
Adjusted R Square	0.079
Standard Error	15.731
Observations	7.000

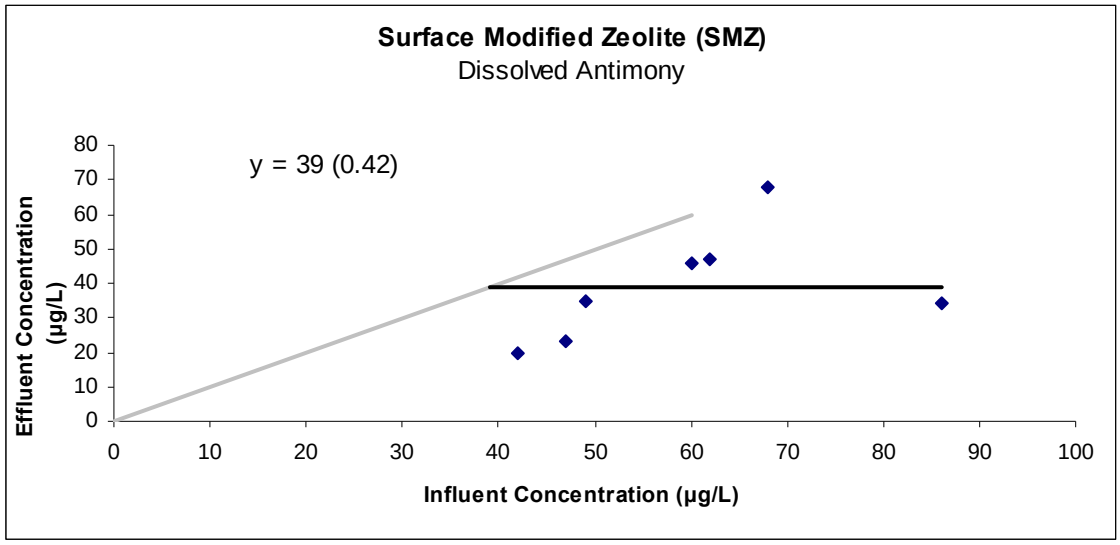
ANOVA

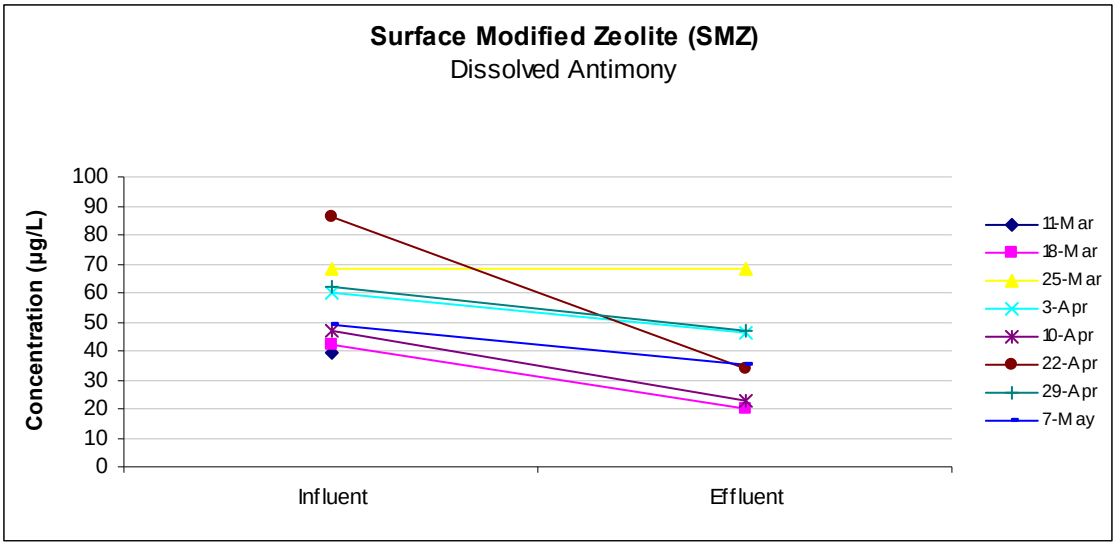
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	374.721	374.721	1.514	0.273
Residual	5.000	1237.279	247.456		
Total	6.000	1612.000			

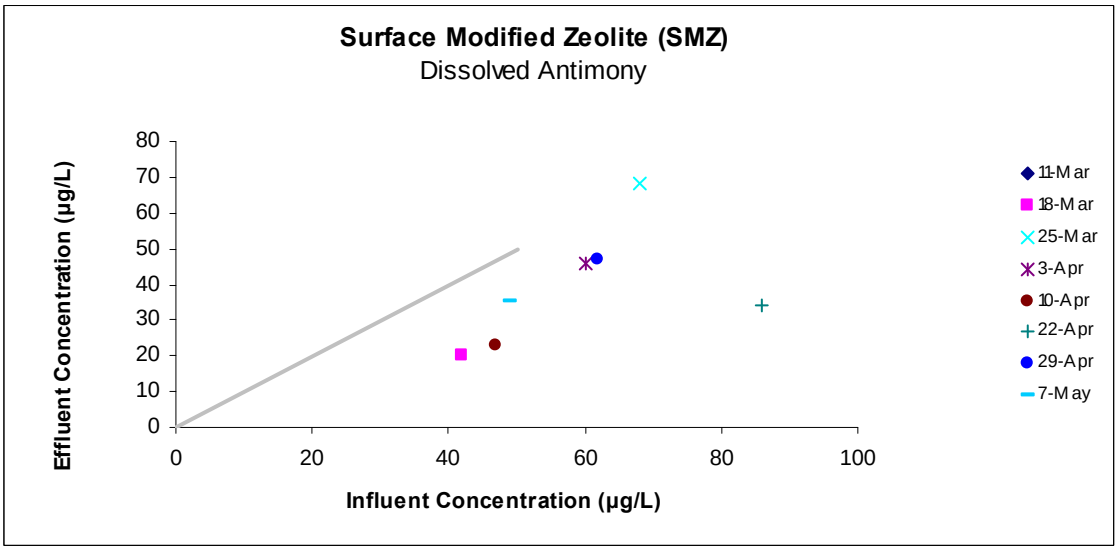
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	7.873	25.984	0.303	0.774	-58.920	74.667	-58.920	74.667
X Variable 1	0.526	0.428	1.231	0.273	-0.573	1.626	-0.573	1.626

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	29.978	-9.978
2	43.661	24.339
3	39.451	6.549
4	32.609	-9.609
5	53.135	-19.135
6	40.504	6.496
7	33.662	1.338




Surface Modified Zeolite (SMZ)
Dissolved Antimony
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Surface Modified Zeolite (SMZ)
Dissolved Antimony
Effluent Concentration (µg/L)
80
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

R-SMZ

Total As

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.900
R Square	0.809
Adjusted R Square	0.643
Standard Error	17.908
Observations	7.000

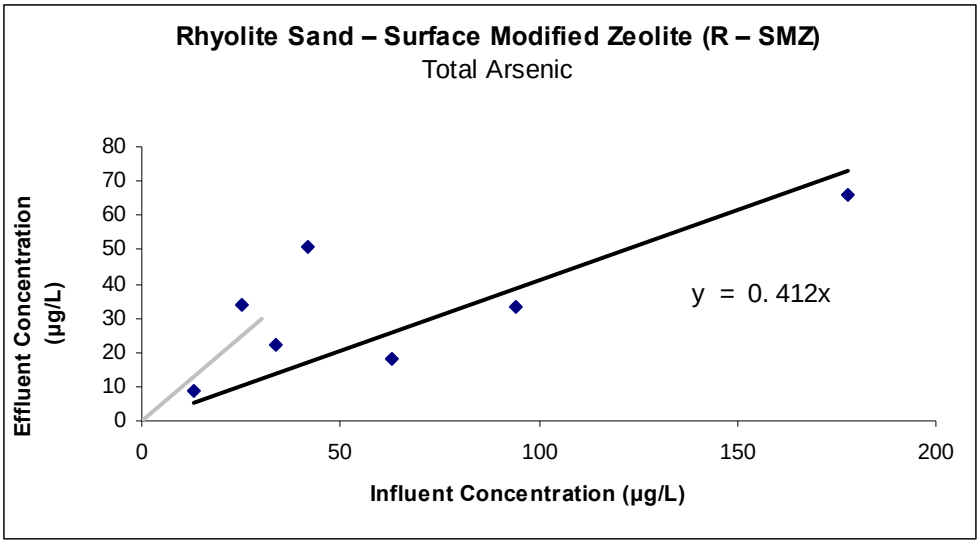
ANOVA

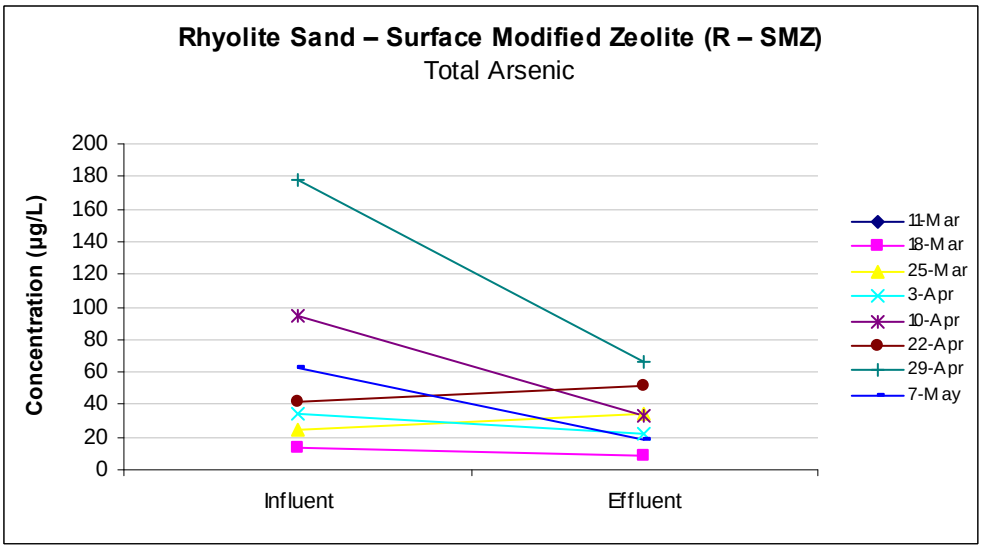
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	8166.821	8166.821	25.466	0.004
Residual	6.000	1924.179	320.696		
Total	7.000	10091.000			

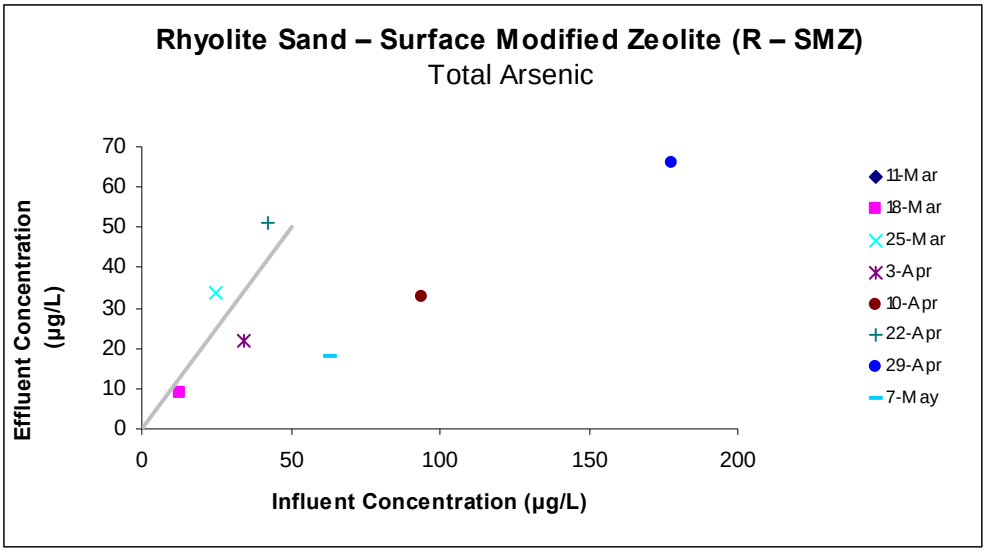
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.412	0.082	5.046	0.002	0.212	0.611	0.212	0.611

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	5.351	3.649
2	10.290	23.710
3	13.995	8.005
4	38.692	-5.692
5	17.288	33.712
6	73.267	-7.267
7	25.932	-7.932


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Arsenic
Effluent Concentration (µg/L)
Influent Concentration (µg/L)
y = 0.412x
0
10
20
30
40
50
60
70
80
0
50
100
150
200


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Arsenic
Concentration (µg/L)
Influent
Effluent
0
20
40
60
80
100
120
140
160
180
200
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Arsenic
Effluent Concentration (µg/L)
Influent Concentration (µg/L)
0
10
20
30
40
50
60
70
0
50
100
150
200
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved As

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.879
R Square	0.773
Adjusted R Square	0.716
Standard Error	9.045
Observations	6.000

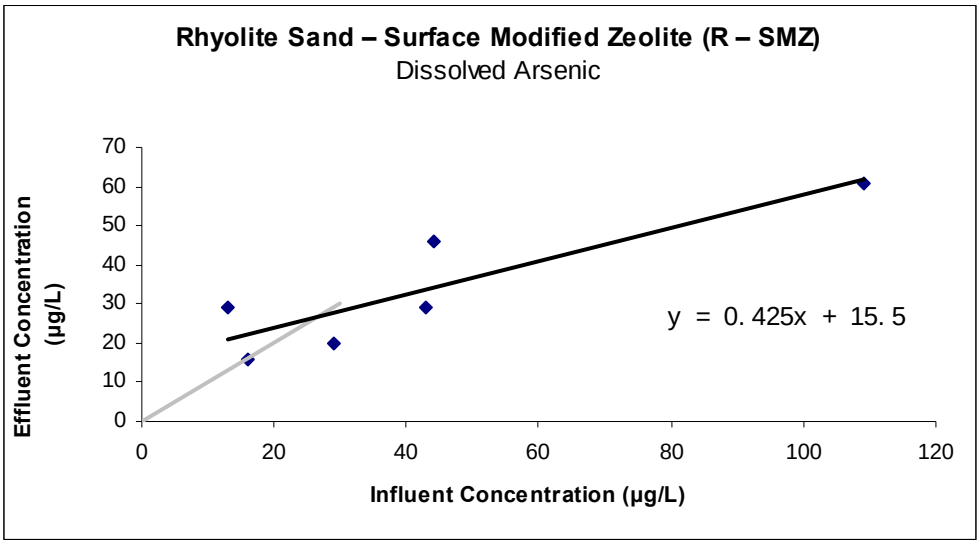
ANOVA

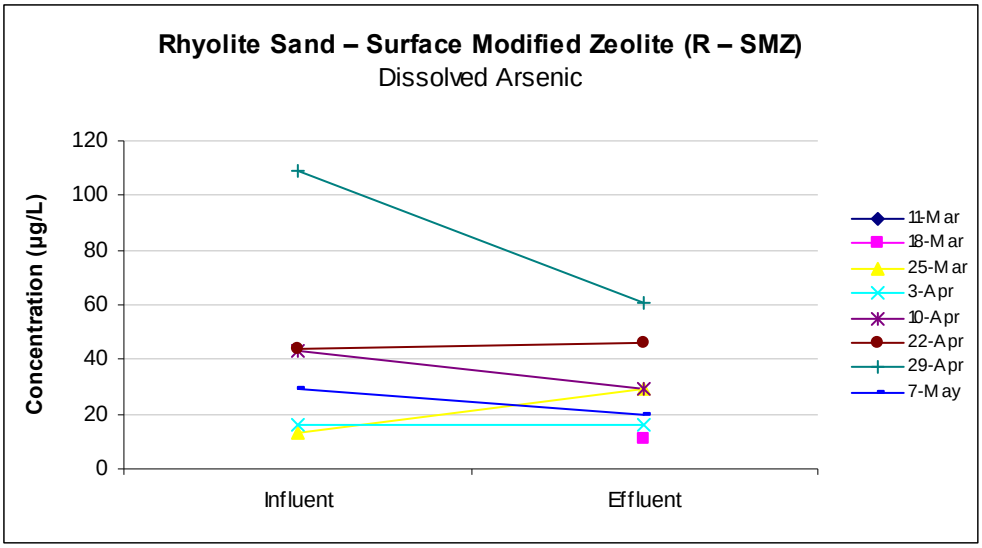
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	1114.259	1114.259	13.620	0.021
Residual	4.000	327.241	81.810		
Total	5.000	1441.500			

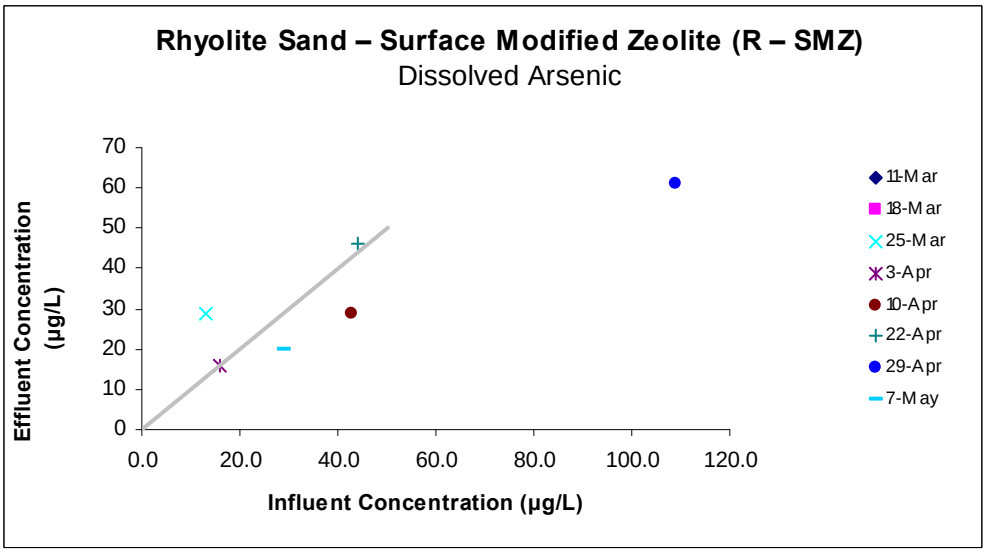
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	15.524	6.112	2.540	0.064	-1.447	32.494	-1.447	32.494
X Variable 1	0.425	0.115	3.691	0.021	0.105	0.744	0.105	0.744

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	21.044	7.956
2	22.318	-6.318
3	33.783	-4.783
4	34.208	11.792
5	61.809	-0.809
6	27.838	-7.838




Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Arsenic
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Arsenic
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0.0
20.0
40.0
60.0
80.0
100.0
120.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Al

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.119
R Square	0.014
Adjusted R Square	-0.150
Standard Error	804.925
Observations	8.000

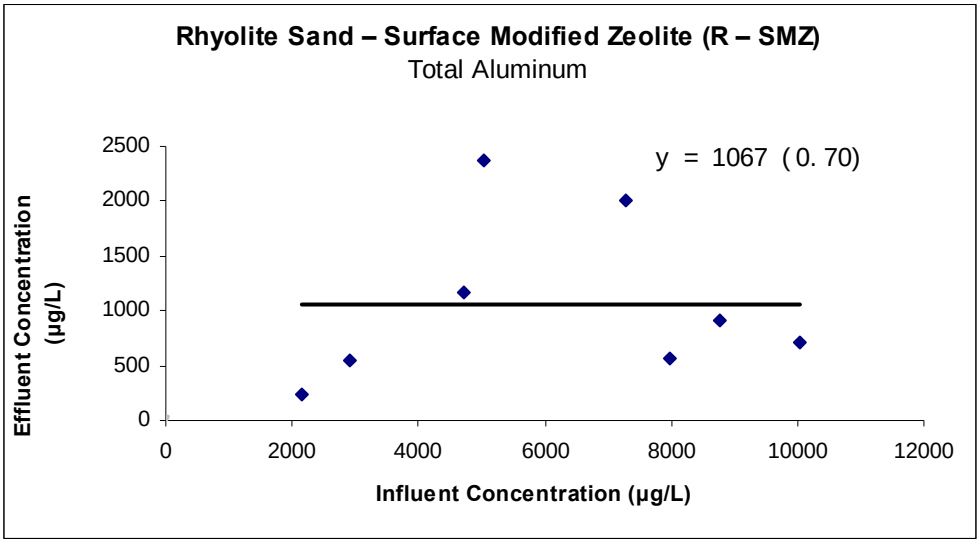
ANOVA

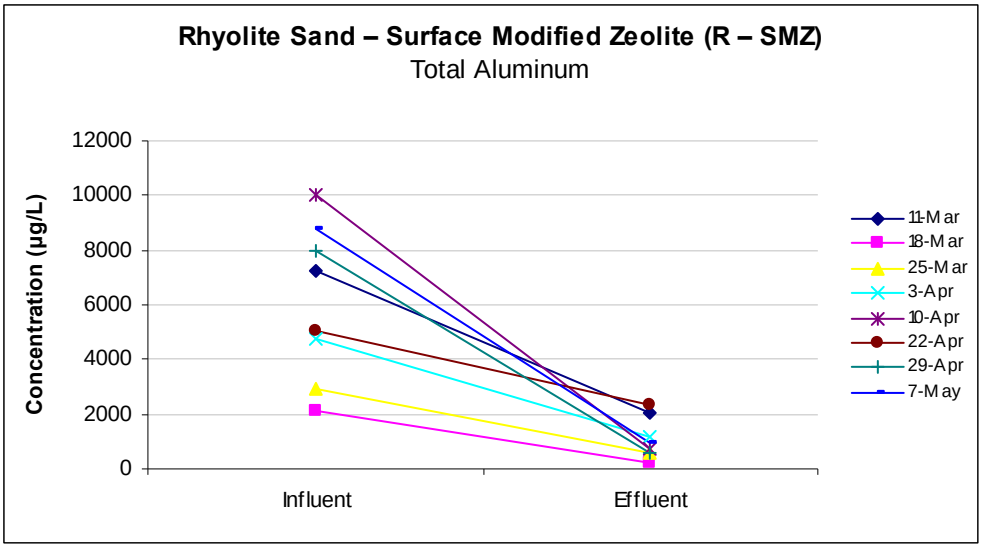
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	55813.143	55813.143	0.086	0.779
Residual	6.000	3887426.357	647904.393		
Total	7.000	3943239.500			

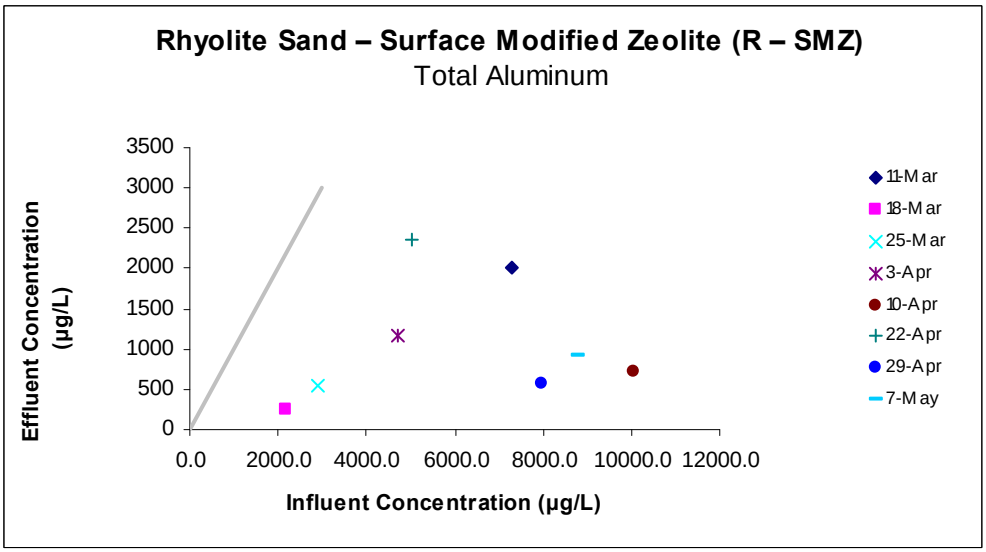
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	874.782	714.851	1.224	0.267	-874.395	2623.959	-874.395	2623.959
X Variable 1	0.031	0.107	0.294	0.779	-0.231	0.294	-0.231	0.294

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	1103.793	910.207
2	942.620	-702.620
3	966.355	-414.355
4	1023.710	147.290
5	1190.739	-477.739
6	1033.626	1331.374
7	1126.049	-564.049
8	1151.107	-230.107




Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Aluminum
Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Aluminum
Effluent Concentration (µg/L)
3500
3000
2500
2000
1500
1000
500
0
0.0
2000.0
4000.0
6000.0
8000.0
10000.0
12000.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Al

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.504
R Square	0.254
Adjusted R Square	0.105
Standard Error	10.160
Observations	7.000

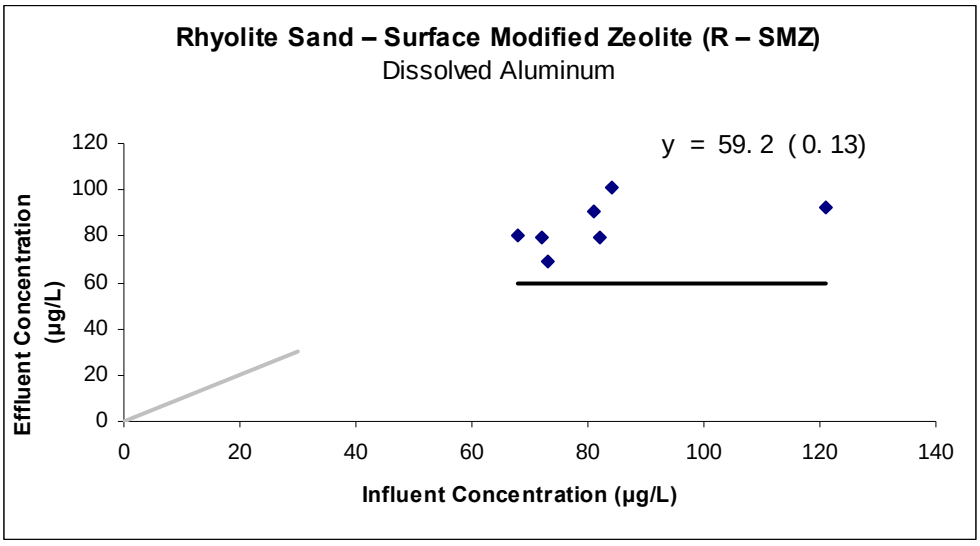
ANOVA

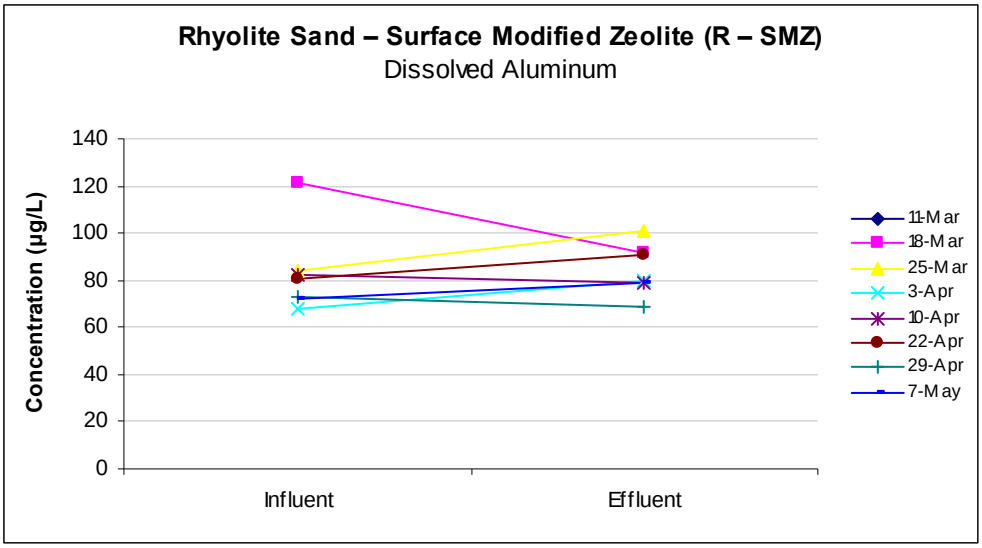
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	175.595	175.595	1.701	0.249
Residual	5.000	516.119	103.224		
Total	6.000	691.714			

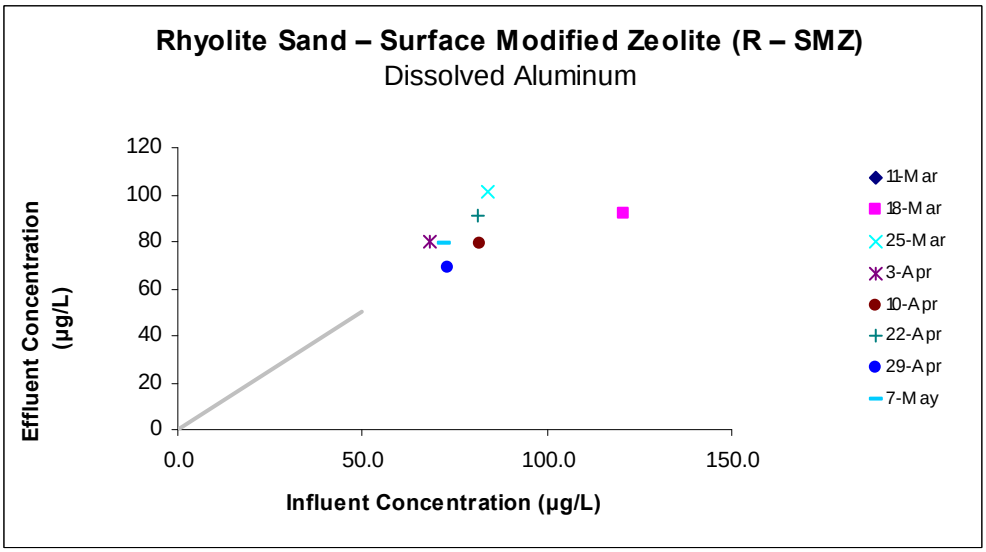
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	59.170	19.743	2.997	0.030	8.417	109.922	8.417	109.922
X Variable 1	0.304	0.233	1.304	0.249	-0.295	0.904	-0.295	0.904

RESIDUAL OUTPUT

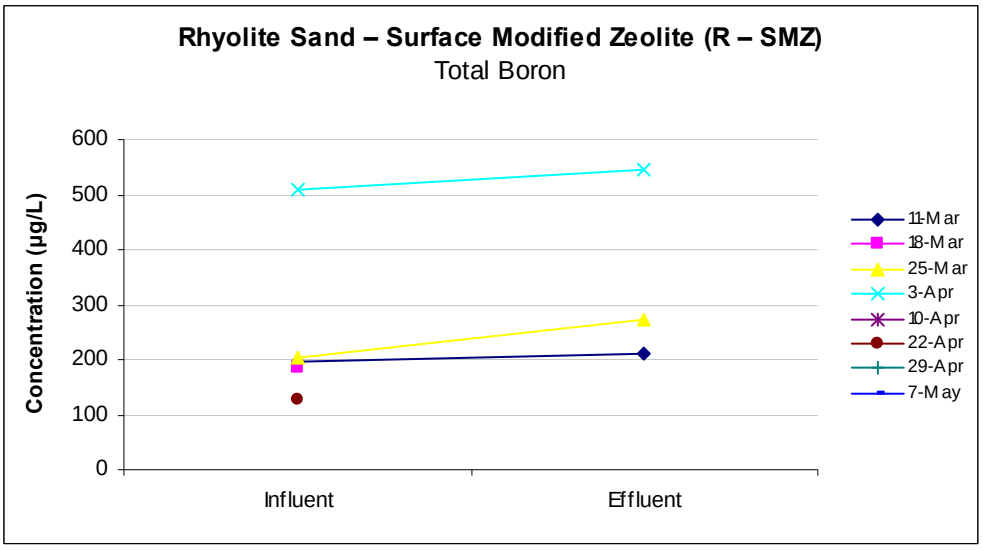
Observation	*Predicted Y*	*Residuals*
1	95.993	-3.993
2	84.733	16.267
3	79.864	0.136
4	84.124	-5.124
5	83.820	7.180
6	81.385	-12.385
7	81.081	-2.081

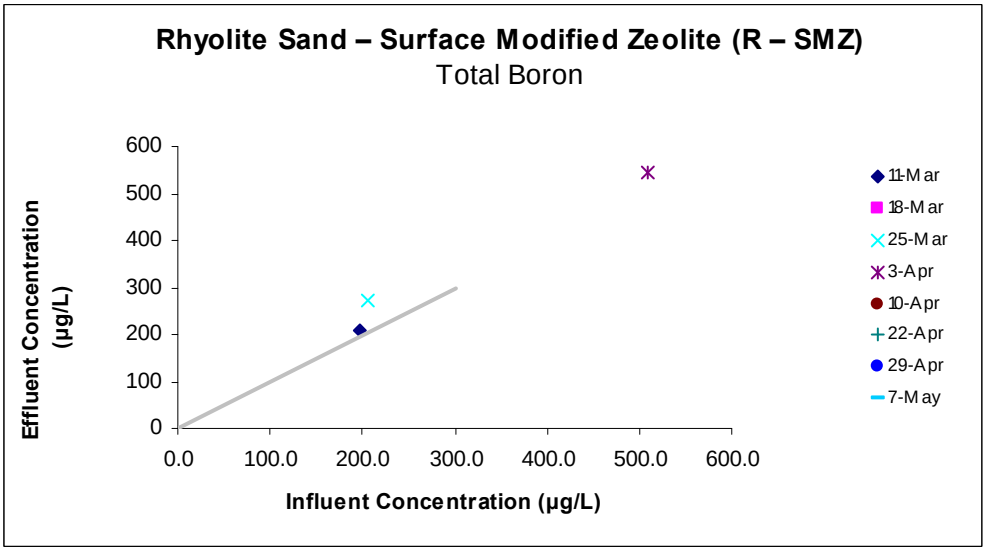



Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Aluminum
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

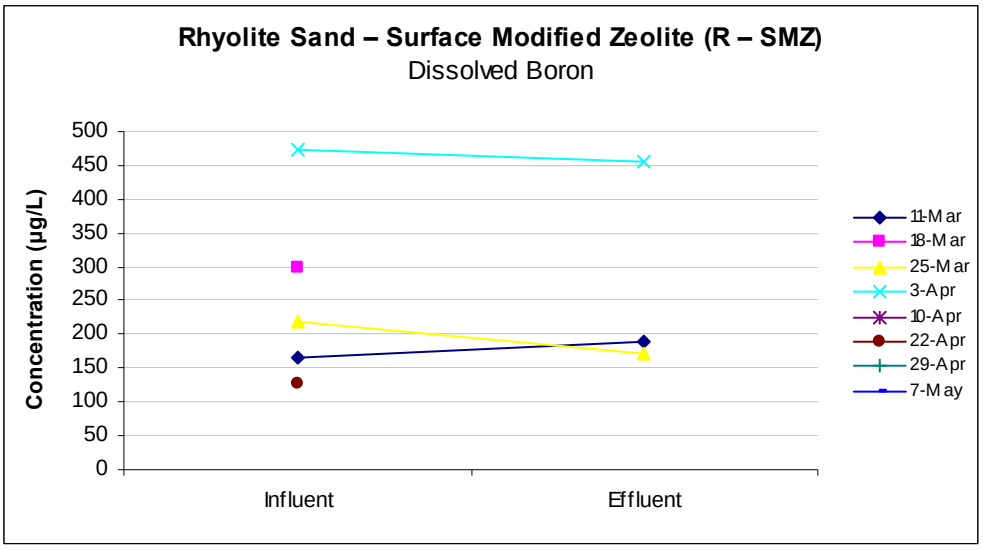

Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Aluminum
Effluent Concentration (µg/L)
120
100
80
60
40
20
0
0.0
50.0
100.0
150.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

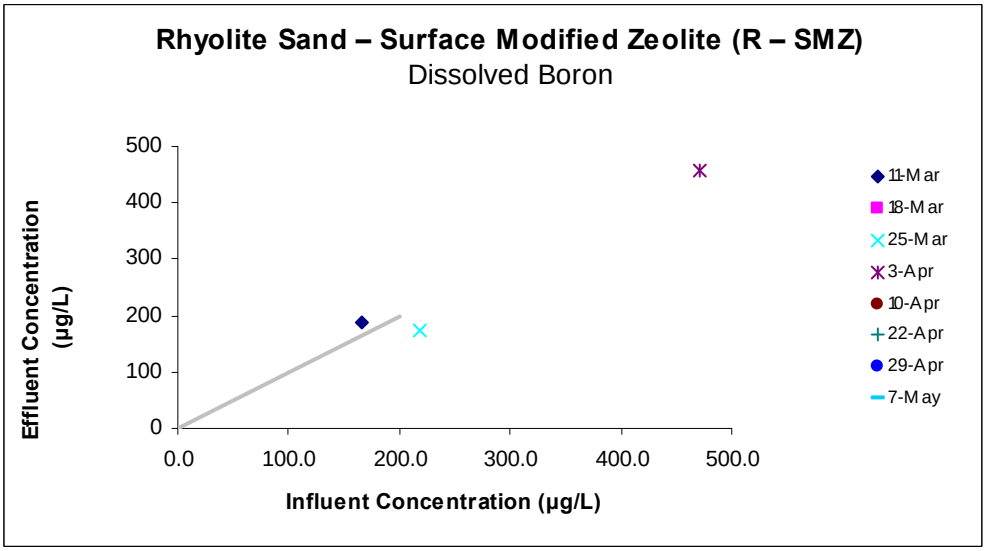
Total B


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Boron
Concentration (µg/L)
600
500
400
300
200
100
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Boron
Effluent Concentration (µg/L)
600
500
400
300
200
100
0
0.0
100.0
200.0
300.0
400.0
500.0
600.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved B


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Boron
Concentration (µg/L)
500
450
400
350
300
250
200
150
100
50
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Boron
Effluent Concentration (µg/L)
500
400
300
200
100
0
0.0
100.0
200.0
300.0
400.0
500.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Ca

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.990
R Square	0.981
Adjusted R Square	0.838
Standard Error	4448.727
Observations	8.000

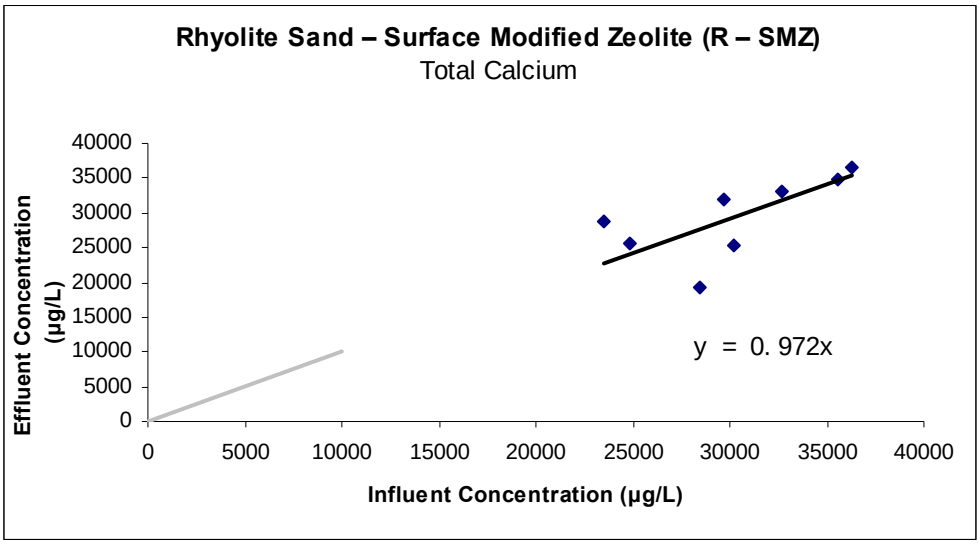
ANOVA

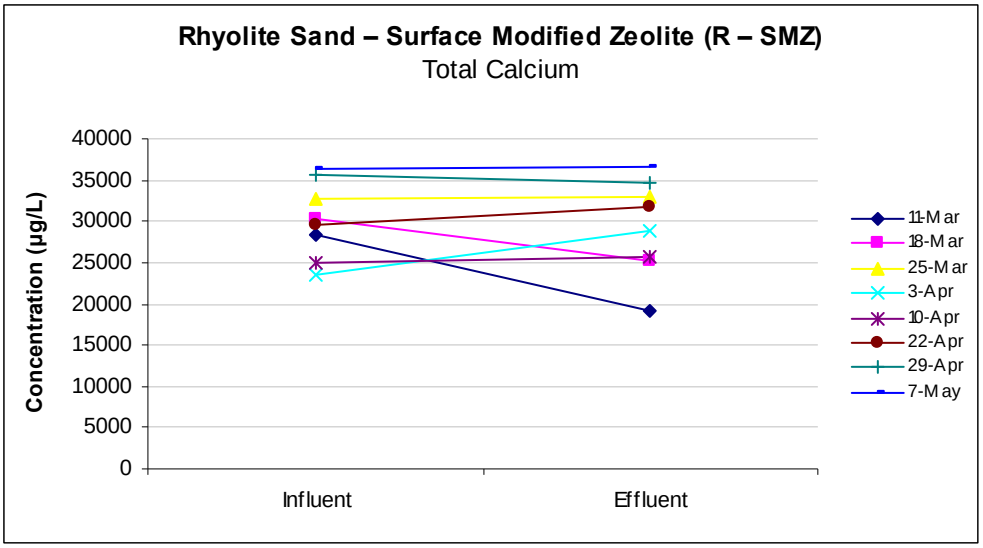
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	7009067493.300	7009067493.300	354.151	0.000
Residual	7.000	138538217.700	19791173.957		
Total	8.000	7147605711.000			

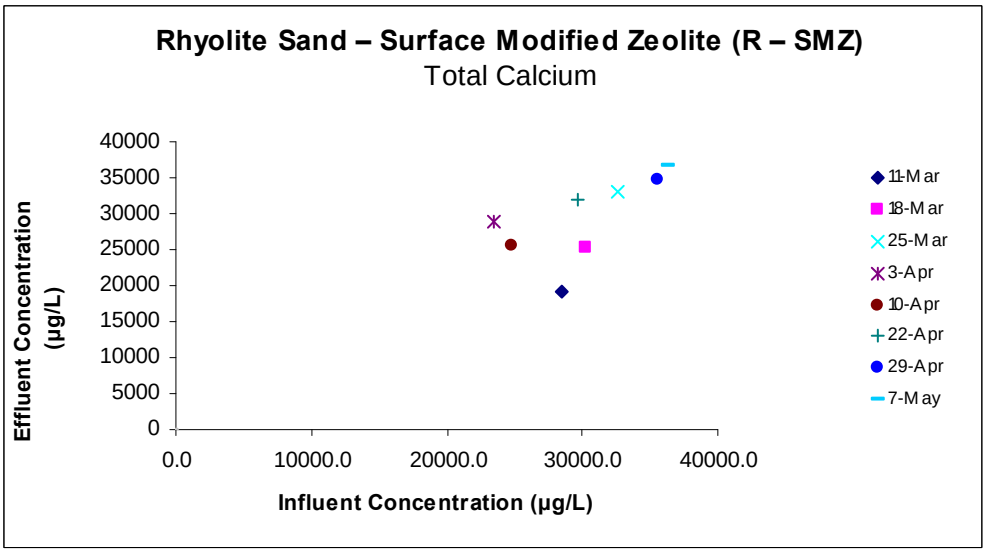
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.972	0.052	18.819	0.000	0.850	1.094	0.850	1.094

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	27627.103	-8363.103
2	29366.130	-4184.130
3	31726.308	1317.692
4	22825.095	6029.905
5	24171.407	1499.593
6	28831.494	2978.506
7	34605.569	124.431
8	35253.938	1363.062




Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Calcium
Concentration (µg/L)
40000
35000
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Calcium
Effluent Concentration (µg/L)
40000
35000
30000
25000
20000
15000
10000
5000
0
0.0
10000.0
20000.0
30000.0
40000.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Ca

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.547
R Square	0.299
Adjusted R Square	0.183
Standard Error	5186.336
Observations	8.000

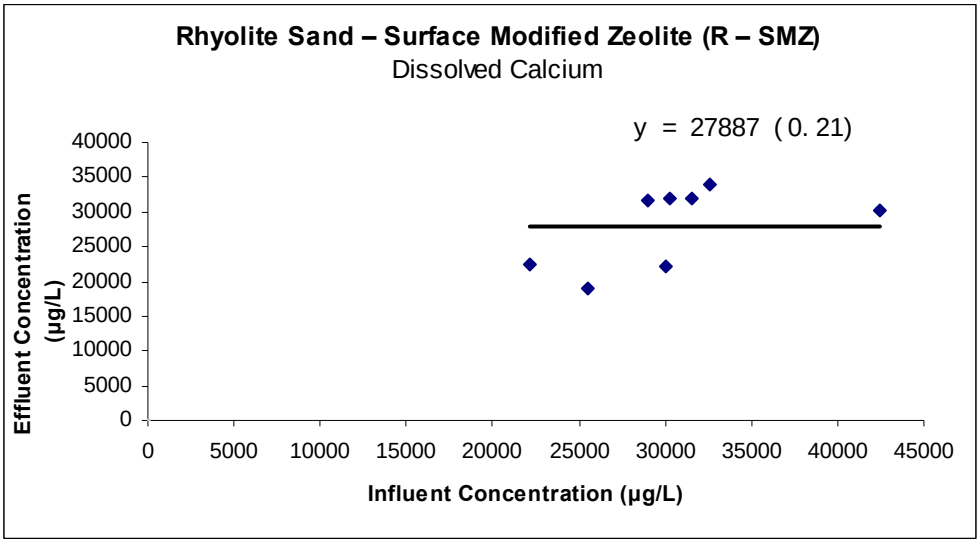
ANOVA

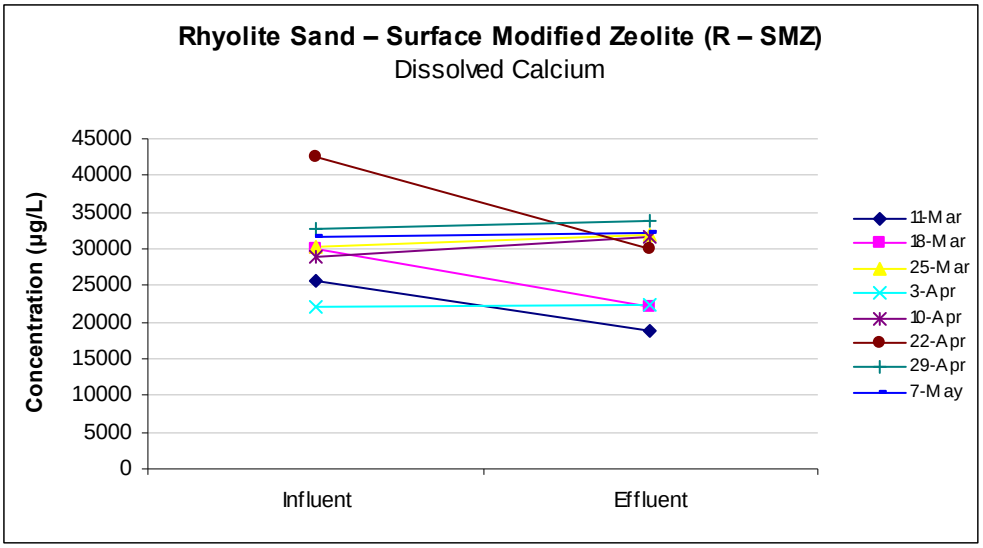
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	68976285.914	68976285.914	2.564	0.160
Residual	6.000	161388484.961	26898080.827		
Total	7.000	230364770.875			

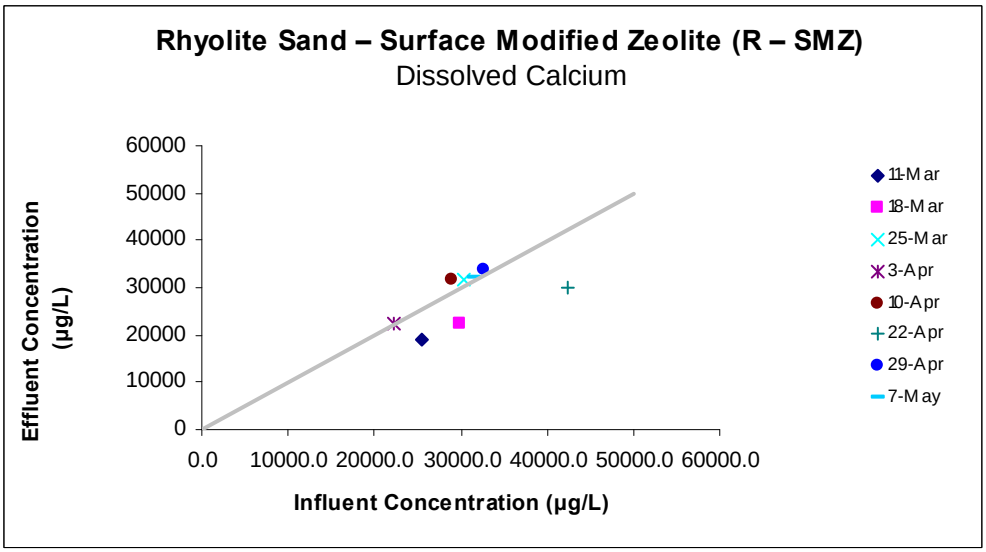
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	11735.816	10251.313	1.145	0.296	-13348.243	36819.876	-13348.243	36819.876
X Variable 1	0.531	0.331	1.601	0.160	-0.280	1.342	-0.280	1.342

RESIDUAL OUTPUT

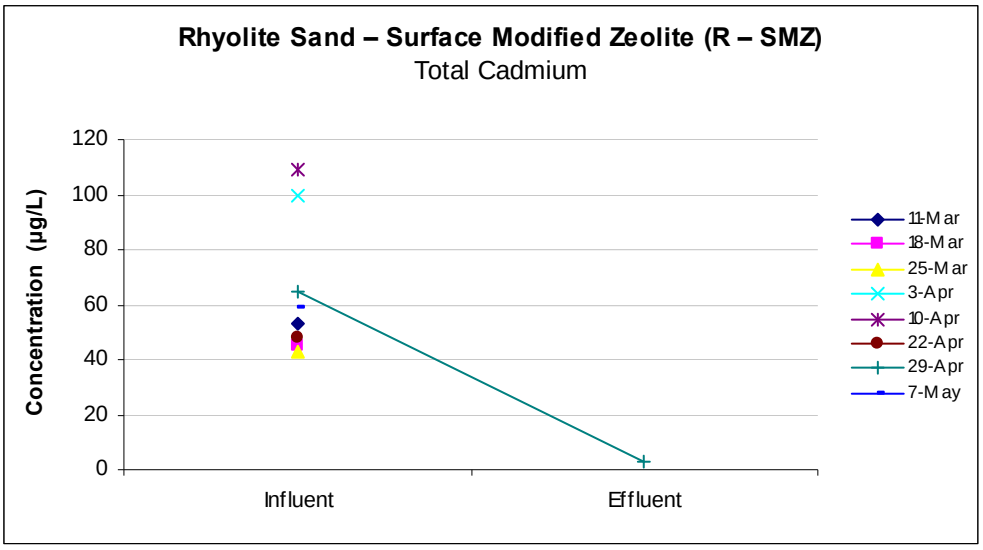
Observation	*Predicted Y*	*Residuals*
1	25271.797	-6355.797
2	27650.852	-5426.852
3	27800.538	4013.462
4	23491.488	-1053.488
5	27112.619	4532.381
6	34247.128	-4157.128
7	29055.885	4864.115
8	28466.694	3583.306

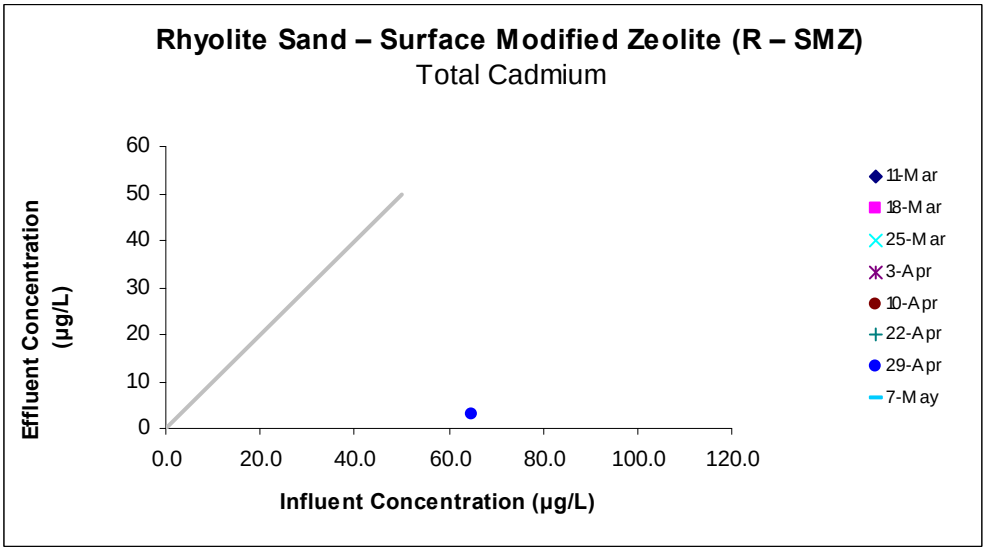



Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Calcium
Concentration (µg/L)
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

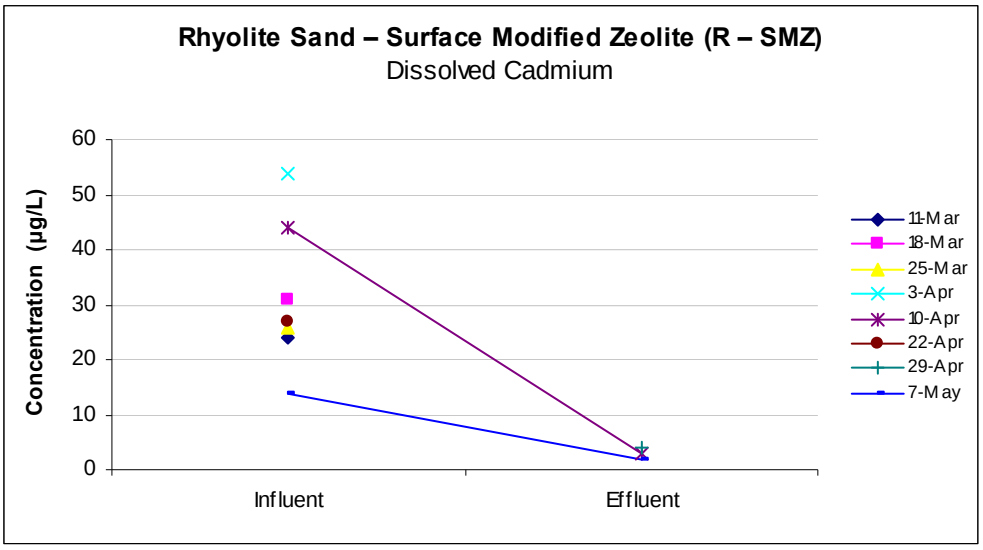

Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Calcium
Effluent Concentration (µg/L)
60000
50000
40000
30000
20000
10000
0
0.0
10000.0
20000.0
30000.0
40000.0
50000.0
60000.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

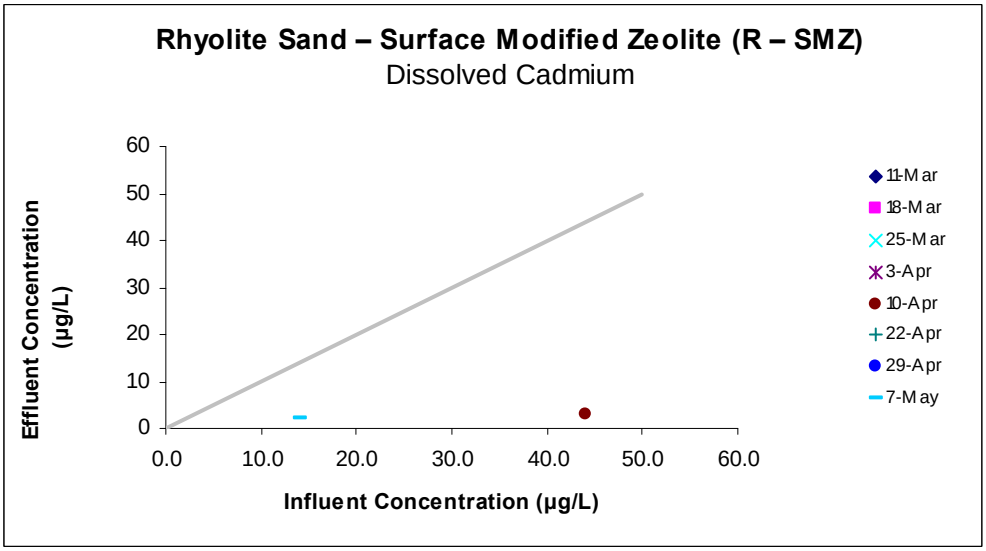
Total Cd


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Cadmium
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Cadmium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0.0
20.0
40.0
60.0
80.0
100.0
120.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cd





Total Cu

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.370
R Square	0.137
Adjusted R Square	-0.007
Standard Error	8.492
Observations	8.000

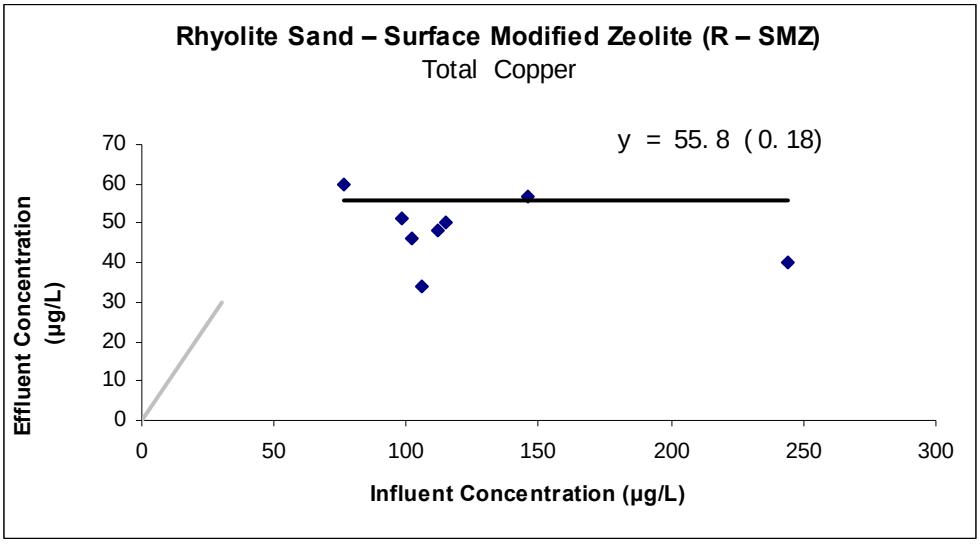
ANOVA

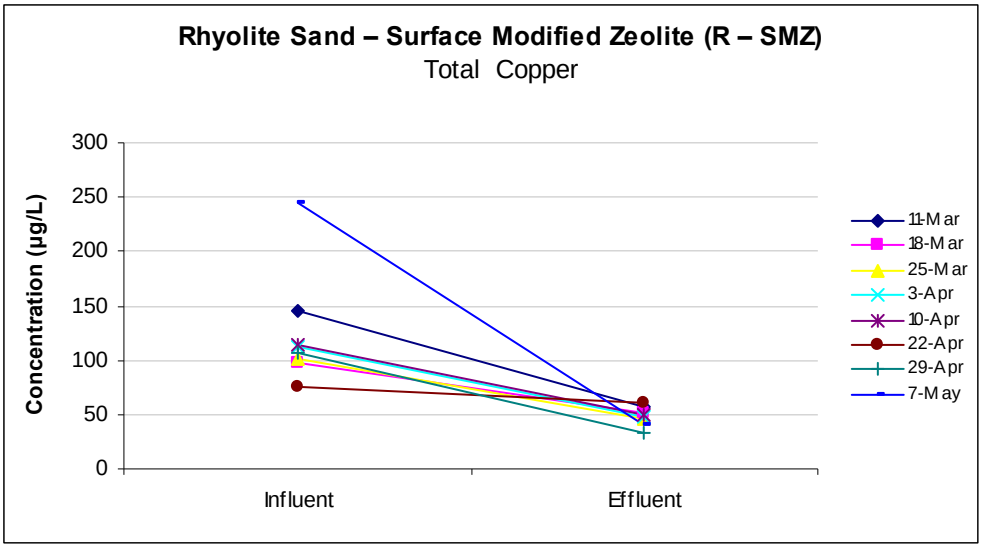
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	68.765	68.765	0.953	0.367
Residual	6.000	432.735	72.123		
Total	7.000	501.500			

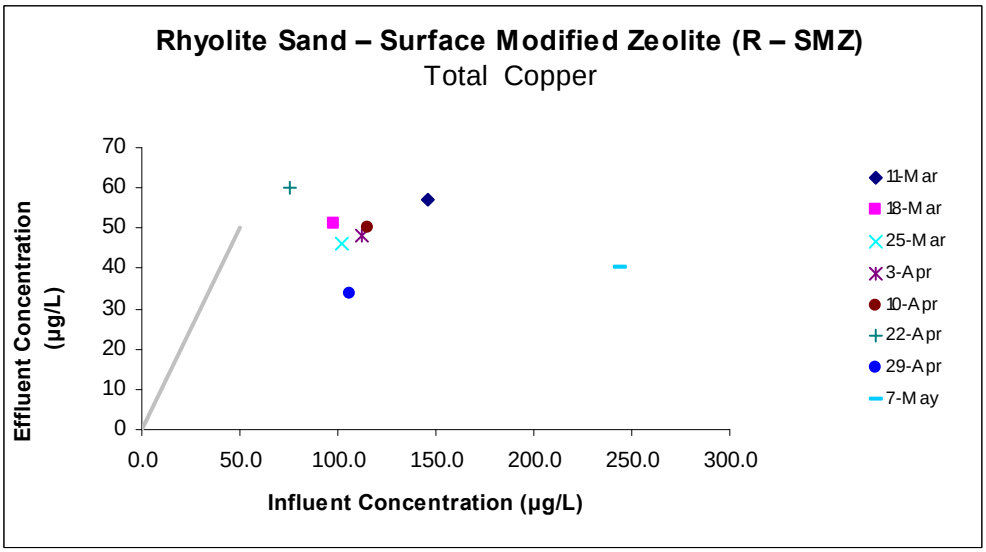
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	55.784	8.279	6.738	0.001	35.525	76.043	35.525	76.043
X Variable 1	-0.060	0.062	-0.976	0.367	-0.212	0.091	-0.212	0.091

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	46.975	10.025
2	49.871	1.129
3	49.630	-3.630
4	49.027	-1.027
5	48.846	1.154
6	51.199	8.801
7	49.389	-15.389
8	41.063	-1.063




Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Copper
Concentration (µg/L)
300
250
200
150
100
50
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Copper
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0.0
50.0
100.0
150.0
200.0
250.0
300.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cu

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.972
R Square	0.946
Adjusted R Square	0.803
Standard Error	10.270
Observations	8.000

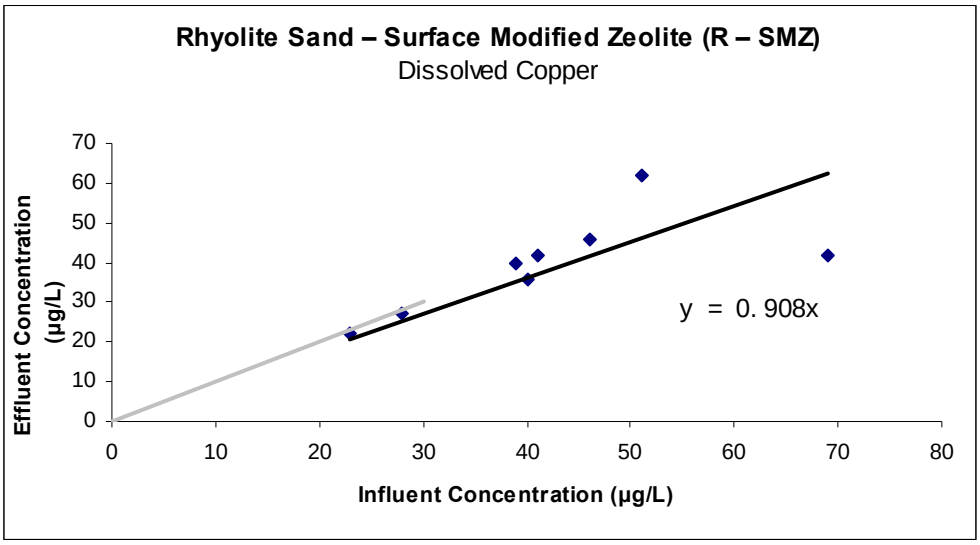
ANOVA

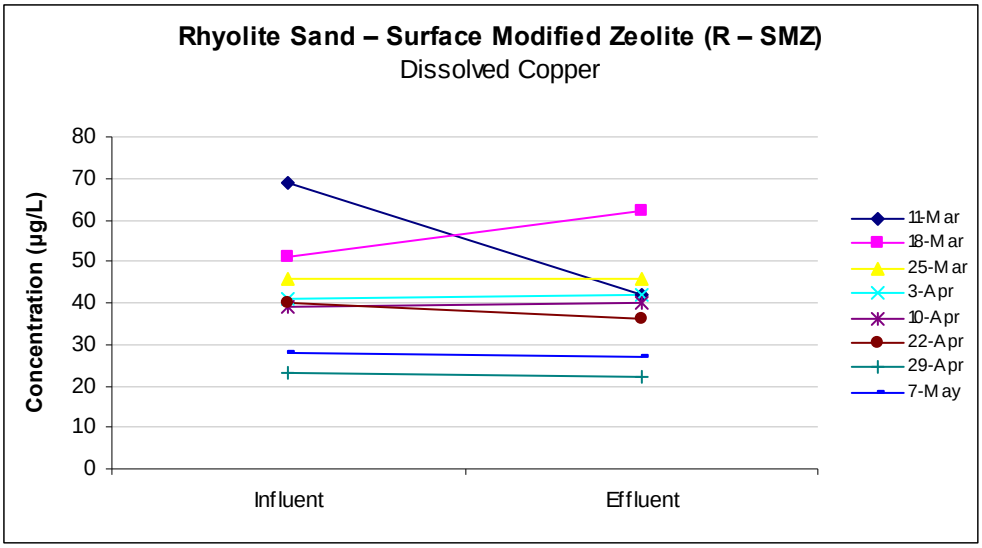
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	12858.693	12858.693	121.915	0.000
Residual	7.000	738.307	105.472		
Total	8.000	13597.000			

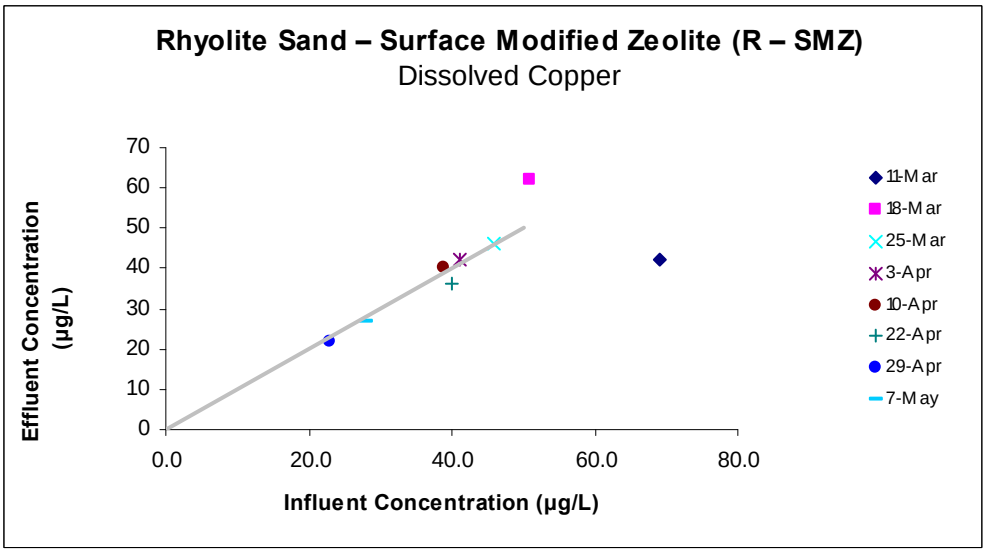
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.908	0.082	11.042	0.000	0.714	1.103	0.714	1.103

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	62.659	-20.659
2	46.313	15.687
3	41.773	4.227
4	37.232	4.768
5	35.416	4.584
6	36.324	-0.324
7	20.886	1.114
8	25.427	1.573




Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Copper
Concentration (µg/L)
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Copper
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0.0
20.0
40.0
60.0
80.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Fe

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.070
R Square	0.005
Adjusted R Square	-0.161
Standard Error	322.389
Observations	8.000

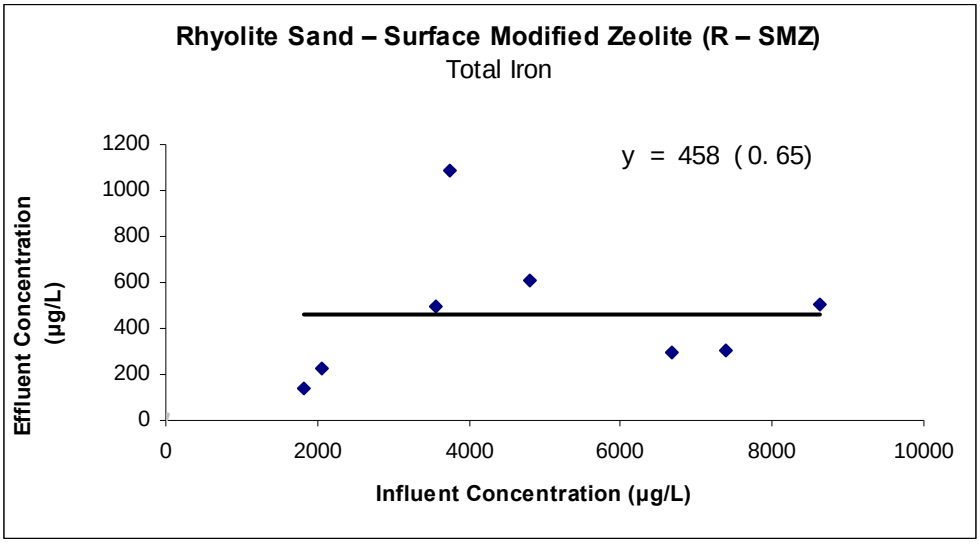
ANOVA

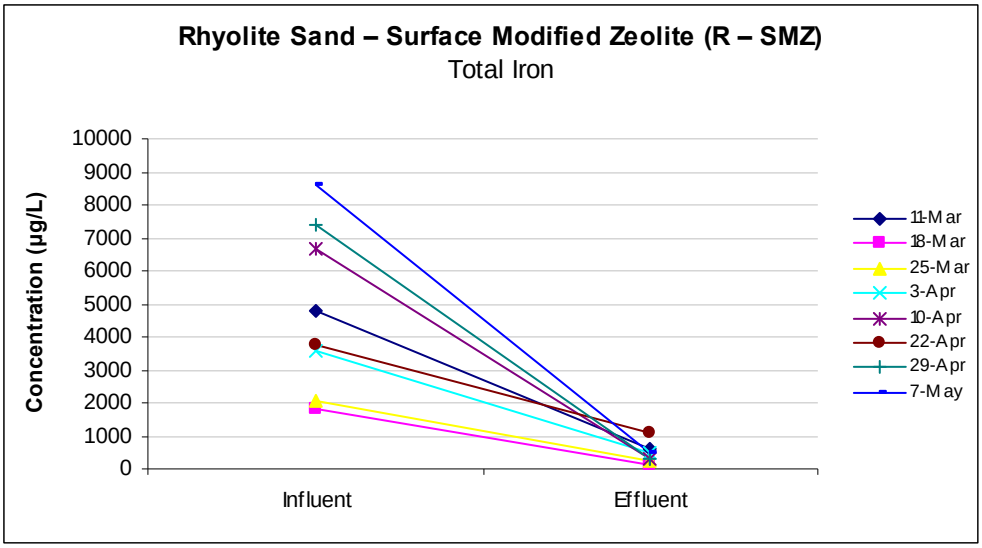
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	3110.989	3110.989	0.030	0.868
Residual	6.000	623609.886	103934.981		
Total	7.000	626720.875			

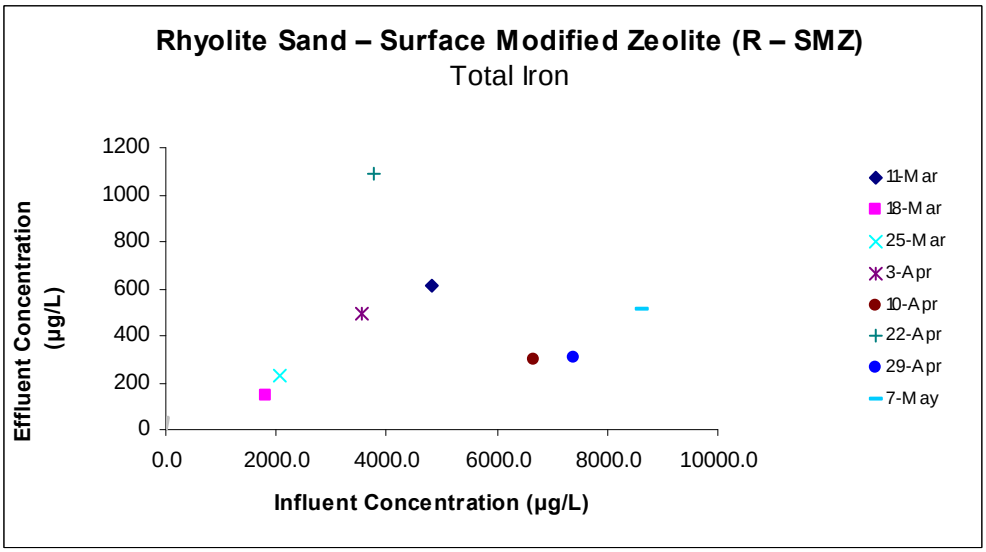
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	418.181	261.377	1.600	0.161	-221.386	1057.748	-221.386	1057.748
X Variable 1	0.008	0.049	0.173	0.868	-0.111	0.127	-0.111	0.127

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	458.675	153.325
2	433.500	-292.500
3	435.419	-208.419
4	448.129	43.871
5	474.440	-176.440
6	449.745	638.255
7	480.399	-174.399
8	490.694	16.306




Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Iron
Concentration (µg/L)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Iron
Effluent Concentration (µg/L)
1200
1000
800
600
400
200
0
0.0
2000.0
4000.0
6000.0
8000.0
10000.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Fe

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.995
R Square	0.989
Adjusted R Square	0.846
Standard Error	5.814
Observations	8.000

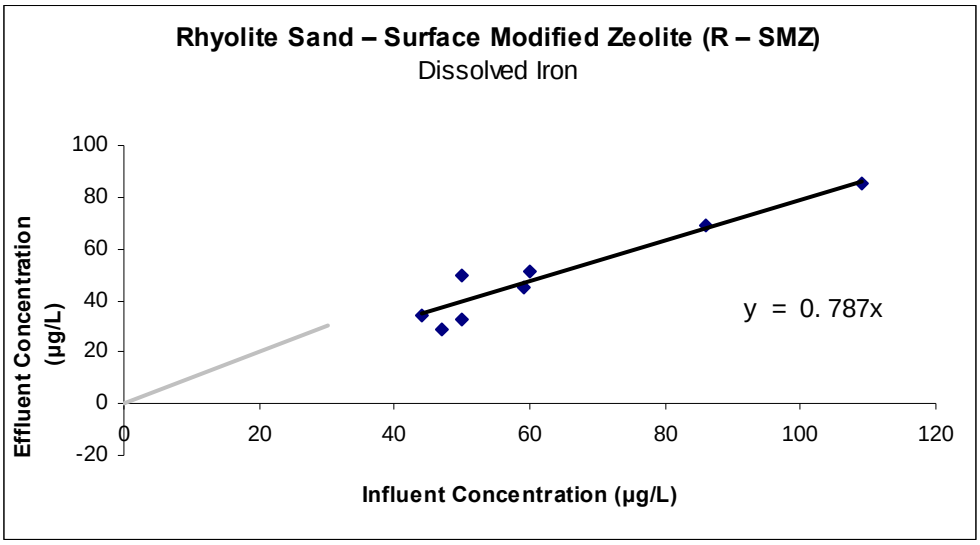
ANOVA

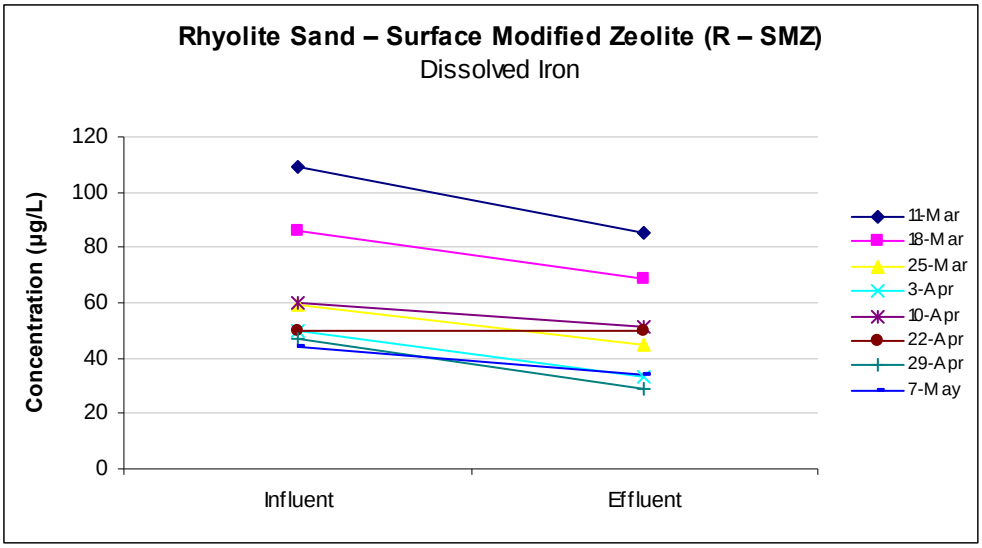
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	21961.353	21961.353	649.616	0.000
Residual	7.000	236.647	33.807		
Total	8.000	22198.000			

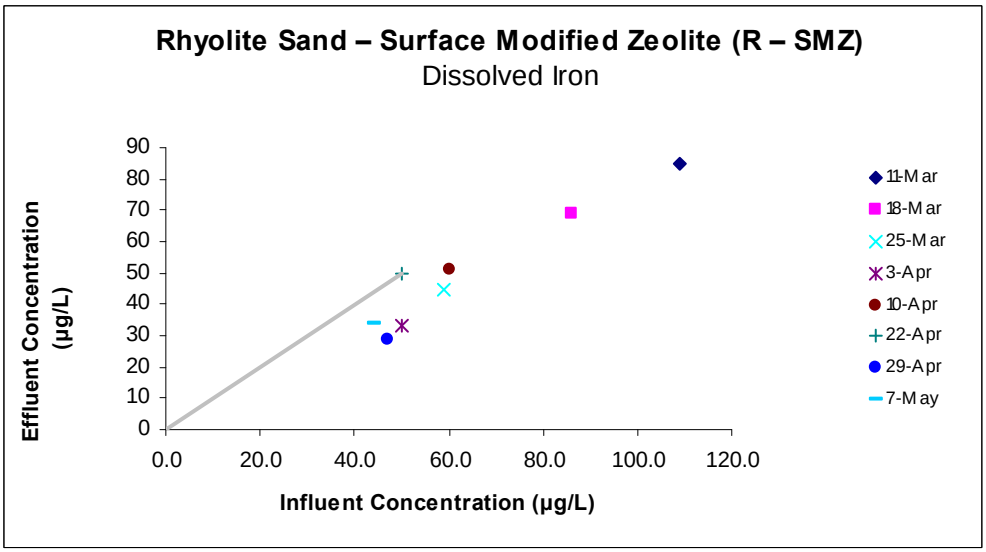
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.786	0.031	25.488	0.000	0.714	0.859	0.714	0.859

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	85.728	-0.728
2	67.639	1.361
3	46.403	-1.403
4	39.325	-6.325
5	47.190	3.810
6	39.325	10.675
7	36.965	-7.965
8	34.606	-0.606




Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Iron
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Iron
Effluent Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
0.0
20.0
40.0
60.0
80.0
100.0
120.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Mg

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.766
R Square	0.587
Adjusted R Square	0.518
Standard Error	494.272
Observations	8.000

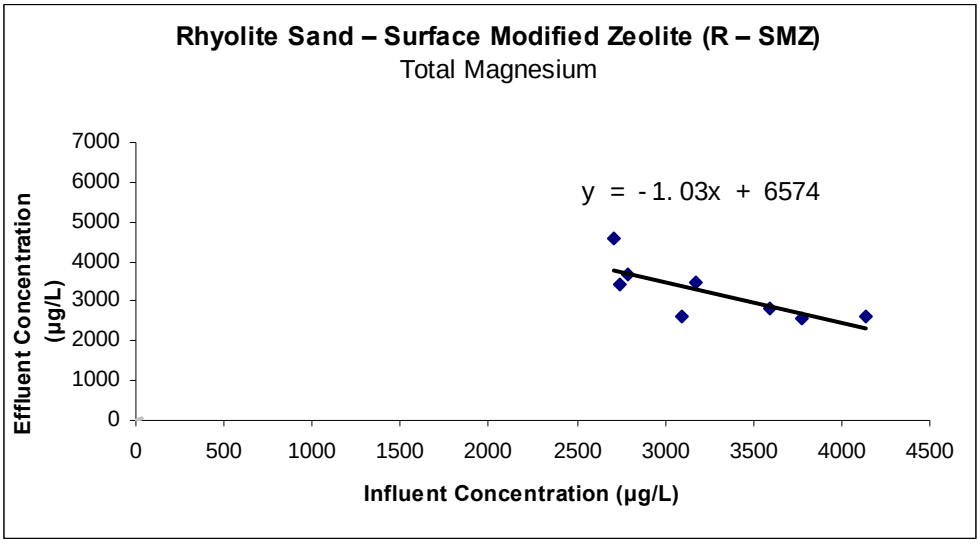
ANOVA

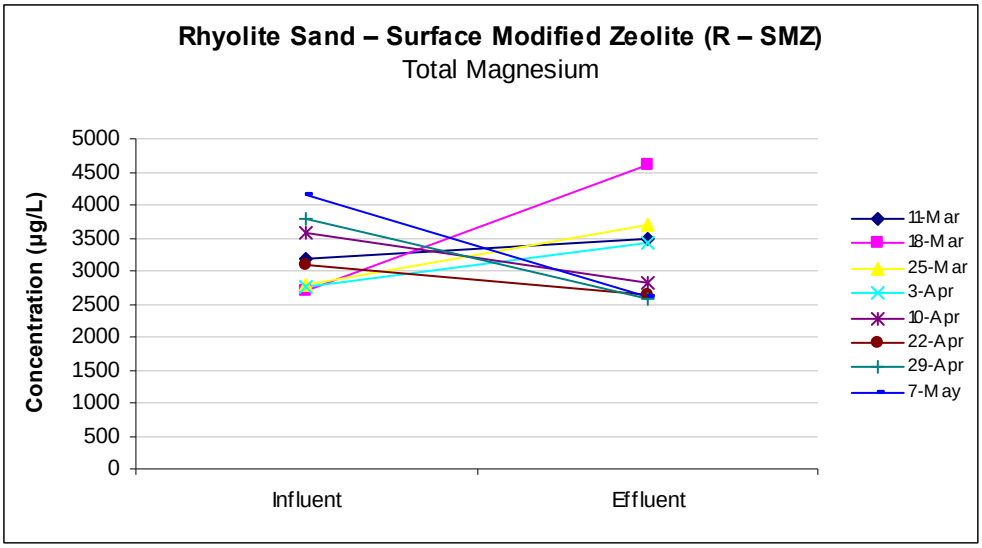
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	2084079.031	2084079.031	8.531	0.027
Residual	6.000	1465828.469	244304.745		
Total	7.000	3549907.500			

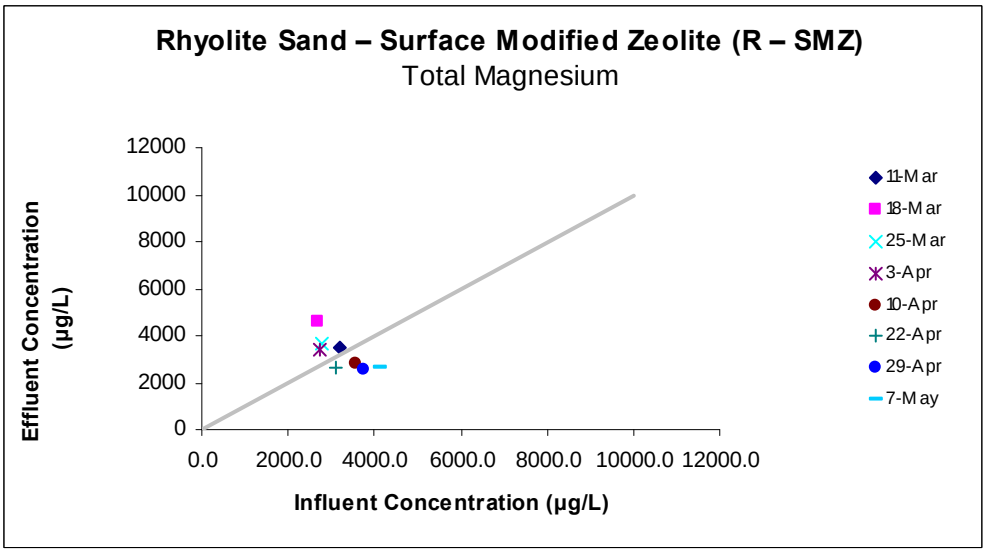
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	6574.938	1157.735	5.679	0.001	3742.061	9407.814	3742.061	9407.814
X Variable 1	-1.028	0.352	-2.921	0.027	-1.889	-0.167	-1.889	-0.167

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	3307.537	192.463
2	3794.718	806.282
3	3708.382	-12.382
4	3754.633	-324.633
5	2885.108	-80.108
6	3389.762	-754.762
7	2697.019	-116.019
8	2320.842	289.158




Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Magnesium
Concentration (µg/L)
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Magnesium
Effluent Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
0.0
2000.0
4000.0
6000.0
8000.0
10000.0
12000.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Mg

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.264
R Square	0.069
Adjusted R Square	-0.086
Standard Error	616.519
Observations	8.000

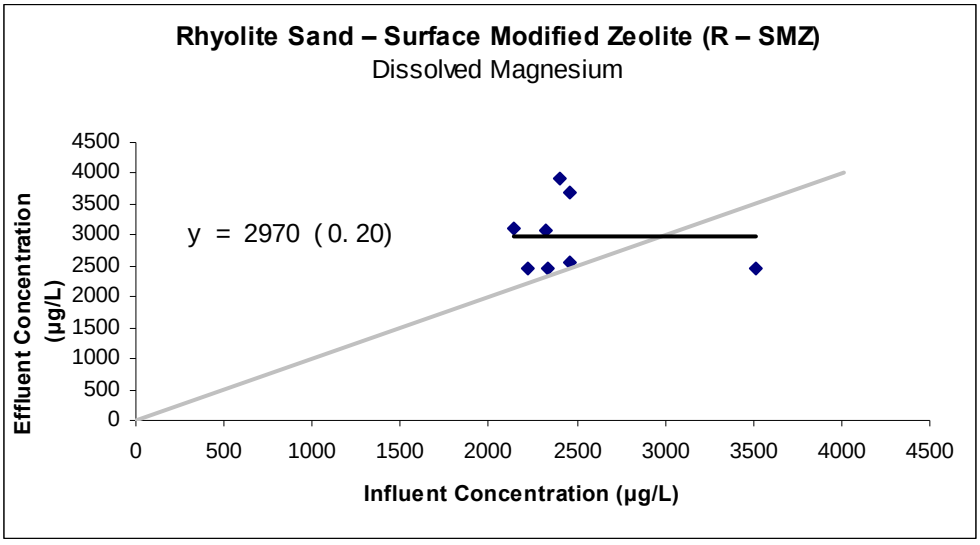
ANOVA

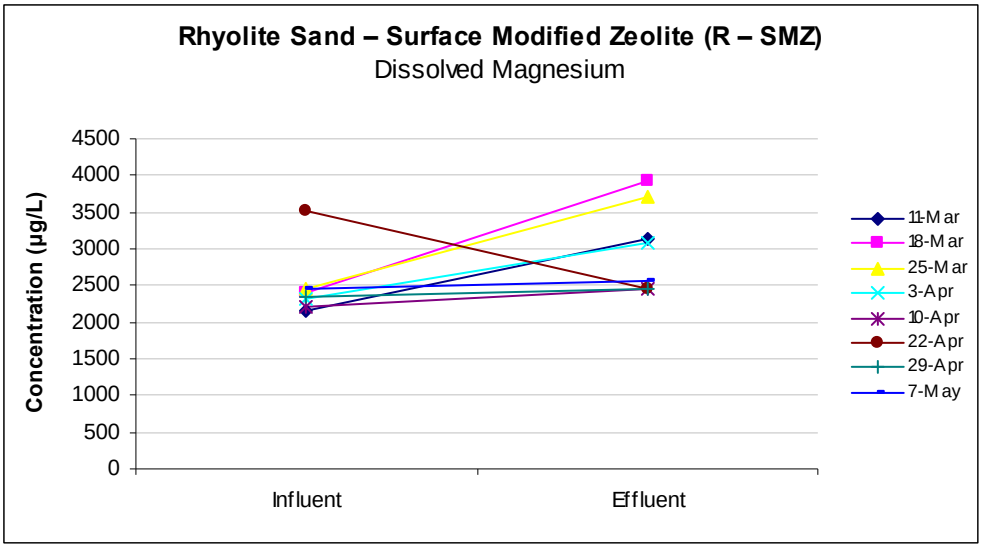
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	170241.233	170241.233	0.448	0.528
Residual	6.000	2280574.767	380095.794		
Total	7.000	2450816.000			

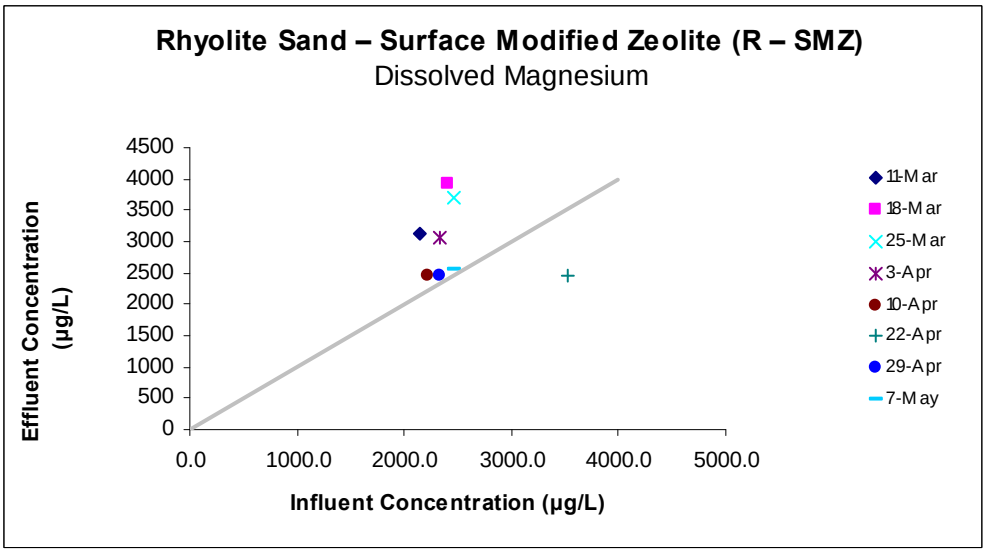
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3866.559	1357.273	2.849	0.029	545.432	7187.686	545.432	7187.686
X Variable 1	-0.361	0.539	-0.669	0.528	-1.681	0.959	-1.681	0.959

RESIDUAL OUTPUT

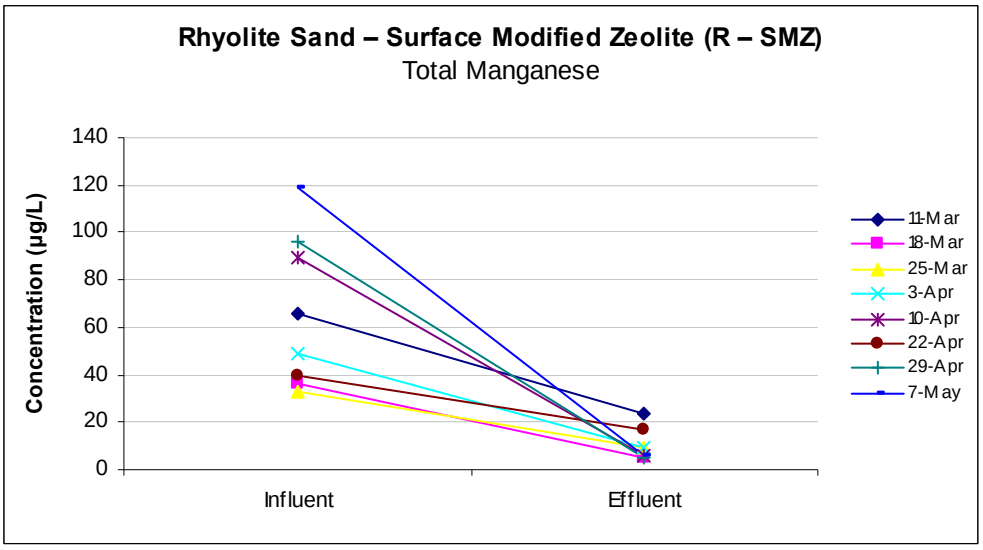
Observation	*Predicted Y*	*Residuals*
1	3092.562	30.438
2	2998.700	932.300
3	2977.401	722.599
4	3026.498	51.502
5	3064.764	-606.764
6	2596.900	-141.900
7	3023.609	-561.609
8	2979.567	-426.567

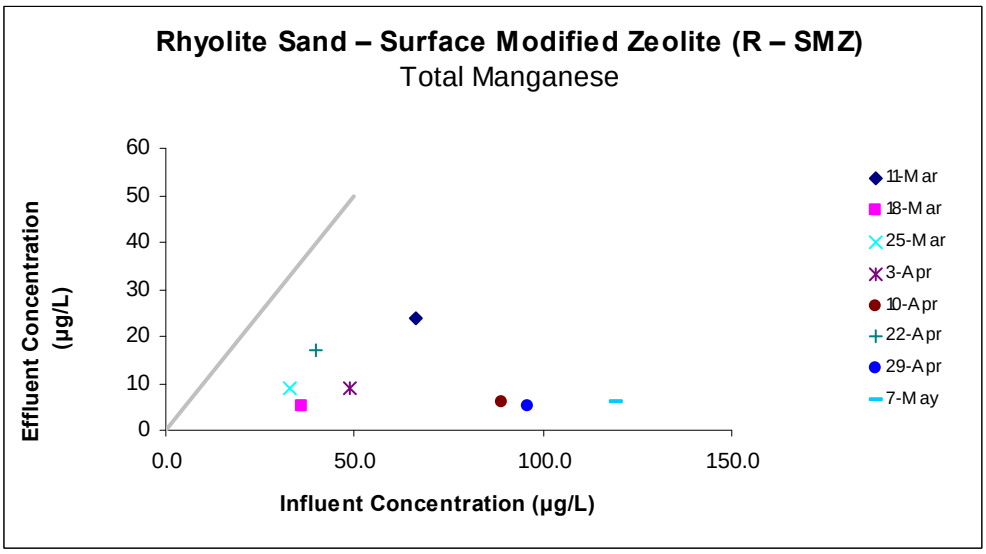



Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Magnesium
Concentration (µg/L)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

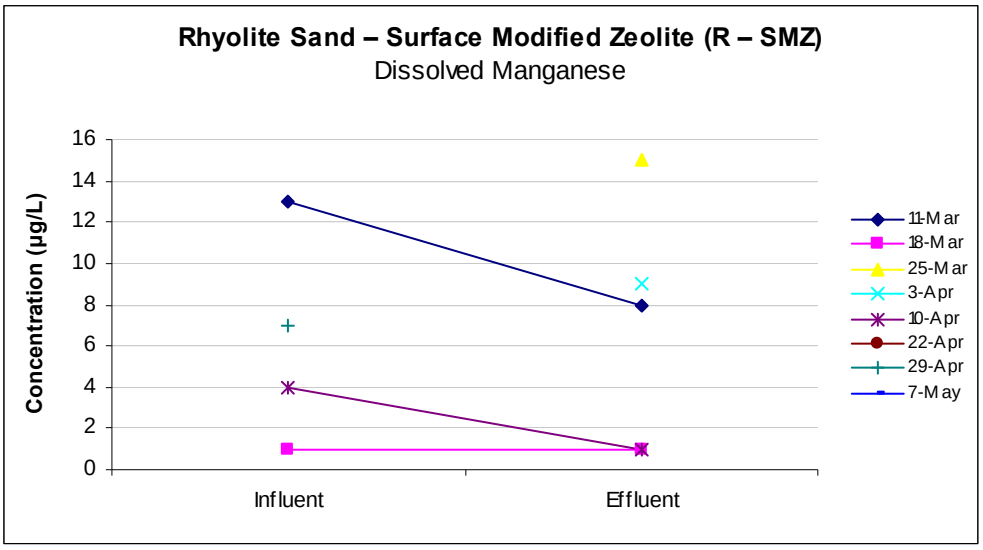

Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Magnesium
Effluent Concentration (µg/L)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
0.0
1000.0
2000.0
3000.0
4000.0
5000.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

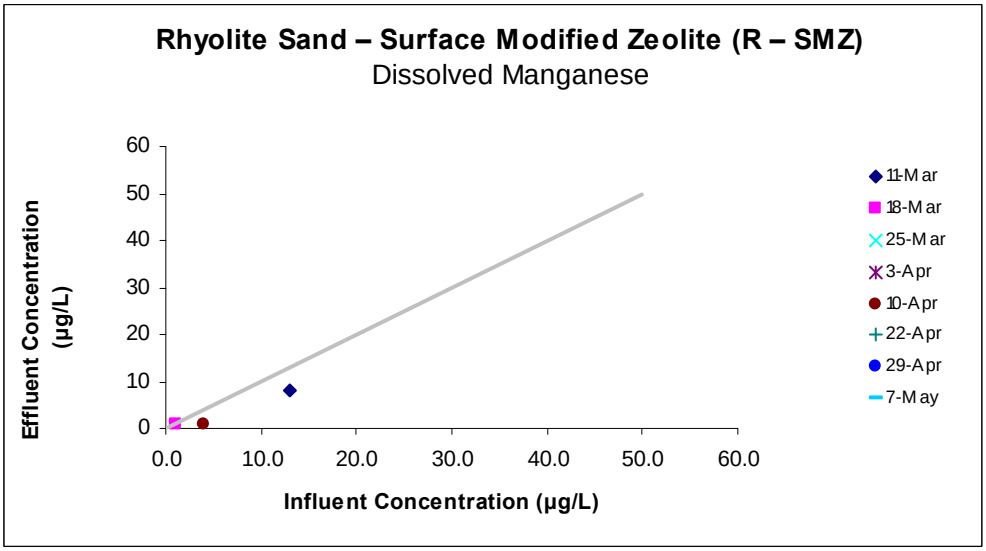
Total Mn


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Manganese
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

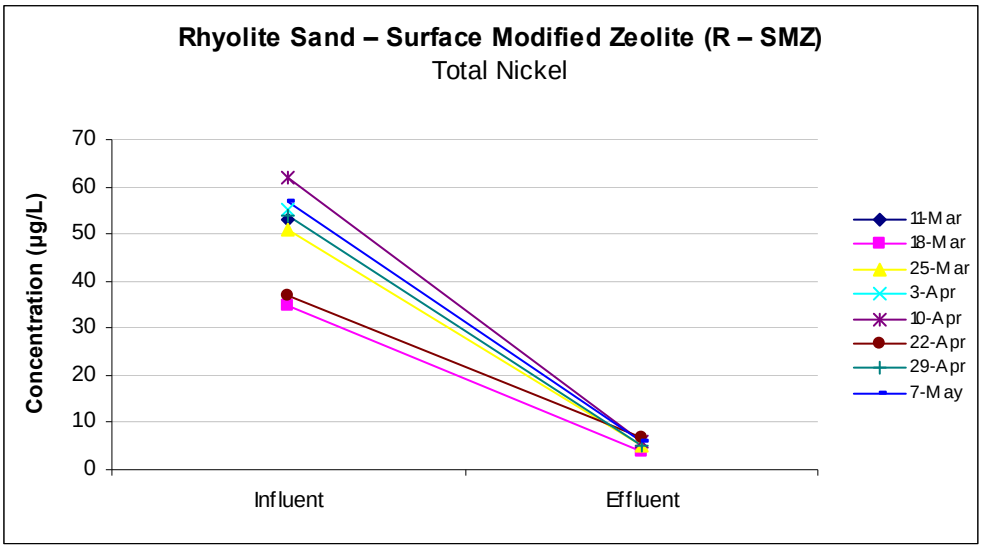

Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Manganese
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0.0
50.0
100.0
150.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

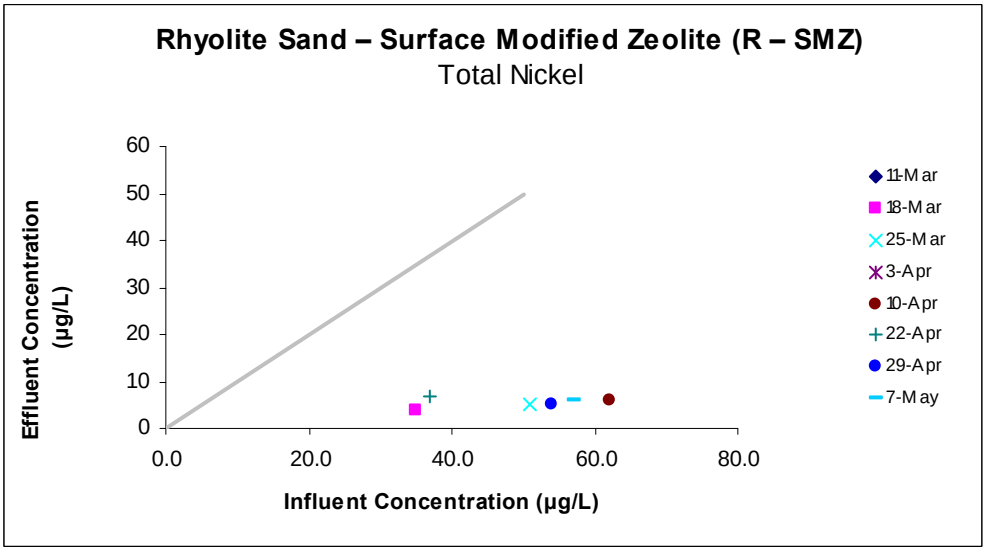
Dissolved Mn



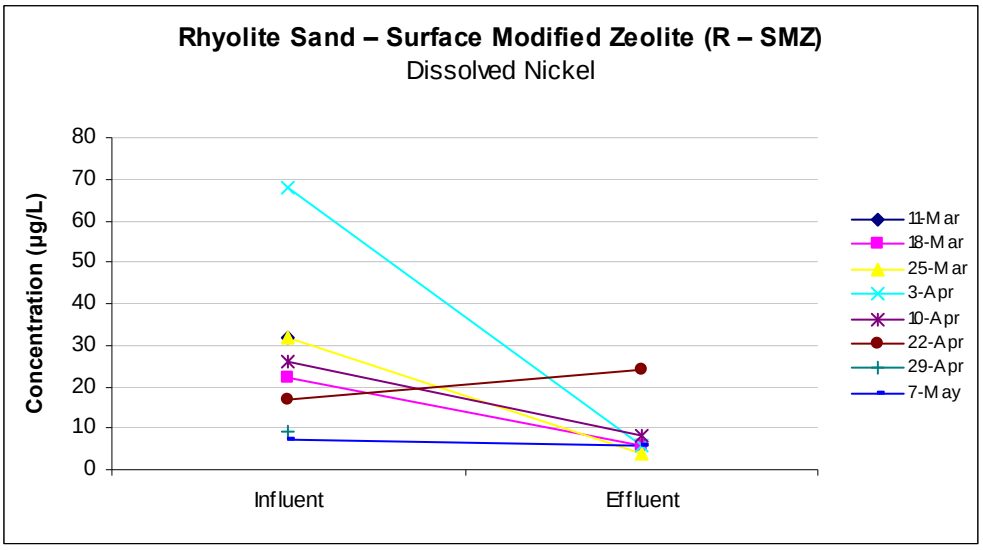


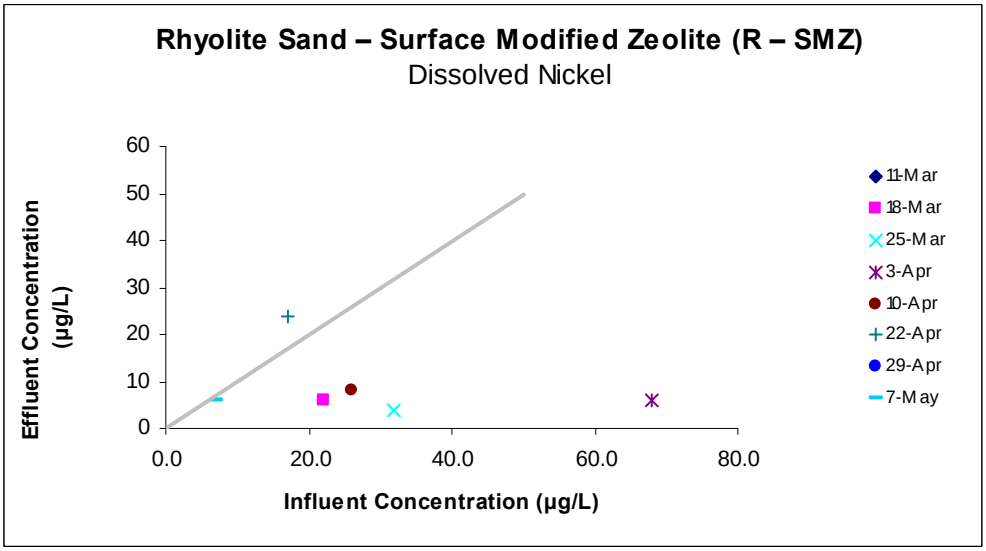
Total Ni


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Nickel
Concentration (µg/L)
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

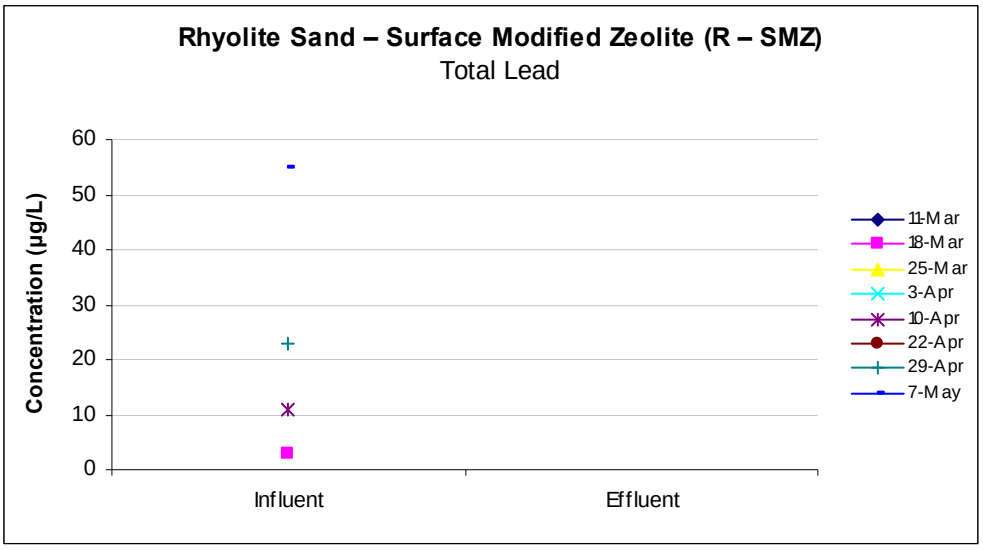

Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Nickel
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0.0
20.0
40.0
60.0
80.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

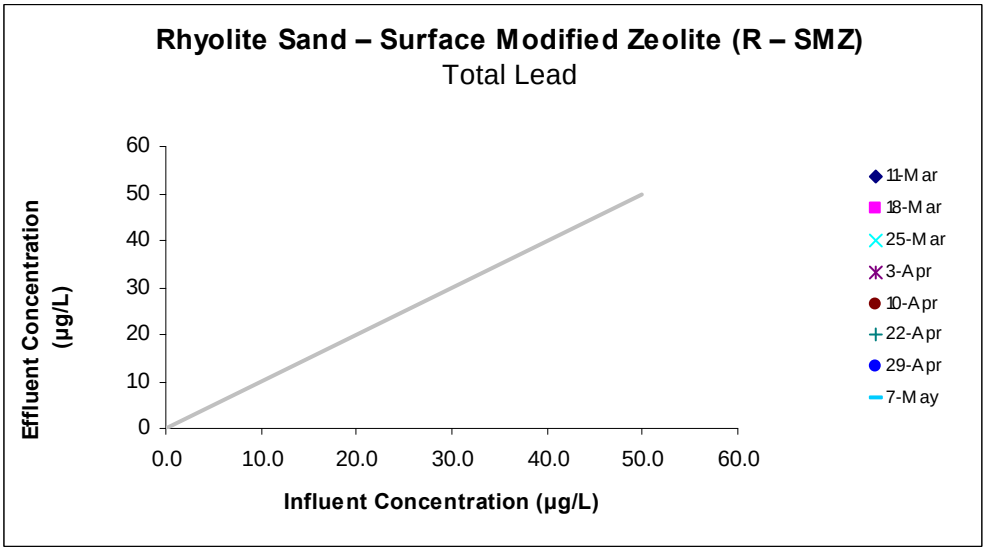
Dissolved Ni



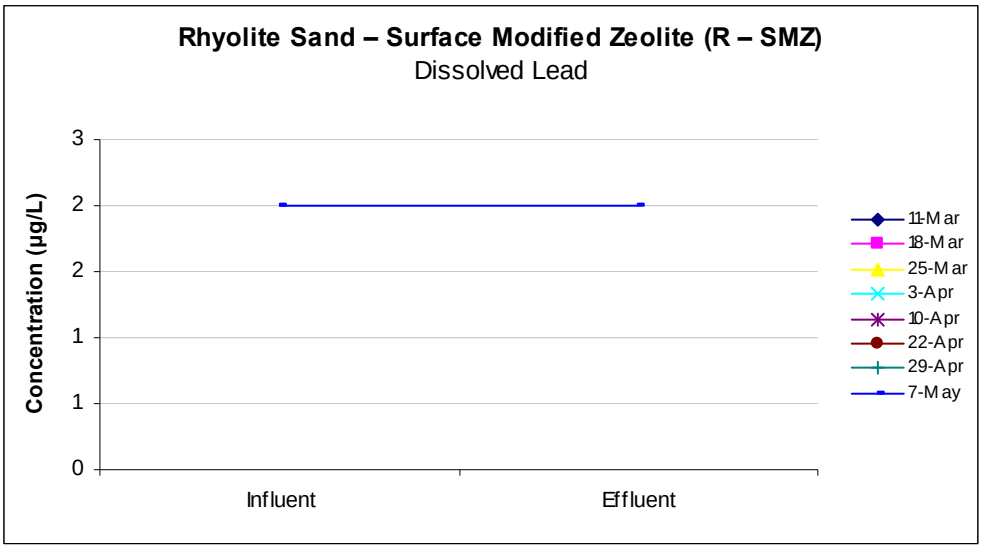


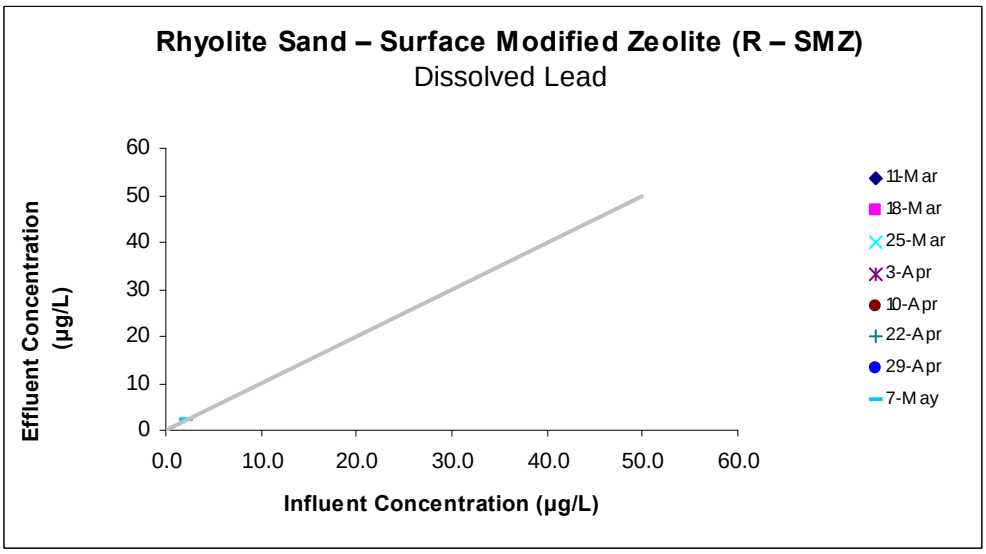
Total Pb


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Lead
Concentration (µg/L)
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Lead
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0.0
10.0
20.0
30.0
40.0
50.0
60.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Pb





Total Zn

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.028
R Square	0.001
Adjusted R Square	-0.166
Standard Error	13.461
Observations	8.000

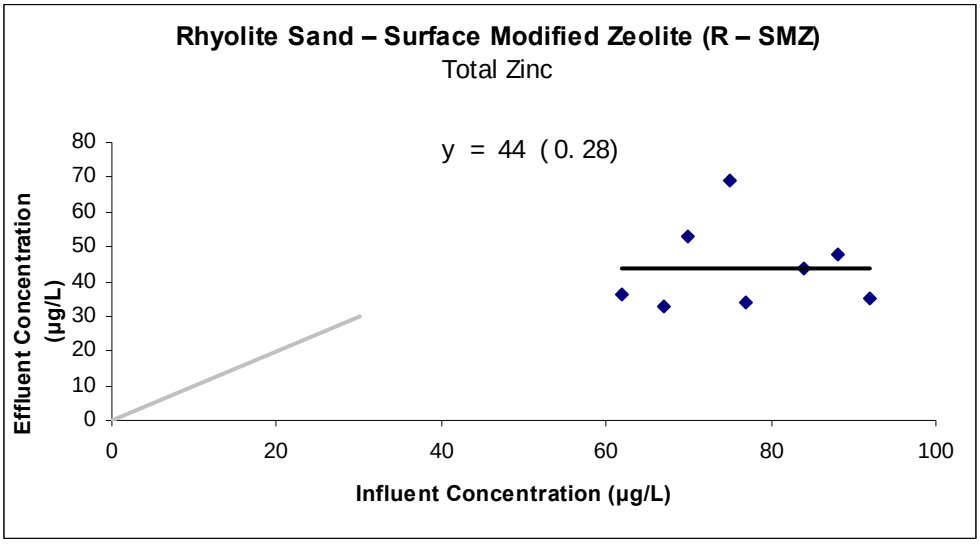
ANOVA

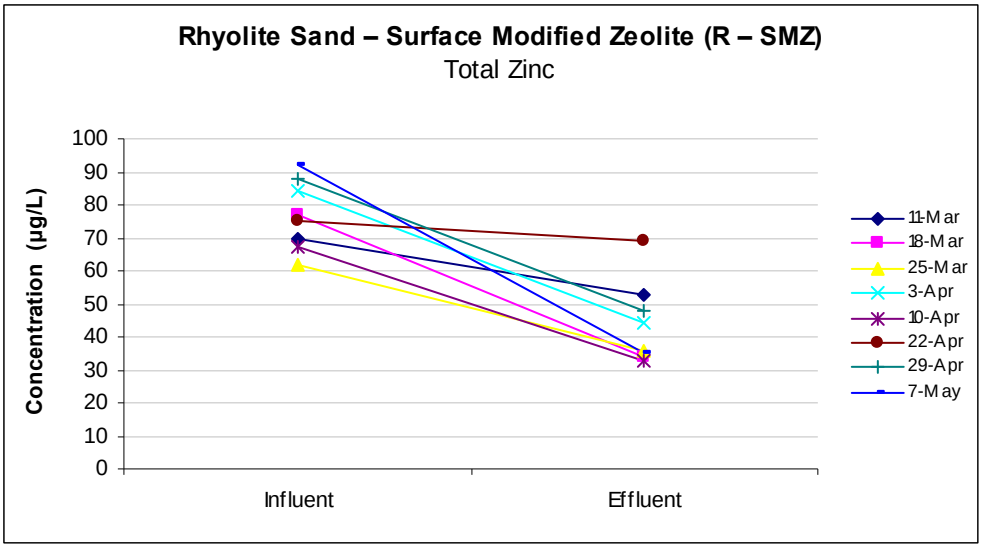
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	0.875	0.875	0.005	0.947
Residual	6.000	1087.125	181.188		
Total	7.000	1088.000			

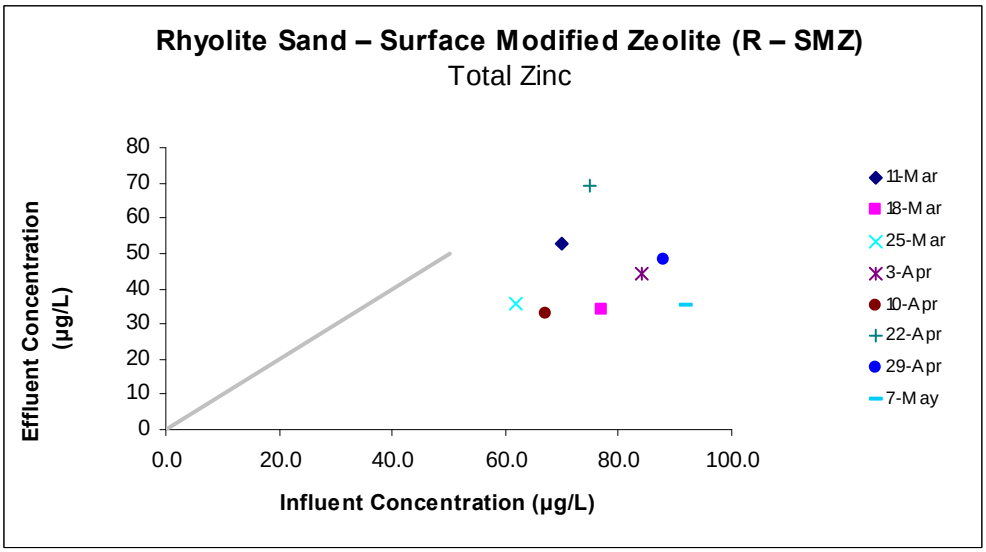
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	41.414	37.525	1.104	0.312	-50.405	133.233	-50.405	133.233
X Variable 1	0.034	0.484	0.069	0.947	-1.151	1.218	-1.151	1.218

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	43.769	9.231
2	44.004	-10.004
3	43.500	-7.500
4	44.240	-0.240
5	43.668	-10.668
6	43.937	25.063
7	44.374	3.626
8	44.509	-9.509




Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Zinc
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Zinc
Effluent Concentration (µg/L)
80
70
60
50
40
30
20
10
0
0.0
20.0
40.0
60.0
80.0
100.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Zn

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.488
R Square	0.239
Adjusted R Square	0.112
Standard Error	8.519
Observations	8.000

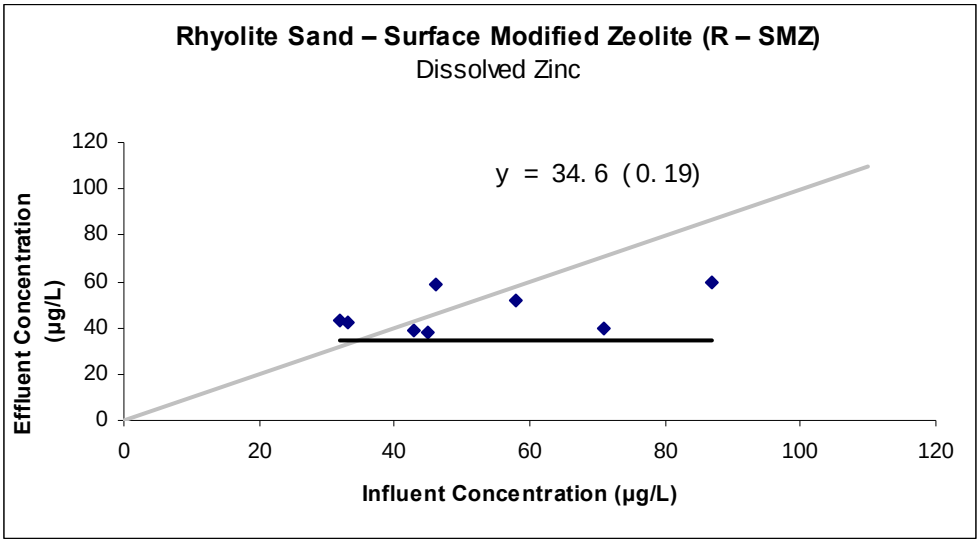
ANOVA

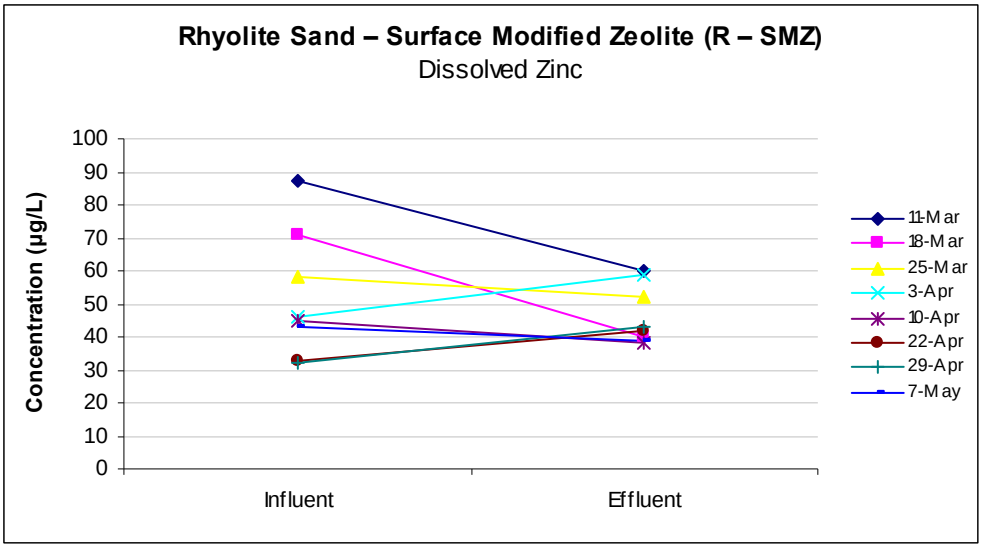
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	136.397	136.397	1.879	0.219
Residual	6.000	435.478	72.580		
Total	7.000	571.875			

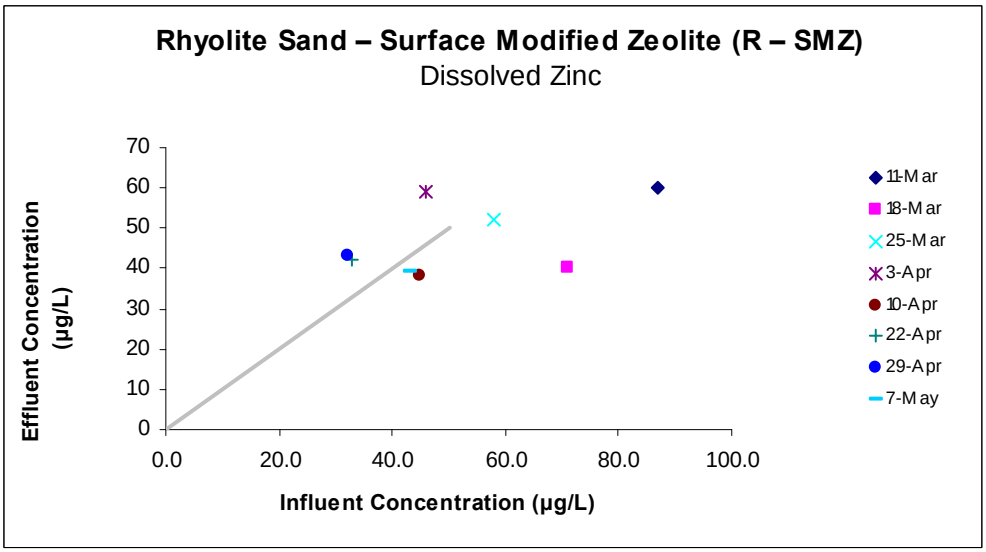
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	34.625	9.257	3.740	0.010	11.973	57.277	11.973	57.277
X Variable 1	0.231	0.169	1.371	0.219	-0.182	0.644	-0.182	0.644

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	54.750	5.250
2	51.049	-11.049
3	48.042	3.958
4	45.266	13.734
5	45.035	-7.035
6	42.259	-0.259
7	42.027	0.973
8	44.572	-5.572




Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Zinc
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Zinc
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0.0
20.0
40.0
60.0
80.0
100.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total K

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.106
R Square	0.011
Adjusted R Square	-0.154
Standard Error	317.165
Observations	8.000

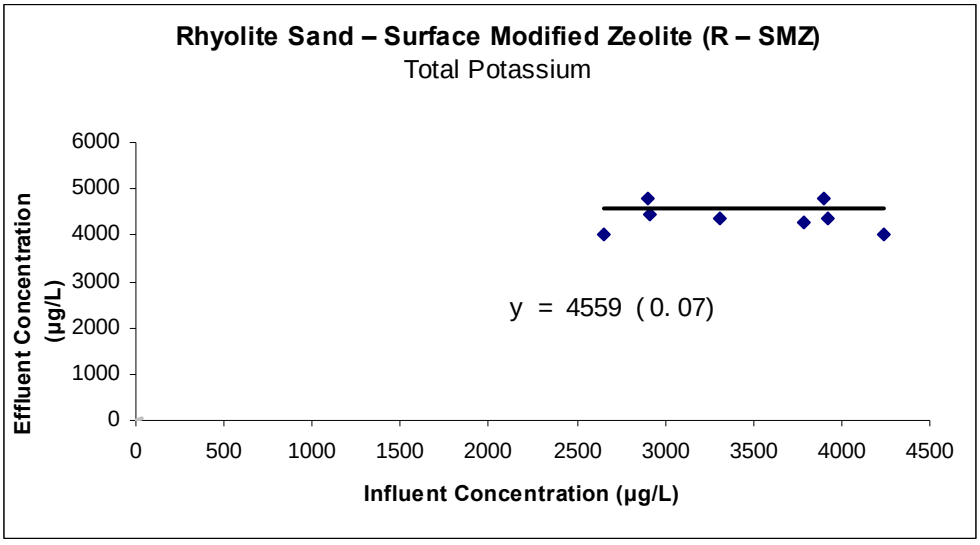
ANOVA

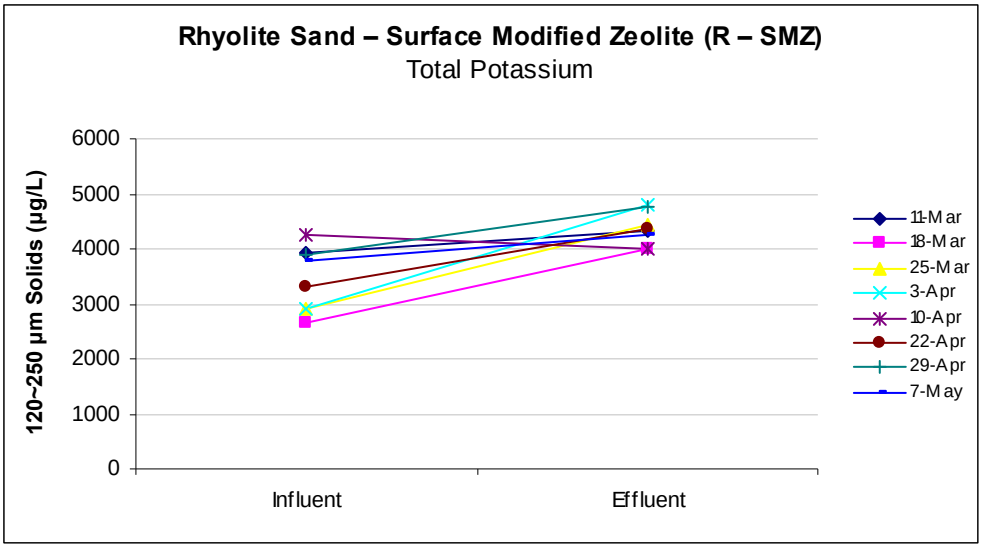
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	6841.192	6841.192	0.068	0.803
Residual	6.000	603562.308	100593.718		
Total	7.000	610403.500			

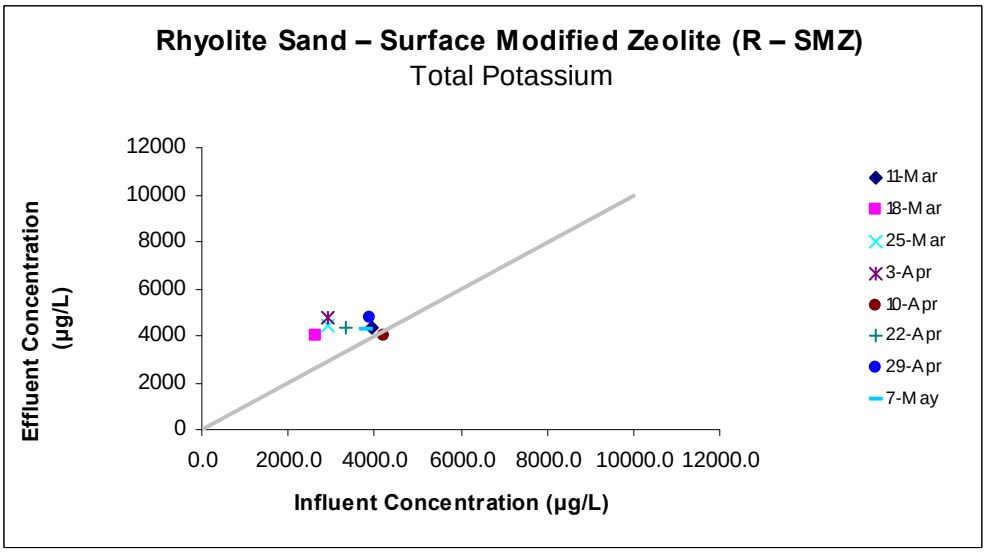
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	4559.531	715.485	6.373	0.001	2808.802	6310.261	2808.802	6310.261
X Variable 1	-0.053	0.205	-0.261	0.803	-0.554	0.447	-0.554	0.447

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	4350.418	-7.418
2	4418.077	-404.077
3	4403.937	32.063
4	4404.737	378.263
5	4333.343	-326.343
6	4382.700	-11.700
7	4351.539	426.461
8	4357.248	-87.248




Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Potassium
120–250 µm Solids (µg/L)
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Potassium
Effluent Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
0.0
2000.0
4000.0
6000.0
8000.0
10000.0
12000.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved K

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.147
R Square	0.021
Adjusted R Square	-0.142
Standard Error	387.652
Observations	8.000

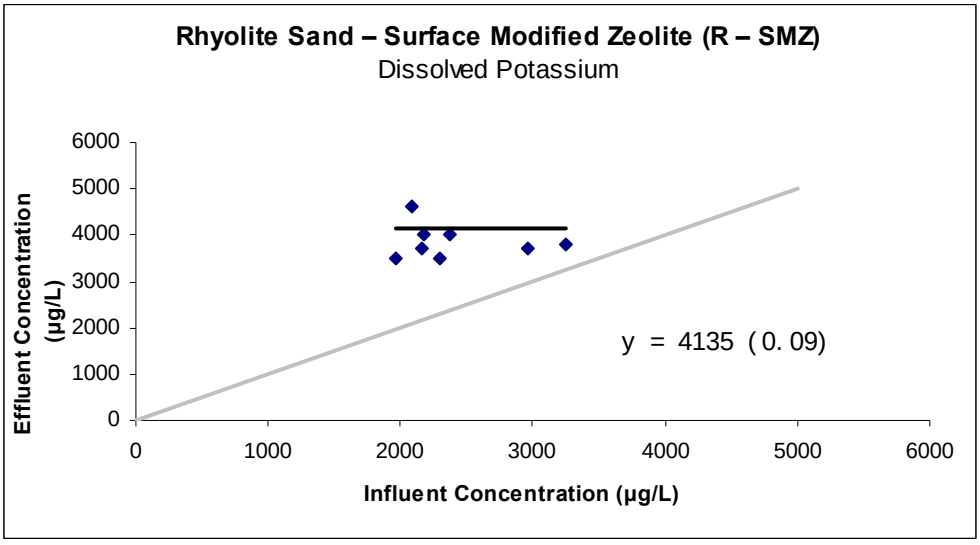
ANOVA

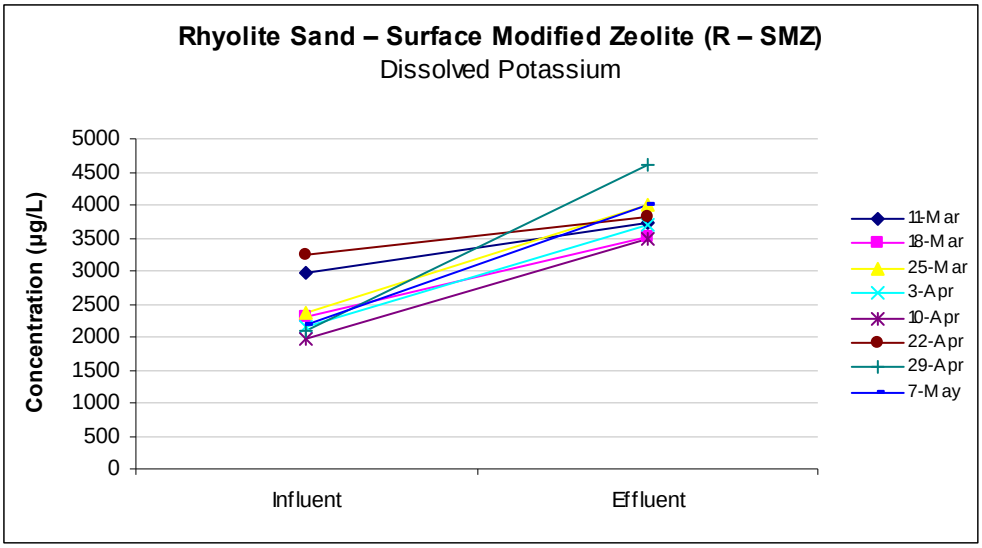
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	19805.872	19805.872	0.132	0.729
Residual	6.000	901644.003	150274.000		
Total	7.000	921449.875			

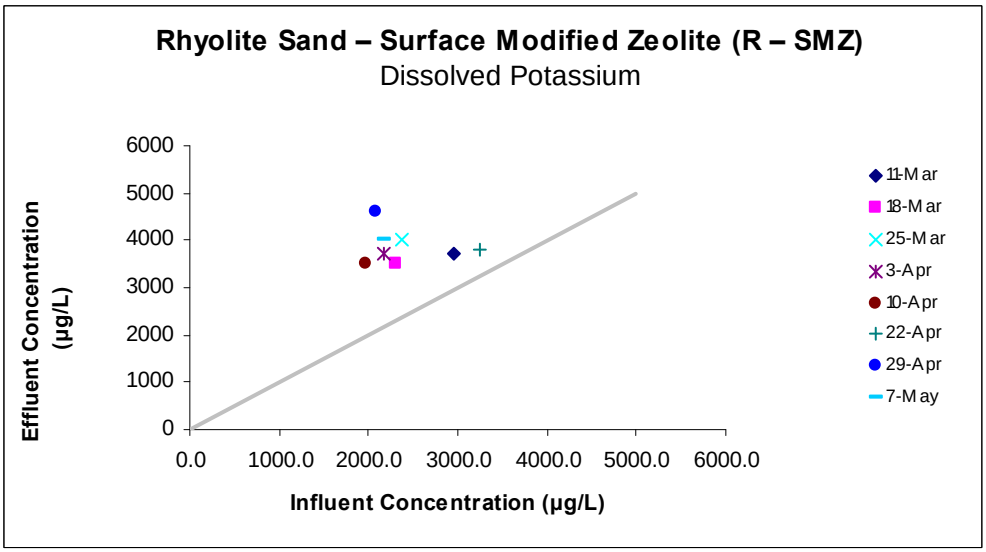
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	4135.611	786.022	5.261	0.002	2212.286	6058.937	2212.286	6058.937
X Variable 1	-0.117	0.322	-0.363	0.729	-0.904	0.670	-0.904	0.670

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	3790.518	-76.518
2	3866.635	-362.635
3	3859.163	155.837
4	3883.212	-184.212
5	3906.795	-414.795
6	3755.729	49.271
7	3892.669	720.331
8	3882.279	112.721




Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Potassium
Concentration (µg/L)
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Potassium
Effluent Concentration (µg/L)
6000
5000
4000
3000
2000
1000
0
0.0
1000.0
2000.0
3000.0
4000.0
5000.0
6000.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Na

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.089
R Square	0.008
Adjusted R Square	-0.157
Standard Error	1463.624
Observations	8.000

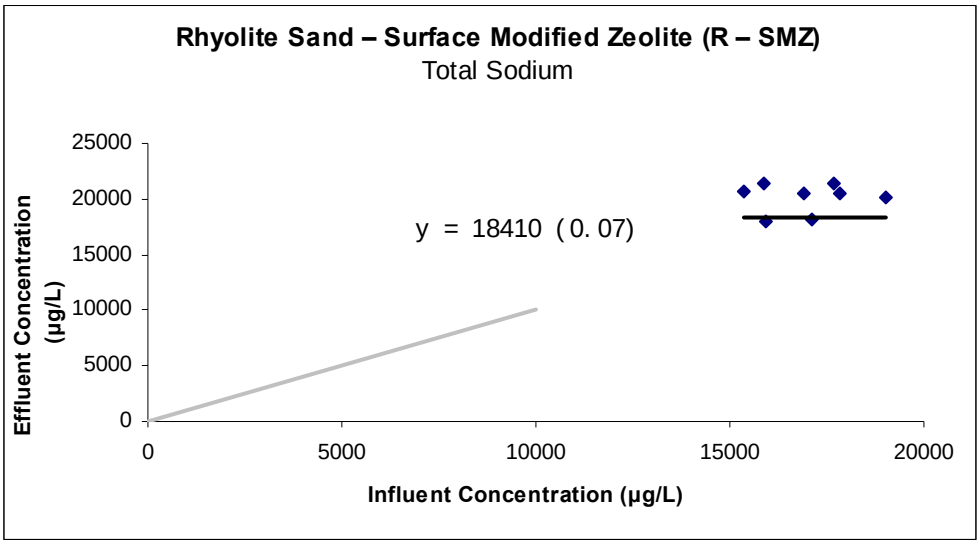
ANOVA

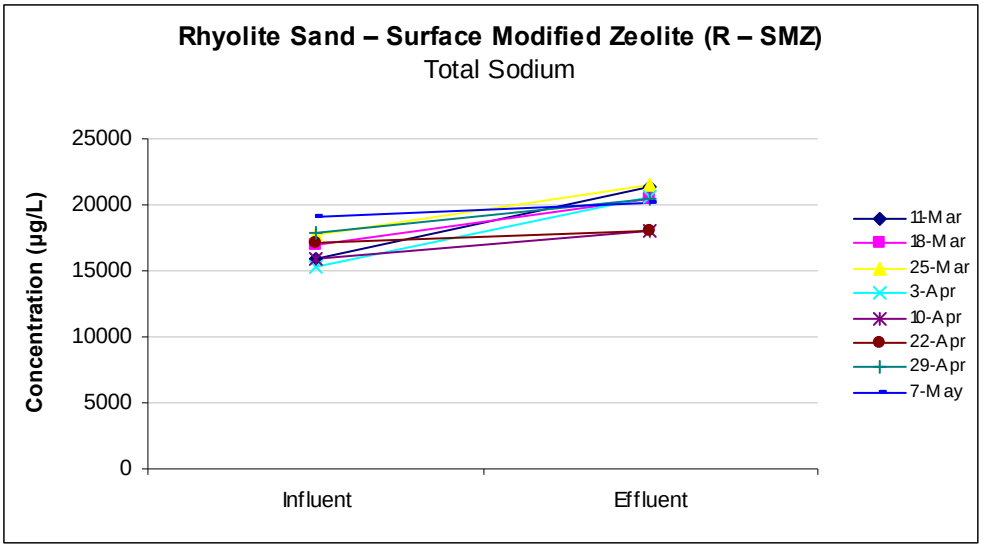
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	102030.364	102030.364	0.048	0.834
Residual	6.000	12853177.136	2142196.189		
Total	7.000	12955207.500			

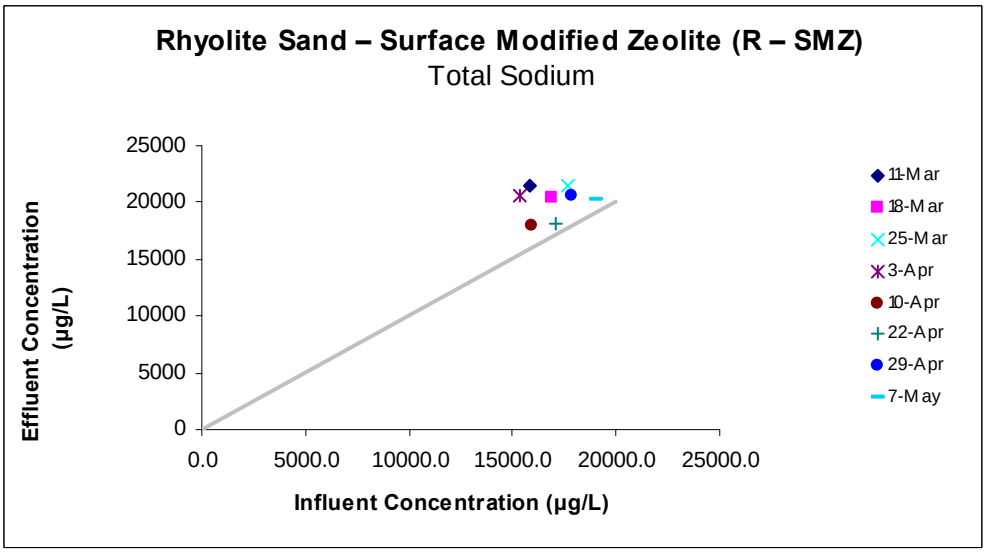
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	18409.610	7720.518	2.385	0.054	-481.817	37301.038	-481.817	37301.038
X Variable 1	0.099	0.454	0.218	0.834	-1.012	1.210	-1.012	1.210

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	19982.518	1451.482
2	20084.756	349.244
3	20161.534	1316.466
4	19931.795	724.205
5	19988.660	-2032.660
6	20105.264	-2025.264
7	20175.206	342.794
8	20296.267	-126.267




Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Sodium
Concentration (µg/L)
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Sodium
Effluent Concentration (µg/L)
25000
20000
15000
10000
5000
0
0.0
5000.0
10000.0
15000.0
20000.0
25000.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Na

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.429
R Square	0.184
Adjusted R Square	0.048
Standard Error	1342.489
Observations	8.000

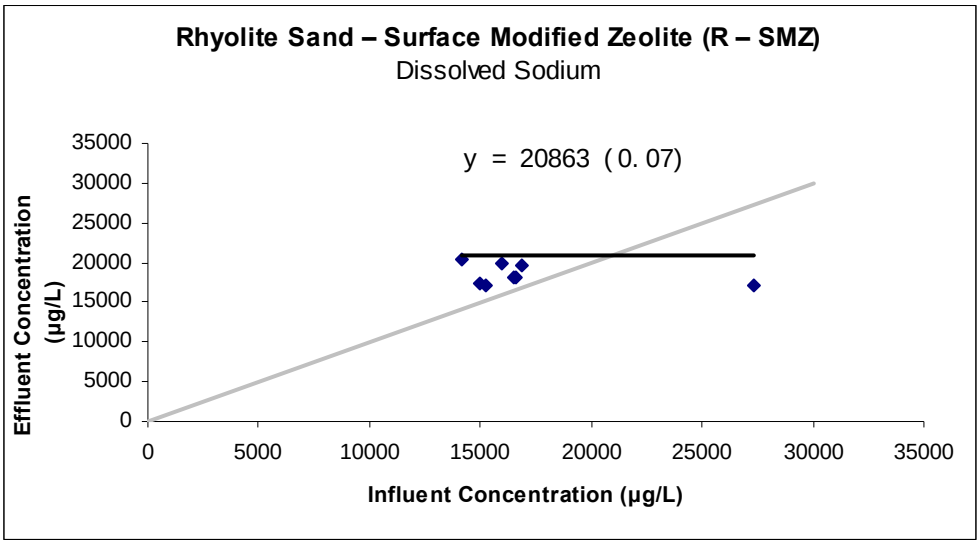
ANOVA

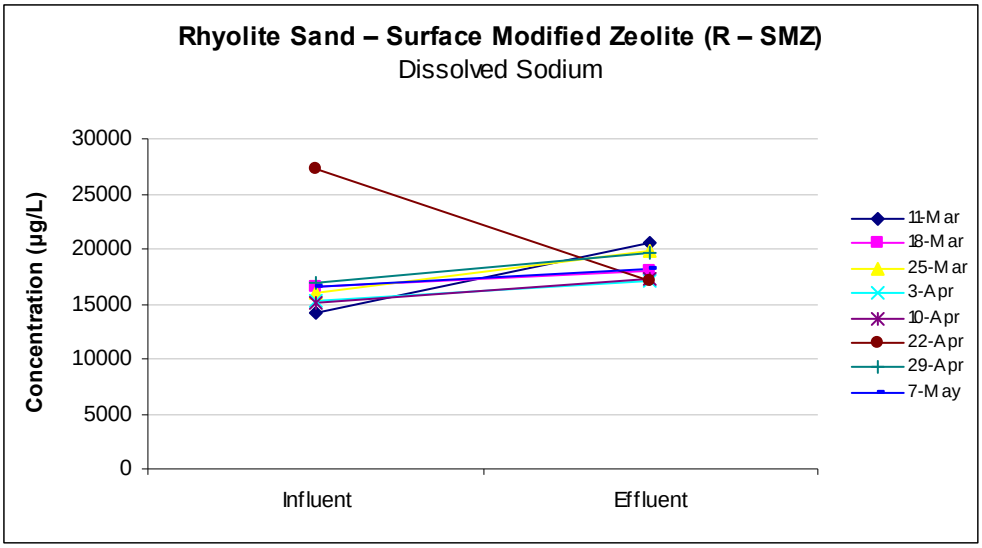
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	2443265.960	2443265.960	1.356	0.288
Residual	6.000	10813664.040	1802277.340		
Total	7.000	13256930.000			

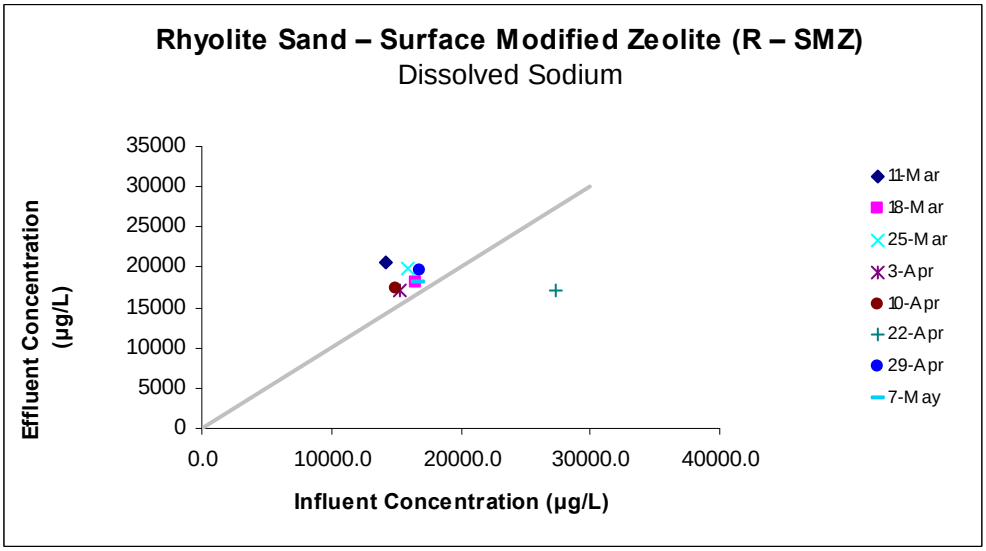
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	20863.080	2138.310	9.757	0.000	15630.825	26095.336	15630.825	26095.336
X Variable 1	-0.141	0.121	-1.164	0.288	-0.437	0.155	-0.437	0.155

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	18864.461	1637.539
2	18531.616	-457.616
3	18612.853	1294.147
4	18709.885	-1696.885
5	18747.119	-1432.119
6	17008.569	-0.569
7	18489.728	1070.272
8	18519.769	-414.769




Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Sodium
Concentration (µg/L)
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Sodium
Effluent Concentration (µg/L)
35000
30000
25000
20000
15000
10000
5000
0
0.0
10000.0
20000.0
30000.0
40000.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Cr

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.223
R Square	0.050
Adjusted R Square	-0.109
Standard Error	16.601
Observations	8.000

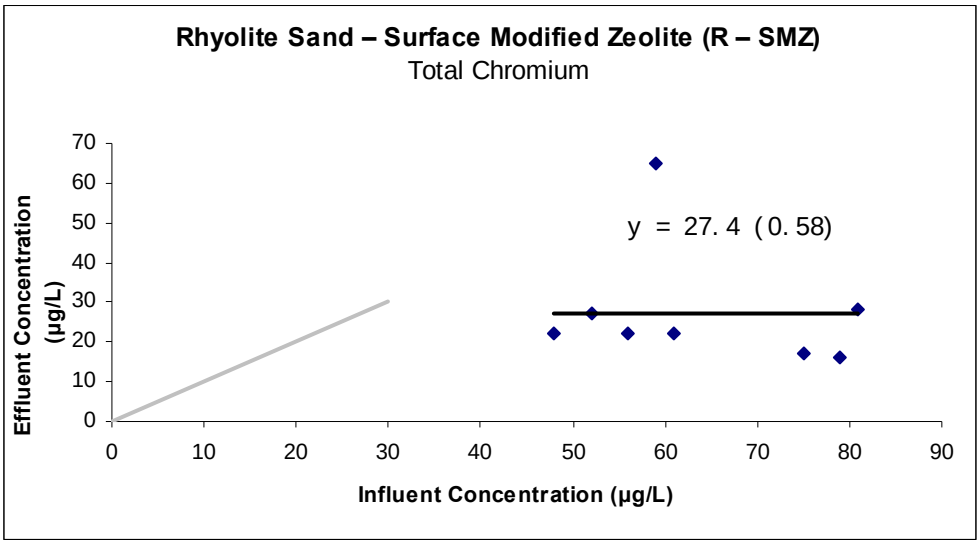
ANOVA

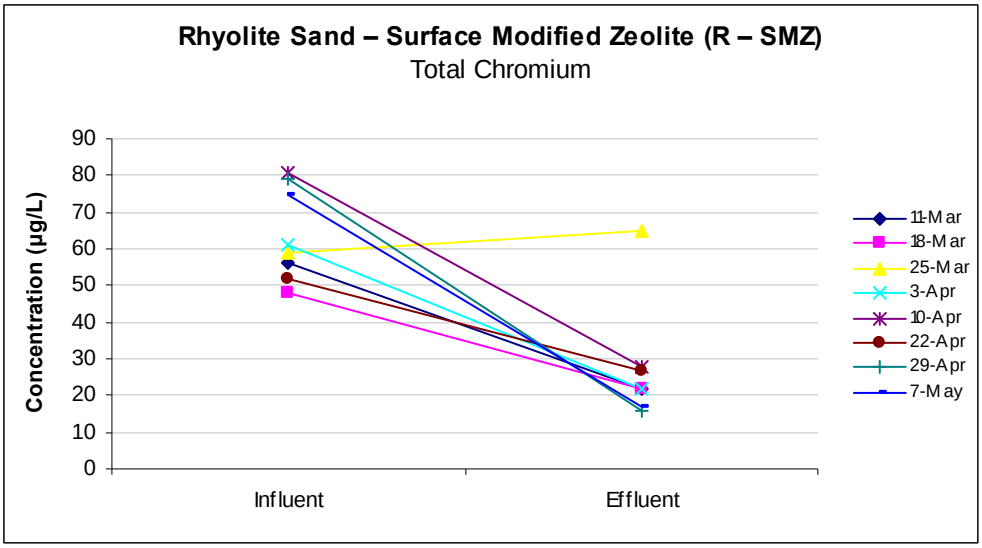
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	86.271	86.271	0.313	0.596
Residual	6.000	1653.604	275.601		
Total	7.000	1739.875			

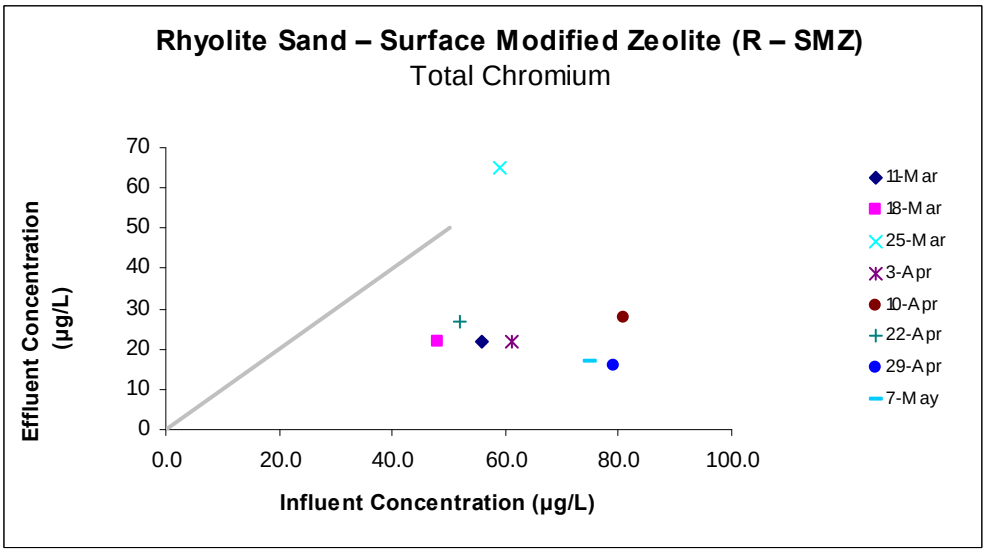
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	45.002	32.047	1.404	0.210	-33.415	123.418	-33.415	123.418
X Variable 1	-0.276	0.493	-0.559	0.596	-1.483	0.931	-1.483	0.931

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	29.548	-7.548
2	31.756	-9.756
3	28.720	36.280
4	28.168	-6.168
5	22.649	5.351
6	30.652	-3.652
7	23.201	-7.201
8	24.305	-7.305




Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Chromium
Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Chromium
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0.0
20.0
40.0
60.0
80.0
100.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cr

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.466
R Square	0.217
Adjusted R Square	0.087
Standard Error	14.755
Observations	8.000

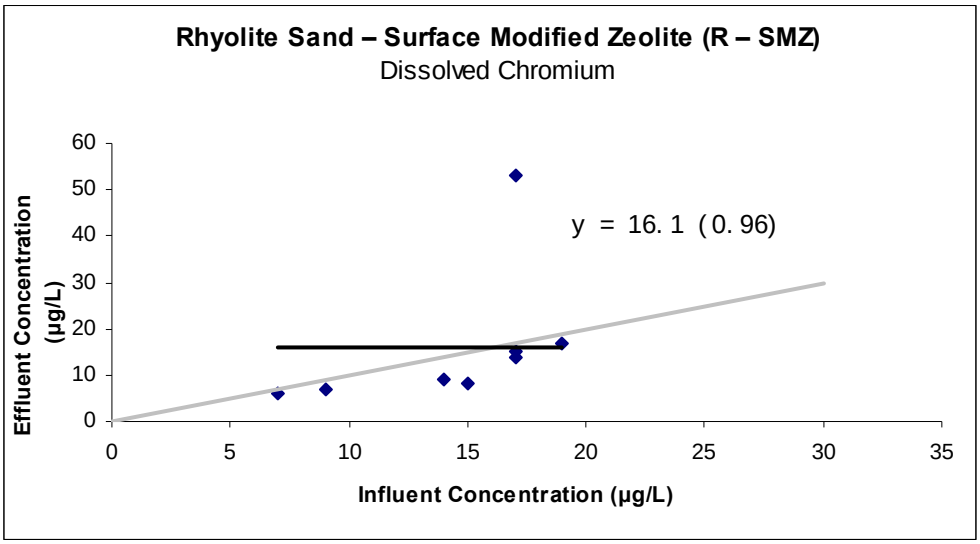
ANOVA

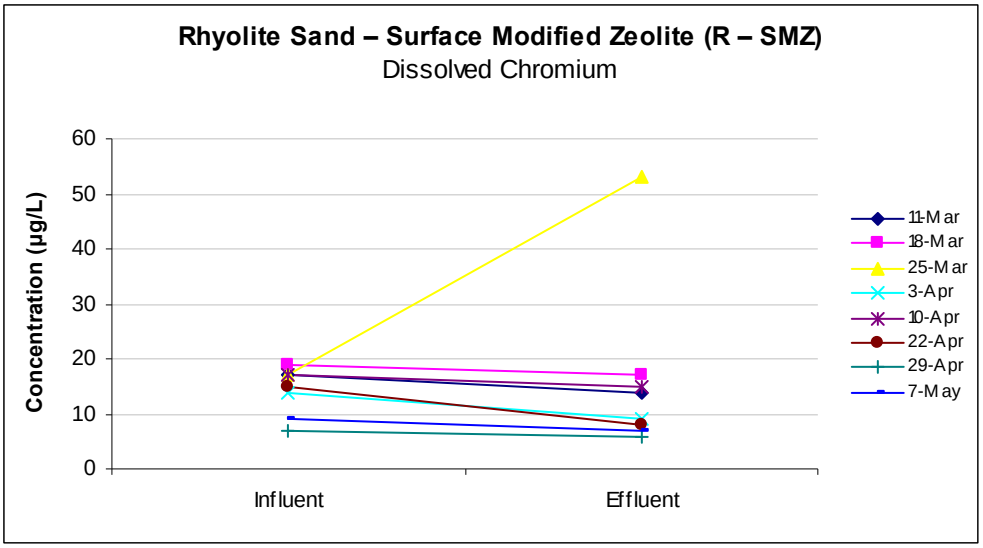
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	362.547	362.547	1.665	0.244
Residual	6.000	1306.328	217.721		
Total	7.000	1668.875			

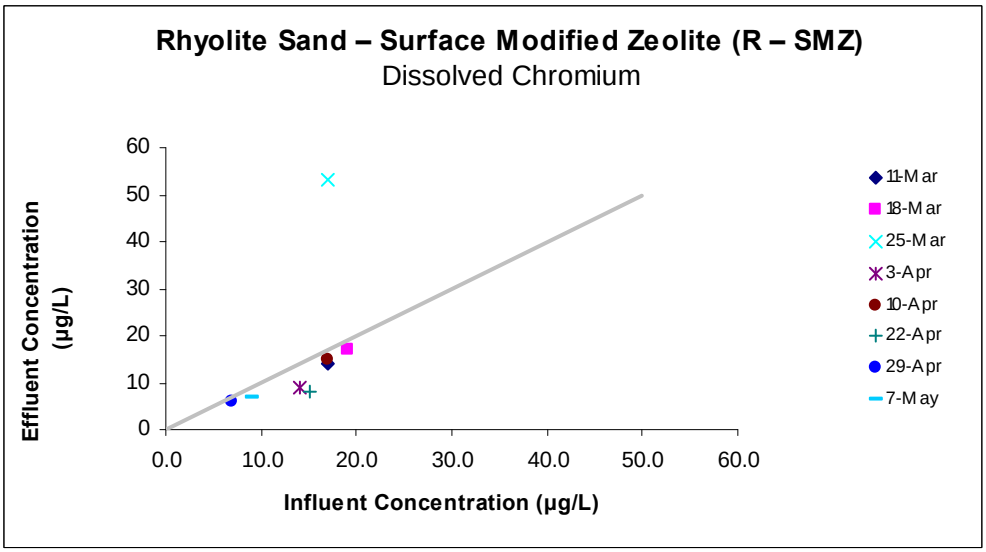
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-8.271	19.612	-0.422	0.688	-56.260	39.718	-56.260	39.718
X Variable 1	1.697	1.315	1.290	0.244	-1.521	4.915	-1.521	4.915

RESIDUAL OUTPUT

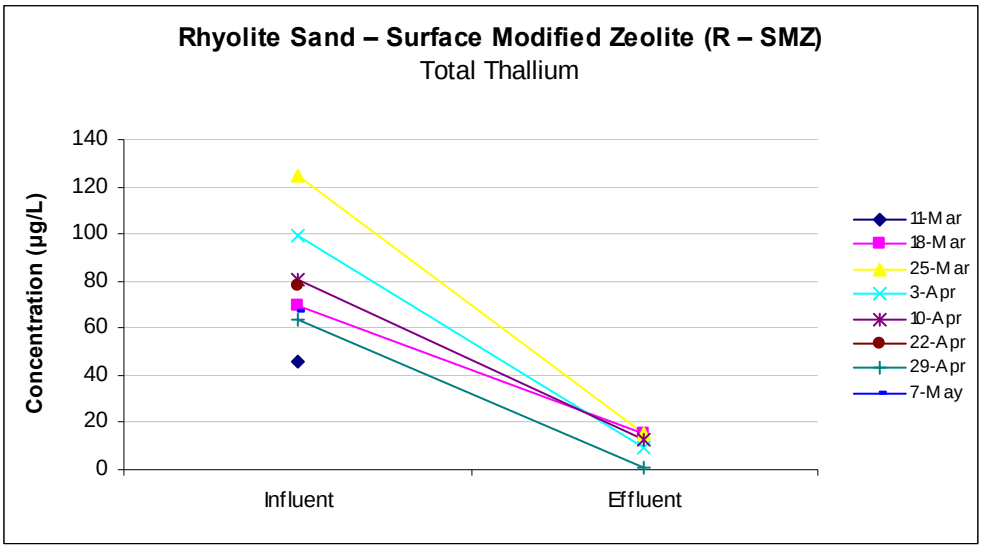
Observation	*Predicted Y*	*Residuals*
1	20.580	-6.580
2	23.974	-6.974
3	20.580	32.420
4	15.489	-6.489
5	20.580	-5.580
6	17.186	-9.186
7	3.609	2.391
8	7.003	-0.003

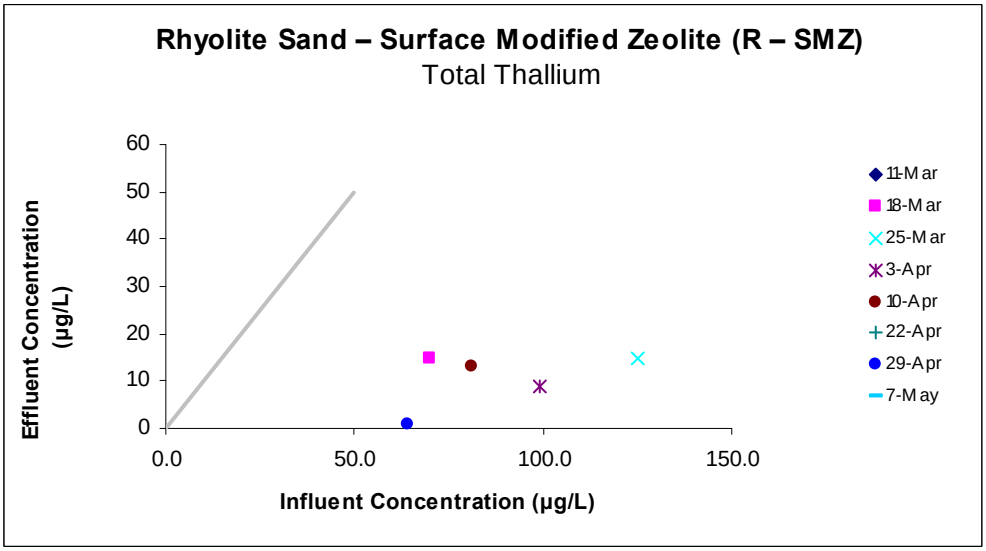



Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Chromium
Concentration (µg/L)
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

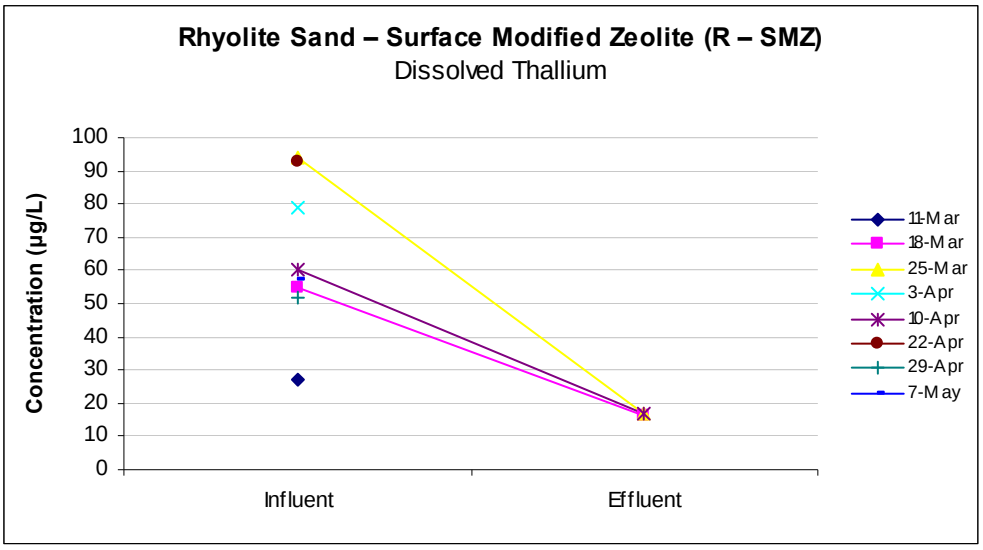

Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Chromium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0.0
10.0
20.0
30.0
40.0
50.0
60.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

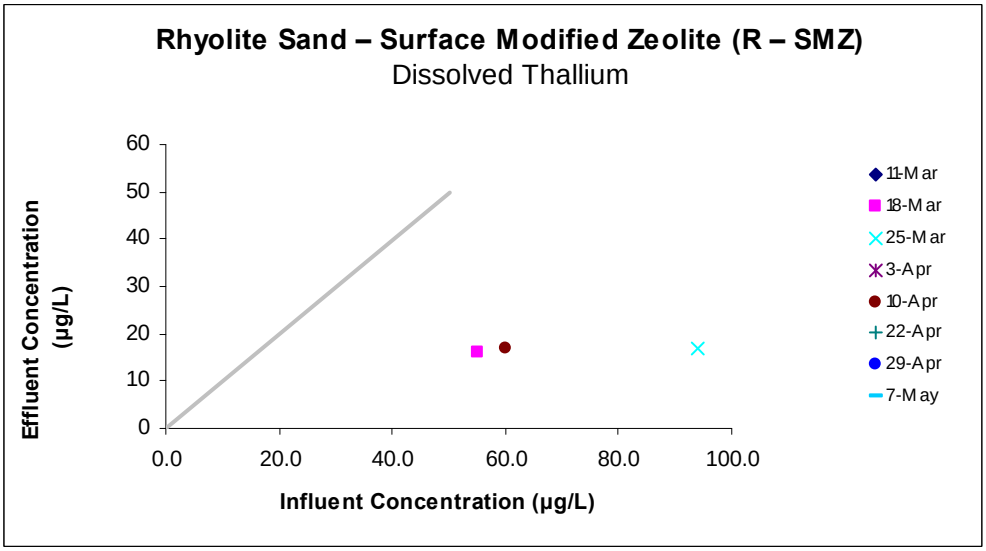
Total Tl


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Thallium
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Thallium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0.0
50.0
100.0
150.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Tl





Total Sb

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.951
R Square	0.904
Adjusted R Square	0.737
Standard Error	18.895
Observations	7.000

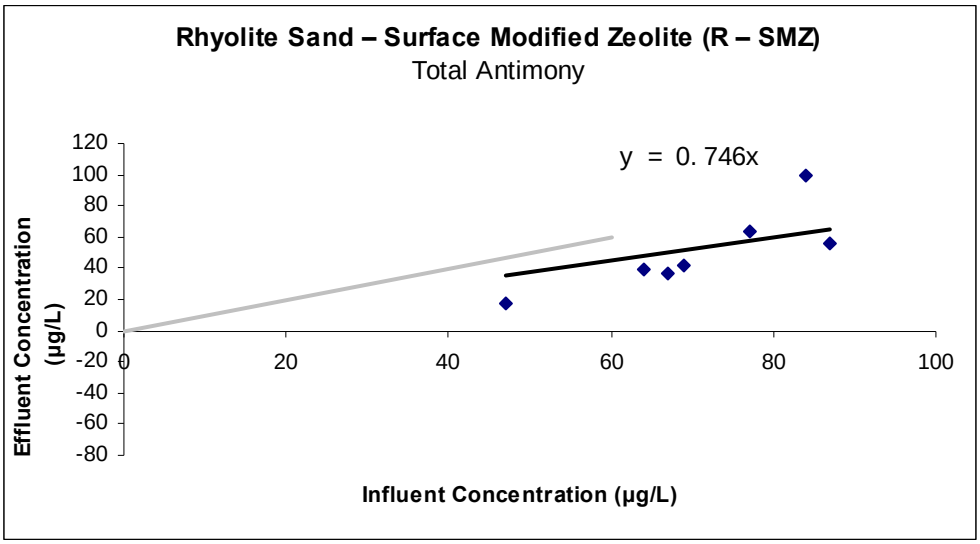
ANOVA

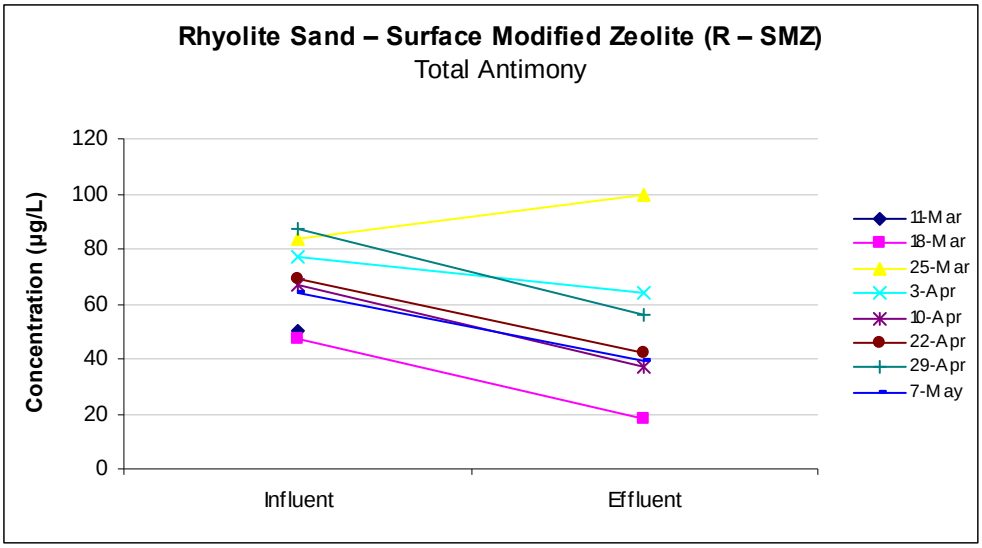
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	20067.921	20067.921	56.211	0.001
Residual	6.000	2142.079	357.013		
Total	7.000	22210.000			

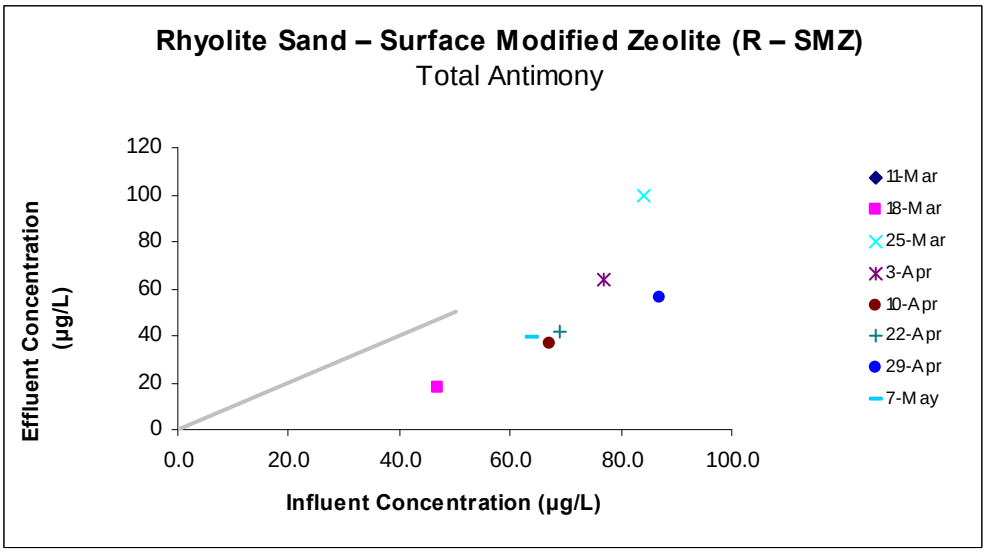
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.745	0.099	7.497	0.000	0.502	0.989	0.502	0.989

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	35.038	-17.038
2	62.621	37.379
3	57.403	6.597
4	49.948	-12.948
5	51.439	-9.439
6	64.858	-8.858
7	47.712	-8.712




Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Antimony
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Total Antimony
Effluent Concentration (µg/L)
120
100
80
60
40
20
0
0.0
20.0
40.0
60.0
80.0
100.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Sb

R-SMZ

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.533
R Square	0.284
Adjusted R Square	0.141
Standard Error	23.430
Observations	7.000

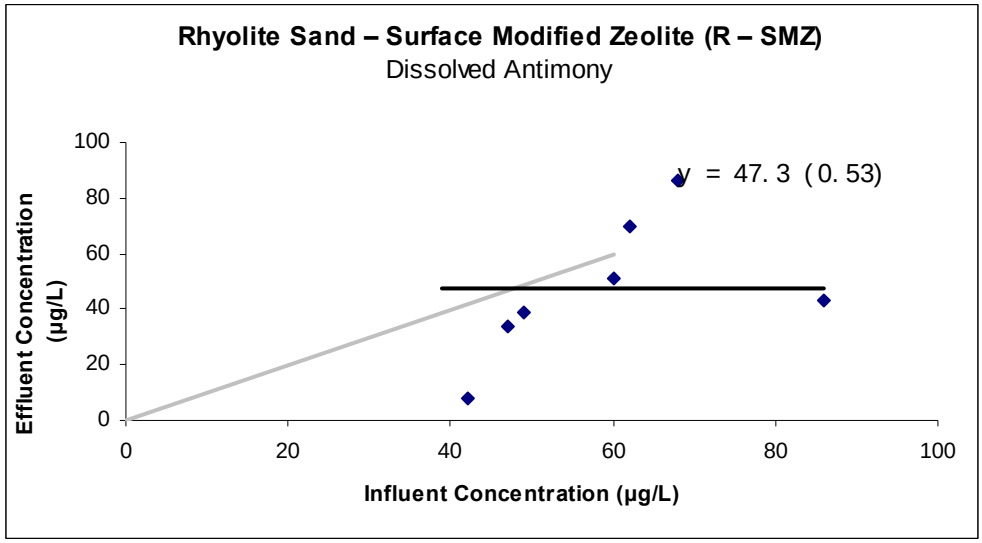
ANOVA

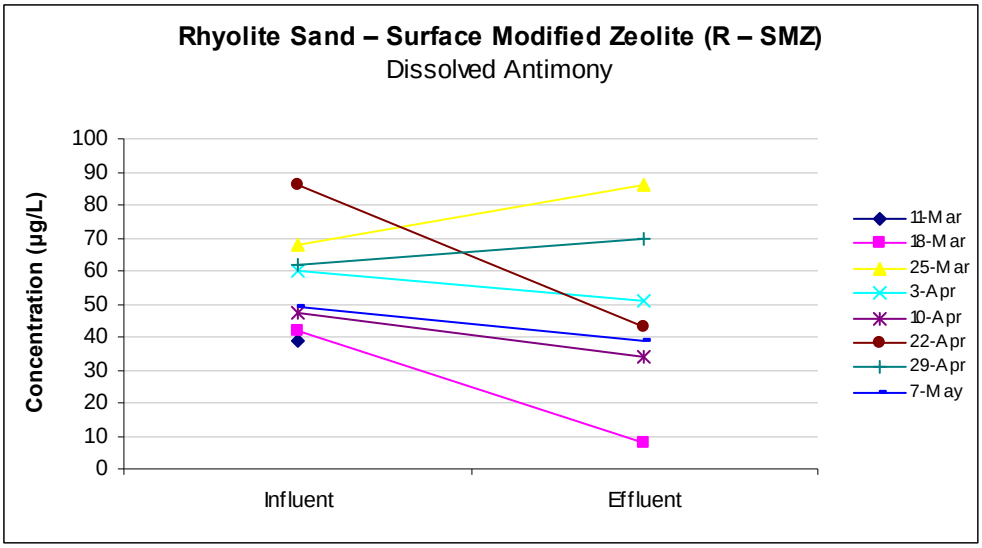
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	1090.677	1090.677	1.987	0.218
Residual	5.000	2744.751	548.950		
Total	6.000	3835.429			

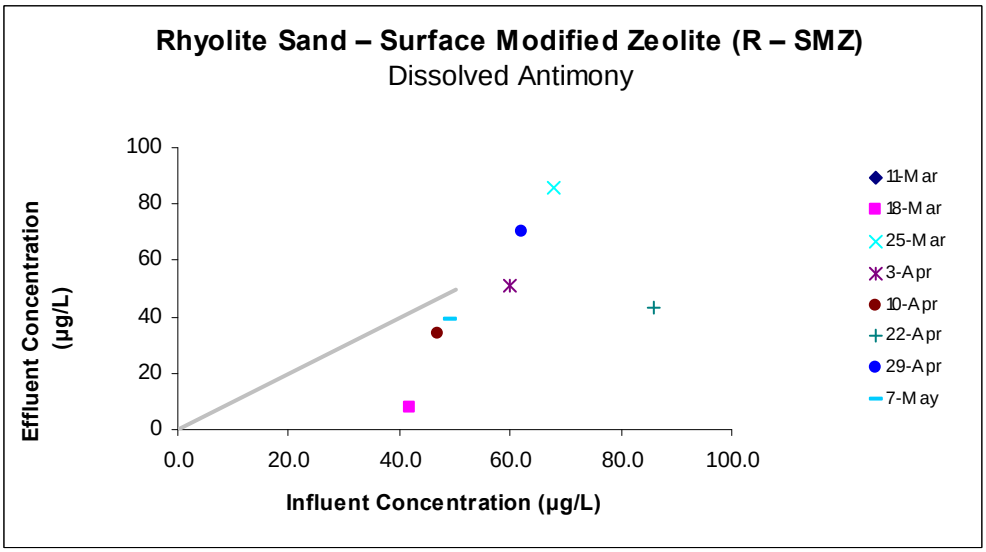
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-5.818	38.701	-0.150	0.886	-105.302	93.666	-105.302	93.666
X Variable 1	0.898	0.637	1.410	0.218	-0.740	2.535	-0.740	2.535

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	31.893	-23.893
2	55.238	30.762
3	48.055	2.945
4	36.383	-2.383
5	71.400	-28.400
6	49.851	20.149
7	38.179	0.821




Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Antimony
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite (R – SMZ)
Dissolved Antimony
Effluent Concentration (µg/L)
100
80
60
40
20
0
0.0
20.0
40.0
60.0
80.0
100.0
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

R-SMZ-G

Total As

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.679
R Square	0.461
Adjusted R Square	0.326
Standard Error	5.482
Observations	6.000

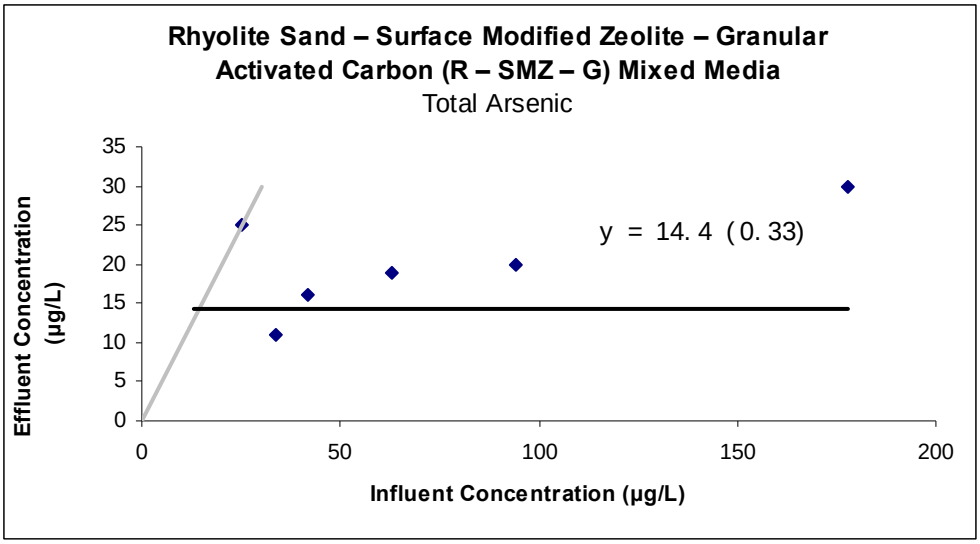
ANOVA

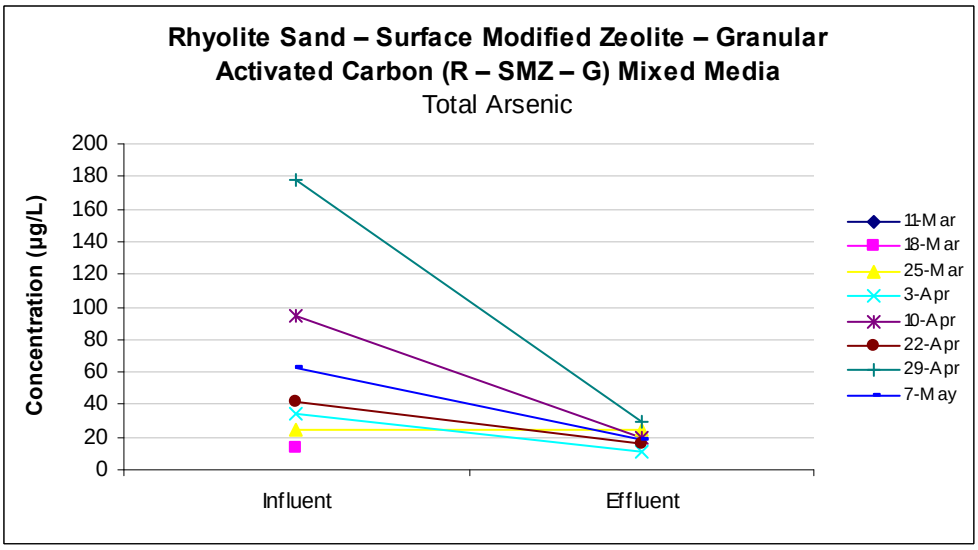
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	102.615	102.615	3.414	0.138
Residual	4.000	120.219	30.055		
Total	5.000	222.833			

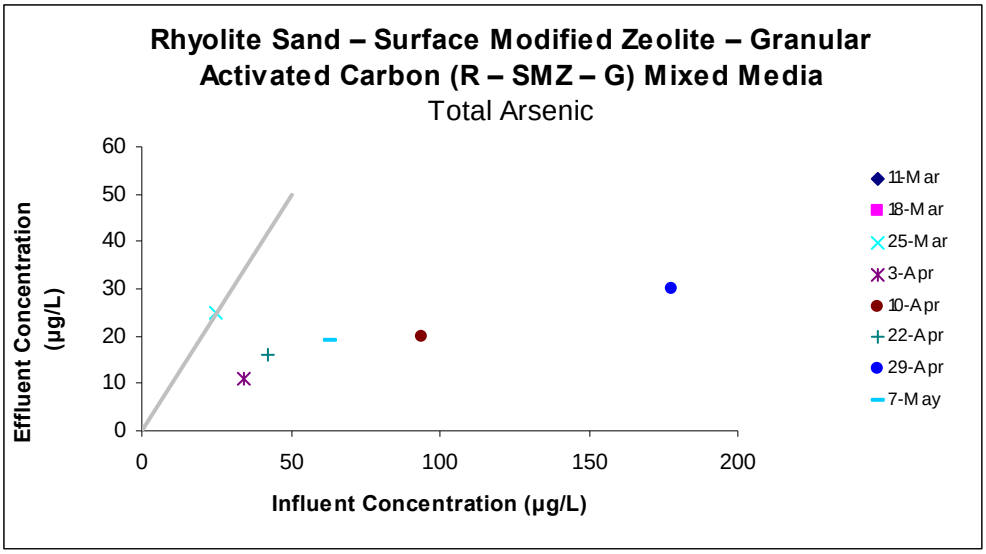
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	14.410	3.836	3.757	0.020	3.760	25.061	3.760	25.061
X Variable 1	0.079	0.043	1.848	0.138	-0.040	0.198	-0.040	0.198

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	16.391	8.609
2	17.104	-6.104
3	21.857	-1.857
4	17.737	-1.737
5	28.511	1.489
6	19.401	-0.401


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Arsenic
Effluent Concentration (µg/L)
Influent Concentration (µg/L)
y = 14.4 (0.33)
0
5
10
15
20
25
30
35
0
50
100
150
200


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Arsenic
Concentration (µg/L)
0
20
40
60
80
100
120
140
160
180
200
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Arsenic
Effluent Concentration (µg/L)
Influent Concentration (µg/L)
0
10
20
30
40
50
60
0
50
100
150
200
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved As

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.516
R Square	0.266
Adjusted R Square	0.082
Standard Error	5.643
Observations	6.000

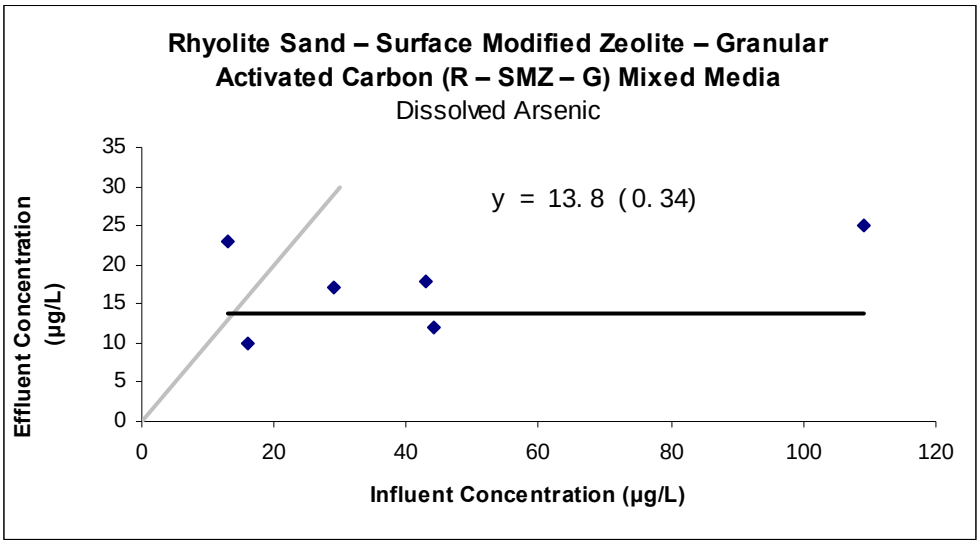
ANOVA

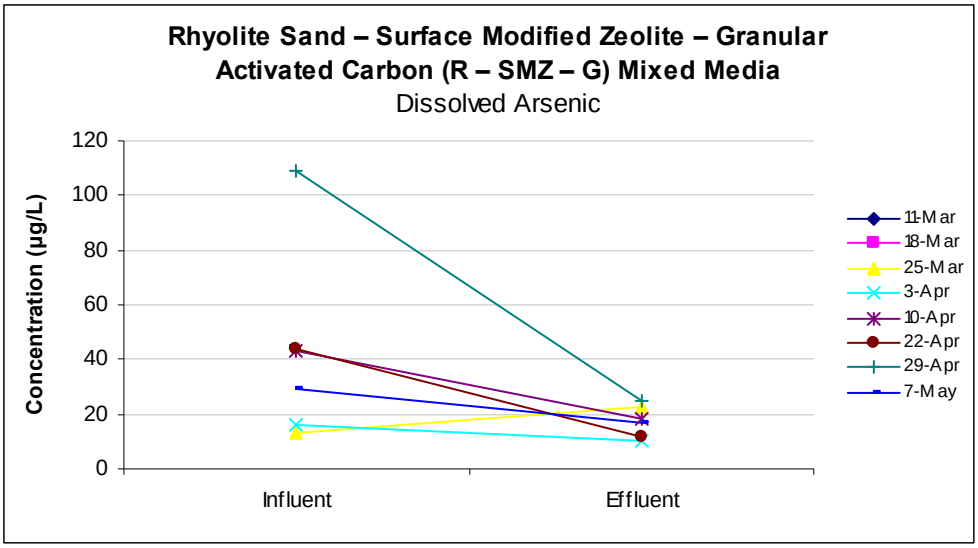
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	46.147	46.147	1.449	0.295
Residual	4.000	127.353	31.838		
Total	5.000	173.500			

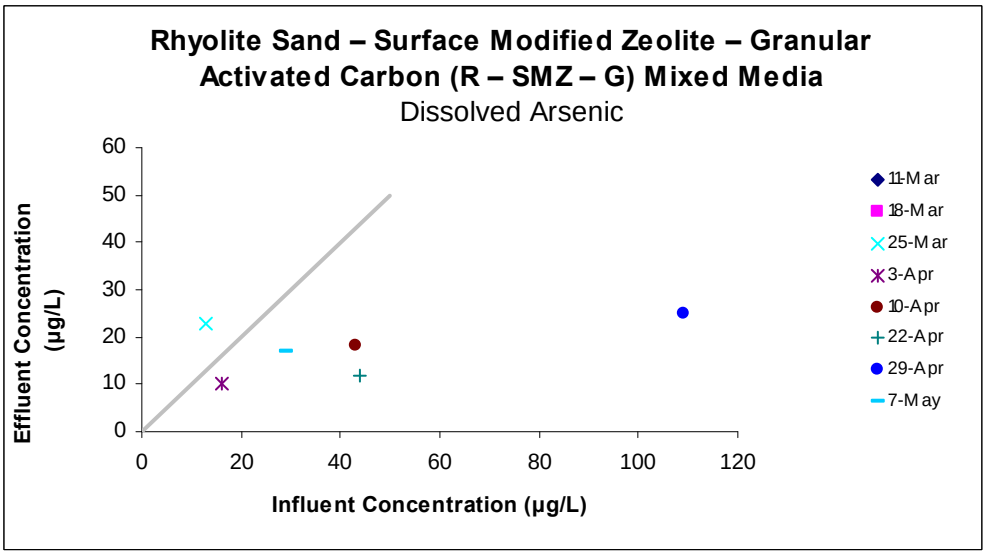
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	13.842	3.813	3.630	0.022	3.255	24.429	3.255	24.429
X Variable 1	0.086	0.072	1.204	0.295	-0.113	0.286	-0.113	0.286

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	14.965	8.035
2	15.224	-5.224
3	17.558	0.442
4	17.644	-5.644
5	23.261	1.739
6	16.348	0.652




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Arsenic
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Arsenic
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Al

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.379
R Square	0.144
Adjusted R Square	0.001
Standard Error	780.612
Observations	8.000

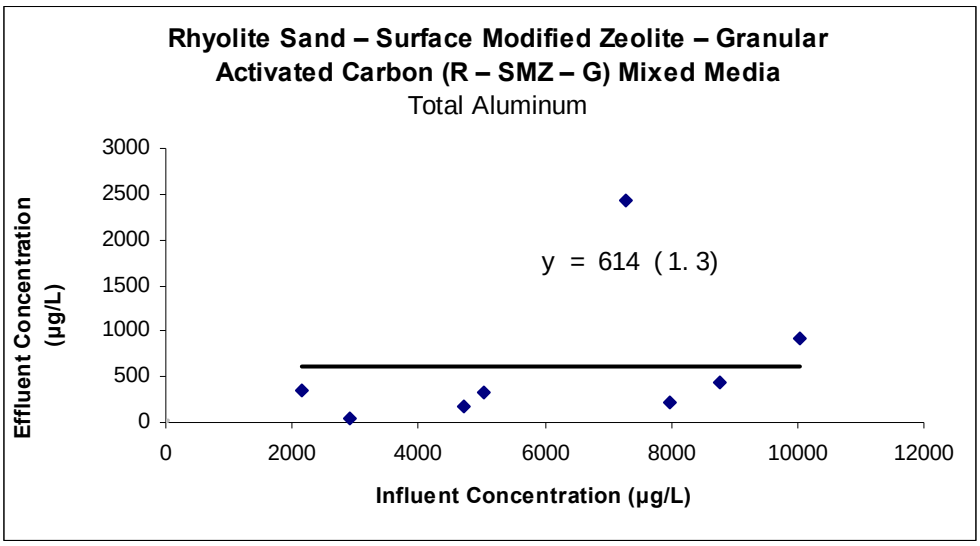
ANOVA

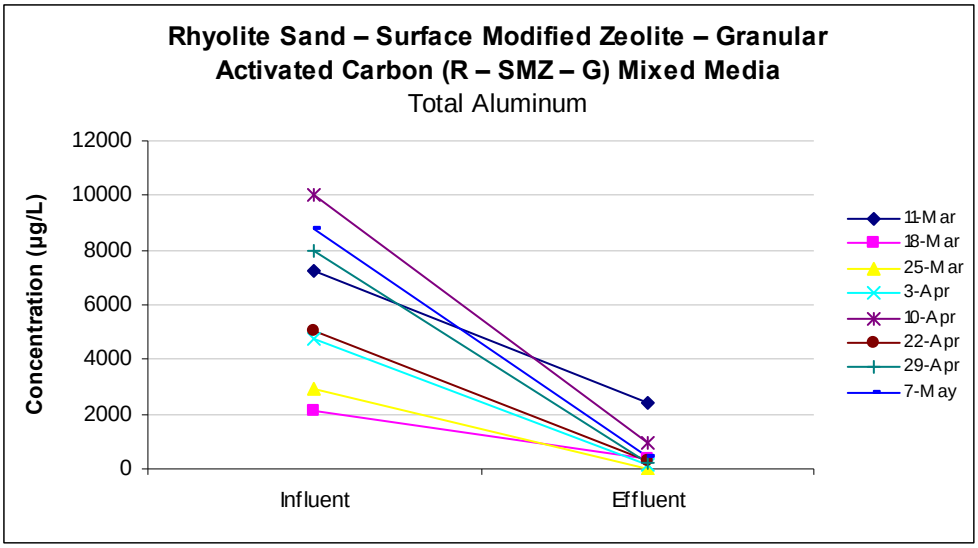
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	613512.408	613512.408	1.007	0.354
Residual	6.000	3656127.592	609354.599		
Total	7.000	4269640.000			

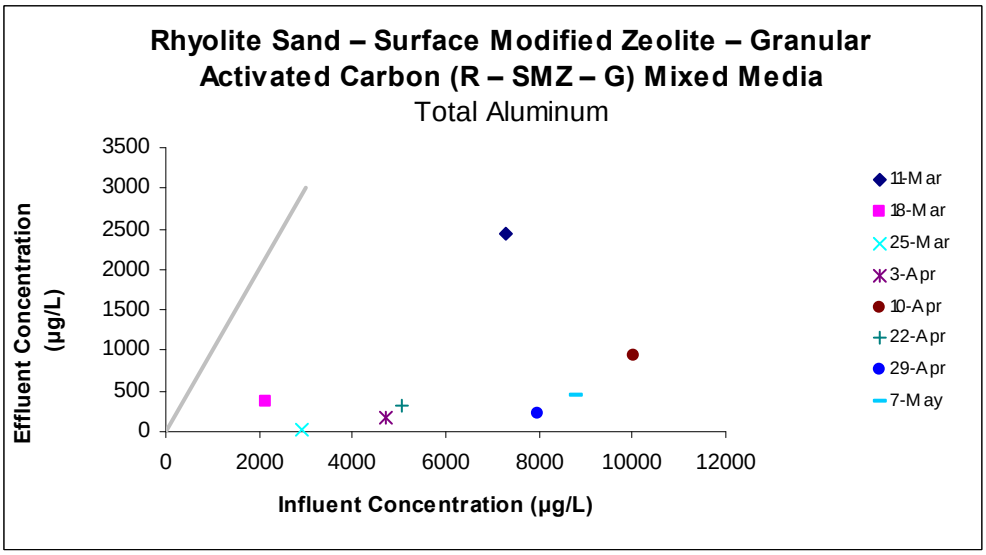
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-24.120	693.258	-0.035	0.973	-1720.462	1672.222	-1720.462	1672.222
X Variable 1	0.104	0.104	1.003	0.354	-0.150	0.359	-0.150	0.359

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	735.158	1698.842
2	200.793	160.207
3	279.487	-243.487
4	469.646	-293.646
5	1023.423	-98.423
6	502.522	-174.522
7	808.947	-589.947
8	892.024	-459.024




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Aluminum
Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Aluminum
Effluent Concentration (µg/L)
3500
3000
2500
2000
1500
1000
500
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Al

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.566
R Square	0.320
Adjusted R Square	0.184
Standard Error	15.983
Observations	7.000

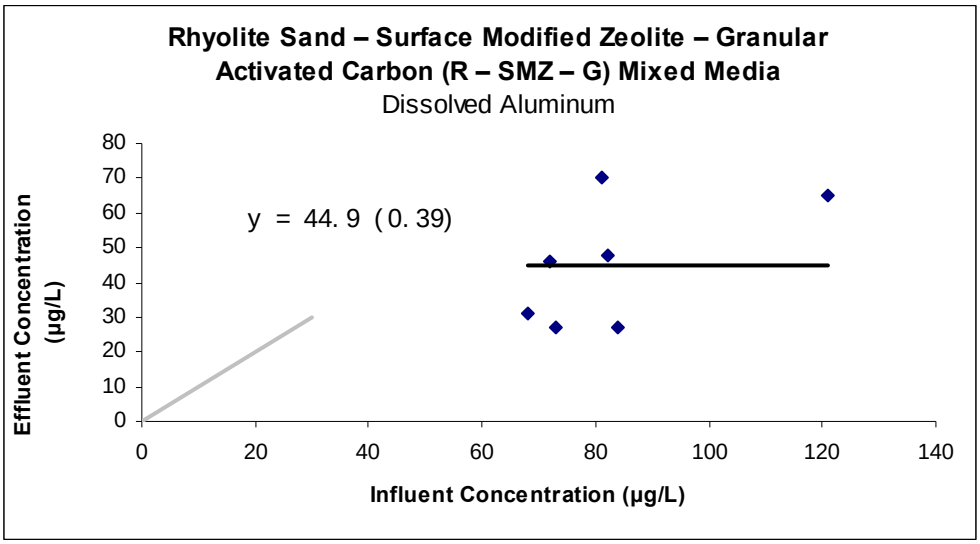
ANOVA

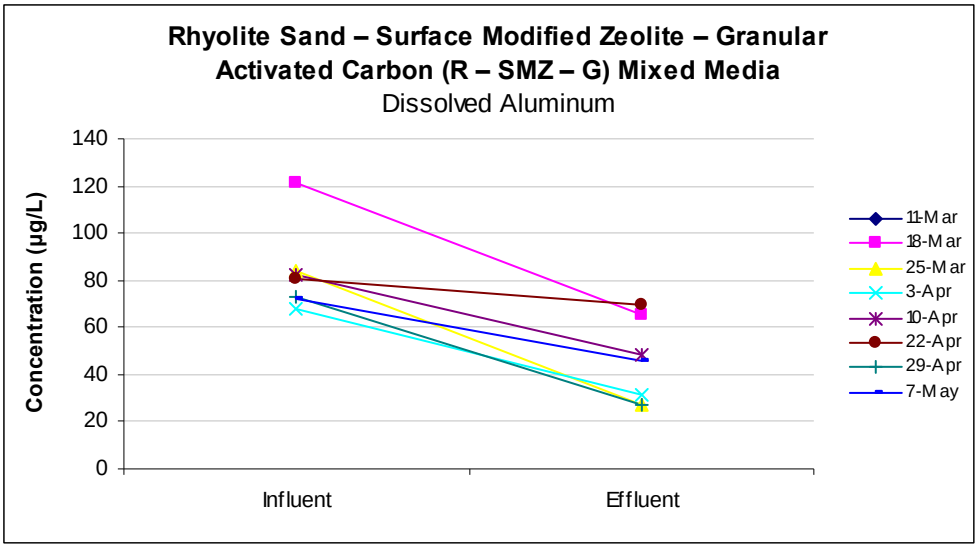
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	601.595	601.595	2.355	0.185
Residual	5.000	1277.262	255.452		
Total	6.000	1878.857			

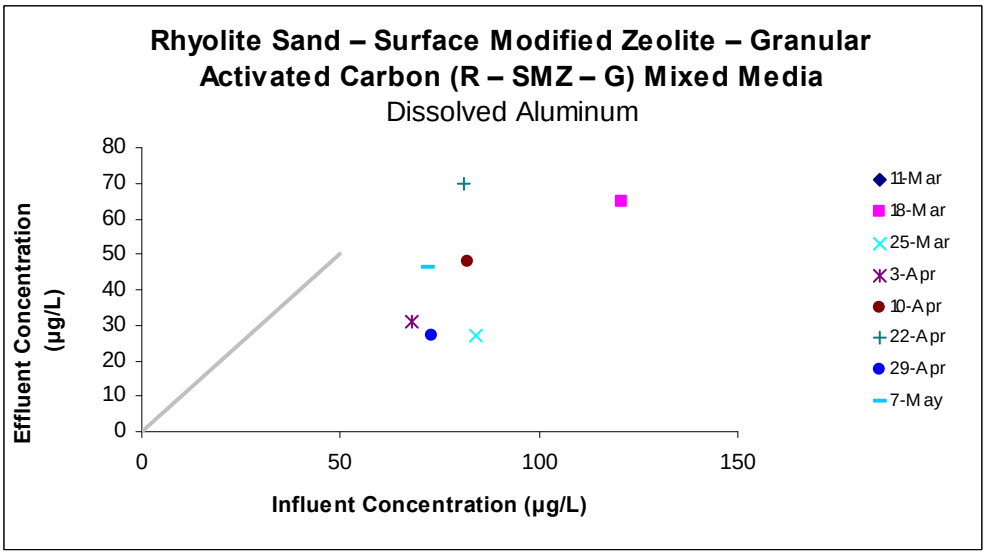
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-1.896	31.059	-0.061	0.954	-81.736	77.944	-81.736	77.944
X Variable 1	0.563	0.367	1.535	0.185	-0.380	1.507	-0.380	1.507

RESIDUAL OUTPUT

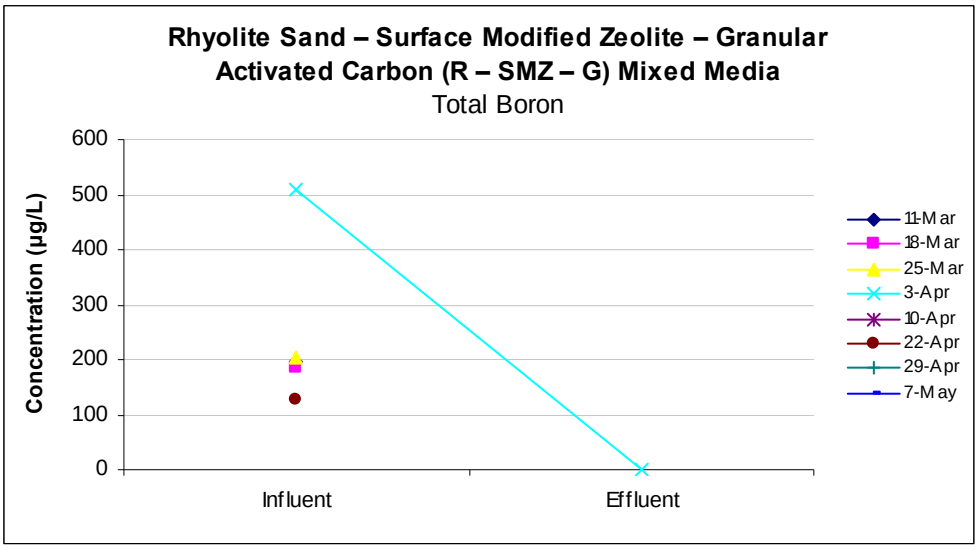
Observation	*Predicted Y*	*Residuals*
1	66.262	-1.262
2	45.420	-18.420
3	36.408	-5.408
4	44.294	3.706
5	43.731	26.269
6	39.224	-12.224
7	38.661	7.339

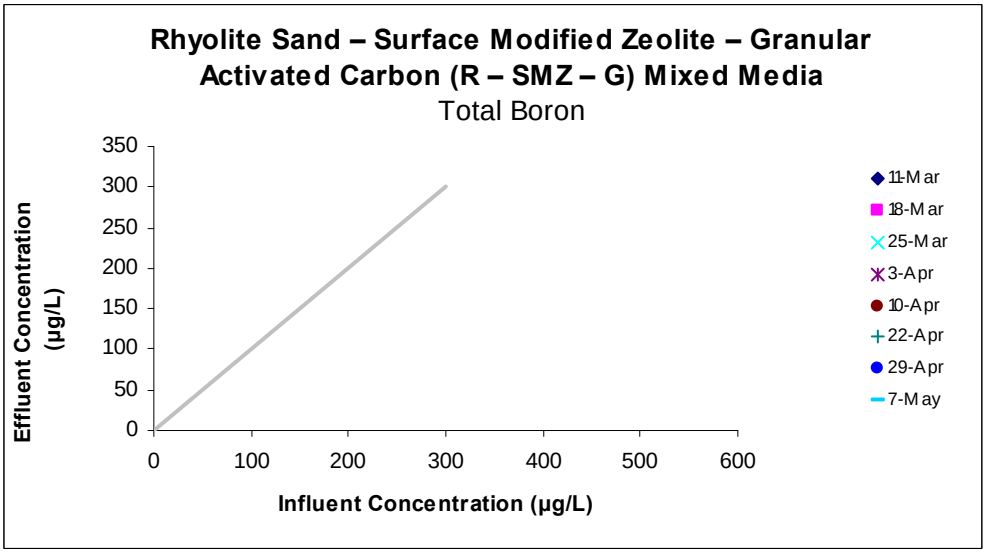



Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Aluminum
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

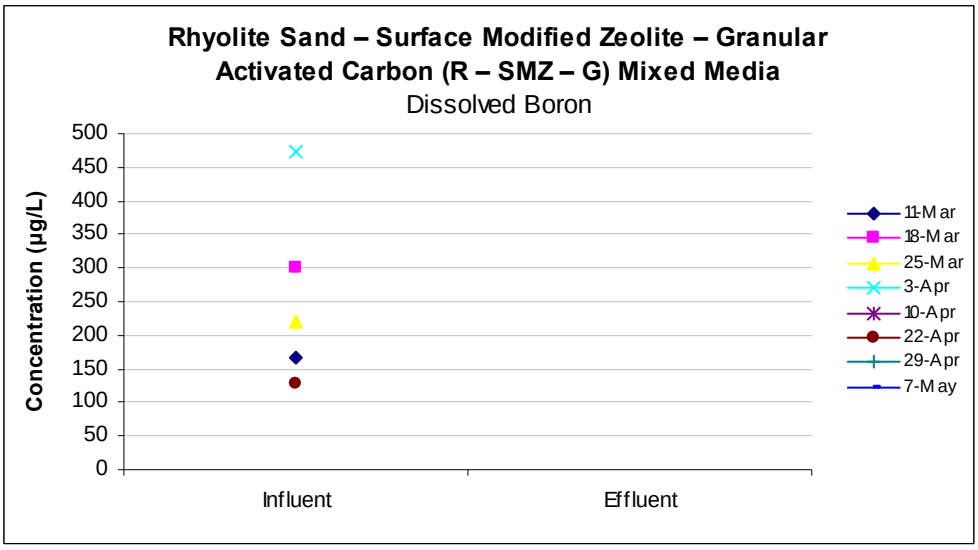

Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Aluminum
Effluent Concentration (µg/L)
80
70
60
50
40
30
20
10
0
0
50
100
150
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

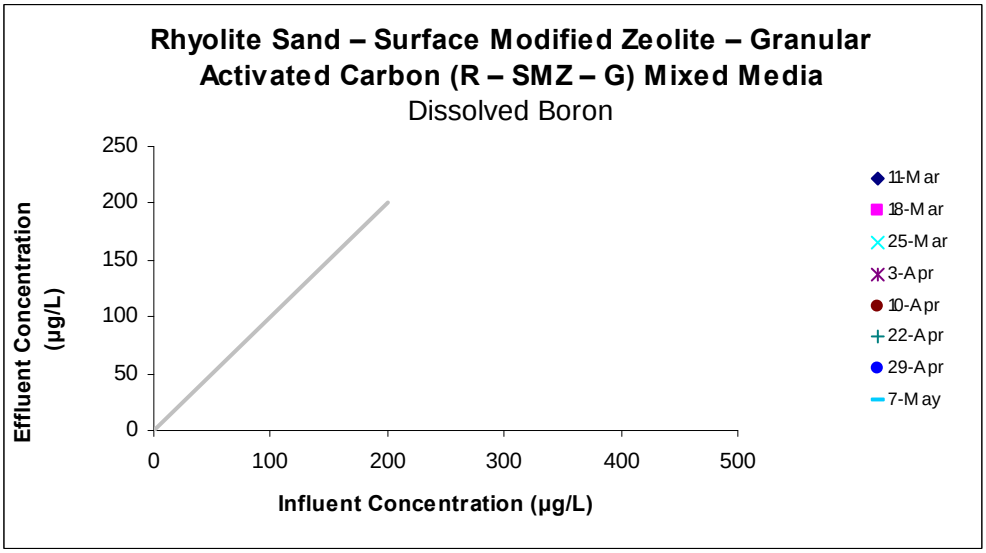
Total B


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Boron
Concentration (µg/L)
600
500
400
300
200
100
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Boron
Effluent Concentration (µg/L)
350
300
250
200
150
100
50
0
0
100
200
300
400
500
600
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved B


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Boron
Concentration (µg/L)
500
450
400
350
300
250
200
150
100
50
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Boron
Effluent Concentration (µg/L)
250
200
150
100
50
0
0
100
200
300
400
500
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Ca

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.578
R Square	0.335
Adjusted R Square	0.224
Standard Error	13495.971
Observations	8.000

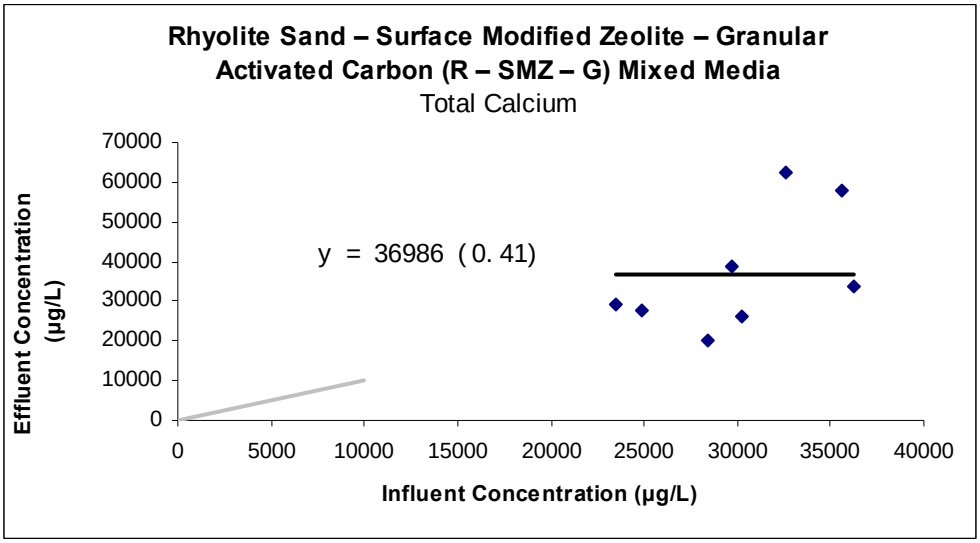
ANOVA

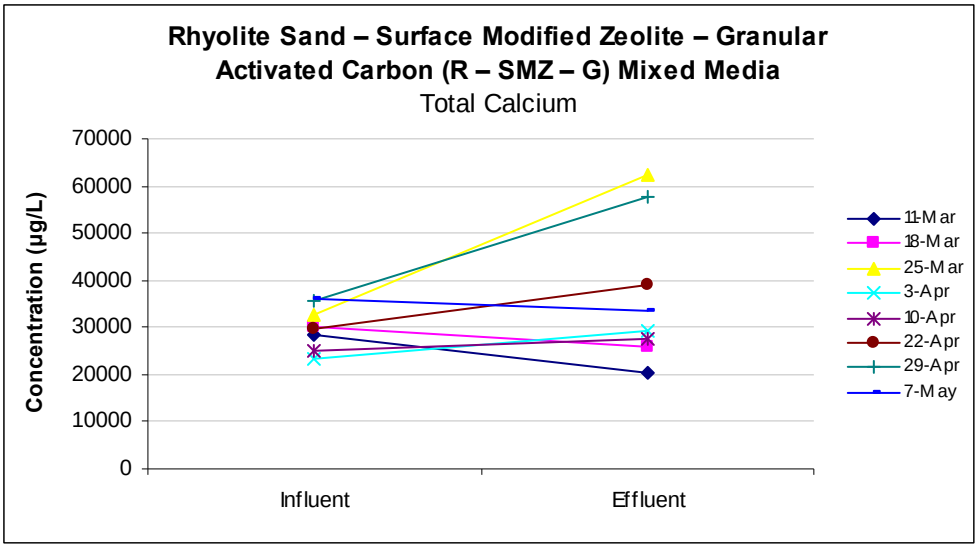
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	549430003.321	549430003.321	3.017	0.133
Residual	6.000	1092847426.554	182141237.759		
Total	7.000	1642277429.875			

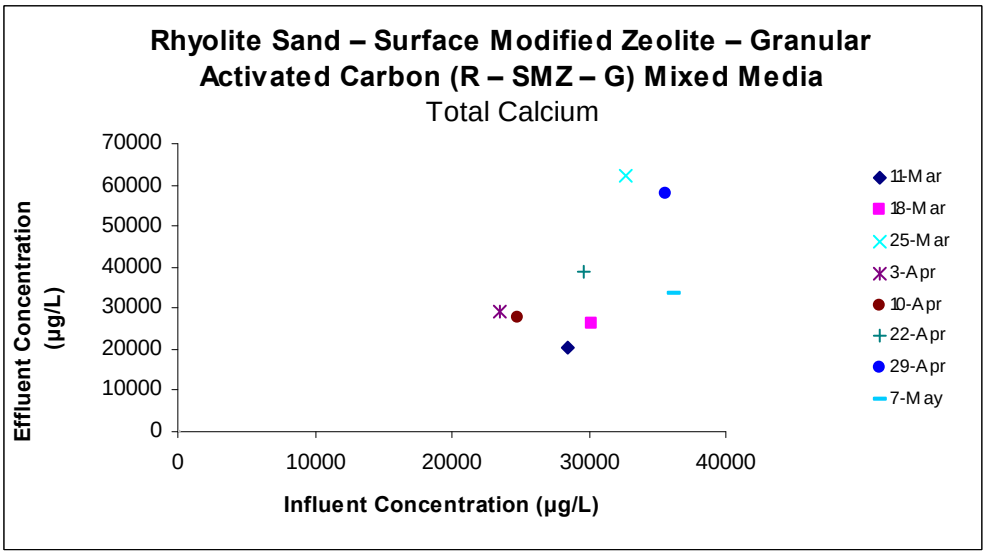
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-20907.981	33673.529	-0.621	0.557	-103304.139	61488.177	-103304.139	61488.177
X Variable 1	1.921	1.106	1.737	0.133	-0.785	4.627	-0.785	4.627

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	33679.230	-13407.230
2	37115.300	-11030.300
3	41778.674	20592.326
4	24191.147	4955.853
5	26851.267	664.733
6	36058.934	2941.066
7	47467.682	10342.318
8	48748.766	-15058.766




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Calcium
Concentration (µg/L)
70000
60000
50000
40000
30000
20000
10000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Calcium
Effluent Concentration (µg/L)
70000
60000
50000
40000
30000
20000
10000
0
0
10000
20000
30000
40000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Ca

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.362
R Square	0.131
Adjusted R Square	-0.014
Standard Error	12811.461
Observations	8.000

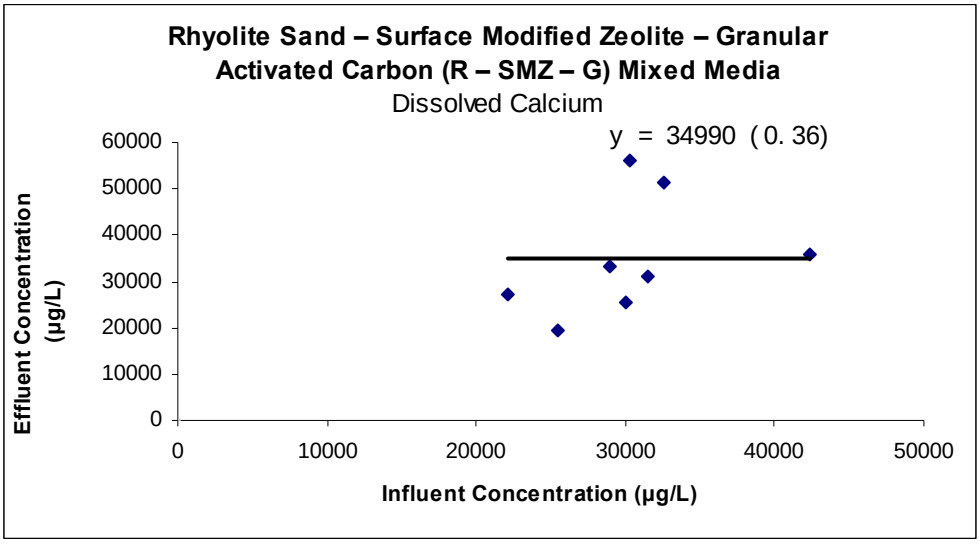
ANOVA

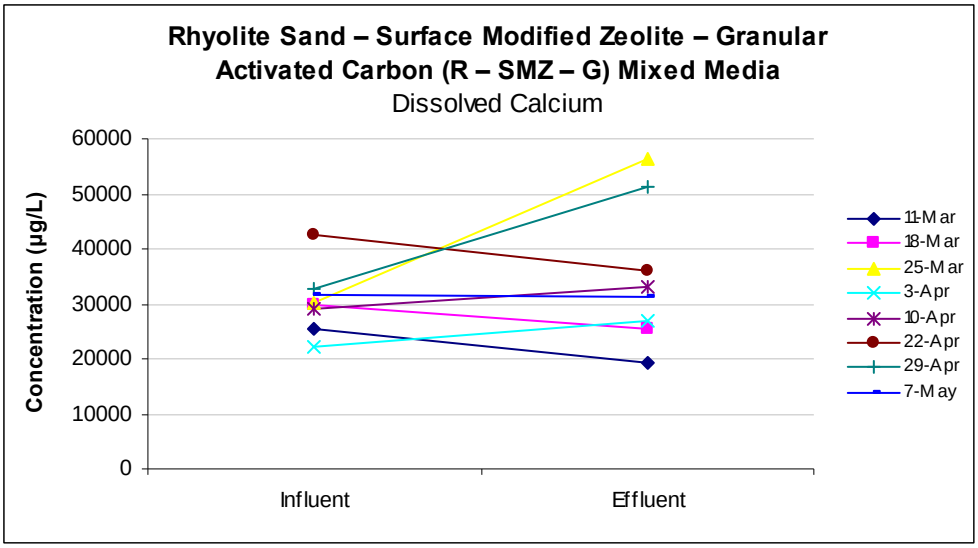
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	148529103.770	148529103.770	0.905	0.378
Residual	6.000	984801258.105	164133543.017		
Total	7.000	1133330361.875			

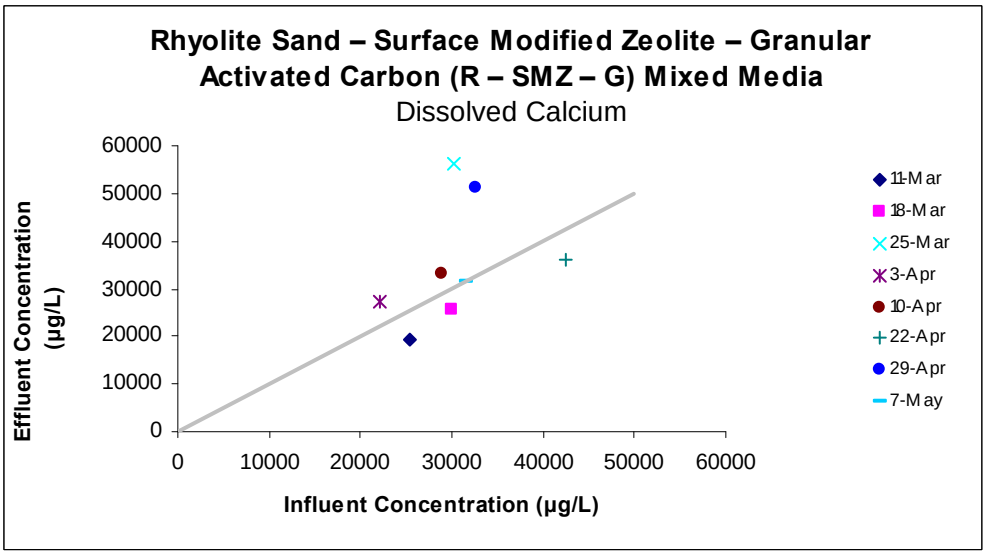
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	11288.793	25323.138	0.446	0.671	-50674.694	73252.280	-50674.694	73252.280
X Variable 1	0.779	0.819	0.951	0.378	-1.225	2.782	-1.225	2.782

RESIDUAL OUTPUT

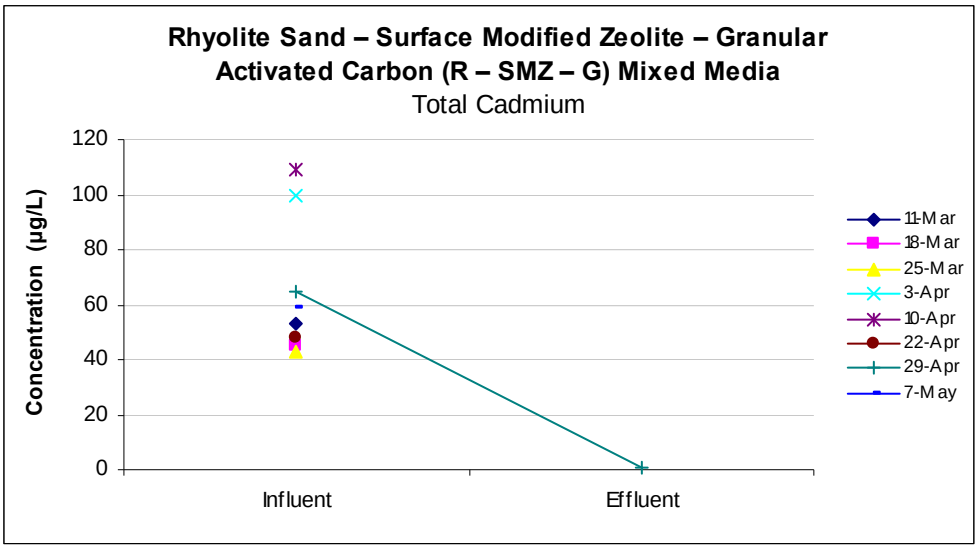
Observation	*Predicted Y*	*Residuals*
1	31151.828	-11885.828
2	34642.912	-9031.912
3	34862.565	21420.435
4	28539.357	-1463.357
5	33853.095	-712.095
6	44322.451	-8282.451
7	36704.692	14525.308
8	35840.100	-4570.100

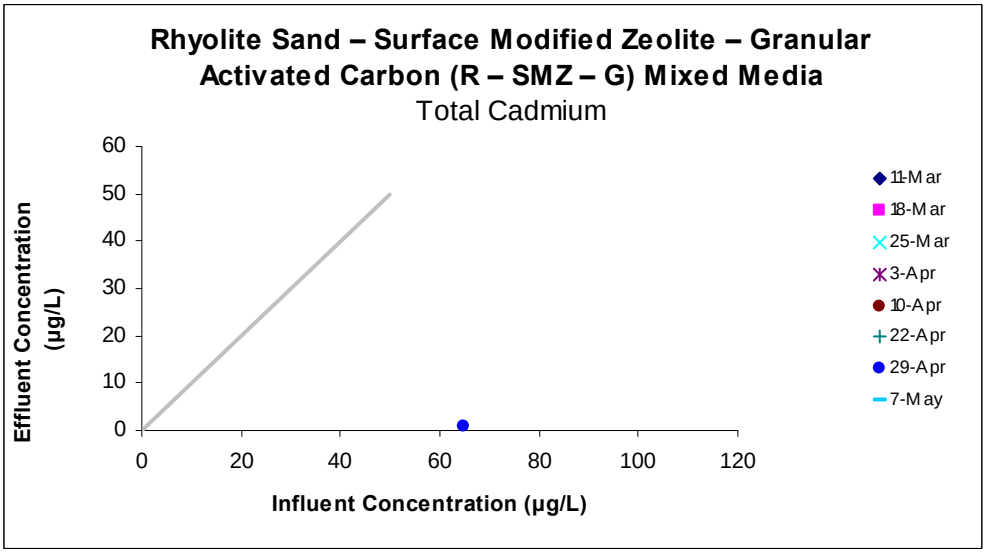



Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Calcium
Concentration (µg/L)
60000
50000
40000
30000
20000
10000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

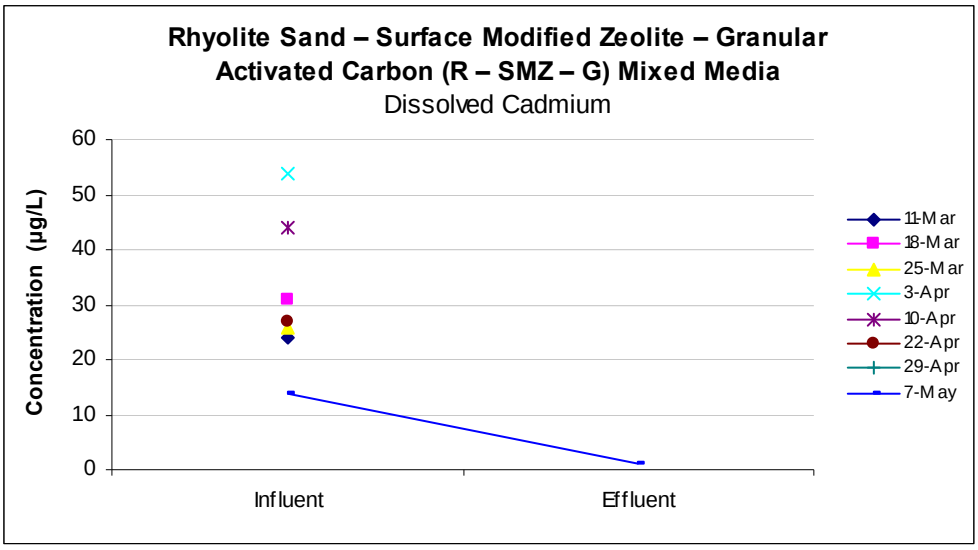

Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Calcium
Effluent Concentration (µg/L)
60000
50000
40000
30000
20000
10000
0
0
10000
20000
30000
40000
50000
60000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

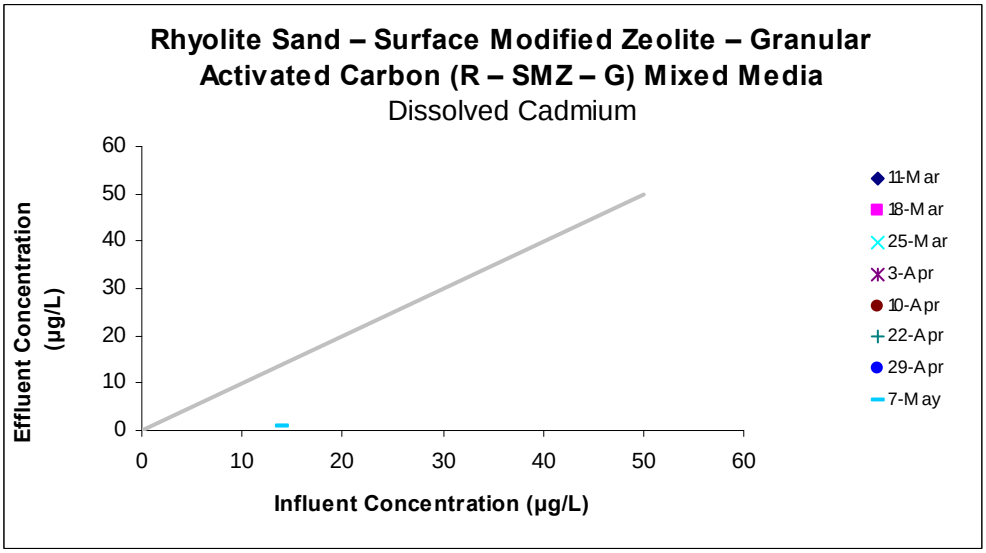
Total Cd


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Cadmium
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Cadmium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cd





Total Cu

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.404
R Square	0.163
Adjusted R Square	-0.116
Standard Error	5.335
Observations	5.000

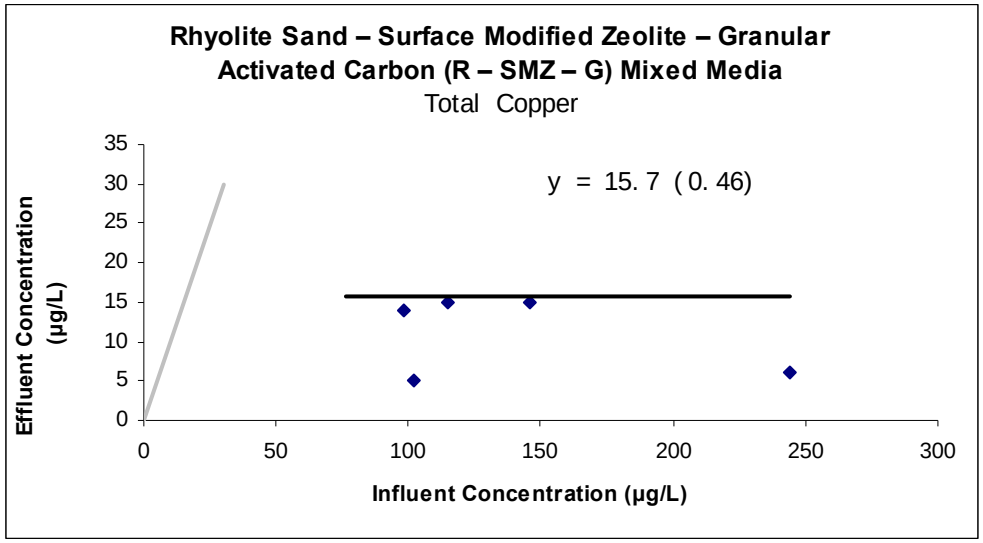
ANOVA

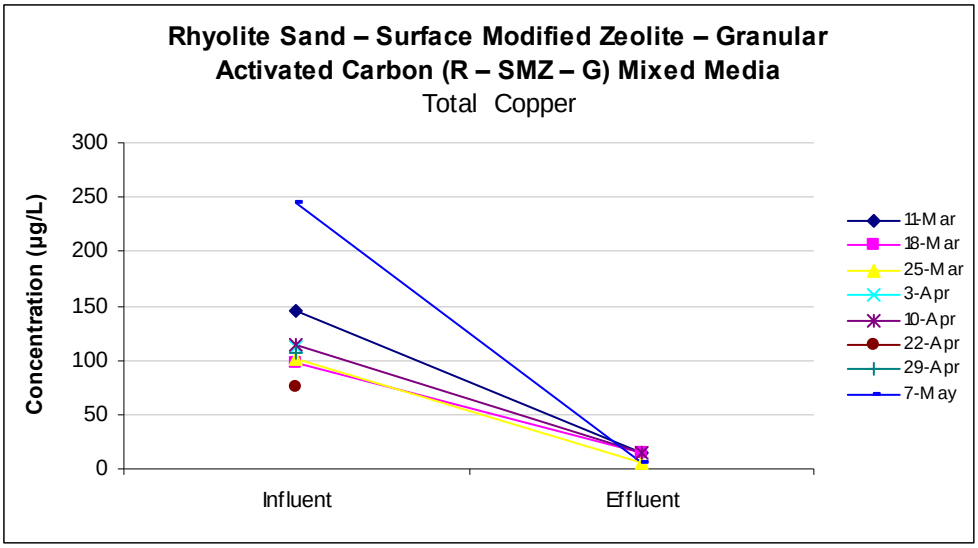
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	16.624	16.624	0.584	0.500
Residual	3.000	85.376	28.459		
Total	4.000	102.000			

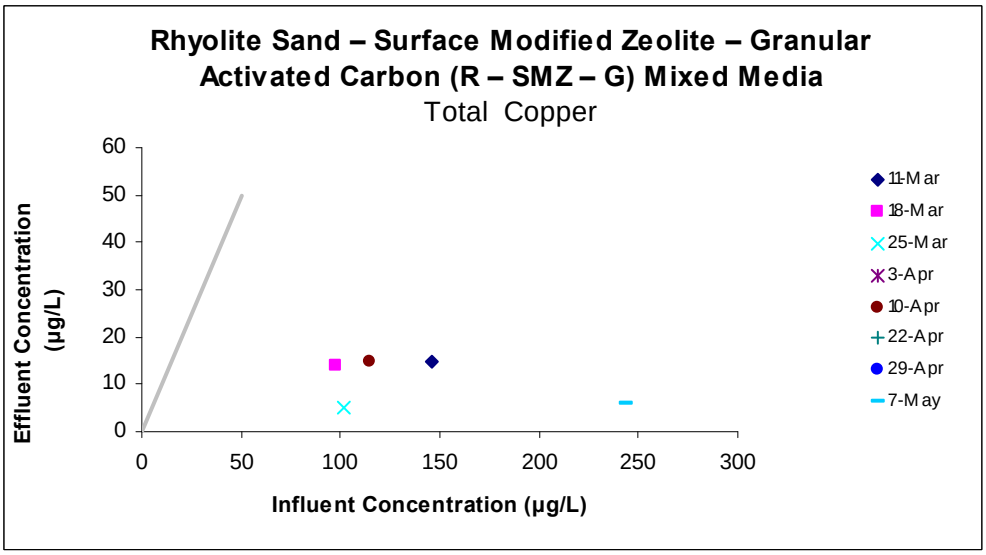
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	15.745	6.651	2.367	0.099	-5.421	36.911	-5.421	36.911
X Variable 1	-0.034	0.044	-0.764	0.500	-0.174	0.106	-0.174	0.106

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	10.832	4.168
2	12.447	1.553
3	12.312	-7.312
4	11.875	3.125
5	7.534	-1.534




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Copper
Concentration (µg/L)
300
250
200
150
100
50
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Copper
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
50
100
150
200
250
300
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cu

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.546
R Square	0.298
Adjusted R Square	0.064
Standard Error	4.980
Observations	5.000

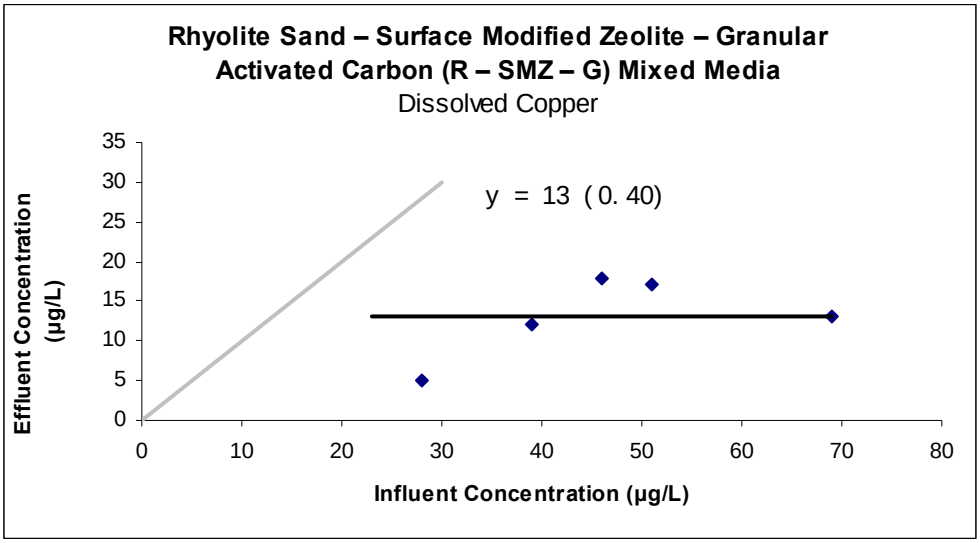
ANOVA

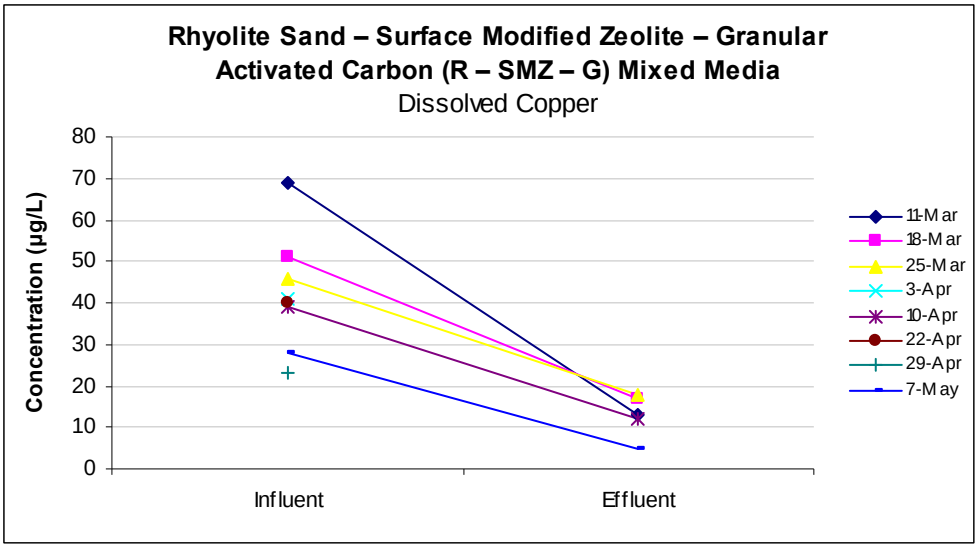
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	31.605	31.605	1.274	0.341
Residual	3.000	74.395	24.798		
Total	4.000	106.000			

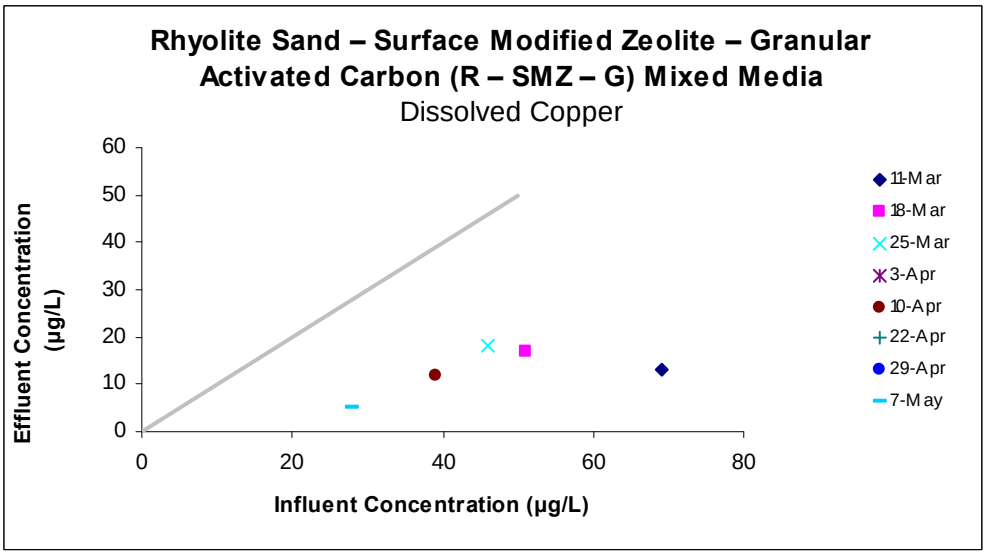
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	4.387	7.948	0.552	0.619	-20.906	29.680	-20.906	29.680
X Variable 1	0.185	0.164	1.129	0.341	-0.336	0.706	-0.336	0.706

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	17.140	-4.140
2	13.813	3.187
3	12.889	5.111
4	11.595	0.405
5	9.562	-4.562




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Copper
Concentration (µg/L)
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Copper
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Fe

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.231
R Square	0.053
Adjusted R Square	-0.104
Standard Error	225.725
Observations	8.000

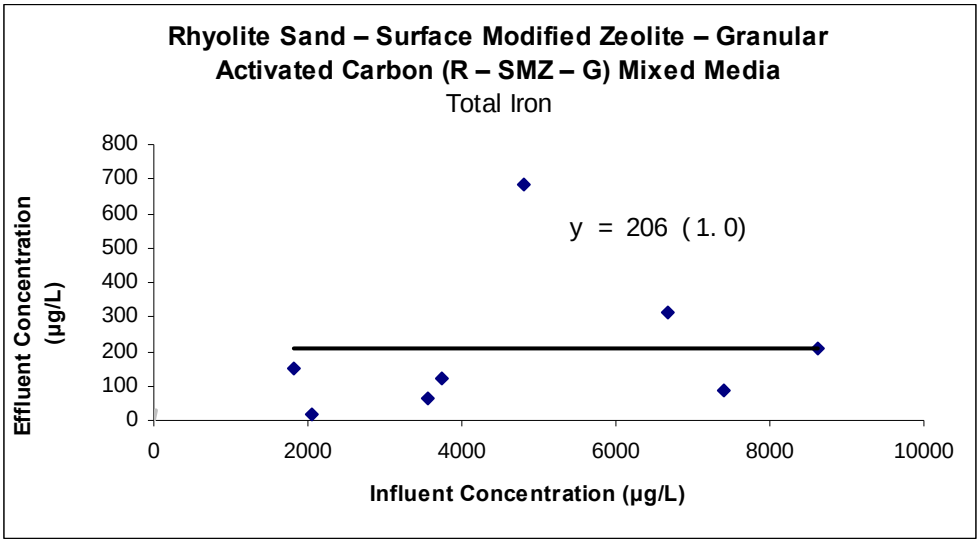
ANOVA

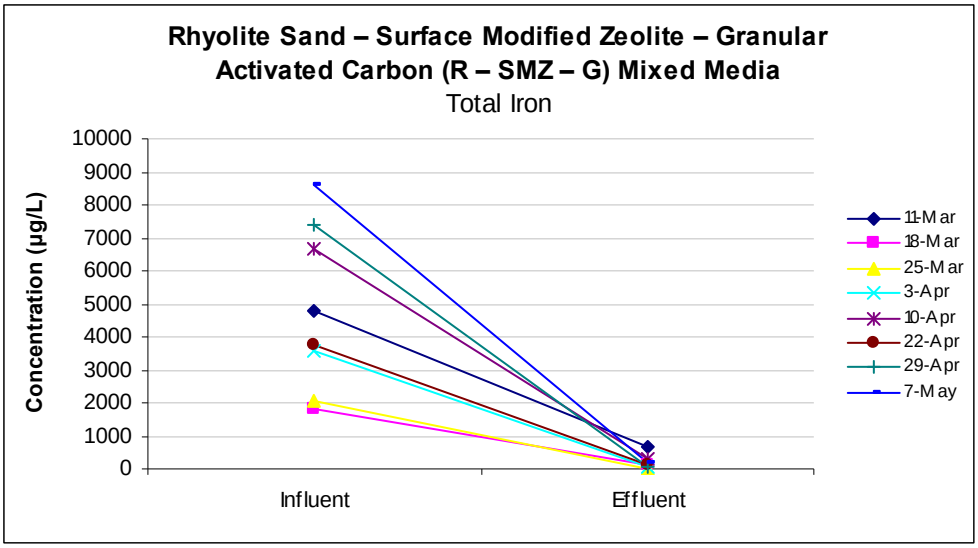
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	17219.938	17219.938	0.338	0.582
Residual	6.000	305711.562	50951.927		
Total	7.000	322931.500			

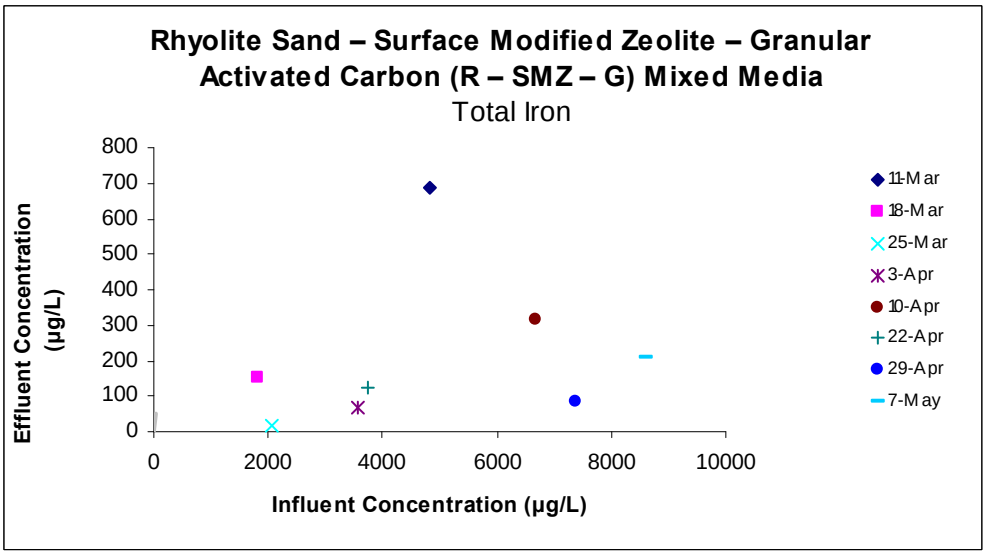
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	110.508	183.007	0.604	0.568	-337.293	558.310	-337.293	558.310
X Variable 1	0.020	0.034	0.581	0.582	-0.064	0.103	-0.064	0.103

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	205.780	480.220
2	146.550	4.450
3	151.065	-136.065
4	180.967	-115.967
5	242.870	71.130
6	184.769	-62.769
7	256.891	-170.891
8	281.109	-70.109




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Iron
Concentration (µg/L)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Iron
Effluent Concentration (µg/L)
800
700
600
500
400
300
200
100
0
0
2000
4000
6000
8000
10000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Fe

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.957
R Square	0.917
Adjusted R Square	0.750
Standard Error	8.222
Observations	7.000

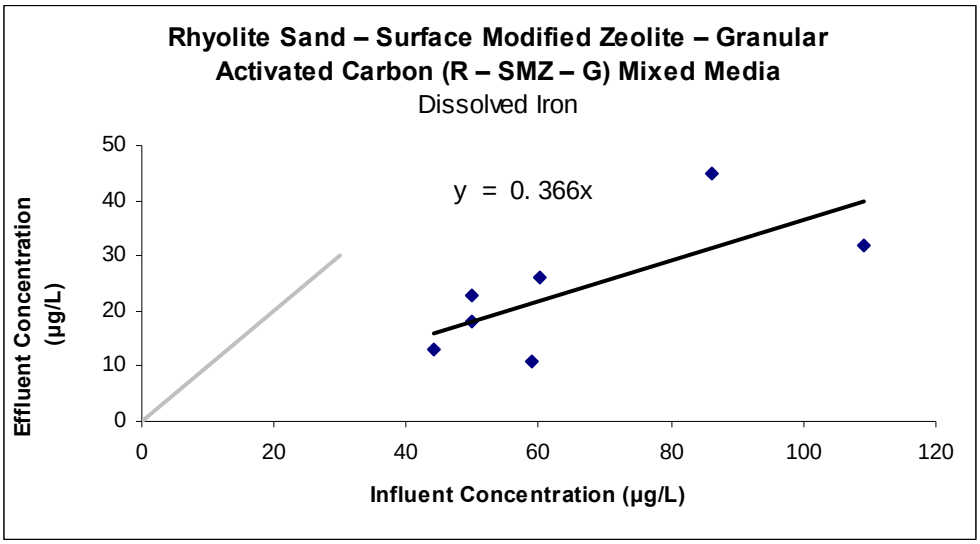
ANOVA

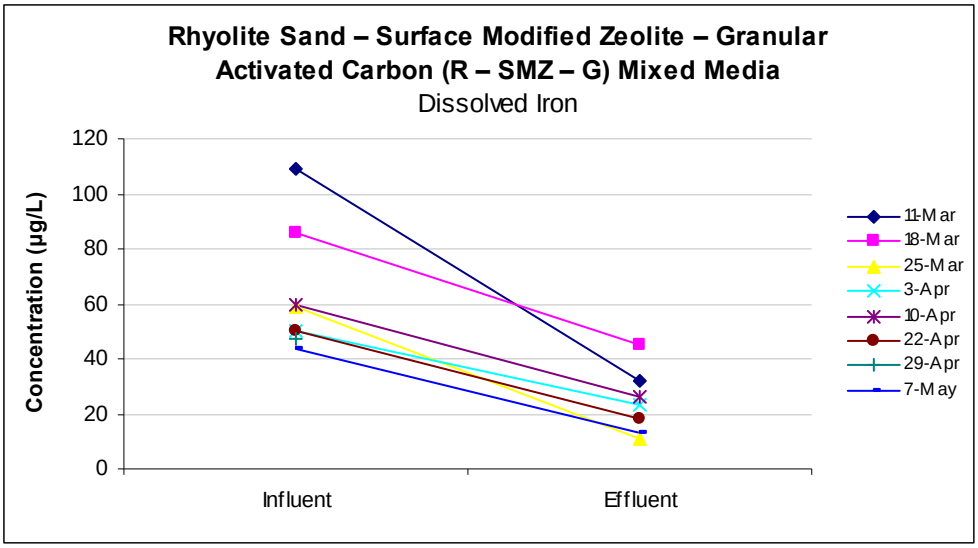
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	4462.417	4462.417	66.015	0.000
Residual	6.000	405.583	67.597		
Total	7.000	4868.000			

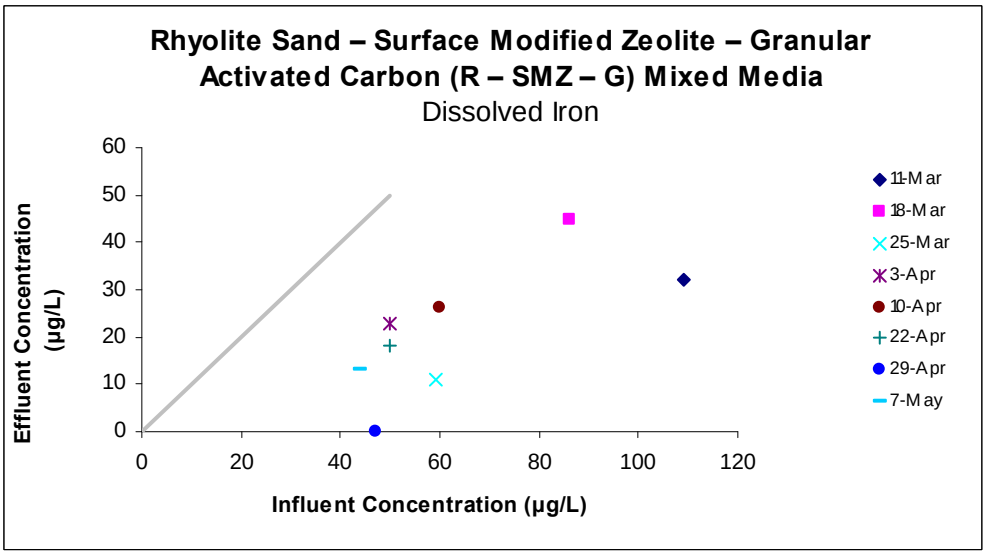
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.366	0.045	8.125	0.000	0.256	0.476	0.256	0.476

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	39.905	-7.905
2	31.485	13.515
3	21.600	-10.600
4	18.305	4.695
5	21.966	4.034
6	18.305	-0.305
7	16.108	-3.108




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Iron
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Iron
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Mg

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.392
R Square	0.154
Adjusted R Square	0.013
Standard Error	1844.014
Observations	8.000

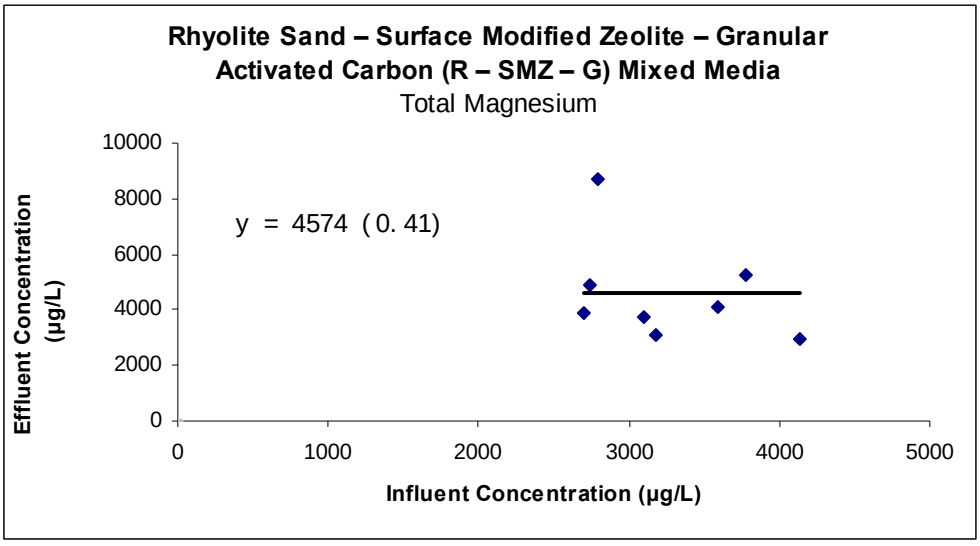
ANOVA

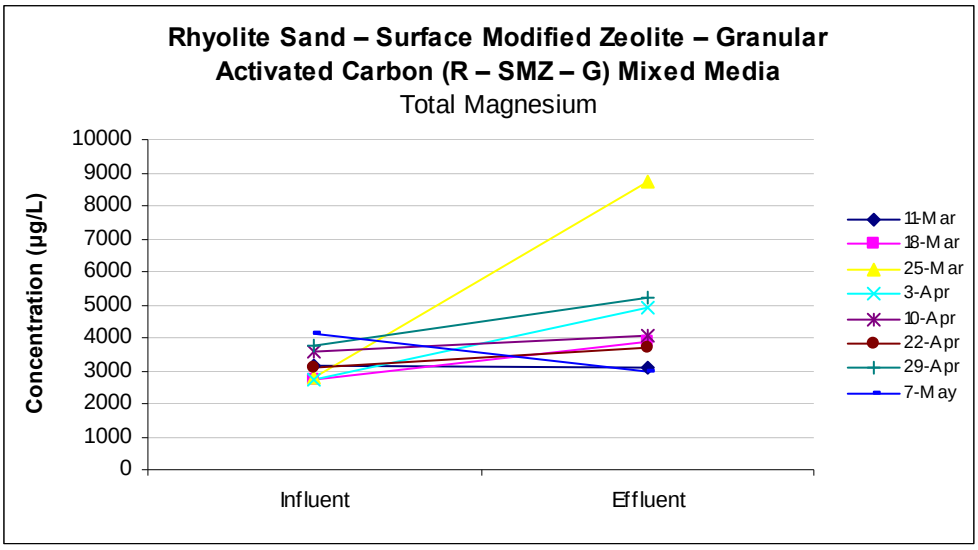
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	3706696.452	3706696.452	1.090	0.337
Residual	6.000	20402317.048	3400386.175		
Total	7.000	24109013.500			

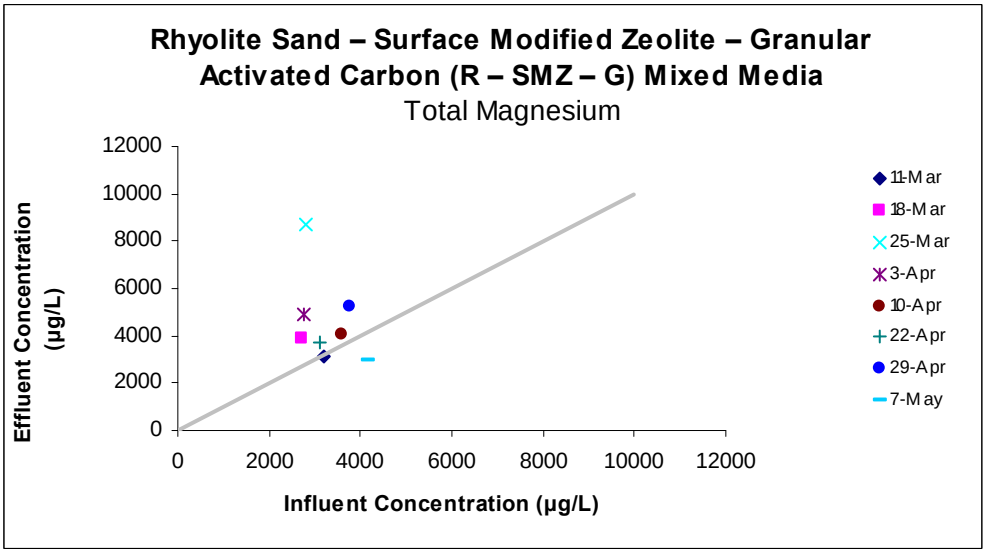
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	9032.669	4319.241	2.091	0.081	-1536.133	19601.472	-1536.133	19601.472
X Variable 1	-1.371	1.313	-1.044	0.337	-4.583	1.842	-4.583	1.842

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	4675.155	-1563.155
2	5324.876	-1463.876
3	5209.735	3530.265
4	5271.418	-381.418
5	4111.790	-27.790
6	4784.813	-1078.813
7	3860.948	1375.052
8	3359.265	-390.265




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Magnesium
Concentration (µg/L)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Magnesium
Effluent Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Mg

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.048
R Square	0.002
Adjusted R Square	-0.164
Standard Error	1795.302
Observations	8.000

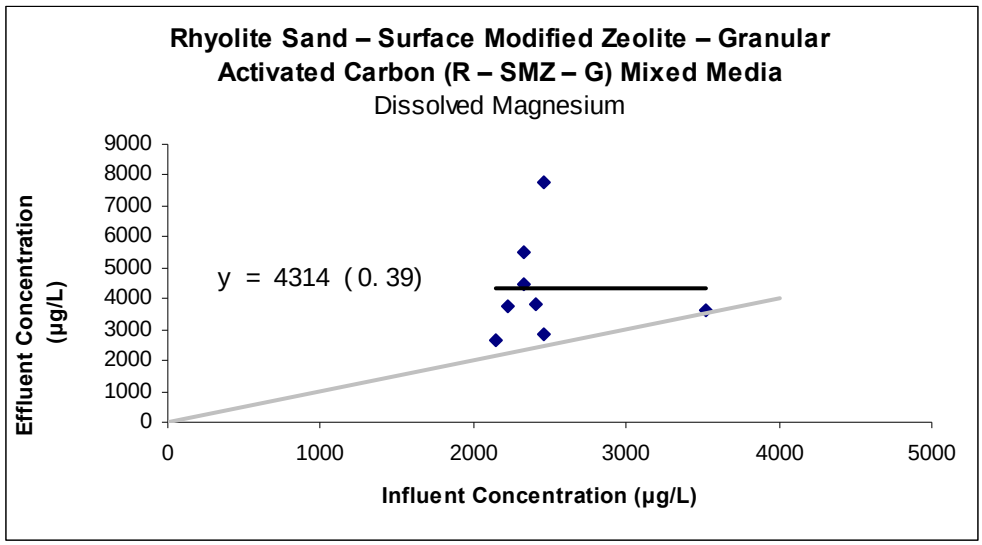
ANOVA

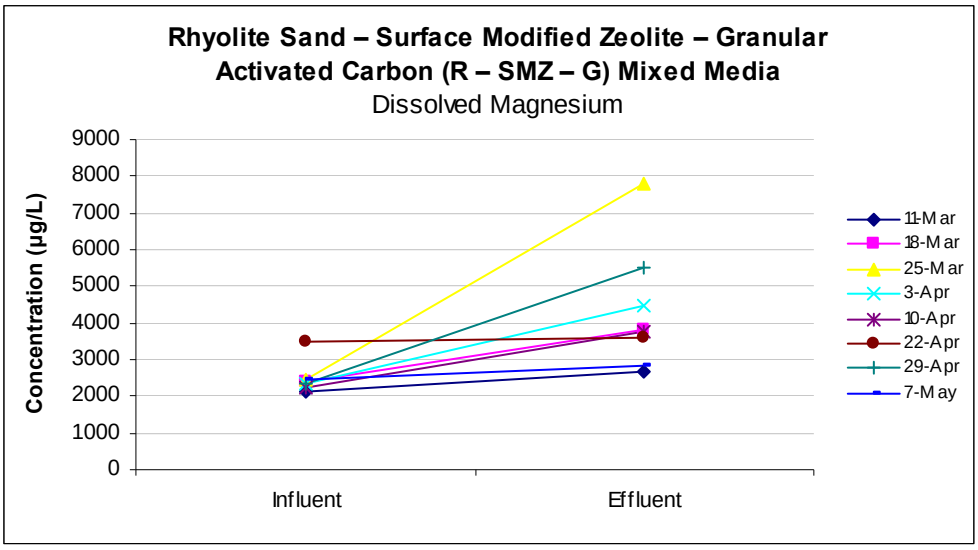
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	45052.407	45052.407	0.014	0.910
Residual	6.000	19338663.093	3223110.515		
Total	7.000	19383715.500			

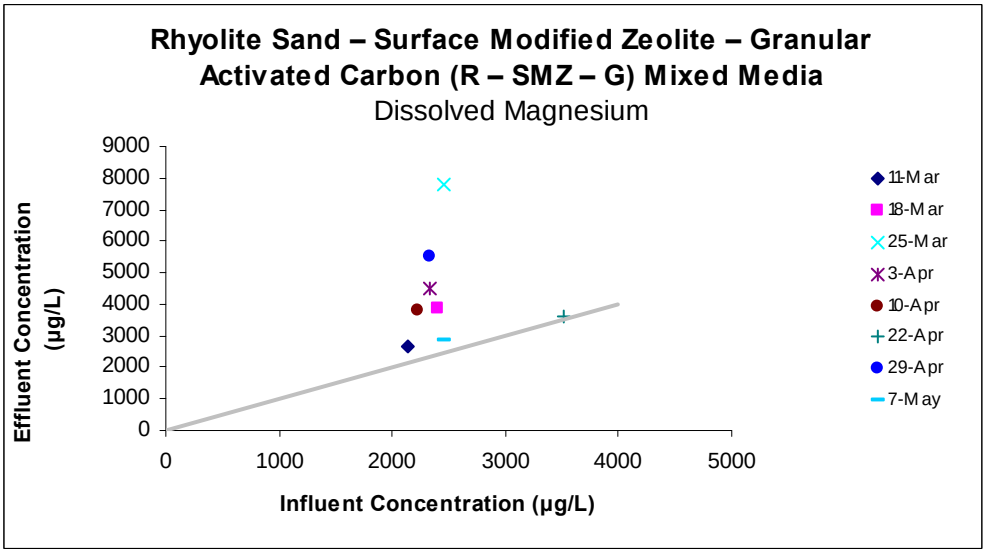
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	4775.467	3952.376	1.208	0.272	-4895.648	14446.582	-4895.648	14446.582
X Variable 1	-0.186	1.571	-0.118	0.910	-4.029	3.658	-4.029	3.658

RESIDUAL OUTPUT

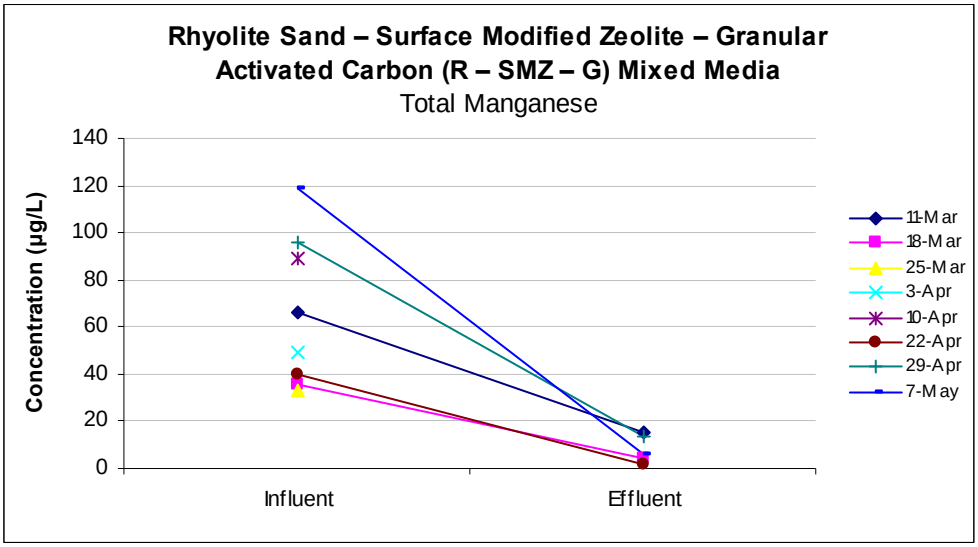
Observation	*Predicted Y*	*Residuals*
1	4377.299	-1716.299
2	4329.014	-493.014
3	4318.057	3459.943
4	4343.314	138.686
5	4363.000	-576.000
6	4122.316	-526.316
7	4341.828	1181.172
8	4319.171	-1468.171

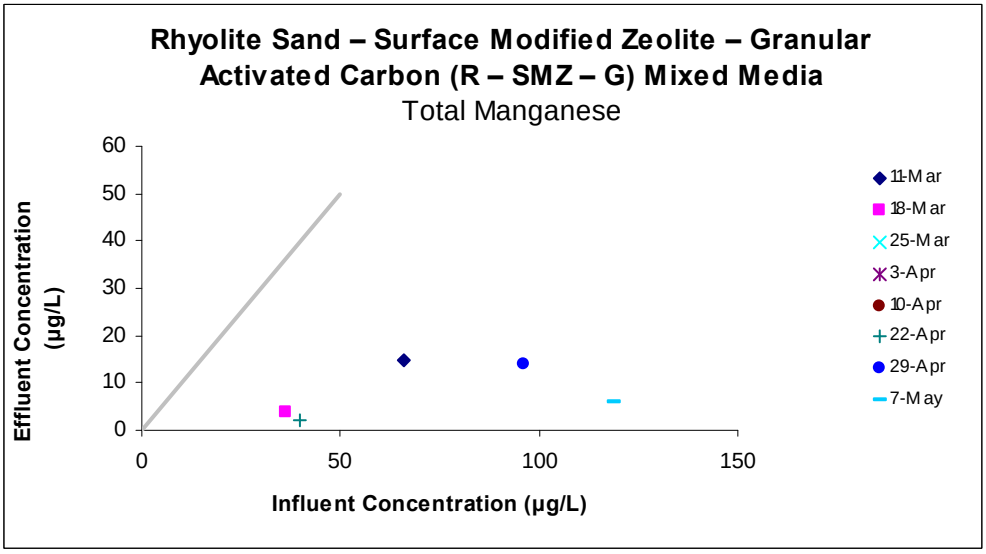



Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Magnesium
Concentration (µg/L)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

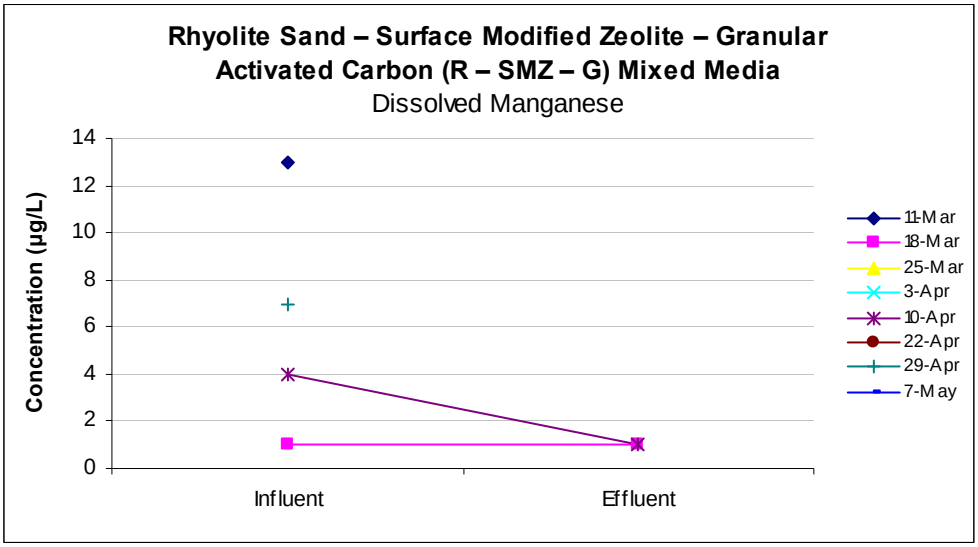

Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Magnesium
Effluent Concentration (µg/L)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
0
1000
2000
3000
4000
5000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

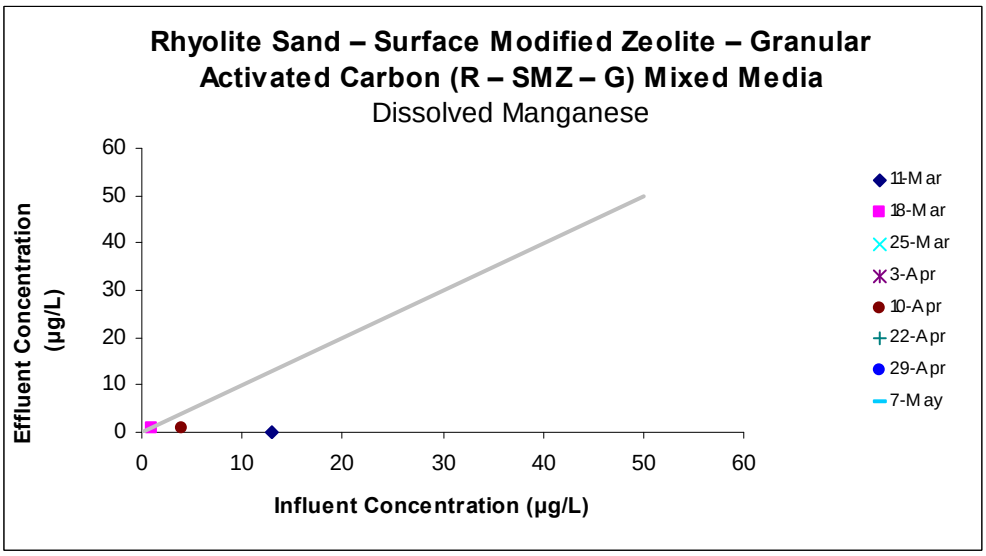
Total Mn


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Manganese
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

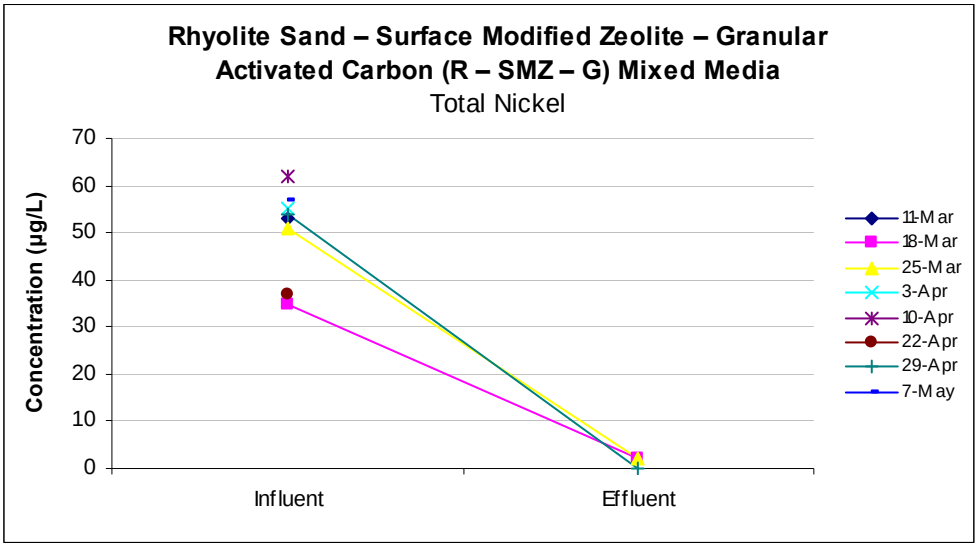

Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Manganese
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
50
100
150
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

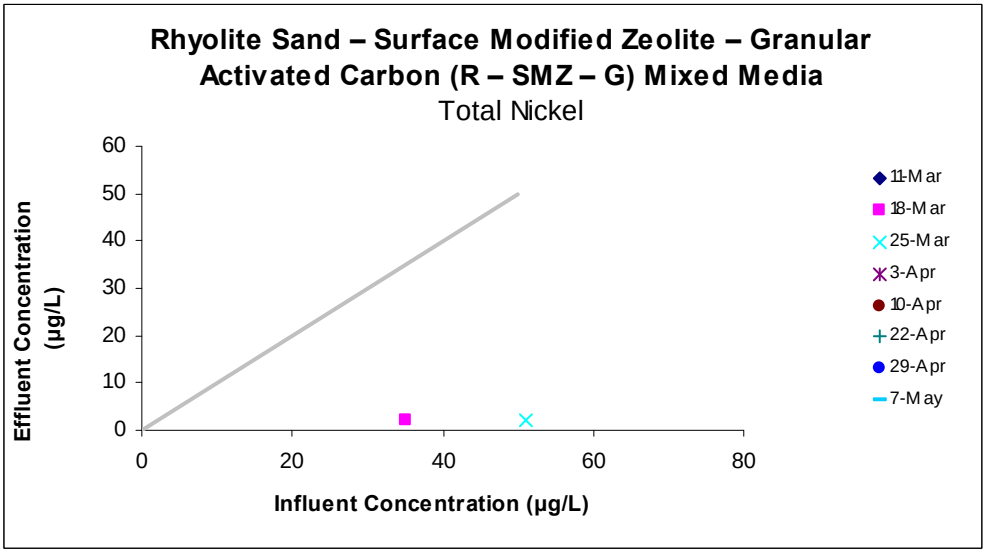
Dissolved Mn



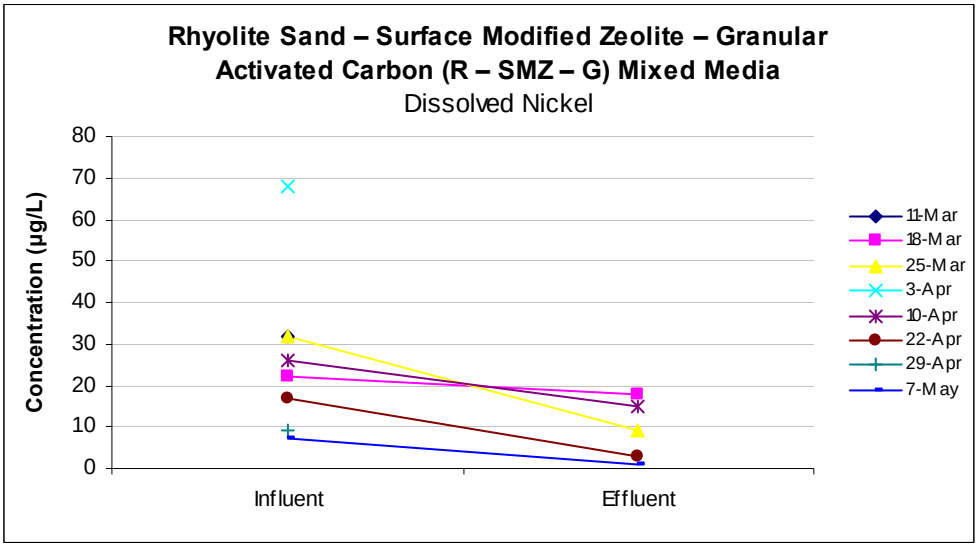


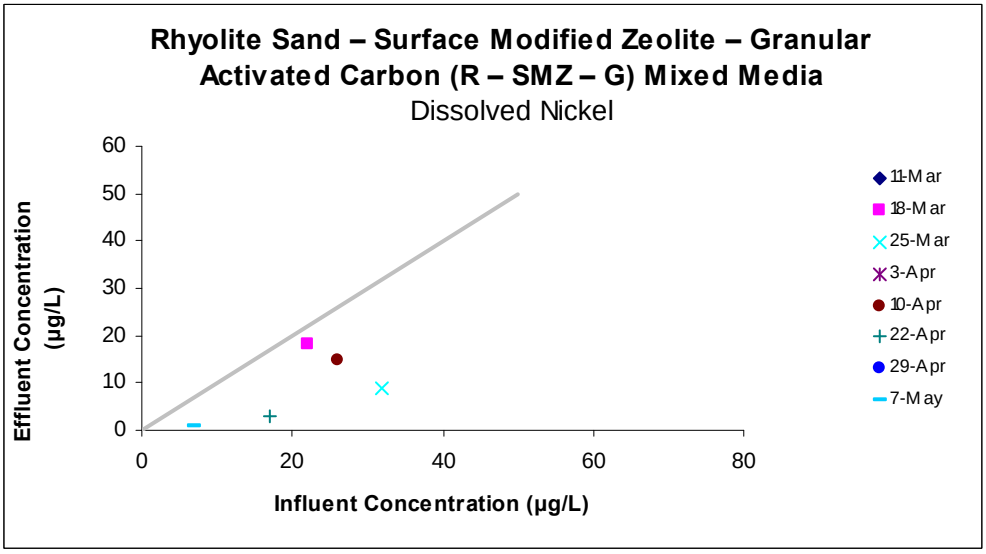
Total Ni


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Nickel
Concentration (µg/L)
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

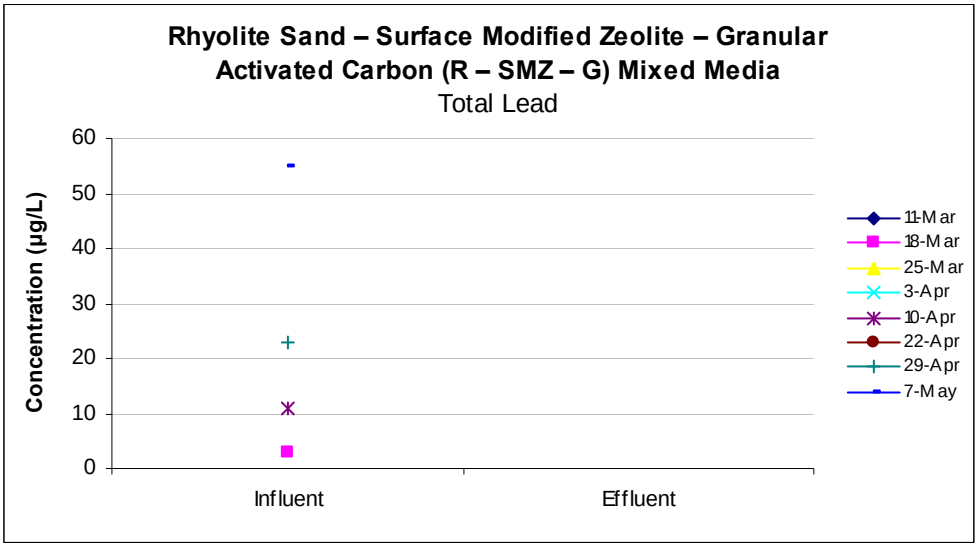

Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Nickel
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

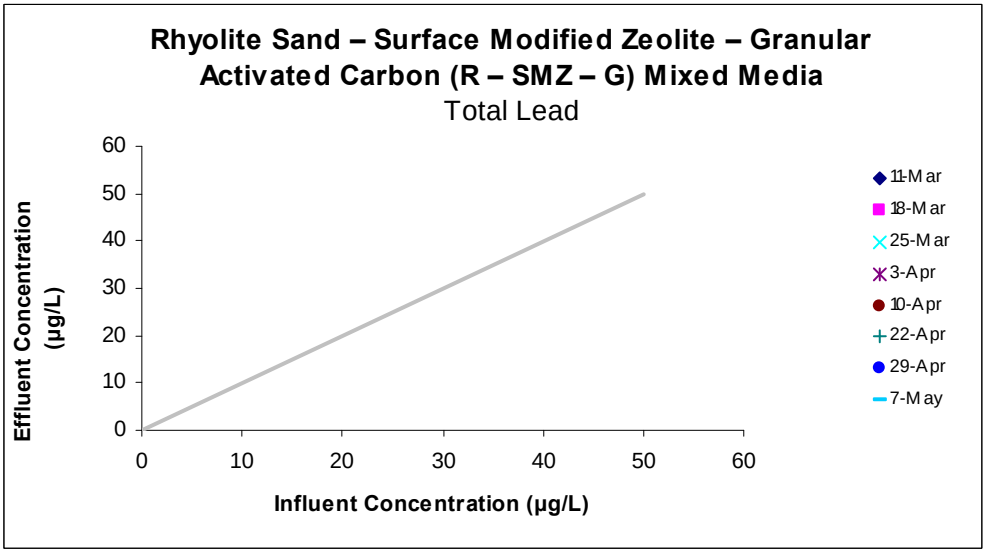
Dissolved Ni



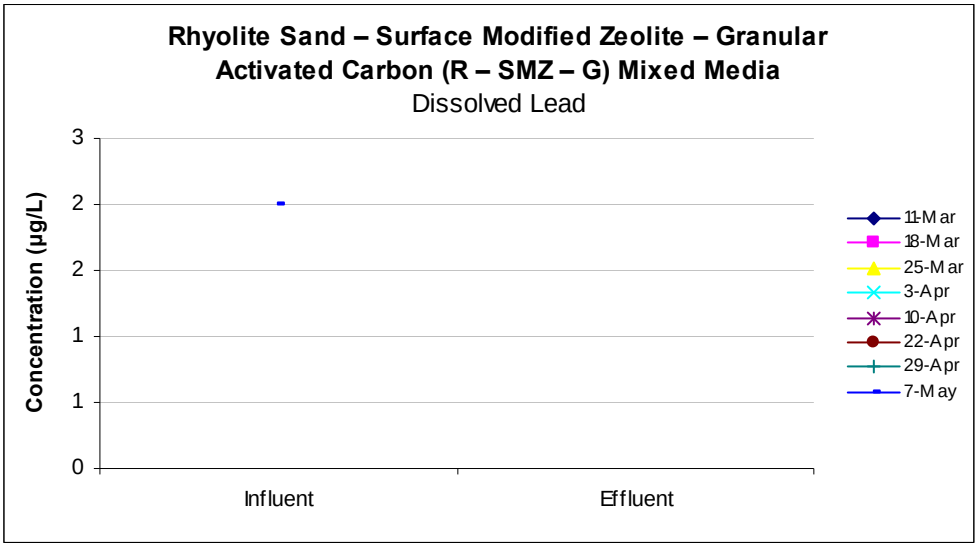


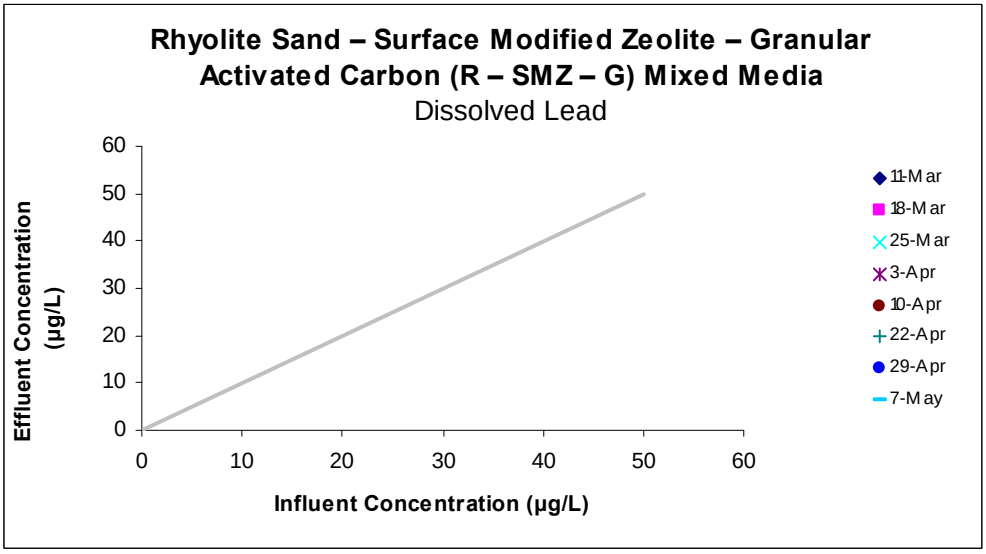
Total Pb


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Lead
Concentration (µg/L)
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Lead
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Pb





Total Zn

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.371
R Square	0.138
Adjusted R Square	-0.006
Standard Error	14.878
Observations	8.000

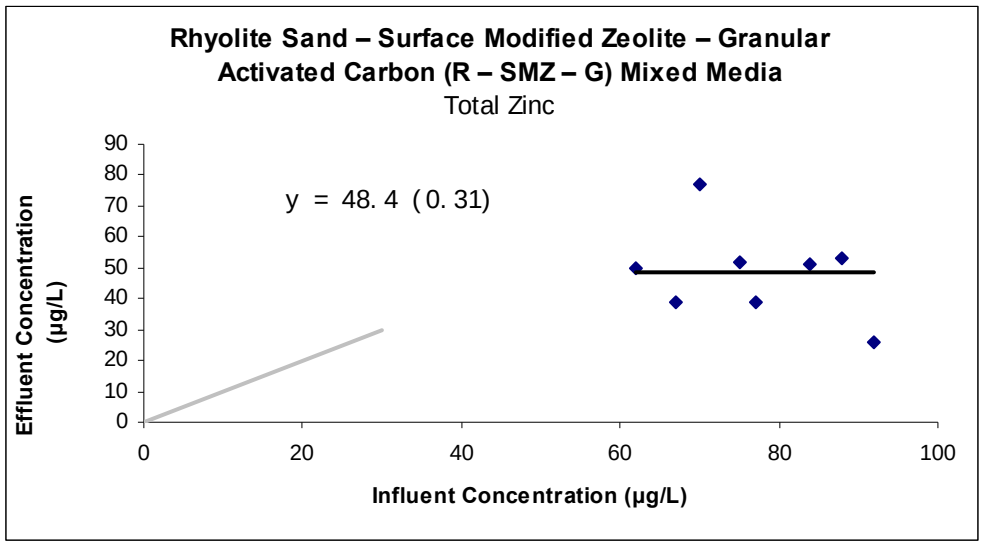
ANOVA

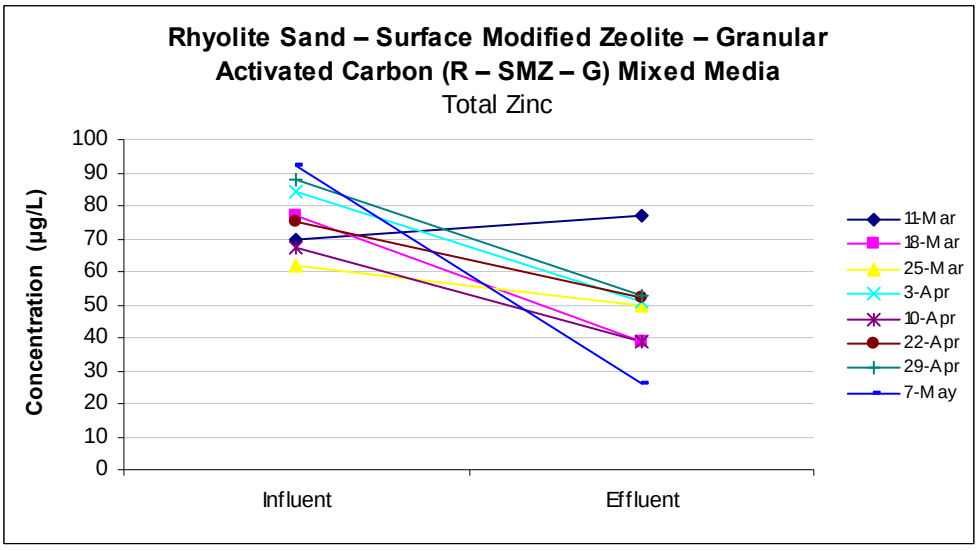
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	211.834	211.834	0.957	0.366
Residual	6.000	1328.041	221.340		
Total	7.000	1539.875			

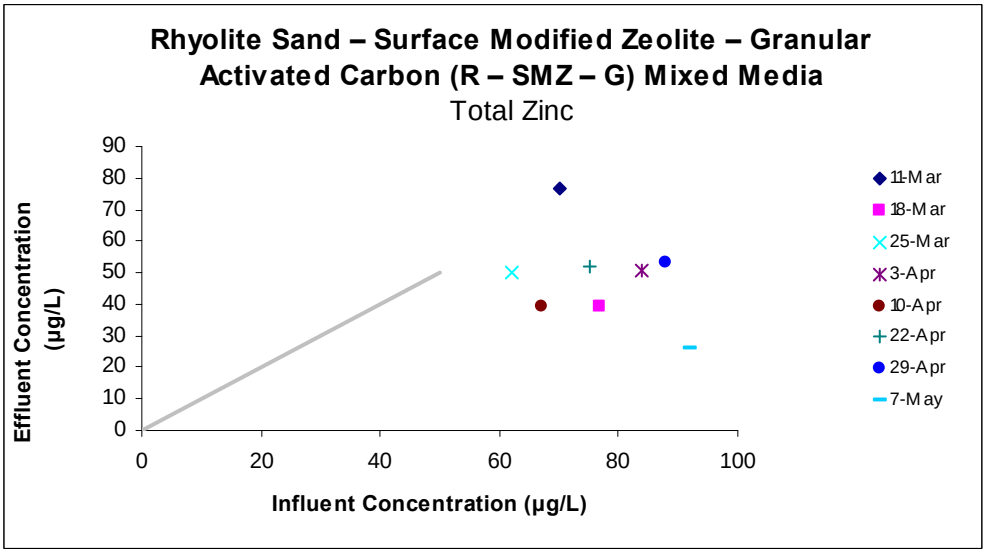
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	88.622	41.475	2.137	0.076	-12.863	190.106	-12.863	190.106
X Variable 1	-0.524	0.535	-0.978	0.366	-1.833	0.786	-1.833	0.786

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	51.974	25.026
2	48.310	-9.310
3	56.163	-6.163
4	44.645	6.355
5	53.545	-14.545
6	49.357	2.643
7	42.551	10.449
8	40.457	-14.457




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Zinc
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Zinc
Effluent Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Zn

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.659
R Square	0.435
Adjusted R Square	0.341
Standard Error	8.669
Observations	8.000

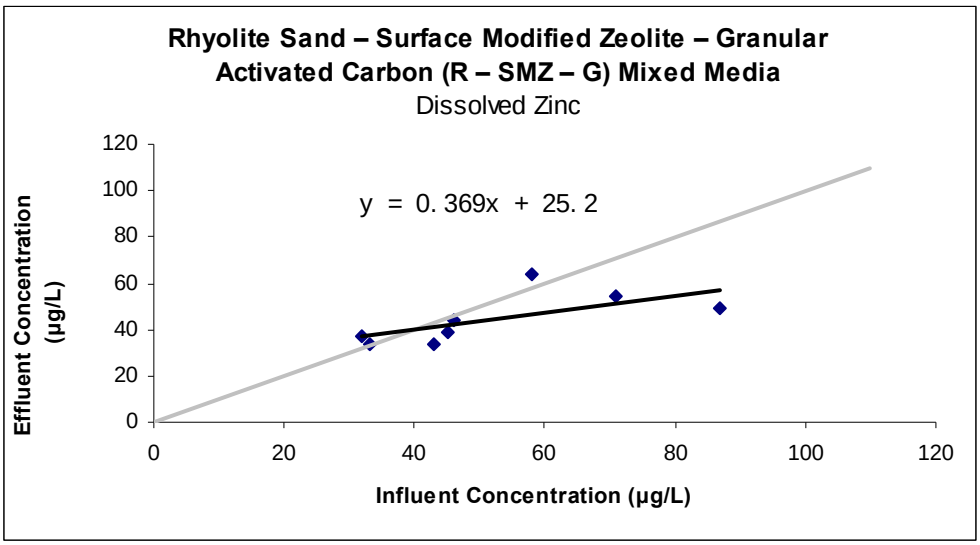
ANOVA

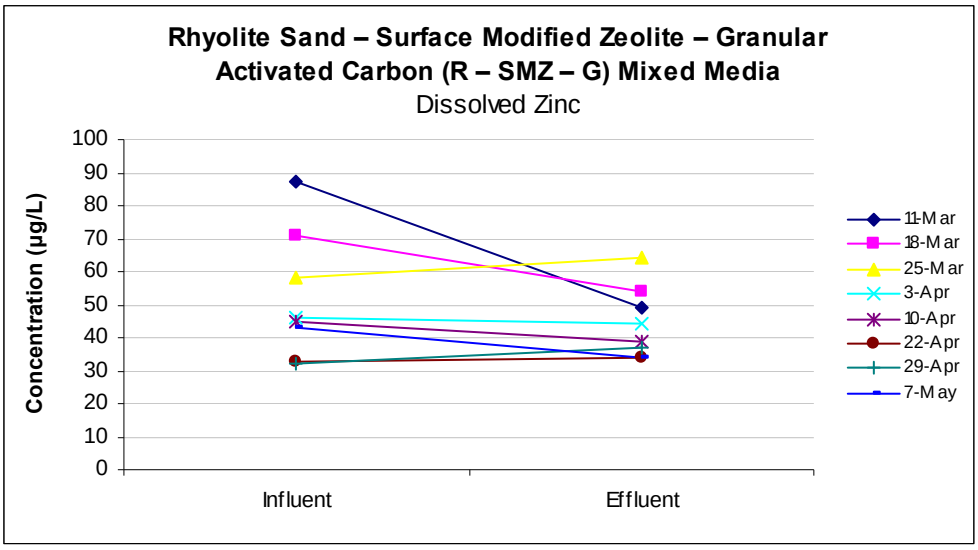
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	346.939	346.939	4.616	0.075
Residual	6.000	450.936	75.156		
Total	7.000	797.875			

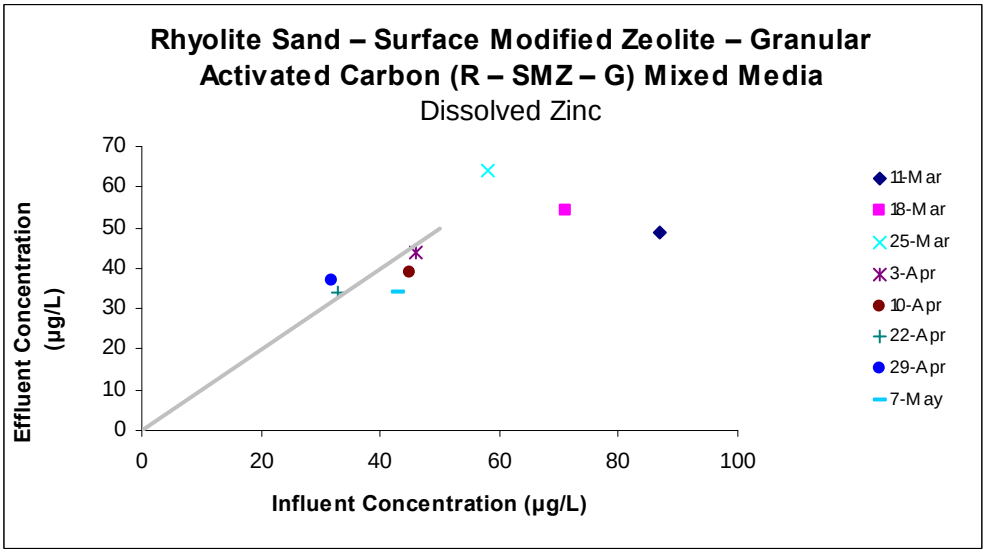
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	25.236	9.420	2.679	0.037	2.186	48.287	2.186	48.287
X Variable 1	0.369	0.172	2.149	0.075	-0.051	0.789	-0.051	0.789

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	57.334	-8.334
2	51.431	2.569
3	46.635	17.365
4	42.207	1.793
5	41.839	-2.839
6	37.411	-3.411
7	37.042	-0.042
8	41.101	-7.101




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Zinc
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Zinc
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total K

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.316
R Square	0.100
Adjusted R Square	-0.050
Standard Error	2117.440
Observations	8.000

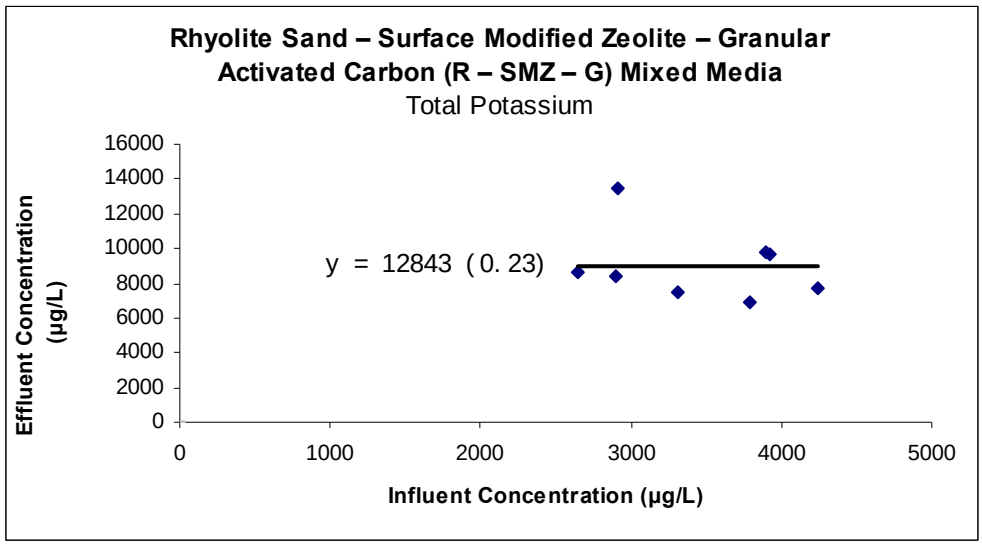
ANOVA

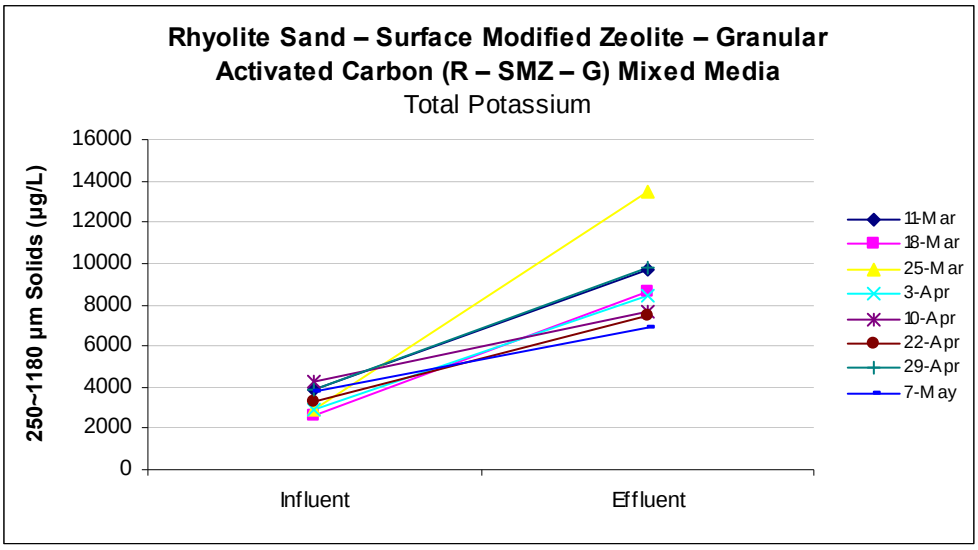
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	2983922.722	2983922.722	0.666	0.446
Residual	6.000	26901316.153	4483552.692		
Total	7.000	29885238.875			

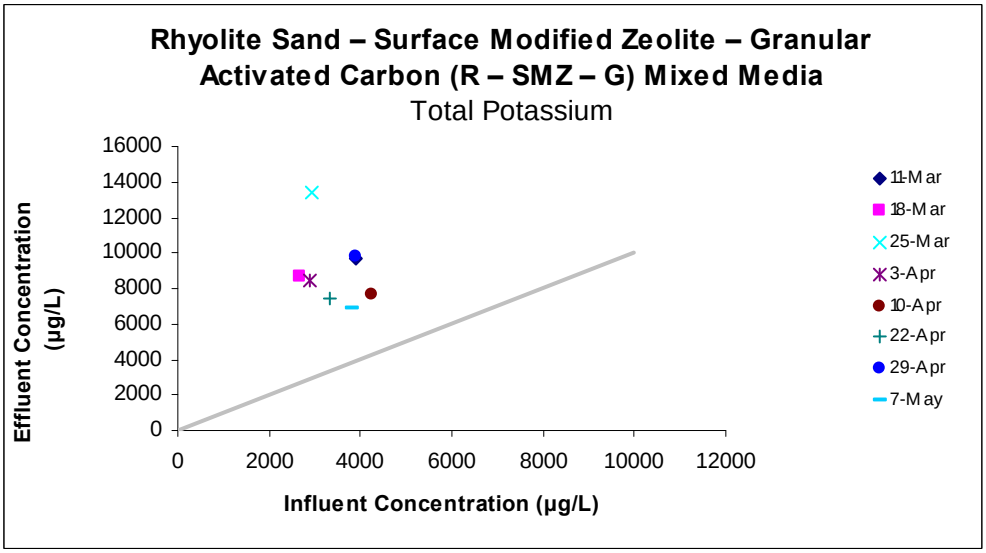
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	12842.528	4776.683	2.689	0.036	1154.405	24530.650	1154.405	24530.650
X Variable 1	-1.114	1.366	-0.816	0.446	-4.457	2.228	-4.457	2.228

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	8475.270	1177.730
2	9888.305	-1261.305
3	9592.994	3851.006
4	9609.710	-1159.710
5	8118.668	-435.668
6	9149.470	-1693.470
7	8498.672	1273.328
8	8617.911	-1751.911




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Potassium
250–1180 µm Solids (µg/L)
16000
14000
12000
10000
8000
6000
4000
2000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Potassium
Effluent Concentration (µg/L)
16000
14000
12000
10000
8000
6000
4000
2000
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved K

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.003
R Square	0.000
Adjusted R Square	-0.167
Standard Error	1993.611
Observations	8.000

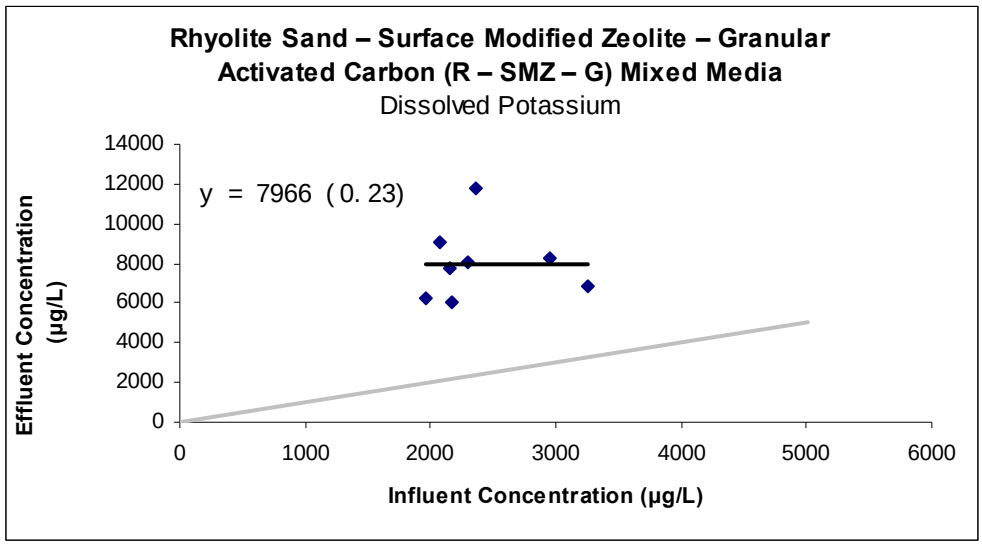
ANOVA

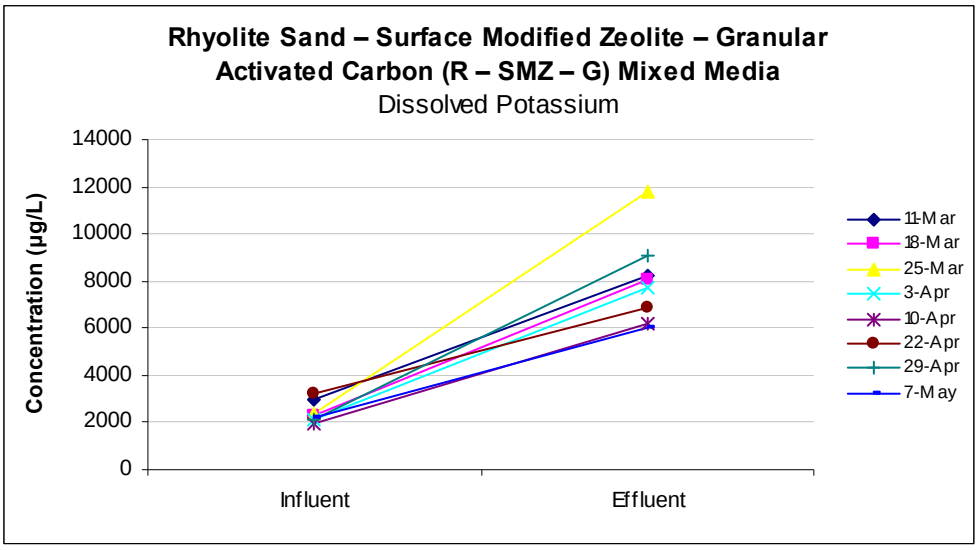
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	200.058	200.058	0.000	0.995
Residual	6.000	23846907.442	3974484.574		
Total	7.000	23847107.500			

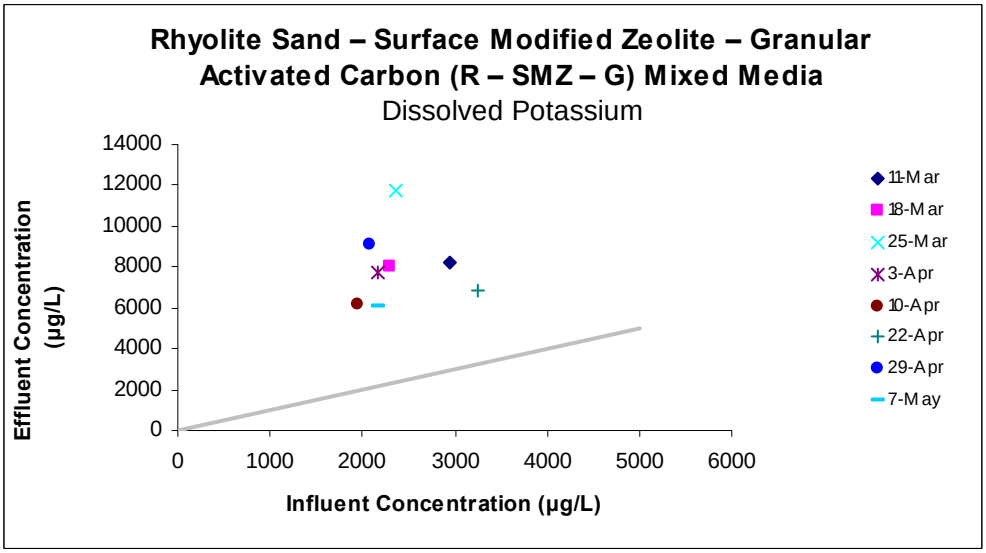
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	7966.510	4042.341	1.971	0.096	-1924.742	17857.762	-1924.742	17857.762
X Variable 1	0.012	1.654	0.007	0.995	-4.035	4.058	-4.035	4.058

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	8001.193	215.807
2	7993.543	41.457
3	7994.294	3777.706
4	7991.877	-275.877
5	7989.507	-1774.507
6	8004.689	-1107.689
7	7990.926	1093.074
8	7991.971	-1969.971




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Potassium
Concentration (µg/L)
14000
12000
10000
8000
6000
4000
2000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Potassium
Effluent Concentration (µg/L)
14000
12000
10000
8000
6000
4000
2000
0
0
1000
2000
3000
4000
5000
6000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Na

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.172
R Square	0.030
Adjusted R Square	-0.132
Standard Error	5638.136
Observations	8.000

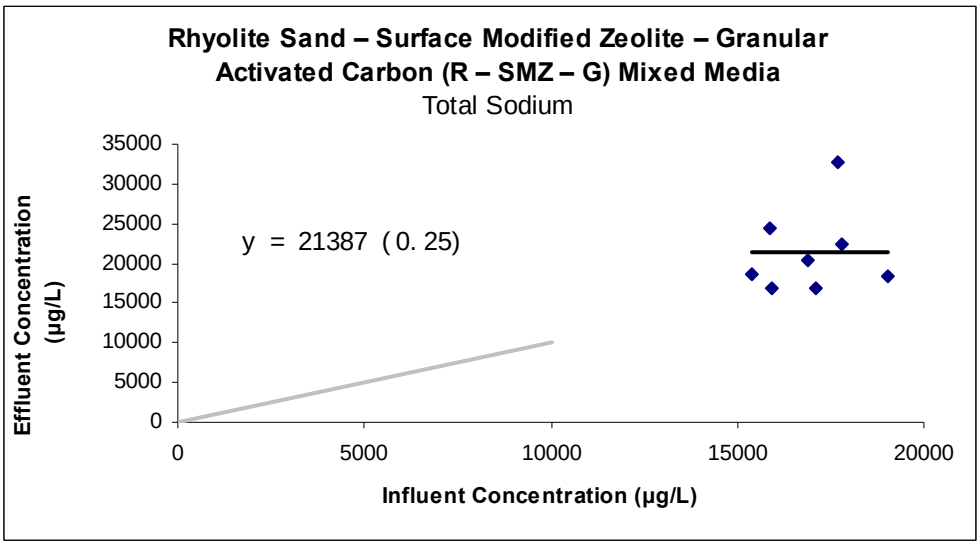
ANOVA

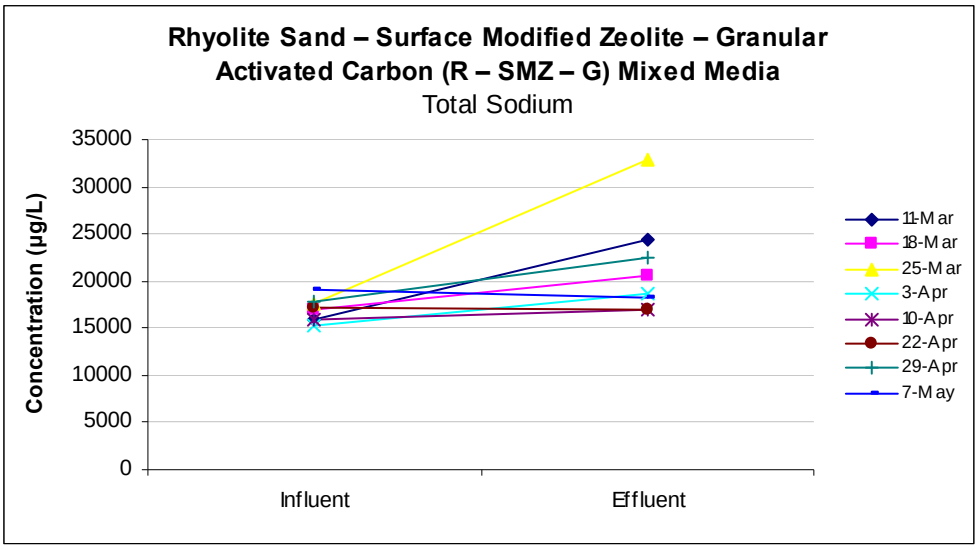
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	5828775.651	5828775.651	0.183	0.683
Residual	6.000	190731441.224	31788573.537		
Total	7.000	196560216.875			

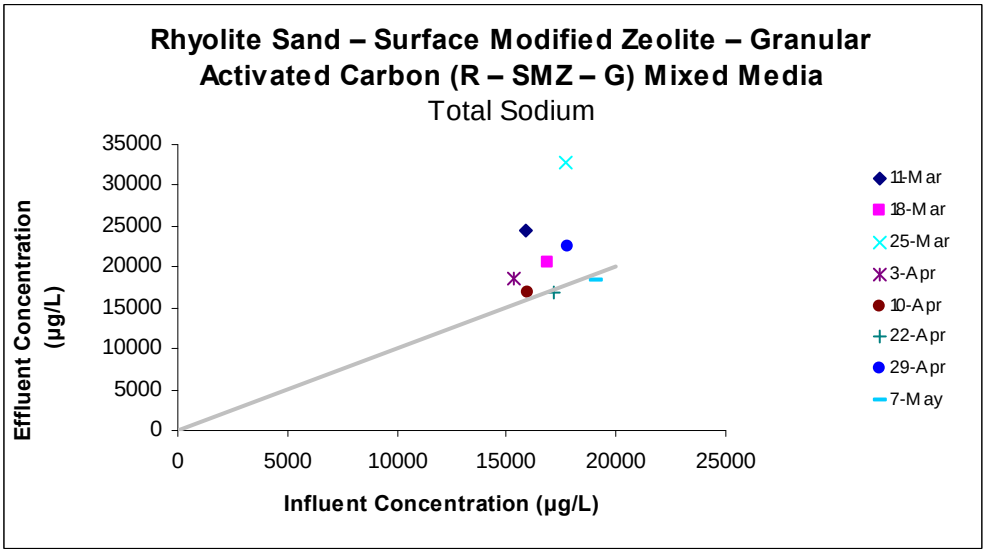
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	8680.321	29740.780	0.292	0.780	-64092.746	81453.387	-64092.746	81453.387
X Variable 1	0.749	1.749	0.428	0.683	-3.530	5.028	-3.530	5.028

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	20568.824	3803.176
2	21341.573	-829.573
3	21921.884	10864.116
4	20185.445	-1500.445
5	20615.249	-3669.249
6	21496.572	-4508.572
7	22025.217	455.783
8	22940.235	-4615.235




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Sodium
Concentration (µg/L)
35000
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Sodium
Effluent Concentration (µg/L)
35000
30000
25000
20000
15000
10000
5000
0
0
5000
10000
15000
20000
25000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Na

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.339
R Square	0.115
Adjusted R Square	-0.032
Standard Error	4711.145
Observations	8.000

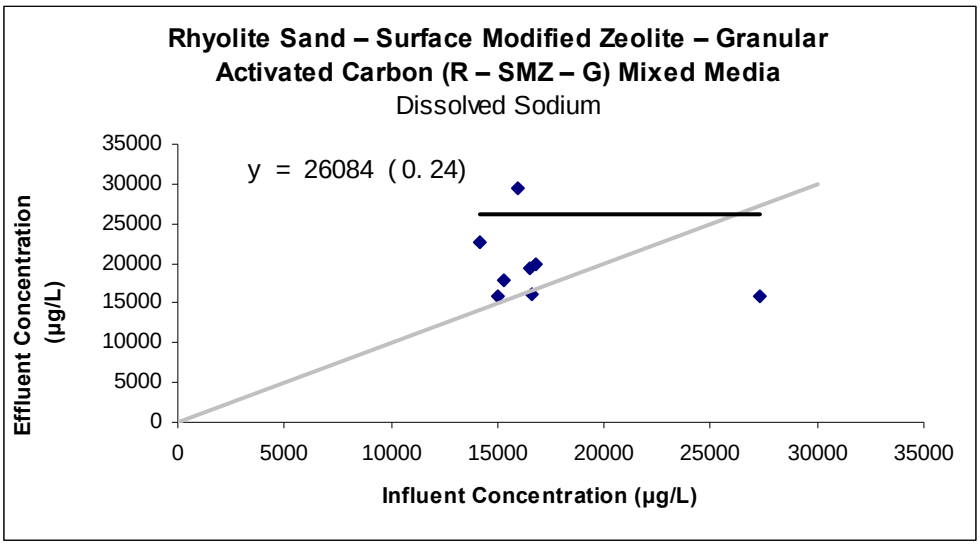
ANOVA

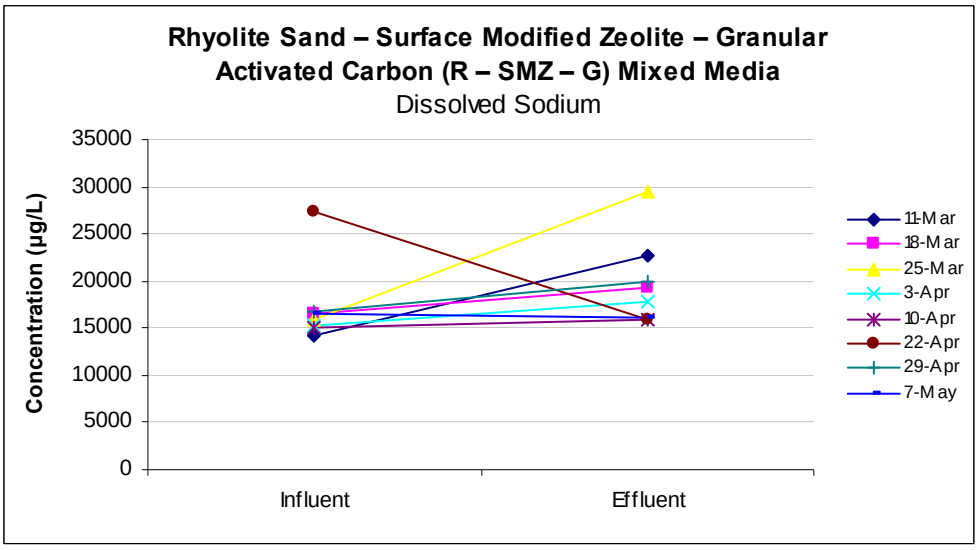
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	17315170.406	17315170.406	0.780	0.411
Residual	6.000	133169327.594	22194887.932		
Total	7.000	150484498.000			

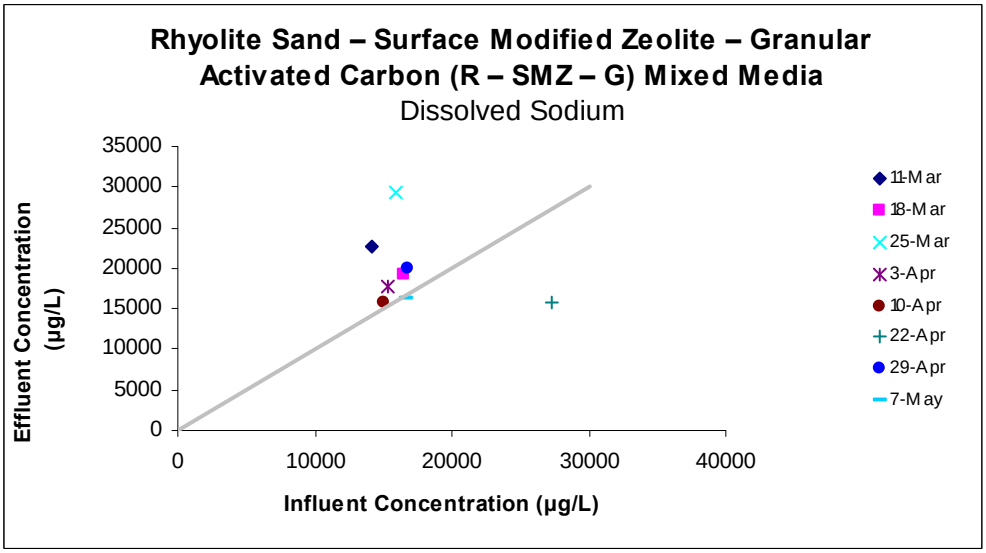
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	26083.516	7503.887	3.476	0.013	7722.165	44444.866	7722.165	44444.866
X Variable 1	-0.375	0.425	-0.883	0.411	-1.416	0.665	-1.416	0.665

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	20762.946	1969.054
2	19876.872	-591.872
3	20093.134	9341.866
4	20351.447	-2584.447
5	20450.567	-4643.567
6	15822.336	-7.336
7	19765.362	176.638
8	19845.334	-3660.334




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Sodium
Concentration (µg/L)
35000
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Sodium
Effluent Concentration (µg/L)
35000
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Cr

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.131
R Square	0.017
Adjusted R Square	-0.179
Standard Error	4.583
Observations	7.000

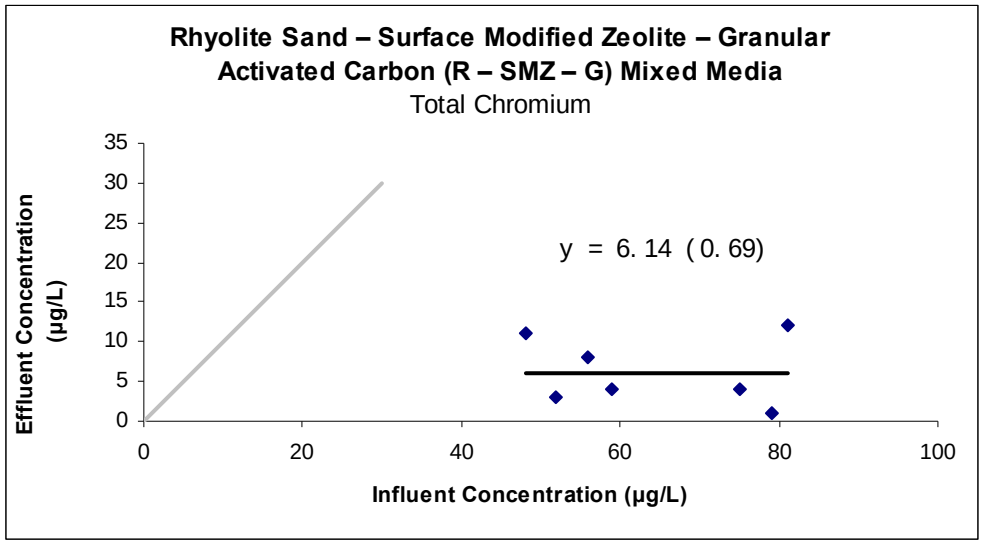
ANOVA

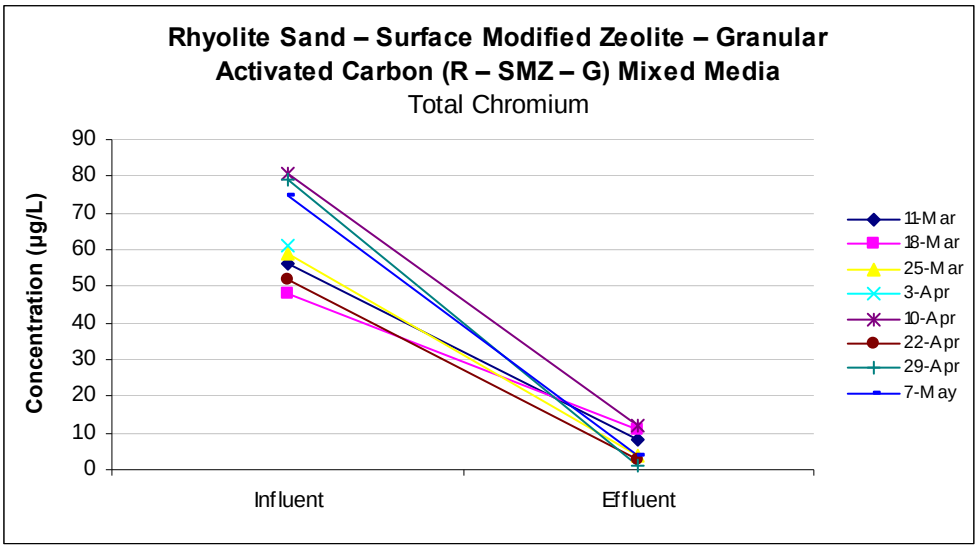
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	1.825	1.825	0.087	0.780
Residual	5.000	105.032	21.006		
Total	6.000	106.857			

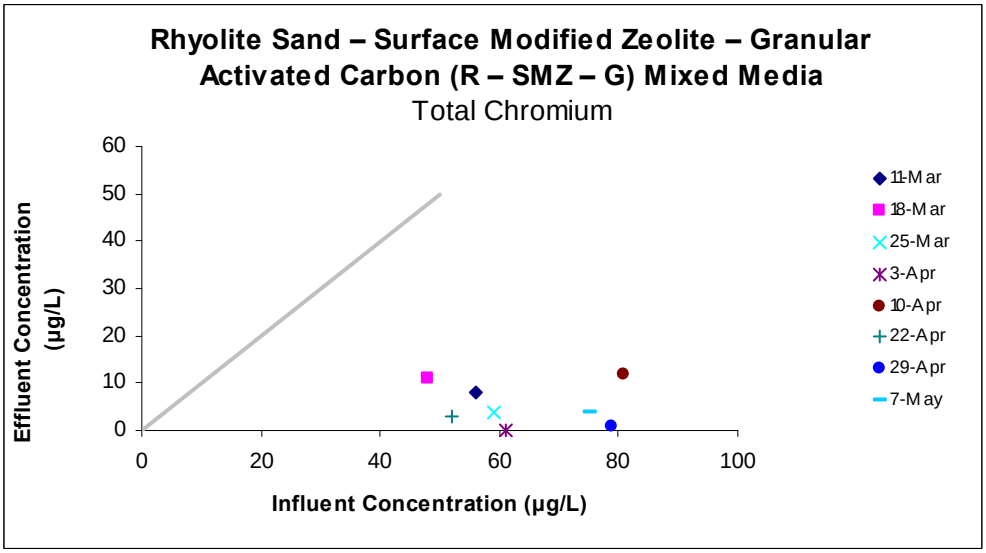
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	8.734	8.960	0.975	0.374	-14.297	31.766	-14.297	31.766
X Variable 1	-0.040	0.137	-0.295	0.780	-0.392	0.311	-0.392	0.311

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	6.477	1.523
2	6.799	4.201
3	6.356	-2.356
4	5.469	6.531
5	6.638	-3.638
6	5.550	-4.550
7	5.711	-1.711




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Chromium
Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Chromium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cr

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.976
R Square	0.953
Adjusted R Square	0.703
Standard Error	1.087
Observations	5.000

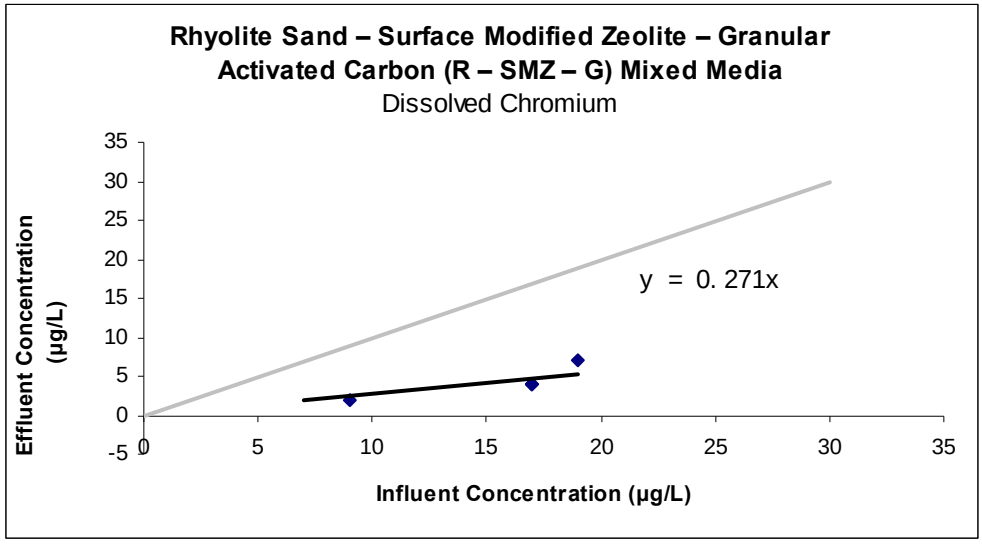
ANOVA

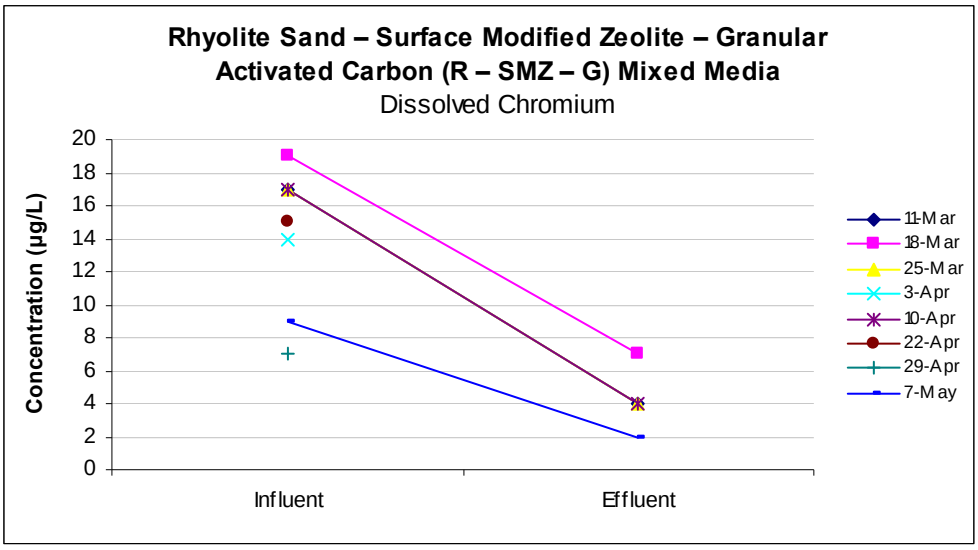
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	96.276	96.276	81.517	0.003
Residual	4.000	4.724	1.181		
Total	5.000	101.000			

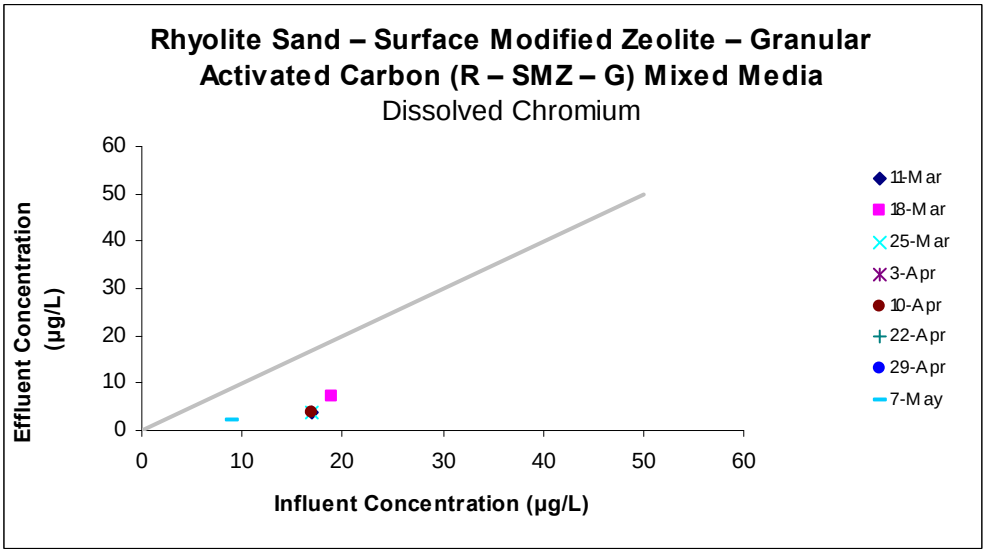
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.271	0.030	9.029	0.001	0.188	0.355	0.188	0.355

RESIDUAL OUTPUT

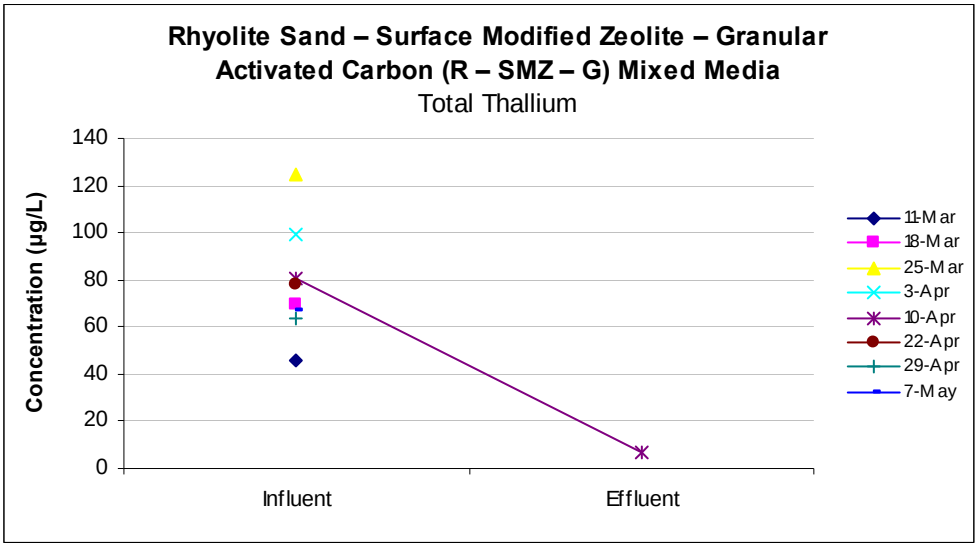
Observation	*Predicted Y*	*Residuals*
1	4.610	-0.610
2	5.153	1.847
3	4.610	-0.610
4	4.610	-0.610
5	2.441	-0.441

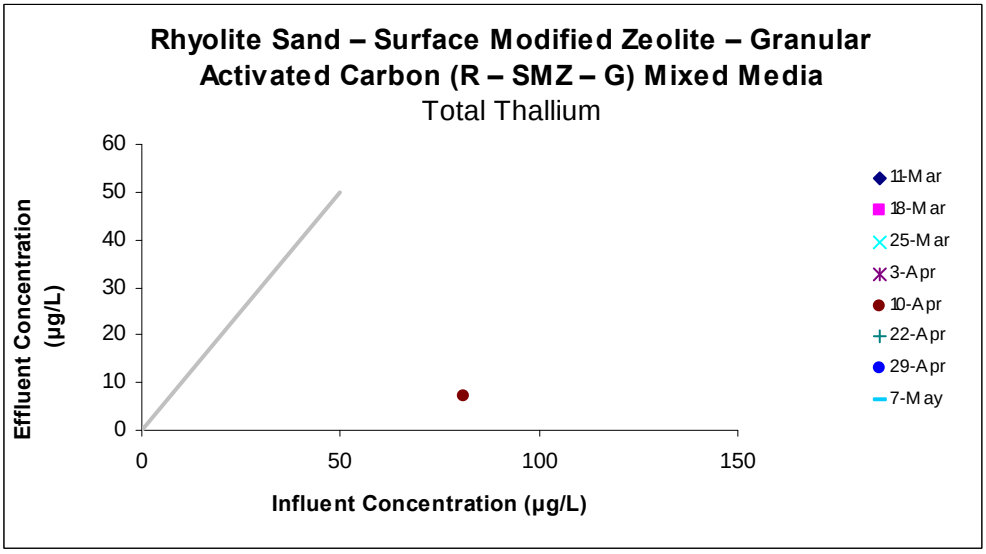



Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Chromium
Concentration (µg/L)
20
18
16
14
12
10
8
6
4
2
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

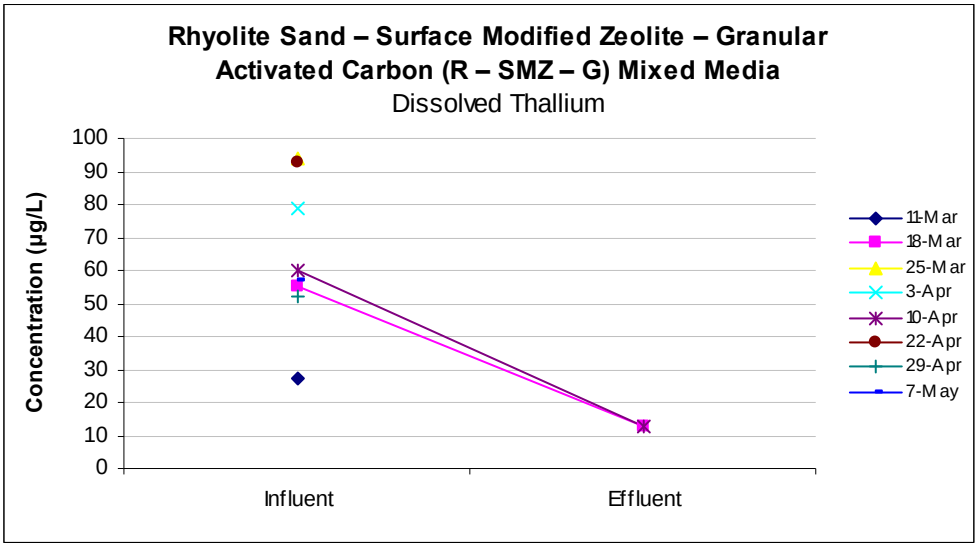

Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Chromium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

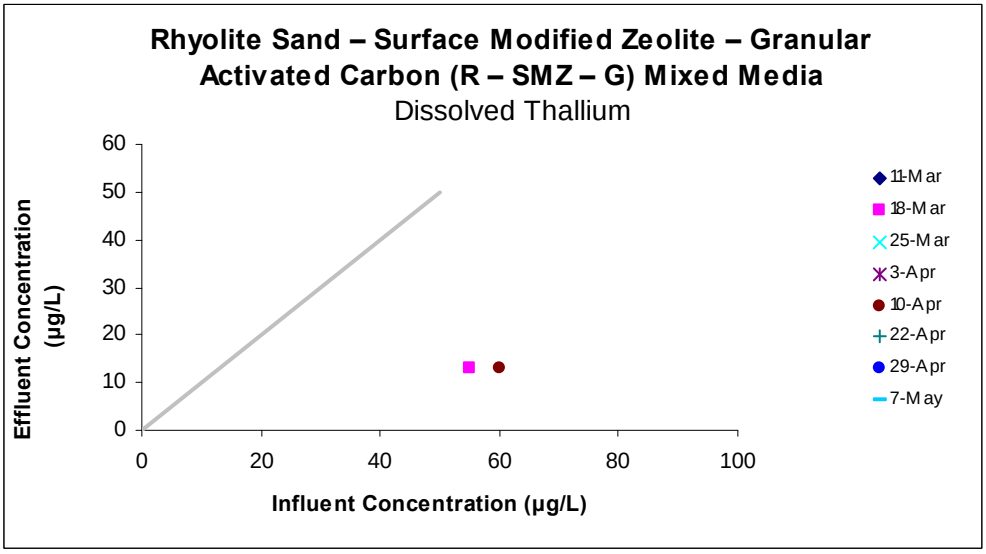
Total Tl


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Thallium
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Thallium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
50
100
150
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Tl





Total Sb

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.168
R Square	0.028
Adjusted R Square	-0.166
Standard Error	18.513
Observations	7.000

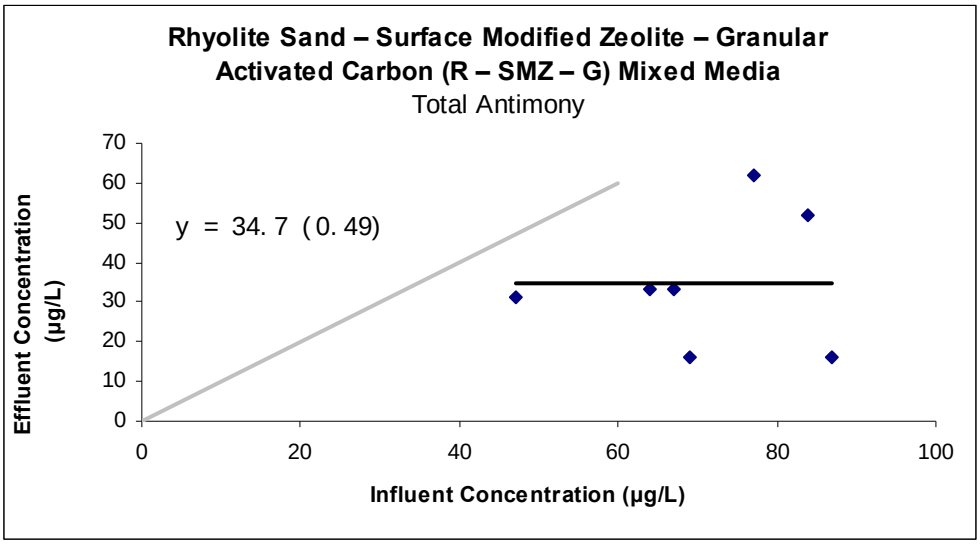
ANOVA

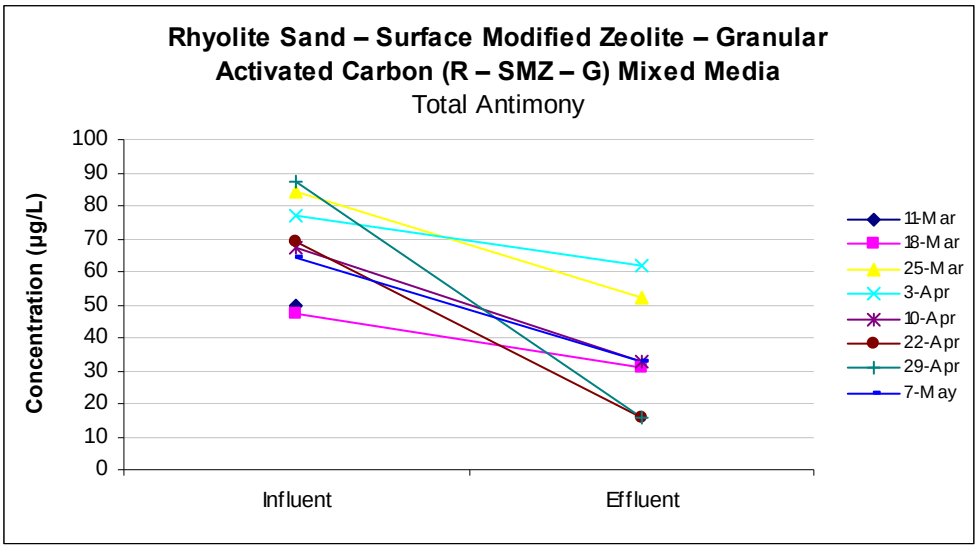
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	49.715	49.715	0.145	0.719
Residual	5.000	1713.713	342.743		
Total	6.000	1763.429			

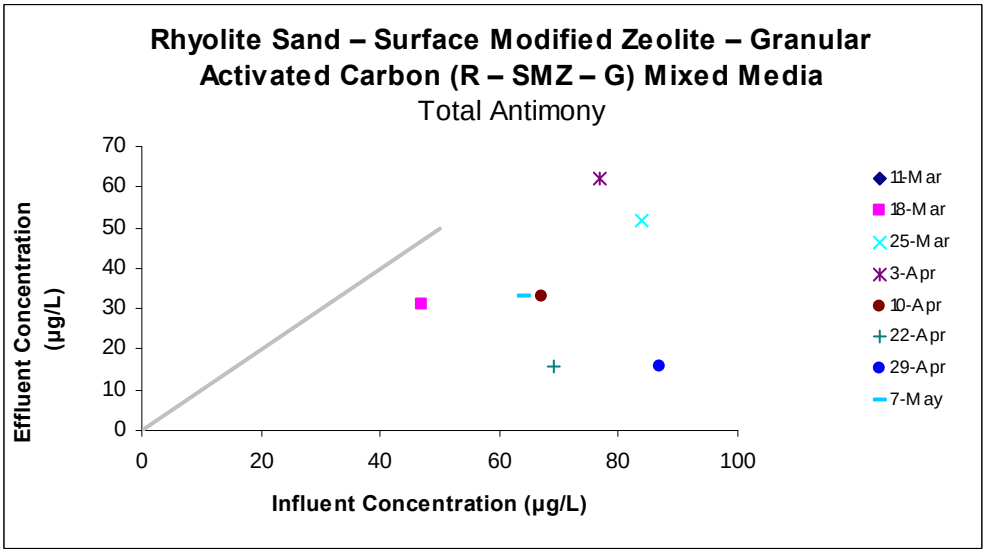
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	19.718	39.992	0.493	0.643	-83.086	122.522	-83.086	122.522
X Variable 1	0.212	0.557	0.381	0.719	-1.219	1.643	-1.219	1.643

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	29.685	1.315
2	37.532	14.468
3	36.047	25.953
4	33.927	-0.927
5	34.351	-18.351
6	38.168	-22.168
7	33.290	-0.290




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Antimony
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Total Antimony
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Sb

R-SMZ-GAC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.065
R Square	0.004
Adjusted R Square	-0.195
Standard Error	14.248
Observations	7.000

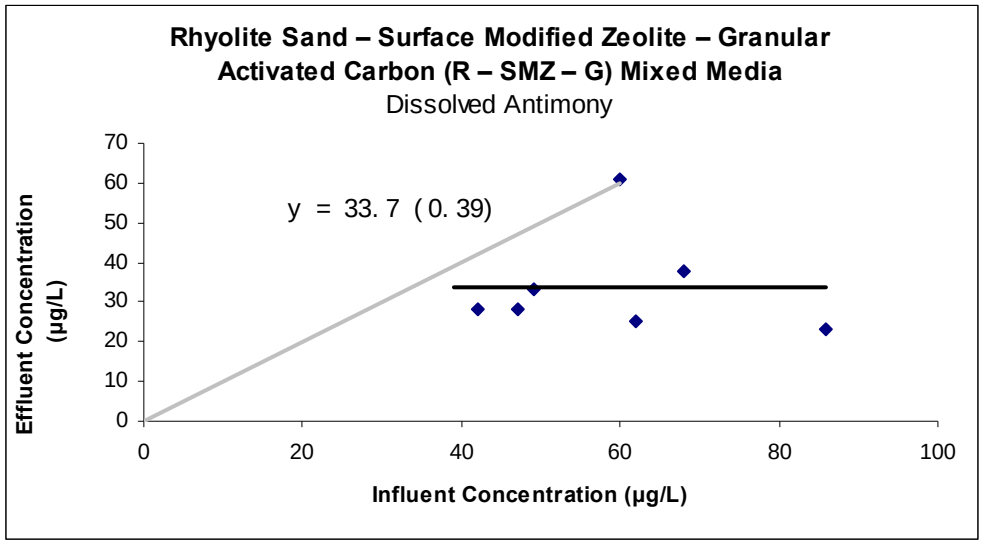
ANOVA

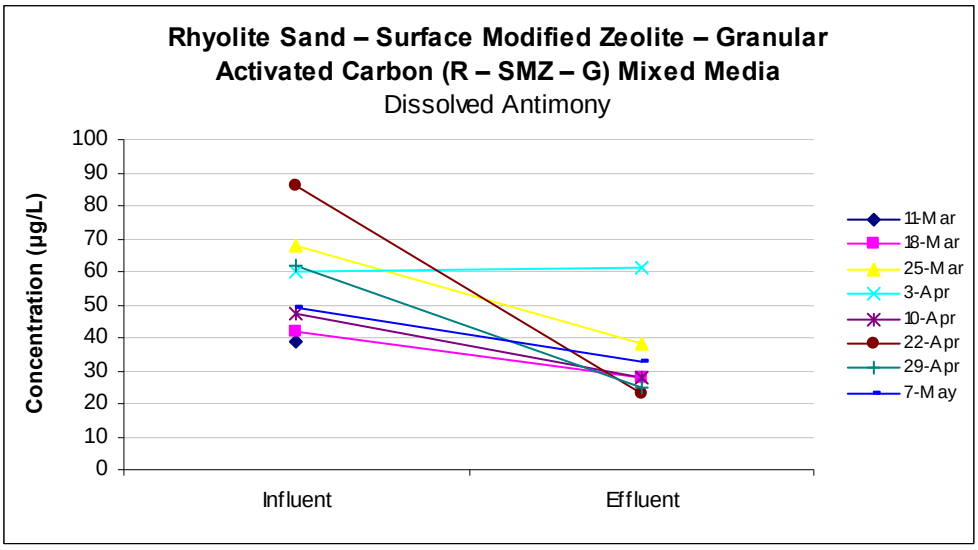
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	4.350	4.350	0.021	0.889
Residual	5.000	1015.078	203.016		
Total	6.000	1019.429			

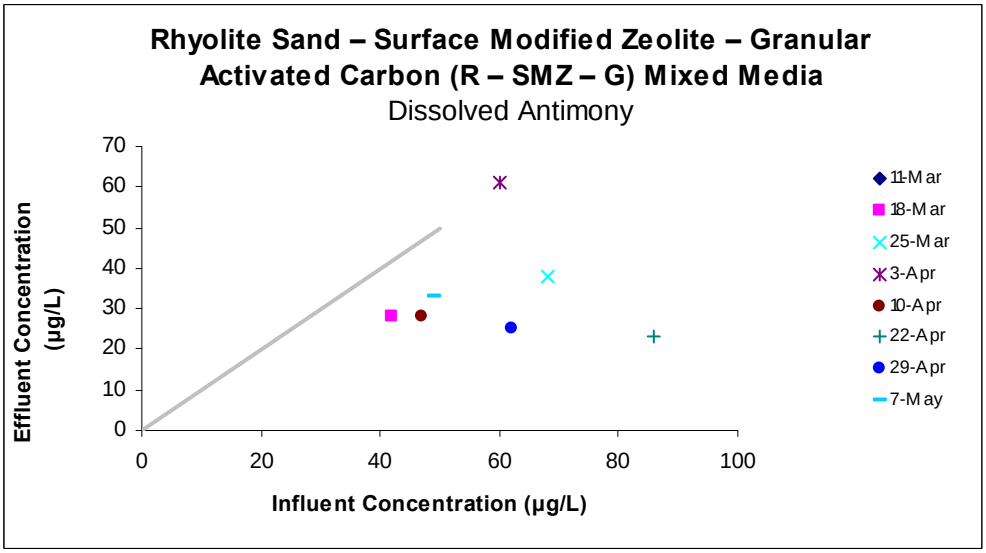
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	37.068	23.535	1.575	0.176	-23.431	97.567	-23.431	97.567
X Variable 1	-0.057	0.387	-0.146	0.889	-1.053	0.939	-1.053	0.939

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	34.686	-6.686
2	33.212	4.788
3	33.666	27.334
4	34.403	-6.403
5	32.191	-9.191
6	33.552	-8.552
7	34.289	-1.289




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Antimony
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media
Dissolved Antimony
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

R-SMZ-G-P

Total As

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.783
R Square	0.613
Adjusted R Square	0.517
Standard Error	8.324
Observations	6.000

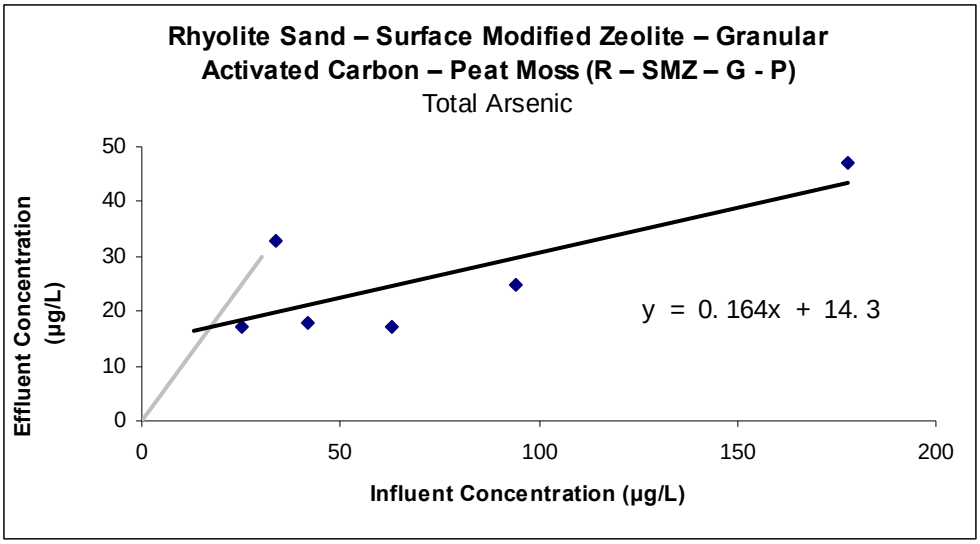
ANOVA

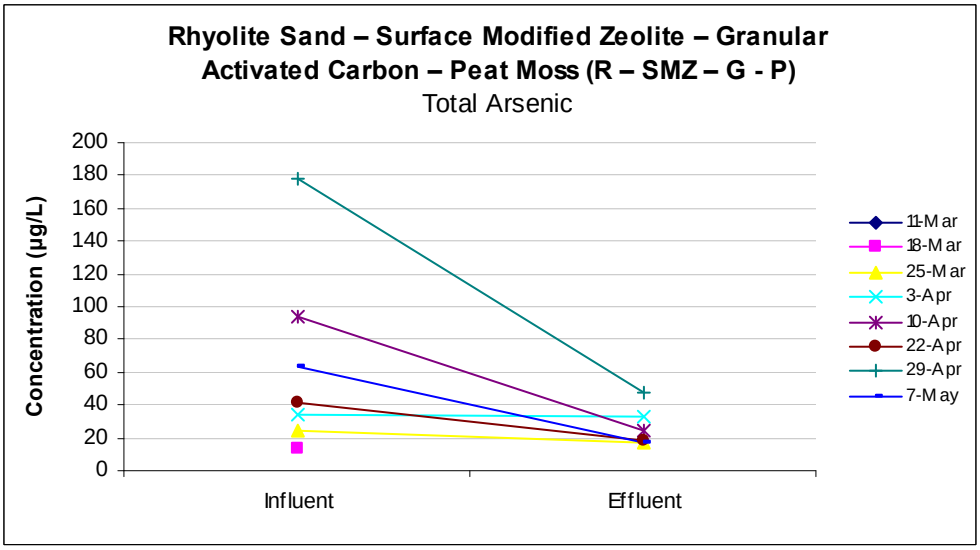
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	439.692	439.692	6.346	0.065
Residual	4.000	277.141	69.285		
Total	5.000	716.833			

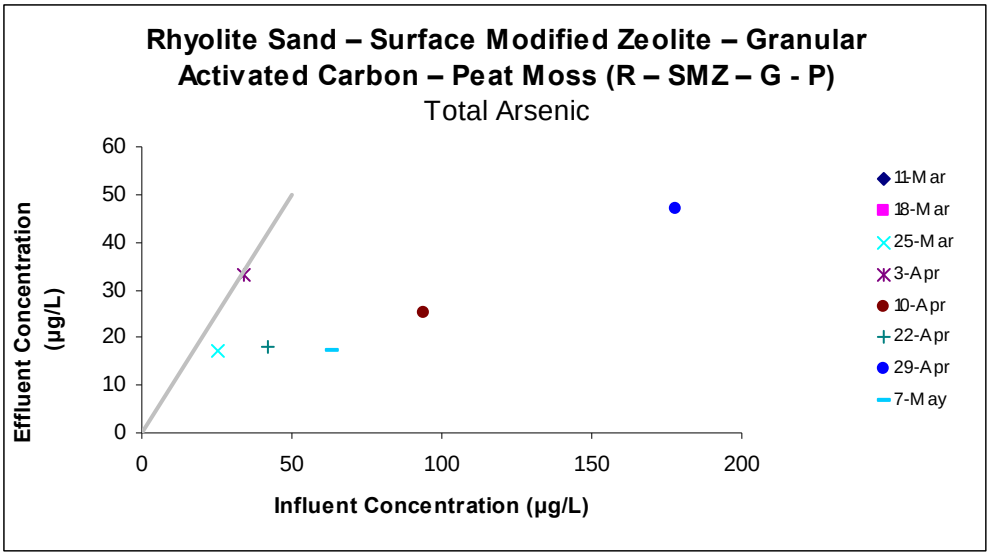
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	14.251	5.824	2.447	0.071	-1.920	30.421	-1.920	30.421
X Variable 1	0.164	0.065	2.519	0.065	-0.017	0.345	-0.017	0.345

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	18.350	-1.350
2	19.826	13.174
3	29.665	-4.665
4	21.138	-3.138
5	43.439	3.561
6	24.582	-7.582


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Arsenic
Effluent Concentration (µg/L)
Influent Concentration (µg/L)
y = 0.164x + 14.3
0
10
20
30
40
50
0
50
100
150
200


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Arsenic
Concentration (µg/L)
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Arsenic
Effluent Concentration (µg/L)
Influent Concentration (µg/L)
0
10
20
30
40
50
60
0
50
100
150
200
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved As

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.830
R Square	0.689
Adjusted R Square	0.585
Standard Error	5.132
Observations	5.000

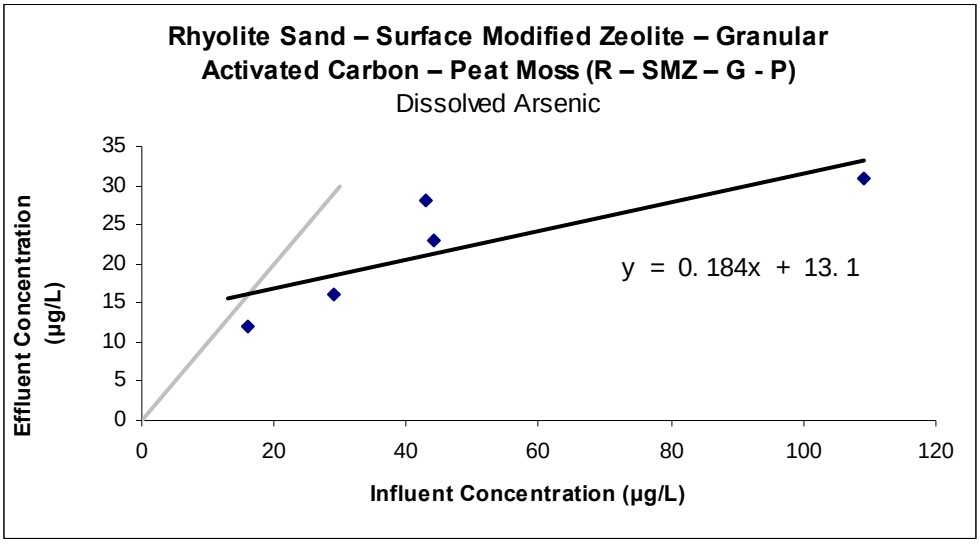
ANOVA

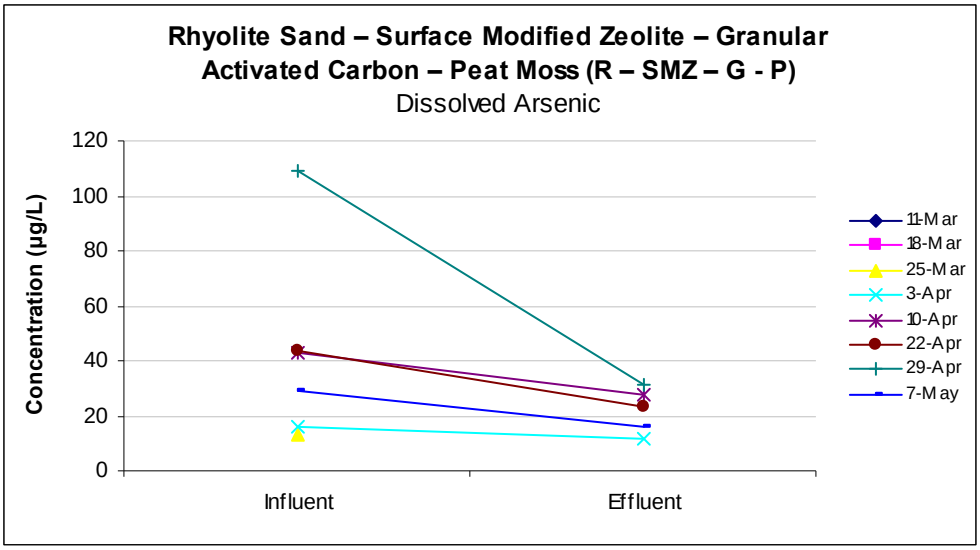
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	174.983	174.983	6.643	0.082
Residual	3.000	79.017	26.339		
Total	4.000	254.000			

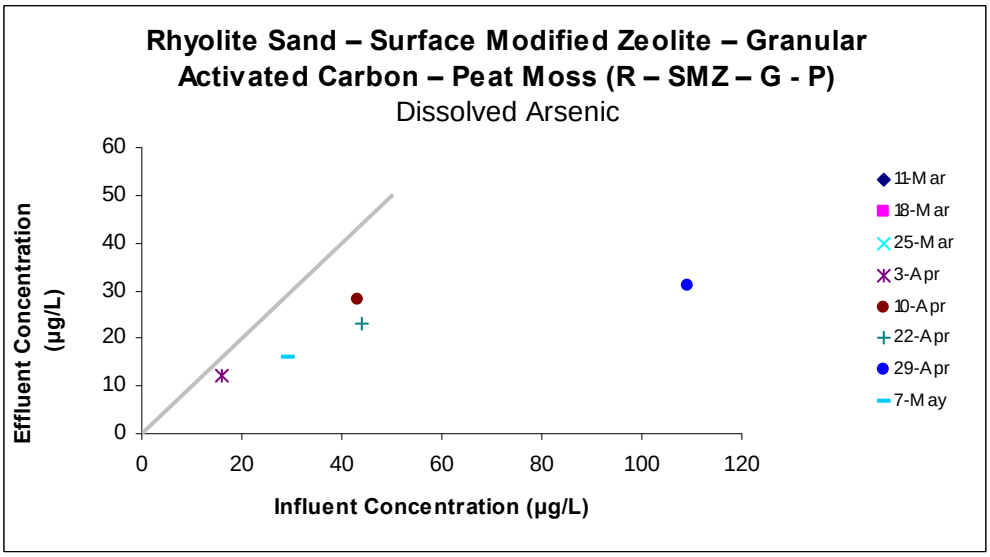
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	13.113	4.142	3.166	0.051	-0.069	26.295	-0.069	26.295
X Variable 1	0.184	0.072	2.577	0.082	-0.043	0.412	-0.043	0.412

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	16.063	-4.063
2	21.041	6.959
3	21.226	1.774
4	33.211	-2.211
5	18.460	-2.460




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Arsenic
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Arsenic
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Al

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.269
R Square	0.072
Adjusted R Square	-0.082
Standard Error	264.501
Observations	8.000

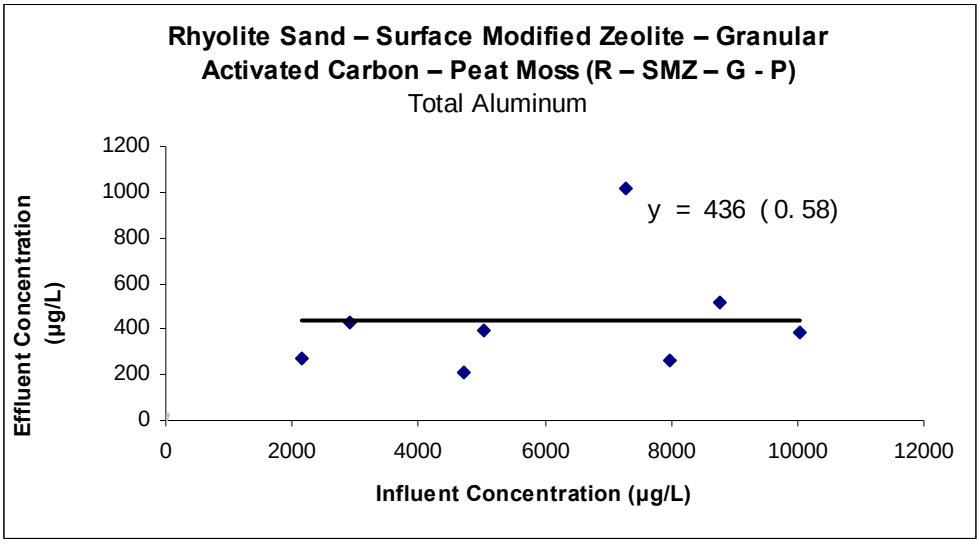
ANOVA

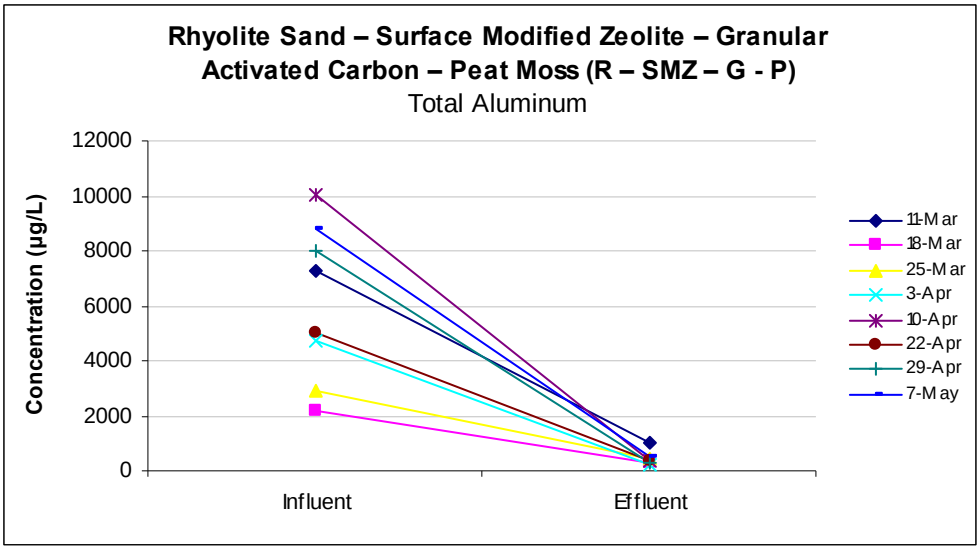
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	32701.722	32701.722	0.467	0.520
Residual	6.000	419764.153	69960.692		
Total	7.000	452465.875			

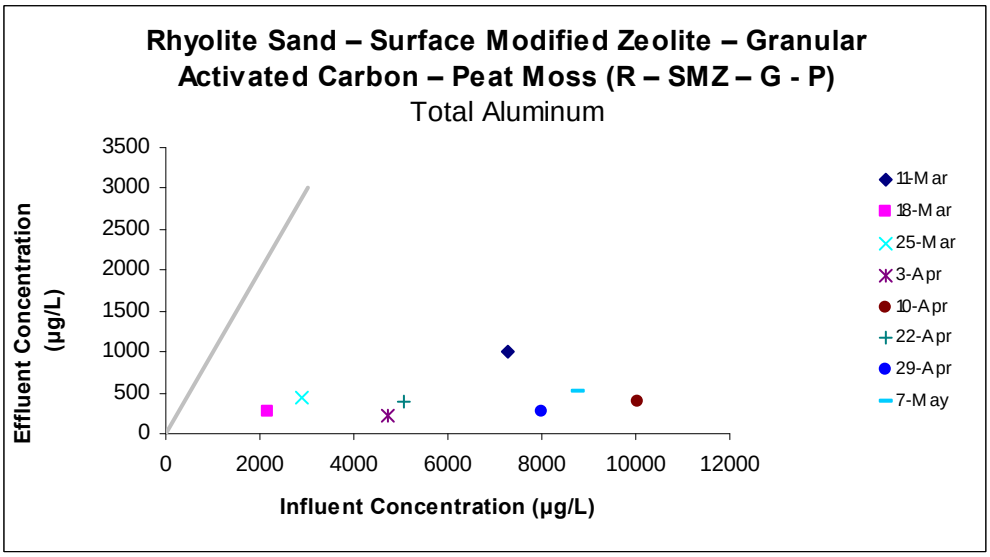
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	289.300	234.902	1.232	0.264	-285.485	864.085	-285.485	864.085
X Variable 1	0.024	0.035	0.684	0.520	-0.062	0.110	-0.062	0.110

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	464.597	550.403
2	341.227	-67.227
3	359.395	73.605
4	403.297	-190.297
5	531.150	-148.150
6	410.888	-14.888
7	481.633	-219.633
8	500.813	16.187




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Aluminum
Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Aluminum
Effluent Concentration (µg/L)
3500
3000
2500
2000
1500
1000
500
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Al

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.982
R Square	0.964
Adjusted R Square	0.798
Standard Error	12.139
Observations	7.000

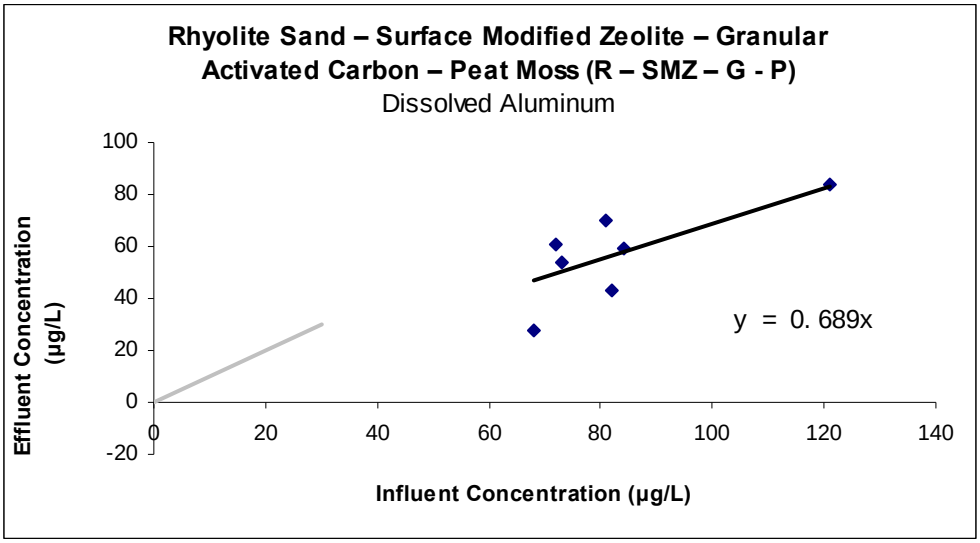
ANOVA

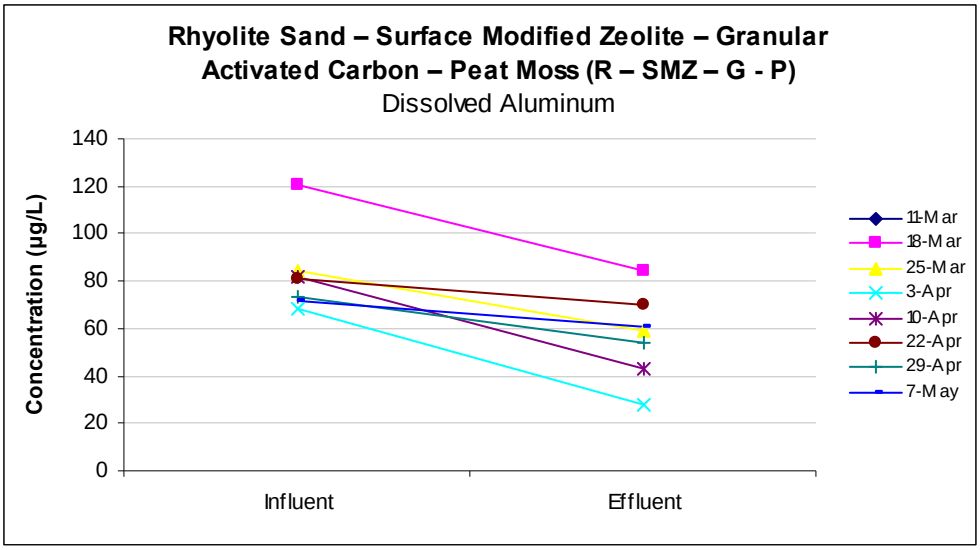
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	23822.880	23822.880	161.672	0.000
Residual	6.000	884.120	147.353		
Total	7.000	24707.000			

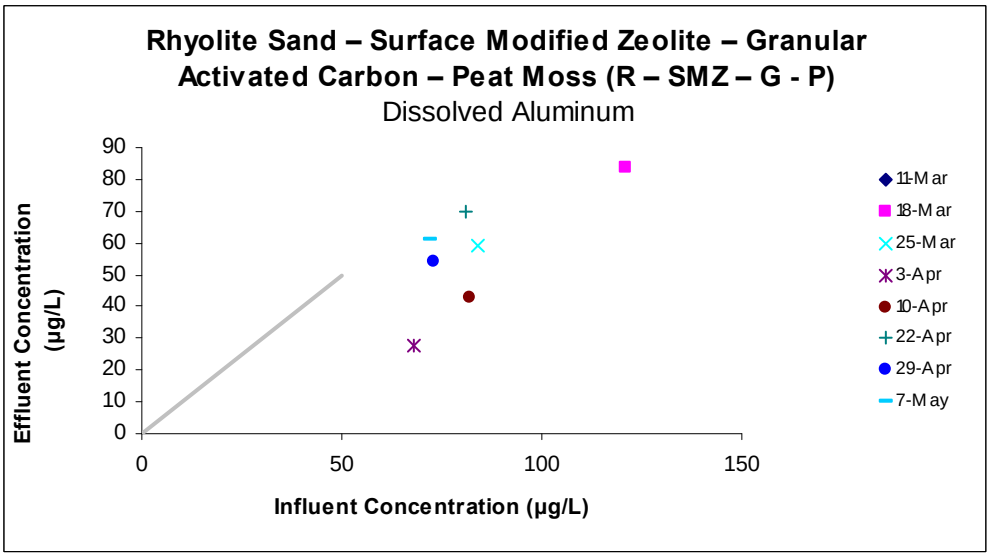
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.689	0.054	12.715	0.000	0.557	0.822	0.557	0.822

RESIDUAL OUTPUT

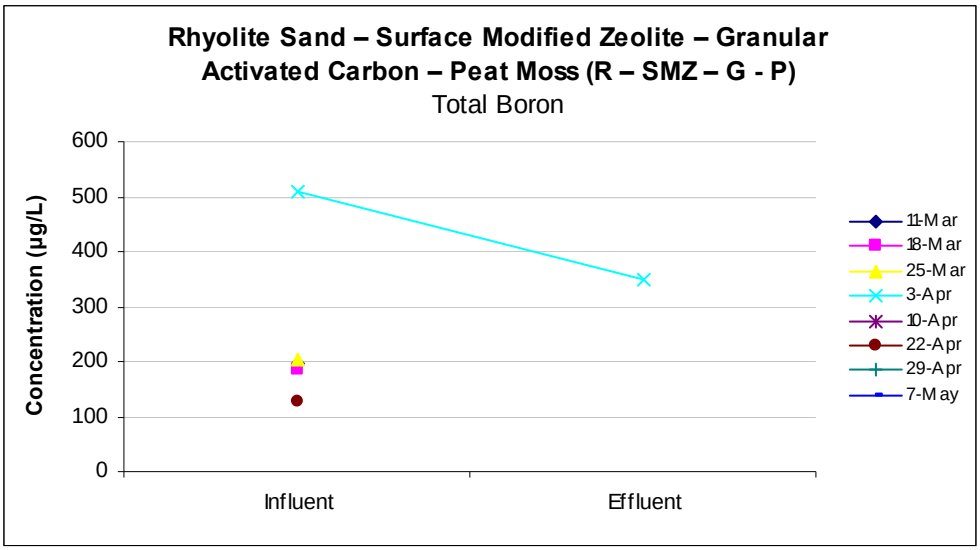
Observation	*Predicted Y*	*Residuals*
1	83.422	0.578
2	57.913	1.087
3	46.882	-18.882
4	56.534	-13.534
5	55.845	14.155
6	50.329	3.671
7	49.640	11.360

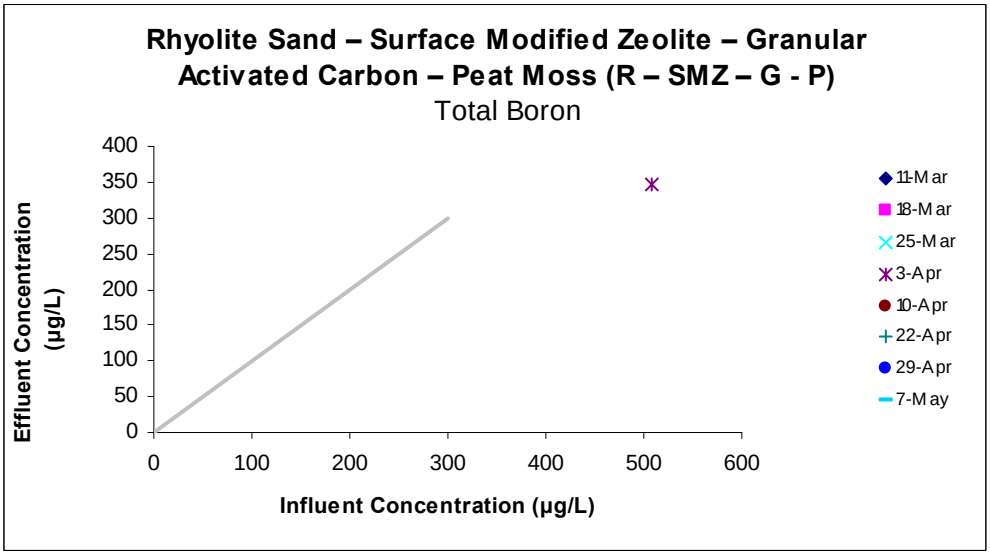



Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Aluminum
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

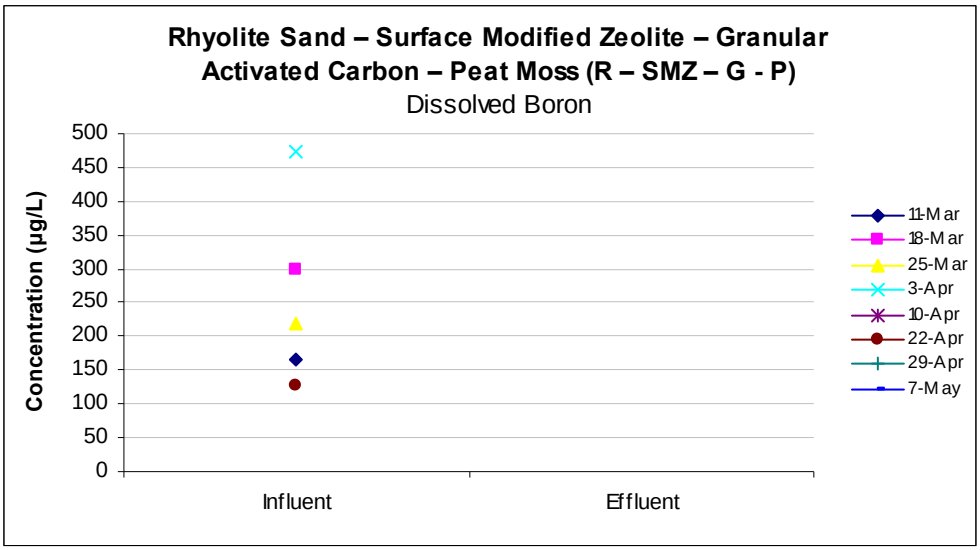

Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Aluminum
Effluent Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
0
50
100
150
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

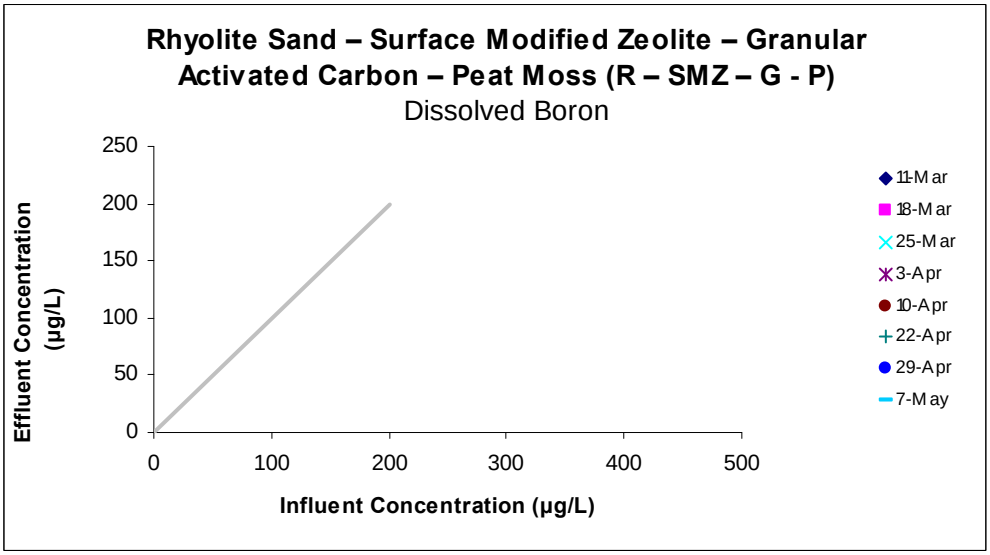
Total B


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Boron
Concentration (µg/L)
600
500
400
300
200
100
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Boron
Effluent Concentration (µg/L)
400
350
300
250
200
150
100
50
0
0
100
200
300
400
500
600
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved B


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Boron
Concentration (µg/L)
500
450
400
350
300
250
200
150
100
50
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Boron
Effluent Concentration (µg/L)
250
200
150
100
50
0
0
100
200
300
400
500
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Ca

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.538
R Square	0.290
Adjusted R Square	0.171
Standard Error	12118.685
Observations	8.000

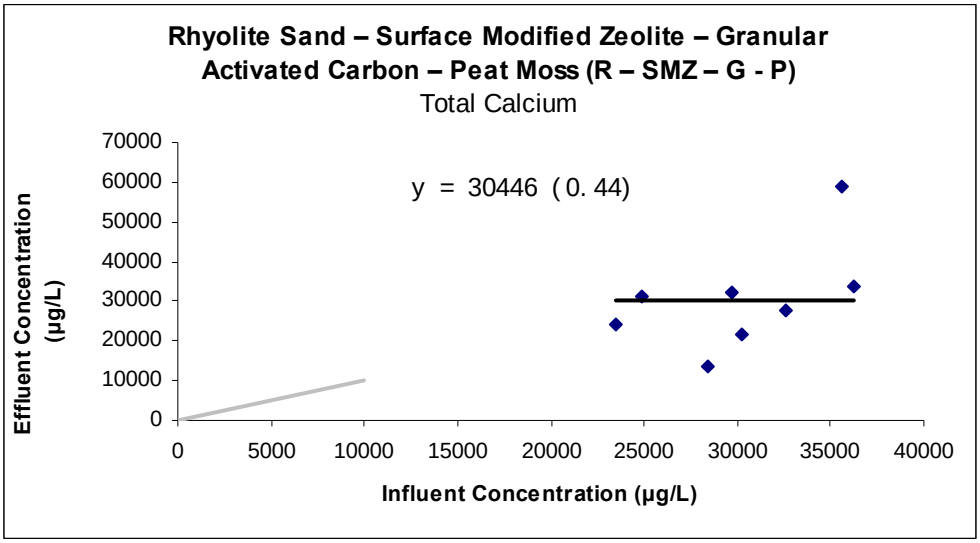
ANOVA

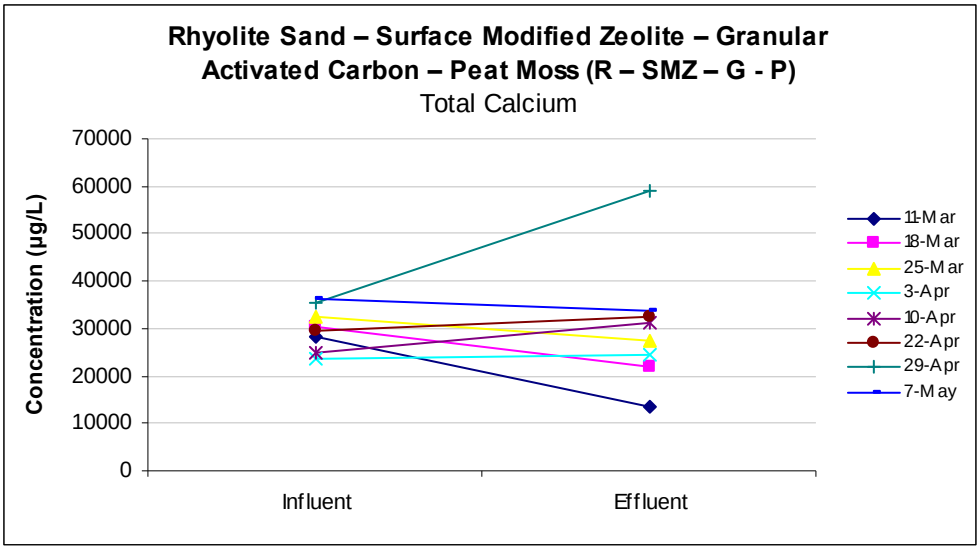
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	359618274.084	359618274.084	2.449	0.169
Residual	6.000	881175197.916	146862532.986		
Total	7.000	1240793472.000			

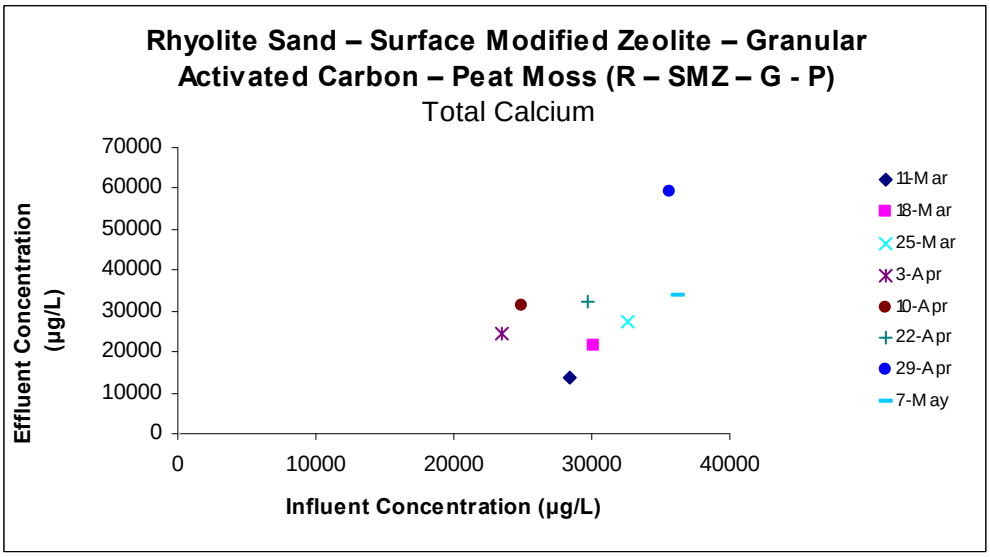
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-16392.278	30237.091	-0.542	0.607	-90379.773	57595.218	-90379.773	57595.218
X Variable 1	1.554	0.993	1.565	0.169	-0.876	3.984	-0.876	3.984

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	27770.420	-14280.420
2	30550.304	-8795.304
3	34323.114	-6774.114
4	20094.275	4260.725
5	22246.393	9100.607
6	29695.672	2762.328
7	38925.693	20114.307
8	39962.128	-6388.128




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Calcium
Concentration (µg/L)
70000
60000
50000
40000
30000
20000
10000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Calcium
Effluent Concentration (µg/L)
70000
60000
50000
40000
30000
20000
10000
0
0
10000
20000
30000
40000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Ca

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.980
R Square	0.961
Adjusted R Square	0.818
Standard Error	6455.693
Observations	8.000

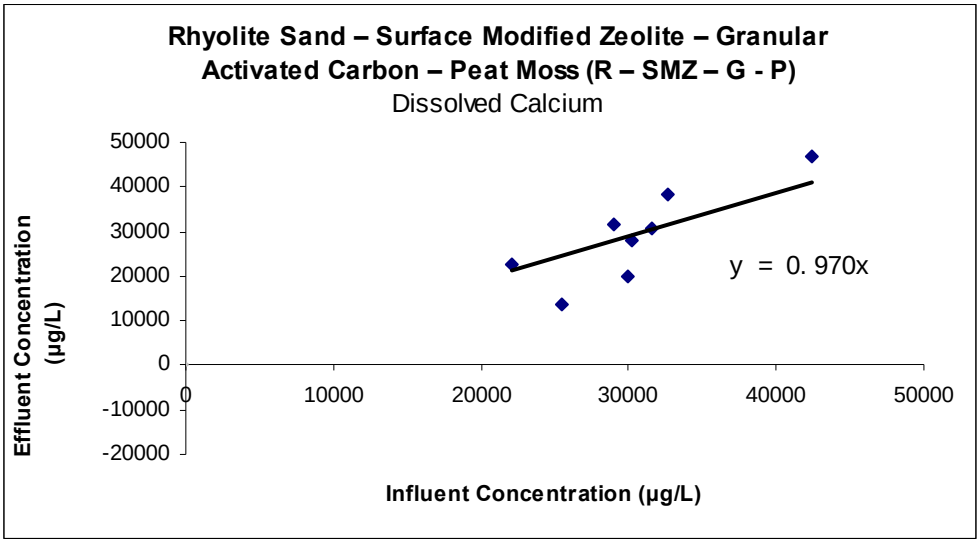
ANOVA

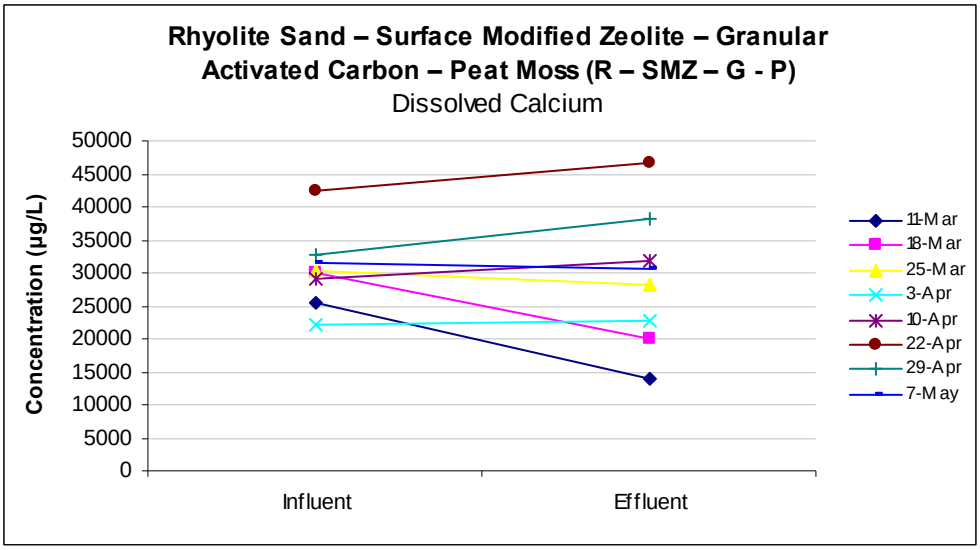
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	7197935994.739	7197935994.739	172.712	0.000
Residual	7.000	291731792.261	41675970.323		
Total	8.000	7489667787.000			

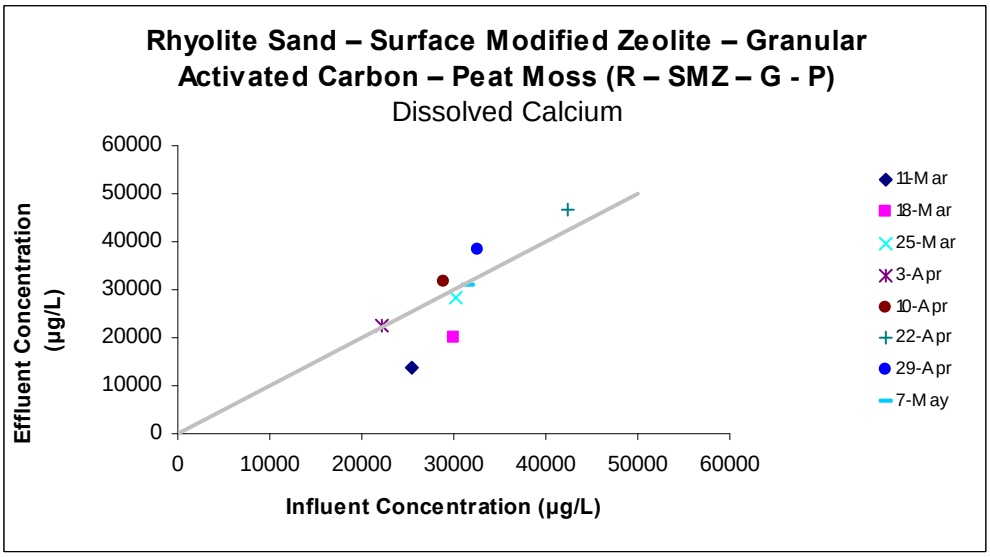
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.970	0.074	13.142	0.000	0.795	1.144	0.795	1.144

RESIDUAL OUTPUT

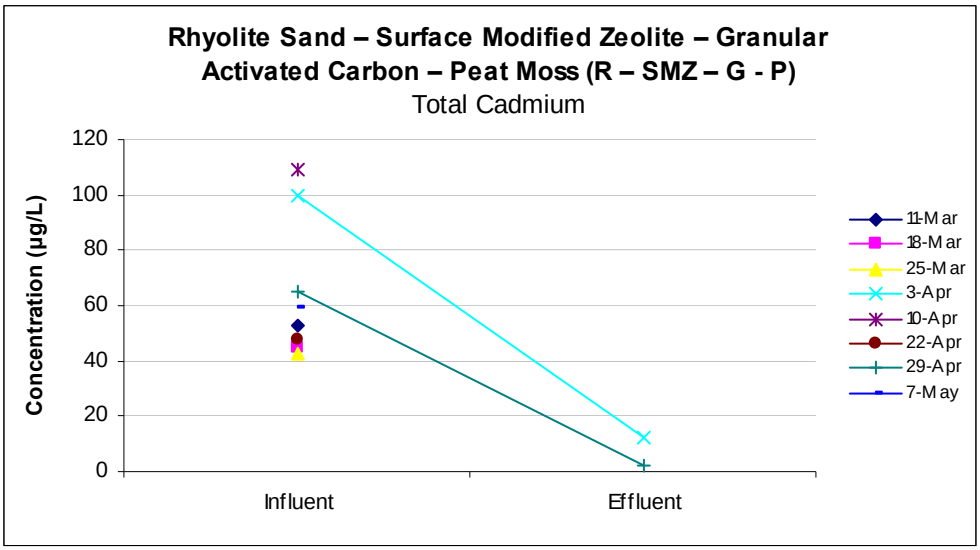
Observation	*Predicted Y*	*Residuals*
1	24733.181	-10945.181
2	29080.231	-8993.231
3	29353.740	-1195.740
4	21480.168	1102.832
5	28096.762	3664.238
6	41133.062	5566.938
7	31647.532	6632.468
8	30570.953	59.047

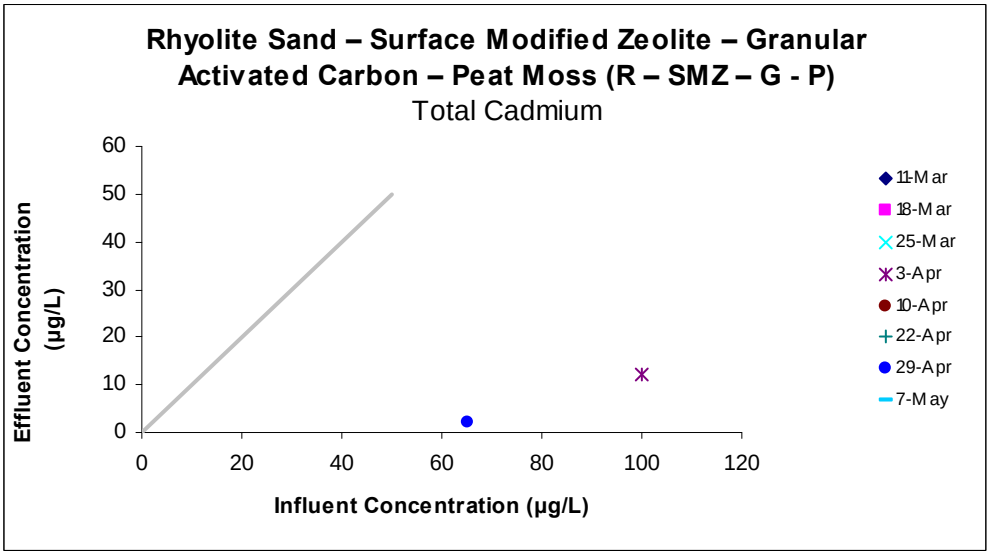



Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Calcium
Concentration (µg/L)
50000
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

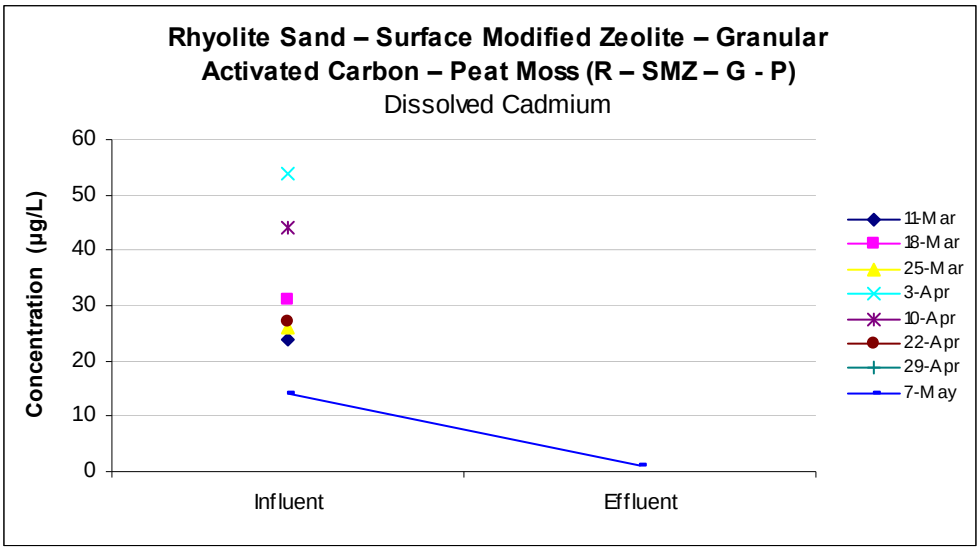

Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Calcium
Effluent Concentration (µg/L)
60000
50000
40000
30000
20000
10000
0
0
10000
20000
30000
40000
50000
60000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

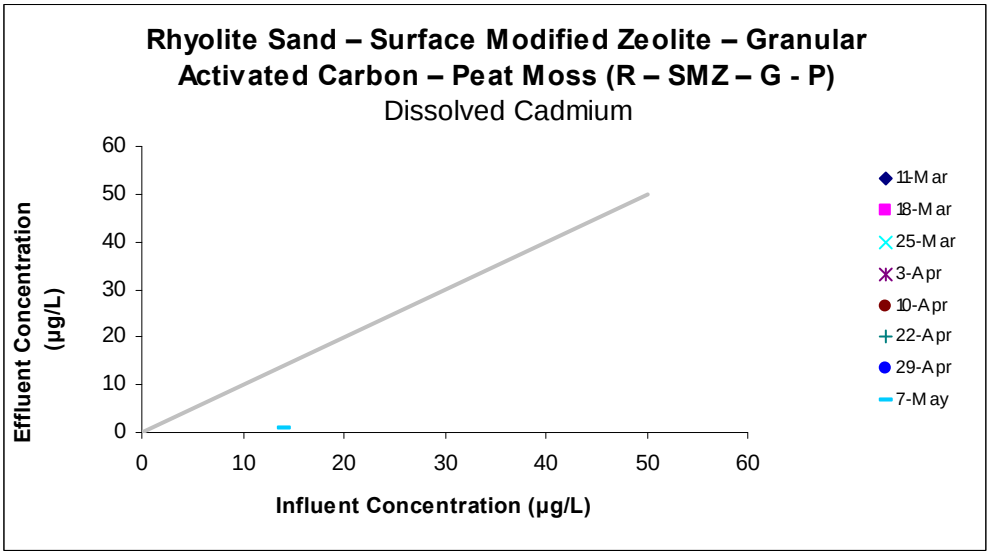
Total Cd


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Cadmium
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Cadmium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cd





Toal Cu

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.080
R Square	0.006
Adjusted R Square	-0.159
Standard Error	8.575
Observations	8.000

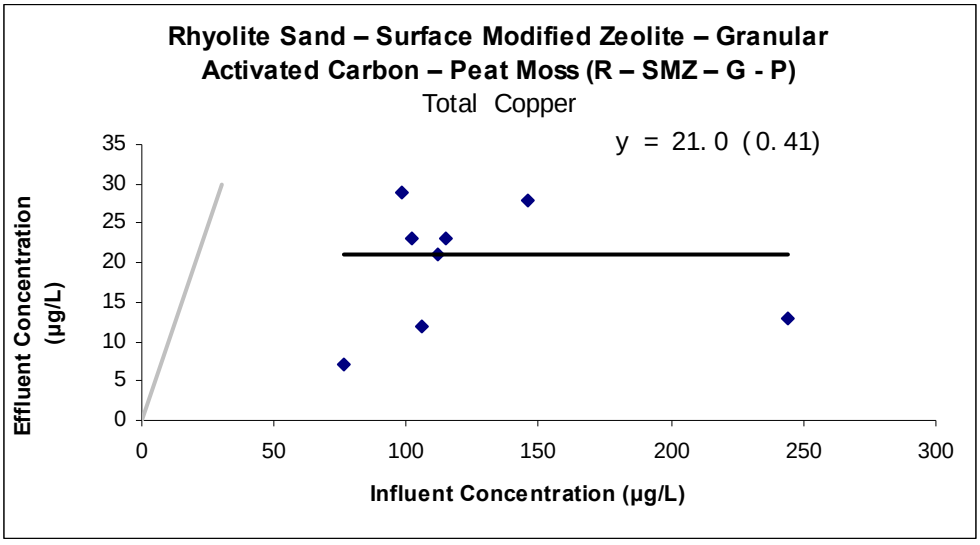
ANOVA

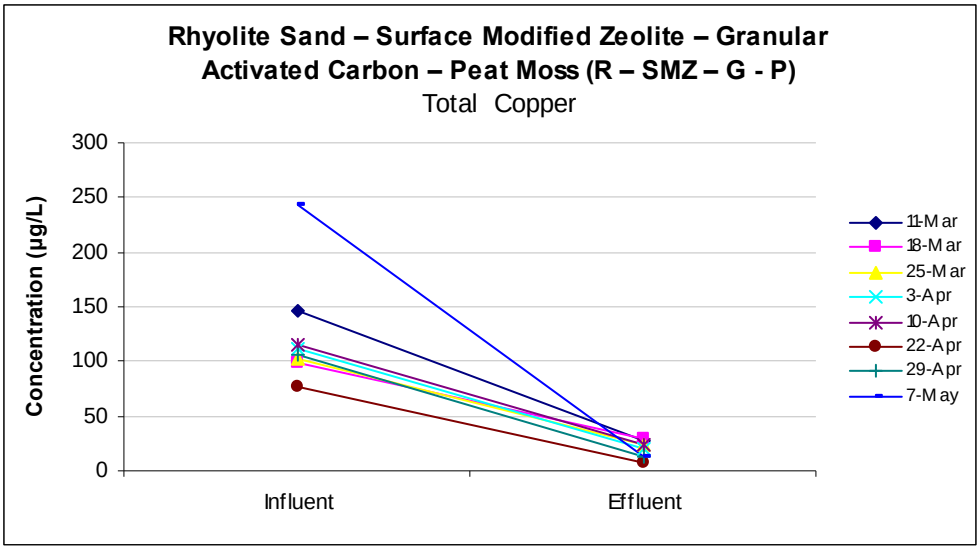
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	2.837	2.837	0.039	0.851
Residual	6.000	441.163	73.527		
Total	7.000	444.000			

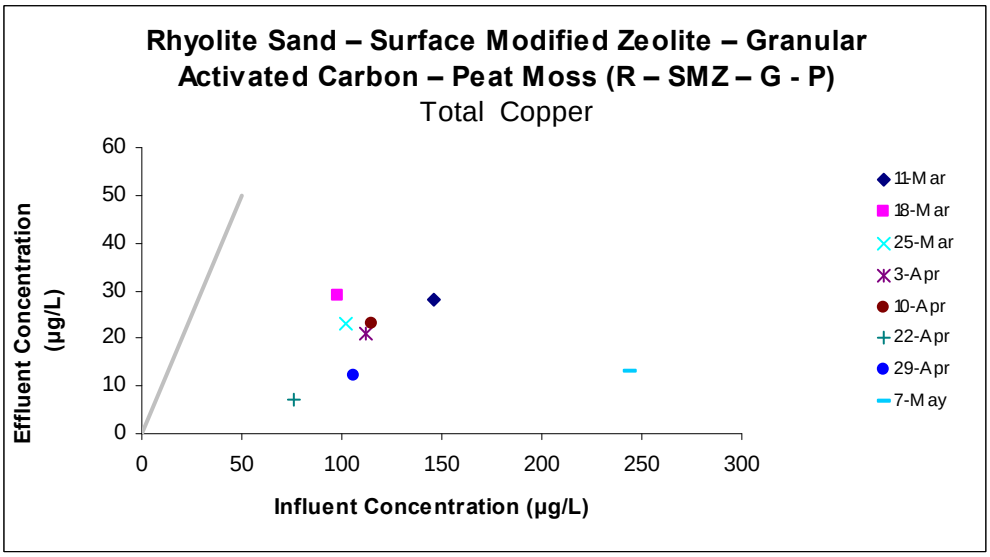
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	21.030	8.360	2.516	0.046	0.575	41.486	0.575	41.486
X Variable 1	-0.012	0.062	-0.196	0.851	-0.165	0.140	-0.165	0.140

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	19.241	8.759
2	19.829	9.171
3	19.780	3.220
4	19.658	1.342
5	19.621	3.379
6	20.099	-13.099
7	19.731	-7.731
8	18.040	-5.040




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Copper
Concentration (µg/L)
300
250
200
150
100
50
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Copper
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
50
100
150
200
250
300
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cu

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.333
R Square	0.111
Adjusted R Square	-0.067
Standard Error	11.745
Observations	7.000

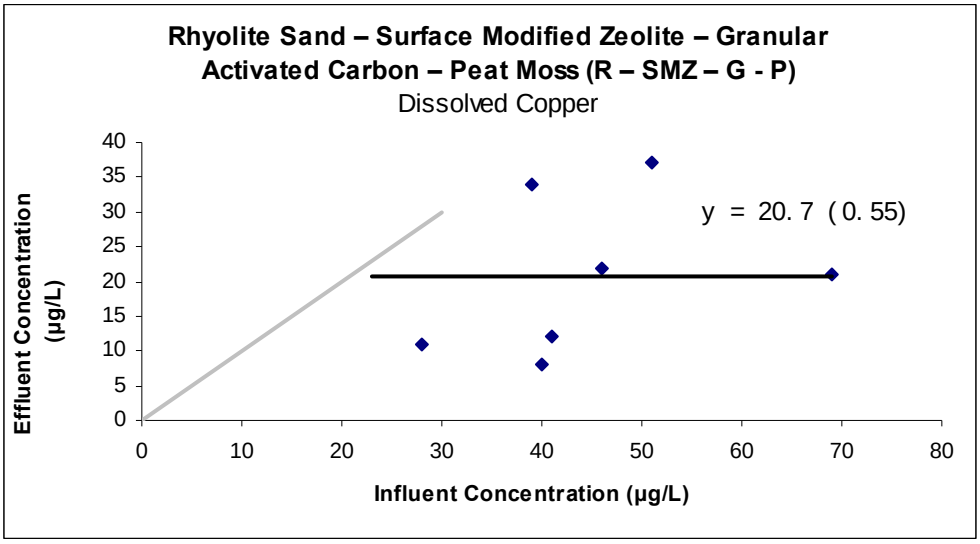
ANOVA

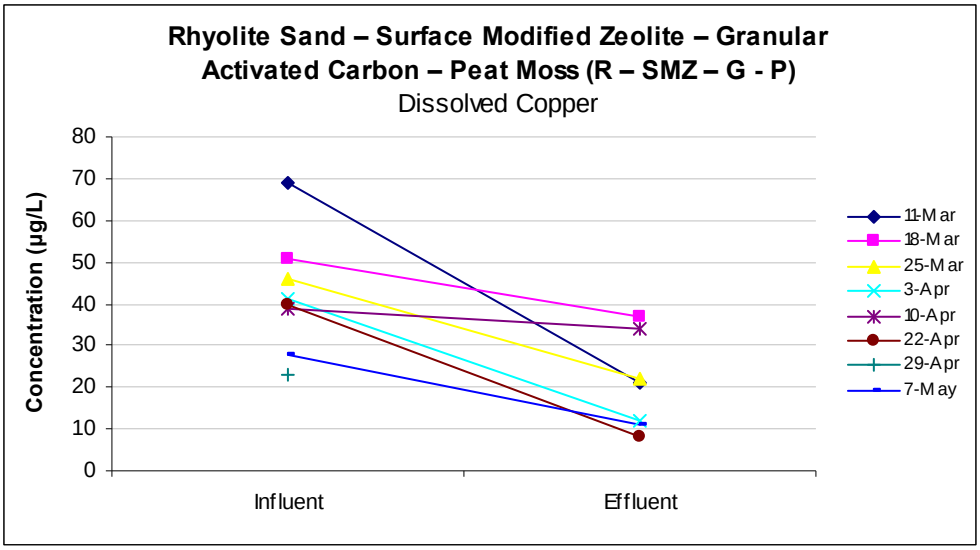
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	85.747	85.747	0.622	0.466
Residual	5.000	689.681	137.936		
Total	6.000	775.429			

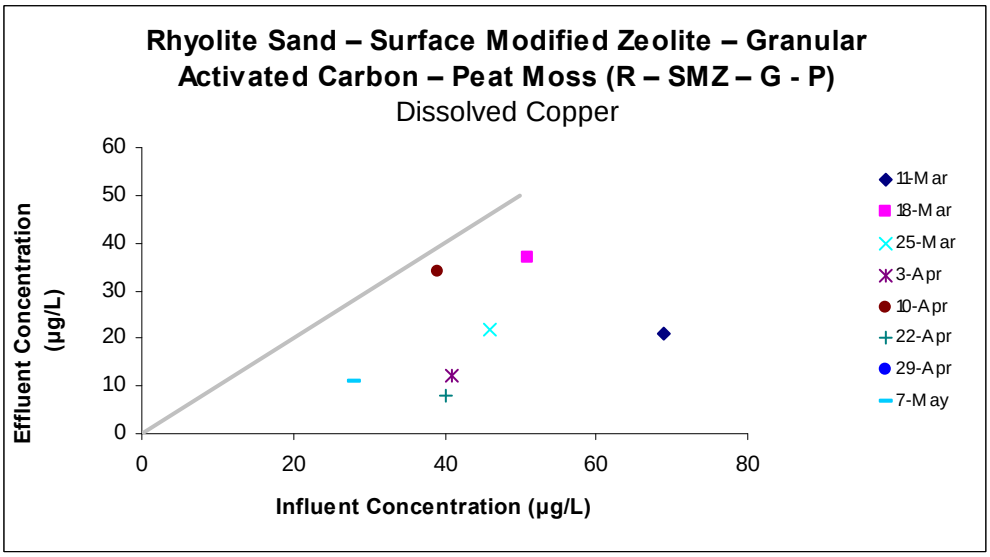
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	7.438	17.414	0.427	0.687	-37.327	52.202	-37.327	52.202
X Variable 1	0.296	0.375	0.788	0.466	-0.669	1.261	-0.669	1.261

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	27.860	-6.860
2	22.532	14.468
3	21.053	0.947
4	19.573	-7.573
5	18.981	15.019
6	19.277	-11.277
7	15.725	-4.725




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Copper
Concentration (µg/L)
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Copper
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Fe

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.205
R Square	0.042
Adjusted R Square	-0.118
Standard Error	110.843
Observations	8.000

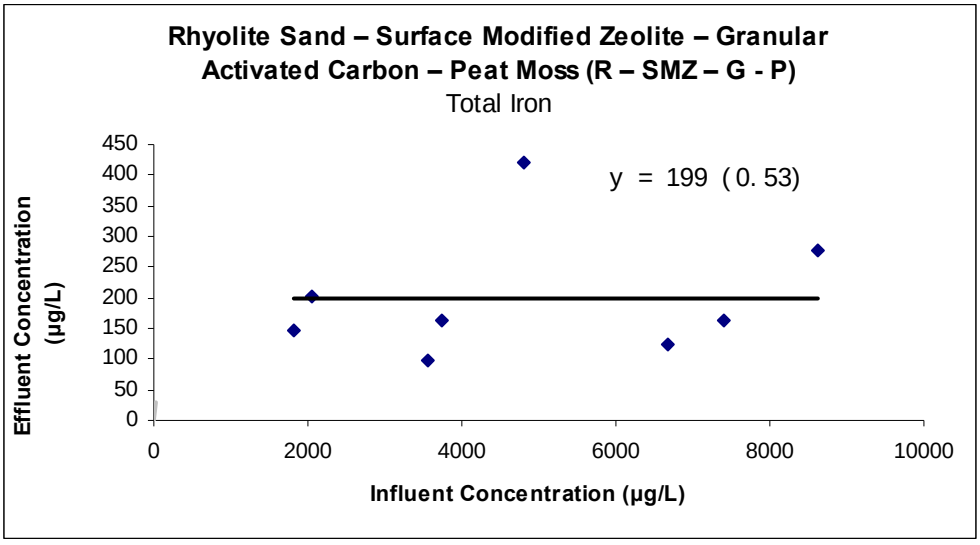
ANOVA

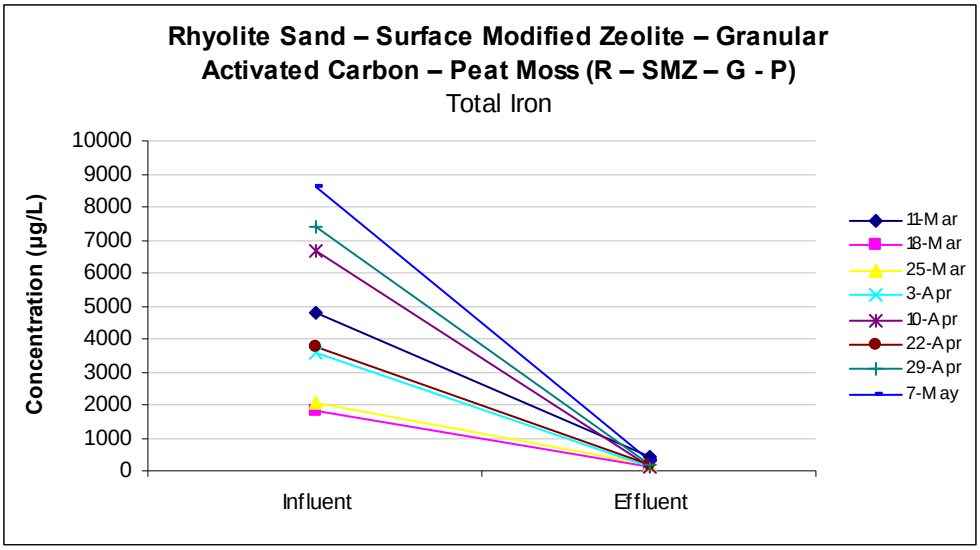
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	3219.857	3219.857	0.262	0.627
Residual	6.000	73717.018	12286.170		
Total	7.000	76936.875			

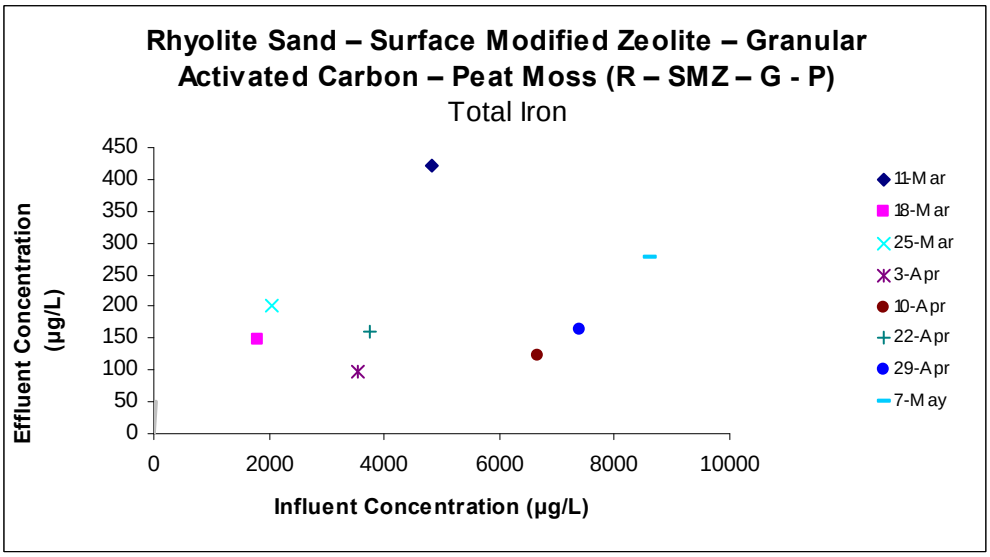
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	157.725	89.866	1.755	0.130	-62.169	377.619	-62.169	377.619
X Variable 1	0.009	0.017	0.512	0.627	-0.032	0.049	-0.032	0.049

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	198.922	223.078
2	173.310	-26.310
3	175.262	25.738
4	188.192	-90.192
5	214.960	-91.960
6	189.836	-27.836
7	221.023	-57.023
8	231.495	44.505




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Iron
Concentration (µg/L)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Iron
Effluent Concentration (µg/L)
450
400
350
300
250
200
150
100
50
0
0
2000
4000
6000
8000
10000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Fe

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.926
R Square	0.857
Adjusted R Square	0.833
Standard Error	12.030
Observations	8.000

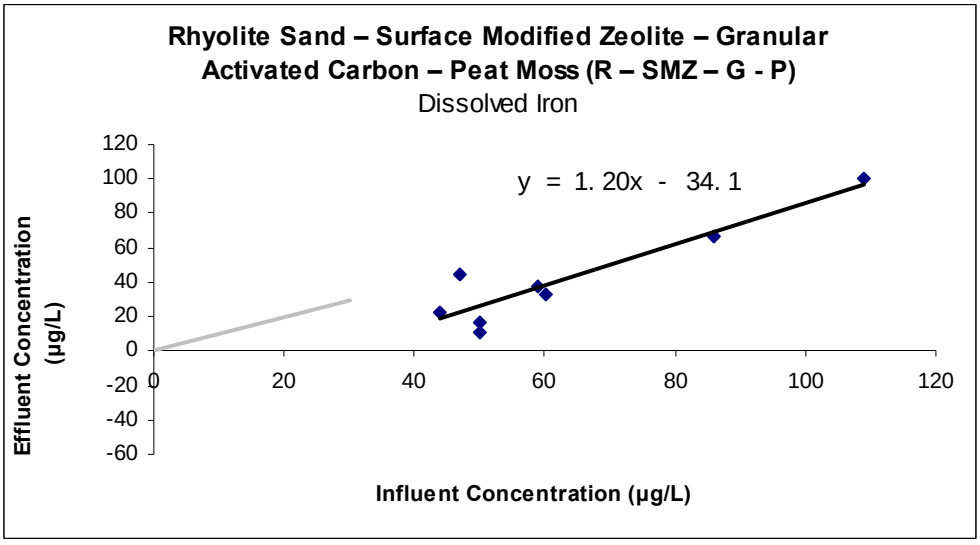
ANOVA

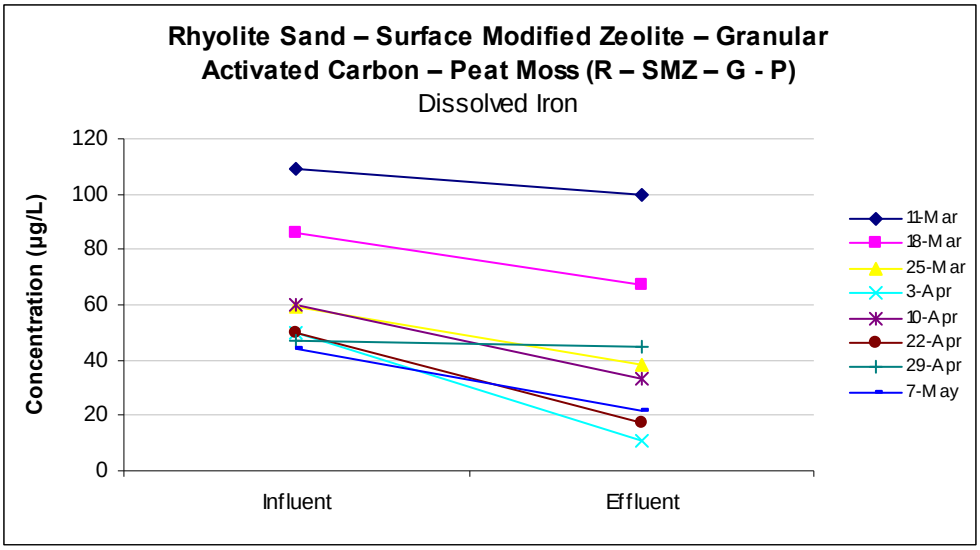
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	5211.483	5211.483	36.008	0.001
Residual	6.000	868.392	144.732		
Total	7.000	6079.875			

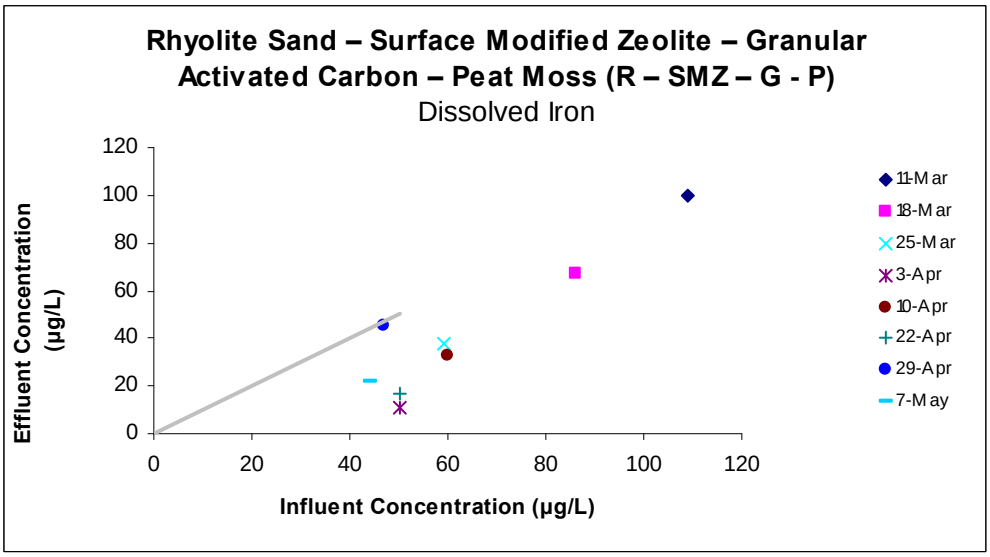
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-34.064	13.311	-2.559	0.043	-66.636	-1.493	-66.636	-1.493
X Variable 1	1.199	0.200	6.001	0.001	0.710	1.688	0.710	1.688

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	96.631	3.369
2	69.053	-2.053
3	36.679	1.321
4	25.888	-14.888
5	37.878	-4.878
6	25.888	-8.888
7	22.290	22.710
8	18.693	3.307




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Iron
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Iron
Effluent Concentration (µg/L)
120
100
80
60
40
20
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Mg

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.496
R Square	0.246
Adjusted R Square	0.120
Standard Error	1057.521
Observations	8.000

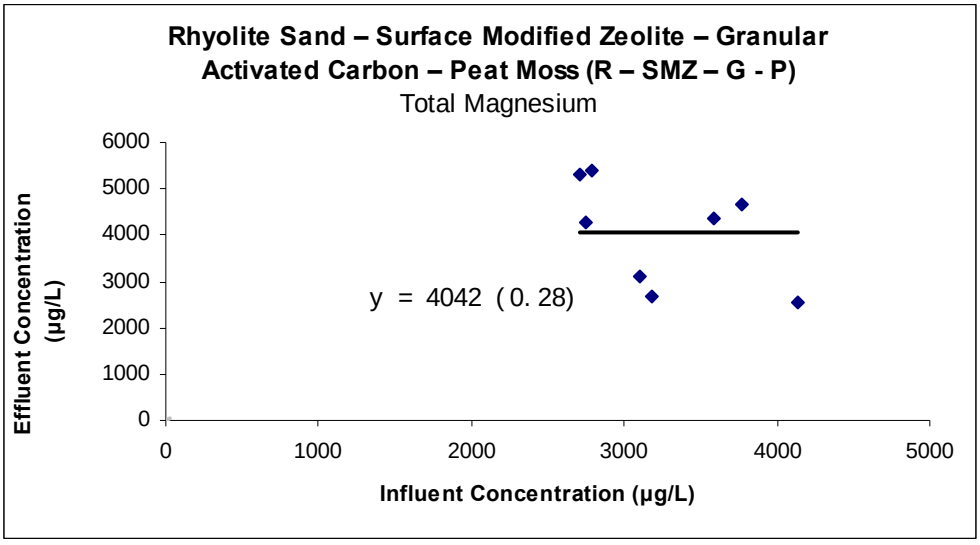
ANOVA

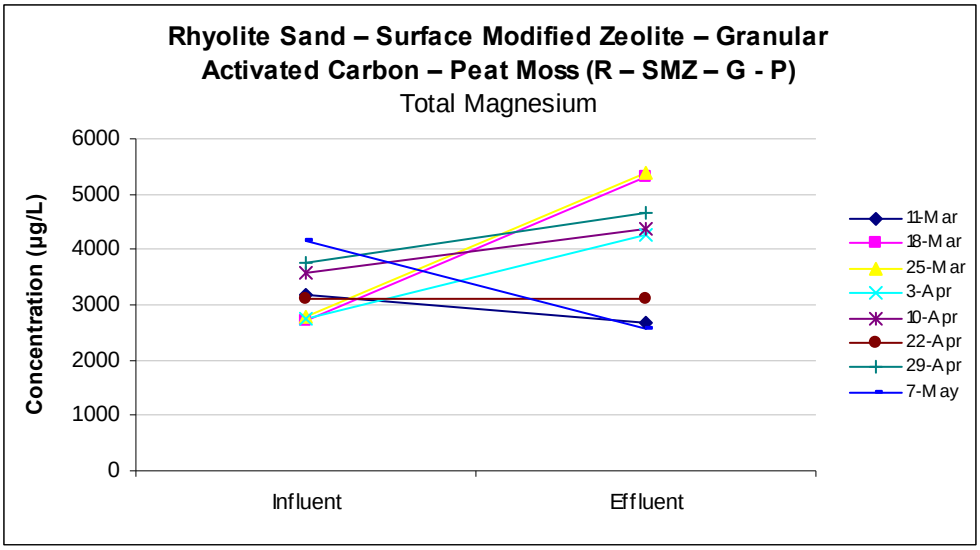
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	2185019.216	2185019.216	1.954	0.212
Residual	6.000	6710104.284	1118350.714		
Total	7.000	8895123.500			

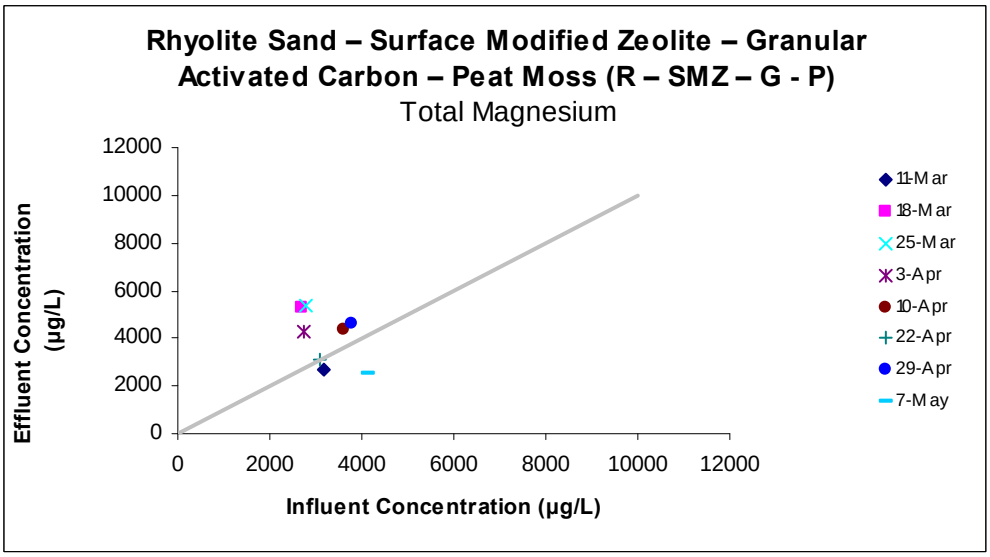
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	7464.930	2477.036	3.014	0.024	1403.841	13526.020	1403.841	13526.020
X Variable 1	-1.052	0.753	-1.398	0.212	-2.895	0.790	-2.895	0.790

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	4119.339	-1448.339
2	4618.178	683.822
3	4529.776	865.224
4	4577.134	-315.134
5	3686.801	688.199
6	4203.531	-1078.531
7	3494.211	1161.789
8	3109.031	-557.031




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Magnesium
Concentration (µg/L)
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Magnesium
Effluent Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Mg

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.355
R Square	0.126
Adjusted R Square	-0.019
Standard Error	975.985
Observations	8.000

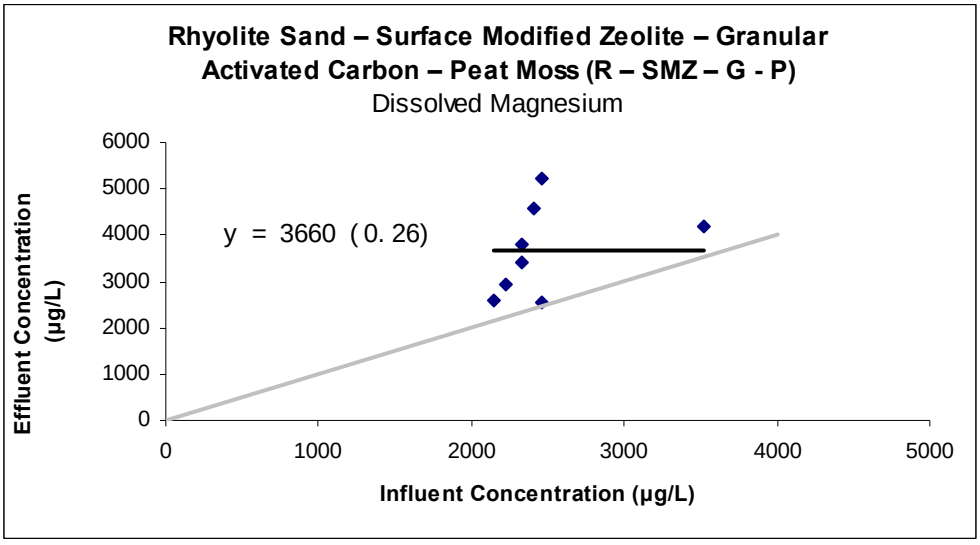
ANOVA

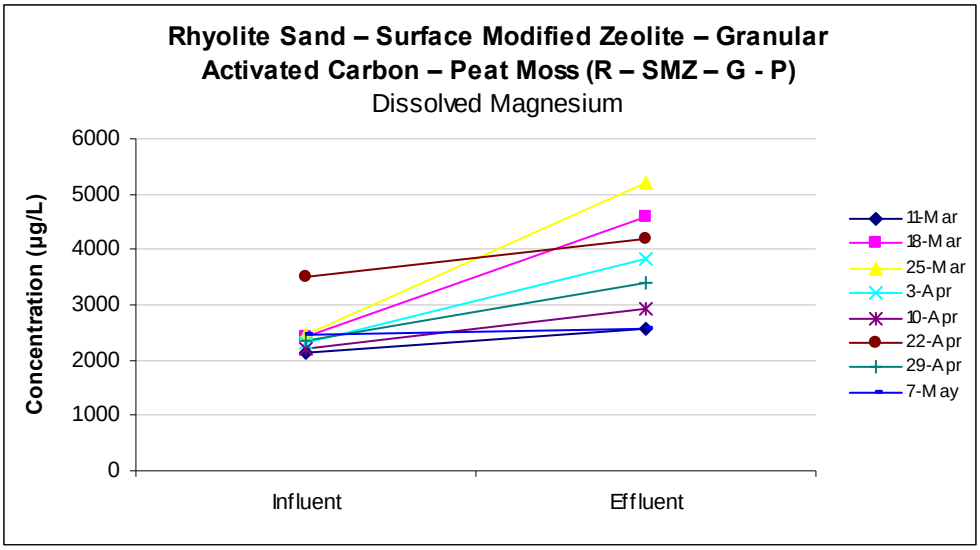
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	825057.910	825057.910	0.866	0.388
Residual	6.000	5715276.090	952546.015		
Total	7.000	6540334.000			

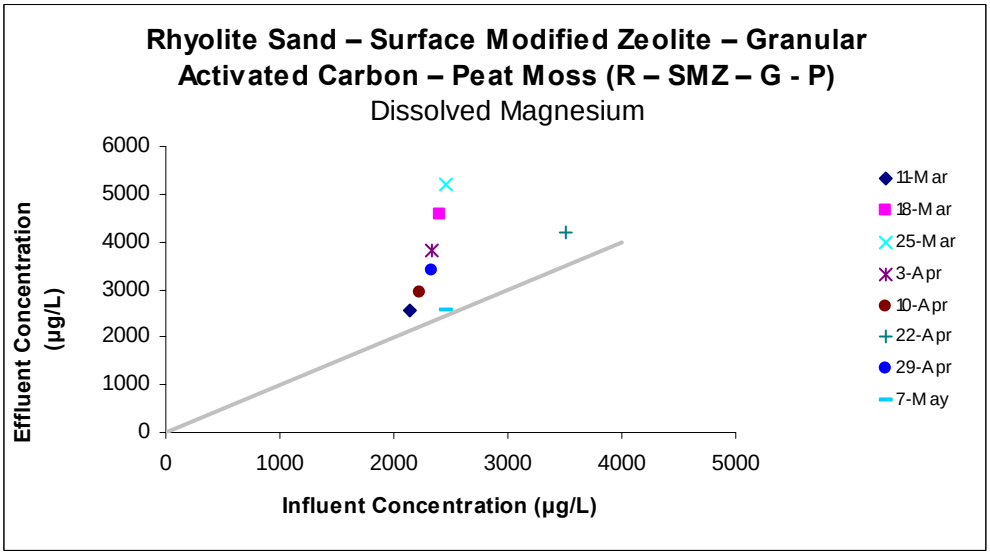
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1686.265	2148.640	0.785	0.462	-3571.267	6943.797	-3571.267	6943.797
X Variable 1	0.795	0.854	0.931	0.388	-1.295	2.884	-1.295	2.884

RESIDUAL OUTPUT

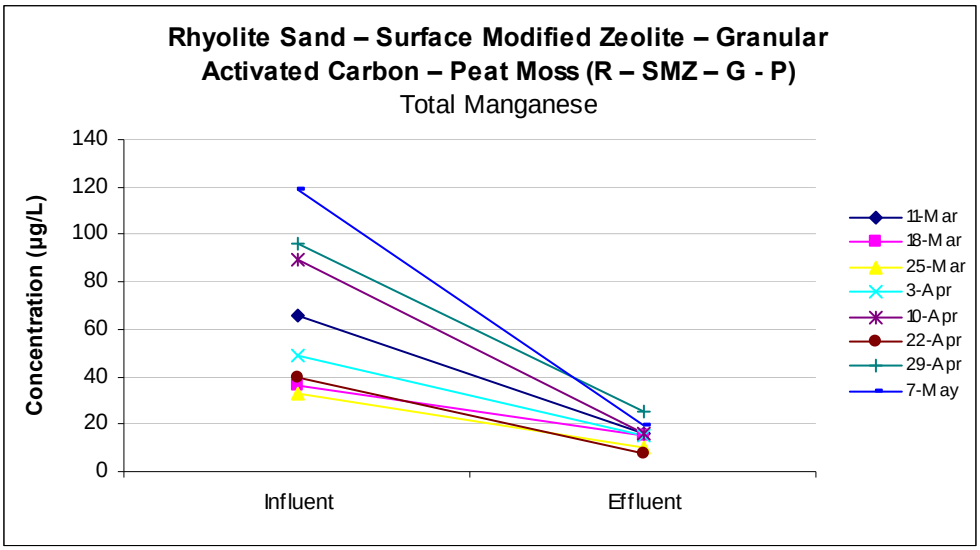
Observation	*Predicted Y*	*Residuals*
1	3390.186	-814.186
2	3596.818	988.182
3	3643.708	1569.292
4	3535.623	279.377
5	3451.381	-506.381
6	4481.363	-294.363
7	3541.981	-138.981
8	3638.939	-1082.939

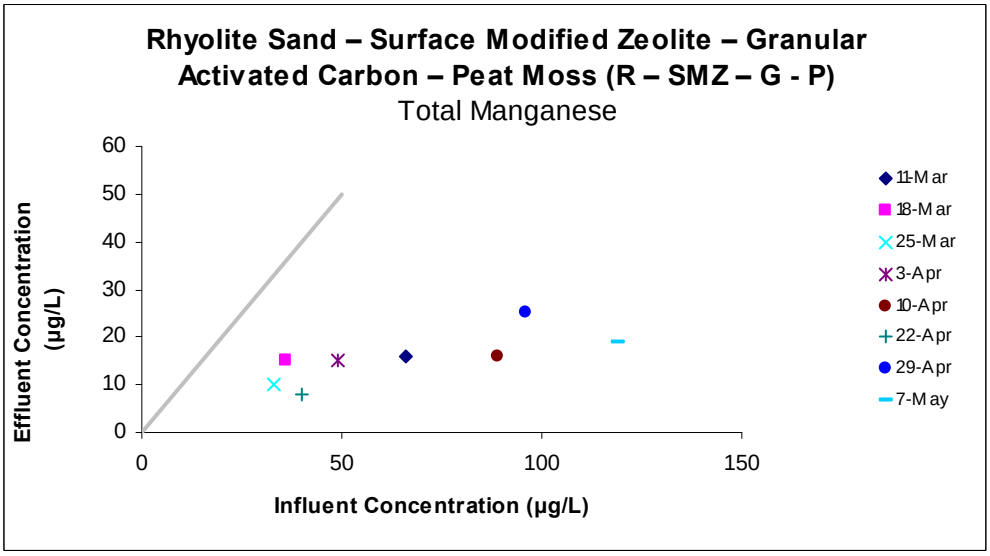



Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Magnesium
Concentration (µg/L)
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

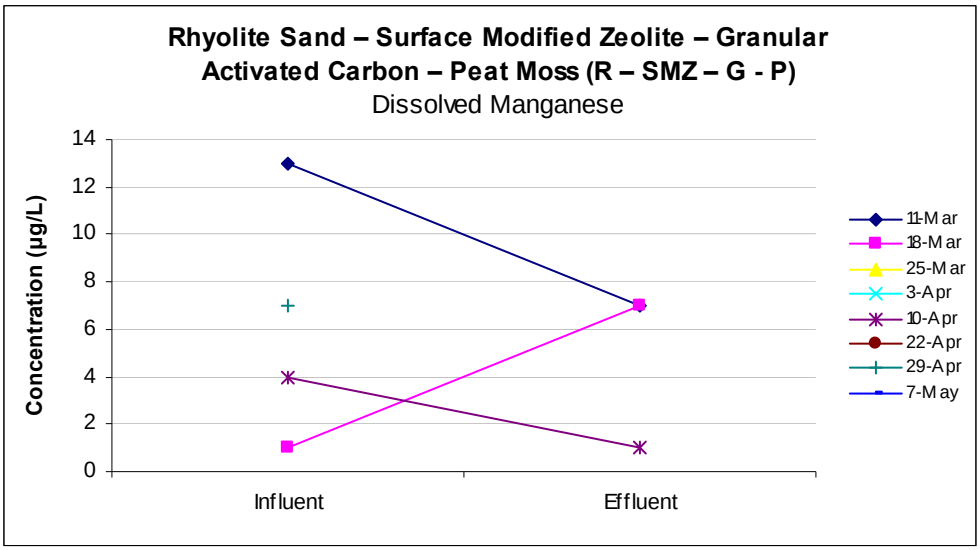

Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Magnesium
Effluent Concentration (µg/L)
6000
5000
4000
3000
2000
1000
0
0
1000
2000
3000
4000
5000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

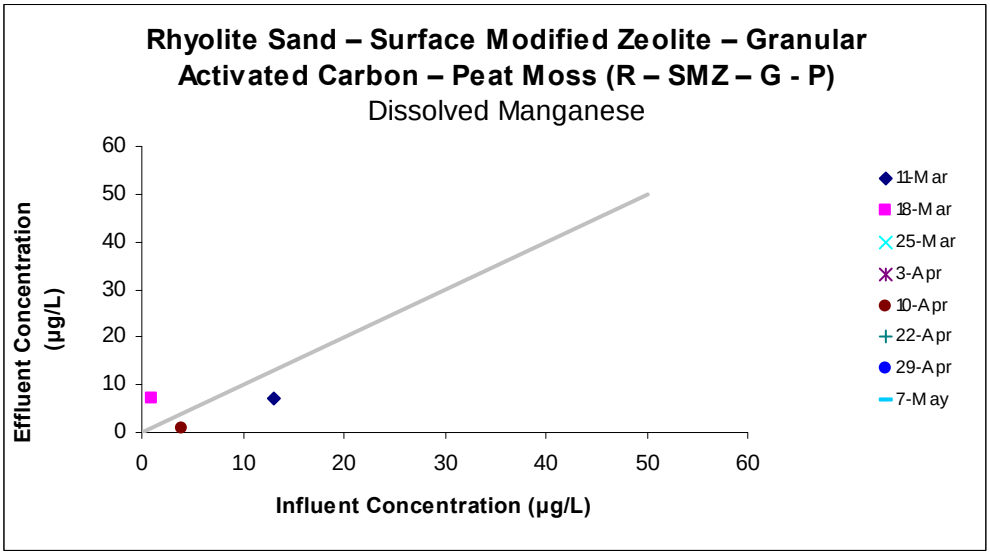
Total Mn


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Manganese
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

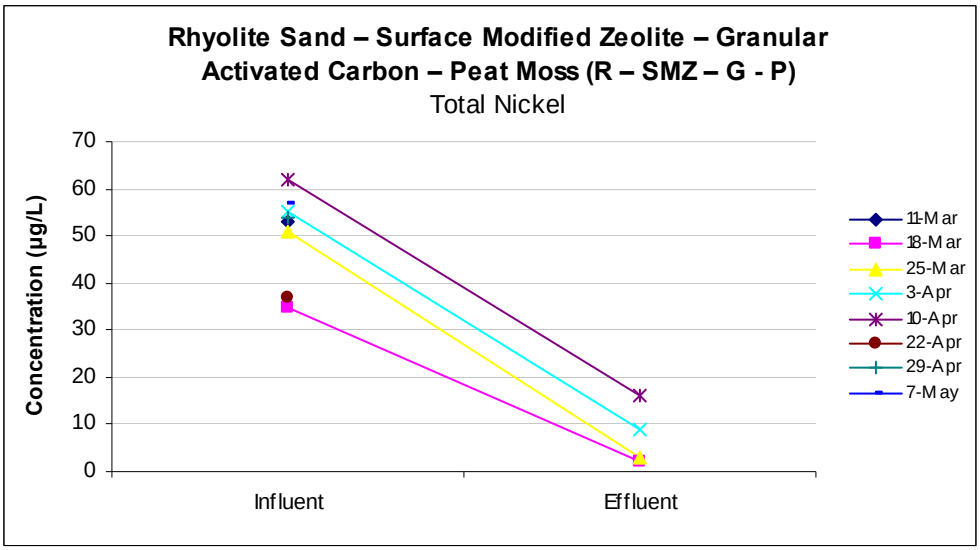

Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Manganese
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
50
100
150
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

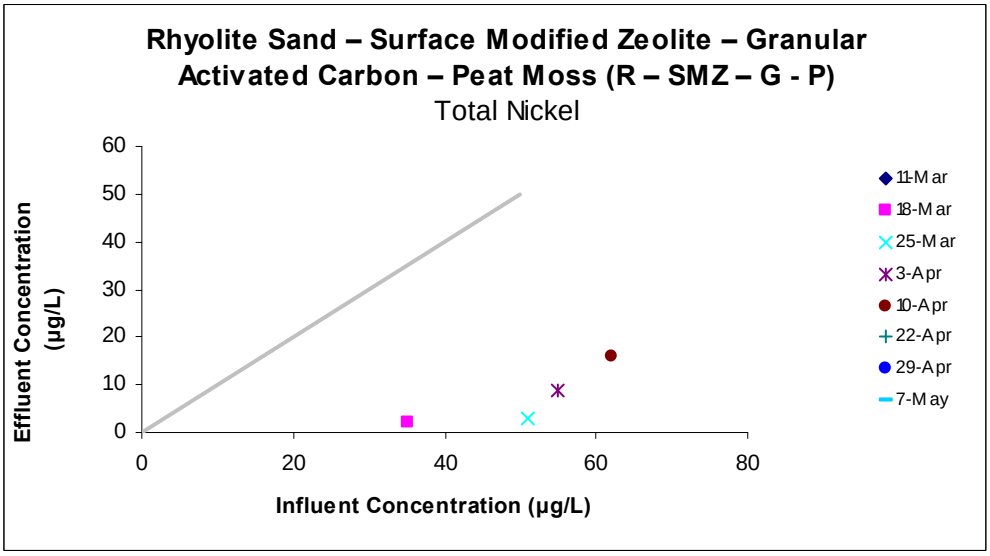
Dissolved Mn



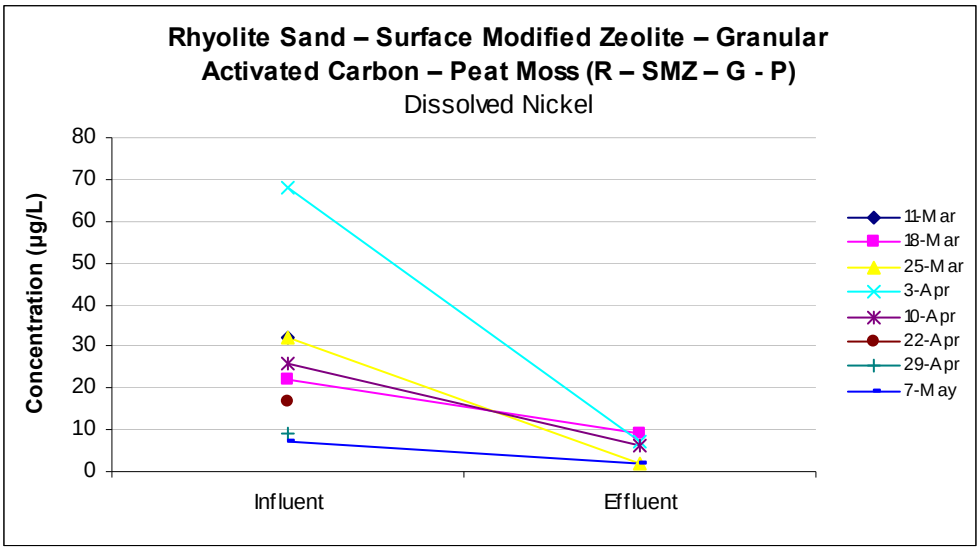


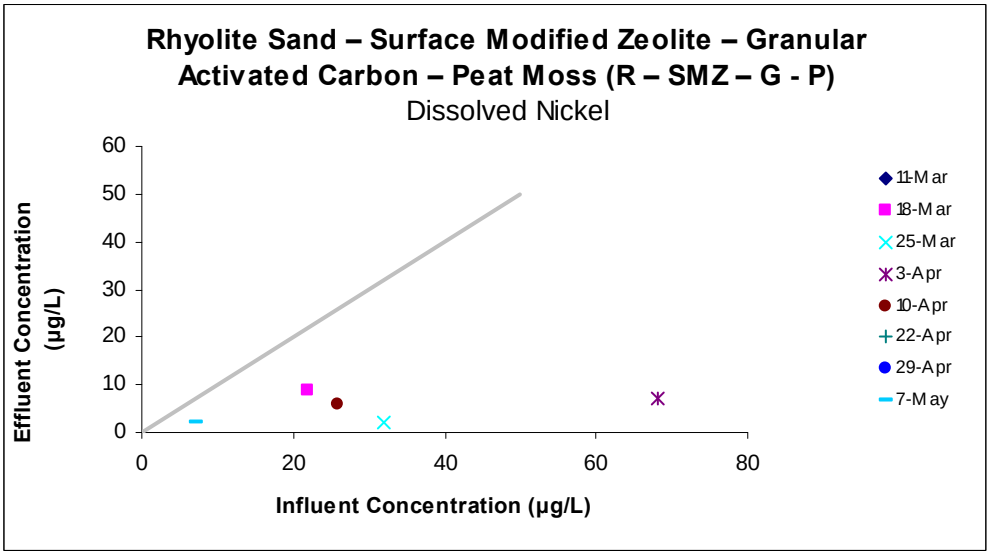
Total Ni


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Nickel
Concentration (µg/L)
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

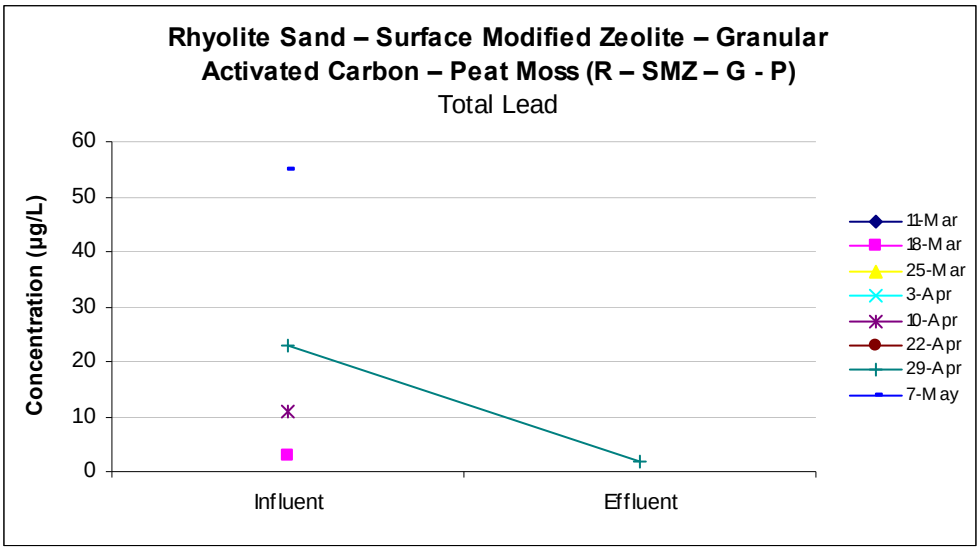

Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Nickel
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

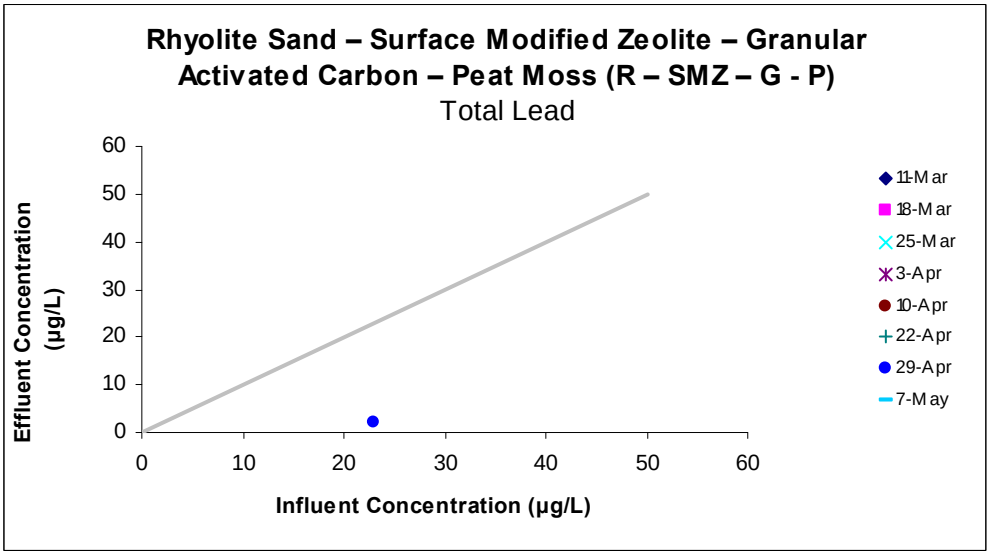
Dissolved Ni



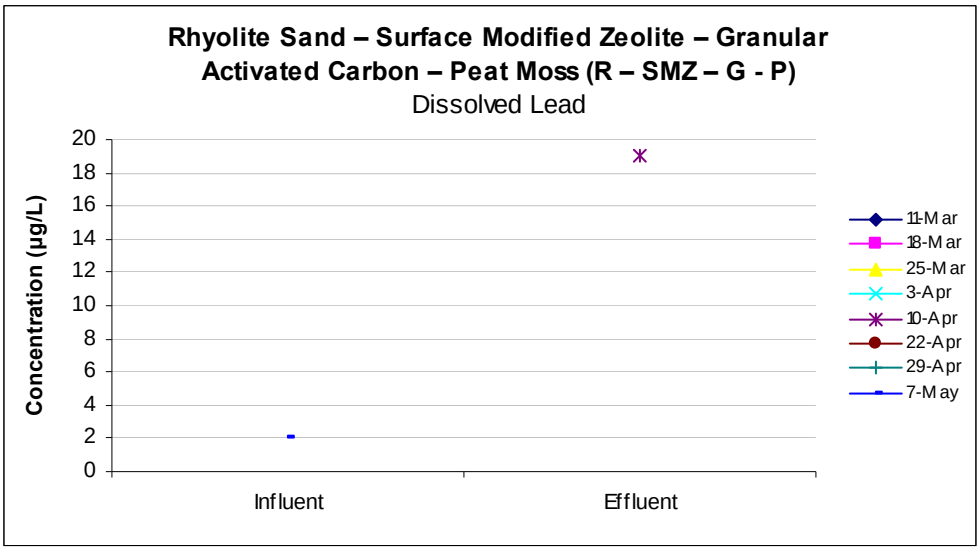


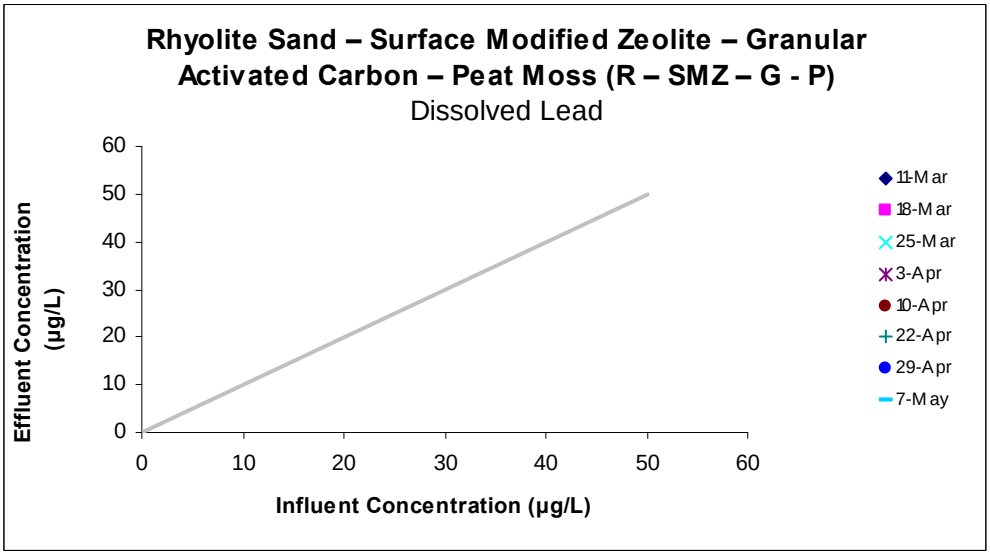
Total Pb


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Lead
Concentration (µg/L)
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Lead
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Pb





Total Zn

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.076
R Square	0.006
Adjusted R Square	-0.160
Standard Error	21.017
Observations	8.000

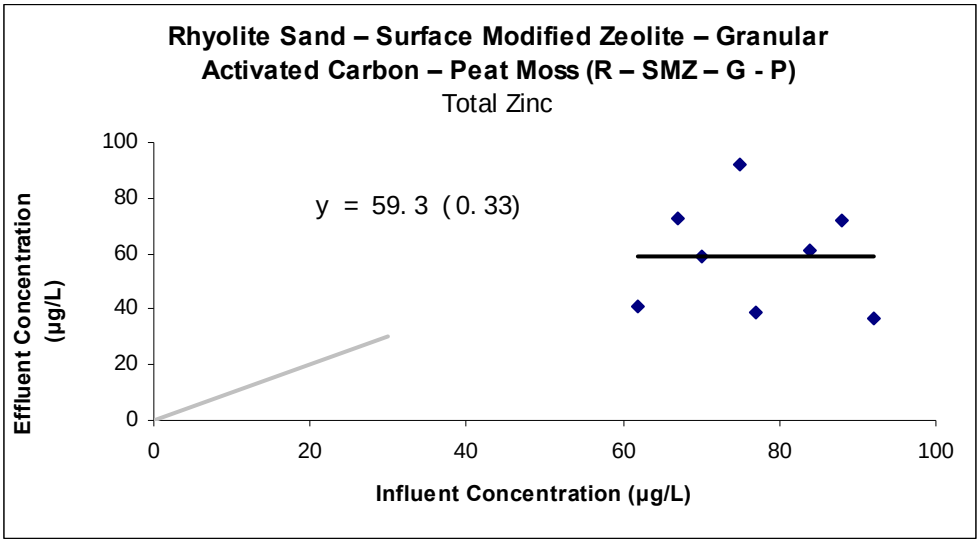
ANOVA

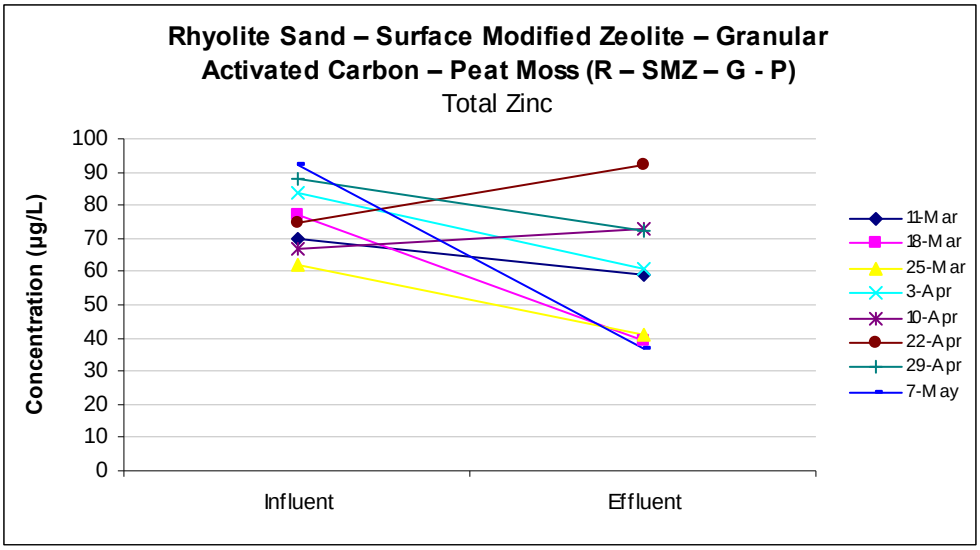
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	15.302	15.302	0.035	0.858
Residual	6.000	2650.198	441.700		
Total	7.000	2665.500			

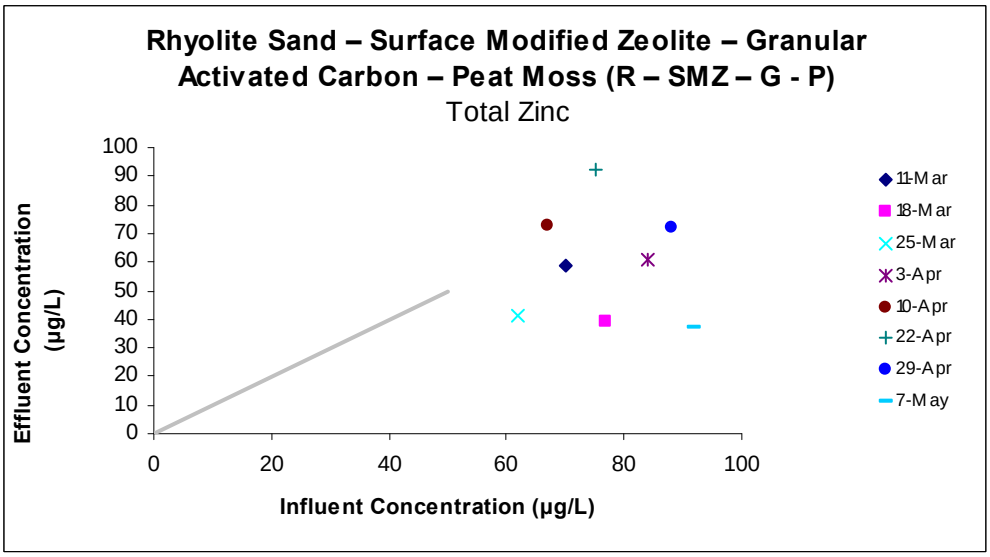
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	70.067	58.589	1.196	0.277	-73.295	213.429	-73.295	213.429
X Variable 1	-0.141	0.756	-0.186	0.858	-1.991	1.709	-1.991	1.709

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	60.217	-1.217
2	59.232	-20.232
3	61.343	-20.343
4	58.247	2.753
5	60.639	12.361
6	59.514	32.486
7	57.685	14.315
8	57.122	-20.122




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Zinc
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Zinc
Effluent Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Zn

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.110
R Square	0.012
Adjusted R Square	-0.153
Standard Error	19.296
Observations	8.000

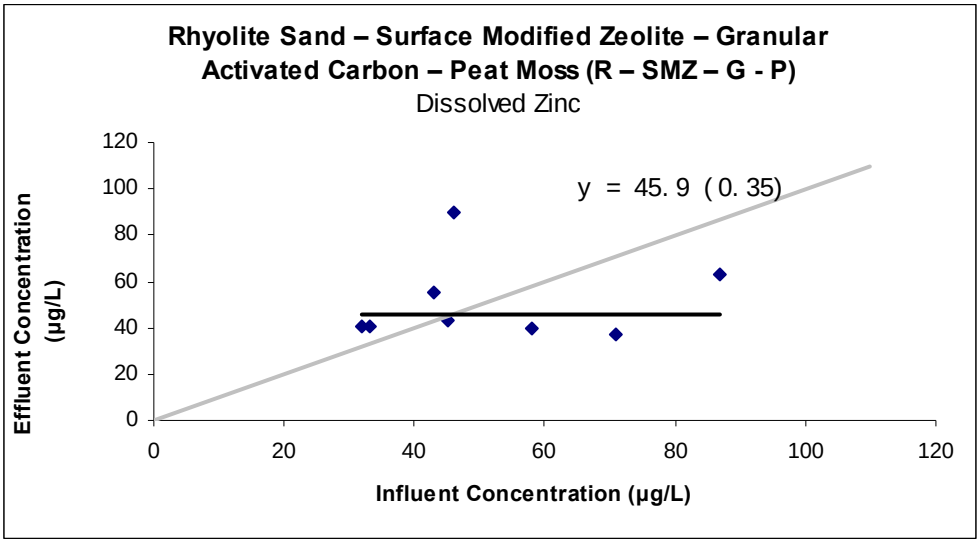
ANOVA

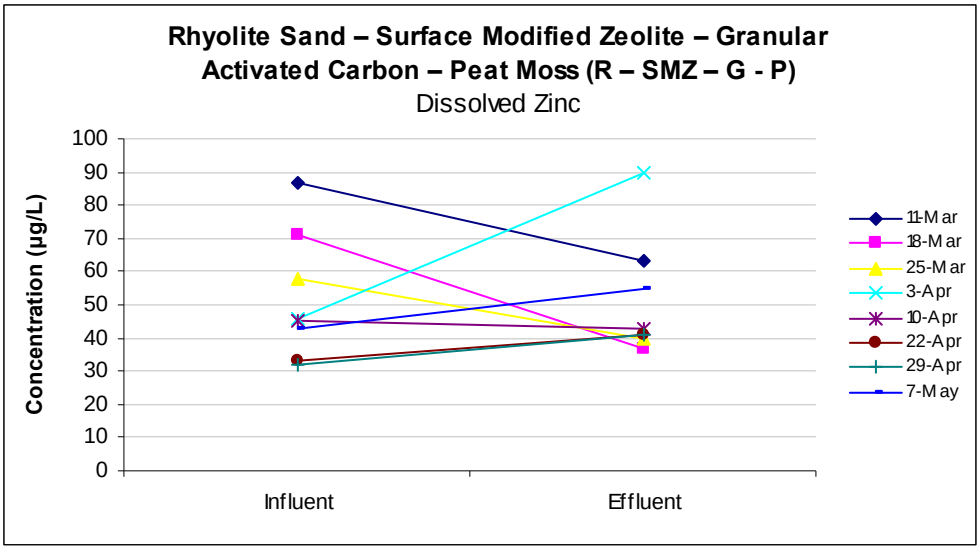
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	27.396	27.396	0.074	0.795
Residual	6.000	2234.104	372.351		
Total	7.000	2261.500			

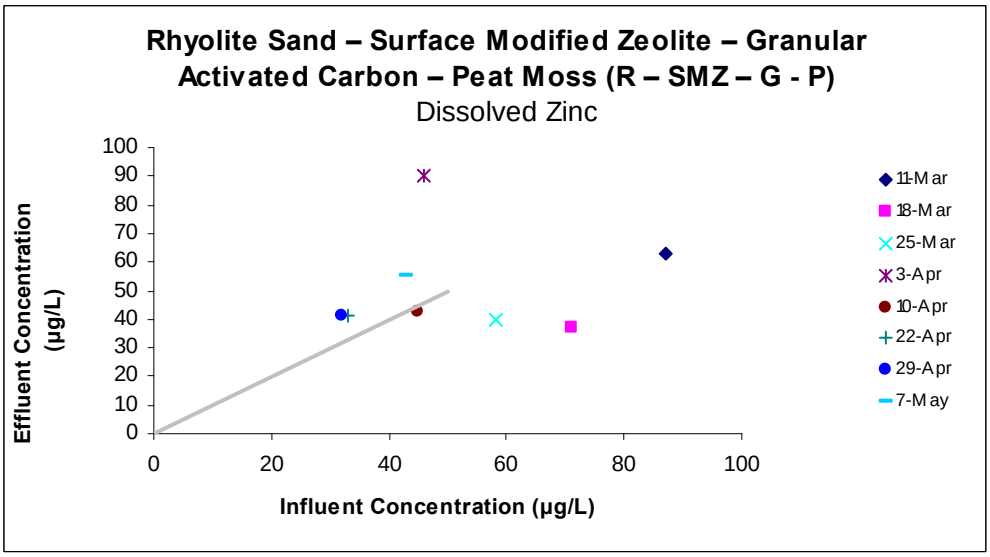
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	45.872	20.968	2.188	0.071	-5.435	97.179	-5.435	97.179
X Variable 1	0.104	0.382	0.271	0.795	-0.832	1.039	-0.832	1.039

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	54.892	8.108
2	53.233	-16.233
3	51.885	-11.885
4	50.641	39.359
5	50.537	-7.537
6	49.293	-8.293
7	49.189	-8.189
8	50.330	4.670




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Zinc
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Zinc
Effluent Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total K

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.368
R Square	0.135
Adjusted R Square	-0.009
Standard Error	1643.976
Observations	8.000

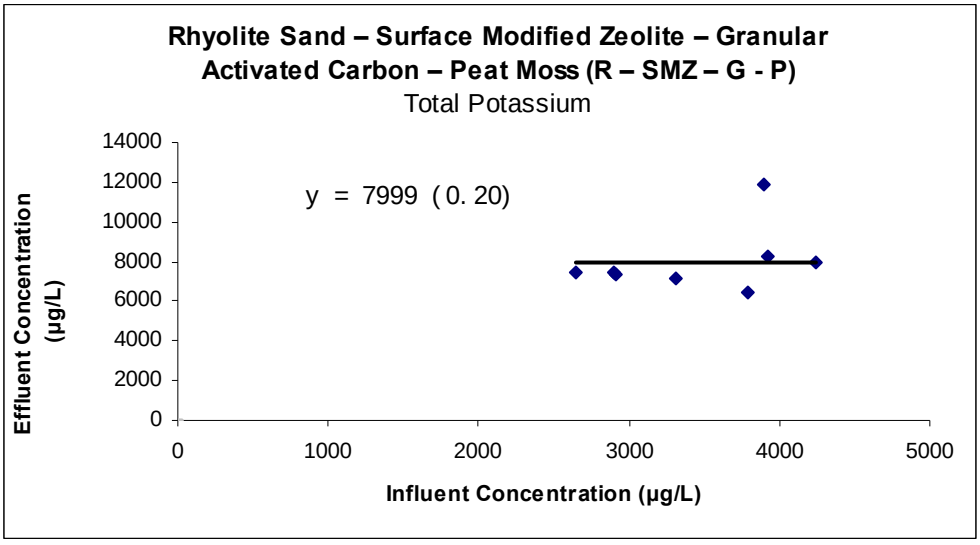
ANOVA

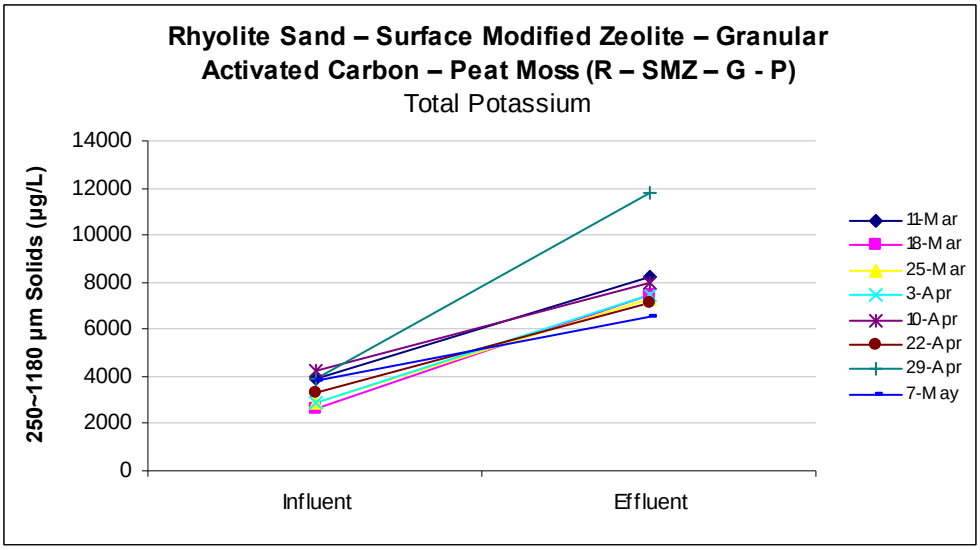
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	2533202.017	2533202.017	0.937	0.370
Residual	6.000	16215937.483	2702656.247		
Total	7.000	18749139.500			

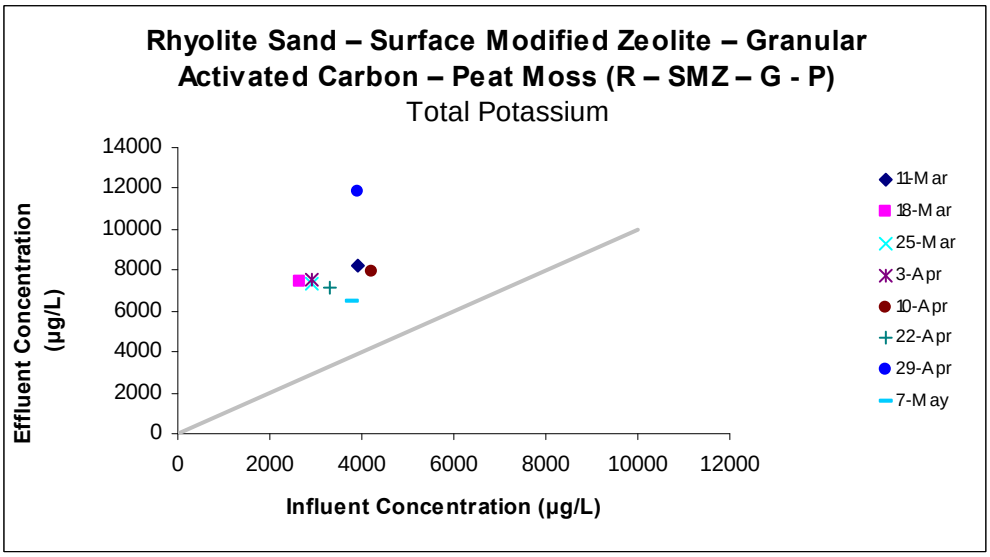
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	4453.159	3708.606	1.201	0.275	-4621.473	13527.791	-4621.473	13527.791
X Variable 1	1.027	1.061	0.968	0.370	-1.568	3.622	-1.568	3.622

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	8477.085	-232.085
2	7175.136	302.864
3	7447.231	-128.231
4	7431.829	66.171
5	8805.652	-835.652
6	7855.887	-700.887
7	8455.522	3380.478
8	8345.658	-1852.658




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Potassium
250~1180 µm Solids (µg/L)
14000
12000
10000
8000
6000
4000
2000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Potassium
Effluent Concentration (µg/L)
14000
12000
10000
8000
6000
4000
2000
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved K

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.986
R Square	0.972
Adjusted R Square	0.829
Standard Error	1244.343
Observations	8.000

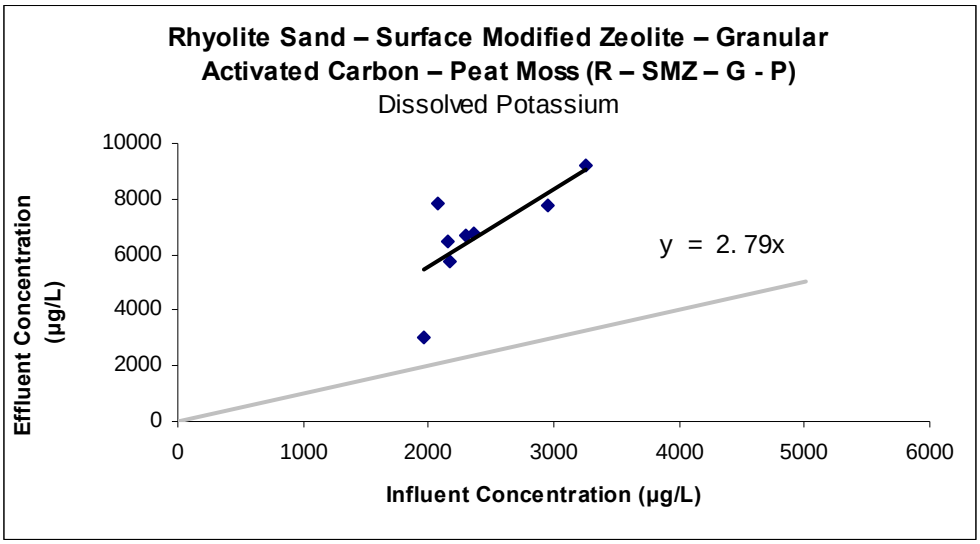
ANOVA

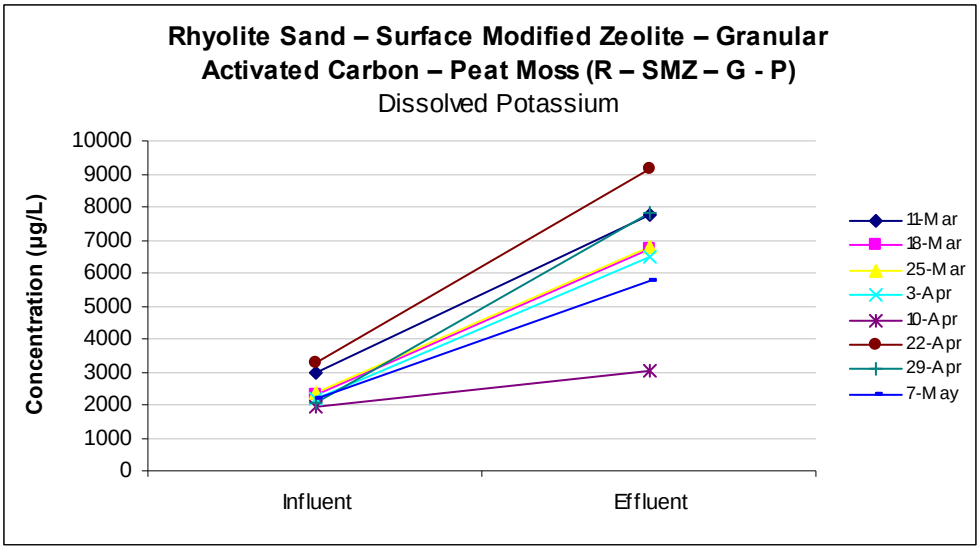
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	371024611.027	371024611.027	239.620	0.000
Residual	7.000	10838722.973	1548388.996		
Total	8.000	381863334.000			

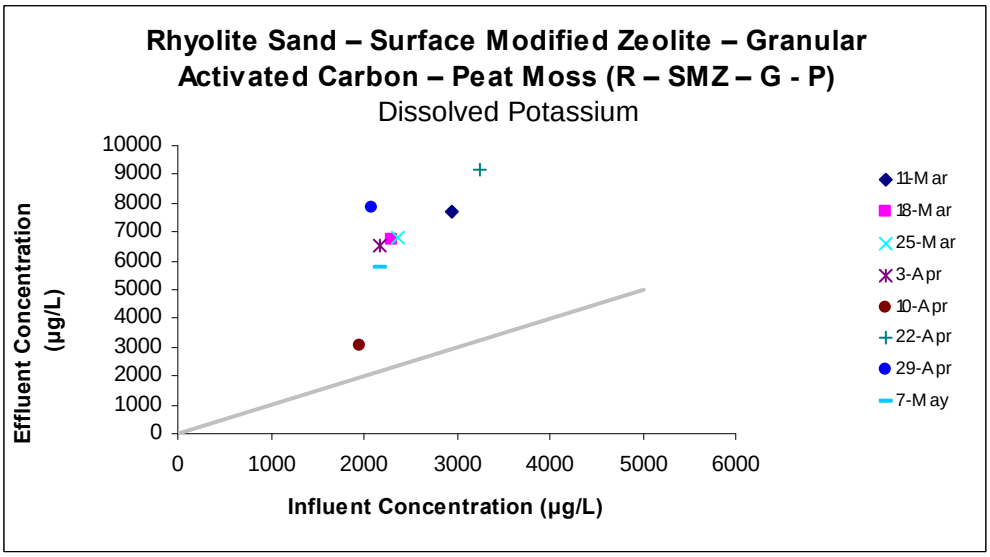
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	2.786	0.180	15.480	0.000	2.361	3.212	2.361	3.212

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	8235.742	-493.742
2	6419.198	296.802
3	6597.510	200.490
4	6023.571	482.429
5	5460.776	-2439.776
6	9066.003	112.997
7	5797.896	2048.104
8	6045.860	-271.860




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Potassium
Concentration (µg/L)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Potassium
Effluent Concentration (µg/L)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
0
1000
2000
3000
4000
5000
6000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Na

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.049
R Square	0.002
Adjusted R Square	-0.164
Standard Error	4548.518
Observations	8.000

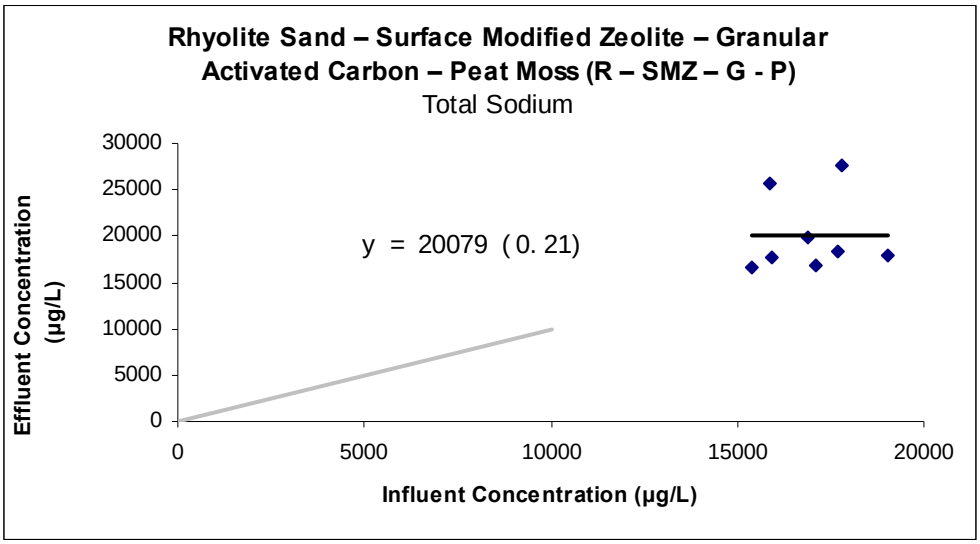
ANOVA

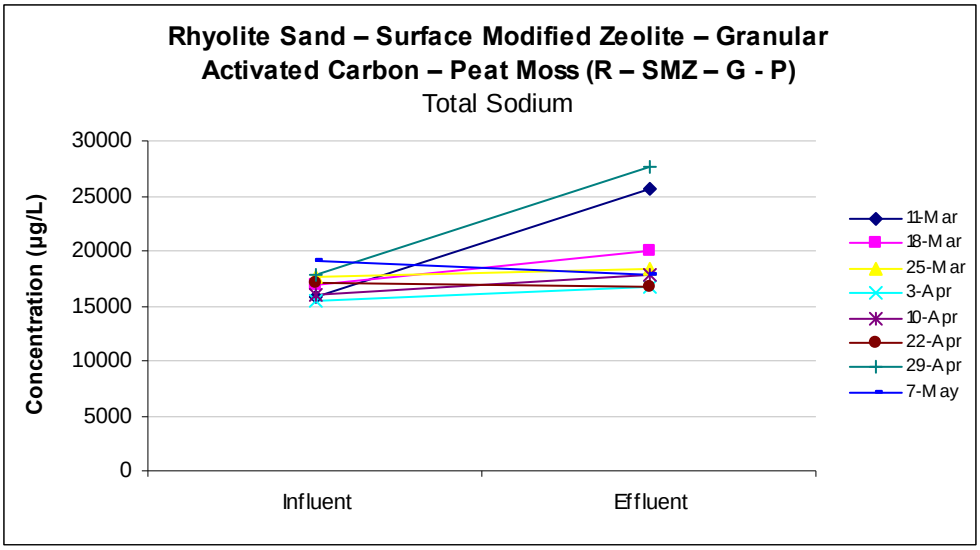
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	304681.758	304681.758	0.015	0.907
Residual	6.000	124134073.742	20689012.290		
Total	7.000	124438755.500			

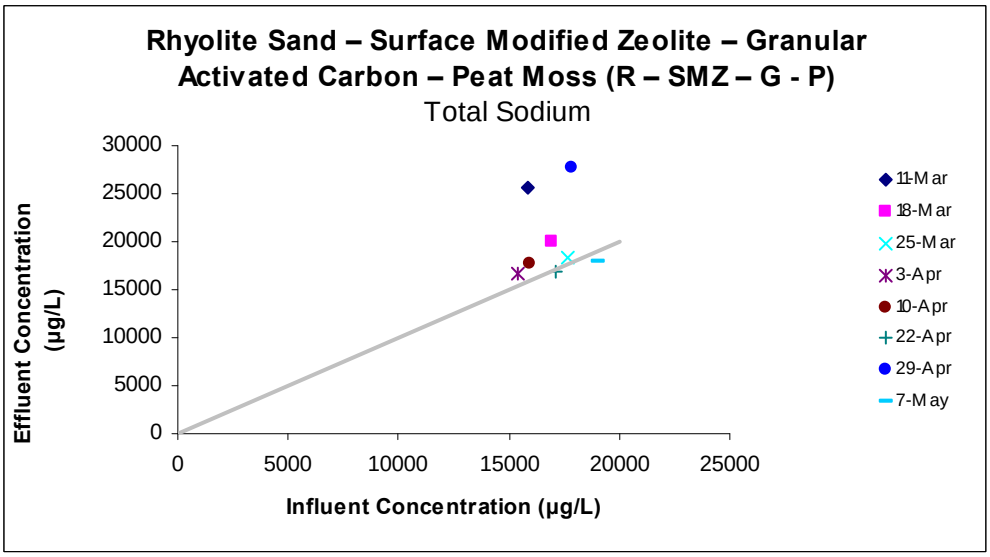
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	17173.642	23993.119	0.716	0.501	-41535.406	75882.689	-41535.406	75882.689
X Variable 1	0.171	1.411	0.121	0.907	-3.281	3.623	-3.281	3.623

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	19891.719	5823.281
2	20068.393	-141.393
3	20201.069	-1901.069
4	19804.066	-3135.066
5	19902.333	-2138.333
6	20103.830	-3322.830
7	20224.694	7385.306
8	20433.896	-2569.896




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Sodium
Concentration (µg/L)
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Sodium
Effluent Concentration (µg/L)
30000
25000
20000
15000
10000
5000
0
0
5000
10000
15000
20000
25000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Na

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.317
R Square	0.100
Adjusted R Square	-0.049
Standard Error	3305.190
Observations	8.000

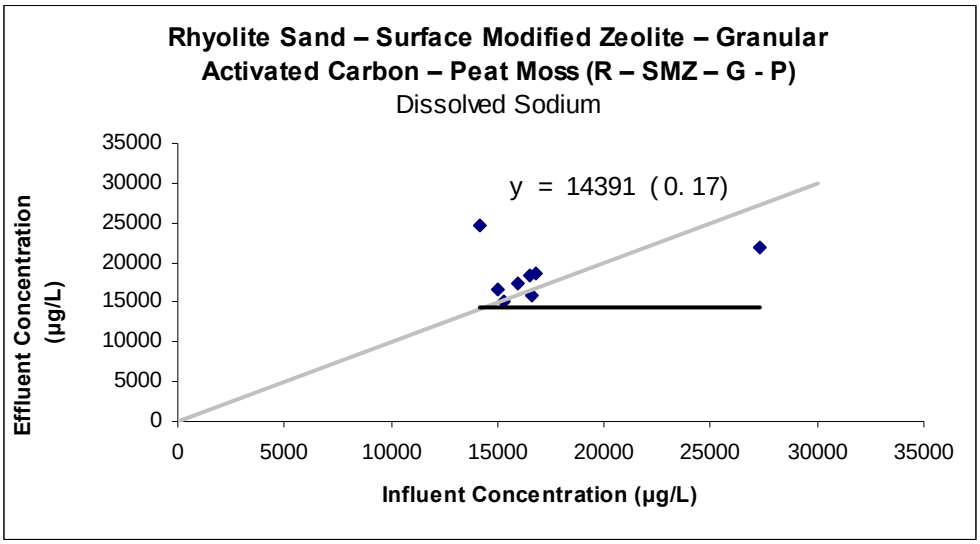
ANOVA

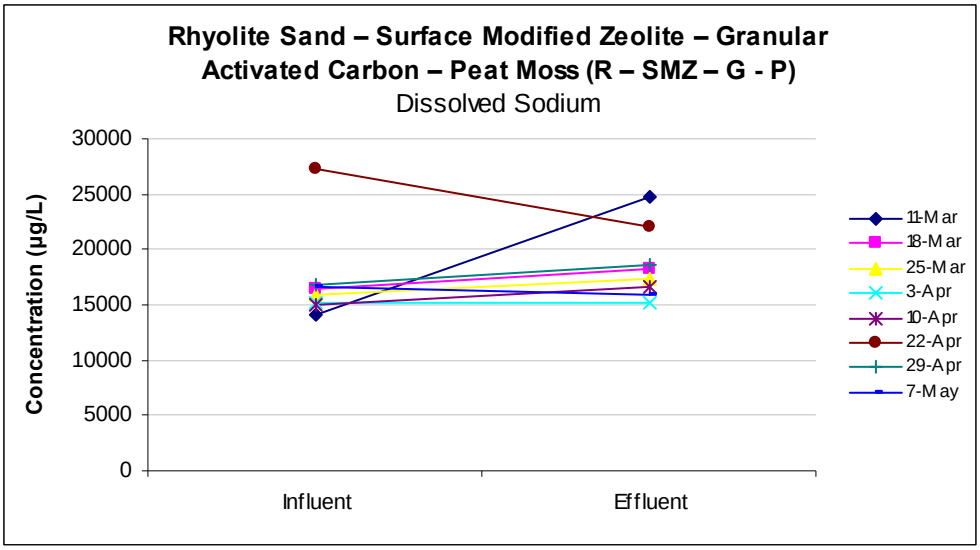
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	7321971.120	7321971.120	0.670	0.444
Residual	6.000	65545669.755	10924278.292		
Total	7.000	72867640.875			

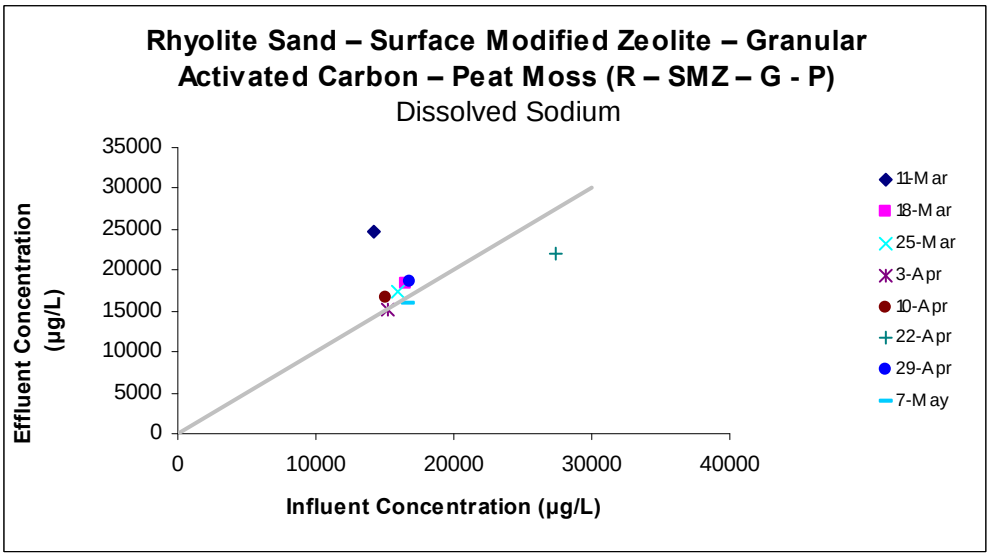
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	14390.678	5264.489	2.734	0.034	1508.938	27272.418	1508.938	27272.418
X Variable 1	0.244	0.298	0.819	0.444	-0.486	0.974	-0.486	0.974

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	17850.540	6865.460
2	18426.736	-122.736
3	18286.105	-862.105
4	18118.129	-2939.129
5	18053.674	-1421.674
6	21063.321	927.679
7	18499.249	28.751
8	18447.245	-2476.245




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Sodium
Concentration (µg/L)
30000
25000
20000
15000
10000
5000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Sodium
Effluent Concentration (µg/L)
35000
30000
25000
20000
15000
10000
5000
0
0
10000
20000
30000
40000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Cr

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.522
R Square	0.272
Adjusted R Square	0.151
Standard Error	3.964
Observations	8.000

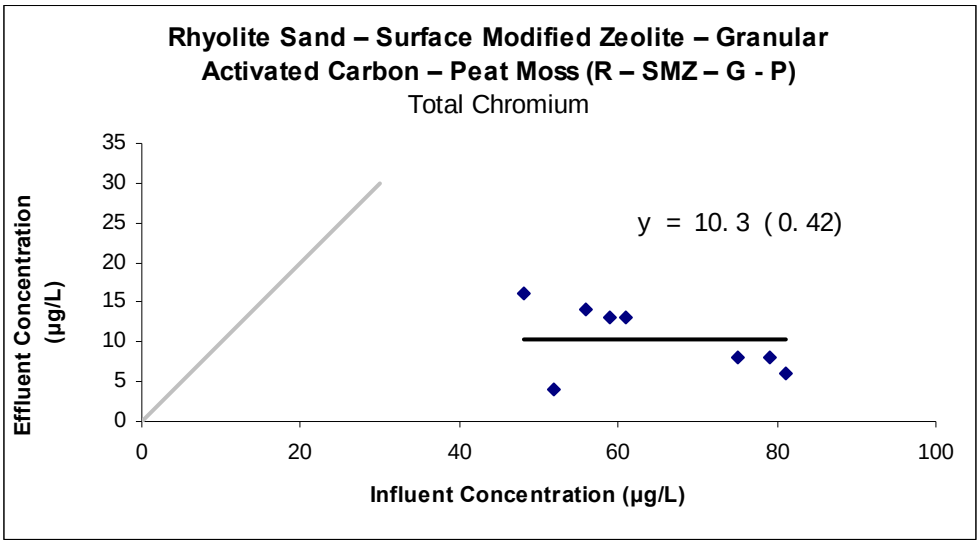
ANOVA

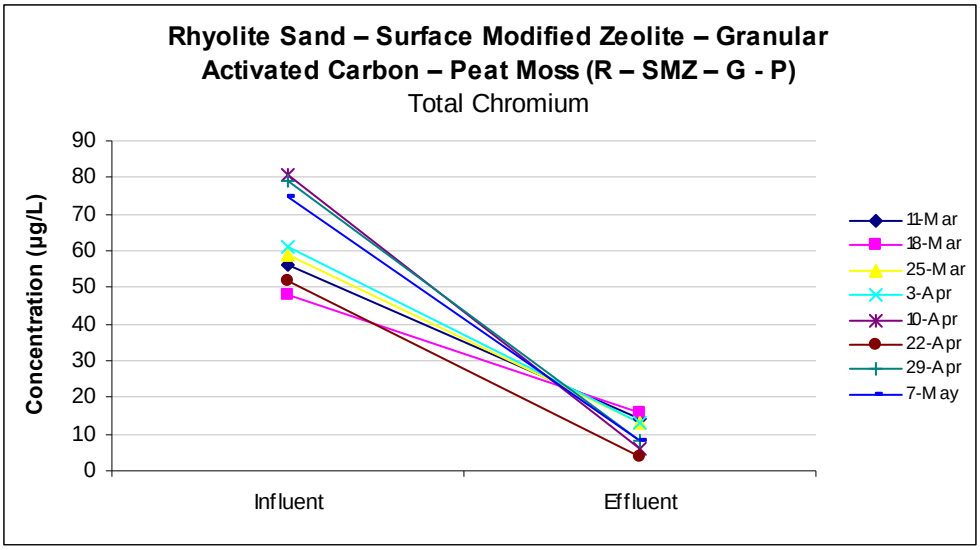
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	35.220	35.220	2.241	0.185
Residual	6.000	94.280	15.713		
Total	7.000	129.500			

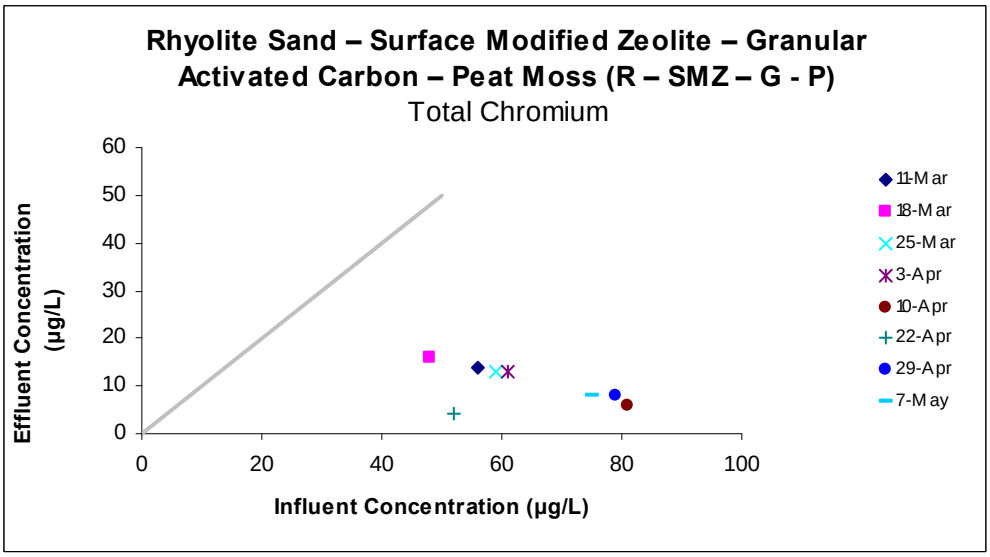
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	21.513	7.652	2.811	0.031	2.788	40.237	2.788	40.237
X Variable 1	-0.176	0.118	-1.497	0.185	-0.464	0.112	-0.464	0.112

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	11.639	2.361
2	13.049	2.951
3	11.110	1.890
4	10.757	2.243
5	7.230	-1.230
6	12.344	-8.344
7	7.583	0.417
8	8.288	-0.288




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Chromium
Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Chromium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cr

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.693
R Square	0.480
Adjusted R Square	0.306
Standard Error	3.300
Observations	5.000

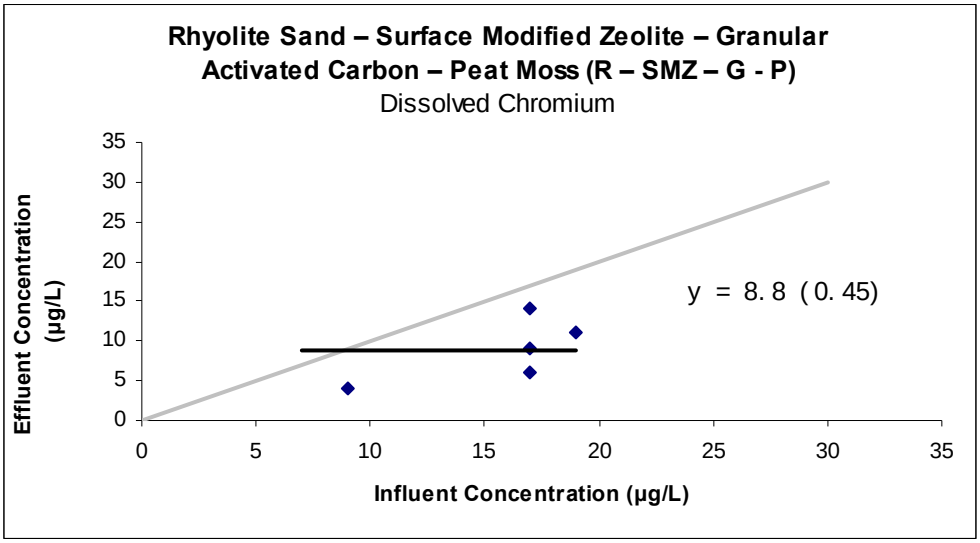
ANOVA

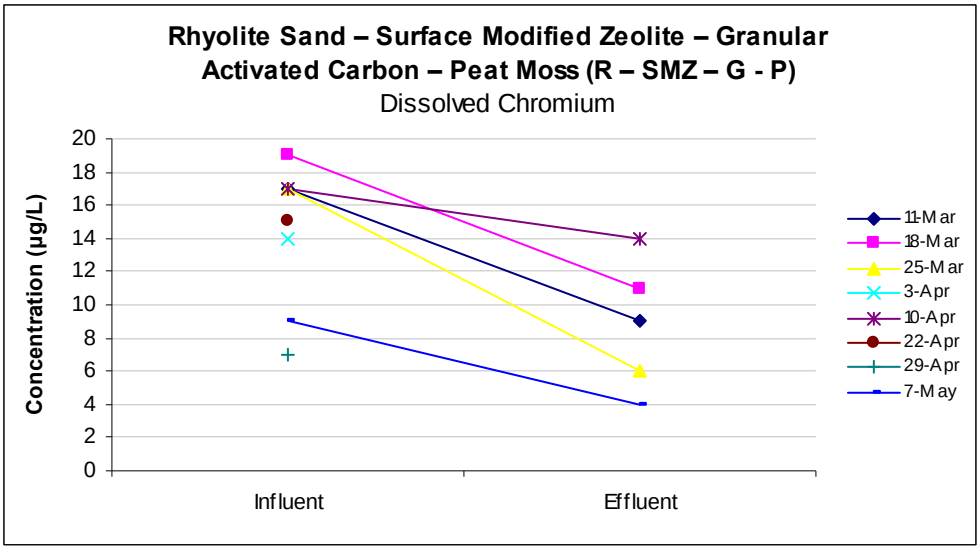
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	30.129	30.129	2.767	0.195
Residual	3.000	32.671	10.890		
Total	4.000	62.800			

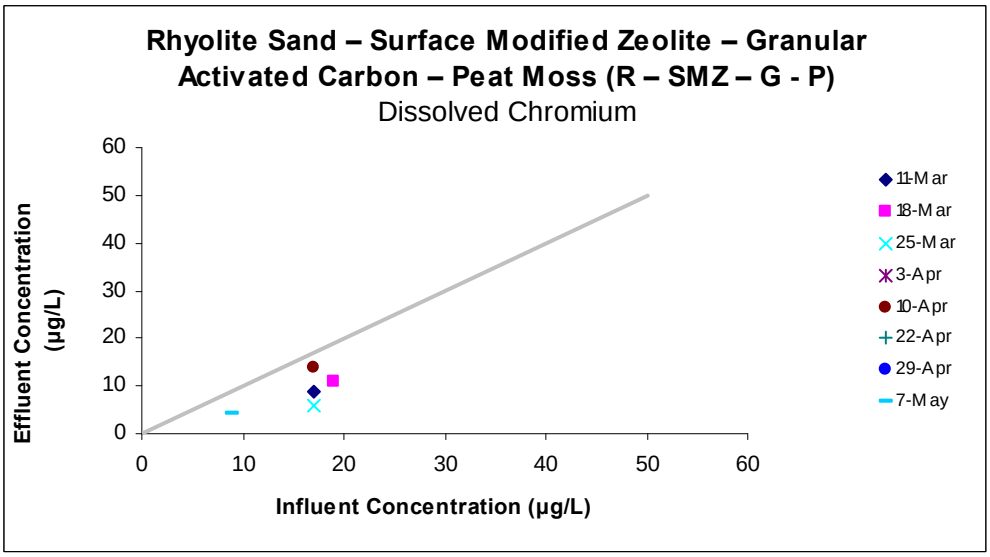
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-2.322	6.848	-0.339	0.757	-24.115	19.471	-24.115	19.471
X Variable 1	0.704	0.423	1.663	0.195	-0.643	2.051	-0.643	2.051

RESIDUAL OUTPUT

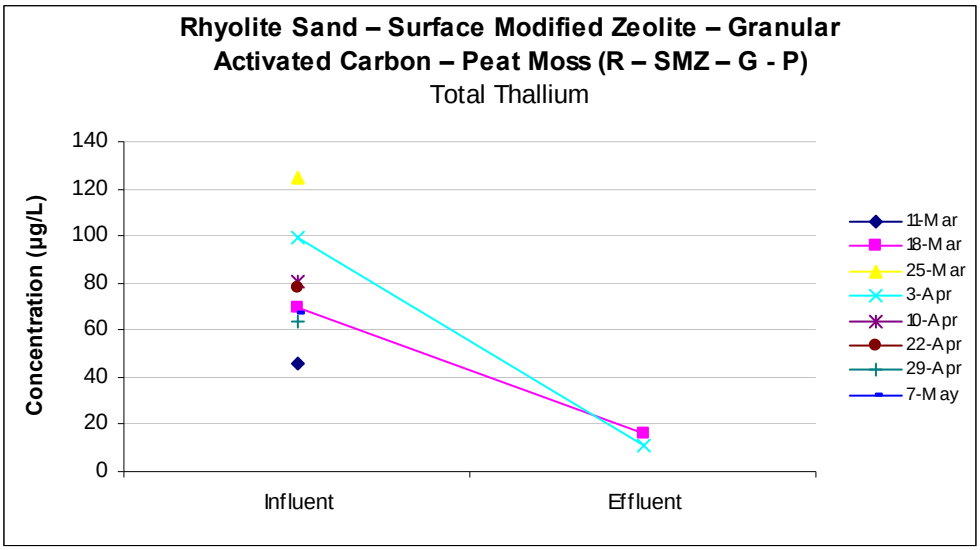
Observation	*Predicted Y*	*Residuals*
1	9.645	-0.645
2	11.053	-0.053
3	9.645	-3.645
4	9.645	4.355
5	4.013	-0.013

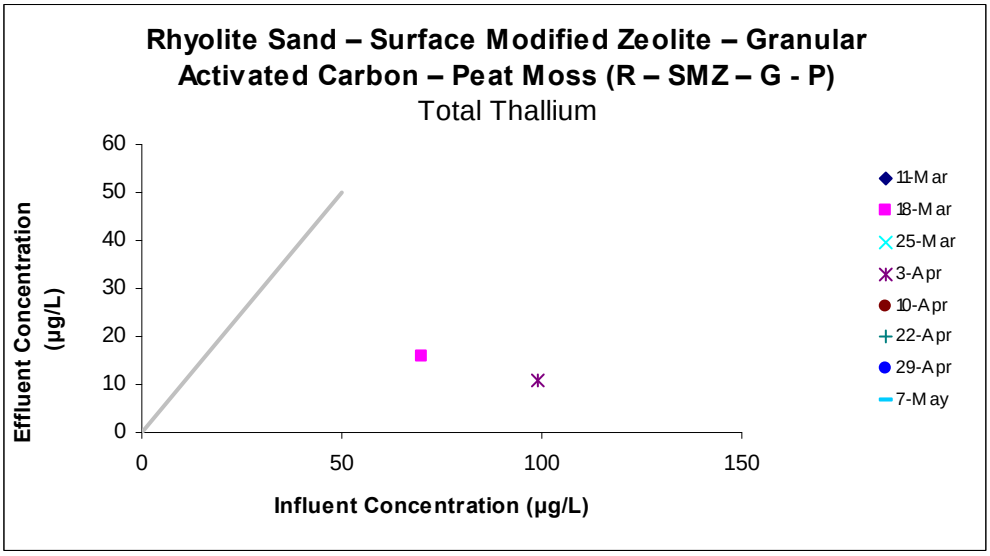



Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Chromium
Concentration (µg/L)
20
18
16
14
12
10
8
6
4
2
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

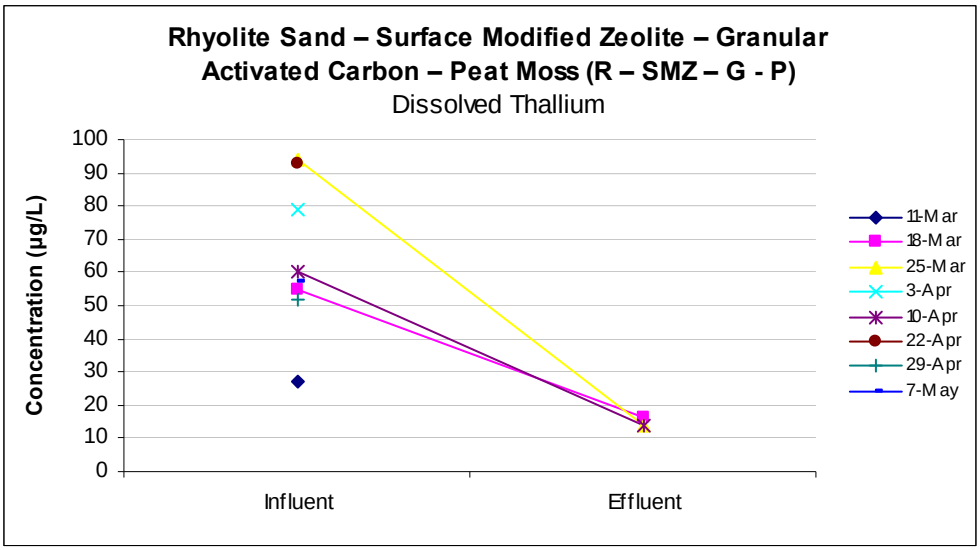

Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Chromium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

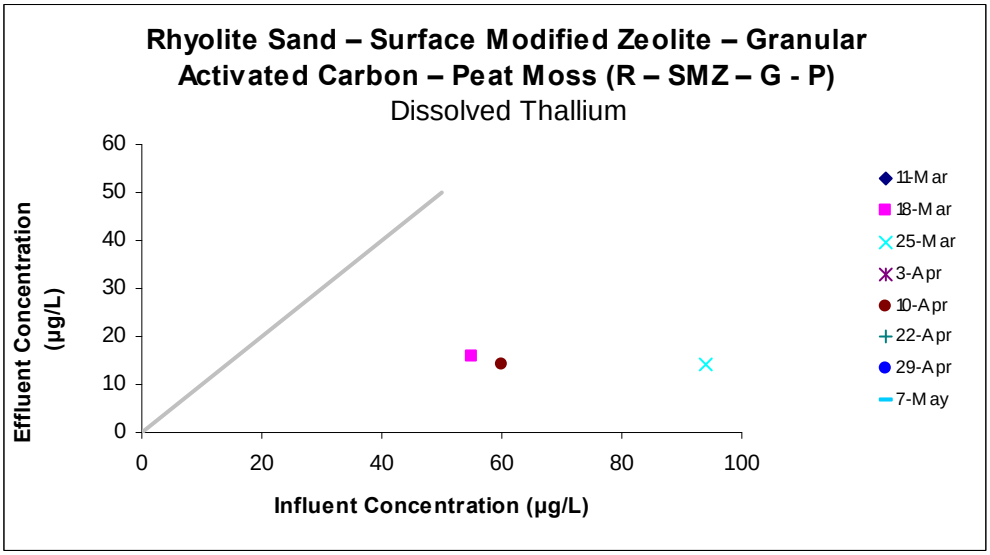
Total Tl


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Thallium
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Thallium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
50
100
150
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Tl





Total Sb

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.287
R Square	0.082
Adjusted R Square	-0.101
Standard Error	18.362
Observations	7.000

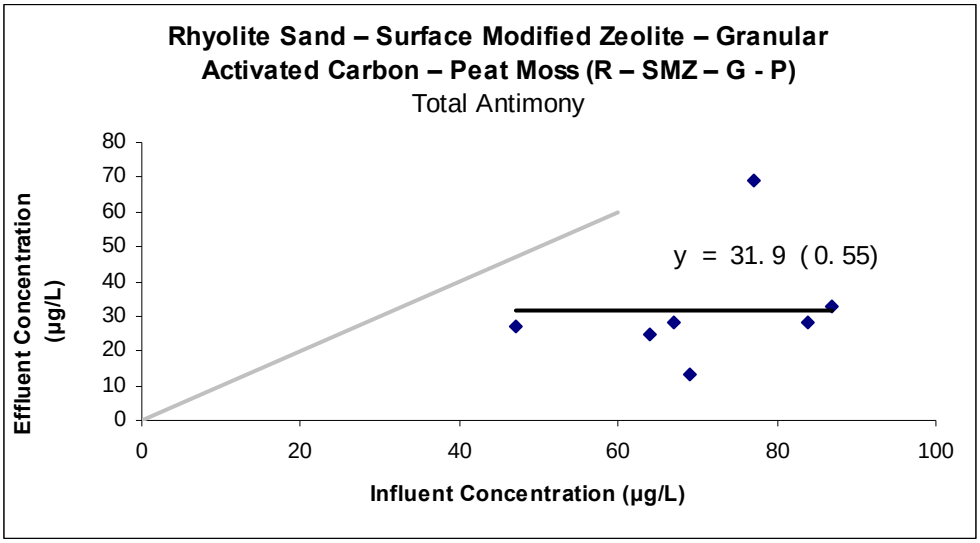
ANOVA

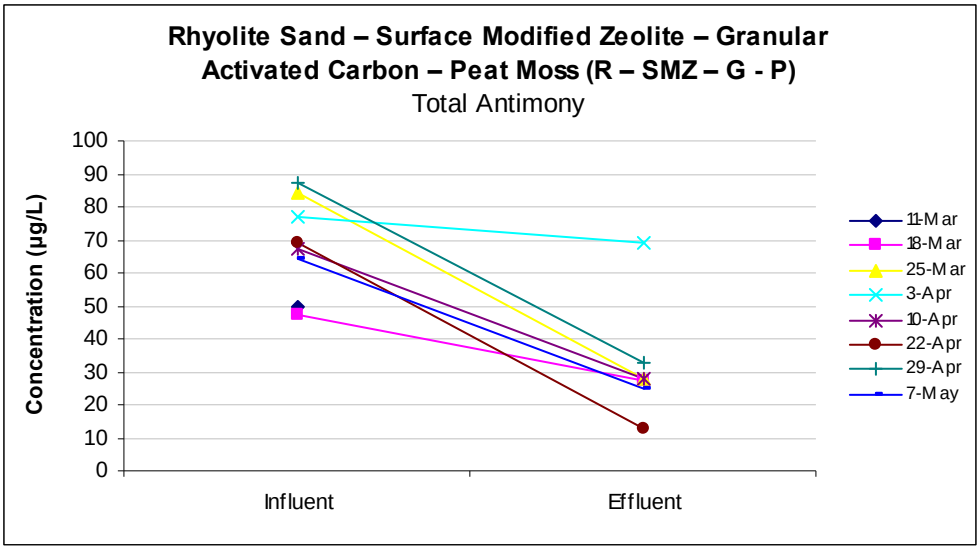
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	151.115	151.115	0.448	0.533
Residual	5.000	1685.742	337.148		
Total	6.000	1836.857			

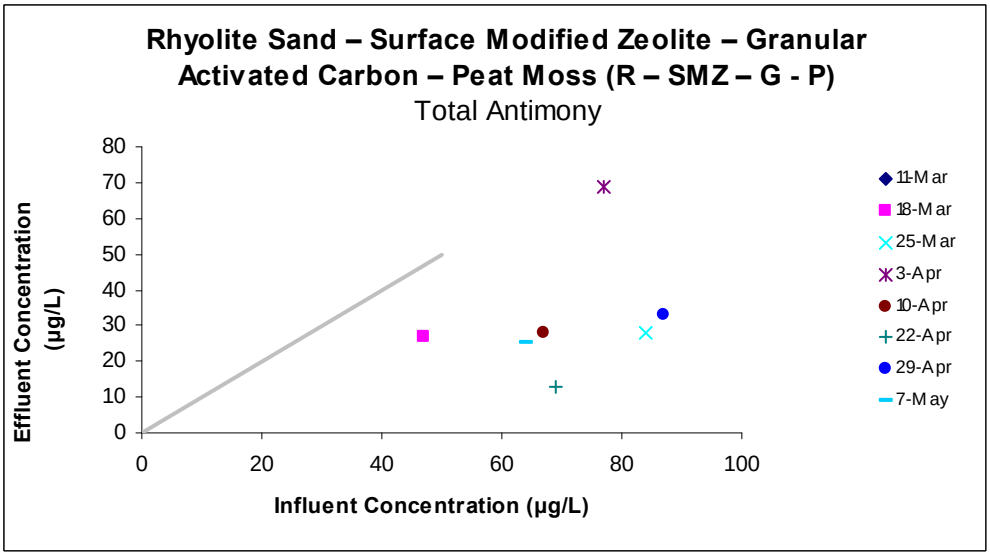
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	5.712	39.665	0.144	0.891	-96.250	107.673	-96.250	107.673
X Variable 1	0.370	0.552	0.669	0.533	-1.050	1.789	-1.050	1.789

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	23.089	3.911
2	36.769	-8.769
3	34.181	34.819
4	30.484	-2.484
5	31.223	-18.223
6	37.879	-4.879
7	29.375	-4.375




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Antimony
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Total Antimony
Effluent Concentration (µg/L)
80
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Sb

R-SMZ-GAC-PM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.074
R Square	0.005
Adjusted R Square	-0.194
Standard Error	13.689
Observations	7.000

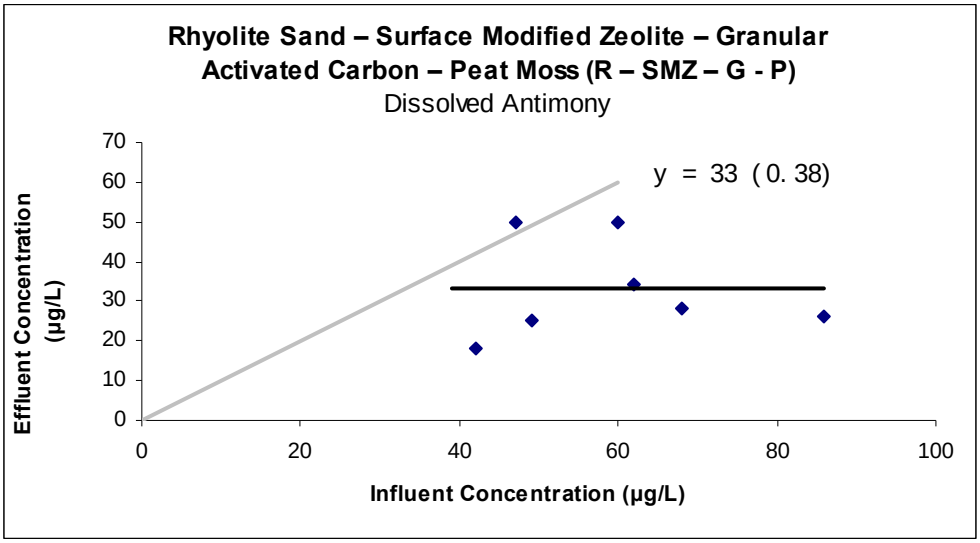
ANOVA

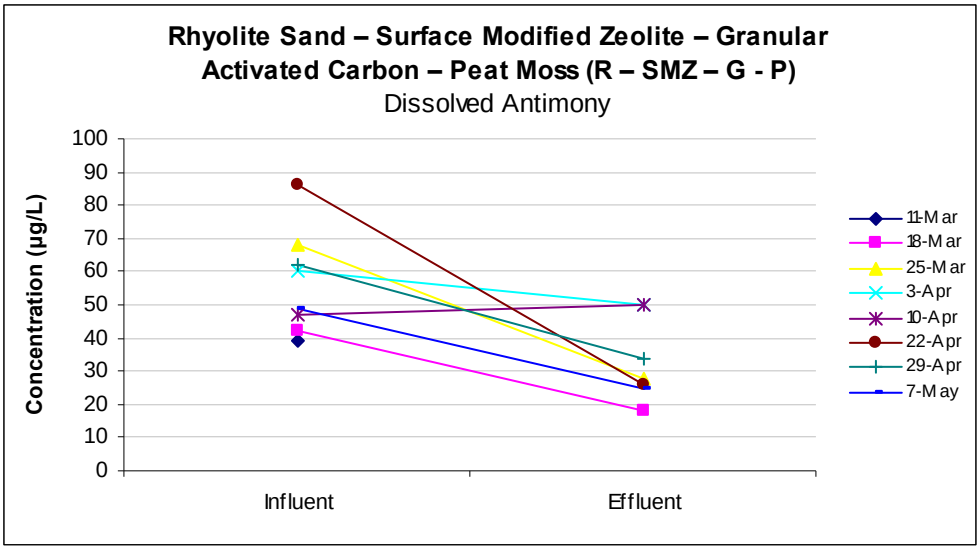
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	5.092	5.092	0.027	0.876
Residual	5.000	936.908	187.382		
Total	6.000	942.000			

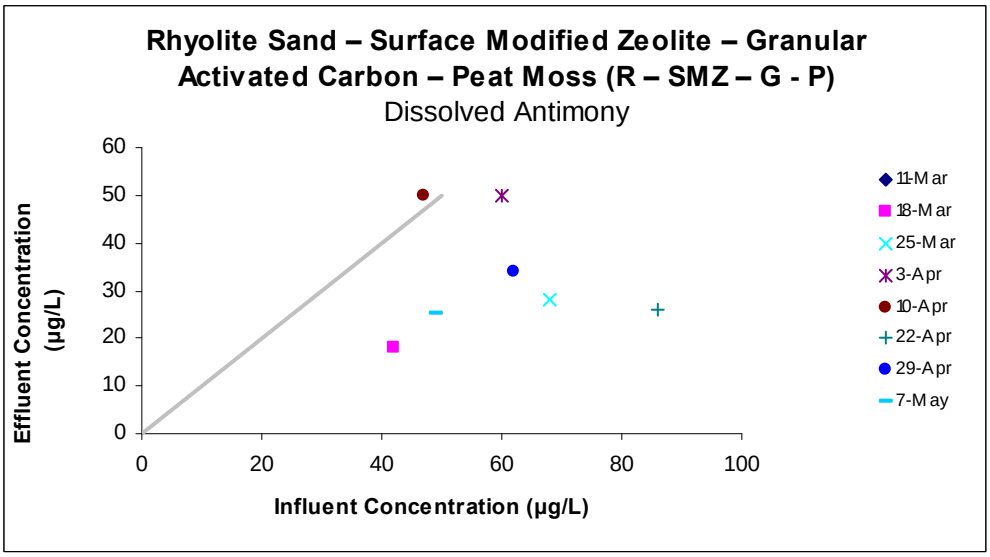
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	36.629	22.611	1.620	0.166	-21.495	94.752	-21.495	94.752
X Variable 1	-0.061	0.372	-0.165	0.876	-1.018	0.895	-1.018	0.895

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	34.052	-16.052
2	32.457	-4.457
3	32.947	17.053
4	33.745	16.255
5	31.352	-5.352
6	32.825	1.175
7	33.622	-8.622




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Antimony
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P)
Dissolved Antimony
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Layered SZG

Total As

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.742
R Square	0.551
Adjusted R Square	0.439
Standard Error	2.446
Observations	6.000

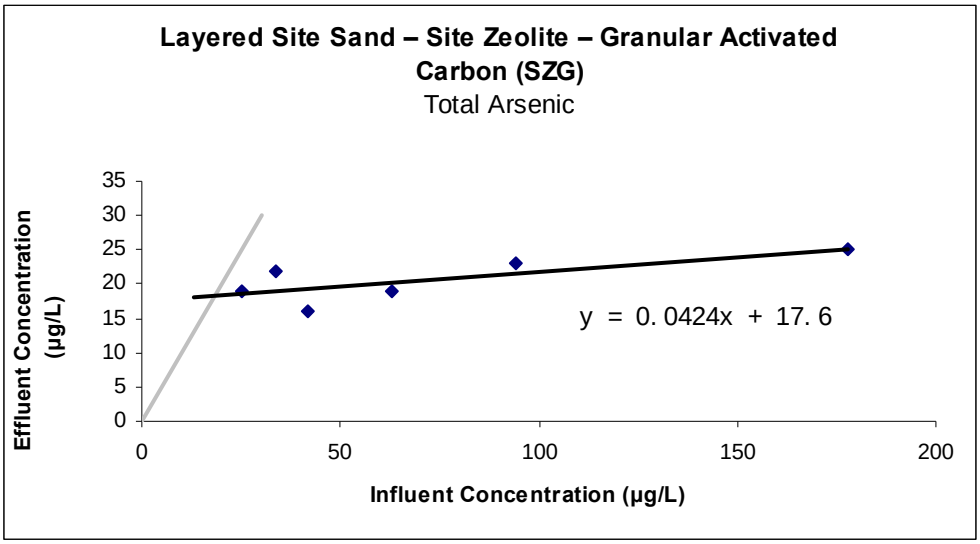
ANOVA

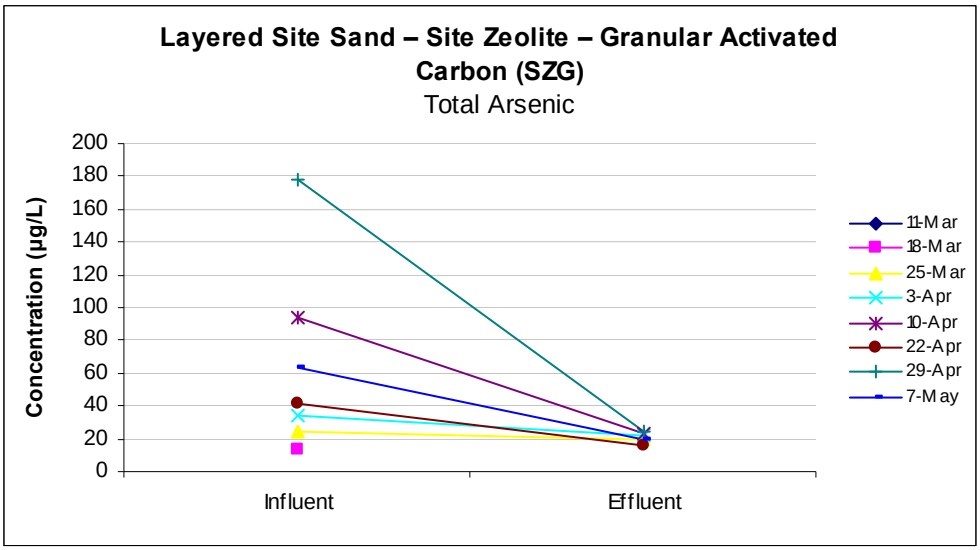
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	29.399	29.399	4.913	0.091
Residual	4.000	23.934	5.984		
Total	5.000	53.333			

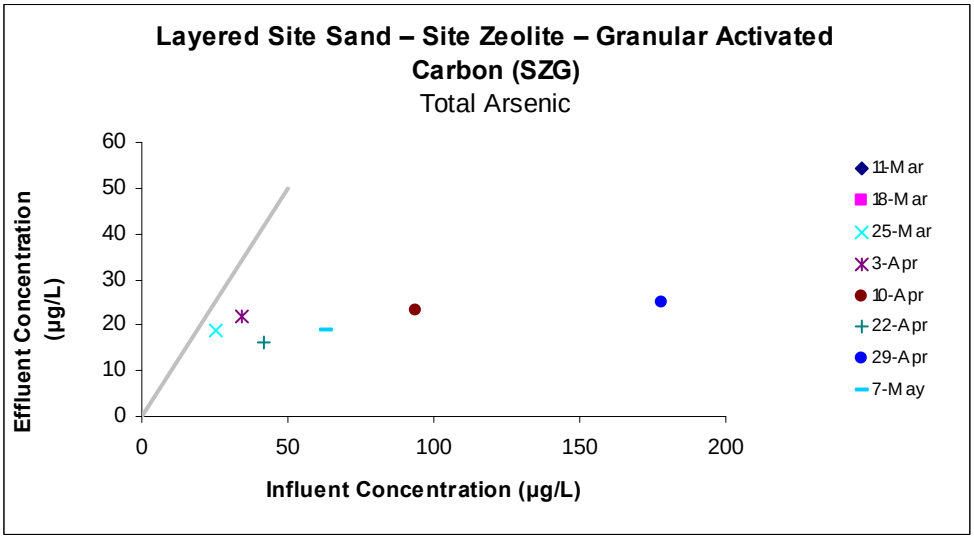
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	17.585	1.712	10.274	0.001	12.833	22.338	12.833	22.338
X Variable 1	0.042	0.019	2.217	0.091	-0.011	0.096	-0.011	0.096

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	18.645	0.355
2	19.027	2.973
3	21.571	1.429
4	19.366	-3.366
5	25.133	-0.133
6	20.257	-1.257




Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Arsenic
Concentration (µg/L)
200
180
160
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Arsenic
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
50
100
150
200
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved As

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.435
R Square	0.189
Adjusted R Square	-0.013
Standard Error	6.780
Observations	6.000

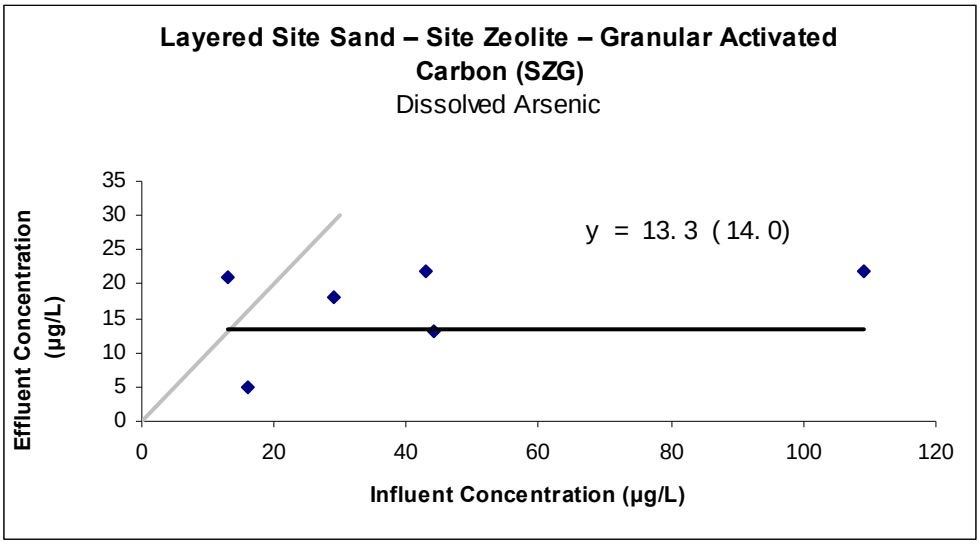
ANOVA

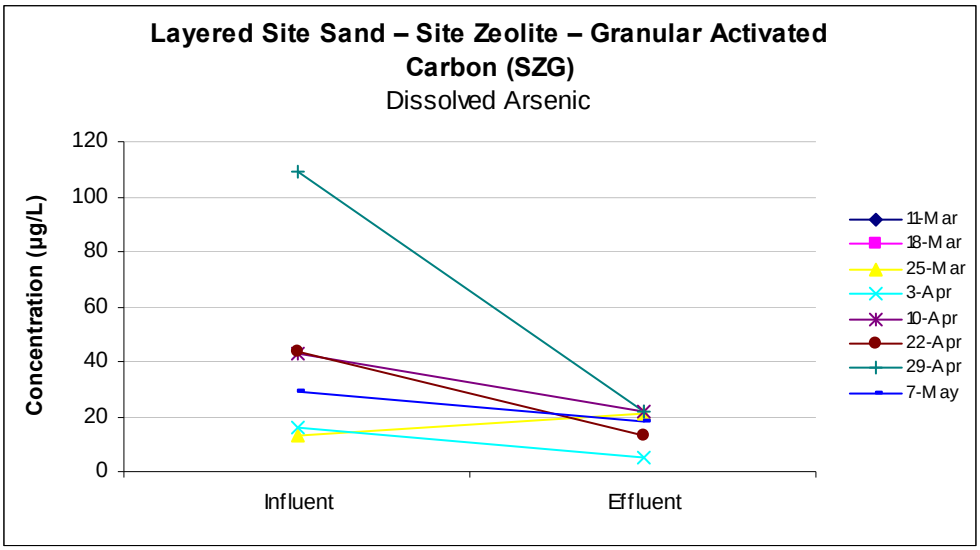
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	42.977	42.977	0.935	0.388
Residual	4.000	183.856	45.964		
Total	5.000	226.833			

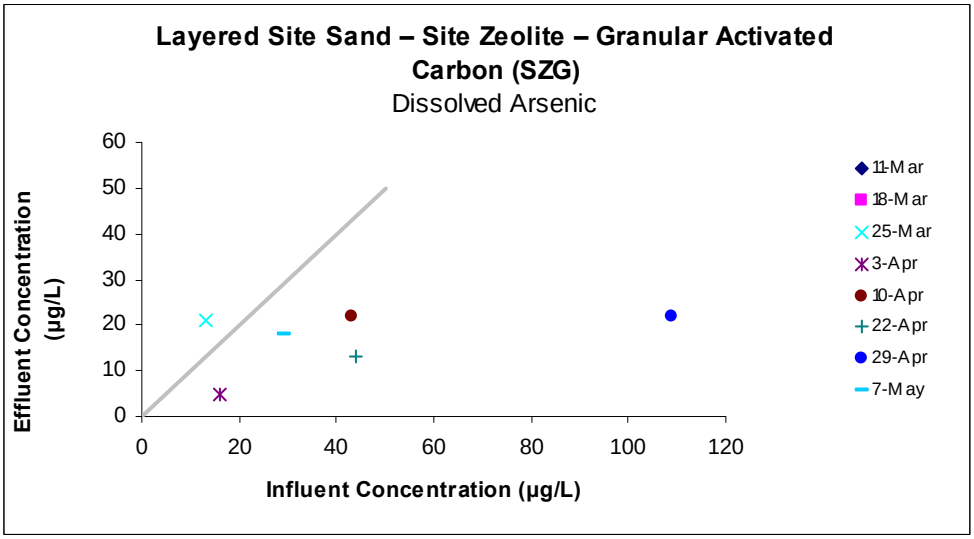
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	13.303	4.582	2.904	0.044	0.582	26.023	0.582	26.023
X Variable 1	0.083	0.086	0.967	0.388	-0.156	0.323	-0.156	0.323

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	14.387	6.613
2	14.637	-9.637
3	16.889	5.111
4	16.972	-3.972
5	22.393	-0.393
6	15.721	2.279




Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Arsenic
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Arsenic
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Al

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.187
R Square	0.035
Adjusted R Square	-0.126
Standard Error	130.986
Observations	8.000

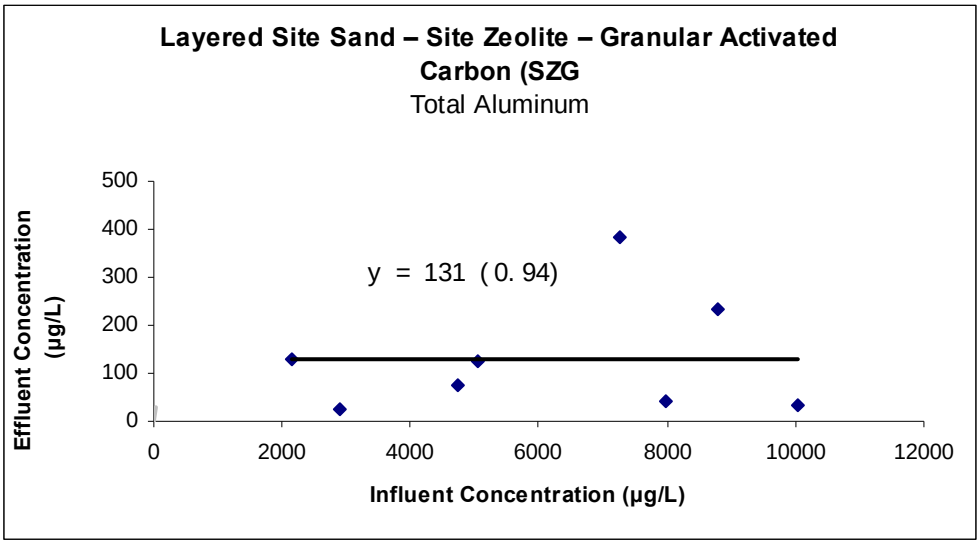
ANOVA

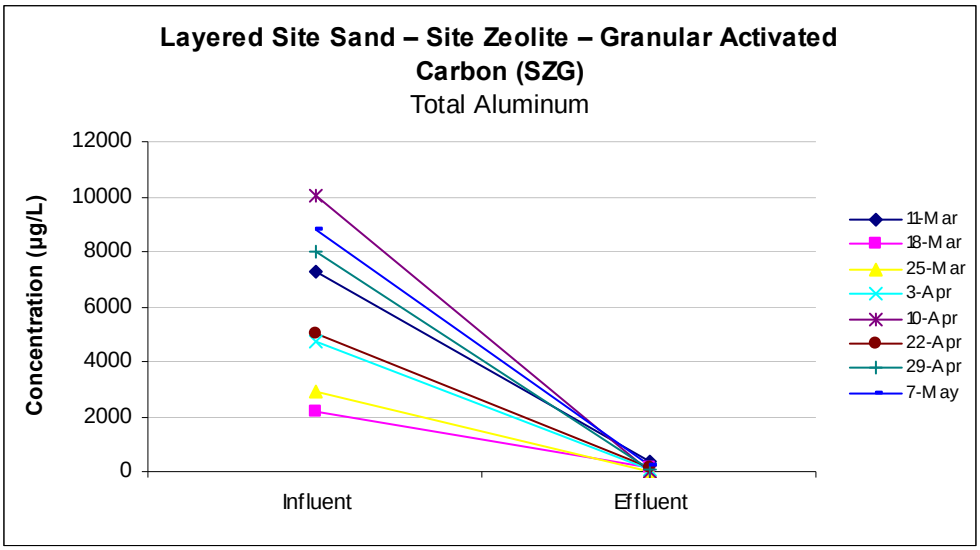
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	3713.611	3713.611	0.216	0.658
Residual	6.000	102943.889	17157.315		
Total	7.000	106657.500			

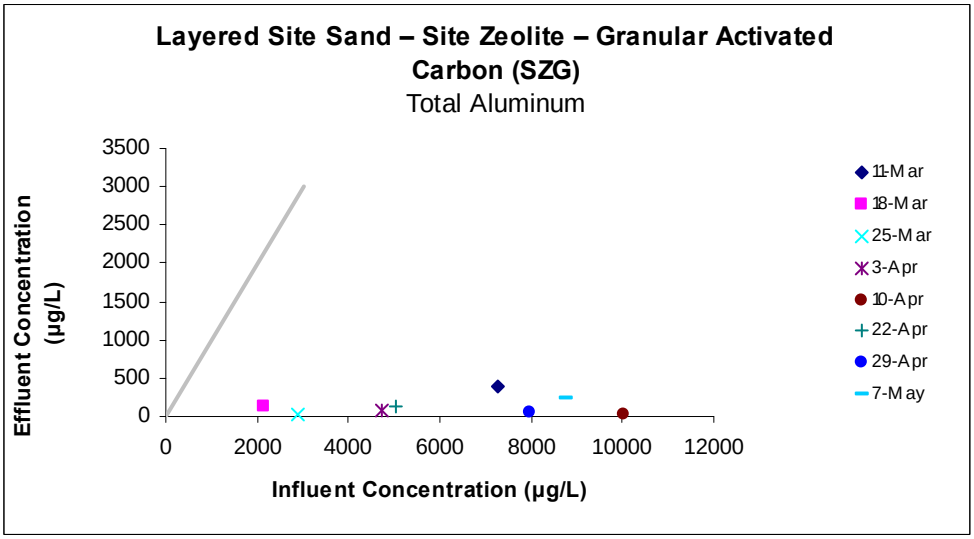
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	81.603	116.328	0.701	0.509	-203.041	366.248	-203.041	366.248
X Variable 1	0.008	0.017	0.465	0.658	-0.035	0.051	-0.035	0.051

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	140.676	244.324
2	99.102	28.898
3	105.224	-78.224
4	120.019	-45.019
5	163.104	-128.104
6	122.577	1.423
7	146.417	-105.417
8	152.881	82.119




Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Aluminum
Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Aluminum
Effluent Concentration (µg/L)
3500
3000
2500
2000
1500
1000
500
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Al

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.895
R Square	0.801
Adjusted R Square	0.761
Standard Error	16.297
Observations	7.000

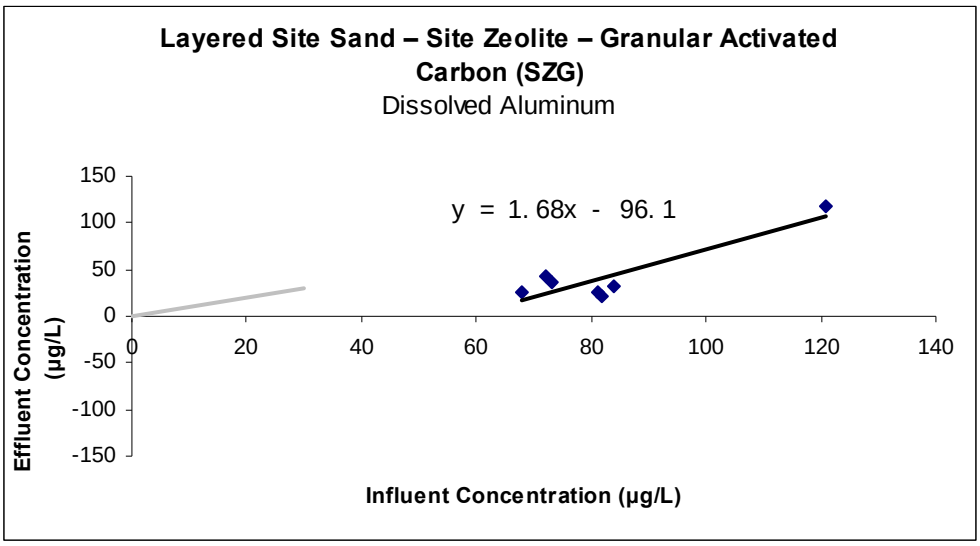
ANOVA

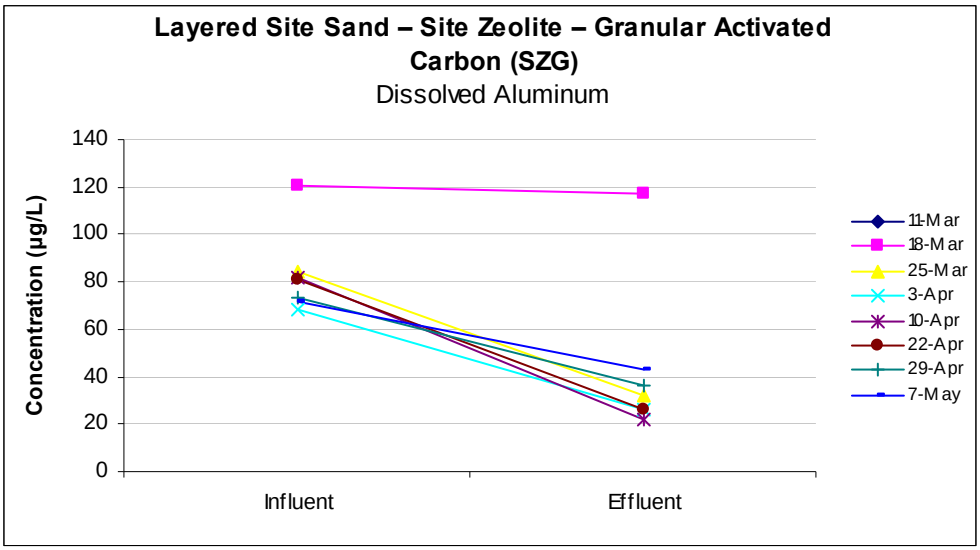
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	5336.899	5336.899	20.094	0.007
Residual	5.000	1327.958	265.592		
Total	6.000	6664.857			

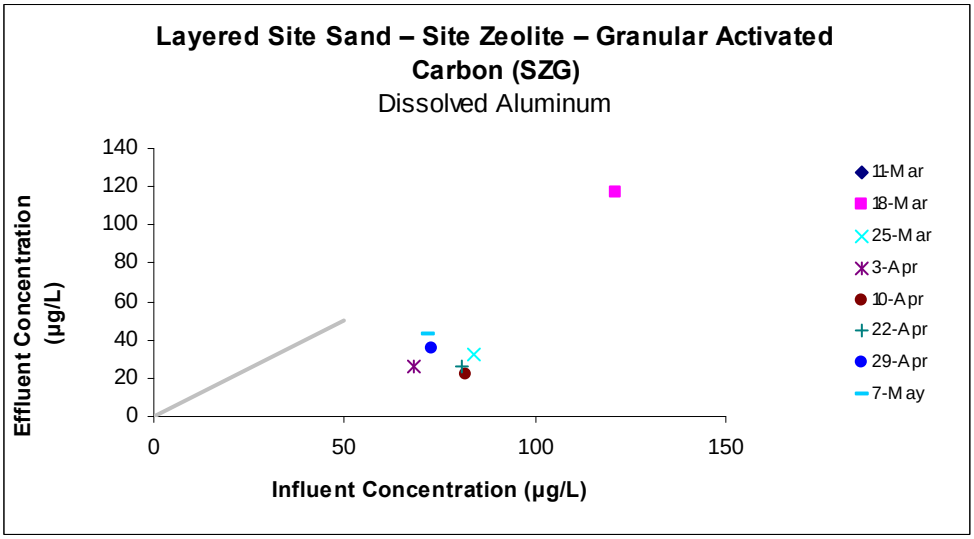
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-96.110	31.669	-3.035	0.029	-177.519	-14.701	-177.519	-14.701
X Variable 1	1.678	0.374	4.483	0.007	0.716	2.640	0.716	2.640

RESIDUAL OUTPUT

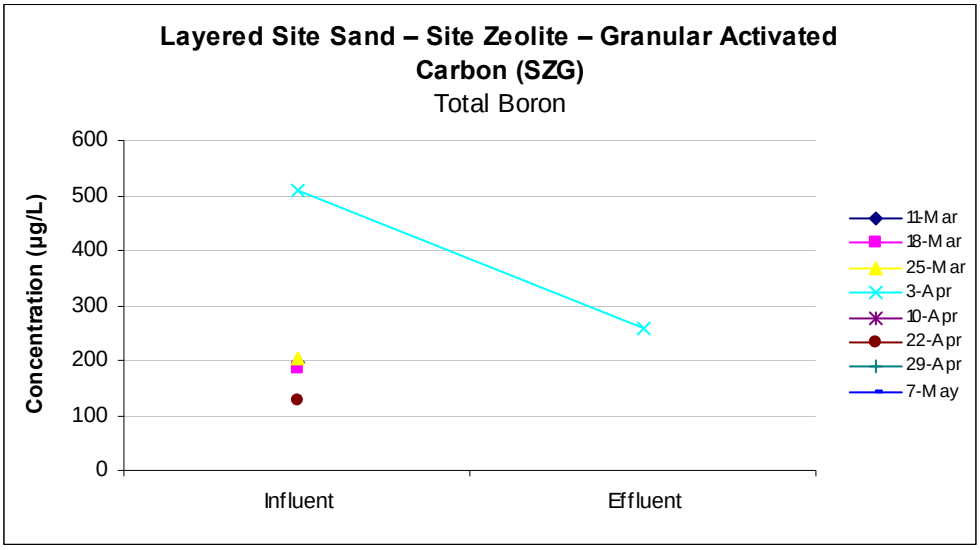
Observation	*Predicted Y*	*Residuals*
1	106.897	10.103
2	44.821	-12.821
3	17.977	8.023
4	41.465	-19.465
5	39.787	-13.787
6	26.365	9.635
7	24.688	18.312

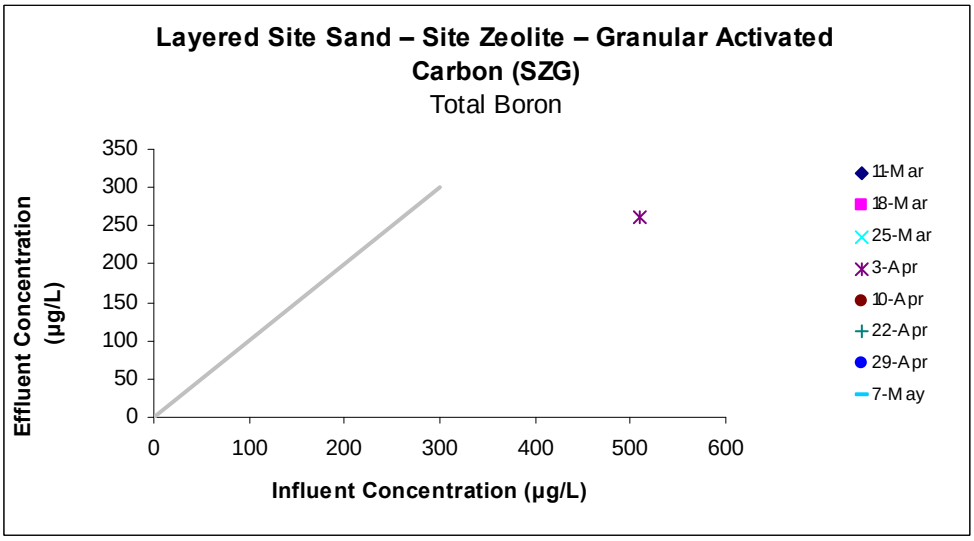



Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Aluminum
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

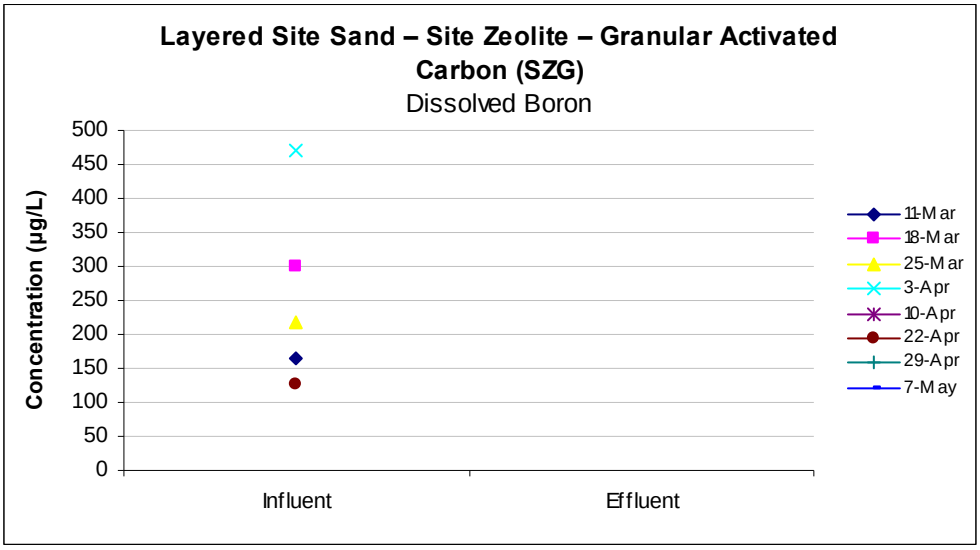

Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Aluminum
Effluent Concentration (µg/L)
140
120
100
80
60
40
20
0
0
50
100
150
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

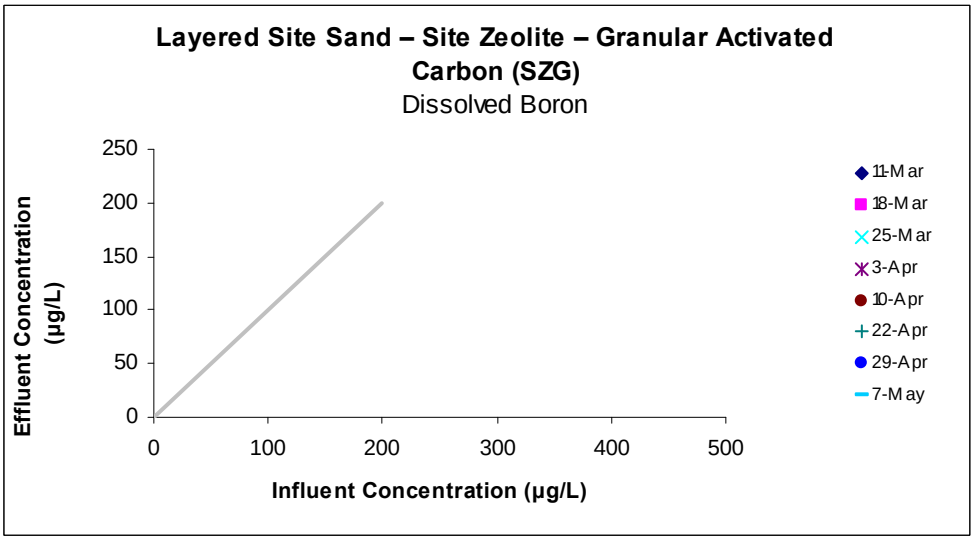
Total B


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Boron
Concentration (µg/L)
600
500
400
300
200
100
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Boron
Effluent Concentration (µg/L)
350
300
250
200
150
100
50
0
0
100
200
300
400
500
600
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved B


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Boron
Concentration (µg/L)
500
450
400
350
300
250
200
150
100
50
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Boron
Effluent Concentration (µg/L)
250
200
150
100
50
0
0
100
200
300
400
500
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Ca

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.128
R Square	0.016
Adjusted R Square	-0.148
Standard Error	14363.216
Observations	8.000

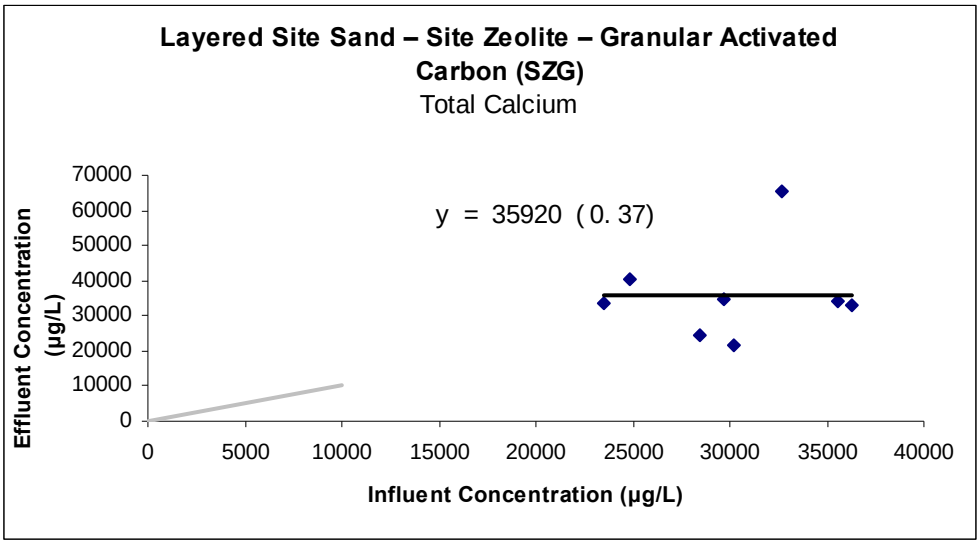
ANOVA

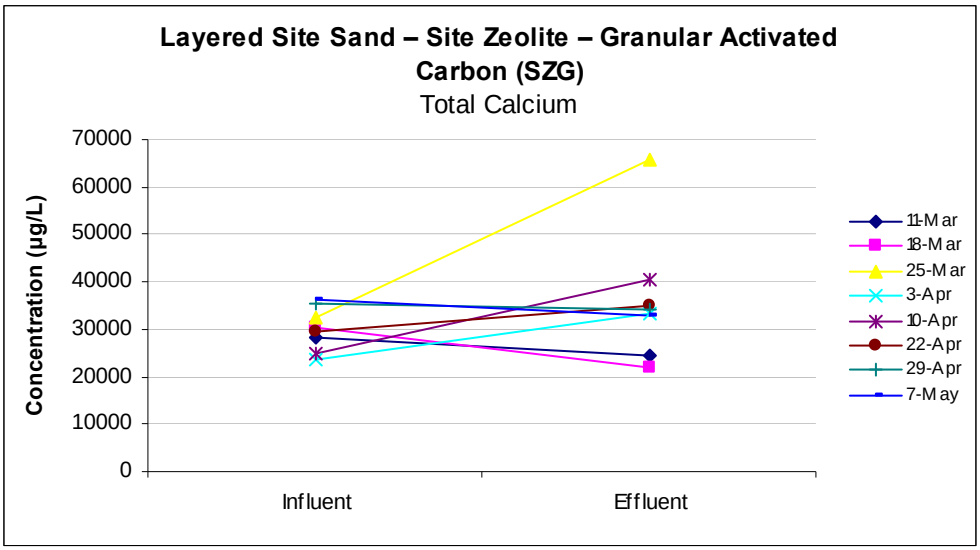
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	20590376.664	20590376.664	0.100	0.763
Residual	6.000	1237811895.211	206301982.535		
Total	7.000	1258402271.875			

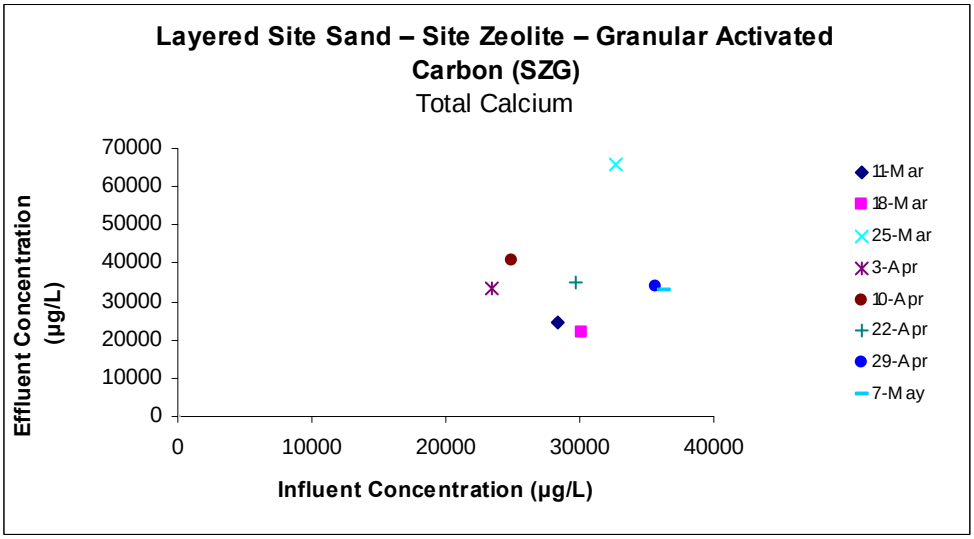
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	24712.036	35837.376	0.690	0.516	-62978.863	112402.935	-62978.863	112402.935
X Variable 1	0.372	1.177	0.316	0.763	-2.508	3.252	-2.508	3.252

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	35279.405	-10934.405
2	35944.583	-14182.583
3	36847.351	28753.649
4	33442.636	-15.636
5	33957.601	6637.399
6	35740.085	-830.085
7	37948.669	-3958.669
8	38196.670	-5469.670




Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Calcium
Concentration (µg/L)
70000
60000
50000
40000
30000
20000
10000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Calcium
Effluent Concentration (µg/L)
70000
60000
50000
40000
30000
20000
10000
0
0
10000
20000
30000
40000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Ca

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.089
R Square	0.008
Adjusted R Square	-0.157
Standard Error	15311.707
Observations	8.000

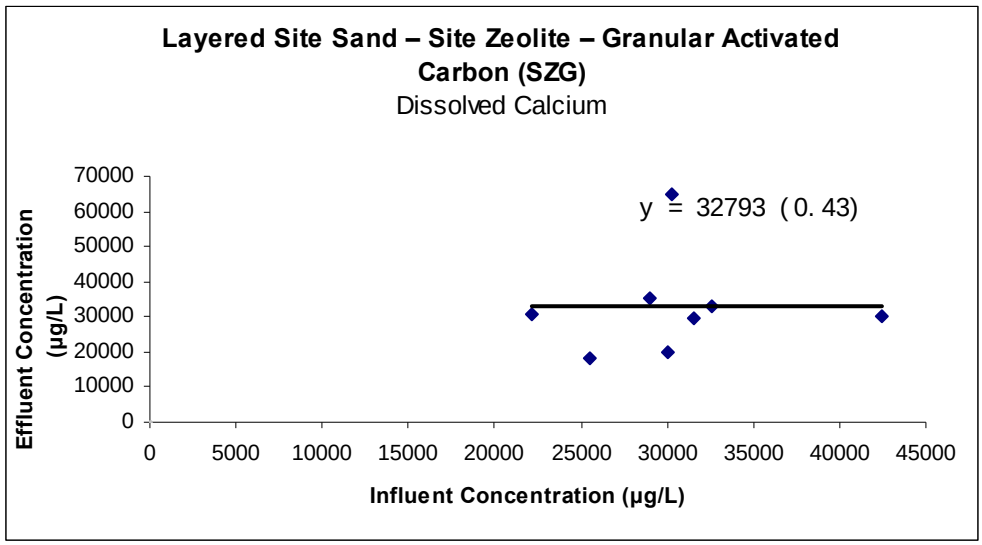
ANOVA

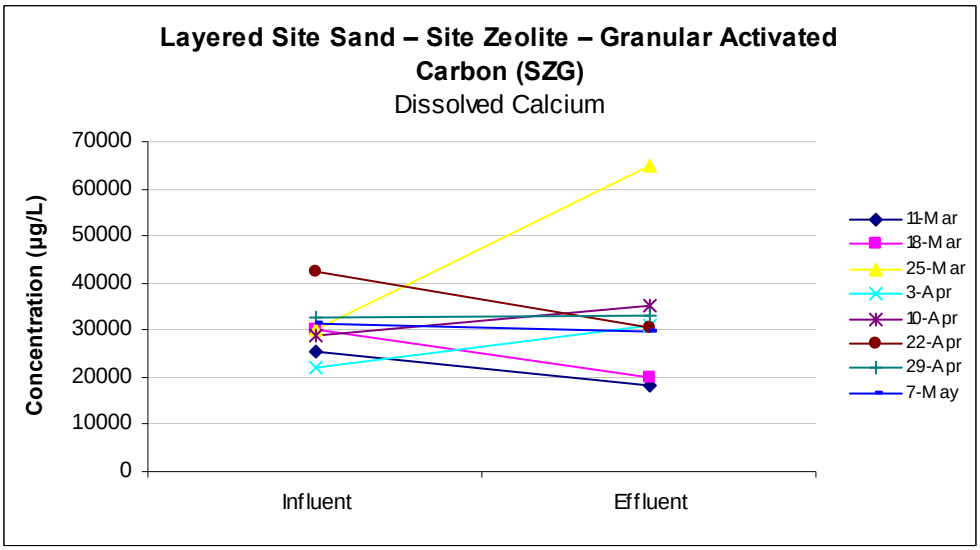
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	11335962.496	11335962.496	0.048	0.833
Residual	6.000	1406690177.379	234448362.897		
Total	7.000	1418026139.875			

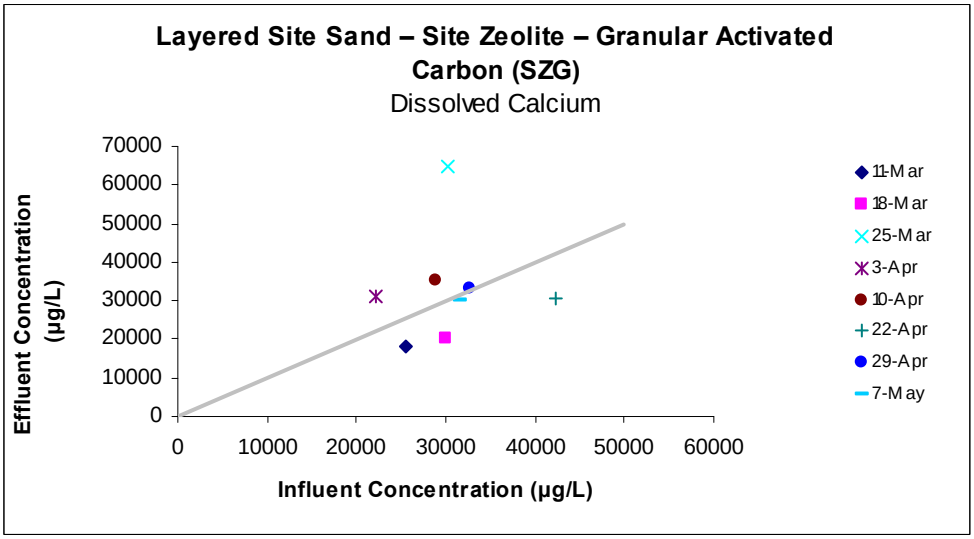
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	26244.952	30265.124	0.867	0.419	-47811.138	100301.041	-47811.138	100301.041
X Variable 1	0.215	0.979	0.220	0.833	-2.179	2.610	-2.179	2.610

RESIDUAL OUTPUT

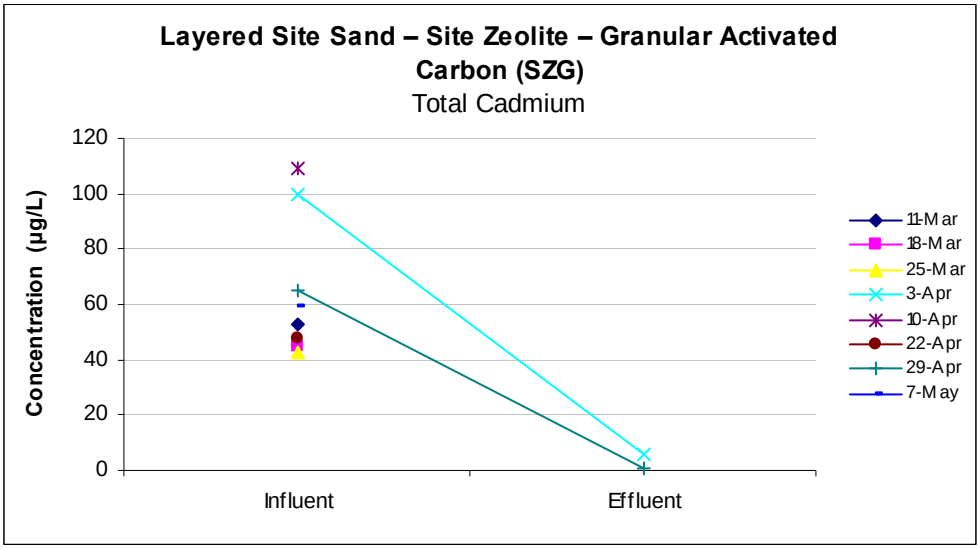
Observation	*Predicted Y*	*Residuals*
1	31732.382	-13569.382
2	32696.841	-12598.841
3	32757.523	31951.477
4	31010.652	-99.652
5	32478.643	2781.357
6	35370.944	-5000.944
7	33266.435	-286.435
8	33027.580	-3177.580

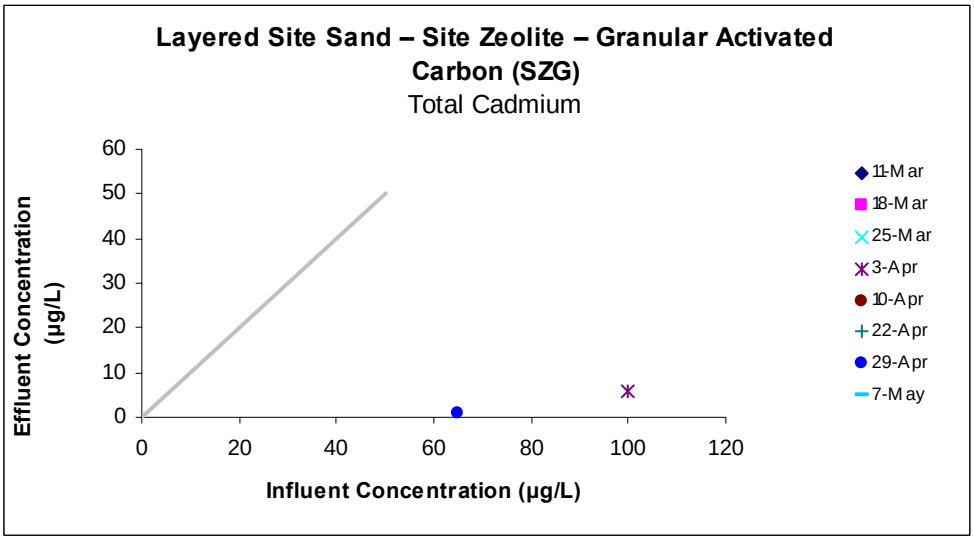



Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Calcium
Concentration (µg/L)
70000
60000
50000
40000
30000
20000
10000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

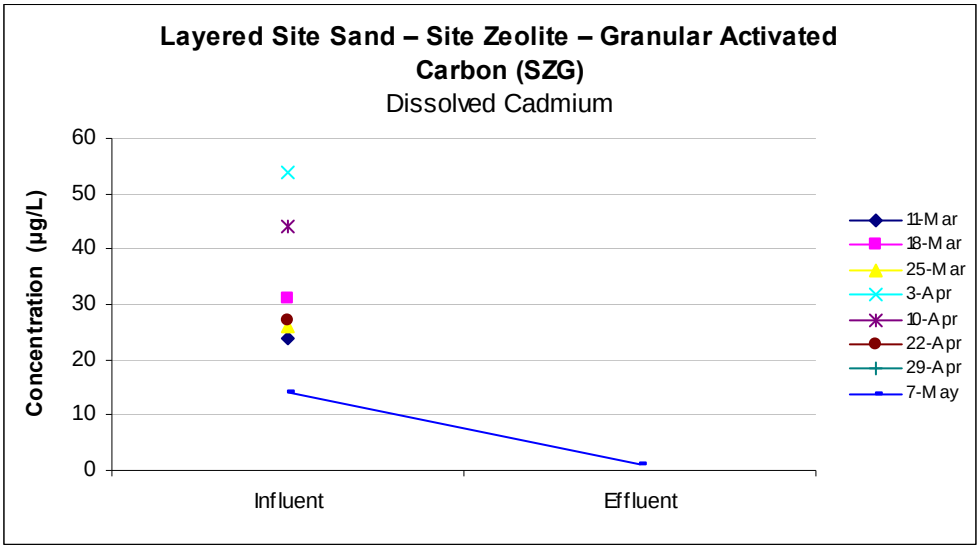

Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Calcium
Effluent Concentration (µg/L)
70000
60000
50000
40000
30000
20000
10000
0
0
10000
20000
30000
40000
50000
60000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

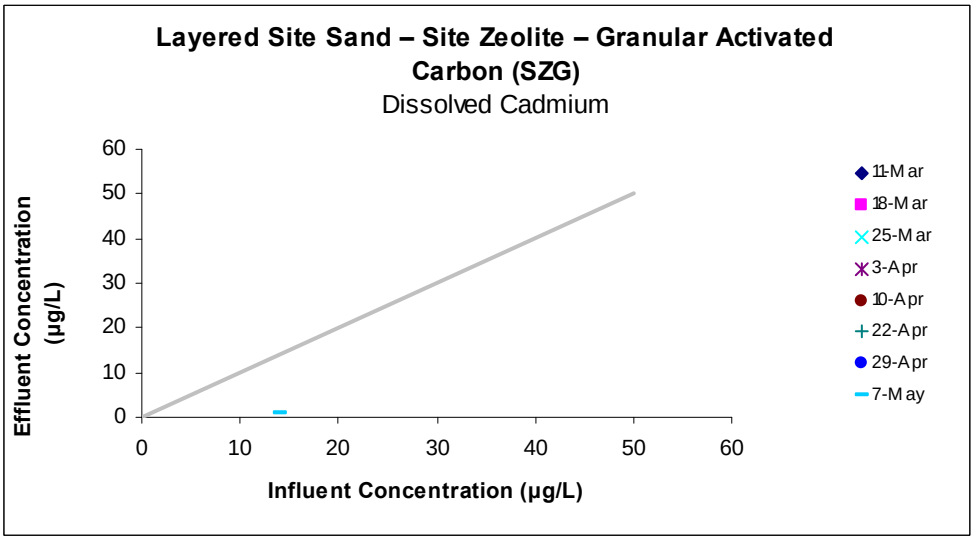
Total Cd


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Cadmium
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Cadmium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cd





Total Cu

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.082
R Square	0.007
Adjusted R Square	-0.192
Standard Error	4.269
Observations	7.000

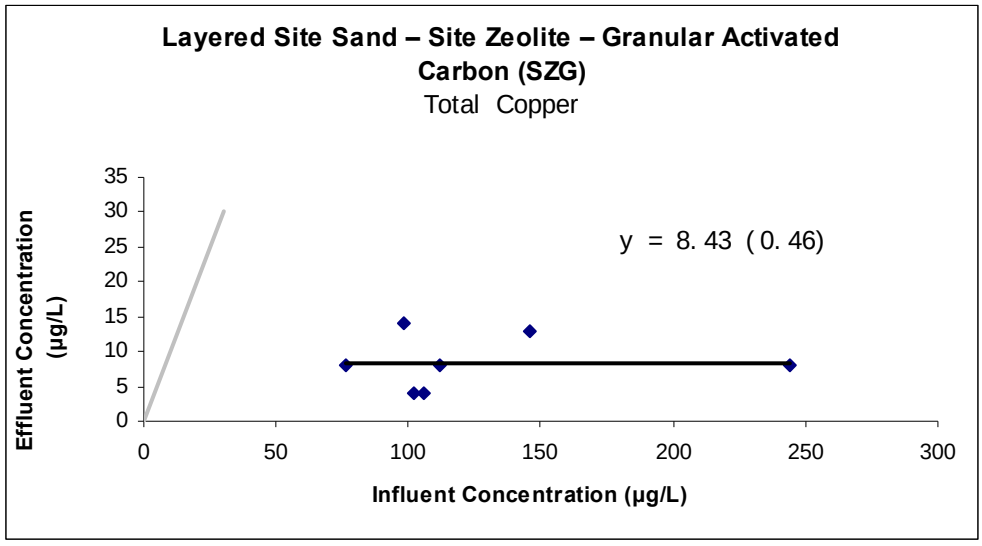
ANOVA

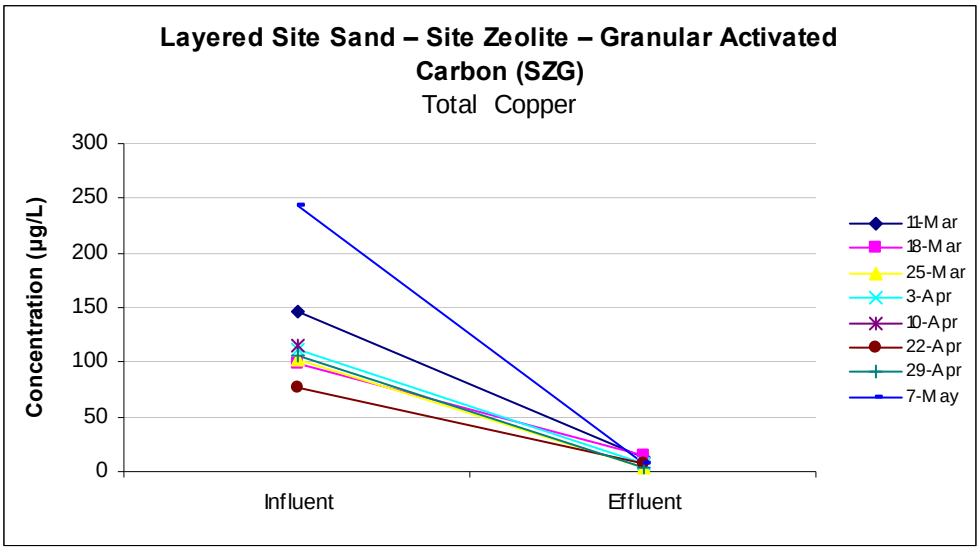
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	0.611	0.611	0.034	0.862
Residual	5.000	91.103	18.221		
Total	6.000	91.714			

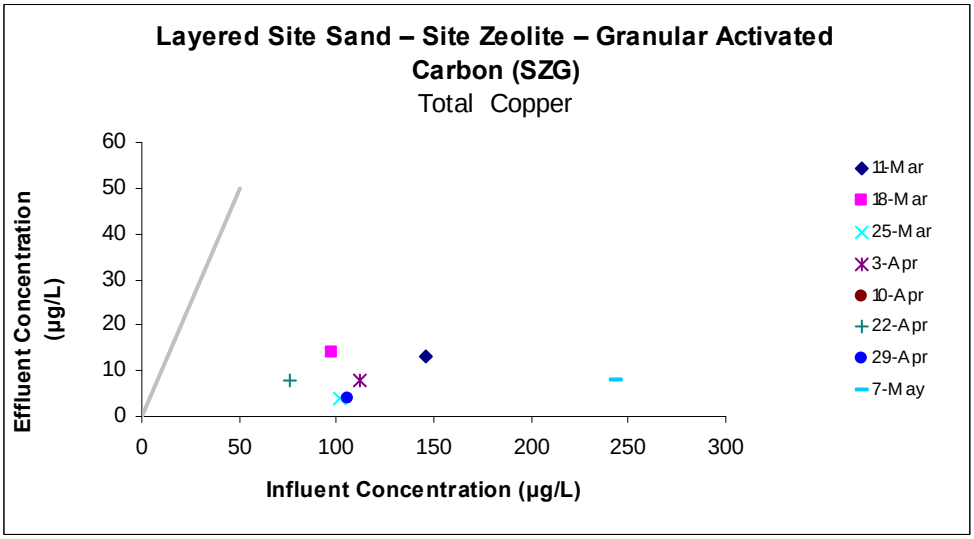
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	7.708	4.252	1.813	0.130	-3.221	18.637	-3.221	18.637
X Variable 1	0.006	0.031	0.183	0.862	-0.074	0.086	-0.074	0.086

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	8.541	4.459
2	8.267	5.733
3	8.290	-4.290
4	8.347	-0.347
5	8.142	-0.142
6	8.313	-4.313
7	9.100	-1.100




Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Copper
Concentration (µg/L)
300
250
200
150
100
50
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Copper
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
50
100
150
200
250
300
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cu

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.561
R Square	0.314
Adjusted R Square	0.177
Standard Error	7.470
Observations	7.000

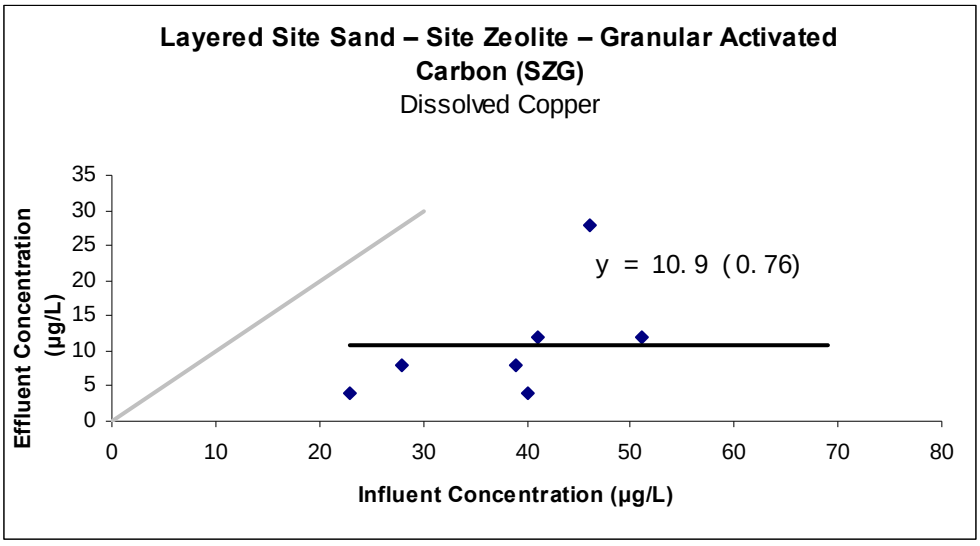
ANOVA

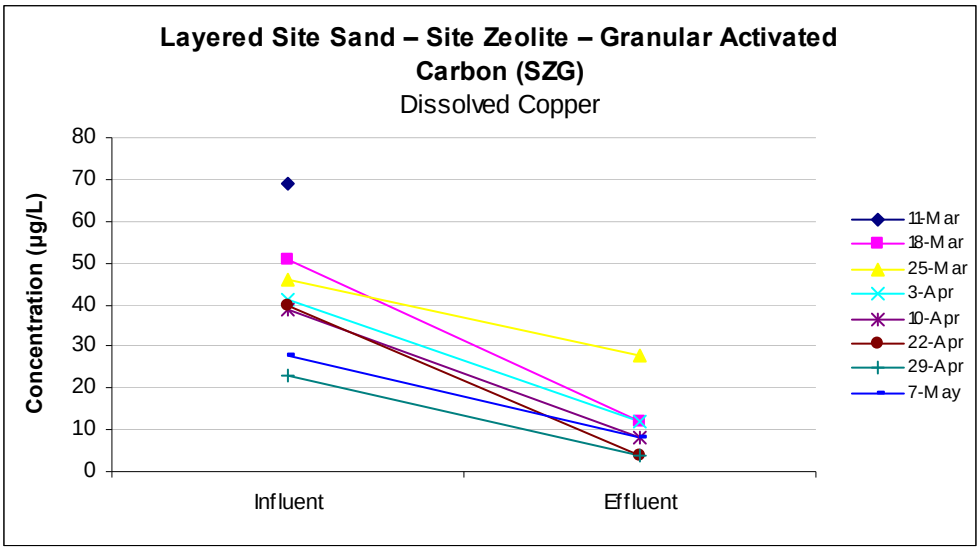
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	127.845	127.845	2.291	0.191
Residual	5.000	279.012	55.802		
Total	6.000	406.857			

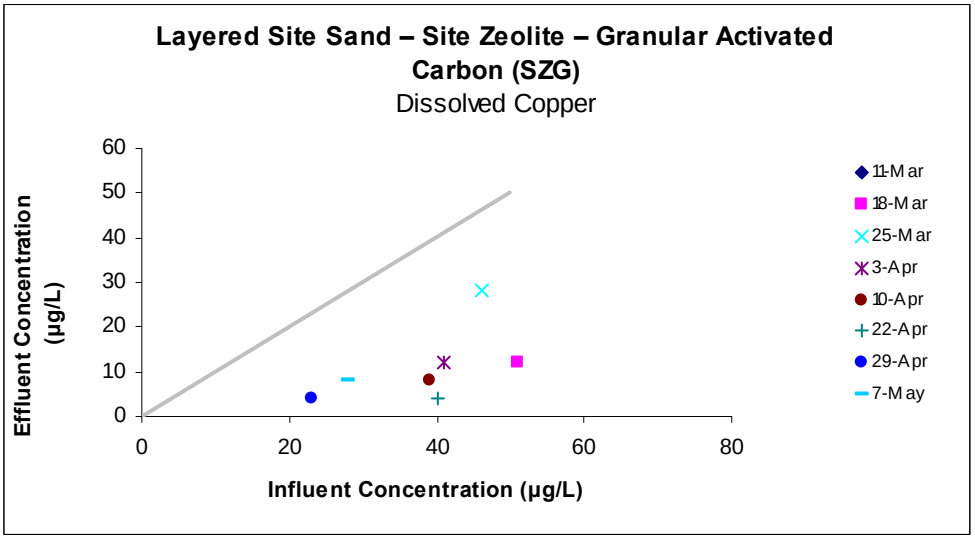
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-7.252	12.293	-0.590	0.581	-38.852	24.348	-38.852	24.348
X Variable 1	0.473	0.312	1.514	0.191	-0.330	1.276	-0.330	1.276

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	16.871	-4.871
2	14.506	13.494
3	12.141	-0.141
4	11.195	-3.195
5	11.668	-7.668
6	3.627	0.373
7	5.992	2.008




Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Copper
Concentration (µg/L)
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Copper
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Fe

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.142
R Square	0.020
Adjusted R Square	-0.143
Standard Error	103.179
Observations	8.000

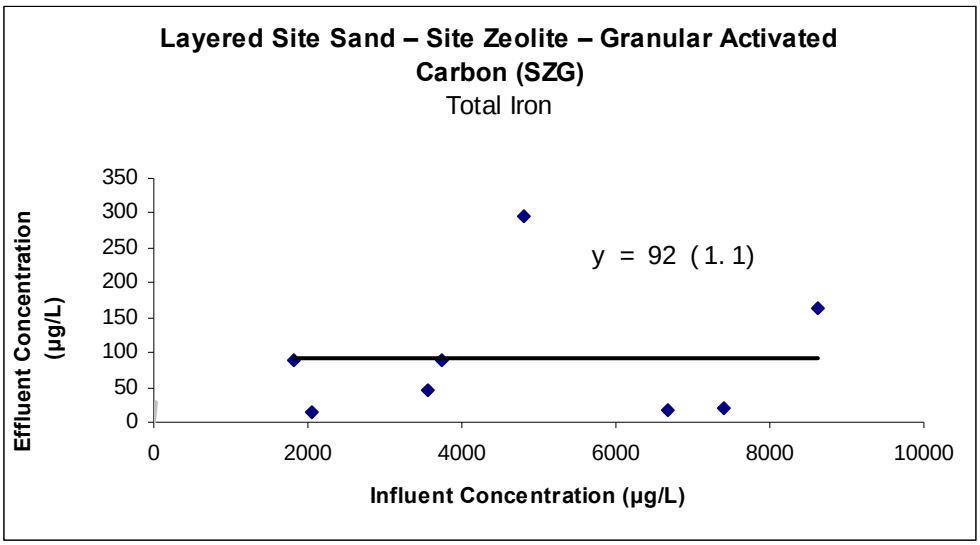
ANOVA

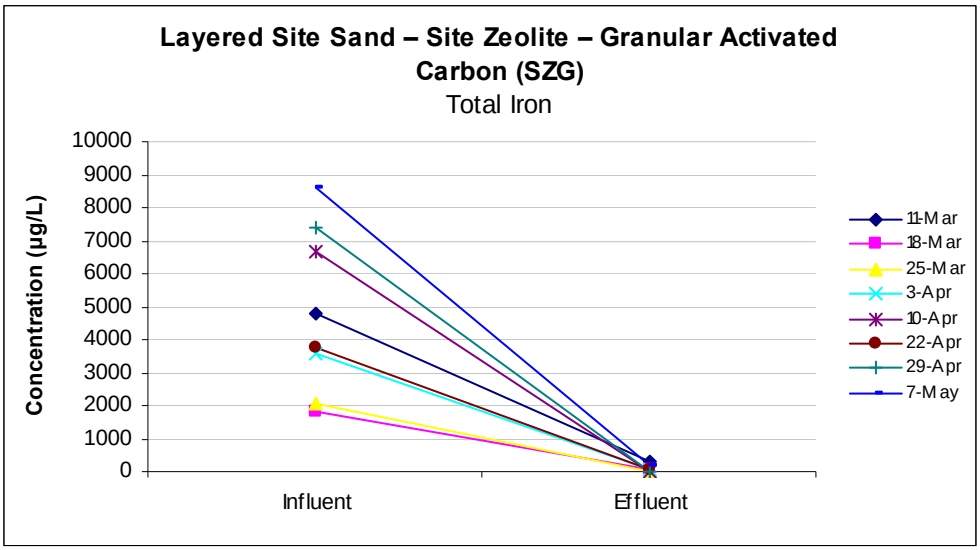
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	1320.300	1320.300	0.124	0.737
Residual	6.000	63875.700	10645.950		
Total	7.000	65196.000			

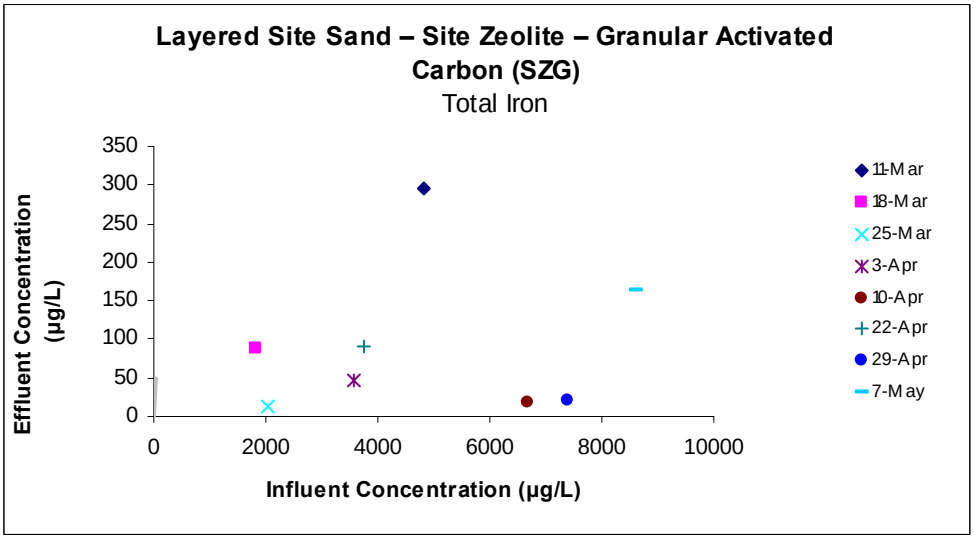
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	65.489	83.653	0.783	0.463	-139.201	270.180	-139.201	270.180
X Variable 1	0.005	0.016	0.352	0.737	-0.033	0.044	-0.033	0.044

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	91.870	203.130
2	75.469	12.531
3	76.719	-63.719
4	84.999	-37.999
5	102.140	-84.140
6	86.052	3.948
7	106.022	-85.022
8	112.728	51.272




Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Iron
Concentration (µg/L)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Iron
Effluent Concentration (µg/L)
350
300
250
200
150
100
50
0
0
2000
4000
6000
8000
10000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Fe

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.951
R Square	0.904
Adjusted R Square	0.884
Standard Error	6.679
Observations	7.000

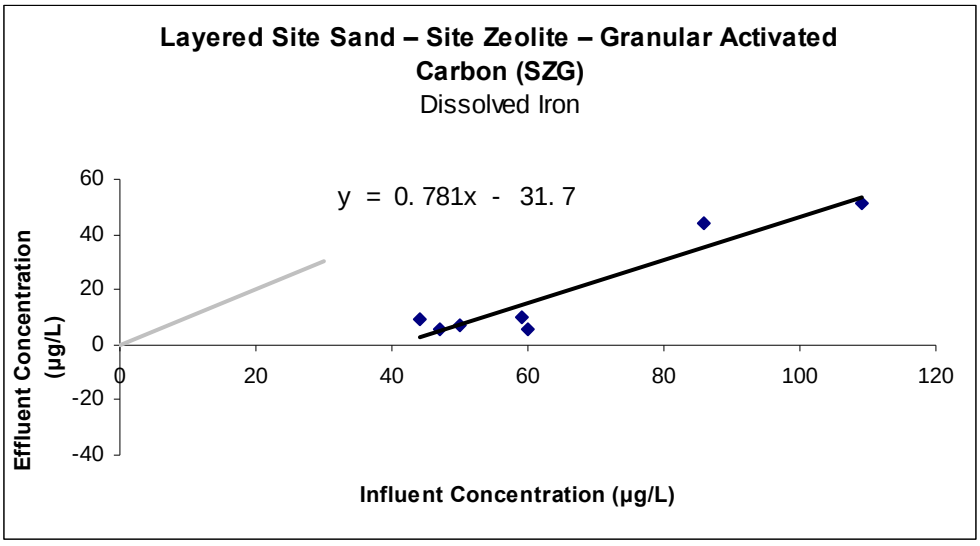
ANOVA

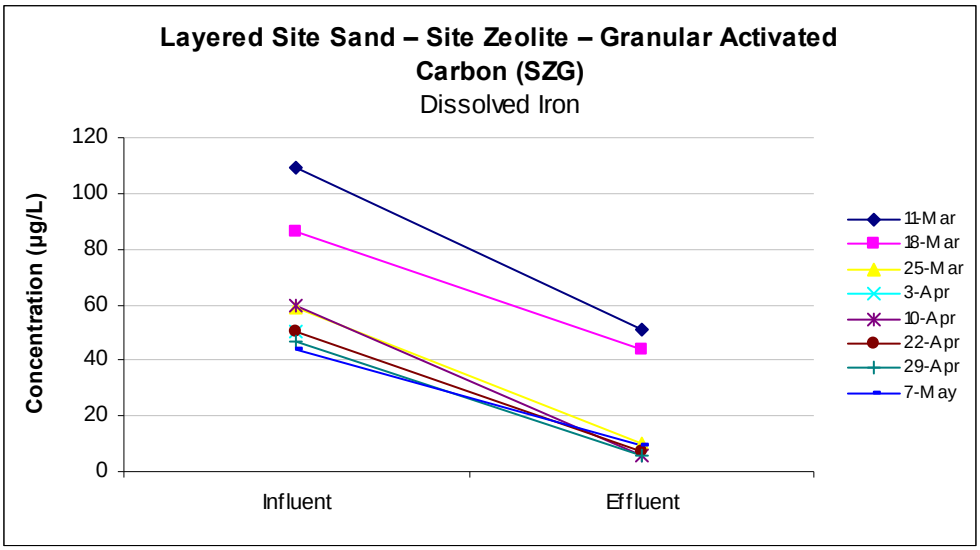
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	2088.966	2088.966	46.831	0.001
Residual	5.000	223.034	44.607		
Total	6.000	2312.000			

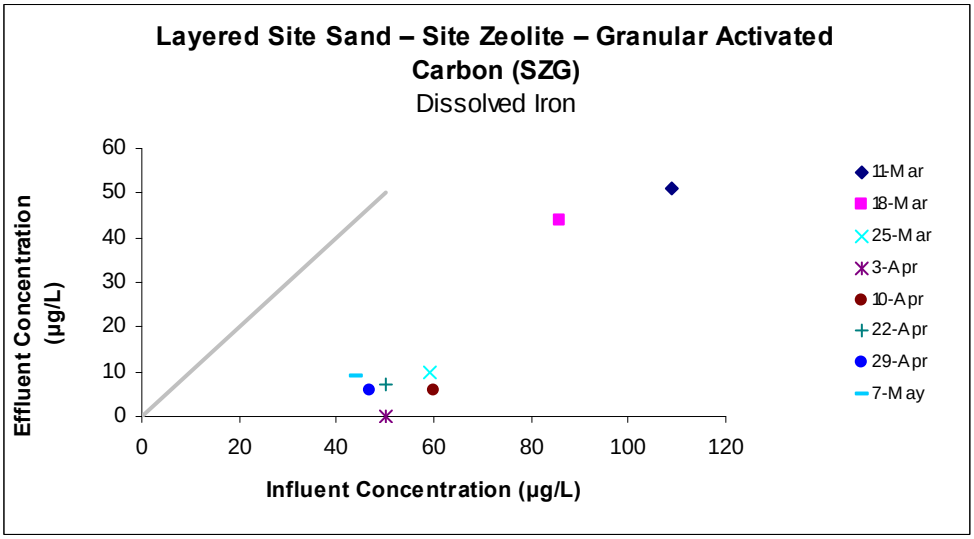
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-31.741	7.833	-4.052	0.010	-51.875	-11.607	-51.875	-11.607
X Variable 1	0.781	0.114	6.843	0.001	0.487	1.074	0.487	1.074

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	53.348	-2.348
2	35.393	8.607
3	14.316	-4.316
4	15.097	-9.097
5	7.291	-0.291
6	4.949	1.051
7	2.607	6.393




Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Iron
Concentration (µg/L)
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Iron
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
120
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Mg

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.237
R Square	0.056
Adjusted R Square	-0.101
Standard Error	1272.730
Observations	8.000

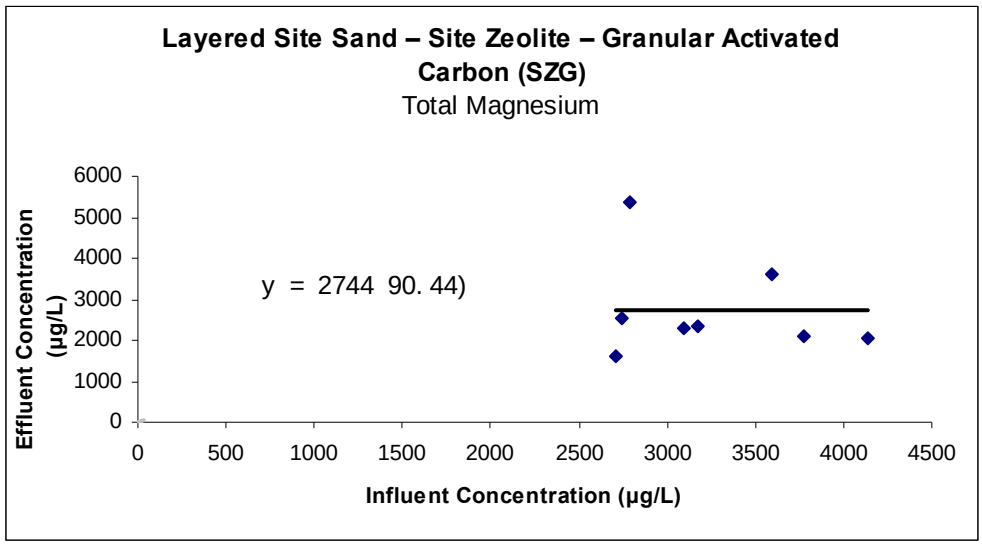
ANOVA

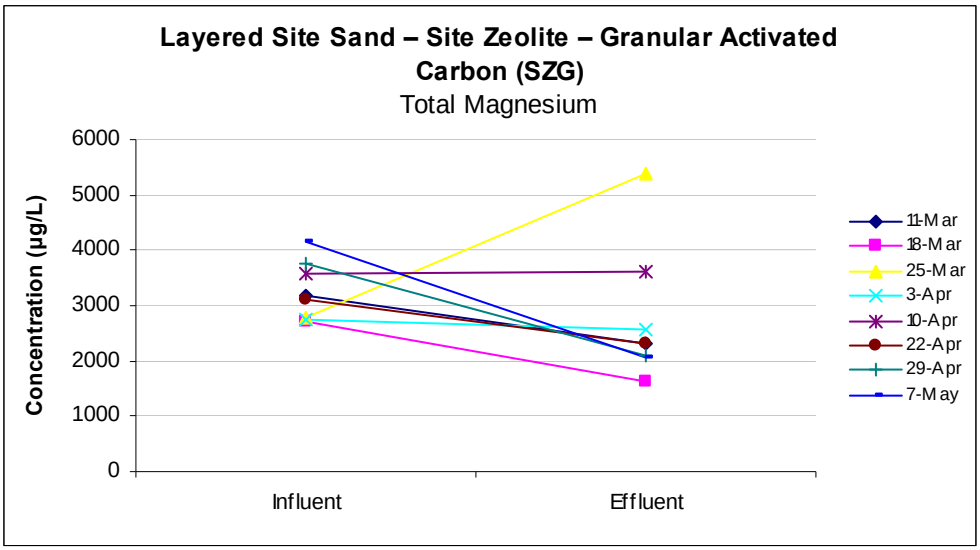
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	577838.434	577838.434	0.357	0.572
Residual	6.000	9719051.566	1619841.928		
Total	7.000	10296890.000			

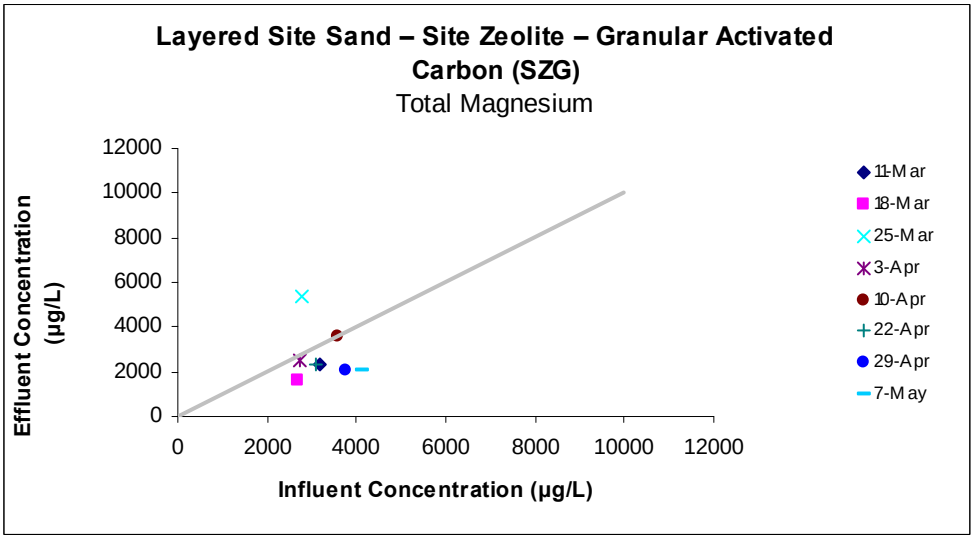
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	4504.119	2981.121	1.511	0.182	-2790.423	11798.660	-2790.423	11798.660
X Variable 1	-0.541	0.906	-0.597	0.572	-2.758	1.676	-2.758	1.676

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	2783.643	-462.643
2	3040.172	-1422.172
3	2994.711	2389.289
4	3019.065	-469.065
5	2561.210	1054.790
6	2826.939	-512.939
7	2462.170	-364.170
8	2264.091	-213.091




Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Magnesium
Concentration (µg/L)
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Magnesium
Effluent Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Mg

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.068
R Square	0.005
Adjusted R Square	-0.161
Standard Error	1488.025
Observations	8.000

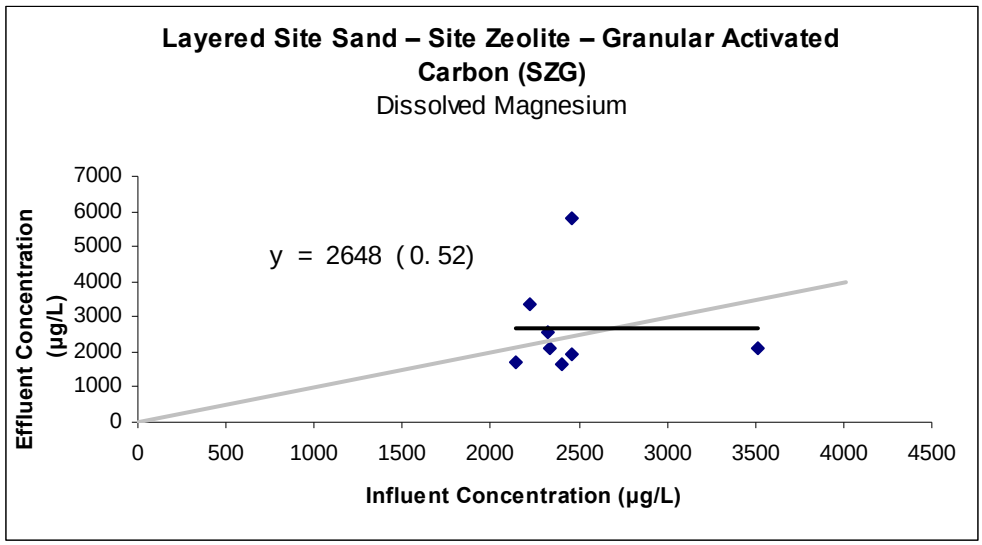
ANOVA

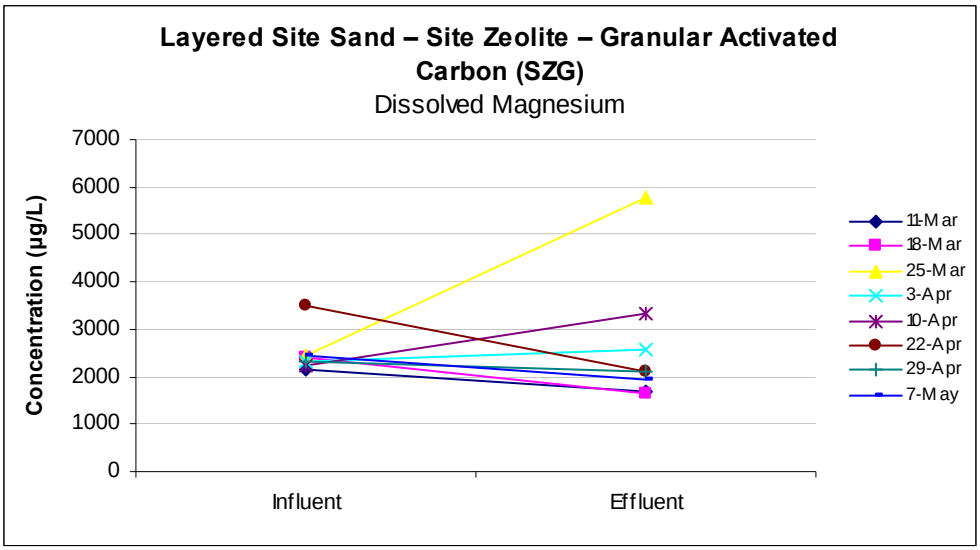
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	60971.270	60971.270	0.028	0.874
Residual	6.000	13285302.730	2214217.122		
Total	7.000	13346274.000			

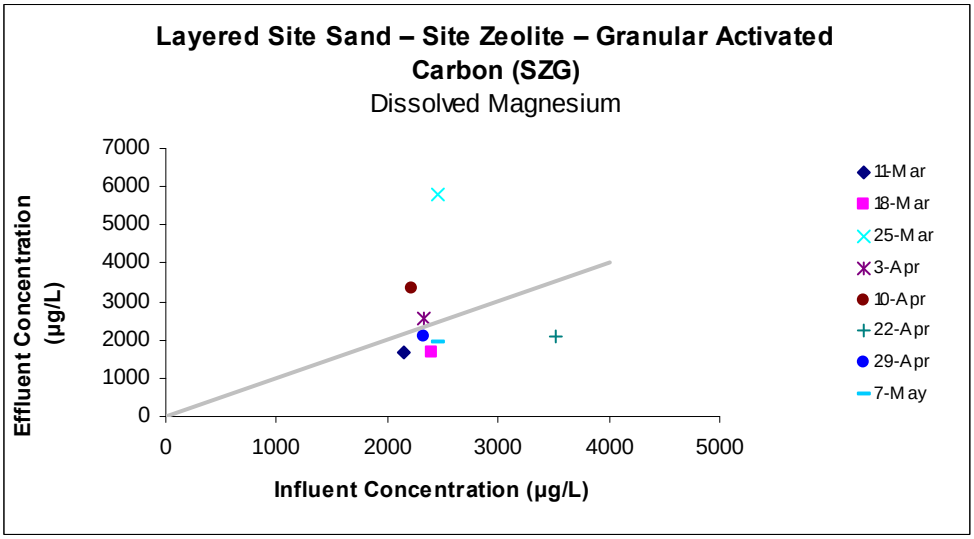
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3184.549	3275.901	0.972	0.369	-4831.291	11200.389	-4831.291	11200.389
X Variable 1	-0.216	1.302	-0.166	0.874	-3.402	2.970	-3.402	2.970

RESIDUAL OUTPUT

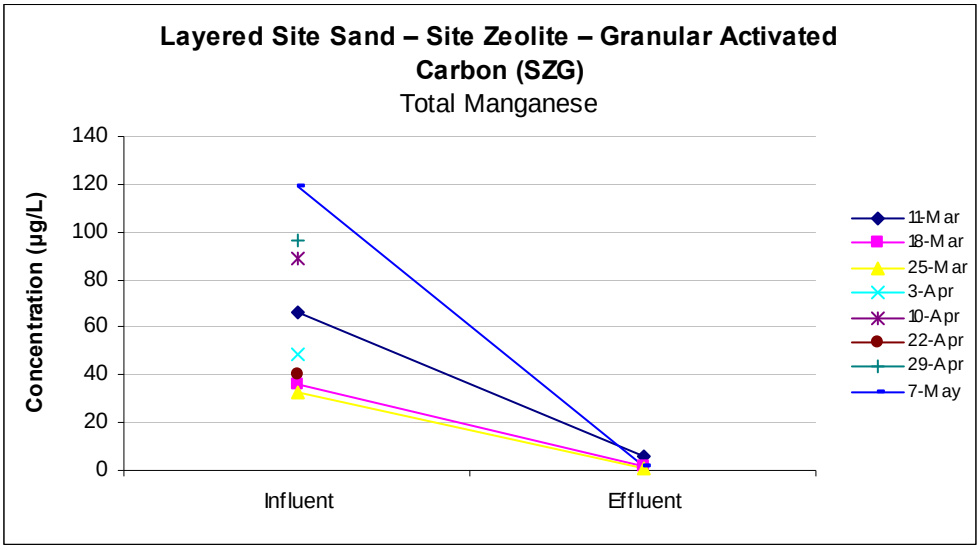
Observation	*Predicted Y*	*Residuals*
1	2721.347	-1038.347
2	2665.176	-1019.176
3	2652.429	3132.571
4	2681.811	-116.811
5	2704.712	640.288
6	2424.717	-313.717
7	2680.083	-579.083
8	2653.725	-705.725

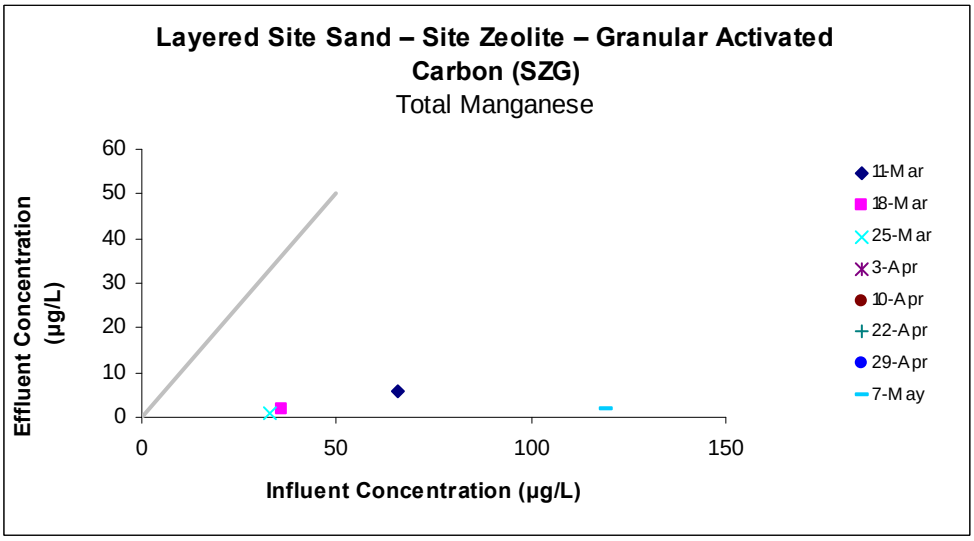



Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Magnesium
Concentration (µg/L)
7000
6000
5000
4000
3000
2000
1000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

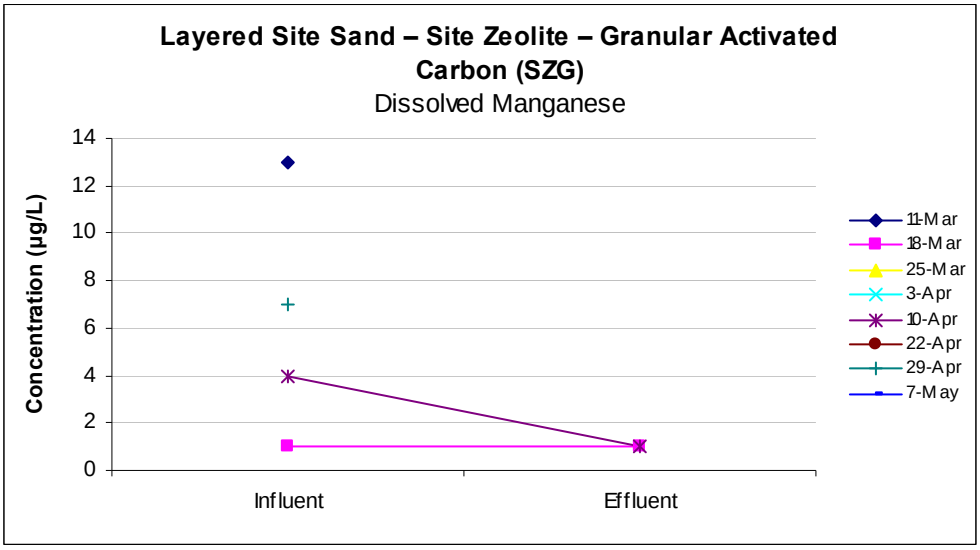

Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Magnesium
Effluent Concentration (µg/L)
7000
6000
5000
4000
3000
2000
1000
0
0
1000
2000
3000
4000
5000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

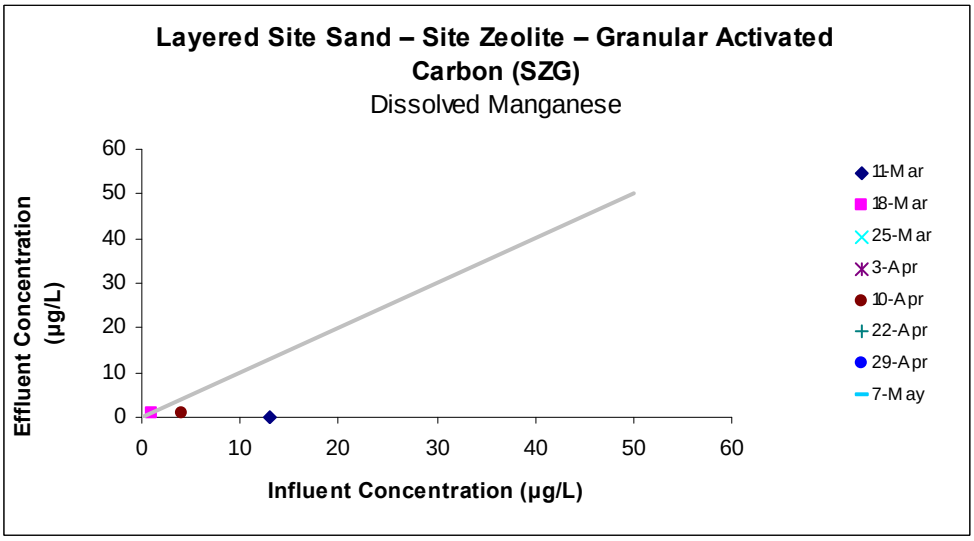
Total Mn


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Manganese
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

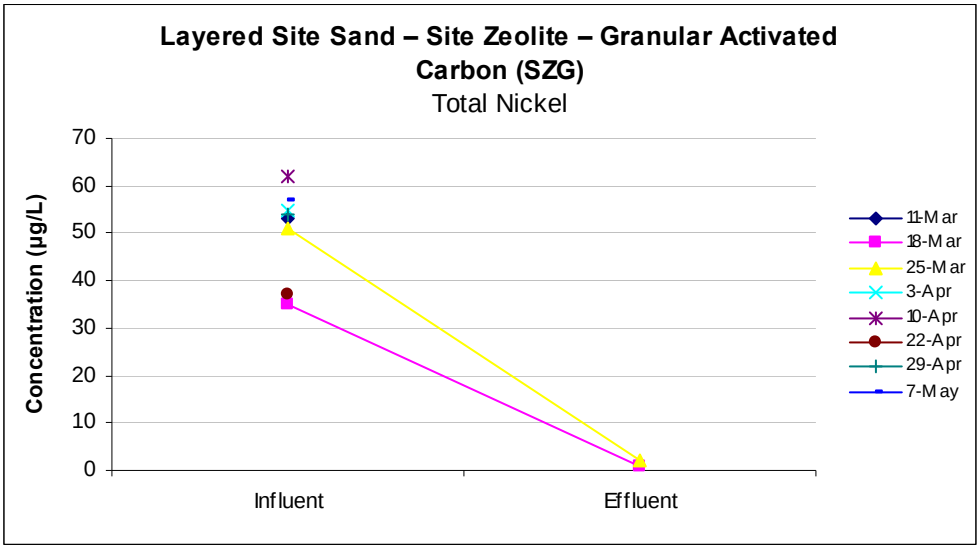

Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Manganese
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
50
100
150
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

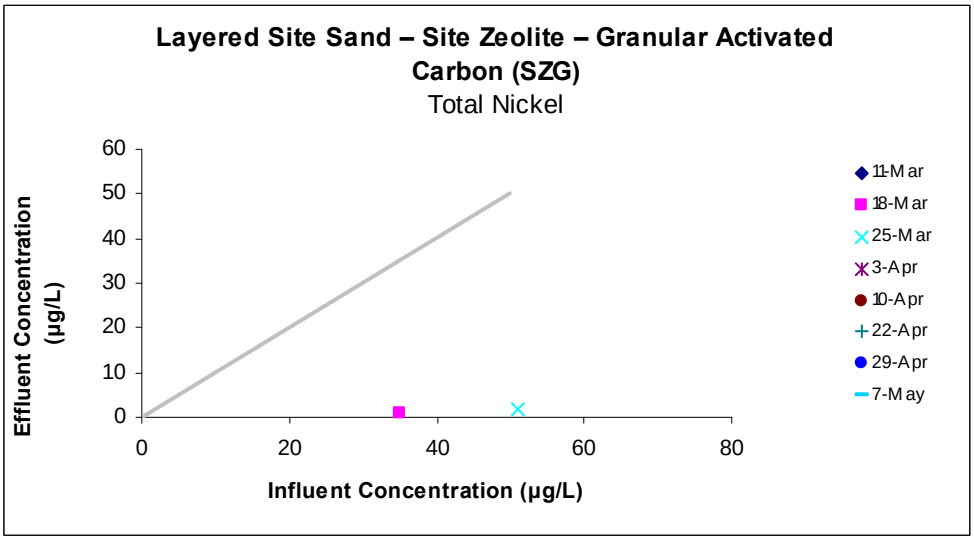
Dissolved Mn



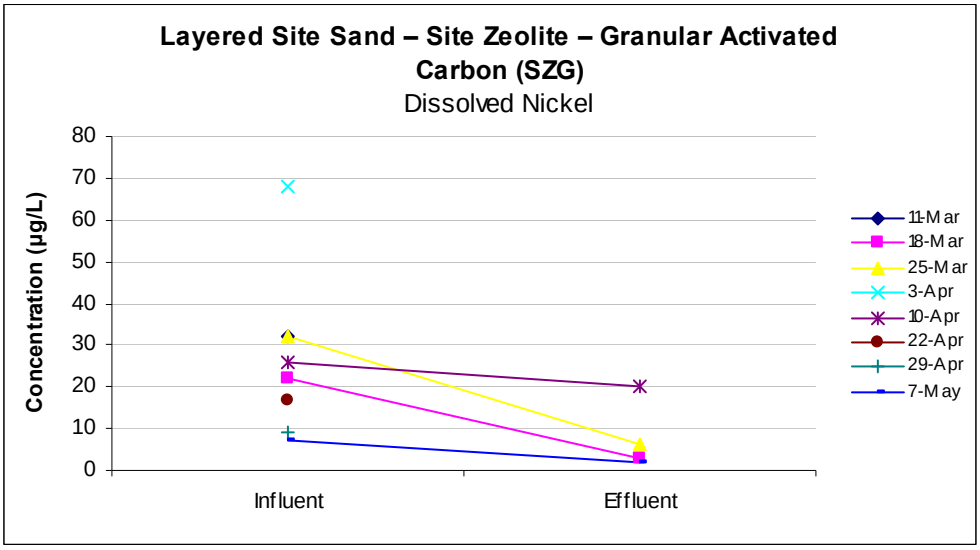


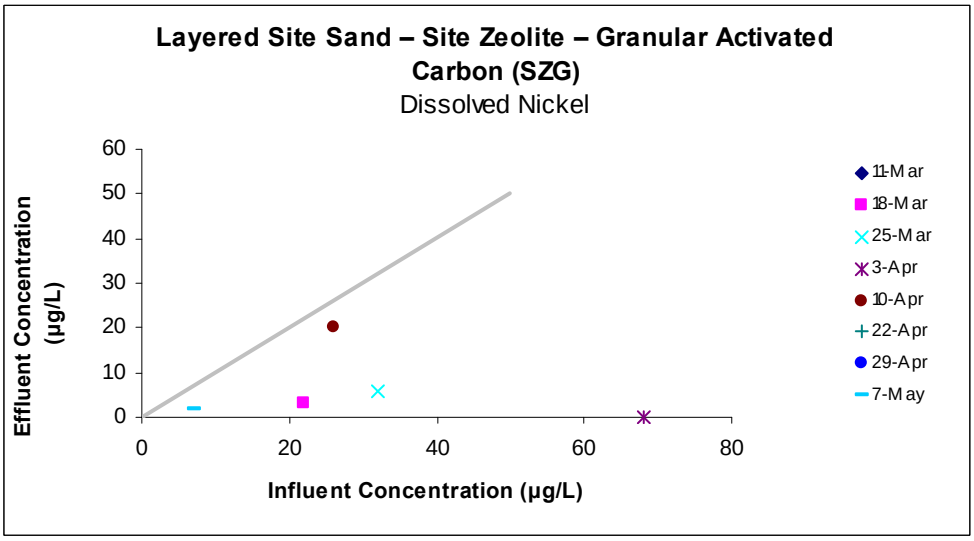
Total Ni


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Nickel
Concentration (µg/L)
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

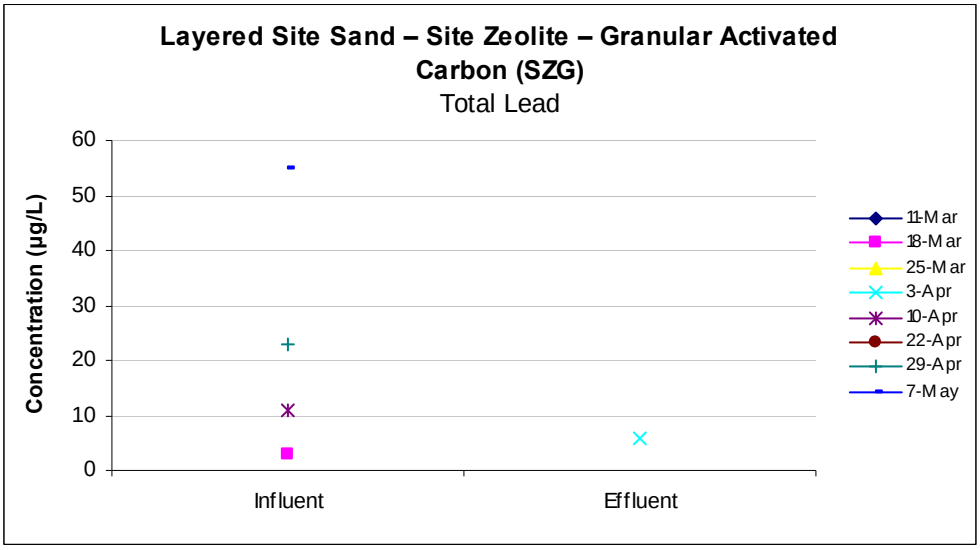

Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Nickel
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

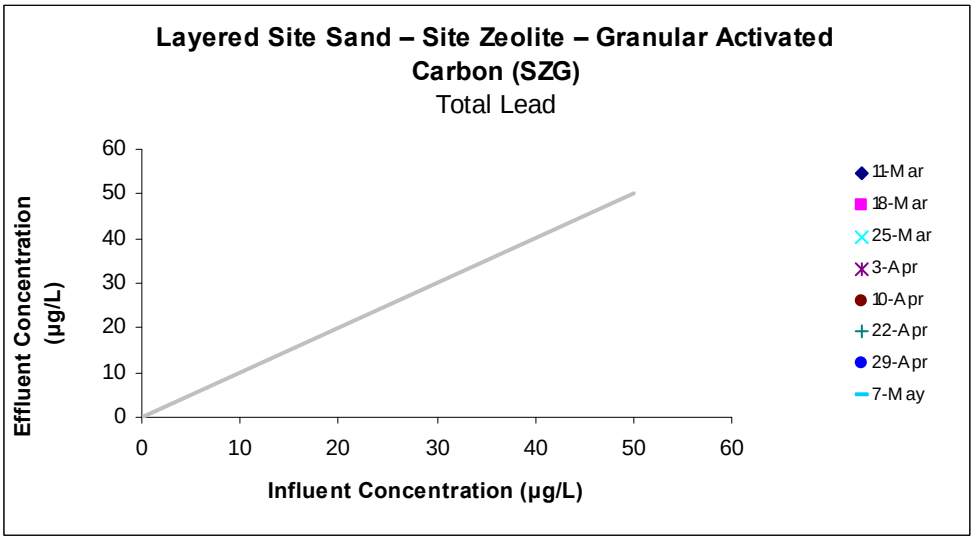
Dissolved Ni



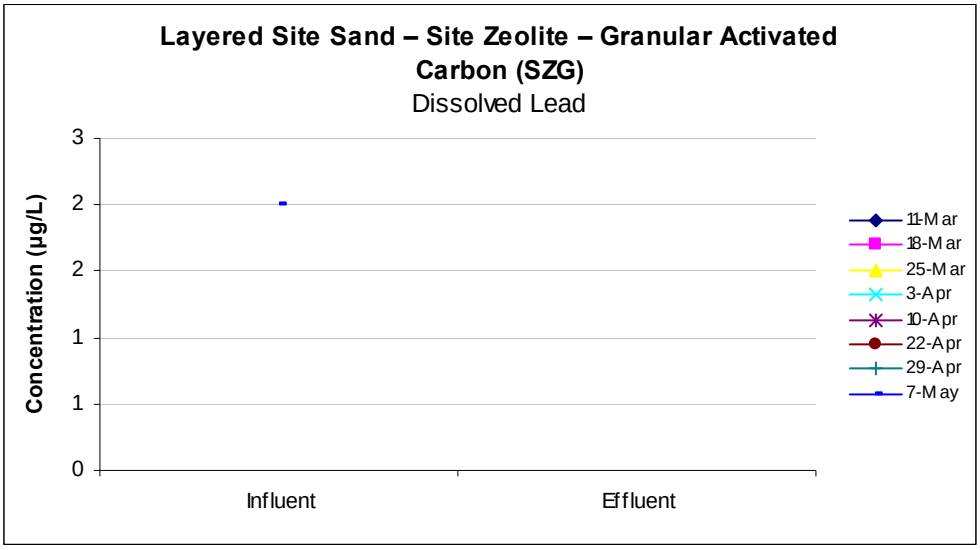


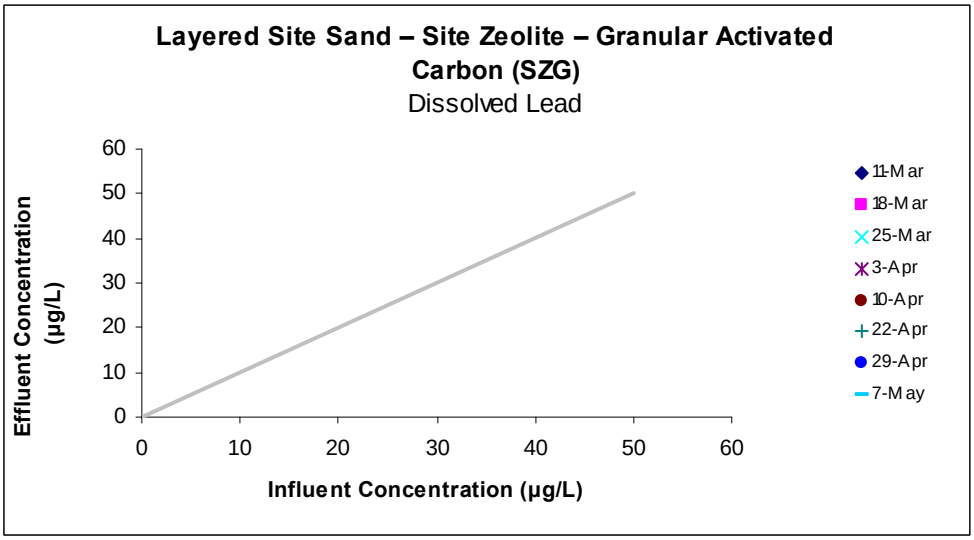
Total Pb


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Lead
Concentration (µg/L)
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Lead
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Pb





Total Zn

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.028
R Square	0.001
Adjusted R Square	-0.166
Standard Error	16.880
Observations	8.000

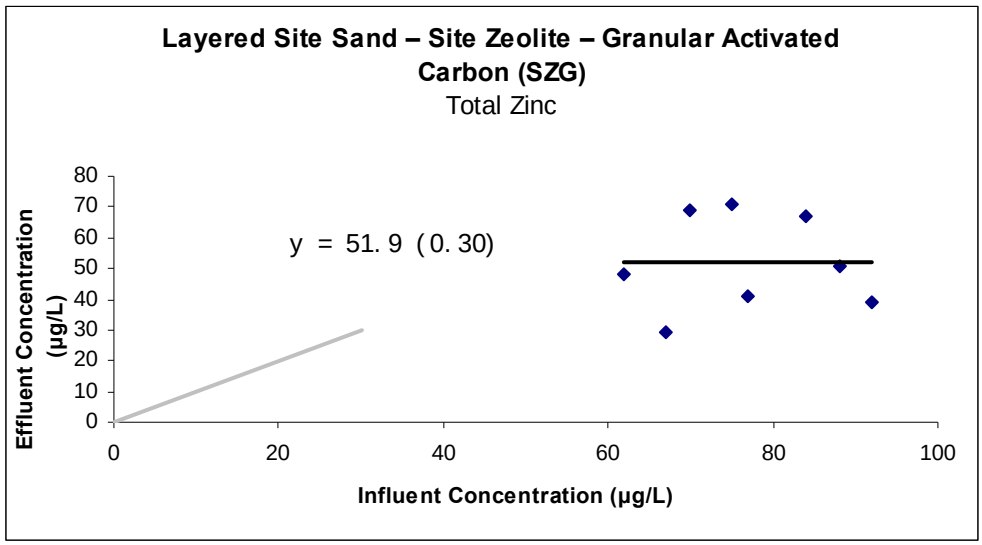
ANOVA

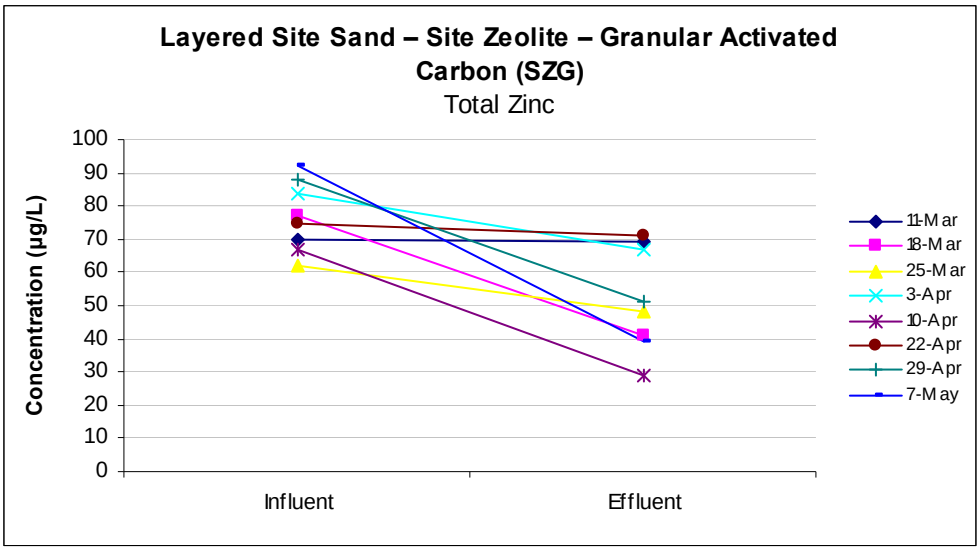
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	1.315	1.315	0.005	0.948
Residual	6.000	1709.560	284.927		
Total	7.000	1710.875			

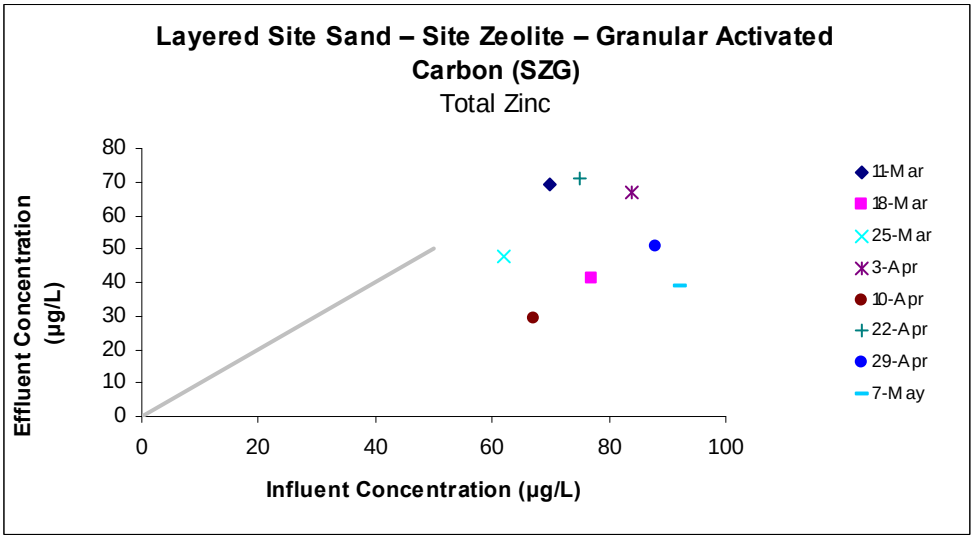
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	48.705	47.056	1.035	0.341	-66.438	163.847	-66.438	163.847
X Variable 1	0.041	0.607	0.068	0.948	-1.444	1.527	-1.444	1.527

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	51.591	17.409
2	51.880	-10.880
3	51.262	-3.262
4	52.169	14.831
5	51.468	-22.468
6	51.798	19.202
7	52.334	-1.334
8	52.499	-13.499




Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Zinc
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Zinc
Effluent Concentration (µg/L)
80
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Zn

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.274
R Square	0.075
Adjusted R Square	-0.079
Standard Error	9.940
Observations	8.000

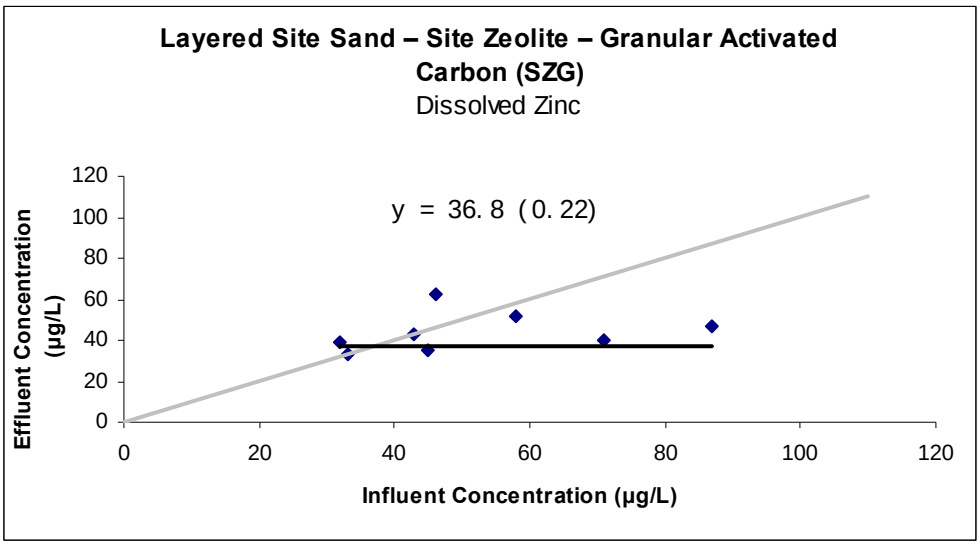
ANOVA

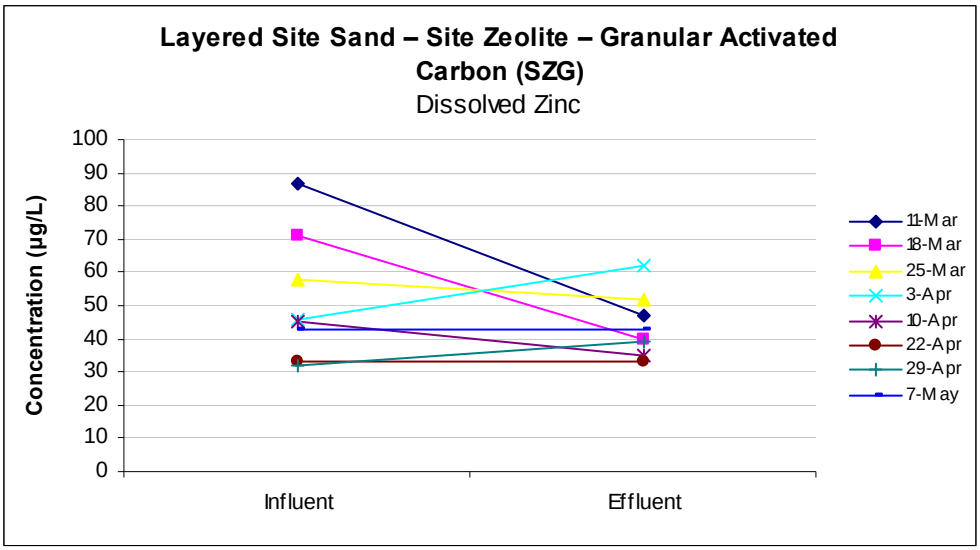
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	48.026	48.026	0.486	0.512
Residual	6.000	592.849	98.808		
Total	7.000	640.875			

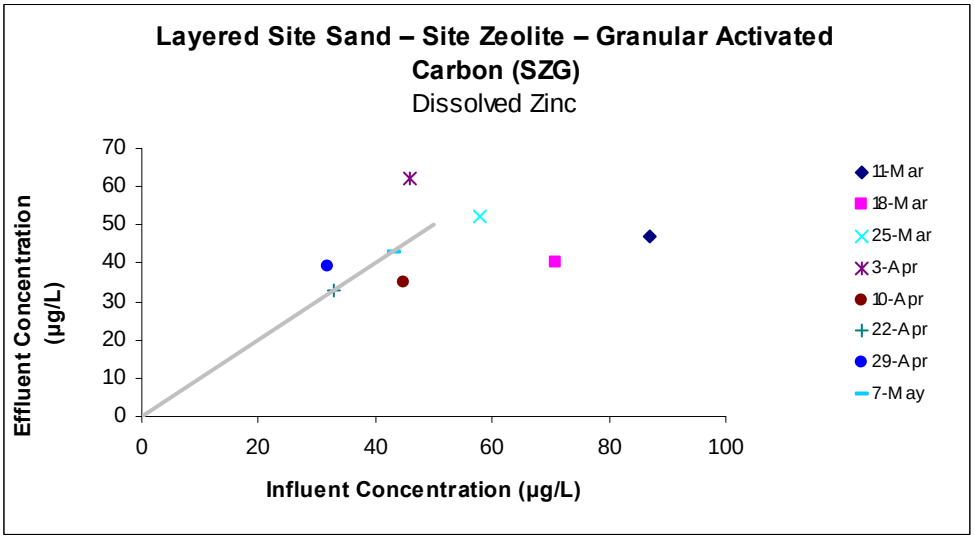
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	36.754	10.801	3.403	0.014	10.324	63.184	10.324	63.184
X Variable 1	0.137	0.197	0.697	0.512	-0.345	0.619	-0.345	0.619

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	48.696	-1.696
2	46.500	-6.500
3	44.716	7.284
4	43.069	18.931
5	42.931	-7.931
6	41.284	-8.284
7	41.147	-2.147
8	42.657	0.343




Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Zinc
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Zinc
Effluent Concentration (µg/L)
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total K

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.069
R Square	0.005
Adjusted R Square	-0.161
Standard Error	4027.312
Observations	8.000

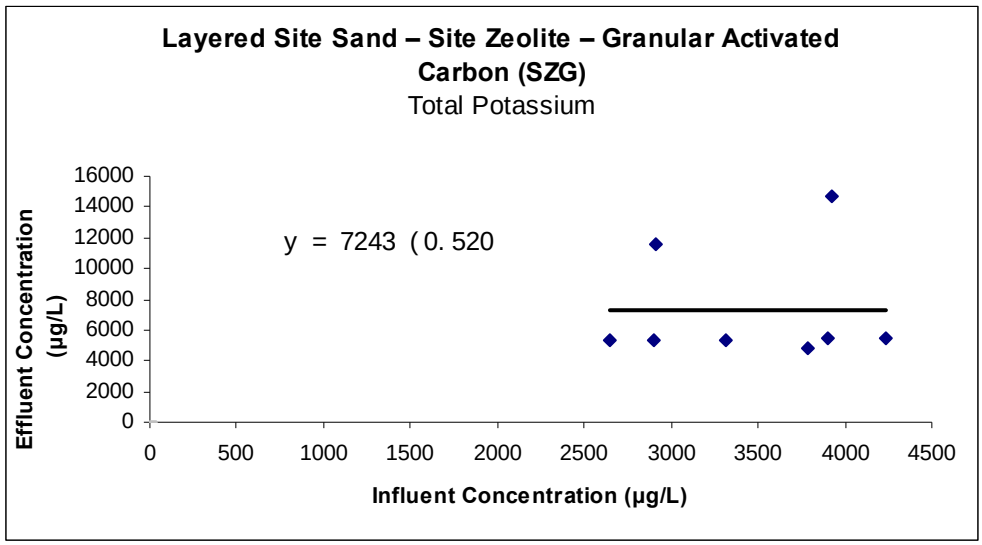
ANOVA

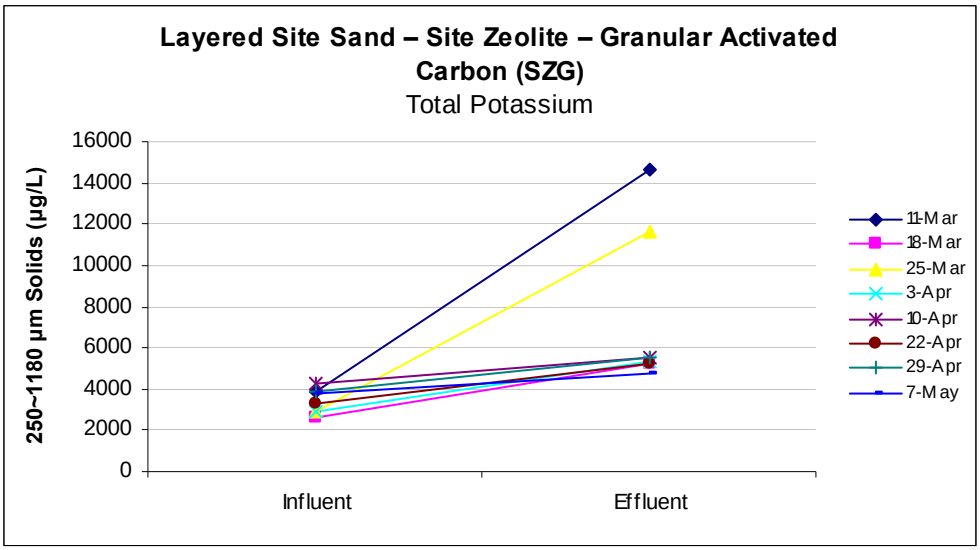
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	463945.194	463945.194	0.029	0.871
Residual	6.000	97315468.806	16219244.801		
Total	7.000	97779414.000			

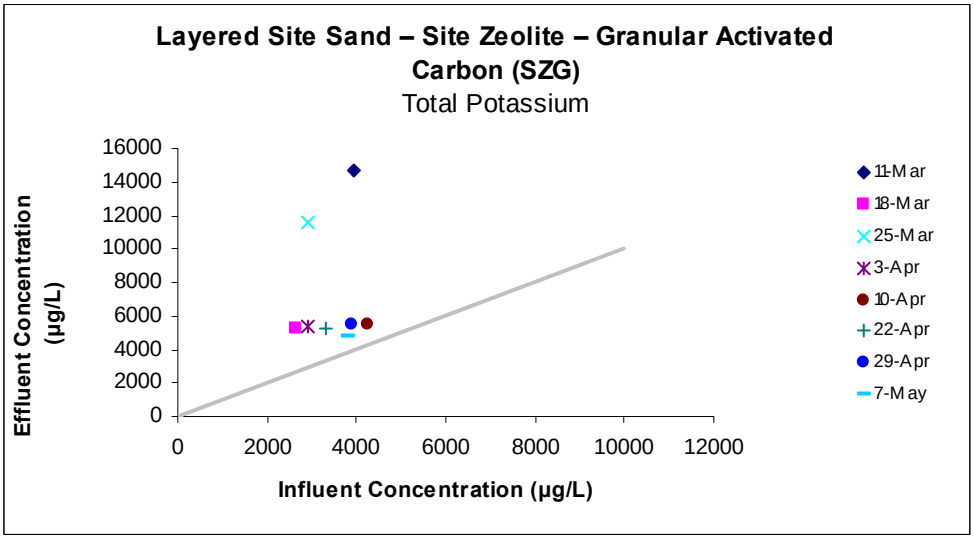
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	5725.432	9085.119	0.630	0.552	-16505.053	27955.916	-16505.053	27955.916
X Variable 1	0.439	2.598	0.169	0.871	-5.918	6.797	-5.918	6.797

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	7447.492	7224.508
2	6890.316	-1608.316
3	7006.760	4599.240
4	7000.169	-1676.169
5	7588.104	-2076.104
6	7181.647	-1908.647
7	7438.264	-1925.264
8	7391.247	-2629.247




Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Potassium
250–1180 µm Solids (µg/L)
16000
14000
12000
10000
8000
6000
4000
2000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Potassium
Effluent Concentration (µg/L)
16000
14000
12000
10000
8000
6000
4000
2000
0
0
2000
4000
6000
8000
10000
12000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved K

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.271
R Square	0.073
Adjusted R Square	-0.081
Standard Error	3004.665
Observations	8.000

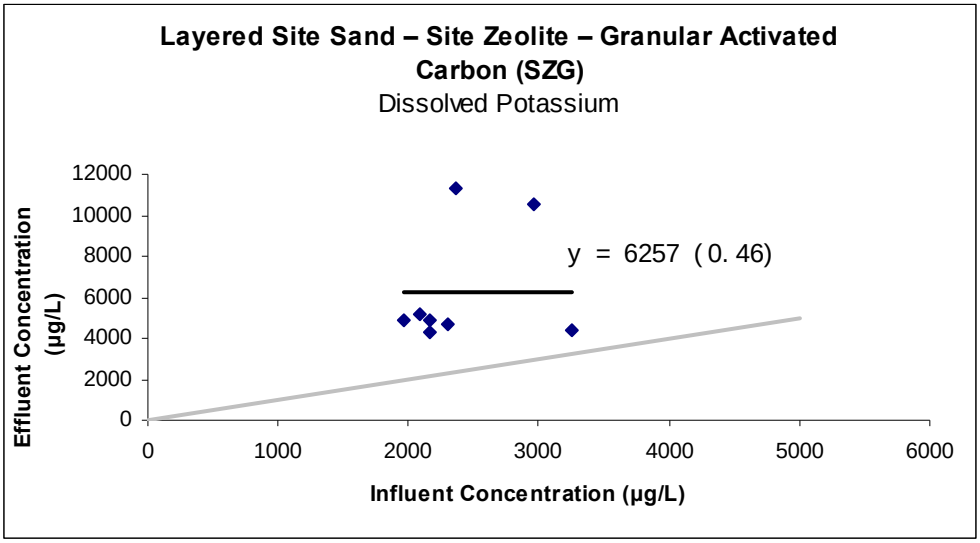
ANOVA

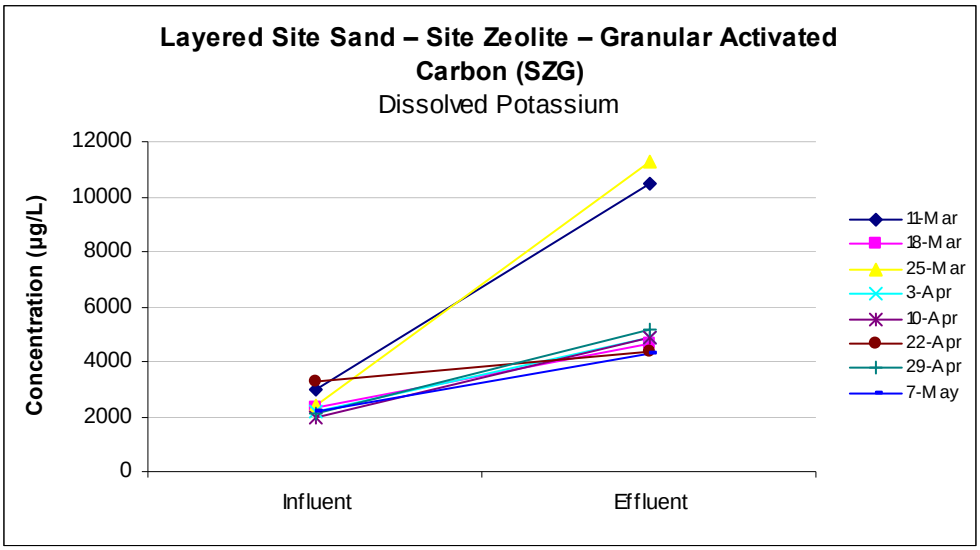
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	4286877.566	4286877.566	0.475	0.517
Residual	6.000	54168060.434	9028010.072		
Total	7.000	58454938.000			

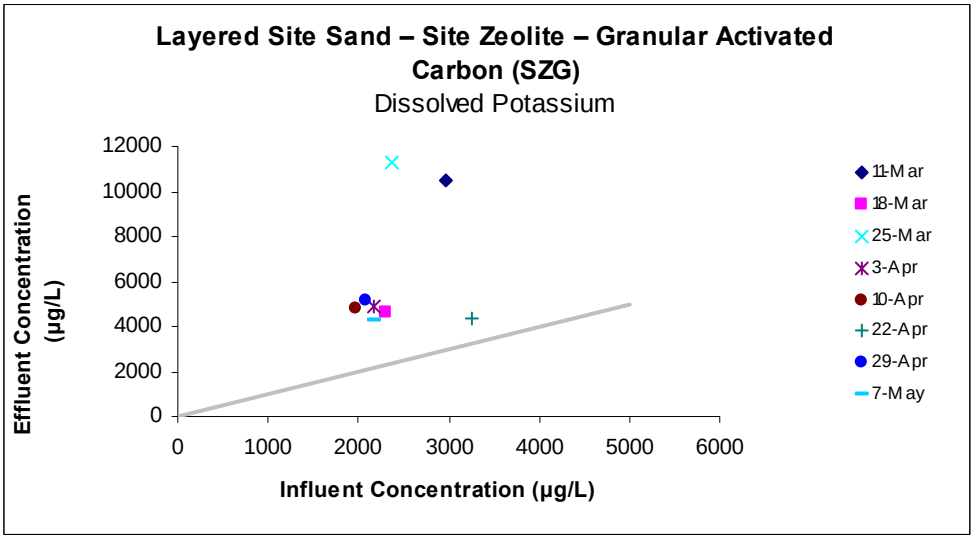
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	2123.113	6092.402	0.348	0.739	-12784.457	17030.684	-12784.457	17030.684
X Variable 1	1.718	2.492	0.689	0.517	-4.381	7.816	-4.381	7.816

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	7200.140	3308.860
2	6080.309	-1416.309
3	6190.231	5105.769
4	5836.419	-941.419
5	5489.478	-647.478
6	7711.965	-3329.965
7	5697.299	-497.299
8	5850.159	-1582.159




Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Potassium
Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Potassium
Effluent Concentration (µg/L)
12000
10000
8000
6000
4000
2000
0
0
1000
2000
3000
4000
5000
6000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Na

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.066
R Square	0.004
Adjusted R Square	-0.162
Standard Error	17739.434
Observations	8.000

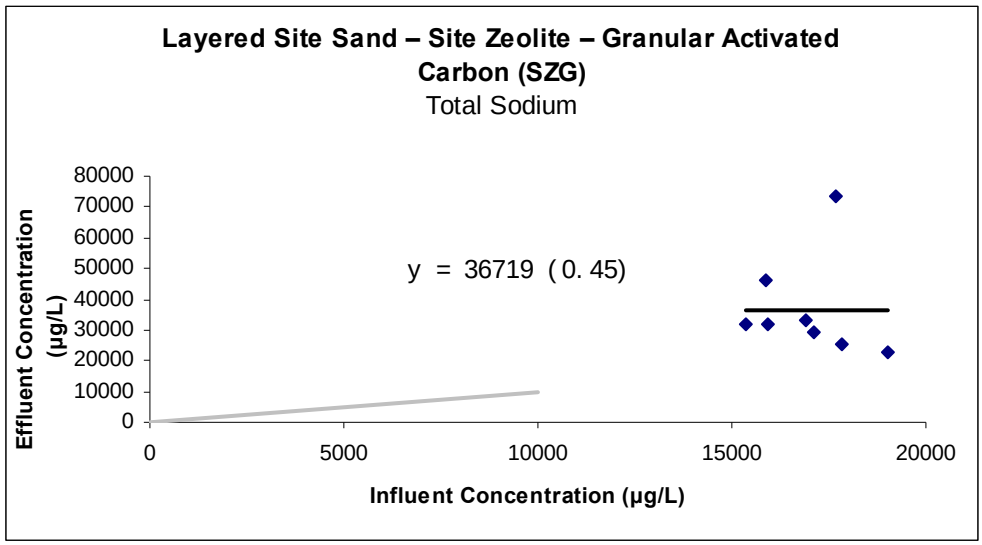
ANOVA

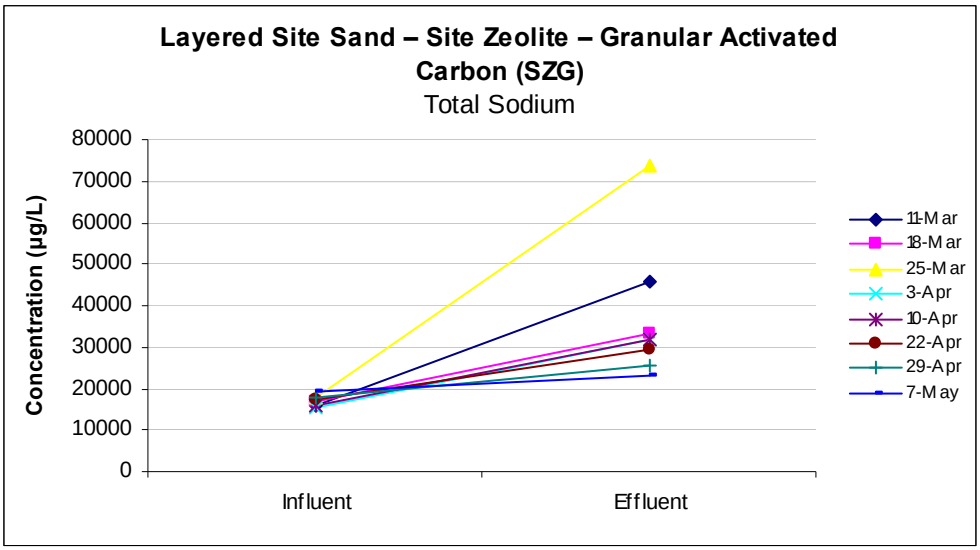
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	8350169.478	8350169.478	0.027	0.876
Residual	6.000	1888125068.397	314687511.399		
Total	7.000	1896475237.875			

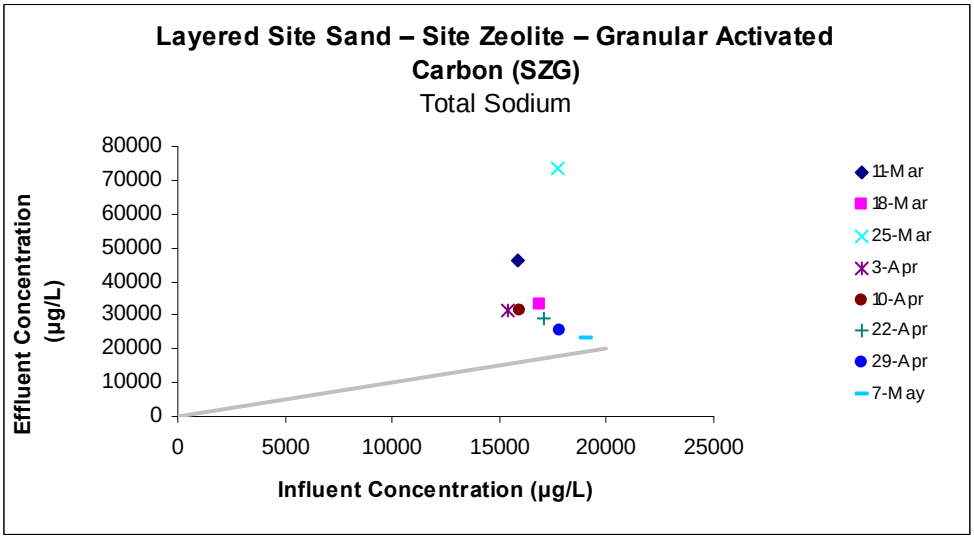
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	51927.139	93574.300	0.555	0.599	-177040.924	280895.202	-177040.924	280895.202
X Variable 1	-0.896	5.502	-0.163	0.876	-14.359	12.566	-14.359	12.566

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	37697.752	8278.248
2	36772.847	-3399.847
3	36078.271	37668.729
4	38156.620	-6552.620
5	37642.186	-6075.186
6	36587.328	-7387.328
7	35954.592	-10617.592
8	34859.403	-11914.403




Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Sodium
Concentration (µg/L)
80000
70000
60000
50000
40000
30000
20000
10000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Sodium
Effluent Concentration (µg/L)
80000
70000
60000
50000
40000
30000
20000
10000
0
0
5000
10000
15000
20000
25000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolve Na

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.283
R Square	0.080
Adjusted R Square	-0.074
Standard Error	16137.425
Observations	8.000

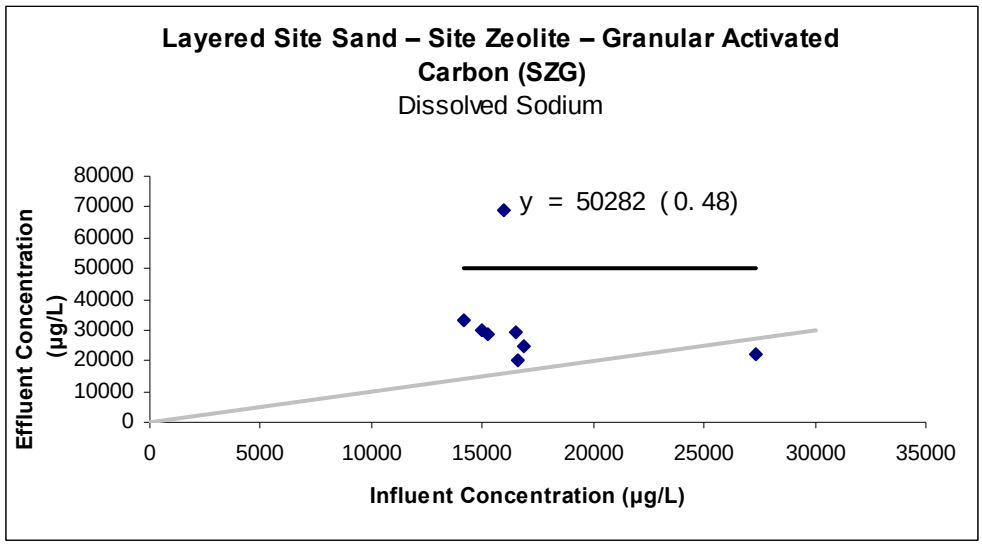
ANOVA

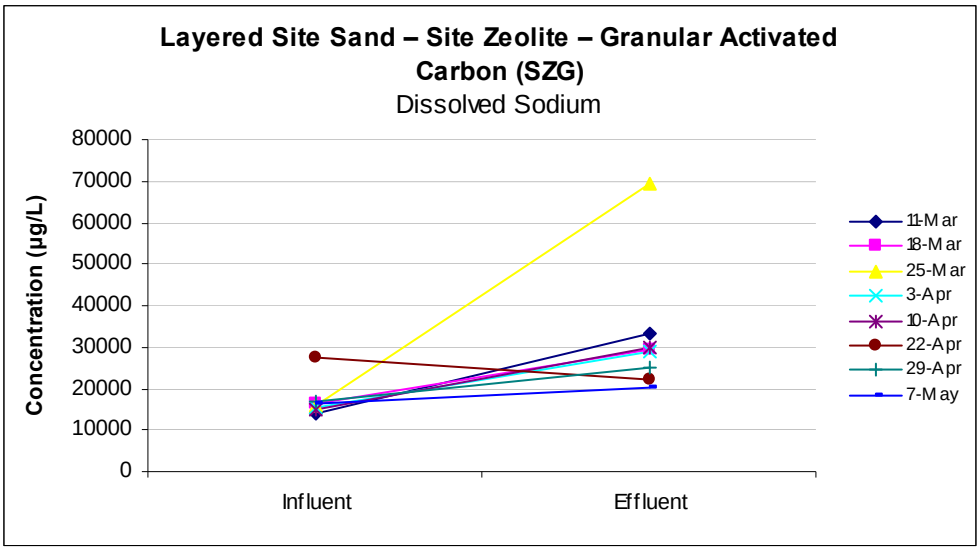
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	135576403.777	135576403.777	0.521	0.498
Residual	6.000	1562498883.723	260416480.620		
Total	7.000	1698075287.500			

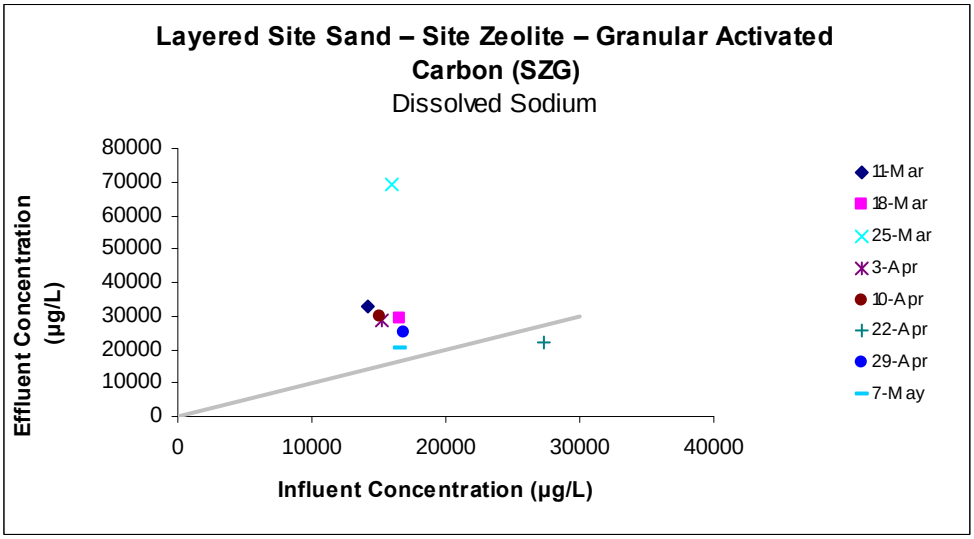
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	50282.158	25703.606	1.956	0.098	-12612.300	113176.616	-12612.300	113176.616
X Variable 1	-1.051	1.456	-0.722	0.498	-4.613	2.512	-4.613	2.512

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	35394.142	-2361.142
2	32914.732	-3431.732
3	33519.876	35724.124
4	34242.687	-5335.687
5	34520.045	-4726.045
6	21569.331	404.669
7	32602.705	-7642.705
8	32826.482	-12631.482




Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Sodium
Concentration (µg/L)
80000
70000
60000
50000
40000
30000
20000
10000
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Sodium
Effluent Concentration (µg/L)
80000
70000
60000
50000
40000
30000
20000
10000
0
0
10000
20000
30000
40000
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Total Cr

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.764
R Square	0.583
Adjusted R Square	0.500
Standard Error	1.865
Observations	7.000

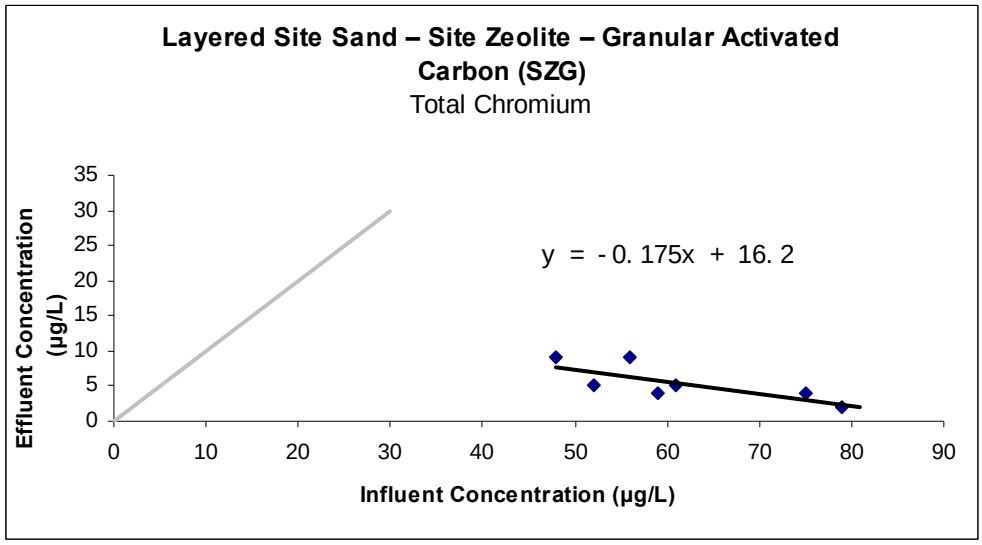
ANOVA

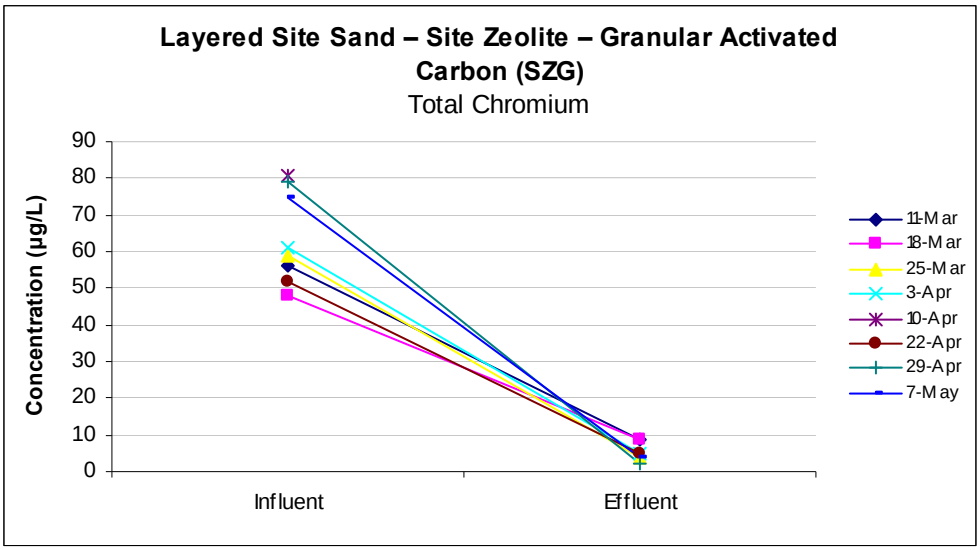
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	24.320	24.320	6.991	0.046
Residual	5.000	17.394	3.479		
Total	6.000	41.714			

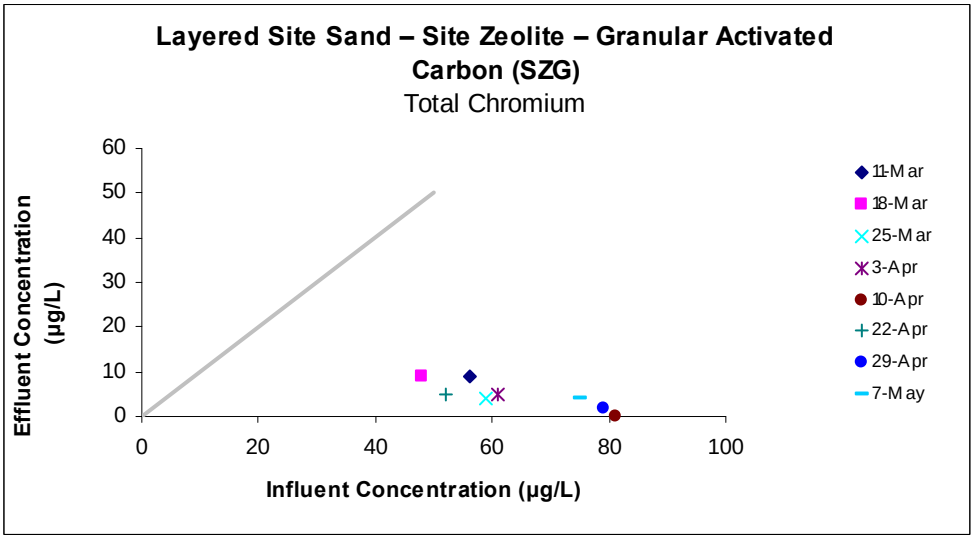
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	16.154	4.117	3.923	0.011	5.570	26.739	5.570	26.739
X Variable 1	-0.175	0.066	-2.644	0.046	-0.344	-0.005	-0.344	-0.005

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	6.376	2.624
2	7.773	1.227
3	5.853	-1.853
4	5.503	-0.503
5	7.075	-2.075
6	2.360	-0.360
7	3.059	0.941




Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Chromium
Concentration (µg/L)
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Chromium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Cr

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.540
R Square	0.291
Adjusted R Square	-0.063
Standard Error	2.728
Observations	4.000

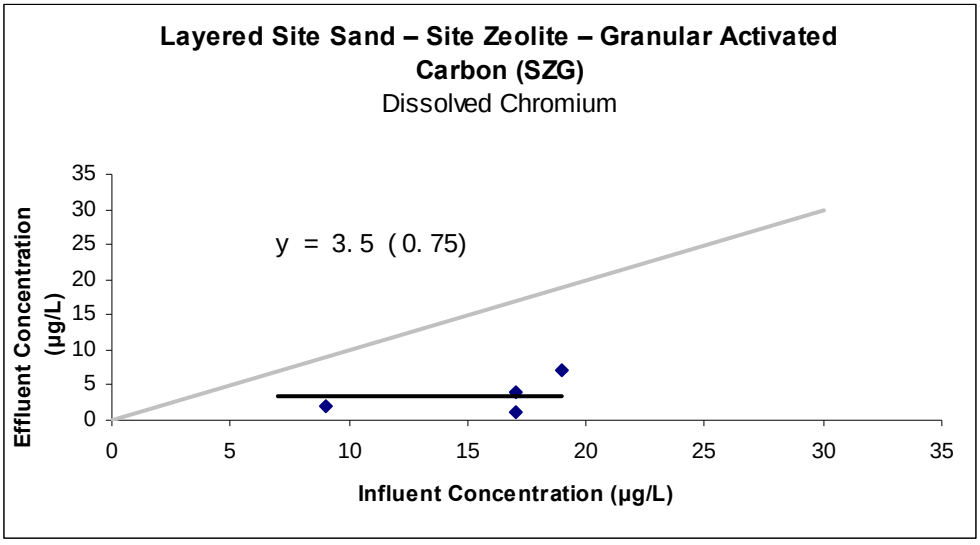
ANOVA

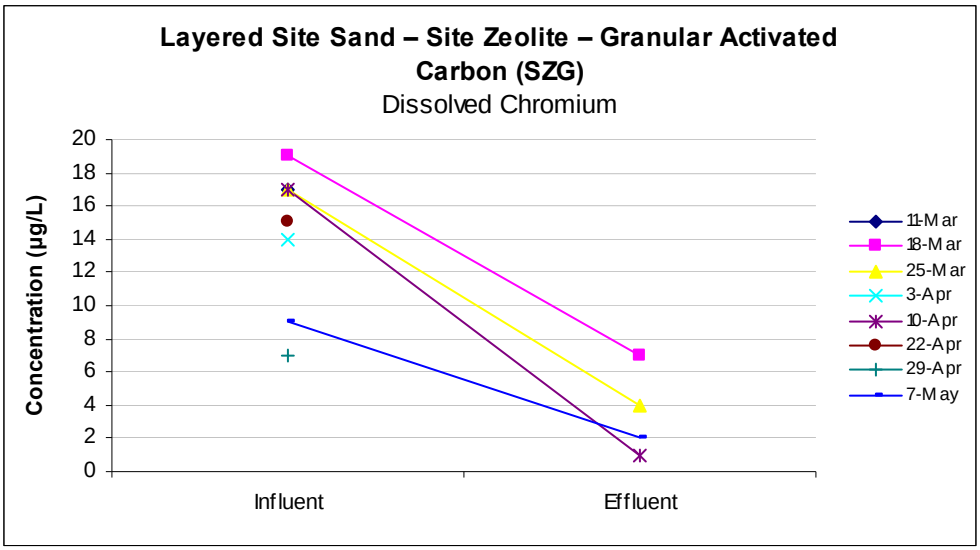
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	6.119	6.119	0.822	0.460
Residual	2.000	14.881	7.441		
Total	3.000	21.000			

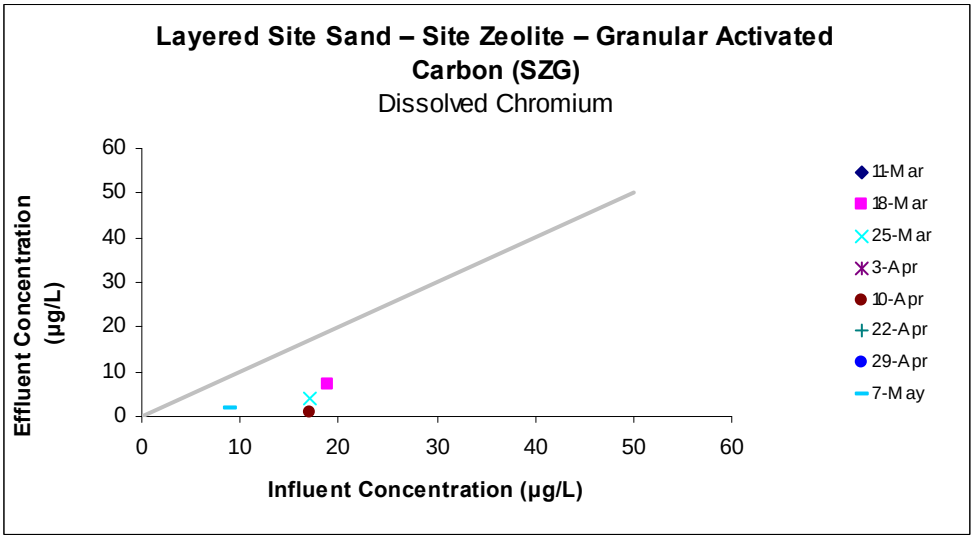
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-1.492	5.671	-0.263	0.817	-25.891	22.908	-25.891	22.908
X Variable 1	0.322	0.355	0.907	0.460	-1.206	1.850	-1.206	1.850

RESIDUAL OUTPUT

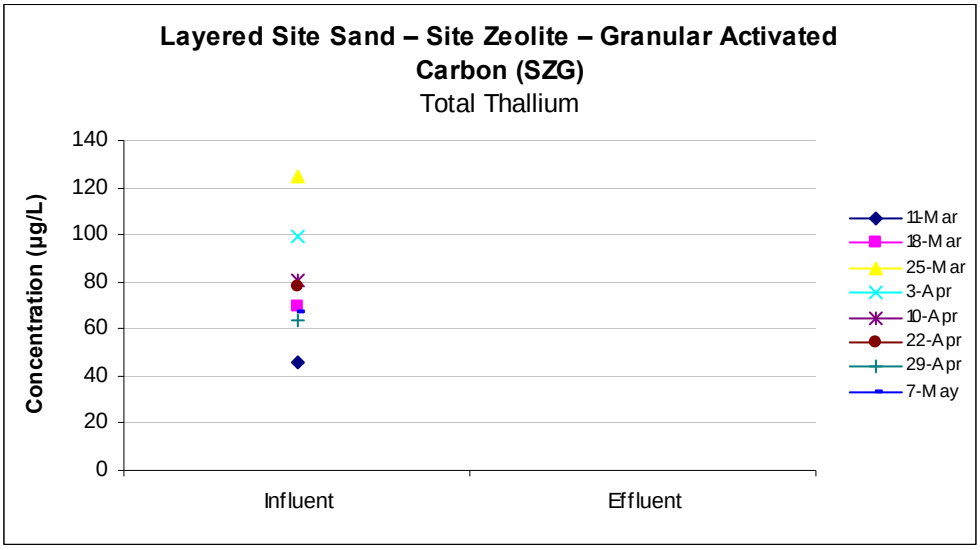
Observation	*Predicted Y*	*Residuals*
1	4.627	2.373
2	3.983	0.017
3	3.983	-2.983
4	1.407	0.593

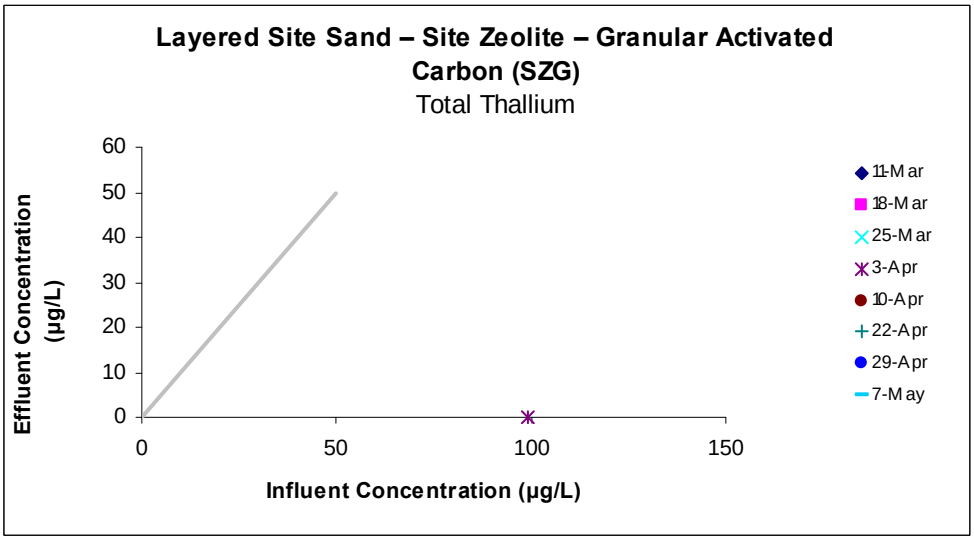



Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Chromium
Concentration (µg/L)
20
18
16
14
12
10
8
6
4
2
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

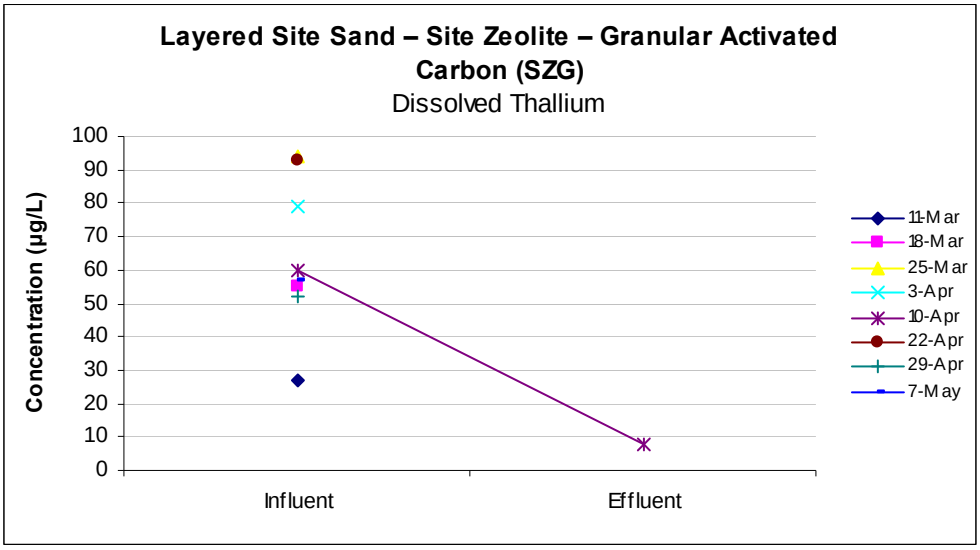

Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Chromium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
10
20
30
40
50
60
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

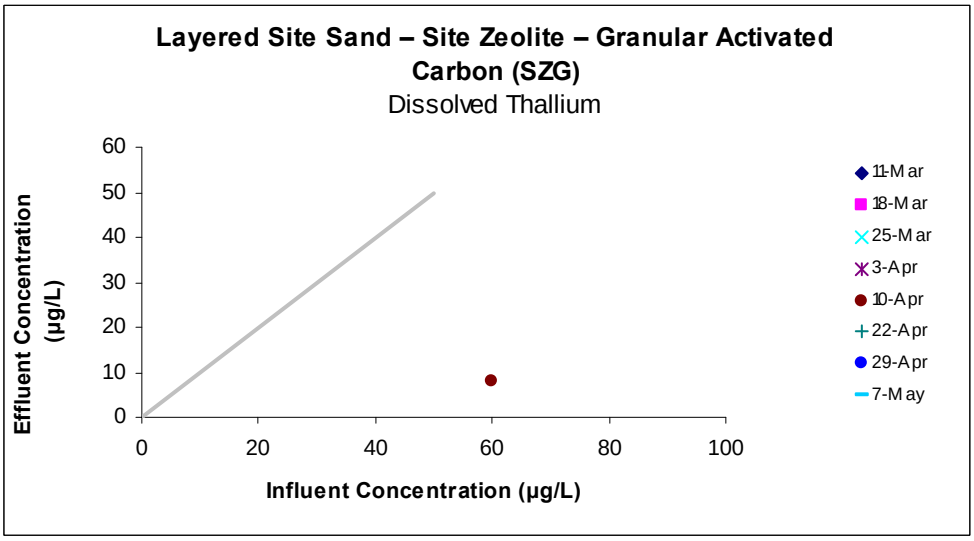
Total Tl


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Thallium
Concentration (µg/L)
140
120
100
80
60
40
20
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Thallium
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
50
100
150
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Tl





Total Sb

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.947
R Square	0.897
Adjusted R Square	0.754
Standard Error	13.363
Observations	8.000

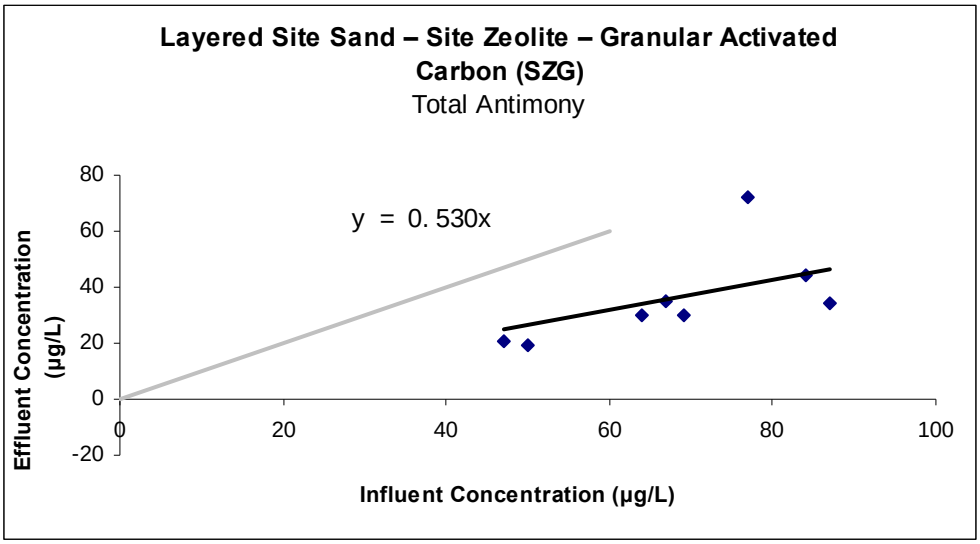
ANOVA

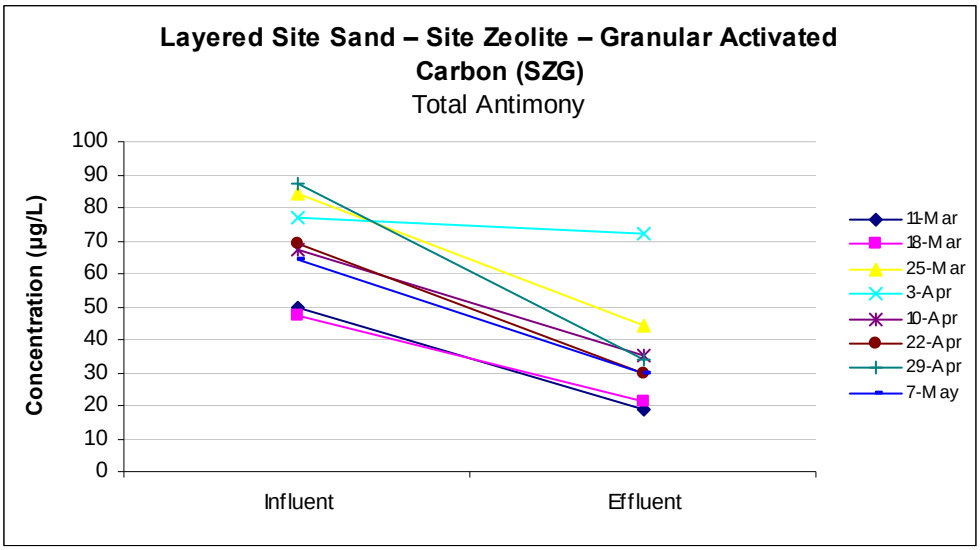
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	10852.933	10852.933	60.773	0.000
Residual	7.000	1250.067	178.581		
Total	8.000	12103.000			

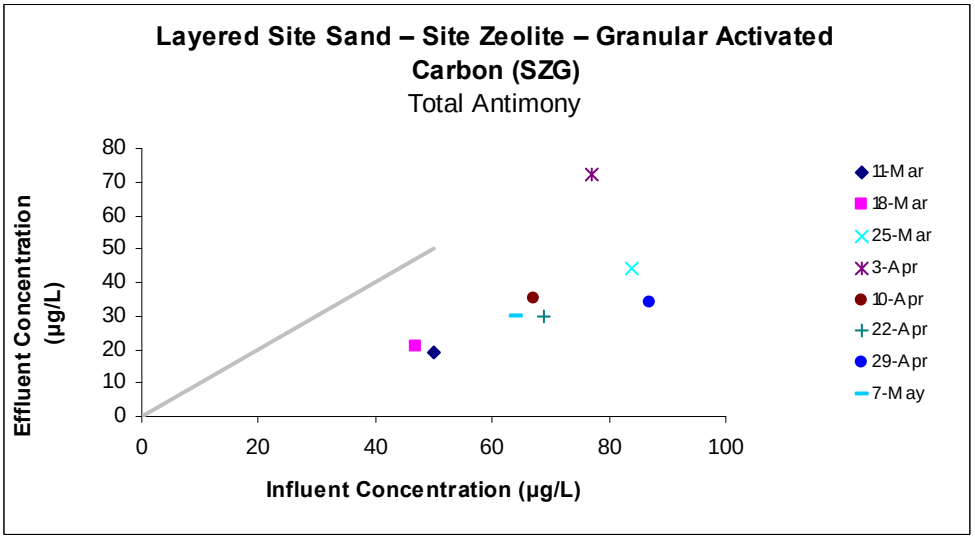
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.530	0.068	7.796	0.000	0.369	0.691	0.369	0.691

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	26.509	-7.509
2	24.919	-3.919
3	44.536	-0.536
4	40.824	31.176
5	35.523	-0.523
6	36.583	-6.583
7	46.126	-12.126
8	33.932	-3.932




Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Antimony
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Total Antimony
Effluent Concentration (µg/L)
80
70
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May

Dissolved Sb

MWH Sand-GAC-MWH Zeolite Layered

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.496
R Square	0.246
Adjusted R Square	0.120
Standard Error	12.908
Observations	8.000

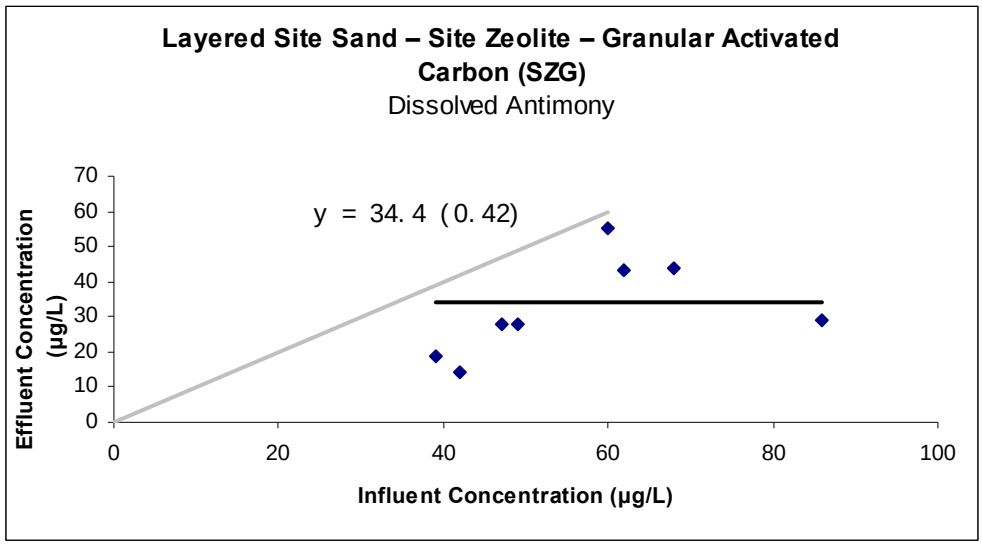
ANOVA

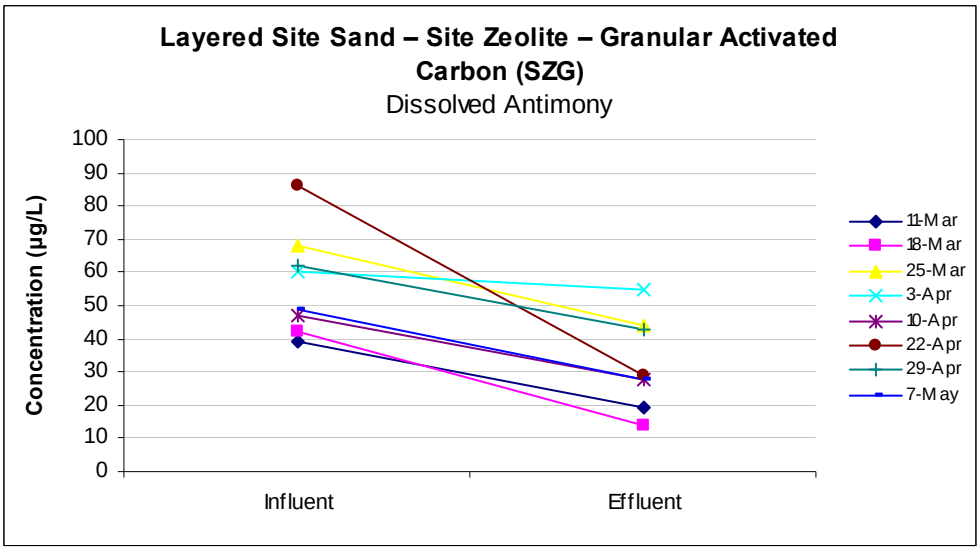
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000	326.290	326.290	1.958	0.211
Residual	6.000	999.710	166.618		
Total	7.000	1326.000			

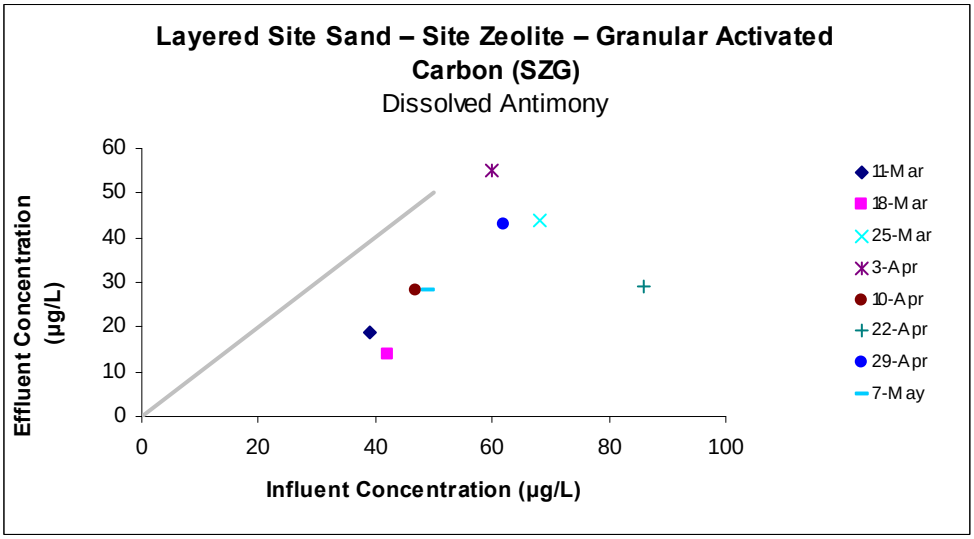
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	7.750	18.266	0.424	0.686	-36.945	52.444	-36.945	52.444
X Variable 1	0.437	0.312	1.399	0.211	-0.327	1.201	-0.327	1.201

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*
1	24.796	-5.796
2	26.108	-12.108
3	37.472	6.528
4	33.975	21.025
5	28.293	-0.293
6	45.340	-16.340
7	34.849	8.151
8	29.167	-1.167




Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Antimony
Concentration (µg/L)
100
90
80
70
60
50
40
30
20
10
0
Influent
Effluent
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May


Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG)
Dissolved Antimony
Effluent Concentration (µg/L)
60
50
40
30
20
10
0
0
20
40
60
80
100
Influent Concentration (µg/L)
11-Mar
18-Mar
25-Mar
3-Apr
10-Apr
22-Apr
29-Apr
7-May