

Appendix A6: Particle Size Removal Data from Long-Term, Full-Scale Column Tests

This appendix contains information pertaining to the removal of particulates, by particle size, from the treated stormwater by each media column during long-term, full-depth, column tests. The following describes the sets of figures in this appendix:

- The initial figures show the SSC and TSS influent particle size distributions. The SSC plot shows all particles that are greater than 0.45 μm , with no upper limit. The largest particles were about 2,000 μm , but only represented a very small fraction of the total mass. The TSS plot truncates the upper limit to 75 μm , a common cutoff for TSS.
- The main body of the appendix is organized showing the particle removal results for each of the ten media combinations examined, in the following order:

Granular activated carbon (GAC)

Surface modified zeolite (SMZ)

Rhyolite sand (R)

Rhyolite sand – surface modified zeolite – granular activated carbon (R-SMZ-GAC)

Layered site filter sand, site zeolite, and granular activated carbon (layered S-Z-GAC)

Site zeolite (Z)

Peat moss (P)

Rhyolite sand, surface modified zeolite, granular activated carbon, and peat moss (R-SMZ-GAC-P)

Rhyolite sand and surface modified zeolite (R-SMZ)

Site filter sand

Each section describes performance with the following plots and tables:

Effluent particle size plot (SSC)

Effluent particle size plot for 0.45 to 75 μm (TSS)

ANOVA for regression plot of influent vs. effluent concentration, by particle size category

Line plot showing influent vs. effluent concentrations, along with Sign test significance p

Paired probability plot of influent and effluent concentrations along with Anderson-Darling test of normality

Scatterplot of influent vs. effluent concentrations, with best-fit regression line and equation (or COV if a constant)

Same scatterplot but without regression line to better see actual data

In each of these sets, these analyses are presented for different particle size categories. The particle size categories examined are:

<0.45 μm (TDS)

0.45 to 3 μm

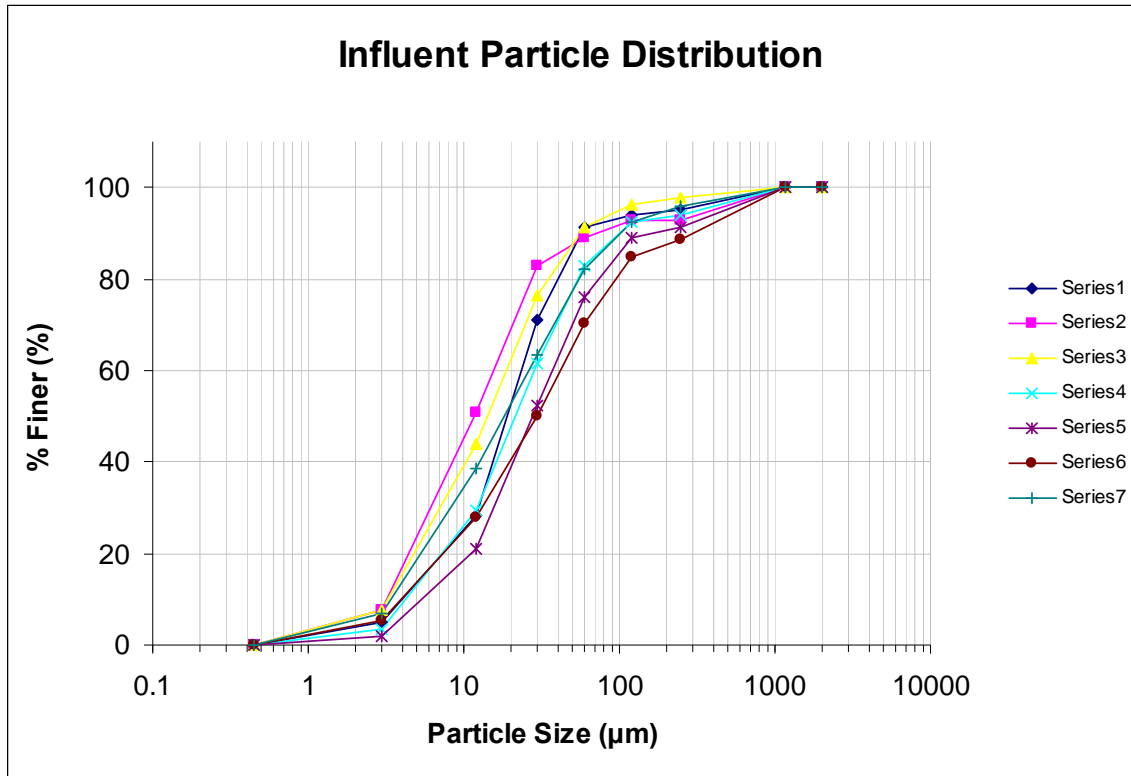
- 3 to 12 μm
- 12 to 30 μm
- 30 to 60 μm
- 60 to 120 μm
- 120 to 250 μm
- 250 to 1190 μm
- >1280 μm
- >0.45 μm (SSC)
- 0.45 to 75 μm (TSS)

Locations of Major Appendix A6 Sections:

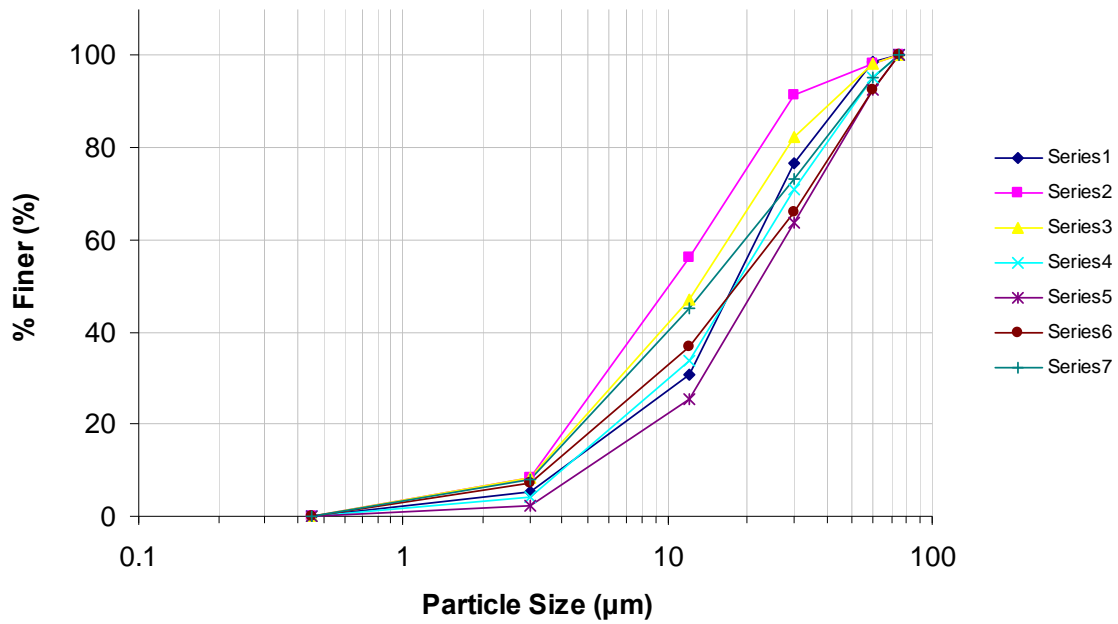
Influent Particle Size Distribution	3
Granular Activated Carbon (GAC) Media Particulate Removal Data from Column Tests	5
Surface Modified Zeolite (SMZ) Media Particulate Removal Data from Column Tests.....	36
Rhyolite Sand (R) Media Particulate Removal Data from Column Tests	68
Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media Particulate Removal Data from Column Tests	100
Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG) Media Particulate Removal Data from Column Tests.....	132
Site Zeolite (Z) Media Particulate Removal Data from Column Tests	164
Peat Moss (P) Media Particulate Removal Data from Column Tests.....	196
Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P) Media Particulate Removal Data from Column Tests	228
Rhyolite Sand – Surface Modified Zeolite (R – SMZ) Media Particulate Removal Data from Column Tests	260
Site Sand (S) Media Particulate Removal Data from Column Tests	292

Influent Particle Size Distribution

SSC (>0.45 μm)

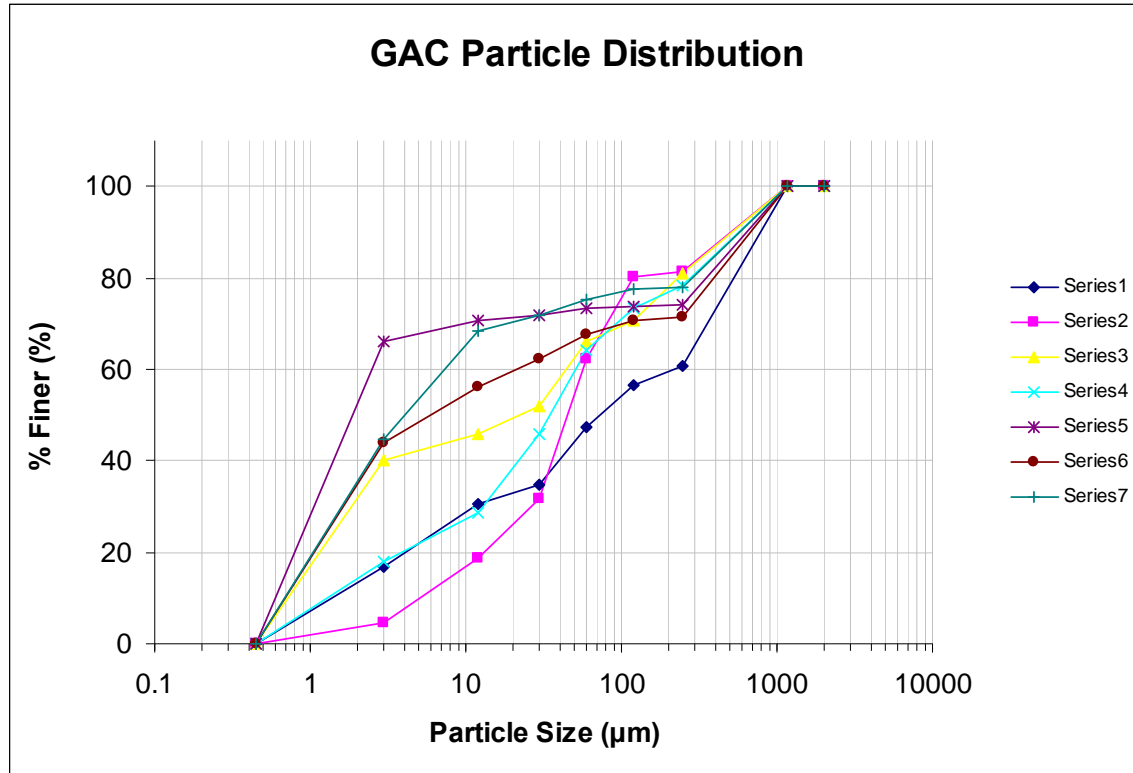


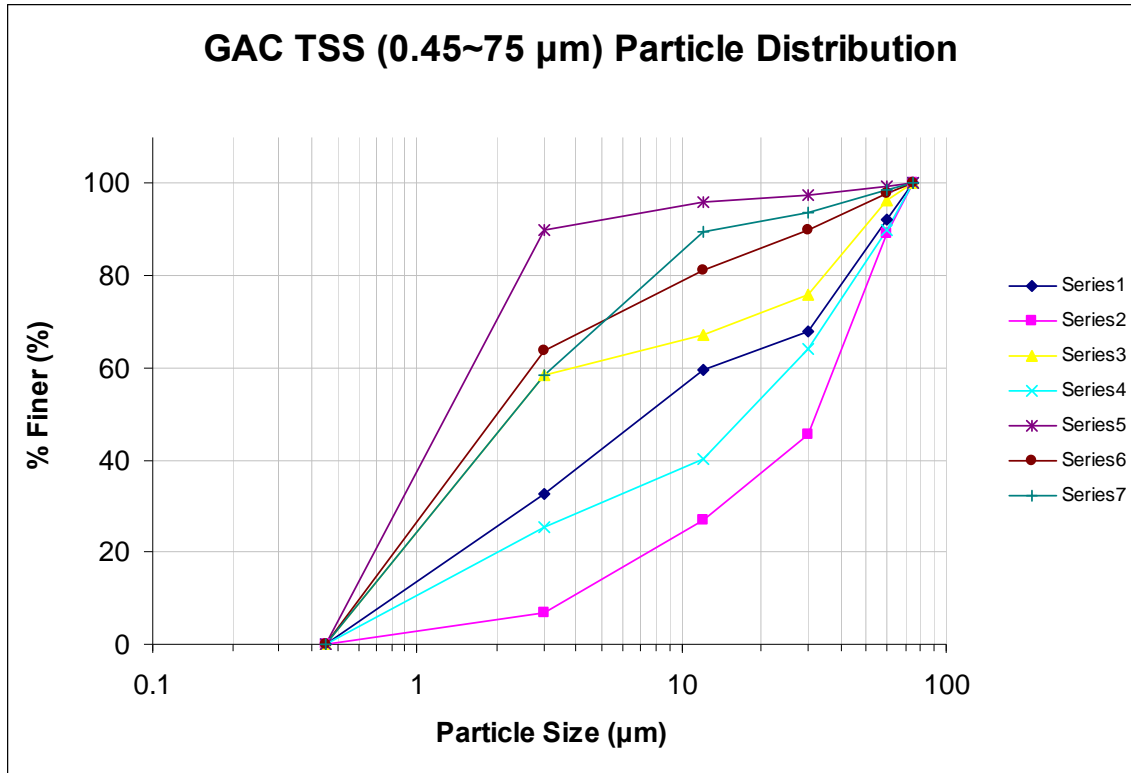
Influent TSS (0.45~75 μm) Particle Distribution



Granular Activated Carbon (GAC) Media Particulate Removal Data from Column Tests

Effluent Particle Size Distributions





TDS

SUMMARY OUTPUT For < 0.45 μm

Regression Statistics	
Multiple R	0.961
R Square	0.923
Adjusted R Square	0.756
Standard Error	65.343
Observations	7.000

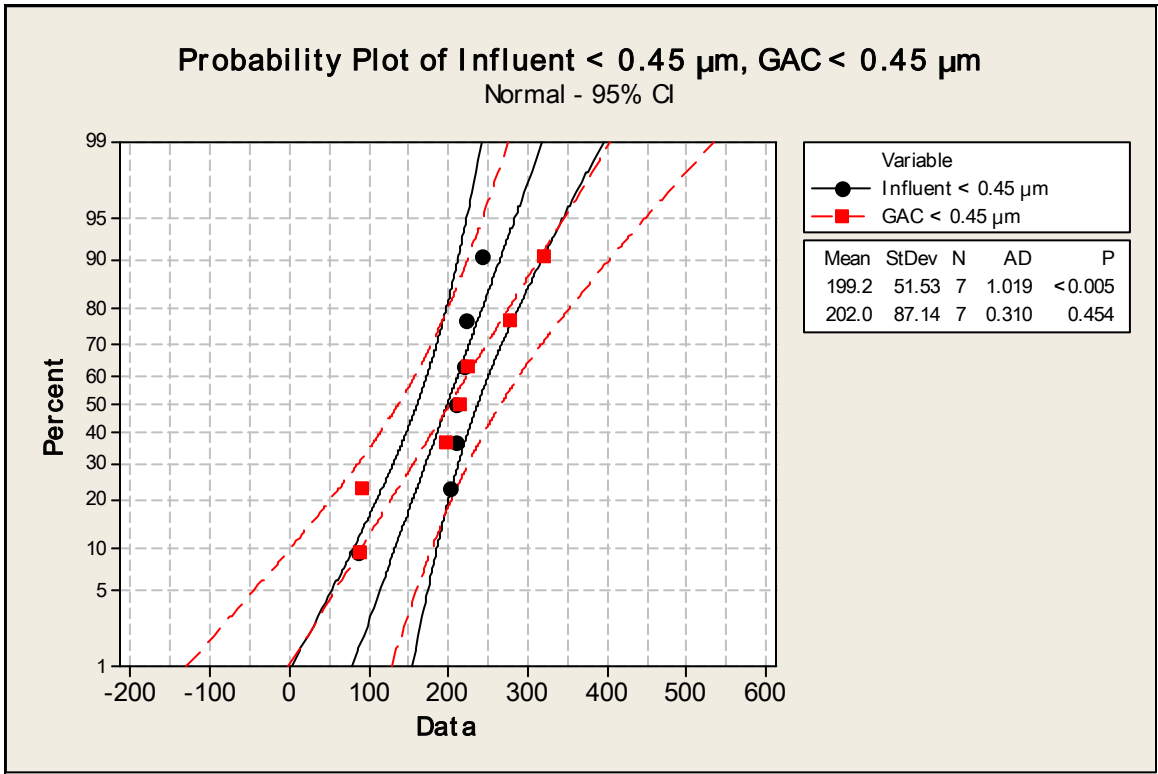
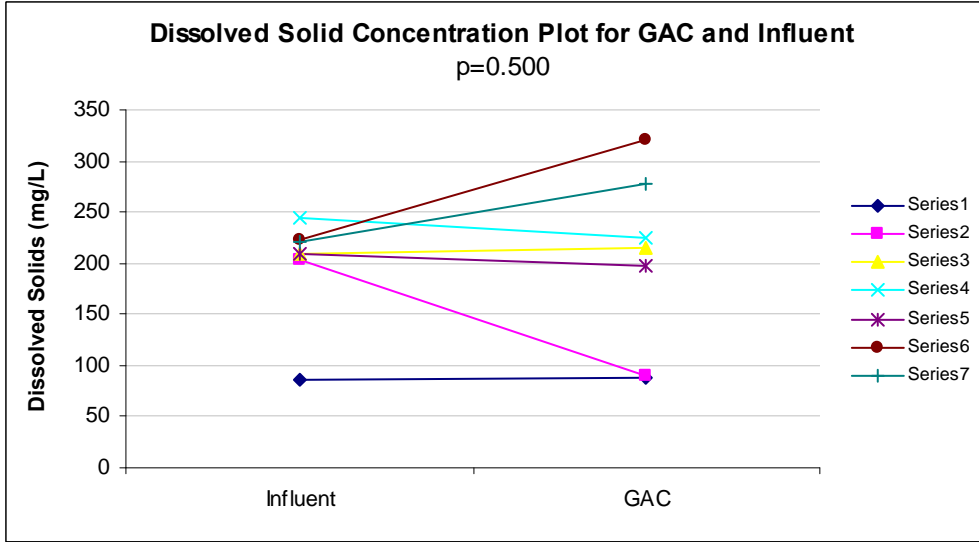
ANOVA

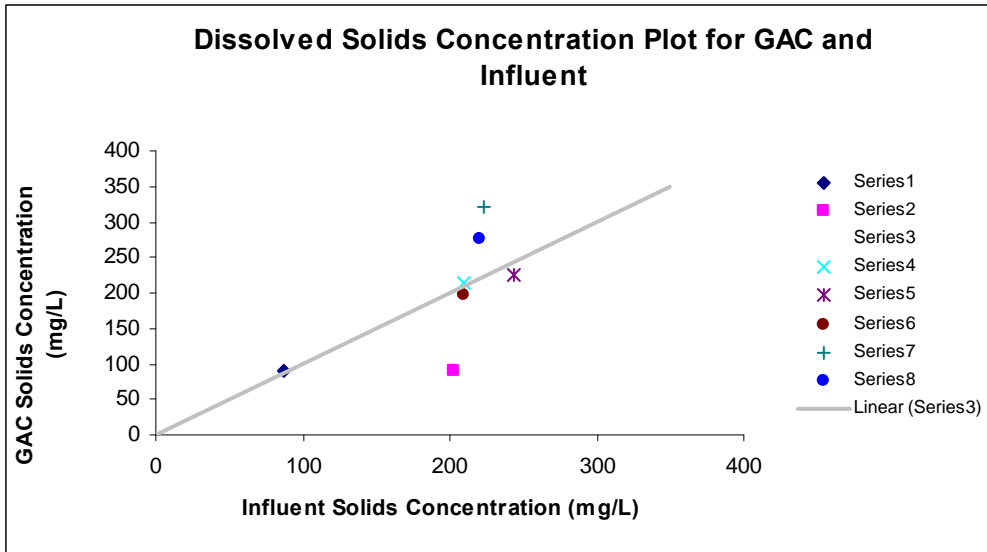
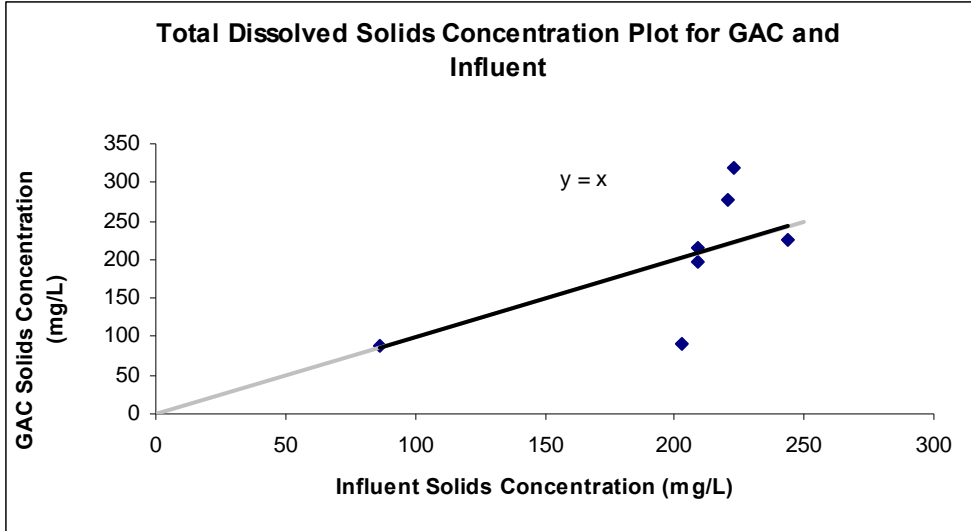
	df	SS	MS	F	Significance F
Regression	1.000	305566.832	305566.832	71.566	0.000
Residual	6.000	25618.221	4269.703		
Total	7.000	331185.053			

	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	1.020	0.121	8.460	0.000	0.725	1.315	0.725	1.315

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	88.217	0.583
2	206.520	-115.920
3	213.262	1.978
4	248.736	-24.475
5	213.199	-15.639
6	227.611	92.557
7	224.774	52.594





0.45-3 μm

SUMMARY OUTPUT for 0.45~3 μm

Regression Statistics	
Multiple R	0.356
R Square	0.127
Adjusted R Square	-0.048
Standard Error	2.088
Observations	7.000

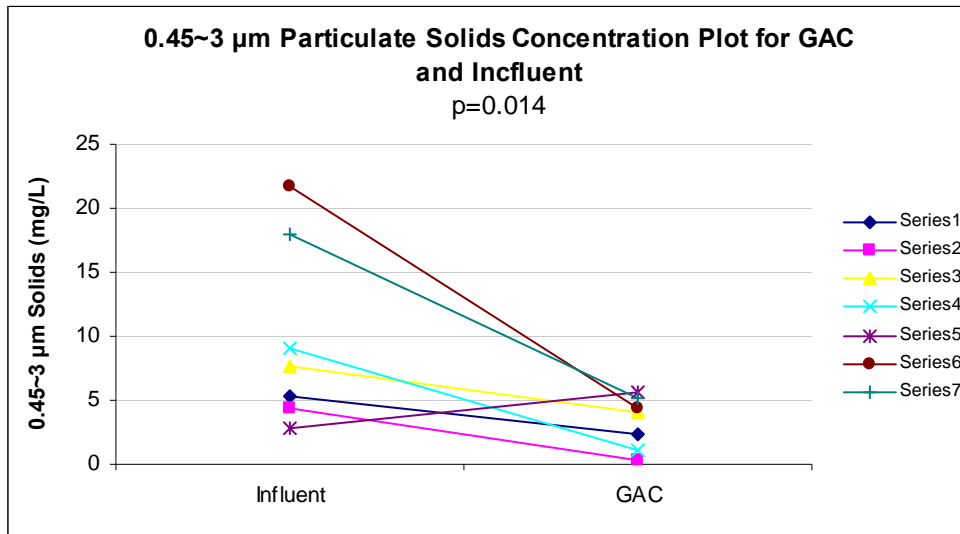
ANOVA

	df	SS	MS	F	Significance F
Regression	1.000	3.170	3.170	0.727	0.433
Residual	5.000	21.794	4.359		
Total	6.000	24.964			

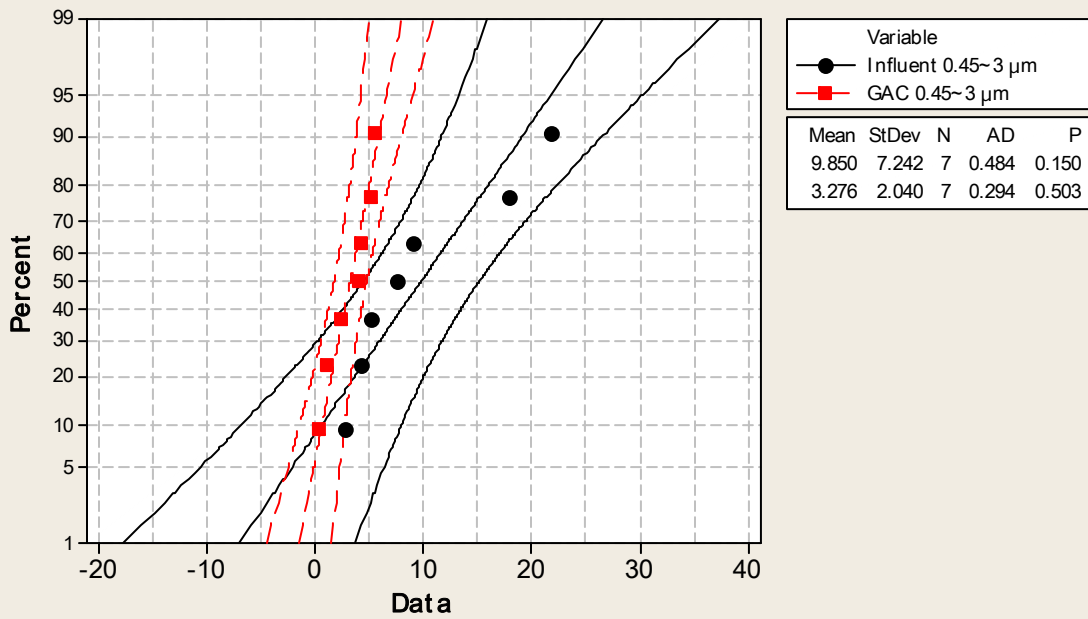
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	2.288	1.402	1.631	0.164	-1.317	5.892	-1.317	5.892
X Variable 1	0.100	0.118	0.853	0.433	-0.202	0.403	-0.202	0.403

RESIDUAL OUTPUT

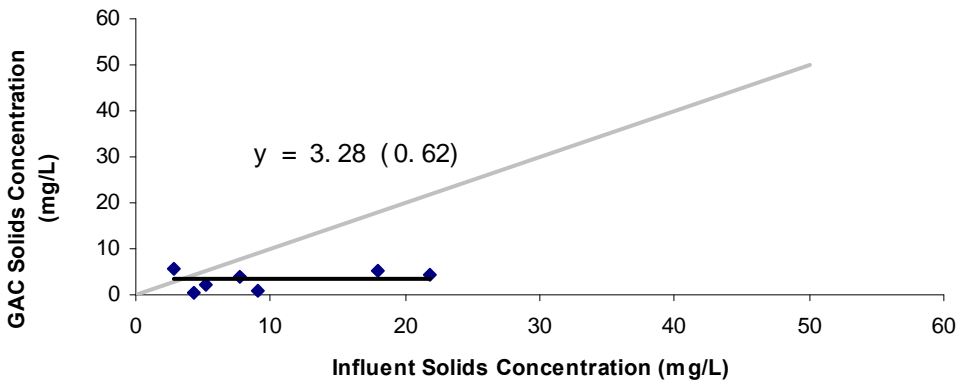
Observation	Predicted Y	Residuals
1	2.815	-0.456
2	2.722	-2.344
3	3.058	0.996
4	3.198	-2.155
5	2.573	3.051
6	4.472	-0.152
7	4.096	1.059

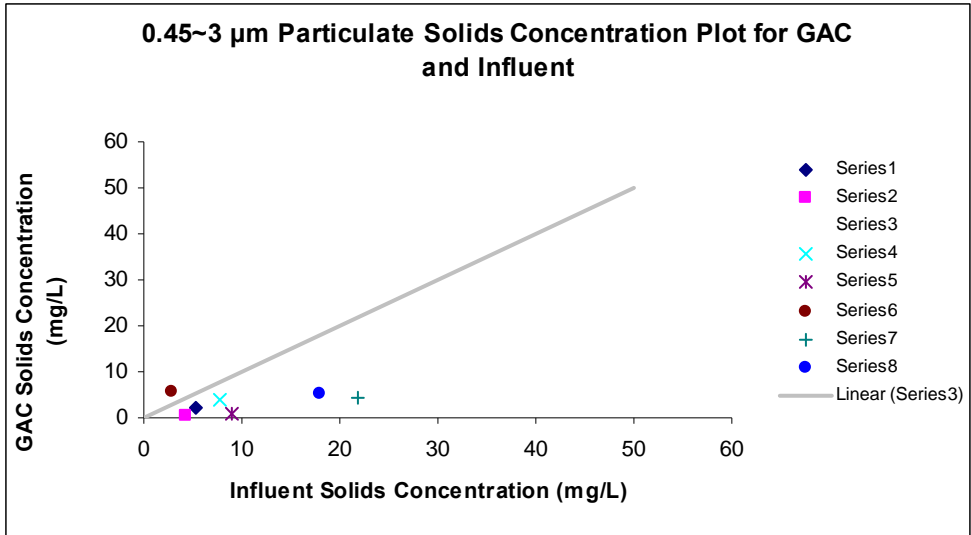


Probability Plot of Influent 0.45~3 μm , GAC 0.45~3 μm
Normal - 95% CI



0.45~3 μm Particulate Solids Concentration Plot for GAC and Influent





3-12 μm

SUMMARY OUTPUT for 3~12 μm

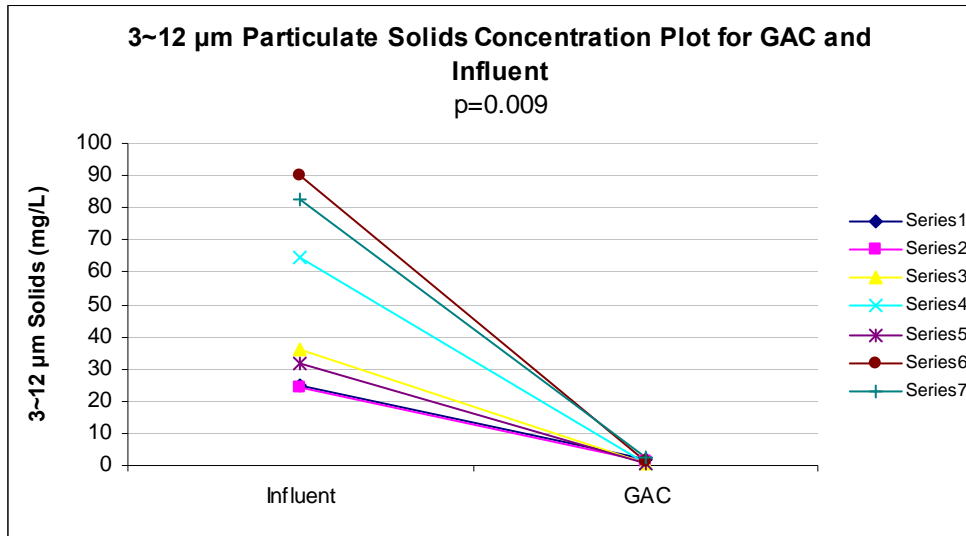
Regression Statistics	
Multiple R	0.335
R Square	0.112
Adjusted R Square	-0.066
Standard Error	0.877
Observations	7.000

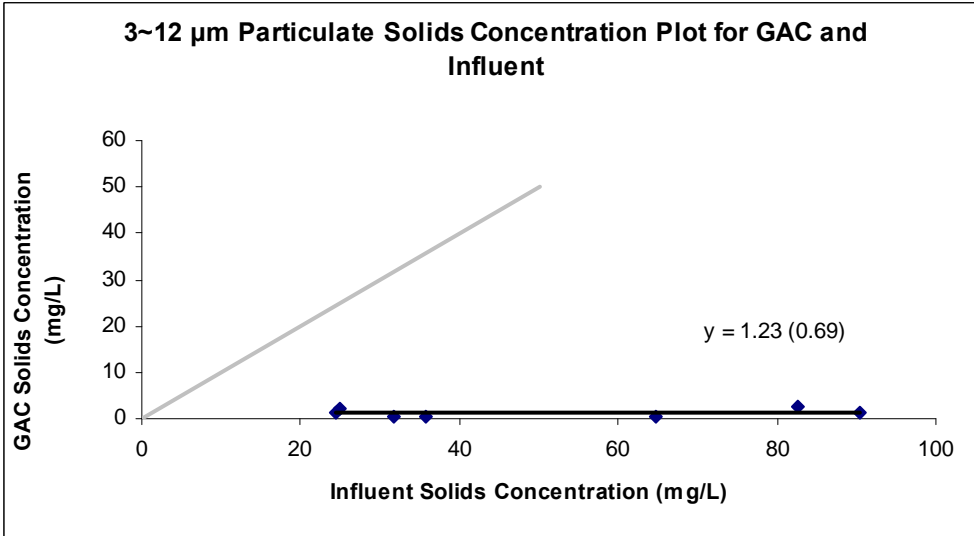
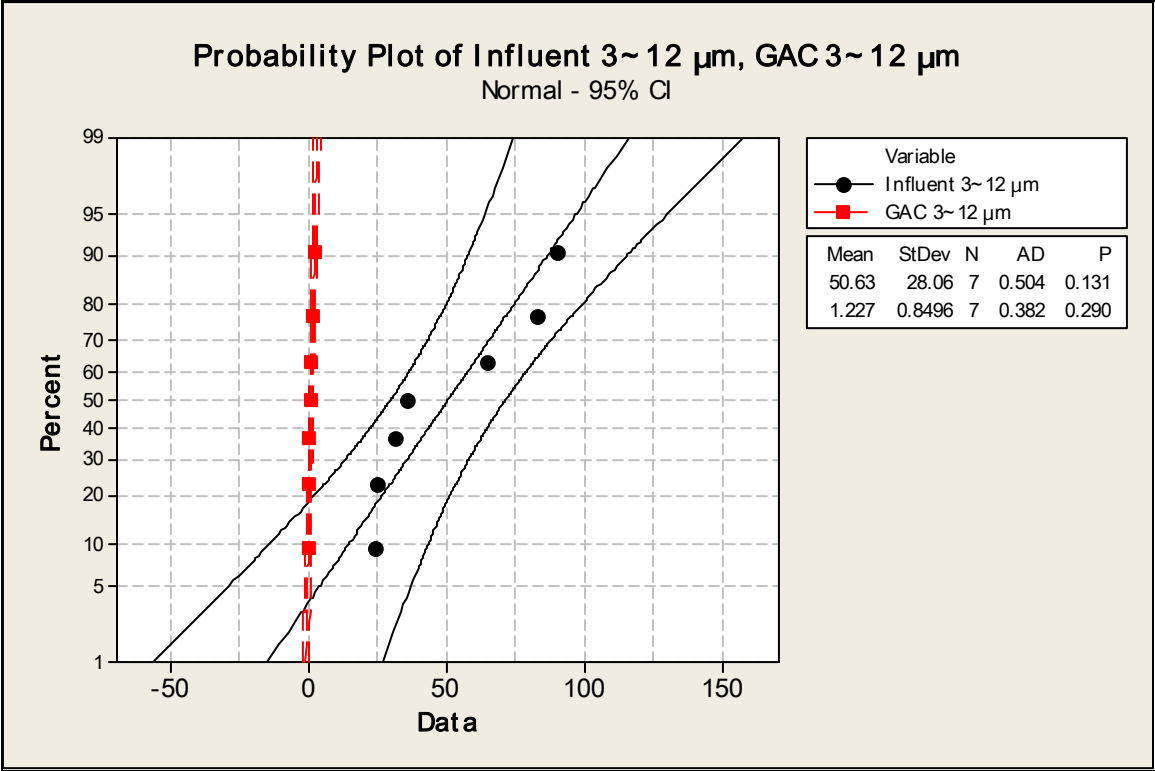
ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	0.485	0.485	0.630	0.463
Residual	5.000	3.846	0.769		
Total	6.000	4.330			

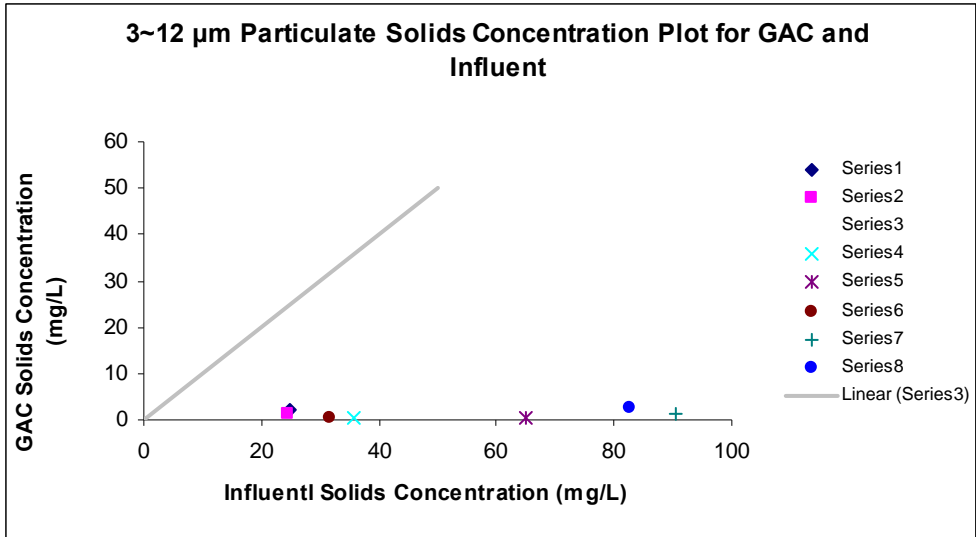
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.714	0.726	0.983	0.371	-1.153	2.580	-1.153	2.580
X Variable 1	0.010	0.013	0.794	0.463	-0.023	0.043	-0.023	0.043

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	0.966	0.980
2	0.961	0.162
3	1.076	-0.476
4	1.371	-0.746
5	1.035	-0.670
6	1.629	-0.446
7	1.550	1.195







12-30 μm

SUMMARY OUTPUT for 12~30 μm

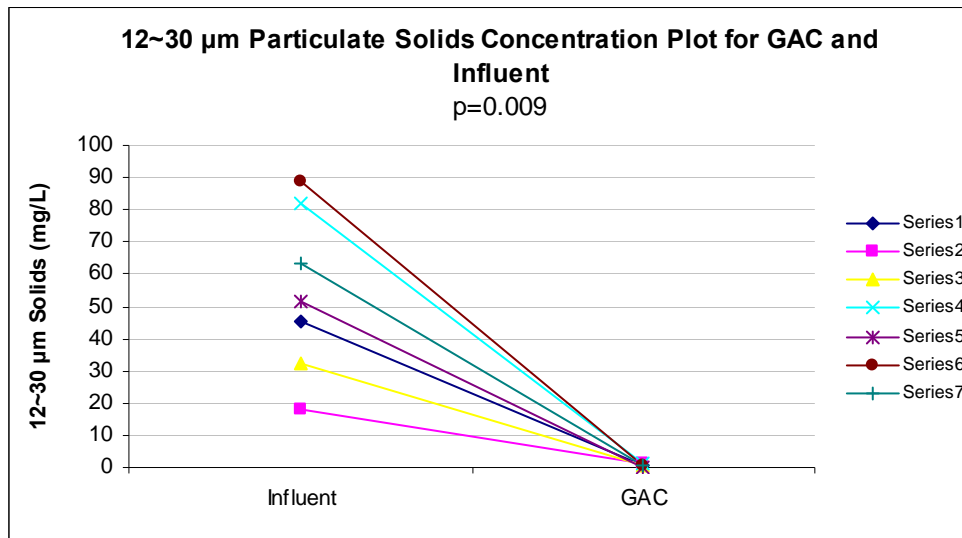
Regression Statistics	
Multiple R	0.135
R Square	0.018
Adjusted R Square	-0.178
Standard Error	0.354
Observations	7.000

ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	0.012	0.012	0.093	0.773	
Residual	5.000	0.625	0.125			
Total	6.000	0.637				

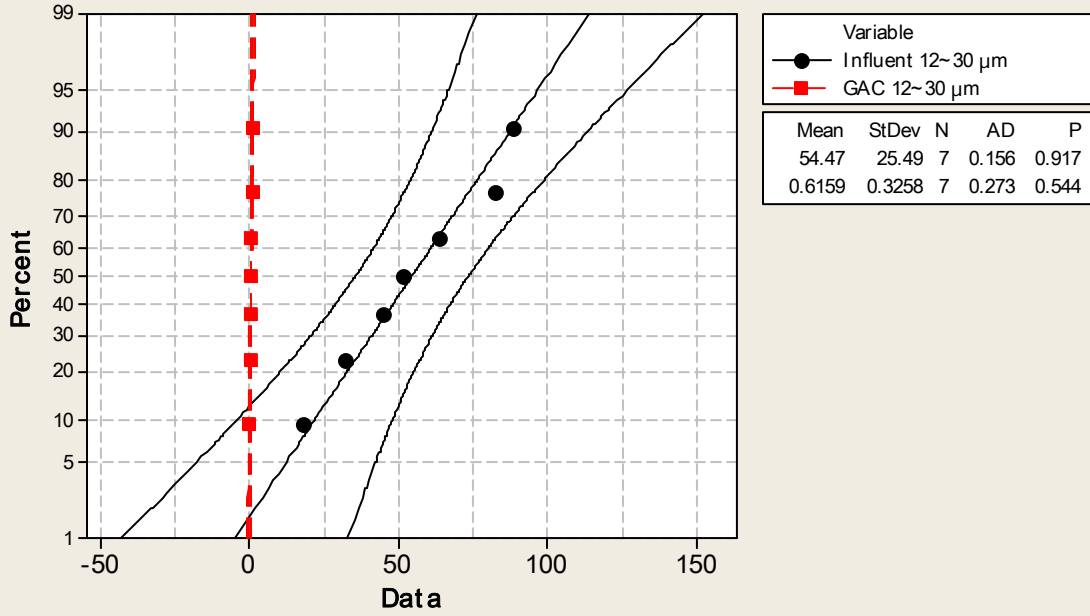
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.710	0.336	2.111	0.088	-0.154	1.574	-0.154	1.574
X Variable 1	-0.002	0.006	-0.304	0.773	-0.016	0.013	-0.016	0.013

RESIDUAL OUTPUT

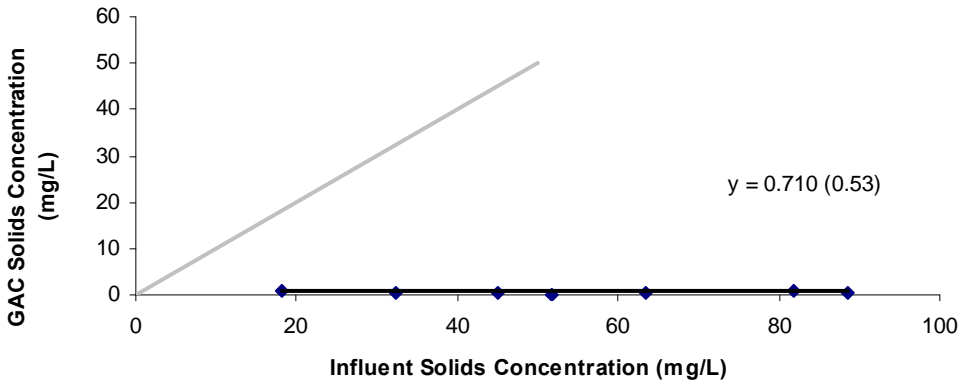
Observation	Predicted Y	Residuals
1	0.632	-0.049
2	0.678	0.362
3	0.654	-0.023
4	0.569	0.407
5	0.621	-0.526
6	0.557	0.044
7	0.600	-0.215

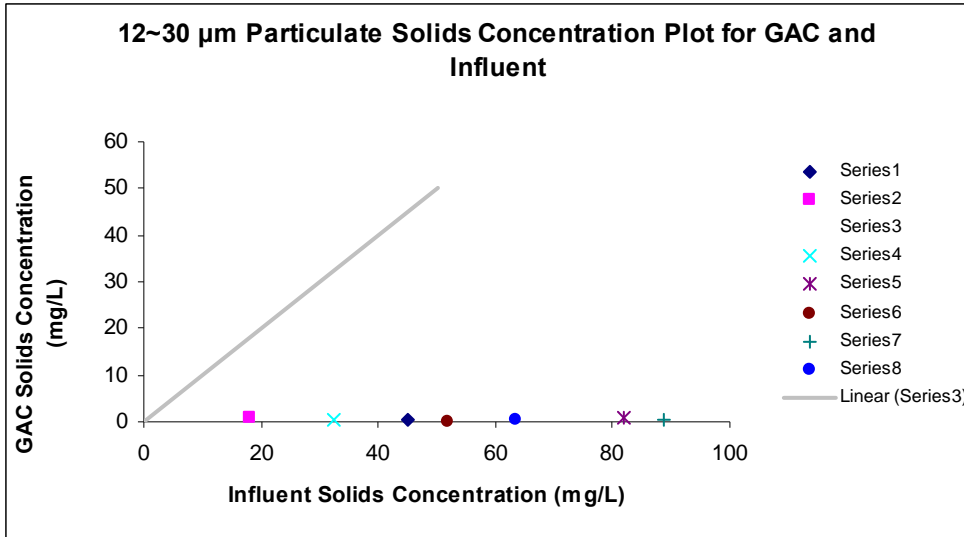


Probability Plot of Influent 12~30 μm , GAC 12~30 μm
Normal - 95% CI



12~30 μm Particulate Solids Concentration Plot for GAC and Influent





30-60 um

SUMMARY OUTPUT for 30-60 um

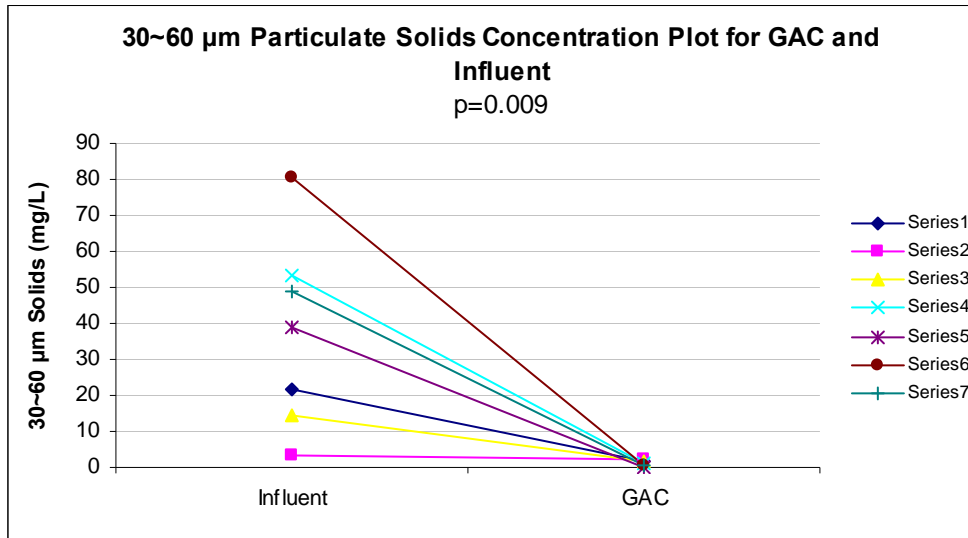
Regression Statistics	
Multiple R	0.747
R Square	0.558
Adjusted R Square	0.470
Standard Error	0.596
Observations	7.000

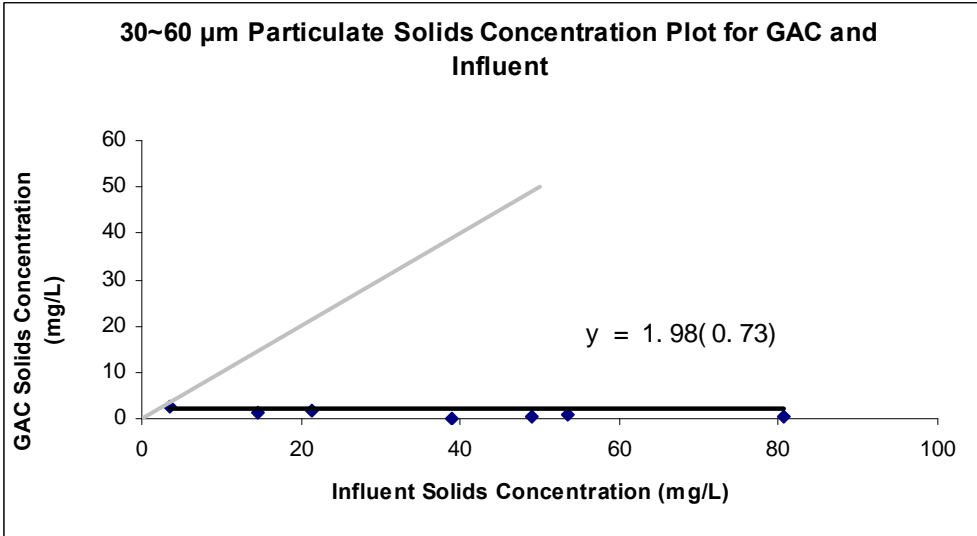
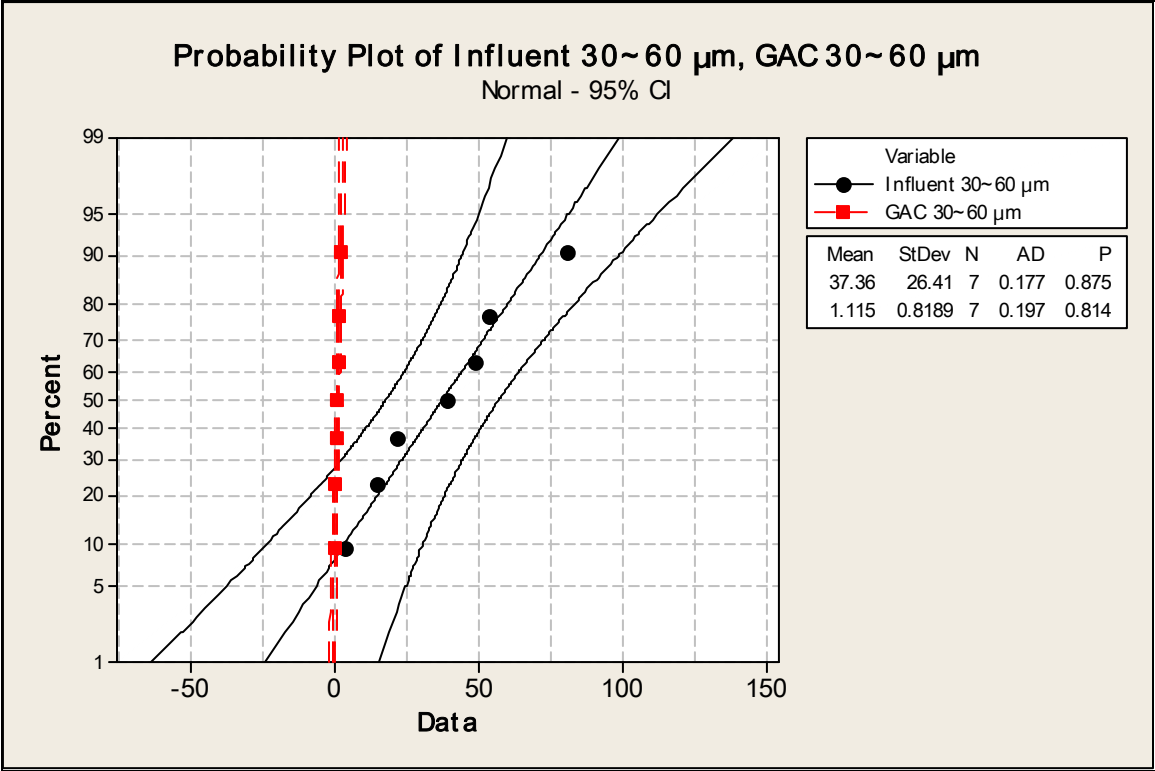
ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	2.246	2.246	6.317	0.054
Residual	5.000	1.778	0.356		
Total	6.000	4.024			

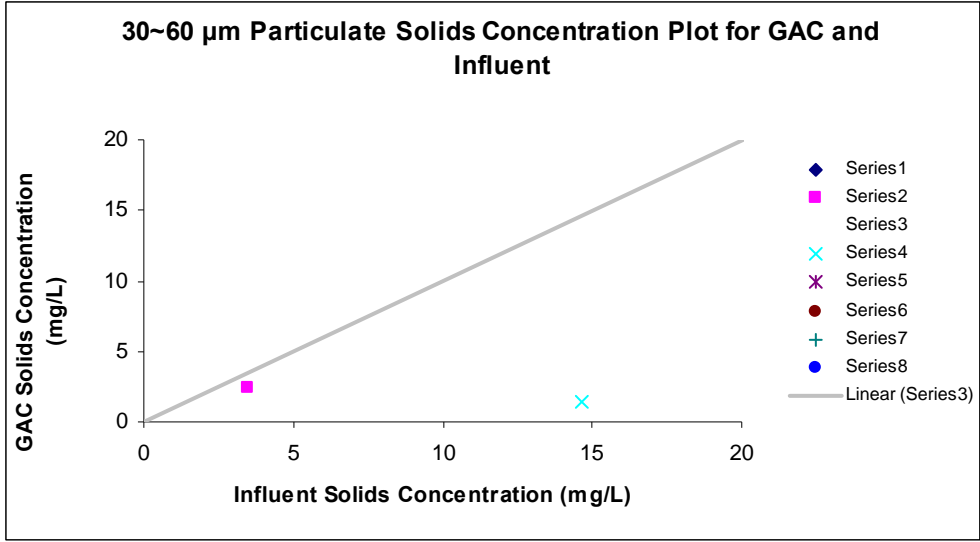
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.981	0.412	4.812	0.005	0.922	3.039	0.922	3.039
X Variable 1	-0.023	0.009	-2.513	0.054	-0.047	0.001	-0.047	0.001

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	1.483	0.270
2	1.900	0.548
3	1.641	-0.225
4	0.743	0.330
5	1.078	-0.940
6	0.112	0.433
7	0.847	-0.416







60-120 μm

SUMMARY OUTPUT for 60~120 μm

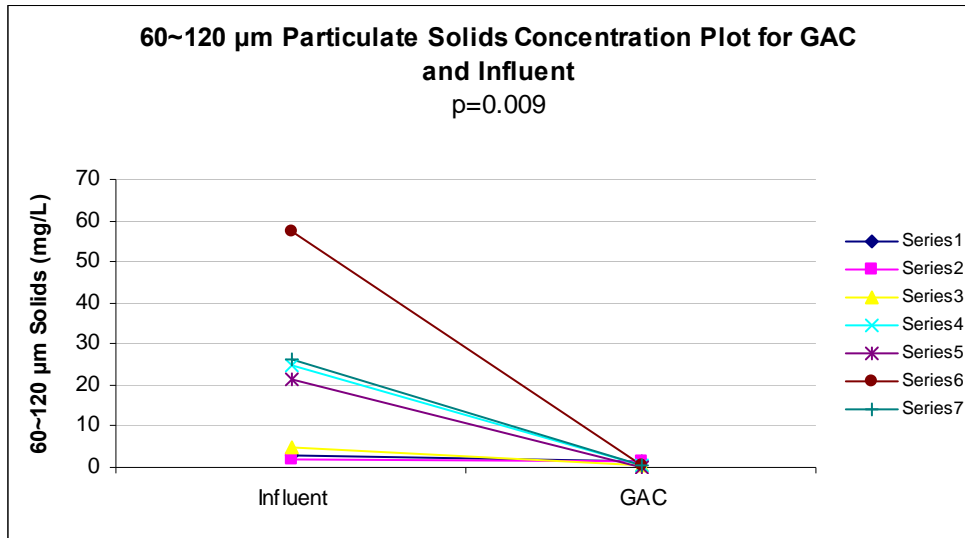
Regression Statistics	
Multiple R	0.640
R Square	0.409
Adjusted R Square	0.291
Standard Error	0.447
Observations	7.000

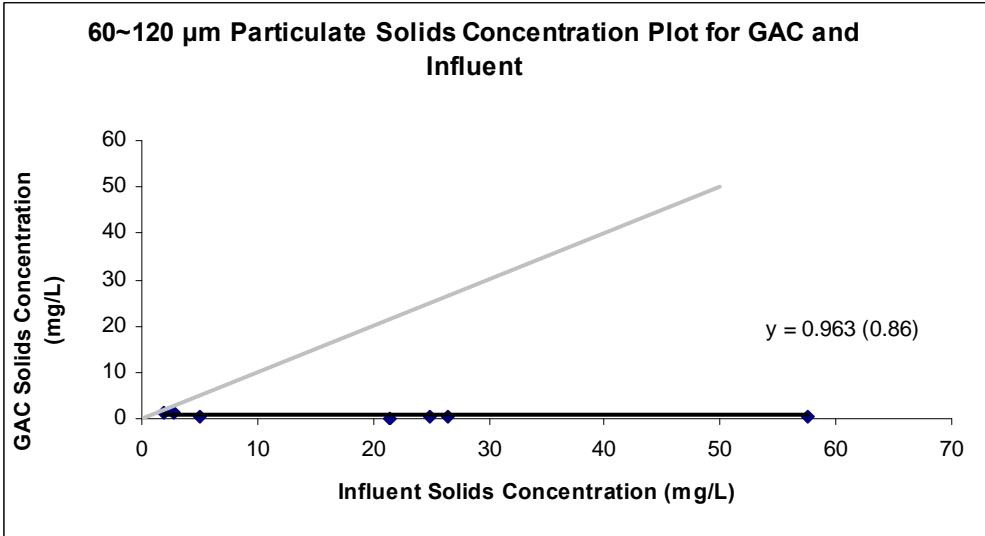
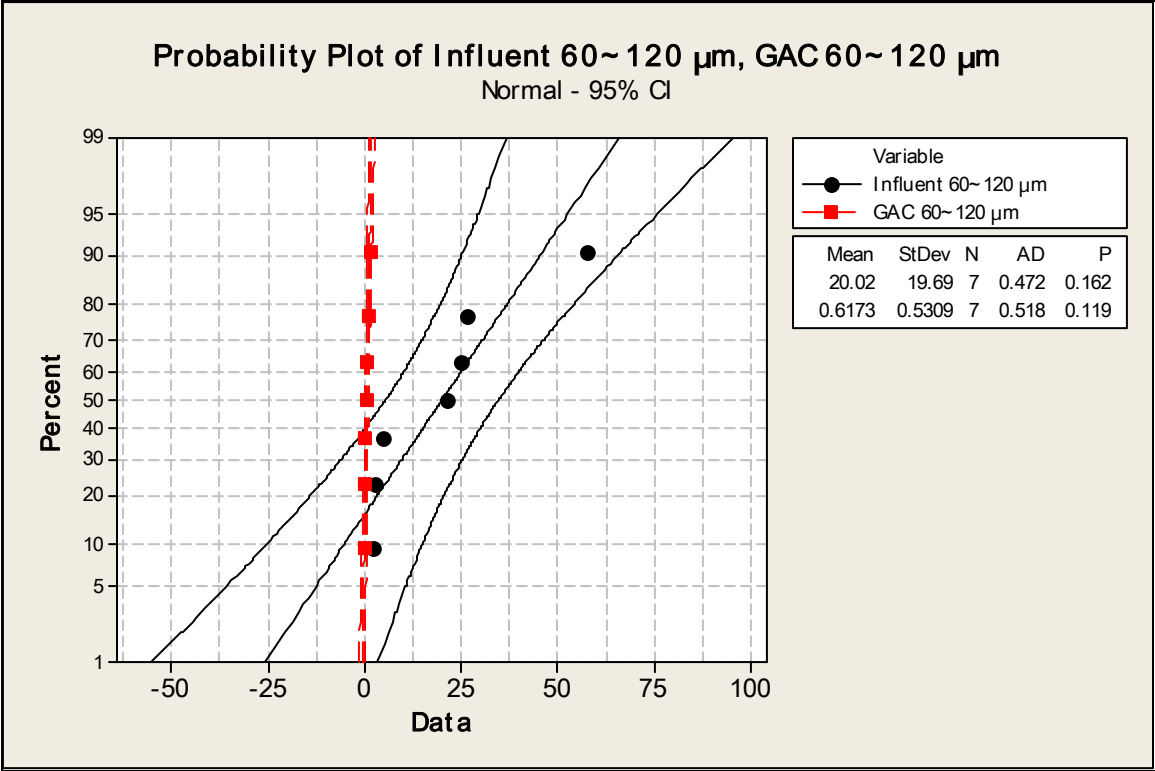
ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	0.692	0.692	3.464	0.122
Residual	5.000	0.999	0.200		
Total	6.000	1.691			

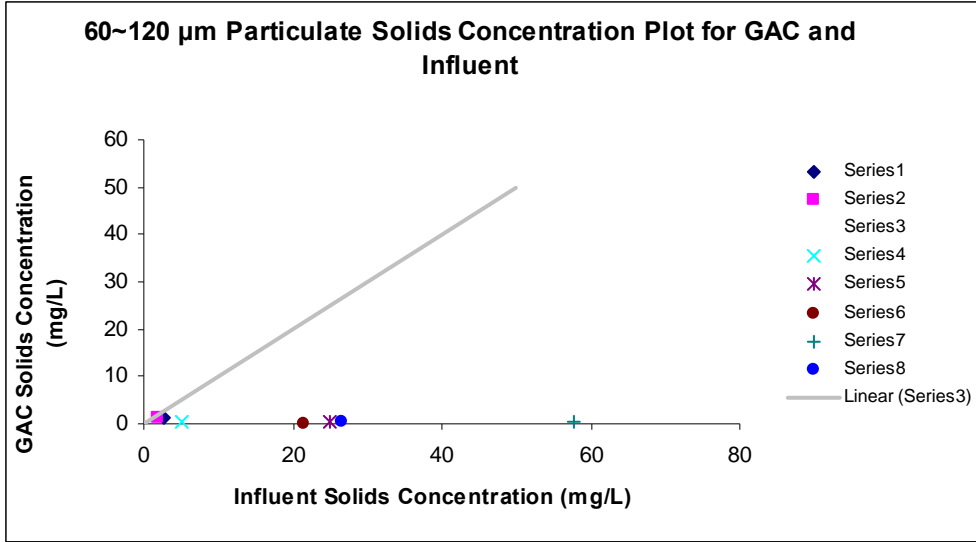
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.963	0.251	3.836	0.012	0.318	1.608	0.318	1.608
X Variable 1	-0.017	0.009	-1.861	0.122	-0.041	0.007	-0.041	0.007

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	0.914	0.374
2	0.928	0.497
3	0.877	-0.395
4	0.533	-0.002
5	0.593	-0.544
6	-0.031	0.315
7	0.506	-0.246







120-250 μm

SUMMARY OUTPUT for 120~250 μm

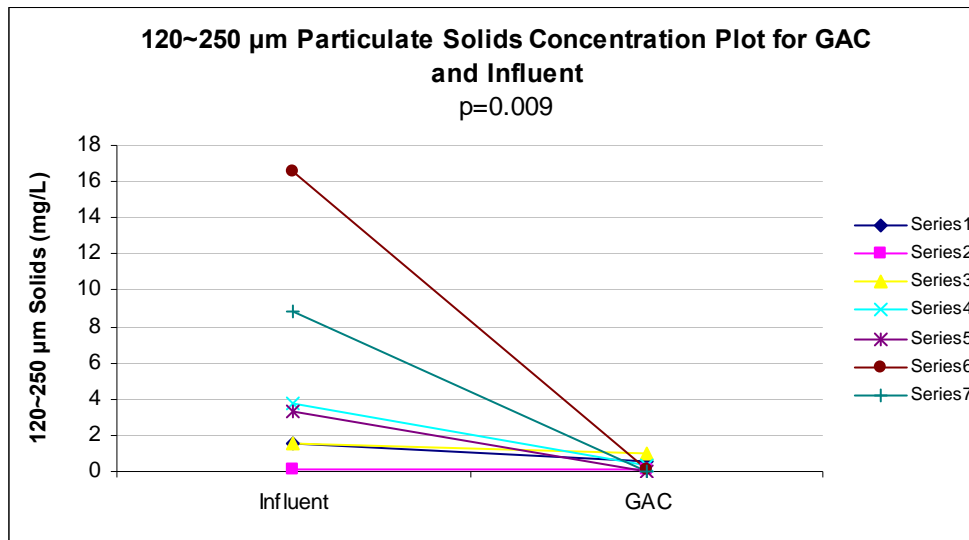
Regression Statistics	
Multiple R	0.423
R Square	0.179
Adjusted R Square	0.014
Standard Error	0.372
Observations	7.000

ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	0.150	0.150	1.087	0.345	
Residual	5.000	0.691	0.138			
Total	6.000	0.842				

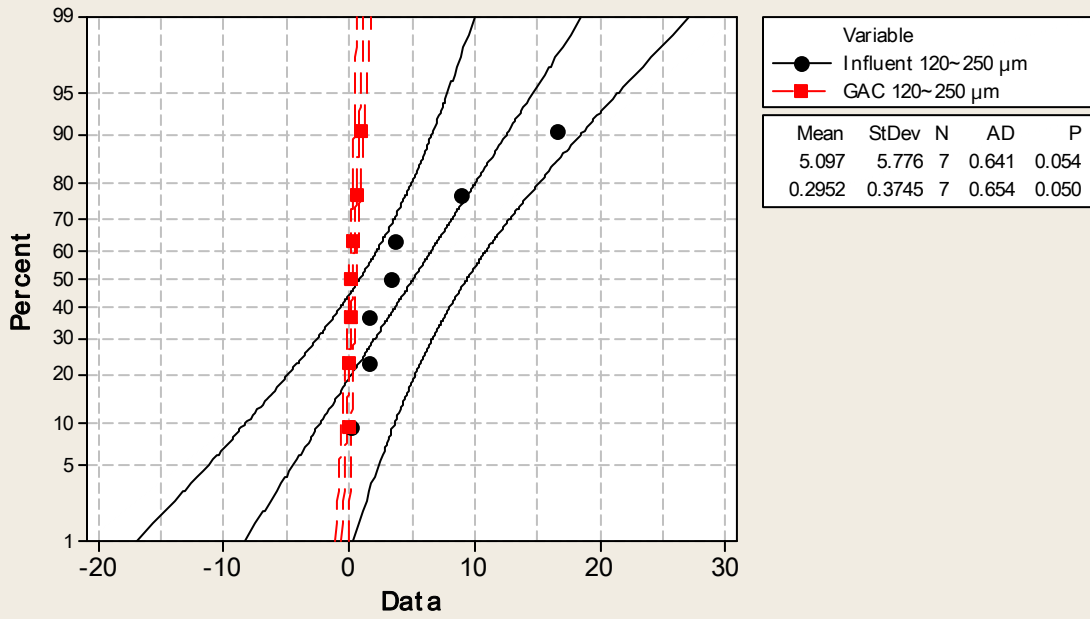
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.435	0.194	2.239	0.075	-0.064	0.934	-0.064	0.934
X Variable 1	-0.027	0.026	-1.043	0.345	-0.095	0.040	-0.095	0.040

RESIDUAL OUTPUT

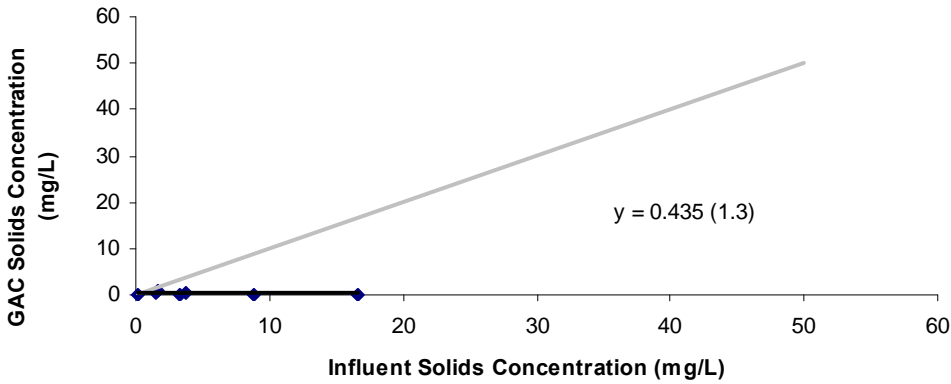
Observation	Predicted Y	Residuals
1	0.393	0.178
2	0.431	-0.346
3	0.391	0.625
4	0.333	-0.050
5	0.345	-0.337
6	-0.019	0.090
7	0.193	-0.160

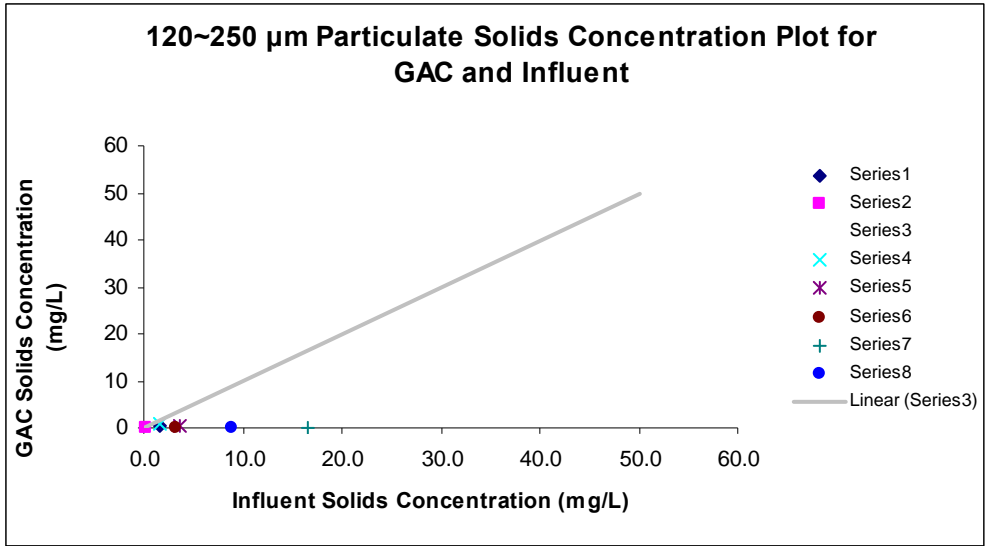


Probability Plot of Influent 120~250 μm , GAC 120~250 μm
Normal - 95% CI



120~250 μm Particulate Solids Concentration Plot for GAC and Influent





250-1180 μm

SUMMARY OUTPUT for 250~1180 μm

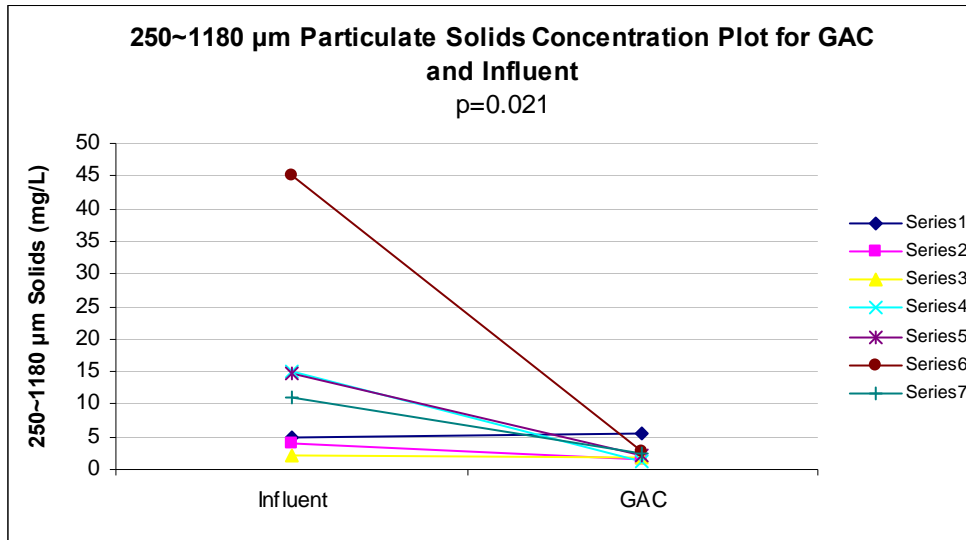
Regression Statistics	
Multiple R	0.017
R Square	0.000
Adjusted R Square	-0.200
Standard Error	1.551
Observations	7.000

ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	0.004	0.004	0.001	0.971	
Residual	5.000	12.023	2.405			
Total	6.000	12.026				

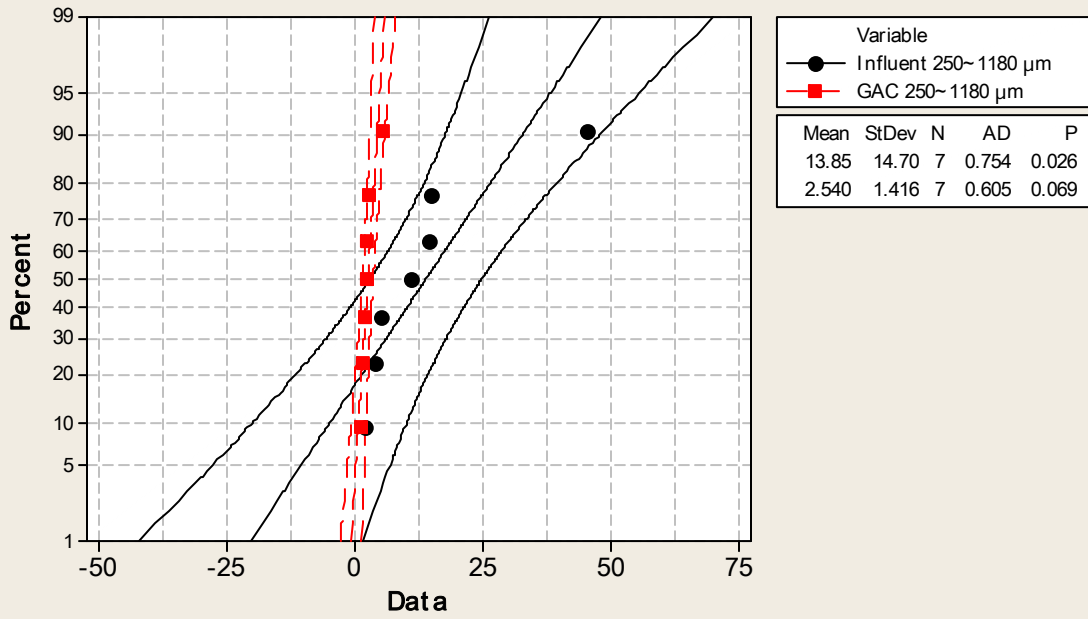
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	2.563	0.836	3.065	0.028	0.414	4.712	0.414	4.712
X Variable 1	-0.002	0.043	-0.038	0.971	-0.112	0.109	-0.112	0.109

RESIDUAL OUTPUT

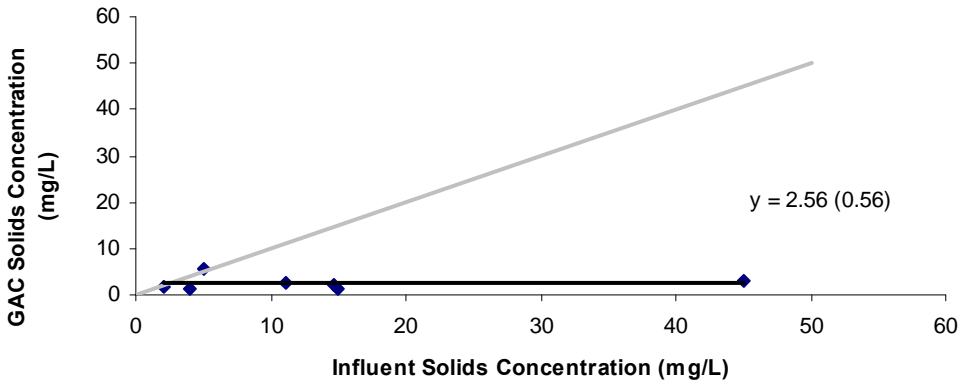
Observation	Predicted Y	Residuals
1	2.555	2.945
2	2.556	-1.056
3	2.560	-0.618
4	2.538	-1.280
5	2.539	-0.324
6	2.489	0.326
7	2.545	0.008

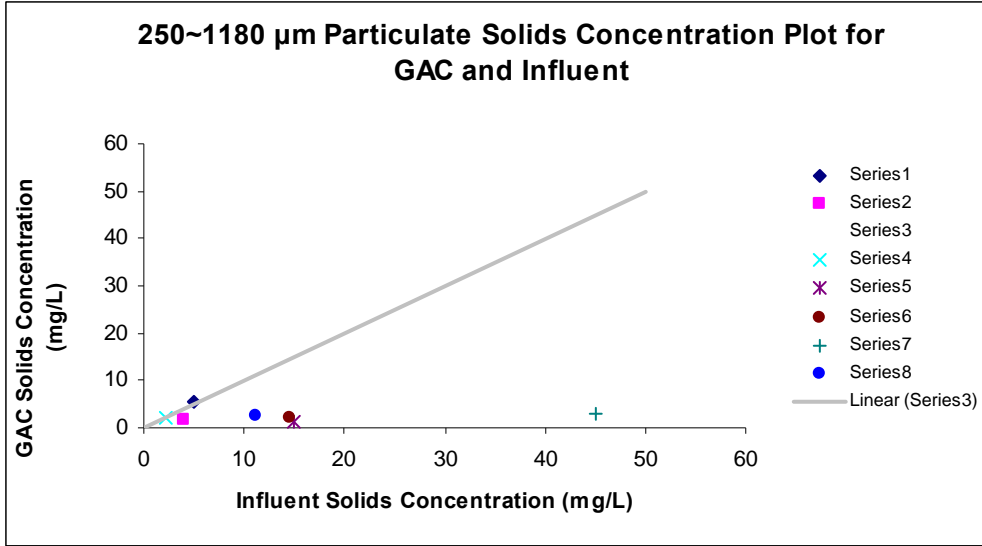


Probability Plot of Influent 250~1180 μm , GAC 250~1180 μm
Normal - 95% CI



250~1180 μm Particulate Solids Concentration Plot for GAC and Influent





>1180 (no particulates observed in this size range)

SSC (>0.45 μm)

SUMMARY OUTPUT for Total

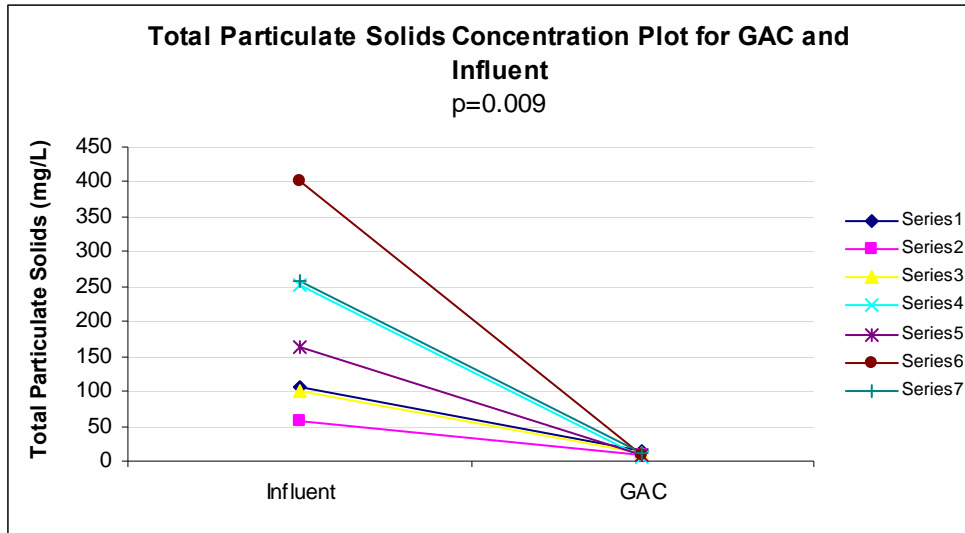
Regression Statistics	
Multiple R	0.124
R Square	0.015
Adjusted R Square	-0.182
Standard Error	2.869
Observations	7.000

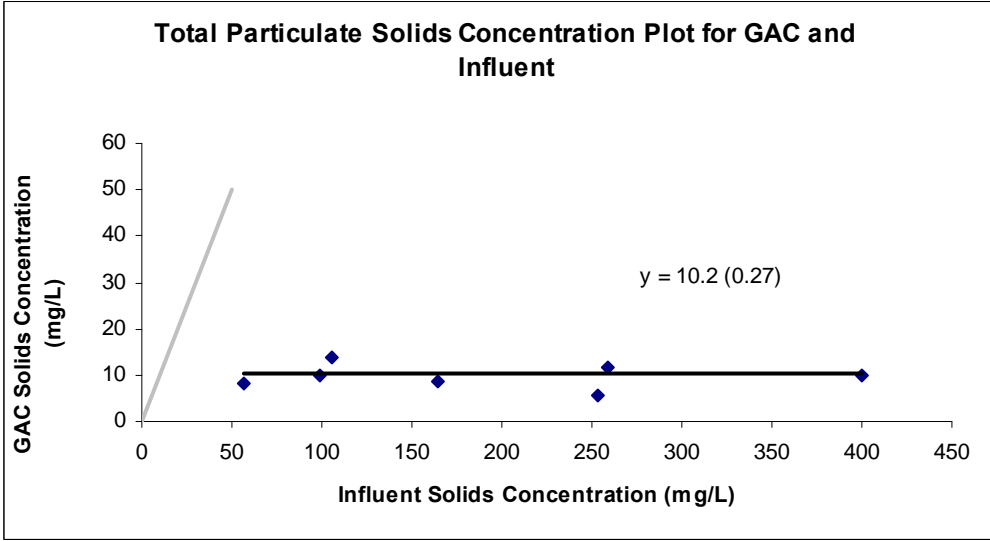
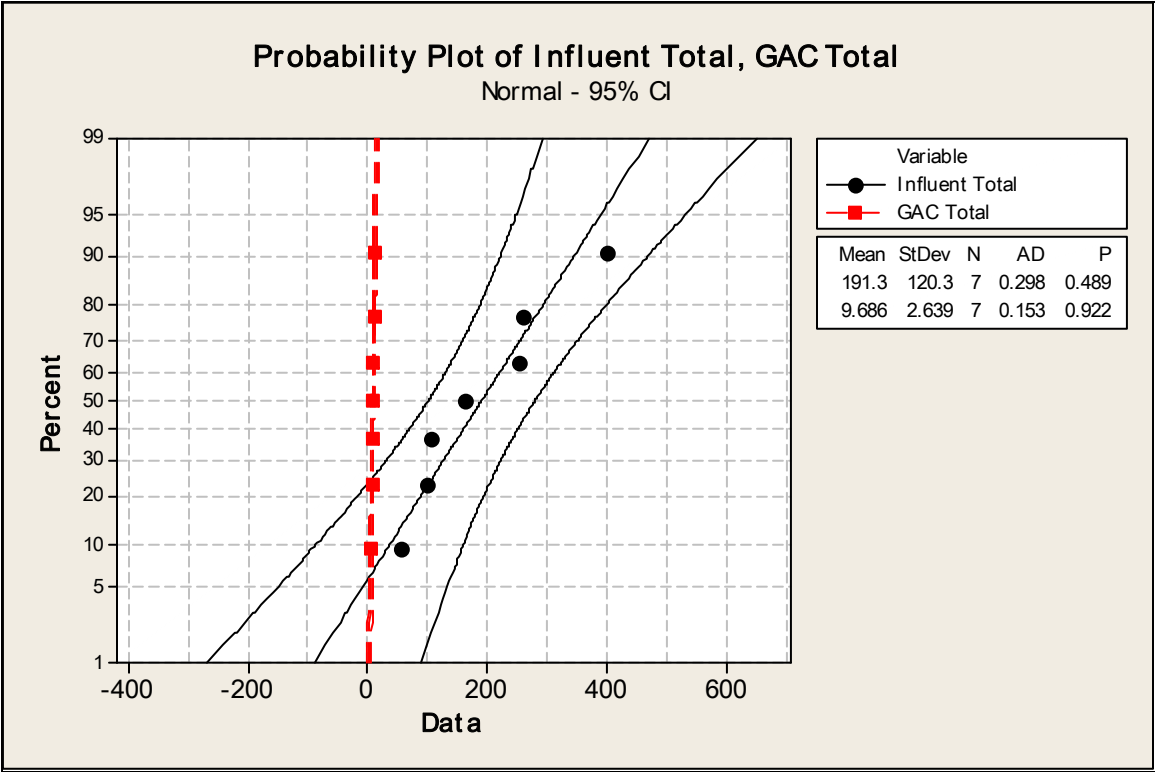
ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	0.638	0.638	0.077	0.792
Residual	5.000	41.154	8.231		
Total	6.000	41.792			

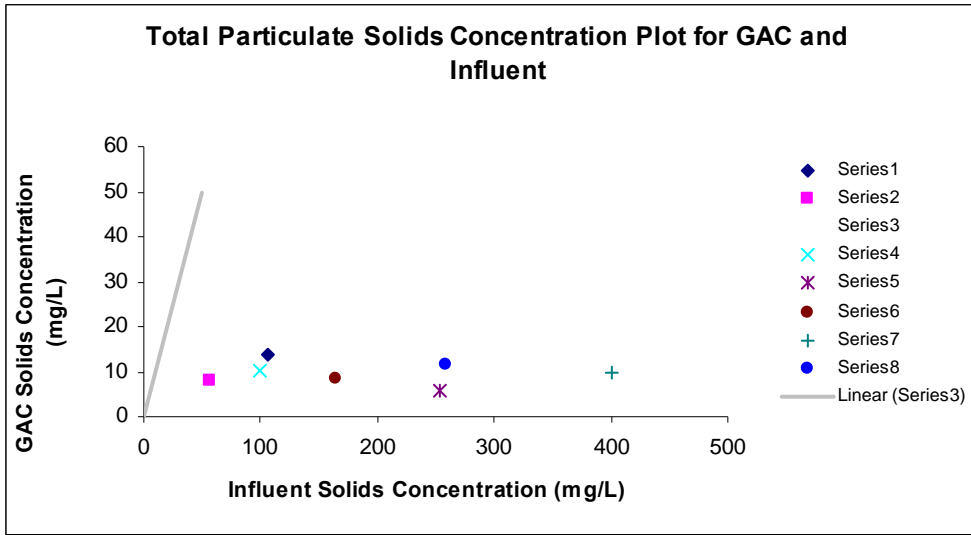
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	10.205	2.155	4.735	0.005	4.665	15.744	4.665	15.744
X Variable 1	-0.003	0.010	-0.278	0.792	-0.028	0.022	-0.028	0.022

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	9.917	4.083
2	10.052	-2.052
3	9.936	0.204
4	9.519	-3.729
5	9.759	-1.266
6	9.119	0.700
7	9.502	2.059







TSS (0.45 to 75 μm)

SUMMARY OUTPUT for TSS

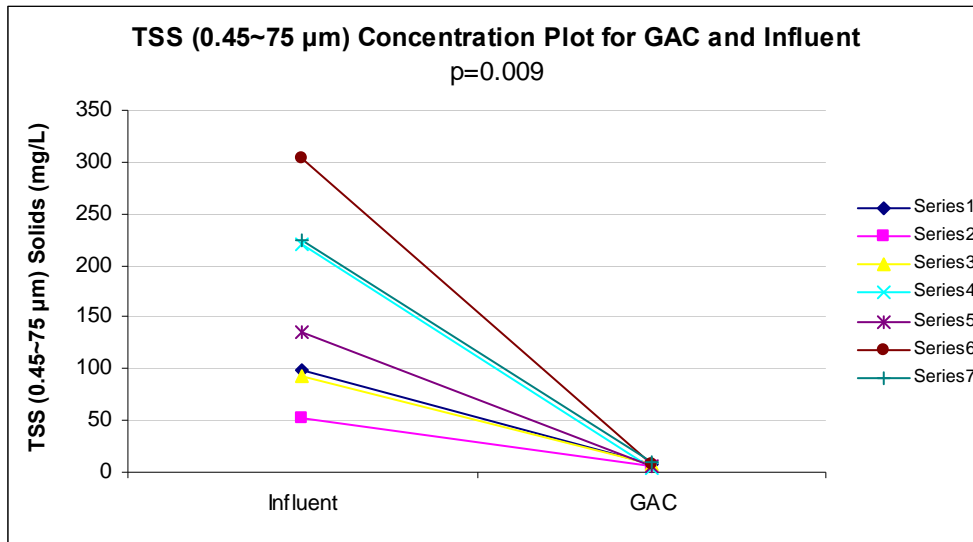
Regression Statistics	
Multiple R	0.098
R Square	0.010
Adjusted R Square	-0.188
Standard Error	1.584
Observations	7.000

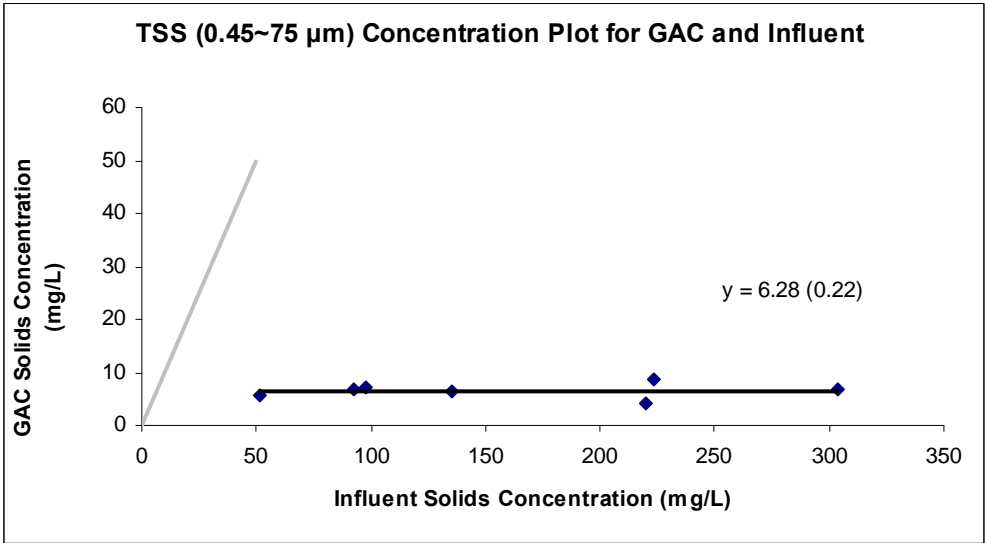
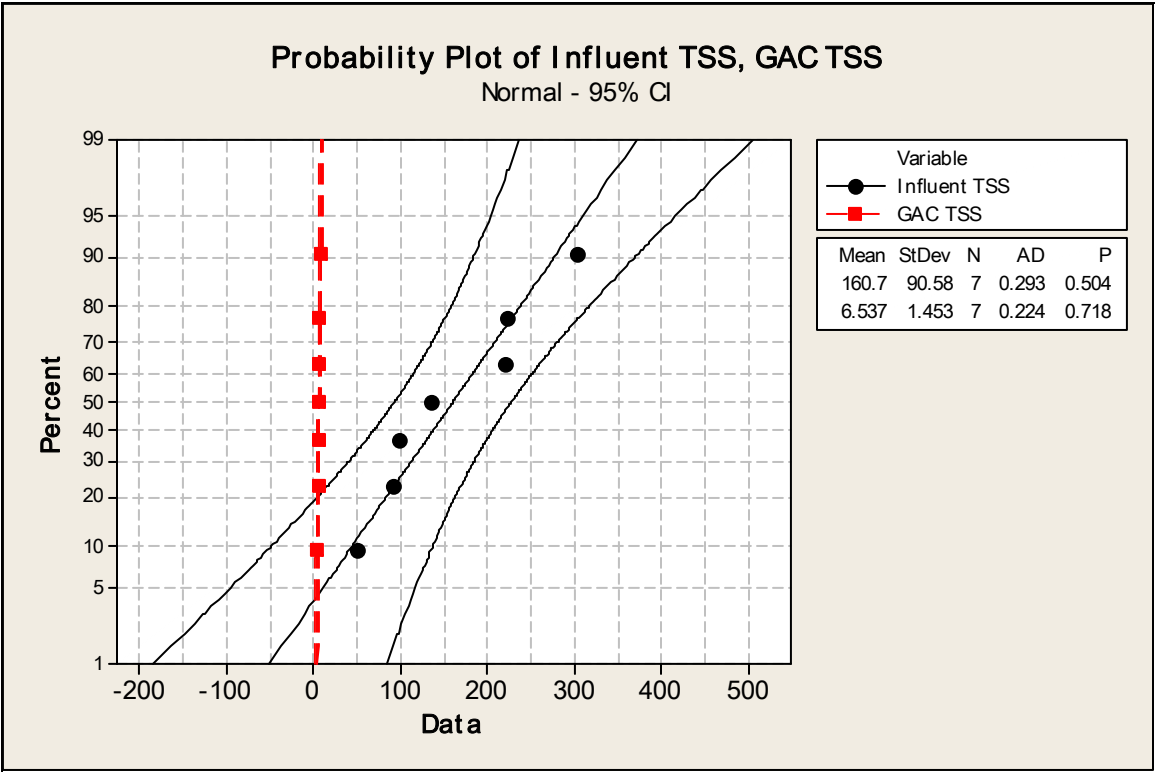
ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	0.122	0.122	0.049	0.834	
Residual	5.000	12.550	2.510			
Total	6.000	12.672				

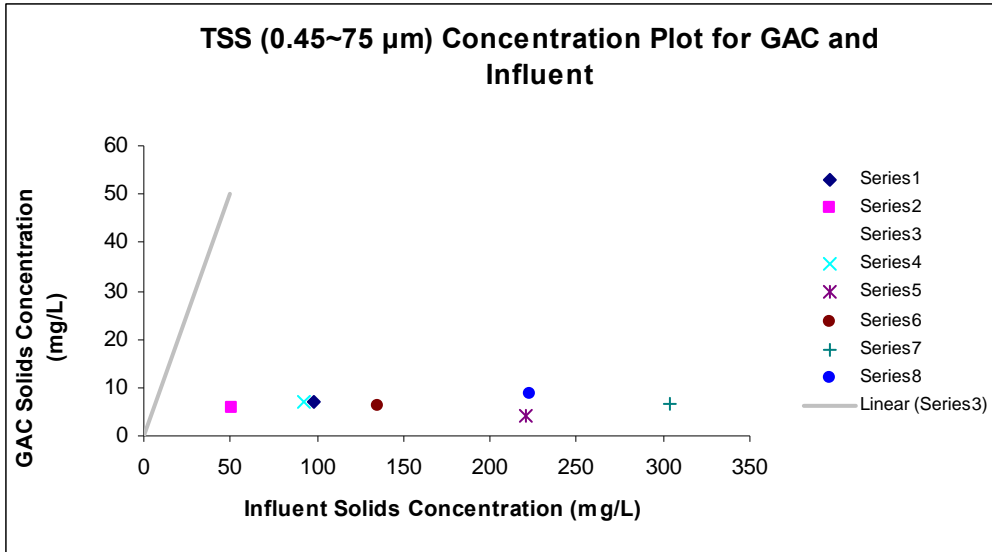
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	6.284	1.294	4.855	0.005	2.957	9.611	2.957	9.611
X Variable 1	0.002	0.007	0.220	0.834	-0.017	0.020	-0.017	0.020

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	6.439	0.768
2	6.365	-0.767
3	6.429	0.521
4	6.631	-2.498
5	6.497	-0.246
6	6.763	0.031
7	6.636	2.191

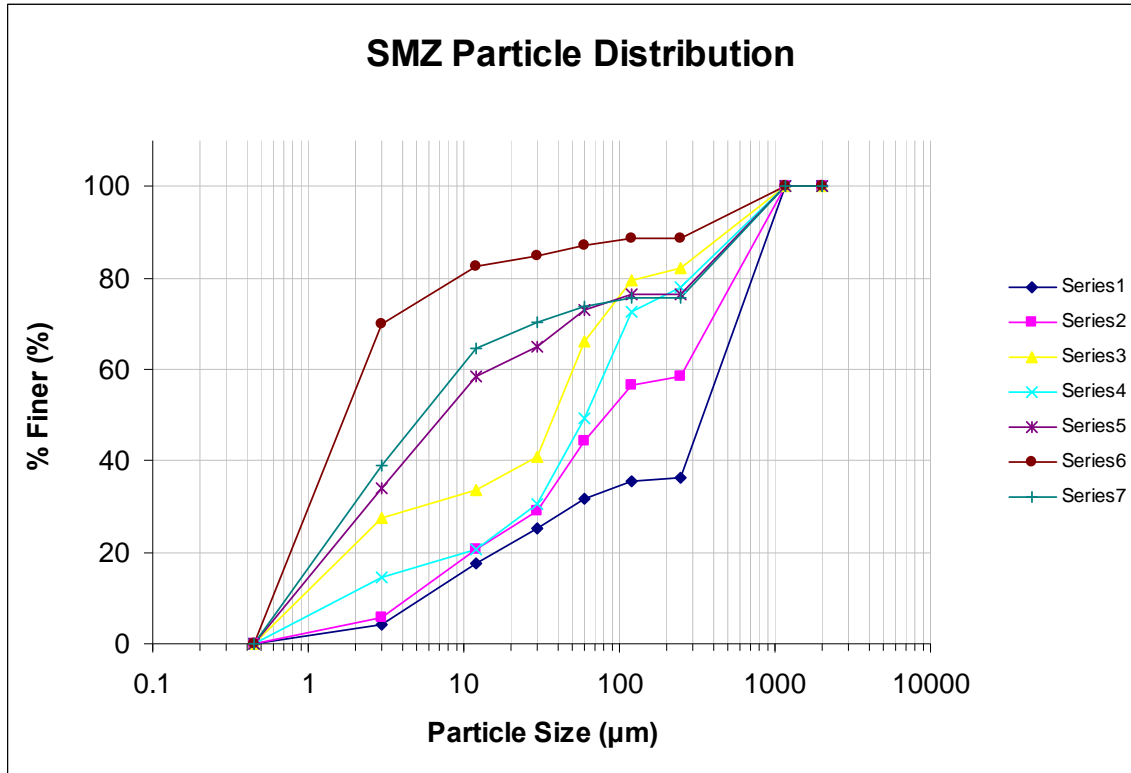


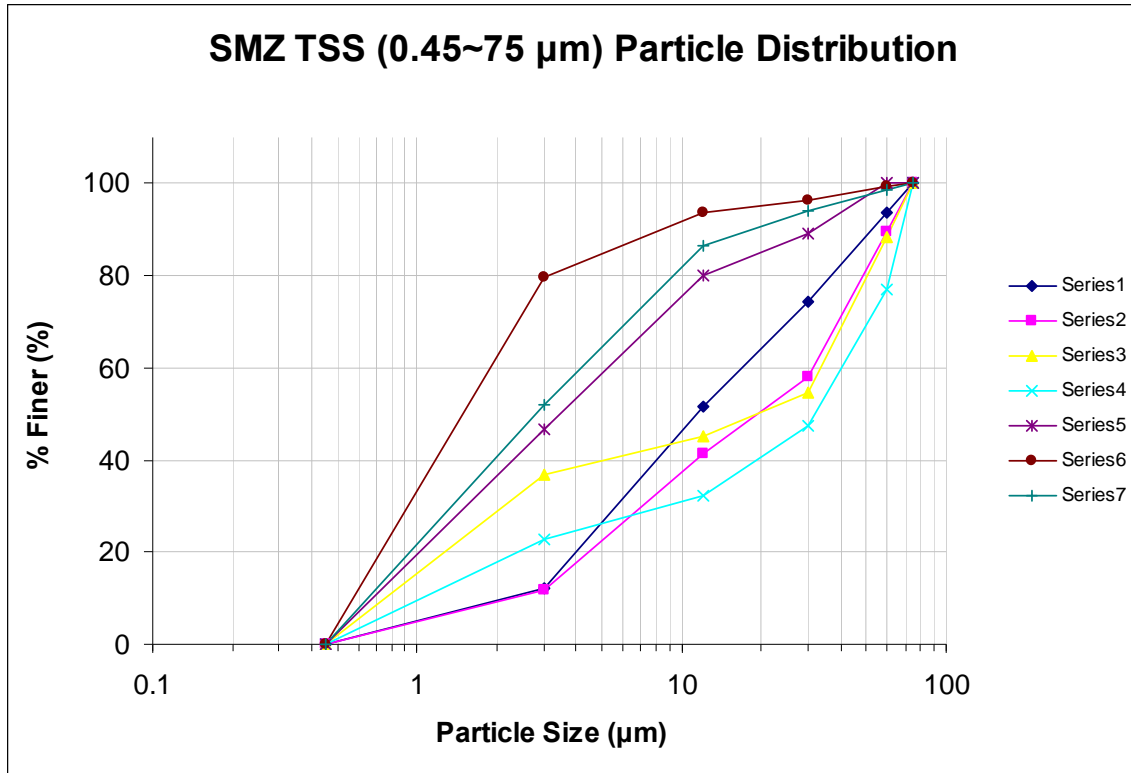




Surface Modified Zeolite (SMZ) Media Particulate Removal Data from Column Tests

Effluent Particle Size Distributions





TDS

SUMMARY OUTPUT For < 0.45 μm

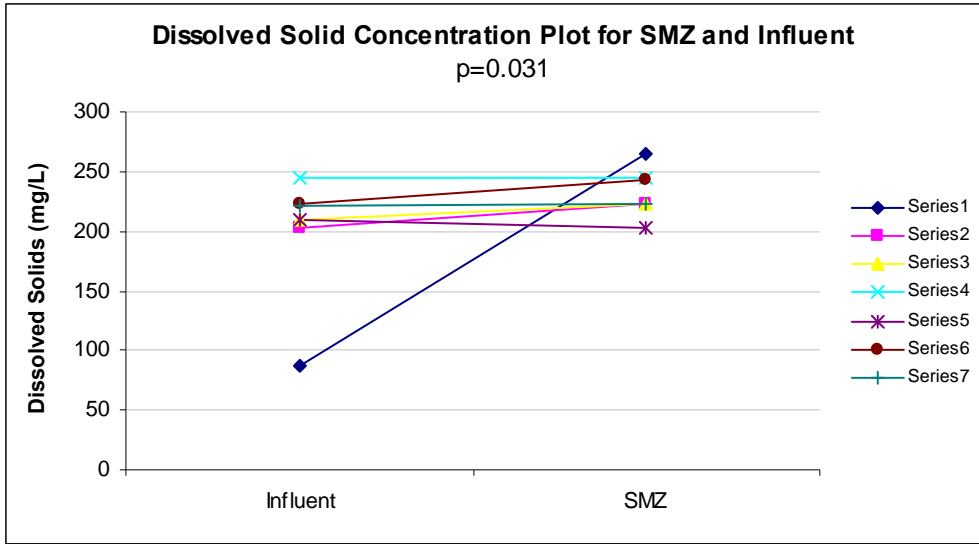
Regression Statistics	
Multiple R	0.566
R Square	0.320
Adjusted R Square	0.184
Standard Error	18.171
Observations	7.000

ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	777.794	777.794	2.356	0.185
Residual	5.000	1650.981	330.196		
Total	6.000	2428.775			

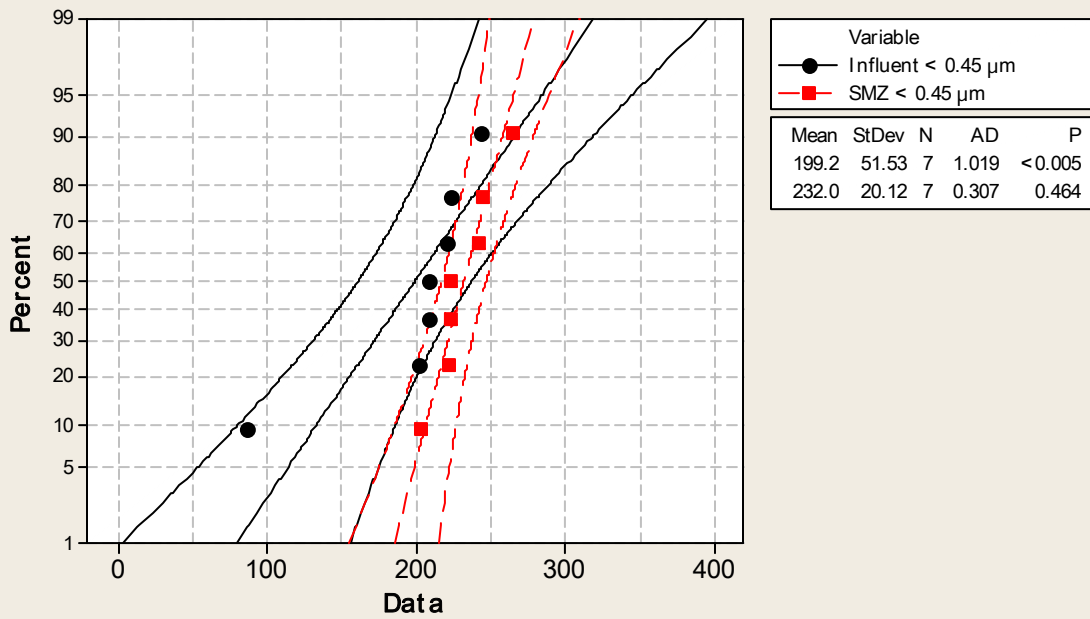
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	276.047	29.495	9.359	0.000	200.227	351.868	200.227	351.868
X Variable 1	-0.221	0.144	-1.535	0.185	-0.591	0.149	-0.591	0.149

RESIDUAL OUTPUT

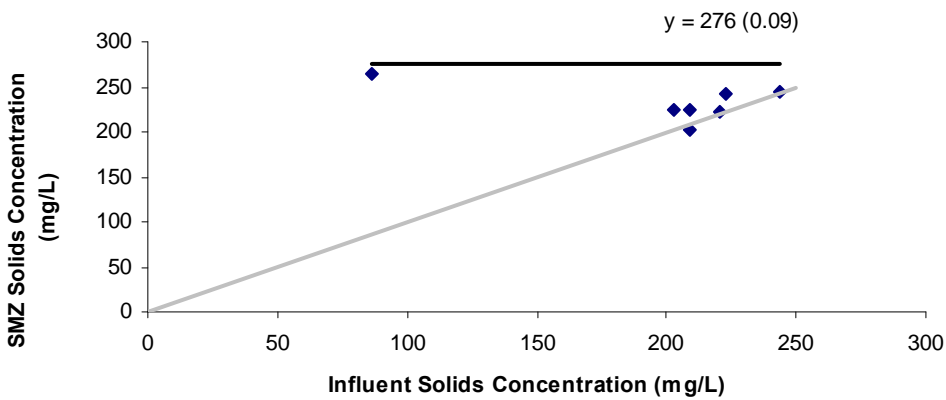
Observation	Predicted Y	Residuals
1	256.933	8.067
2	231.301	-7.801
3	229.840	-6.340
4	222.154	22.153
5	229.854	-26.830
6	226.731	15.779
7	227.346	-5.027

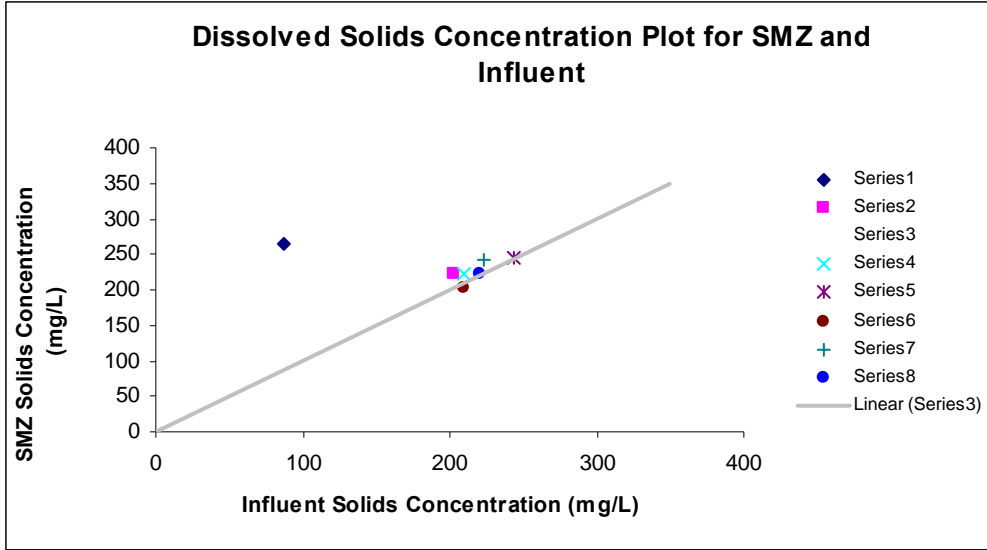


Probability Plot of Influent < 0.45 μm , SMZ < 0.45 μm
Normal - 95% CI



Total Dissolved Solids Concentration Plot for SMZ and Influent





0.45-3 μm

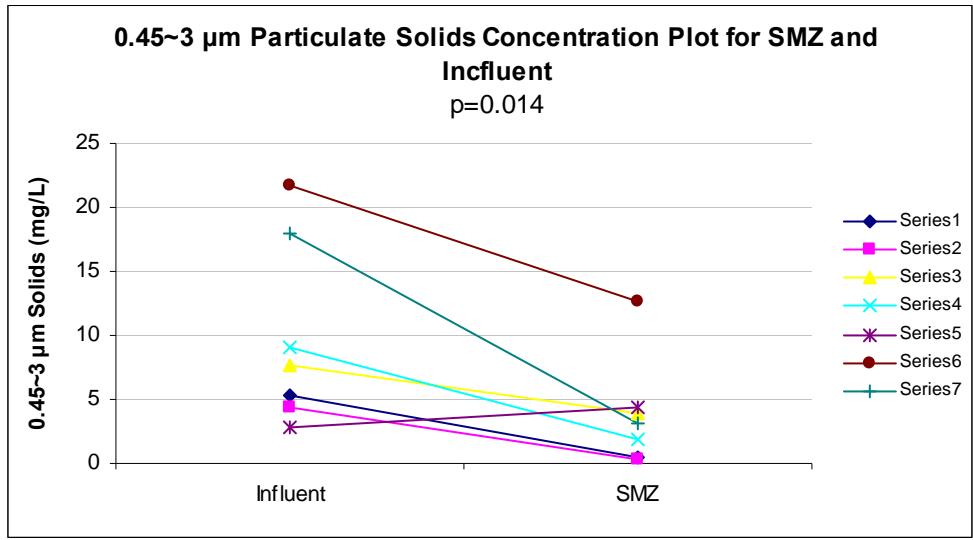
Regression Statistics	
Multiple R	0.866
R Square	0.751
Adjusted R Square	0.584
Standard Error	2.948
Observations	7.000

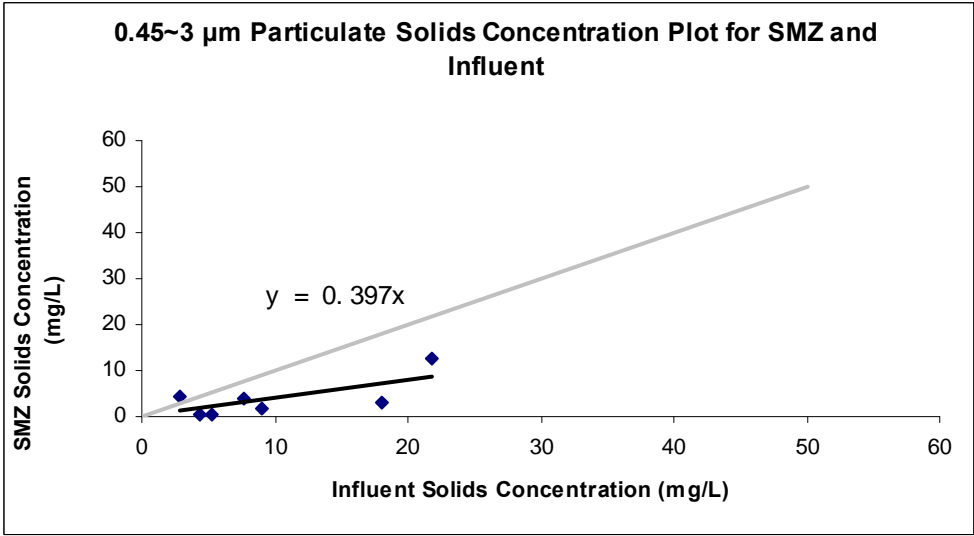
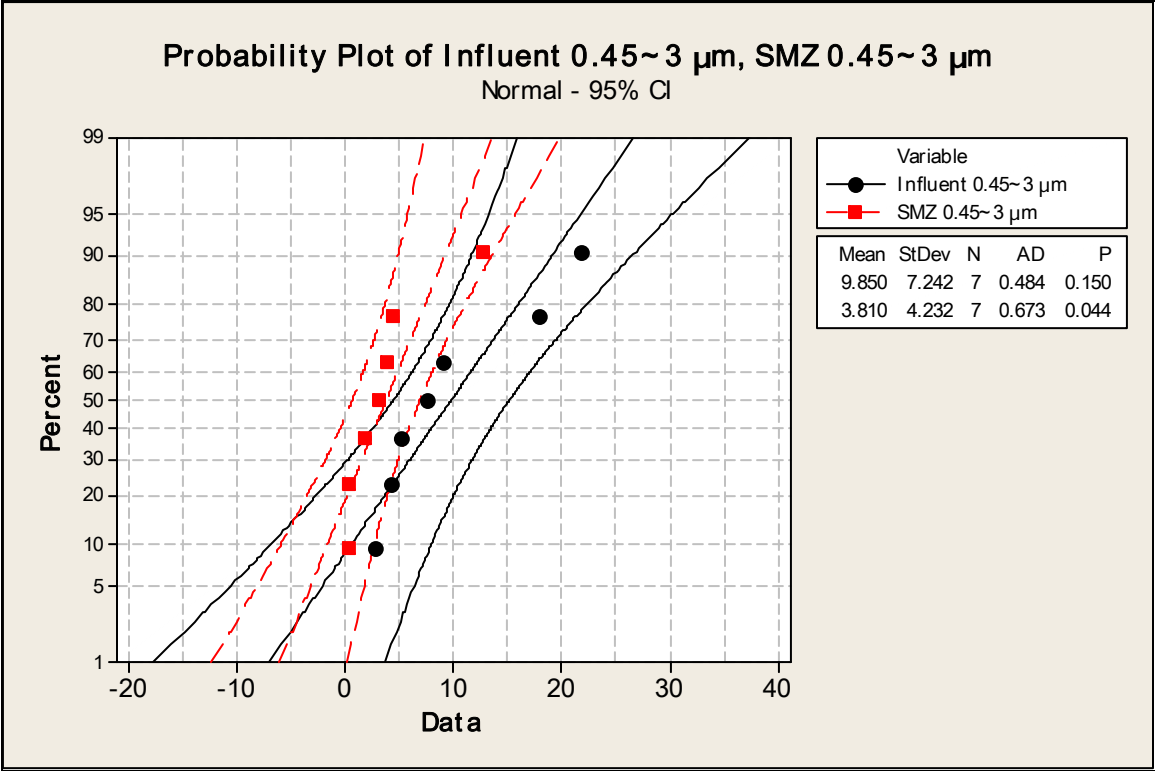
ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	156.885	156.885	18.048	0.008
Residual	6.000	52.156	8.693		
Total	7.000	209.040			

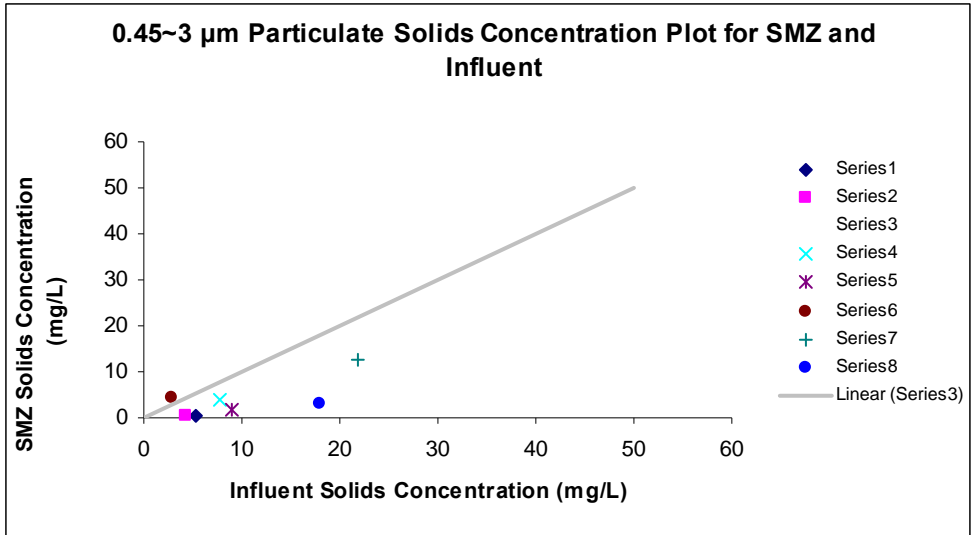
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.397	0.094	4.248	0.005	0.168	0.626	0.168	0.626

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	2.086	-1.664
2	1.720	-1.368
3	3.049	0.799
4	3.605	-1.759
5	1.129	3.267
6	8.646	4.068
7	7.159	-4.069







3-12 μm

SUMMARY OUTPUT for 3~12 μm

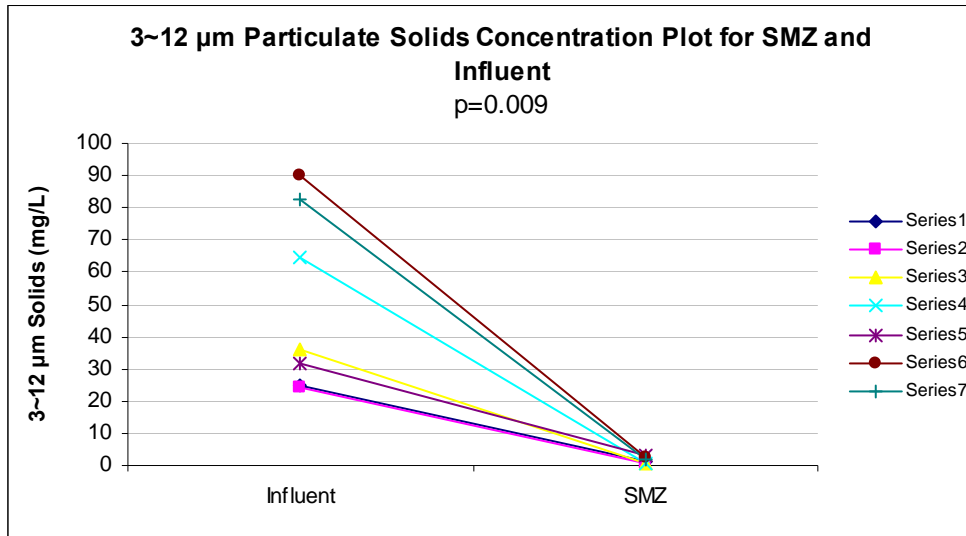
Regression Statistics	
Multiple R	0.236
R Square	0.056
Adjusted R Square	-0.133
Standard Error	0.958
Observations	7.000

ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	0.272	0.272	0.296	0.610
Residual	5.000	4.591	0.918		
Total	6.000	4.862			

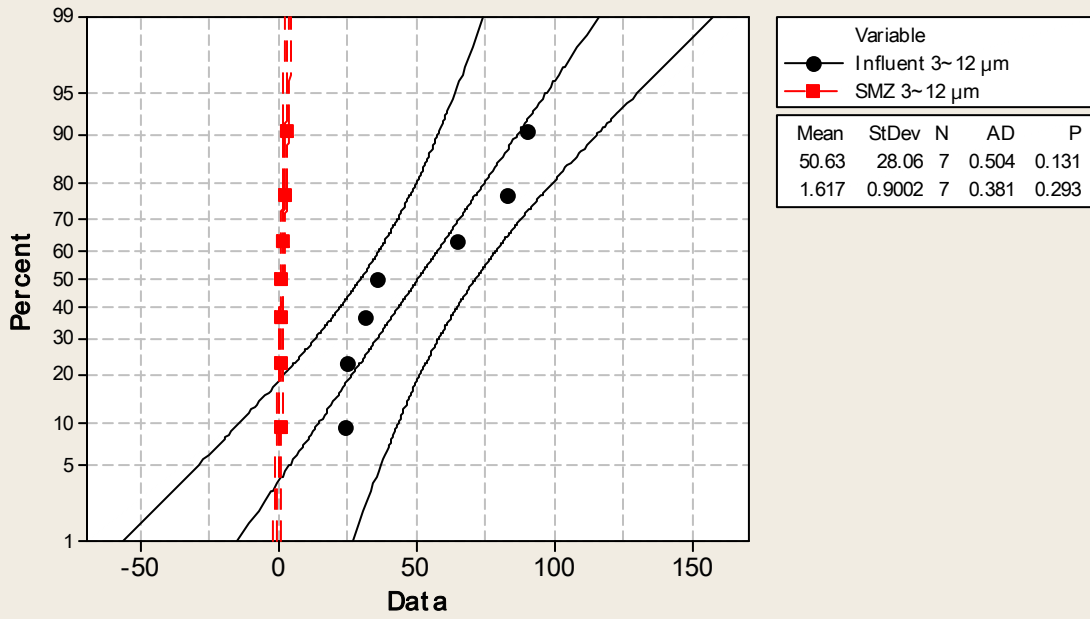
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.233	0.793	1.554	0.181	-0.807	3.272	-0.807	3.272
X Variable 1	0.008	0.014	0.544	0.610	-0.028	0.043	-0.028	0.043

RESIDUAL OUTPUT

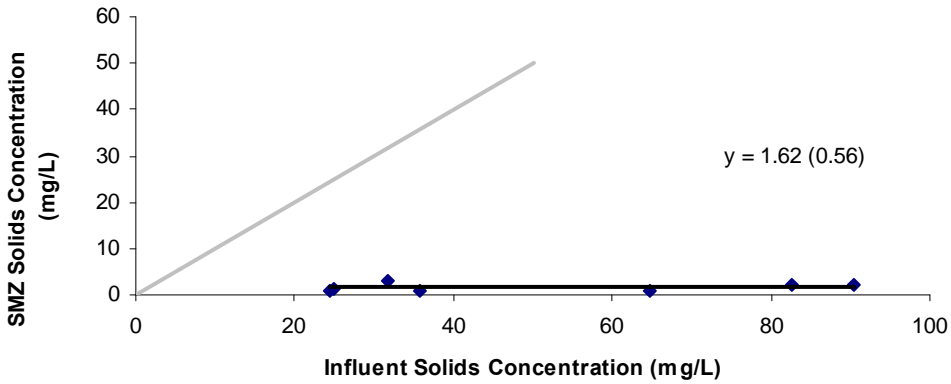
Observation	Predicted Y	Residuals
1	1.421	-0.058
2	1.418	-0.530
3	1.504	-0.664
4	1.725	-0.958
5	1.473	1.670
6	1.918	0.354
7	1.858	0.186

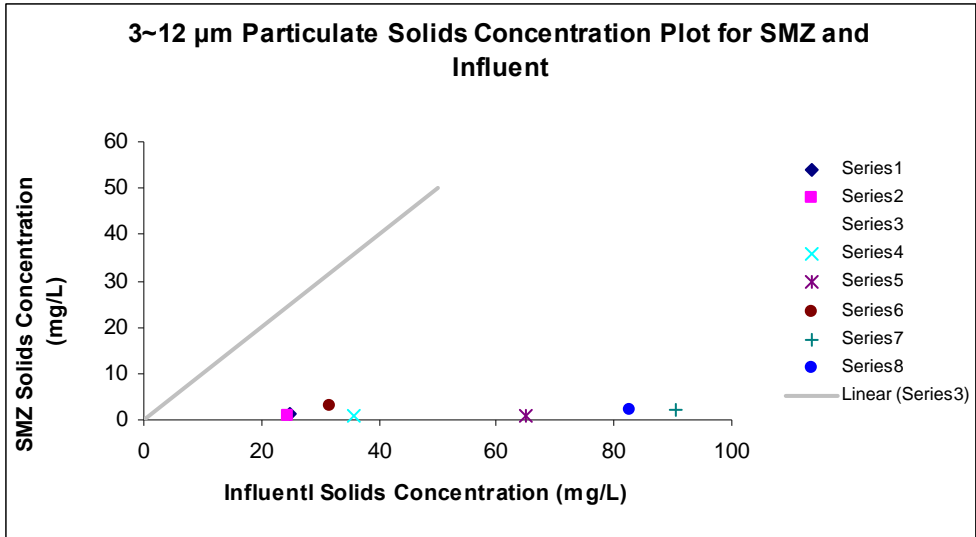


Probability Plot of Influent 3~12 μm , SMZ 3~12 μm
Normal - 95% CI



3~12 μm Particulate Solids Concentration Plot for SMZ and Influent





12-30 μm

SUMMARY OUTPUT for 12~30 μm

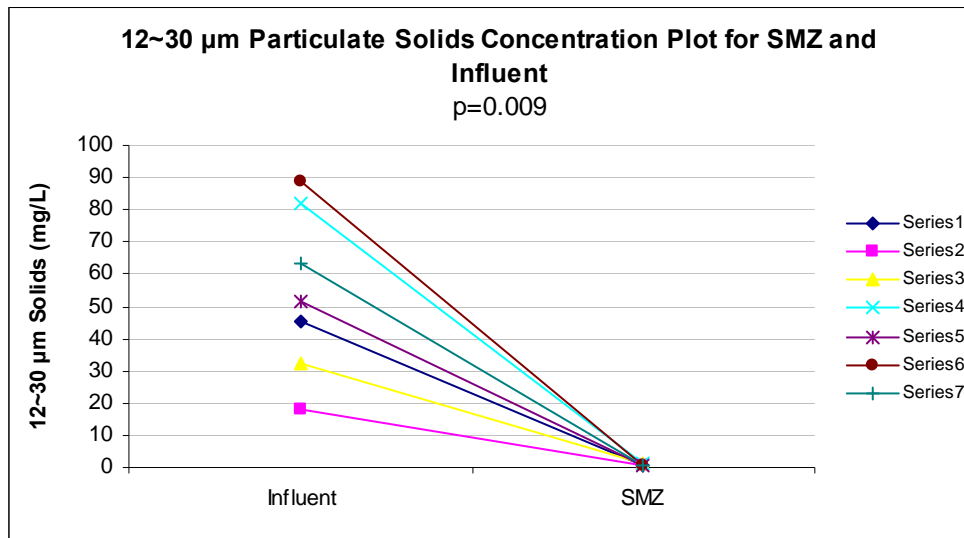
Regression Statistics	
Multiple R	0.051
R Square	0.003
Adjusted R Square	-0.197
Standard Error	0.326
Observations	7.000

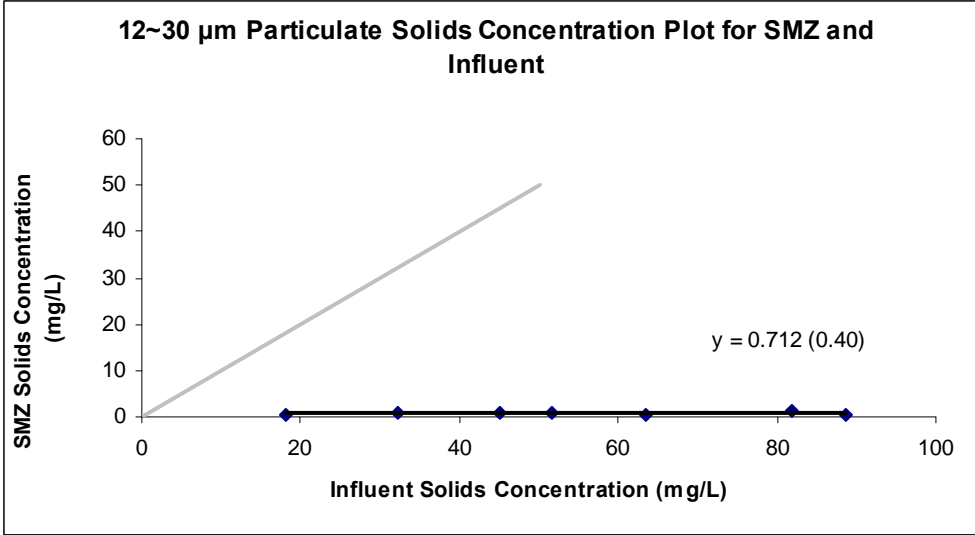
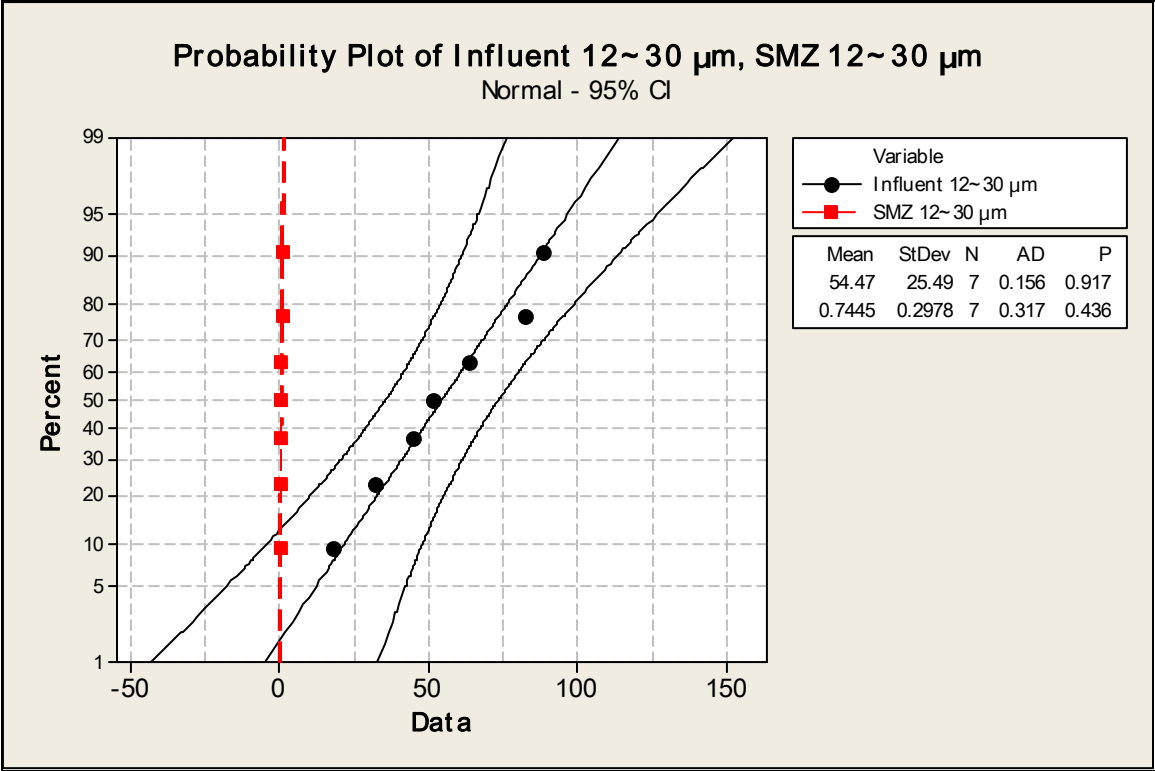
ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	0.001	0.001	0.013	0.913
Residual	5.000	0.531	0.106		
Total	6.000	0.532			

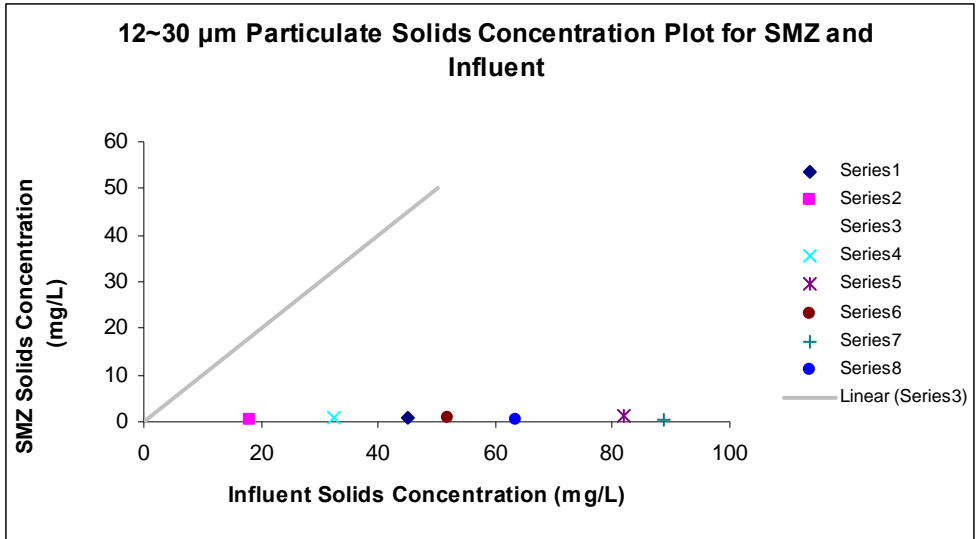
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.712	0.310	2.299	0.070	-0.084	1.508	-0.084	1.508
X Variable 1	0.001	0.005	0.114	0.913	-0.013	0.014	-0.013	0.014

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	0.739	0.046
2	0.723	-0.229
3	0.731	0.269
4	0.761	0.449
5	0.743	0.088
6	0.765	-0.336
7	0.750	-0.286







30-60 um

SUMMARY OUTPUT for 30-60 um

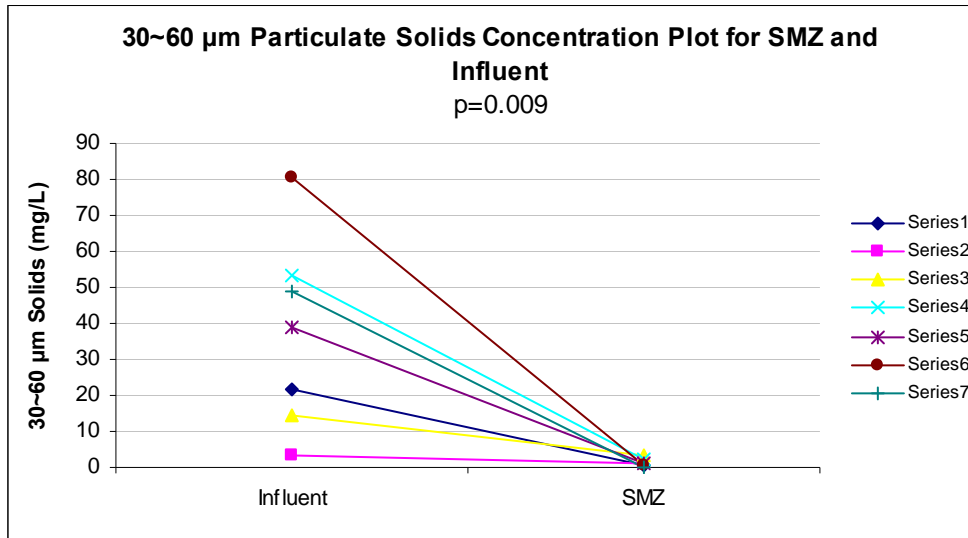
Regression Statistics	
Multiple R	0.316
R Square	0.100
Adjusted R Square	-0.080
Standard Error	1.228
Observations	7.000

ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	0.837	0.837	0.555	0.490
Residual	5.000	7.538	1.508		
Total	6.000	8.375			

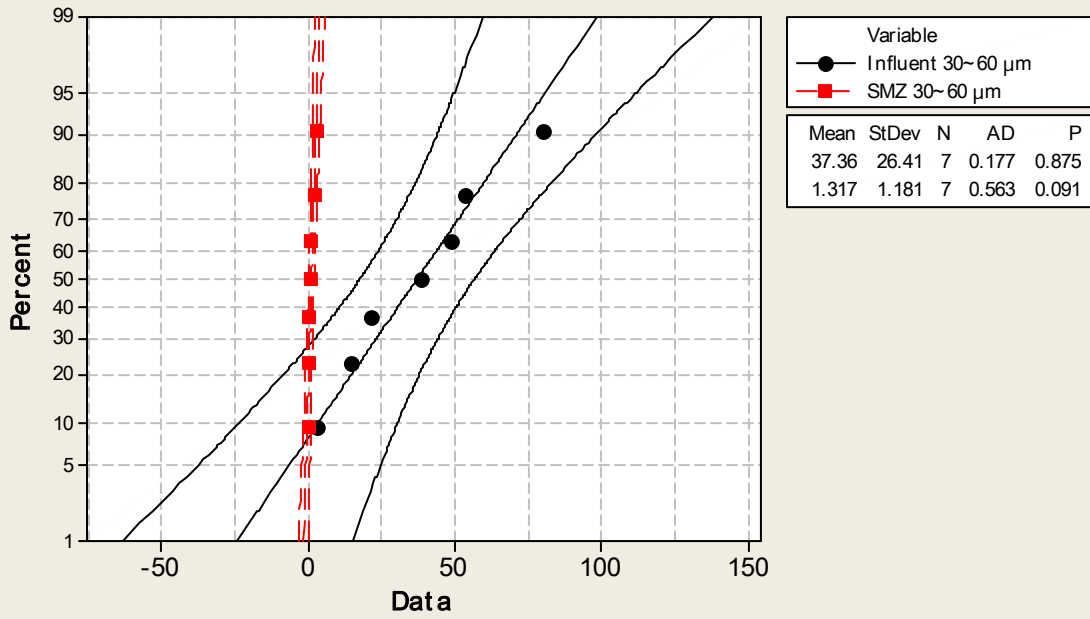
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.846	0.848	2.178	0.081	-0.333	4.025	-0.333	4.025
X Variable 1	-0.014	0.019	-0.745	0.490	-0.063	0.035	-0.063	0.035

RESIDUAL OUTPUT

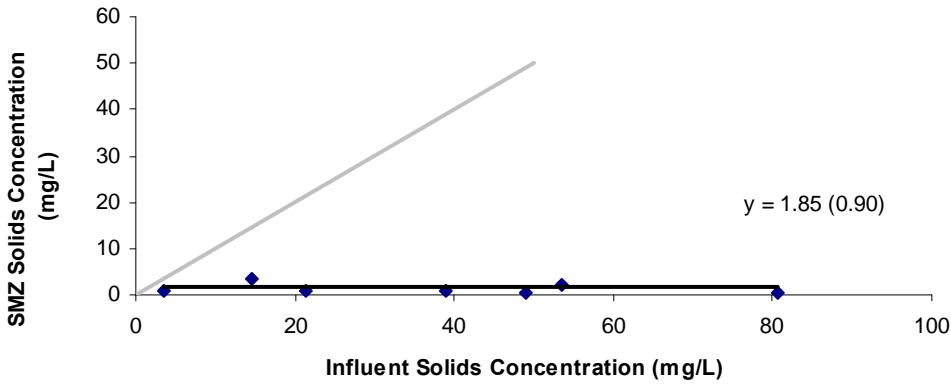
Observation	Predicted Y	Residuals
1	1.542	-0.873
2	1.797	-0.862
3	1.639	1.858
4	1.090	1.281
5	1.295	-0.258
6	0.705	-0.246
7	1.154	-0.901

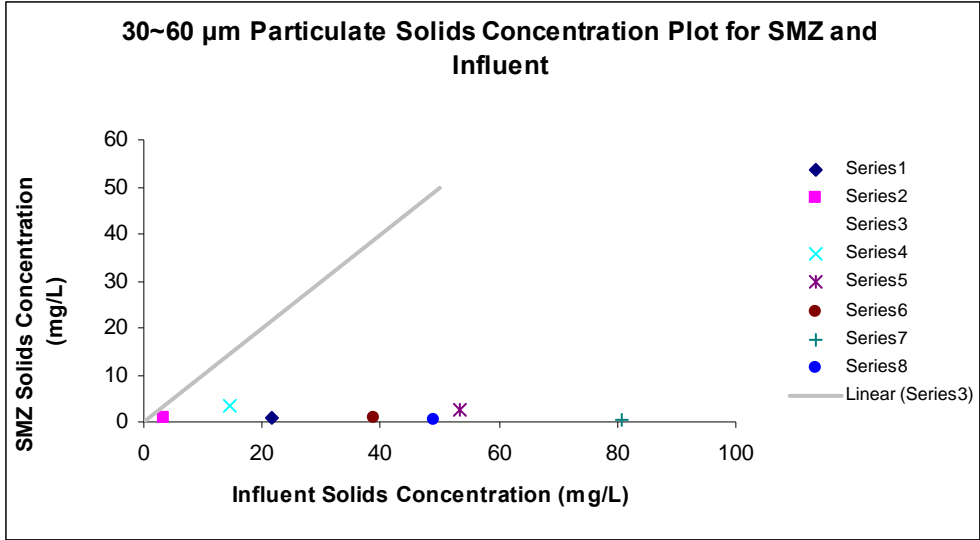


Probability Plot of Influent 30~60 μm , SMZ 30~60 μm
Normal - 95% CI



30~60 μm Particulate Solids Concentration Plot for SMZ and Influent





60-120 μm

SUMMARY OUTPUT for 60~120 μm

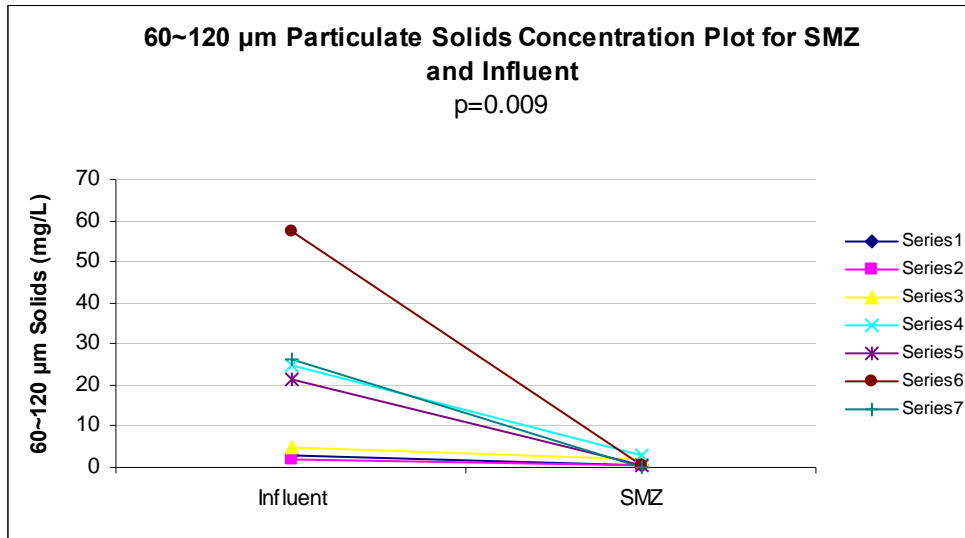
Regression Statistics	
Multiple R	0.182
R Square	0.033
Adjusted R Square	-0.160
Standard Error	1.121
Observations	7.000

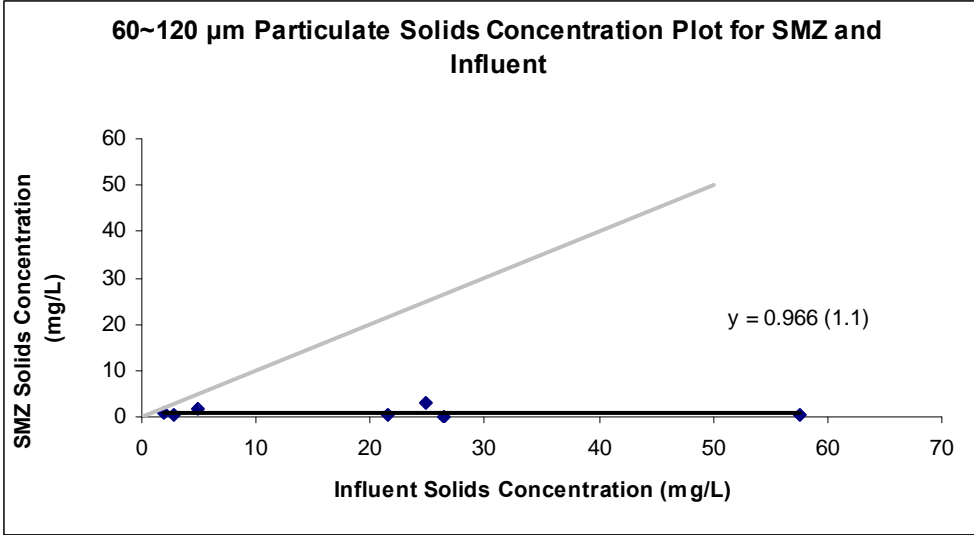
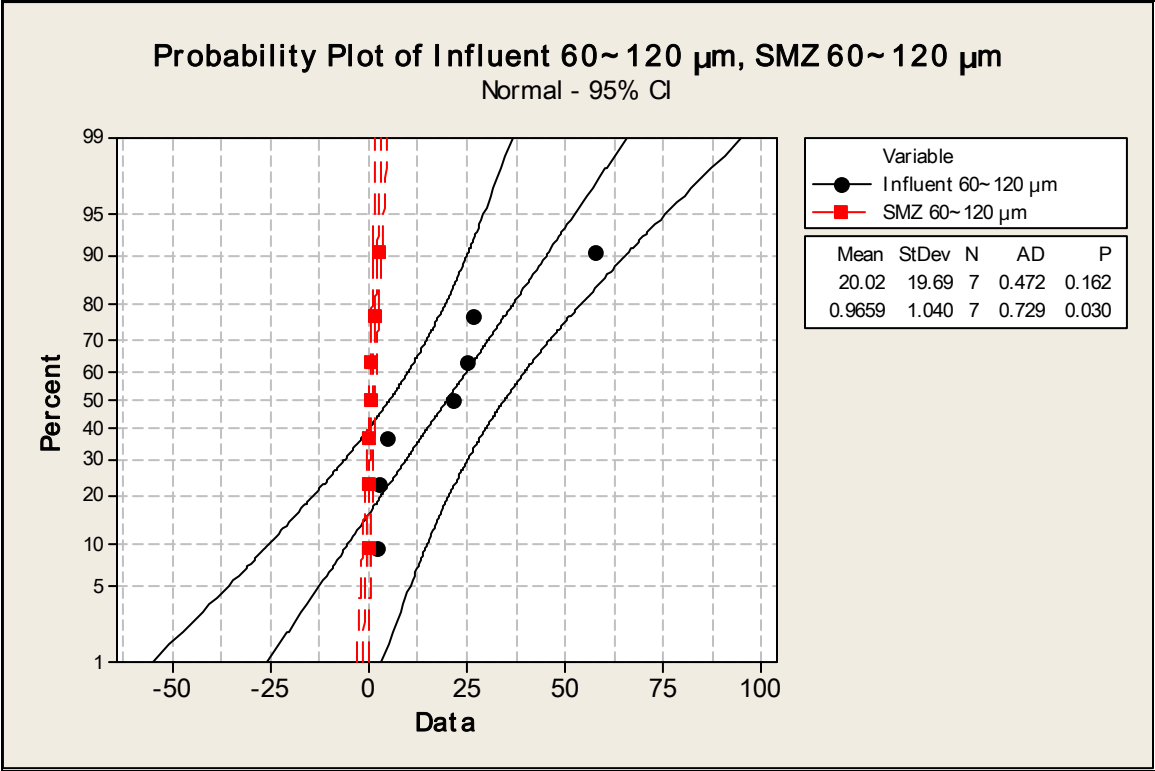
ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	0.216	0.216	0.172	0.696	
Residual	5.000	6.278	1.256			
Total	6.000	6.494				

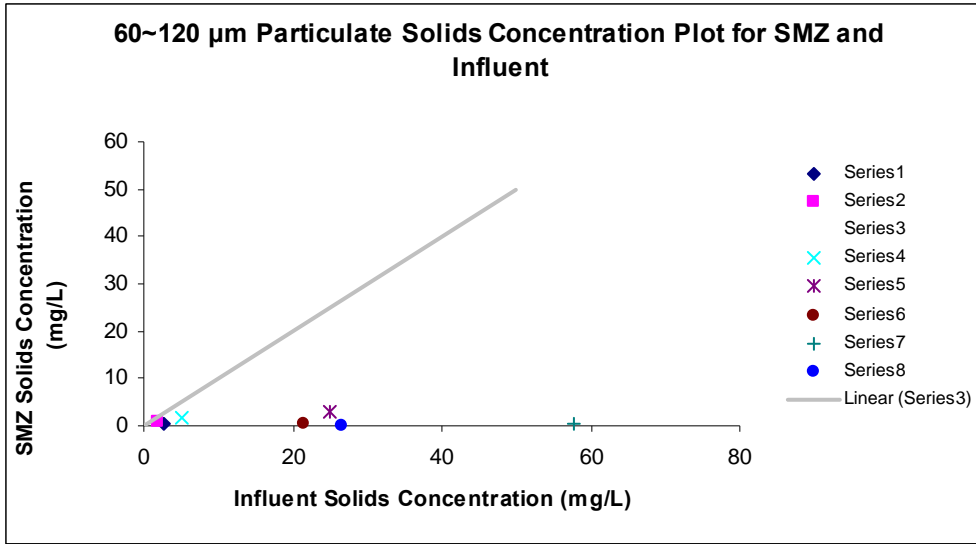
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.159	0.629	1.842	0.125	-0.458	2.776	-0.458	2.776
X Variable 1	-0.010	0.023	-0.415	0.696	-0.069	0.050	-0.069	0.050

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	1.132	-0.728
2	1.140	-0.428
3	1.111	0.752
4	0.919	2.014
5	0.952	-0.514
6	0.604	-0.351
7	0.904	-0.745







120-250 μm

SUMMARY OUTPUT for 120~250 μm

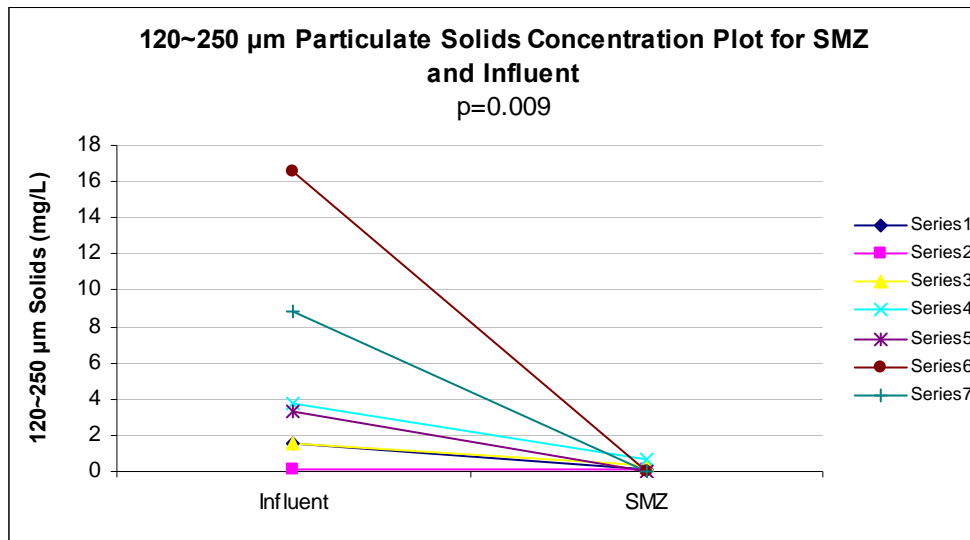
Regression Statistics	
Multiple R	0.305
R Square	0.093
Adjusted R Square	-0.088
Standard Error	0.262
Observations	7.000

ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	0.035	0.035	0.514	0.506	
Residual	5.000	0.344	0.069			
Total	6.000	0.380				

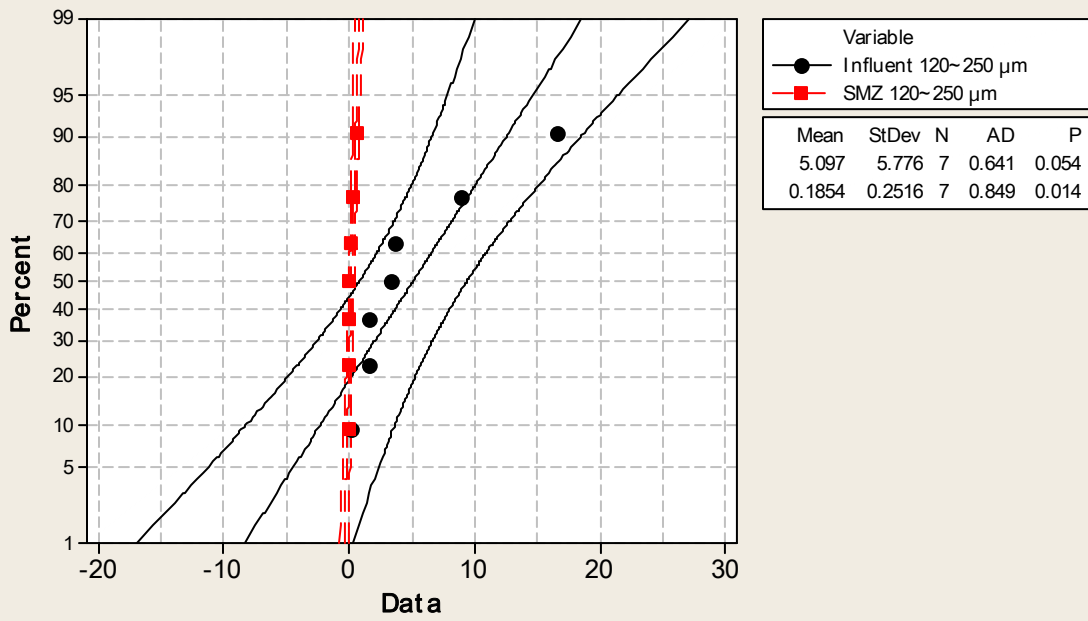
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.253	0.137	1.847	0.124	-0.099	0.605	-0.099	0.605
X Variable 1	-0.013	0.019	-0.717	0.506	-0.061	0.034	-0.061	0.034

RESIDUAL OUTPUT

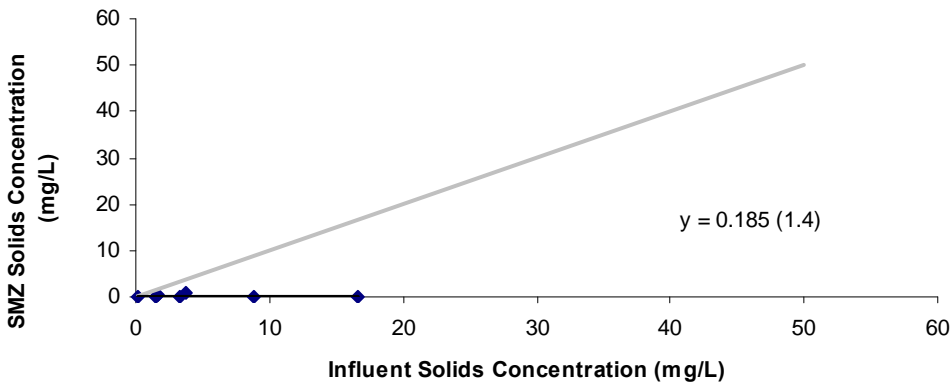
Observation	Predicted Y	Residuals
1	0.233	-0.172
2	0.251	-0.132
3	0.232	0.128
4	0.204	0.483
5	0.210	-0.185
6	0.033	-0.004
7	0.136	-0.118

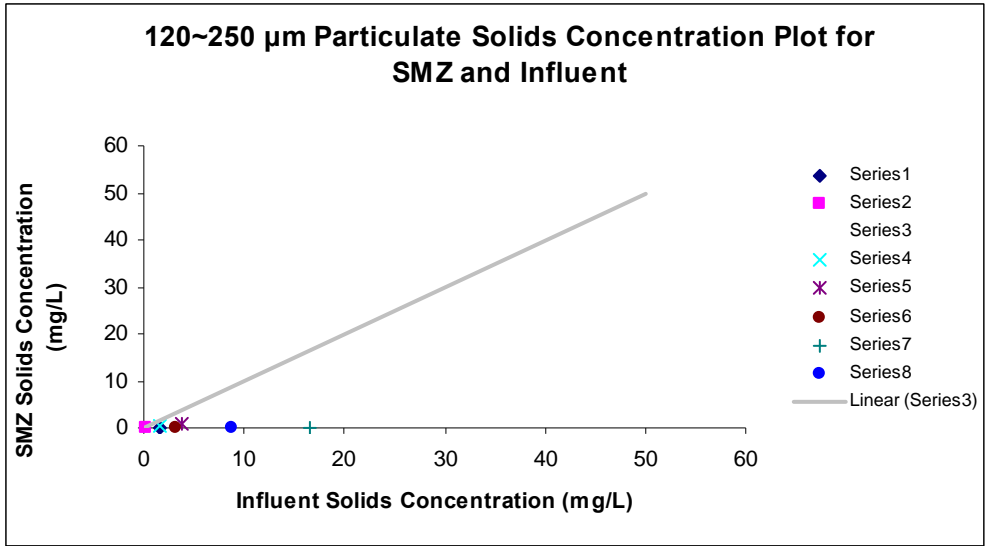


Probability Plot of Influent 120~250 μm , SMZ 120~250 μm
Normal - 95% CI



120~250 μm Particulate Solids Concentration Plot for SMZ and Influent





250-1180 μm

SUMMARY OUTPUT for 250~1180 μm

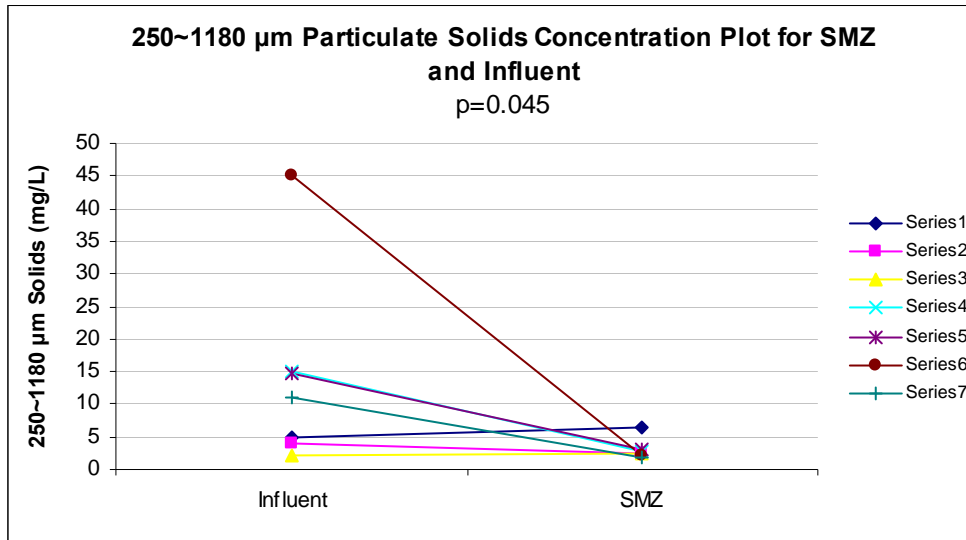
Regression Statistics	
Multiple R	0.340
R Square	0.116
Adjusted R Square	-0.061
Standard Error	1.621
Observations	7.000

ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	1.723	1.723	0.656	0.455	
Residual	5.000	13.142	2.628			
Total	6.000	14.865				

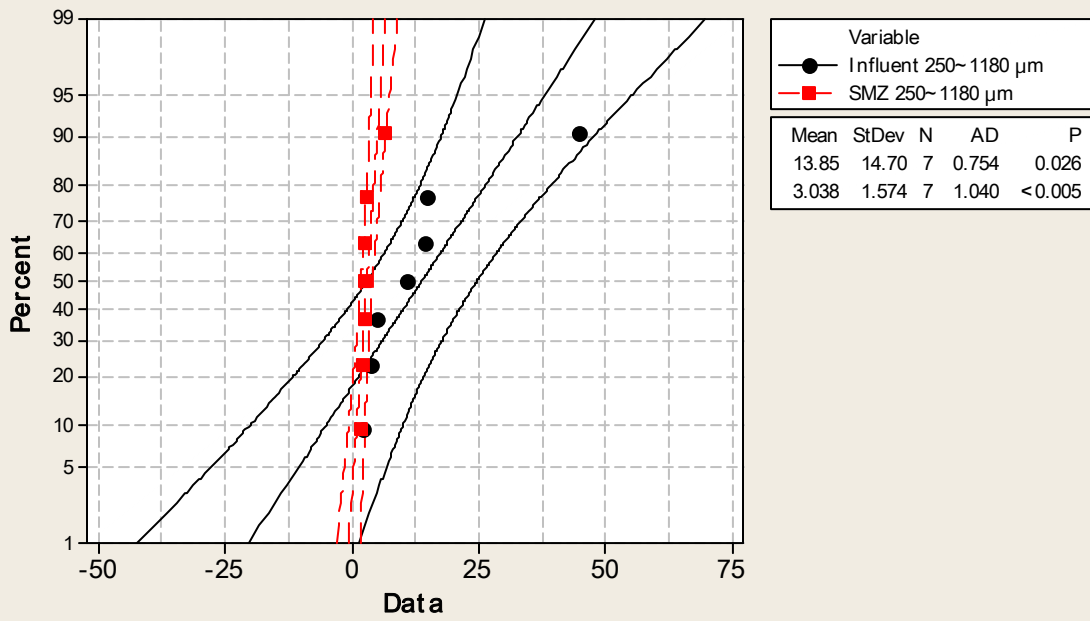
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	3.543	0.874	4.053	0.010	1.296	5.790	1.296	5.790
X Variable 1	-0.036	0.045	-0.810	0.455	-0.152	0.079	-0.152	0.079

RESIDUAL OUTPUT

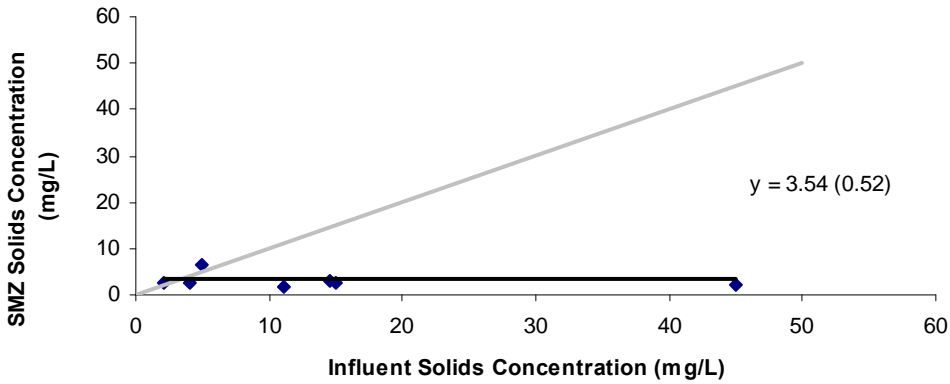
Observation	Predicted Y	Residuals
1	3.361	3.139
2	3.397	-0.897
3	3.466	-0.966
4	2.996	-0.233
5	3.010	0.025
6	1.900	0.146
7	3.138	-1.214

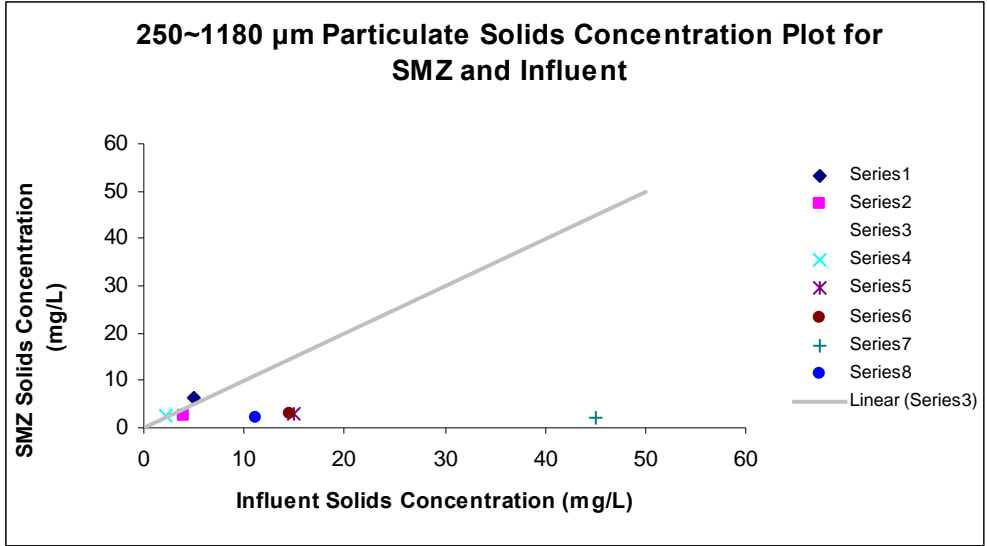


Probability Plot of Influent 250~1180 μm , SMZ 250~1180 μm
Normal - 95% CI



250~1180 μm Particulate Solids Concentration Plot for SMZ and Influent





>1180 um (no particles in this size range observed)

SSC (>0.45 μm)

SUMMARY OUTPUT for Total

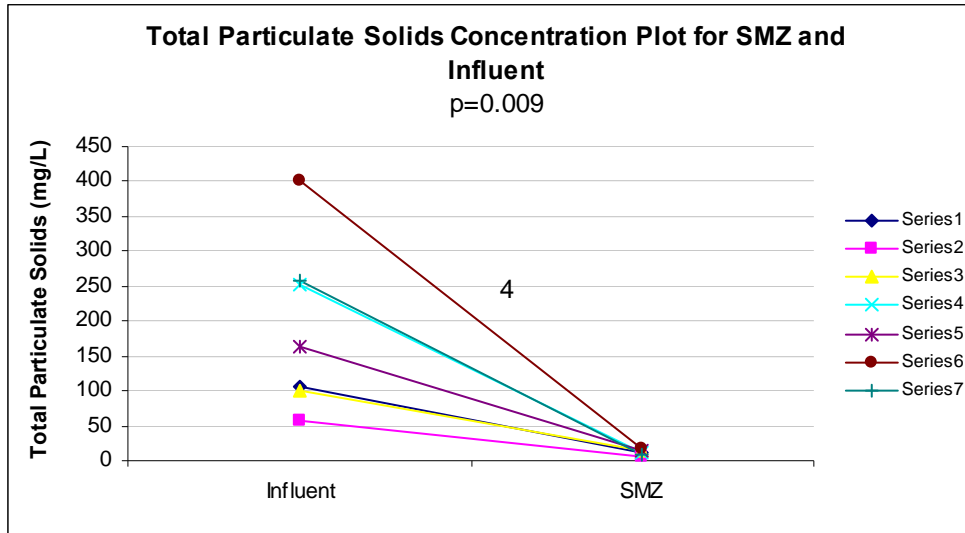
Regression Statistics	
Multiple R	0.623
R Square	0.389
Adjusted R Square	0.266
Standard Error	3.464
Observations	7.000

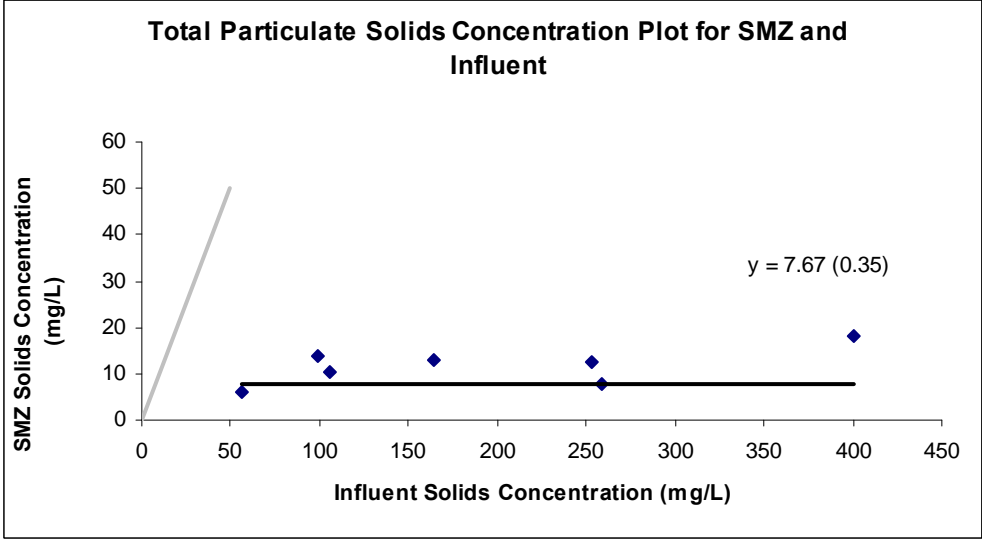
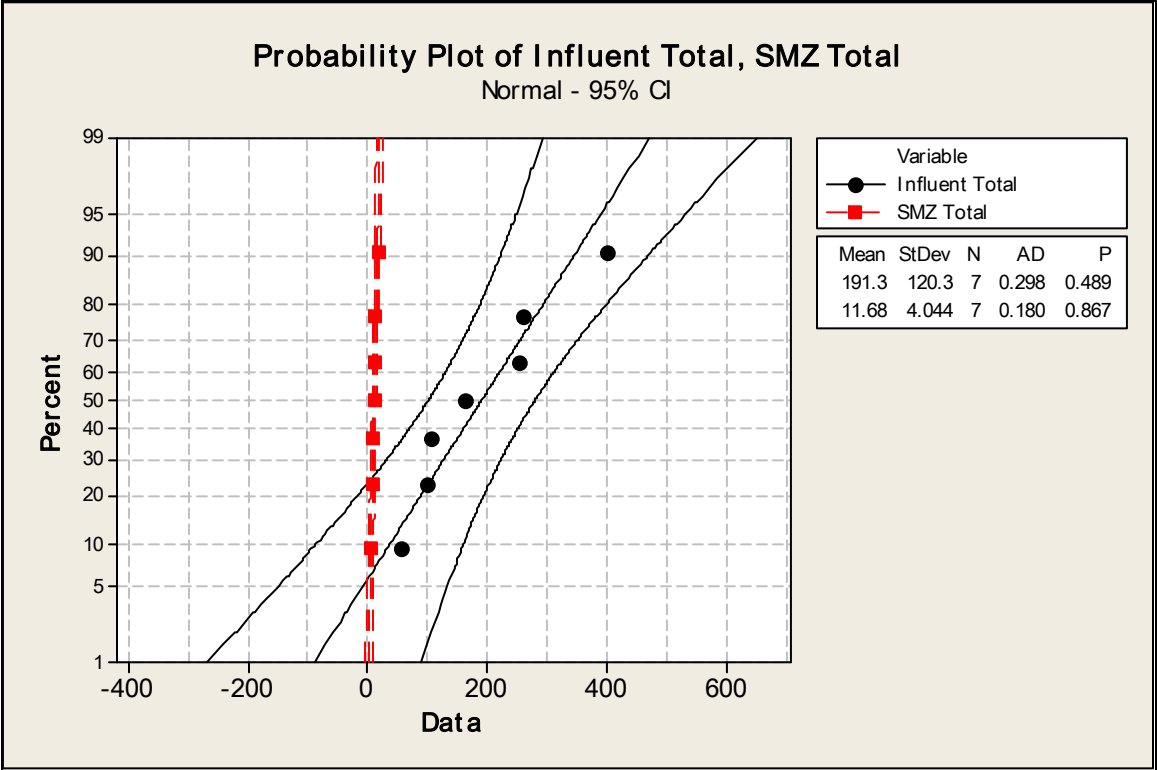
ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	38.129	38.129	3.177	0.135
Residual	5.000	60.012	12.002		
Total	6.000	98.141			

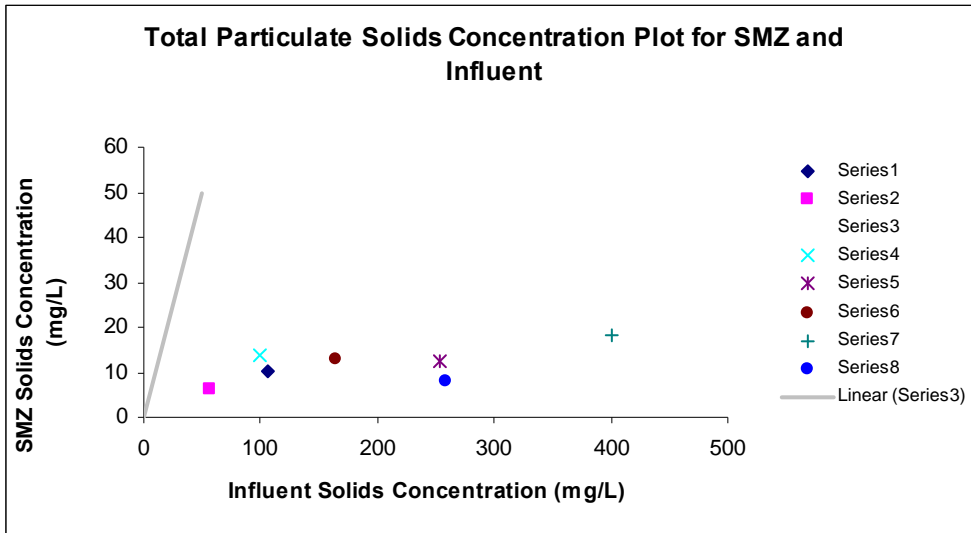
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	7.670	2.602	2.947	0.032	0.980	14.359	0.980	14.359
X Variable 1	0.021	0.012	1.762	0.135	-0.009	0.051	-0.009	0.051

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	9.891	0.313
2	8.854	-2.854
3	9.748	4.160
4	12.969	-0.393
5	11.119	1.786
6	16.062	2.139
7	13.103	-5.152







TSS (0.45 to 75 μm)

SUMMARY OUTPUT for TSS

Regression Statistics	
Multiple R	0.931
R Square	0.866
Adjusted R Square	0.700
Standard Error	3.575
Observations	7.000

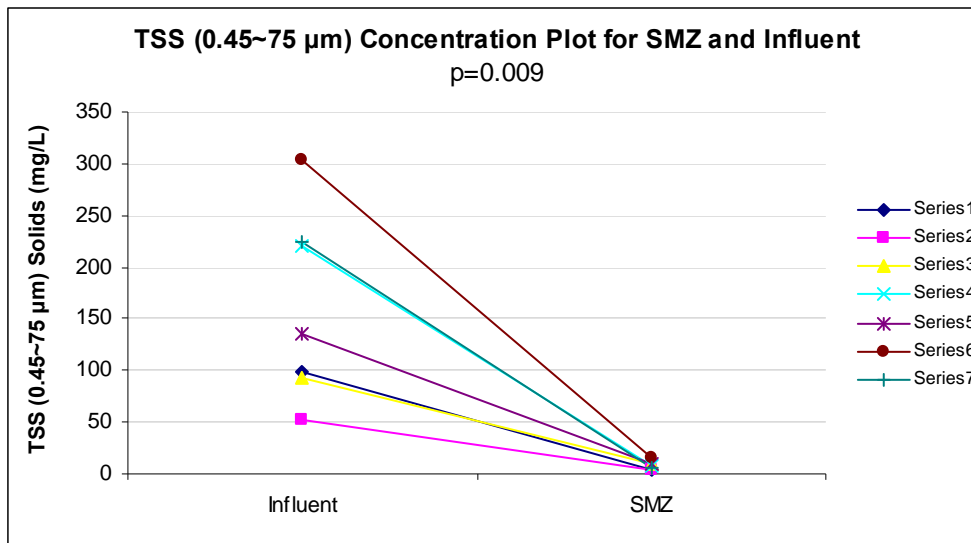
ANOVA

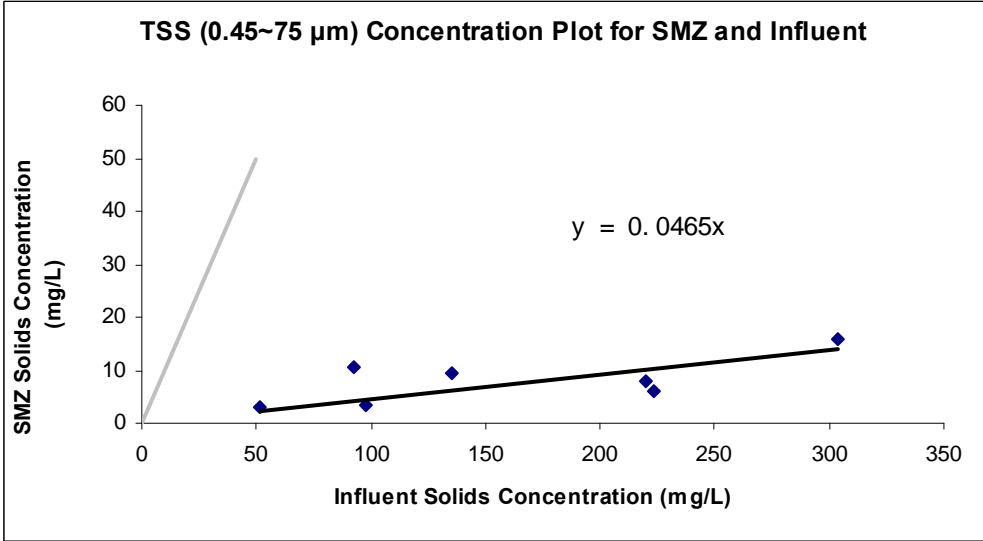
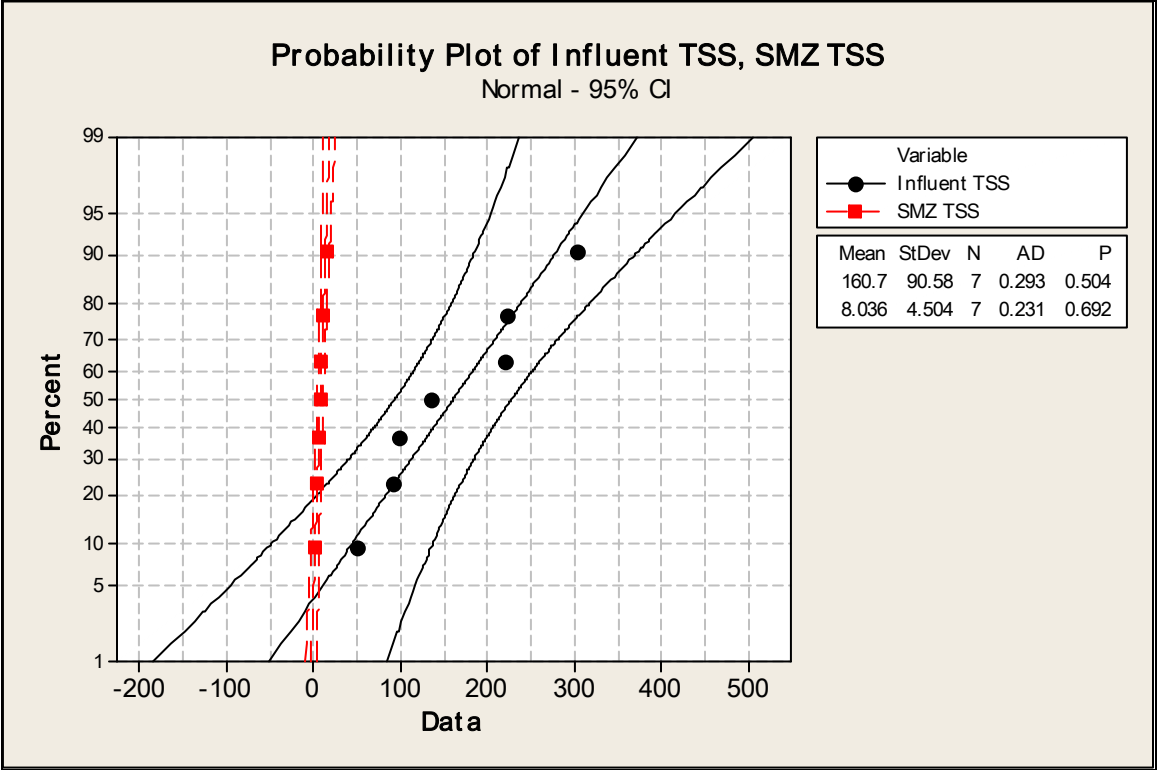
	df	SS	MS	F	Significance F
Regression	1.000	497.038	497.038	38.888	0.002
Residual	6.000	76.688	12.781		
Total	7.000	573.726			

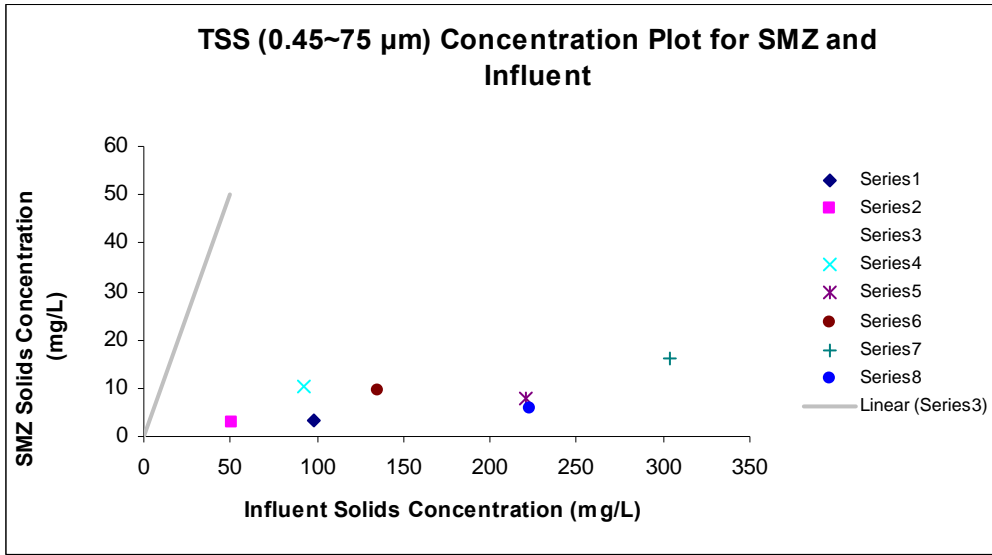
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.046	0.007	6.236	0.001	0.028	0.065	0.028	0.065

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	4.564	-1.109
2	2.385	0.601
3	4.290	6.120
4	10.236	-2.176
5	6.294	3.113
6	14.136	1.857
7	10.388	-4.446

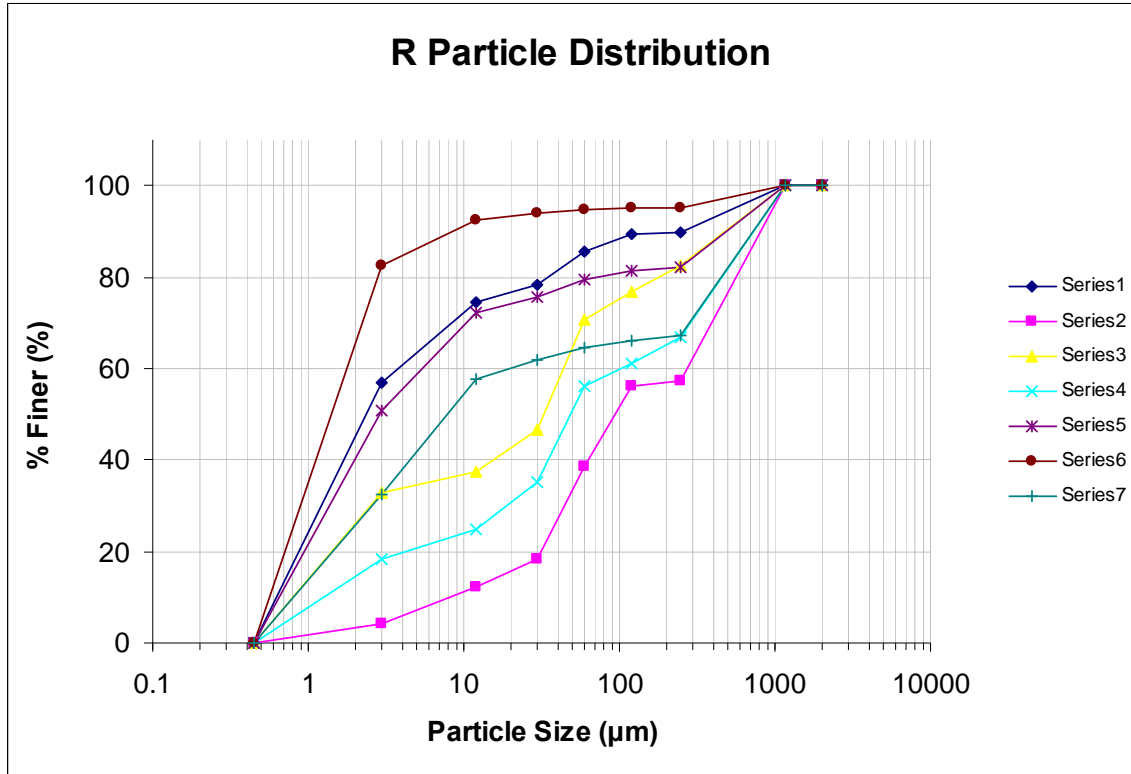


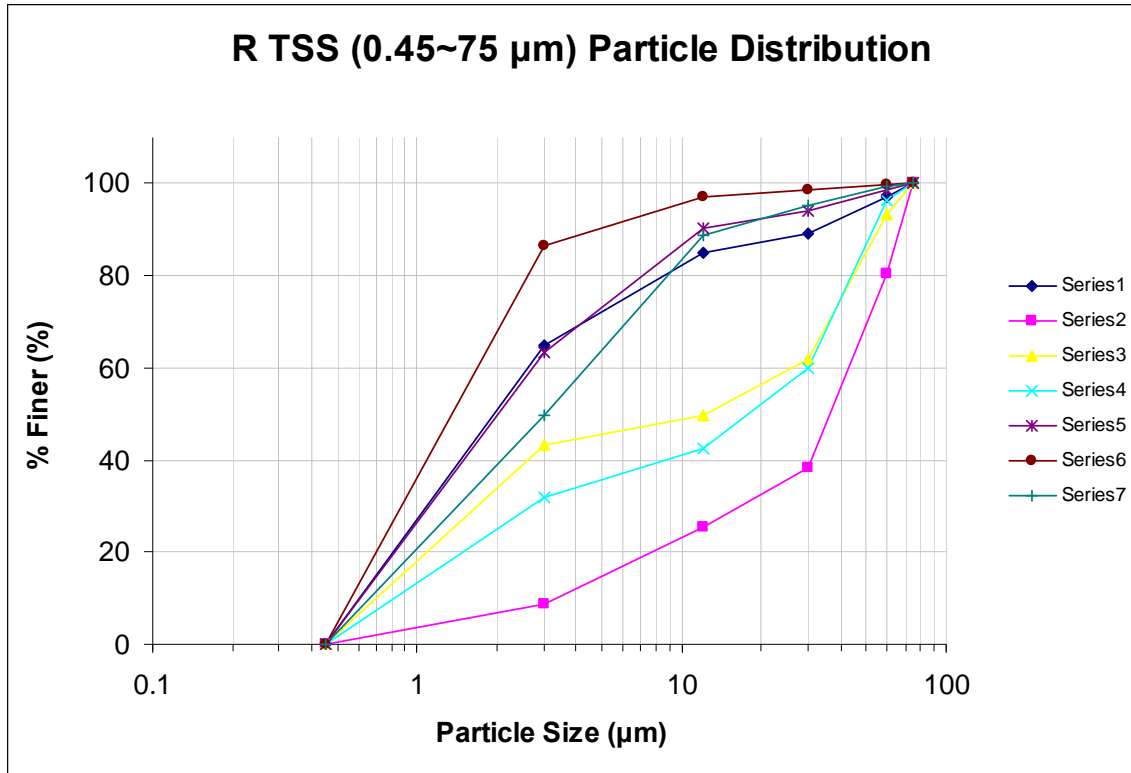




Rhyolite Sand (R) Media Particulate Removal Data from Column Tests

Effluent Particle Size Distributions





TDS

SUMMARY OUTPUT For < 0.45 μm

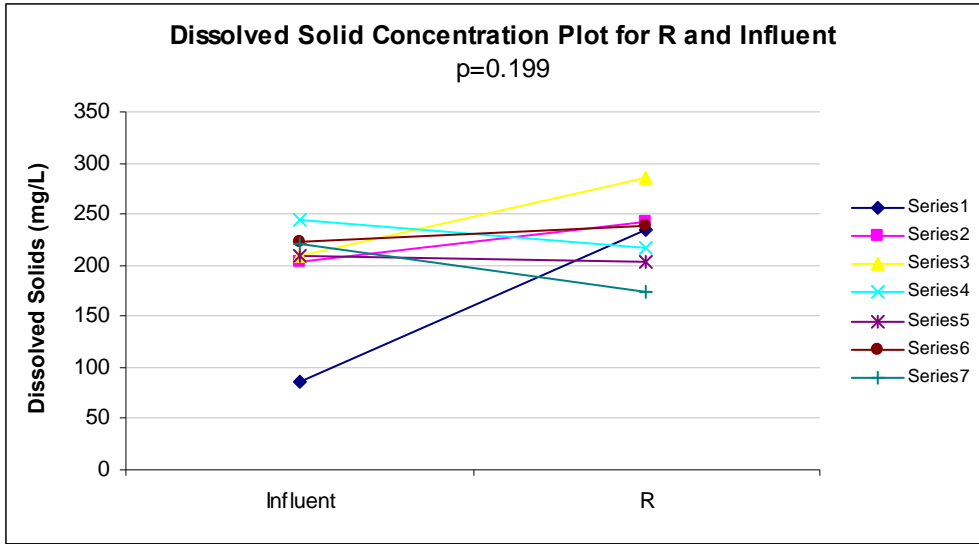
Regression Statistics	
Multiple R	0.159
R Square	0.025
Adjusted R Square	-0.169
Standard Error	37.795
Observations	7.000

ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	186.443	186.443	0.131	0.733
Residual	5.000	7142.470	1428.494		
Total	6.000	7328.913			

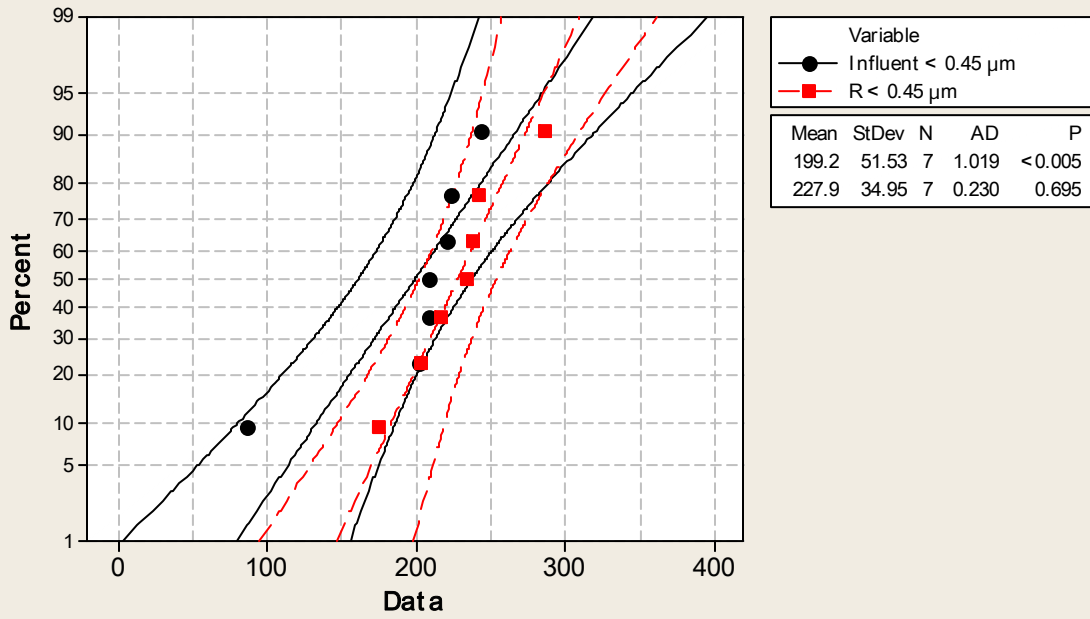
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	249.451	61.349	4.066	0.010	91.749	407.154	91.749	407.154
X Variable 1	-0.108	0.299	-0.361	0.733	-0.878	0.662	-0.878	0.662

RESIDUAL OUTPUT

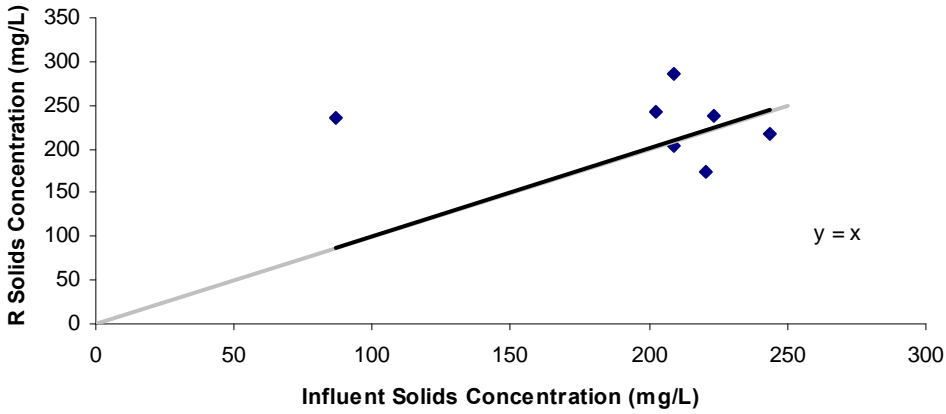
Observation	Predicted Y	Residuals
1	240.093	-5.593
2	227.544	13.956
3	226.828	59.620
4	223.065	-5.832
5	226.835	-24.246
6	225.306	12.840
7	225.607	-50.745

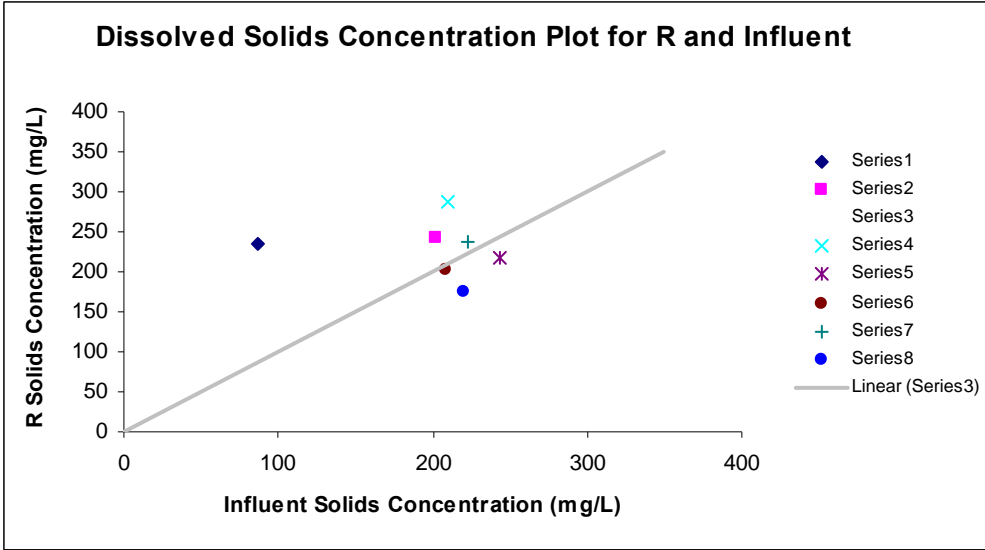


Probability Plot of Influent < 0.45 μm, R < 0.45 μm
Normal - 95% CI



Total Dissolved Solids Concentration Plot for R and Influent





0.45-3 μm

SUMMARY OUTPUT for 0.45-3 μm

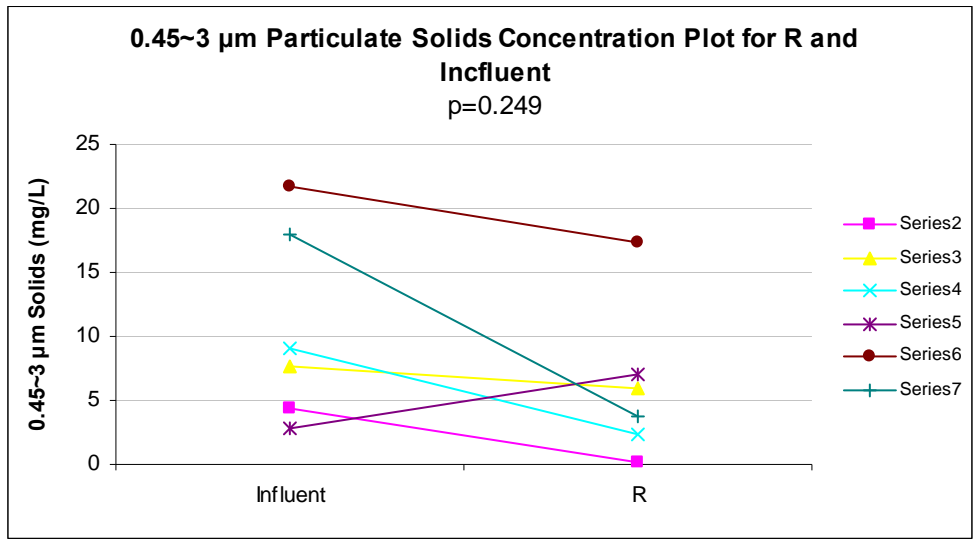
Regression Statistics	
Multiple R	0.946
R Square	0.894
Adjusted R Square	0.868
Standard Error	2.770
Observations	6.000

ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	259.291	259.291	33.785	0.004
Residual	4.000	30.699	7.675		
Total	5.000	289.990			

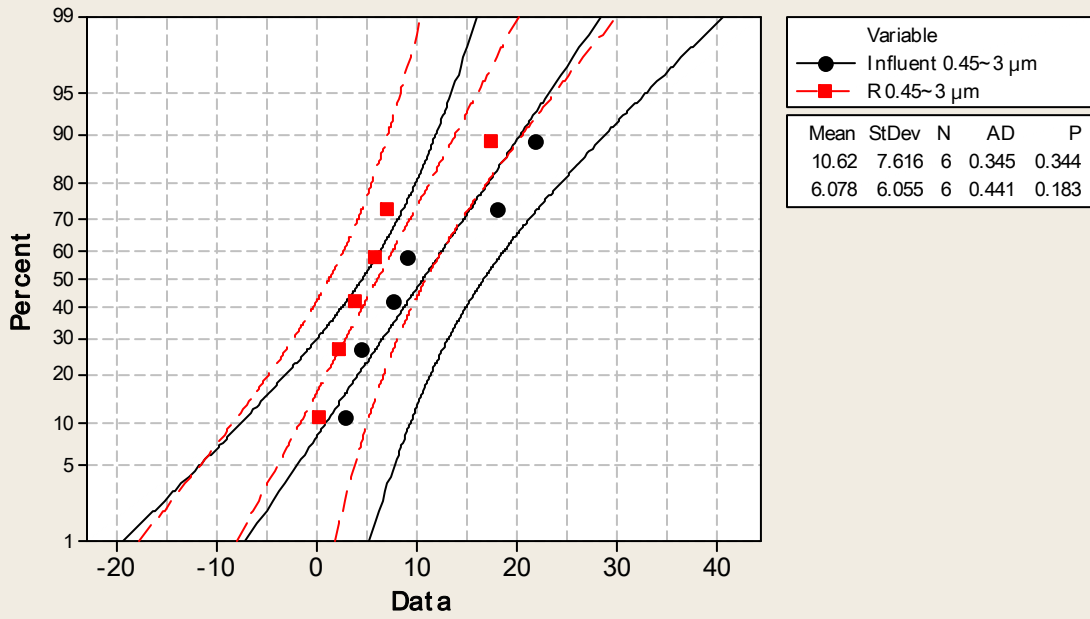
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-3.460	2.673	-1.295	0.265	-10.881	3.961	-10.881	3.961
X Variable 1	0.256	0.044	5.813	0.004	0.134	0.379	0.134	0.379

RESIDUAL OUTPUT

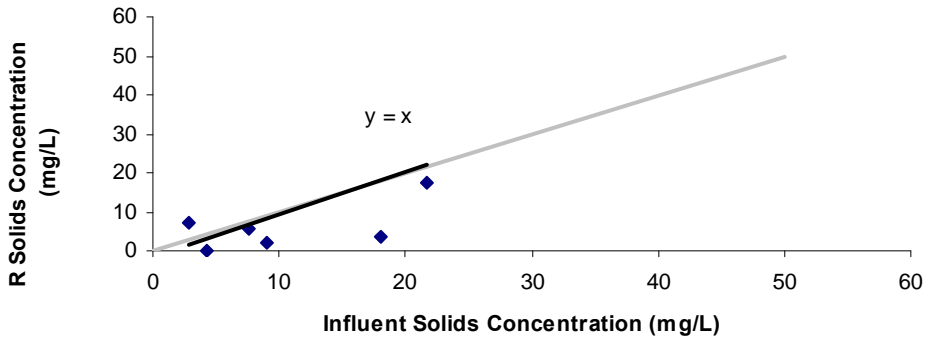
Observation	Predicted Y	Residuals
1	2.791	1.538
2	5.709	1.966
3	13.161	-4.086
4	4.669	-1.829
5	19.684	2.076
6	17.681	0.336

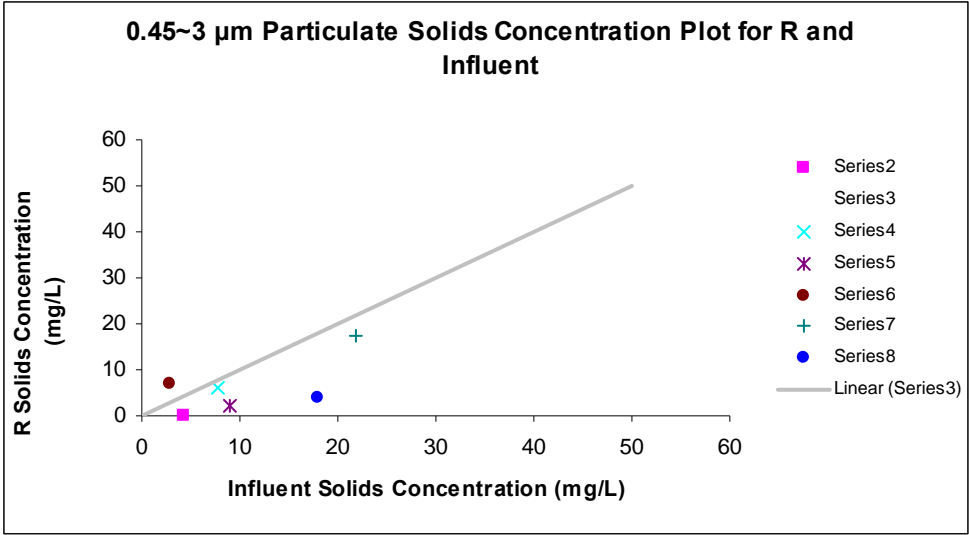


Probability Plot of Influent 0.45~3 μm , R 0.45~3 μm
Normal - 95% CI



0.45~3 μm Particulate Solids Concentration Plot for R and Influent





3-12 μm

SUMMARY OUTPUT for 3-12 μm

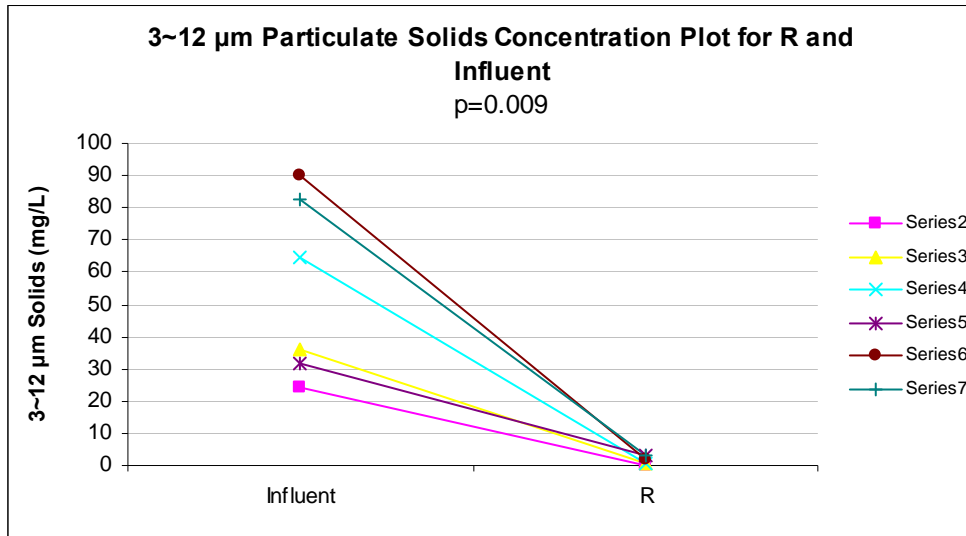
Regression Statistics	
Multiple R	0.427
R Square	0.183
Adjusted R Square	-0.022
Standard Error	1.181
Observations	6.000

ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	1.246	1.246	0.893	0.398
Residual	4.000	5.581	1.395		
Total	5.000	6.827			

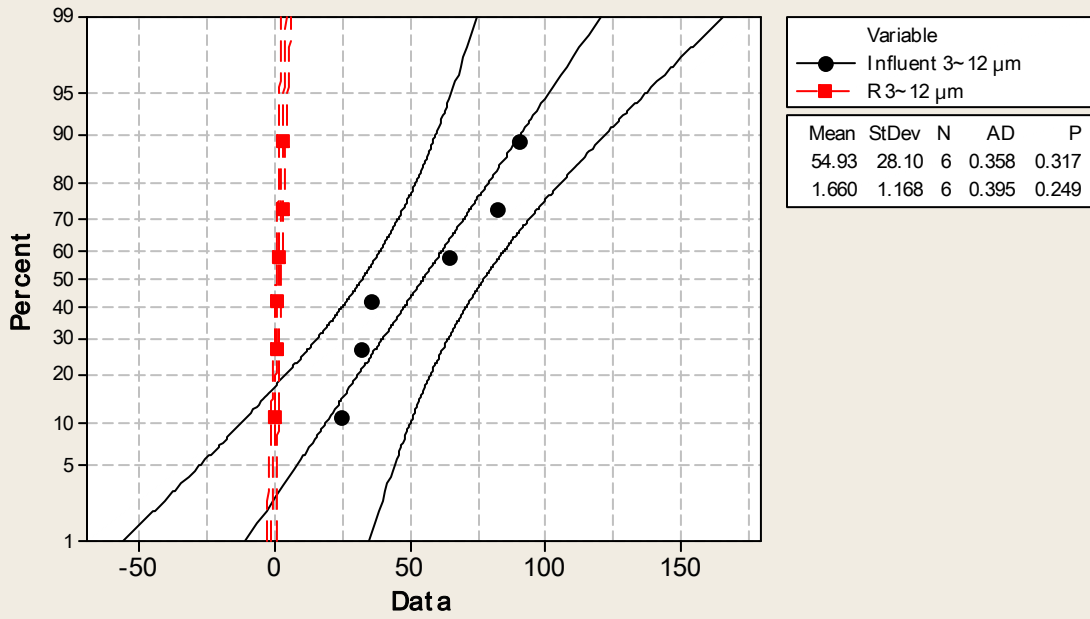
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.684	1.140	0.601	0.580	-2.480	3.849	-2.480	3.849
X Variable 1	0.018	0.019	0.945	0.398	-0.034	0.070	-0.034	0.070

RESIDUAL OUTPUT

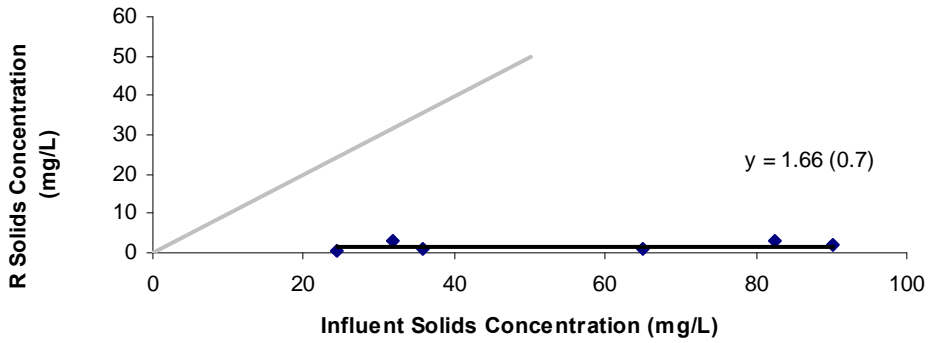
Observation	Predicted Y	Residuals
1	1.118	-0.839
2	1.320	-0.436
3	1.837	-1.063
4	1.248	1.708
5	2.289	-0.153
6	2.150	0.784

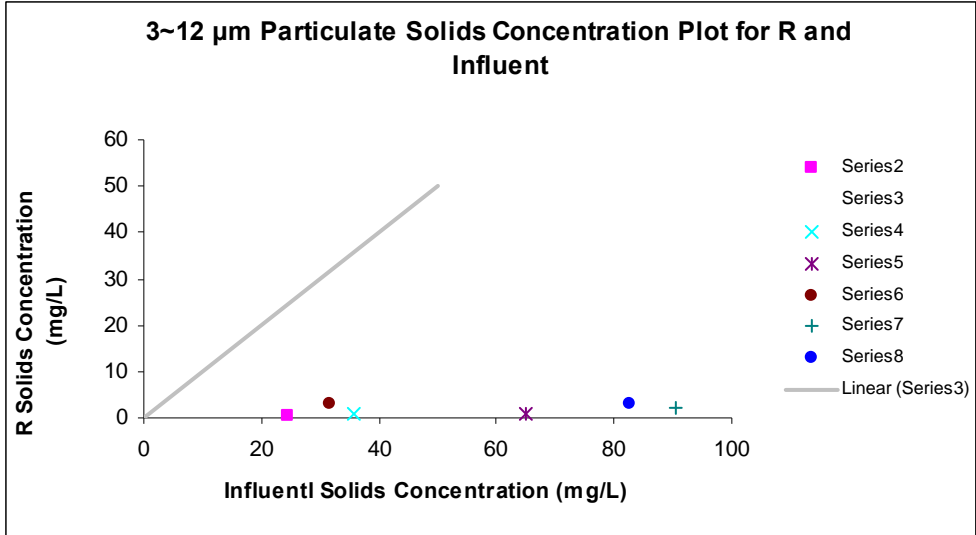


Probability Plot of Influent 3~12 μm , R 3~12 μm
Normal - 95% CI



3~12 μm Particulate Solids Concentration Plot for R and Influent





12-30 μm

SUMMARY OUTPUT for 12~30 μm

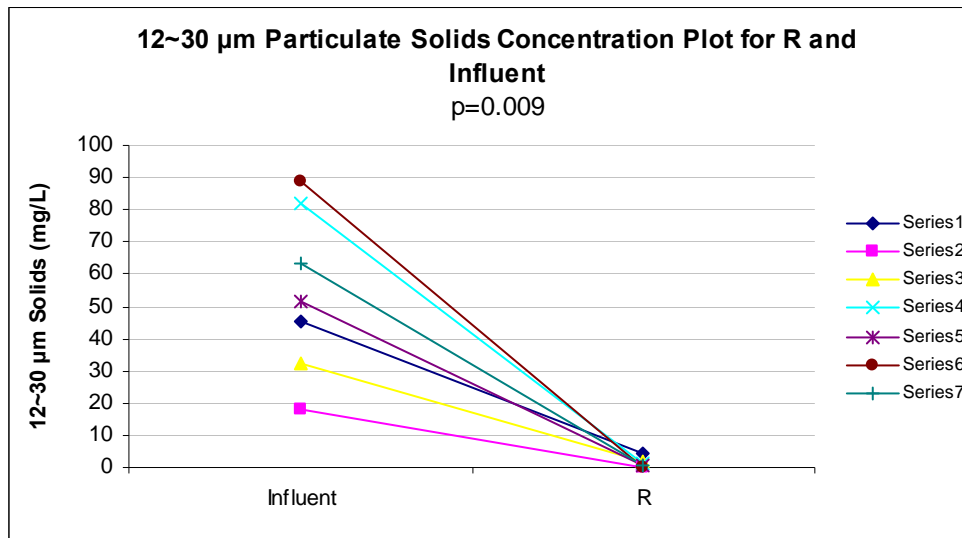
Regression Statistics	
Multiple R	0.162
R Square	0.026
Adjusted R Square	-0.169
Standard Error	1.512
Observations	7.000

ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	0.307	0.307	0.134	0.729
Residual	5.000	11.427	2.285		
Total	6.000	11.733			

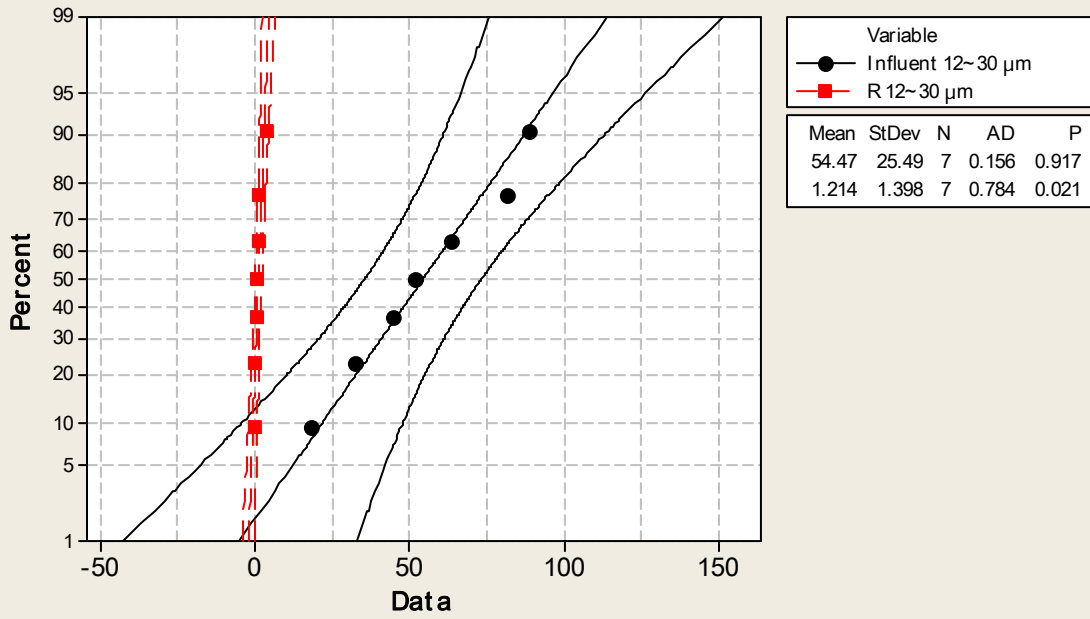
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.698	1.437	1.181	0.291	-1.997	5.392	-1.997	5.392
X Variable 1	-0.009	0.024	-0.366	0.729	-0.071	0.053	-0.071	0.053

RESIDUAL OUTPUT

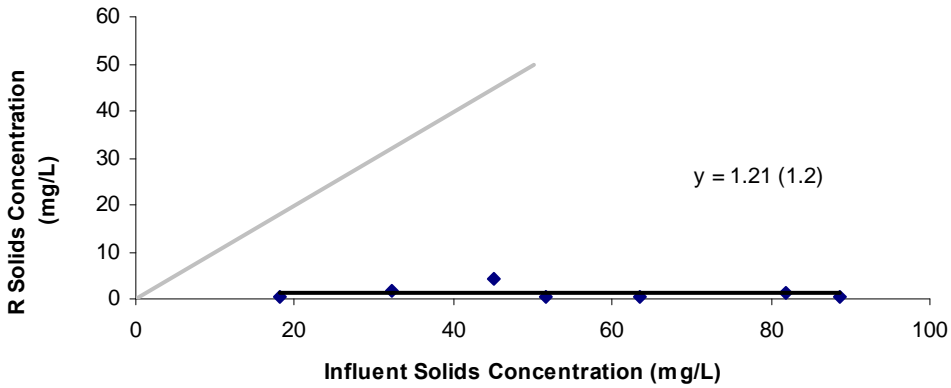
Observation	Predicted Y	Residuals
1	1.298	2.842
2	1.536	-1.319
3	1.410	0.238
4	0.971	0.311
5	1.238	-0.810
6	0.912	-0.605
7	1.135	-0.659

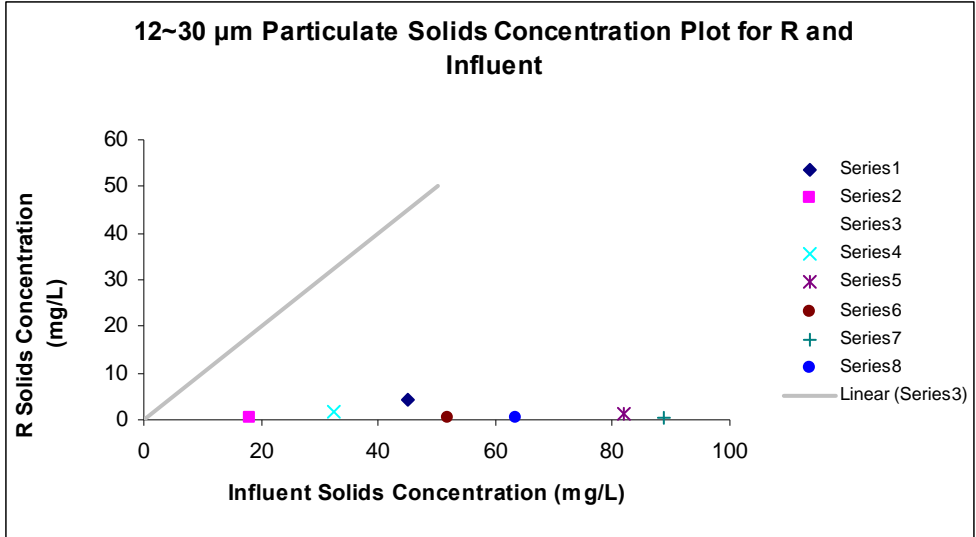


Probability Plot of Influent 12~30 μm , R 12~30 μm
Normal - 95% CI



12~30 μm Particulate Solids Concentration Plot for R and Influent





30-60 um

SUMMARY OUTPUT for 30-60 um

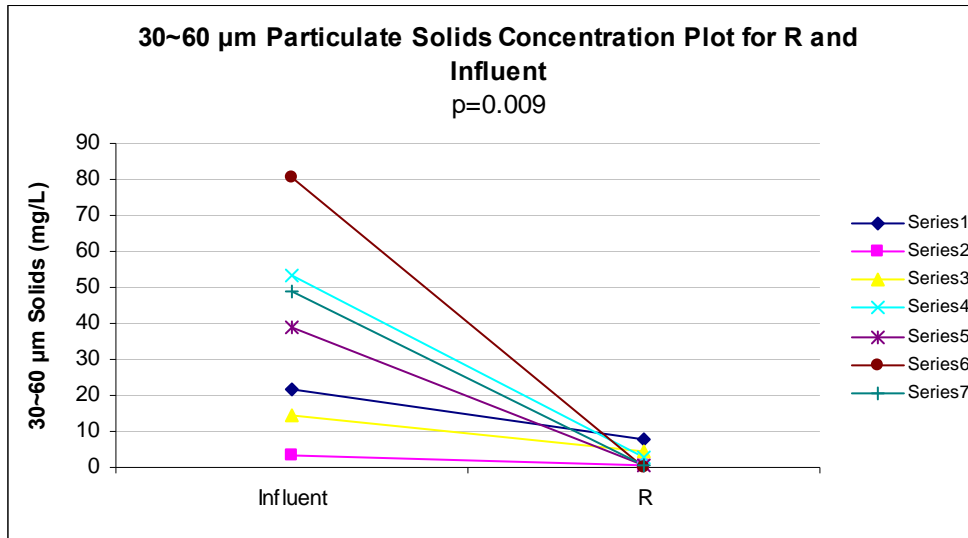
Regression Statistics	
Multiple R	0.421
R Square	0.177
Adjusted R Square	0.013
Standard Error	2.891
Observations	7.000

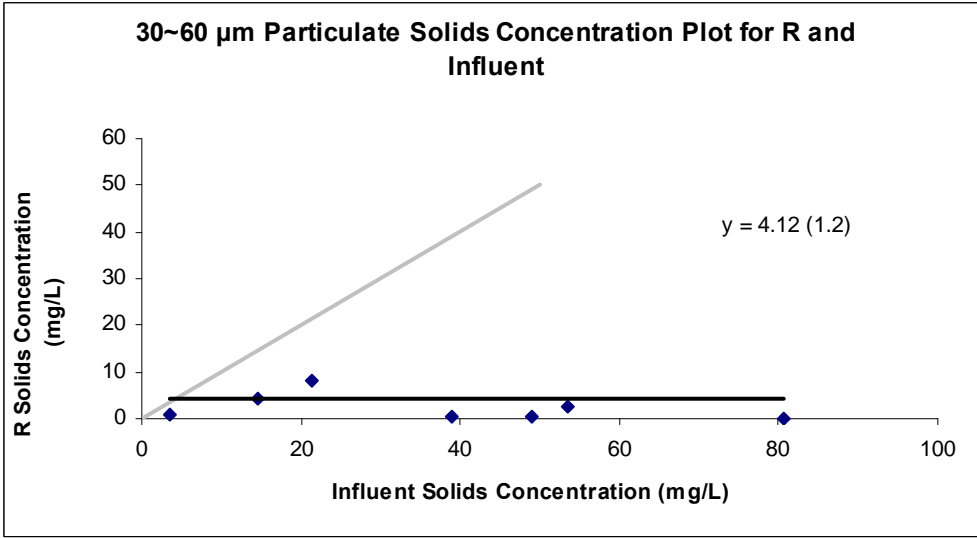
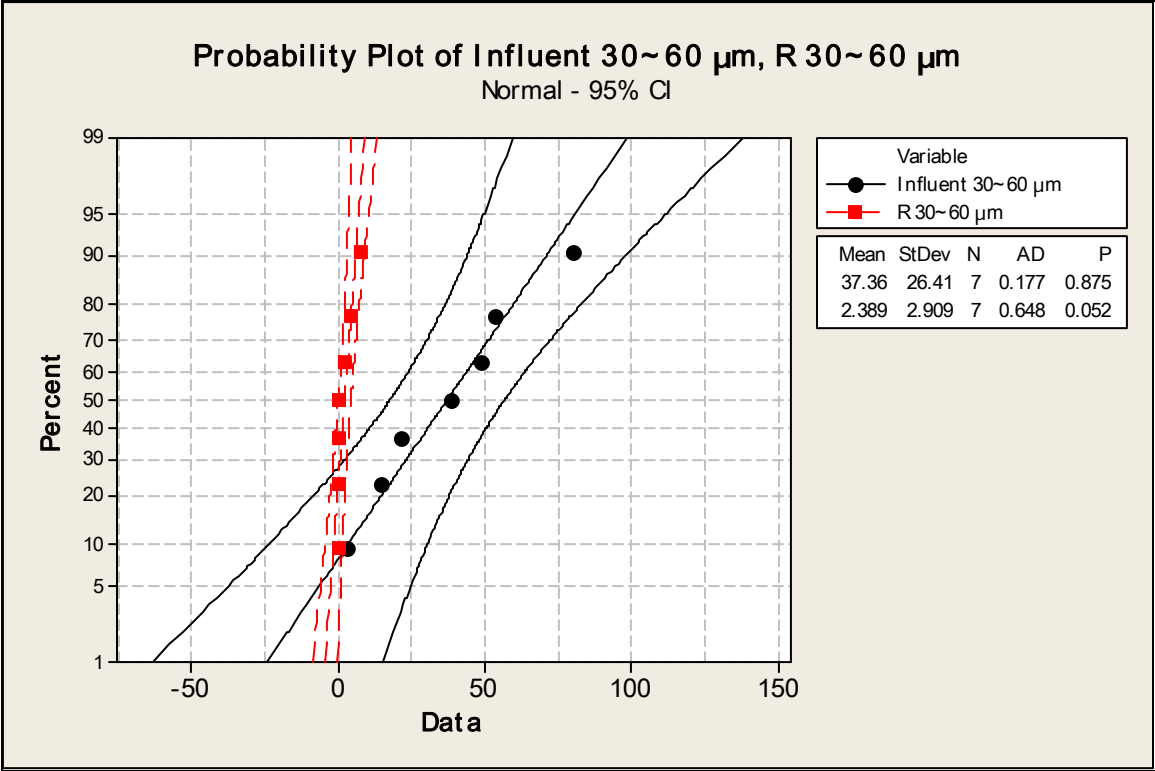
ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	8.996	8.996	1.076	0.347
Residual	5.000	41.791	8.358		
Total	6.000	50.787			

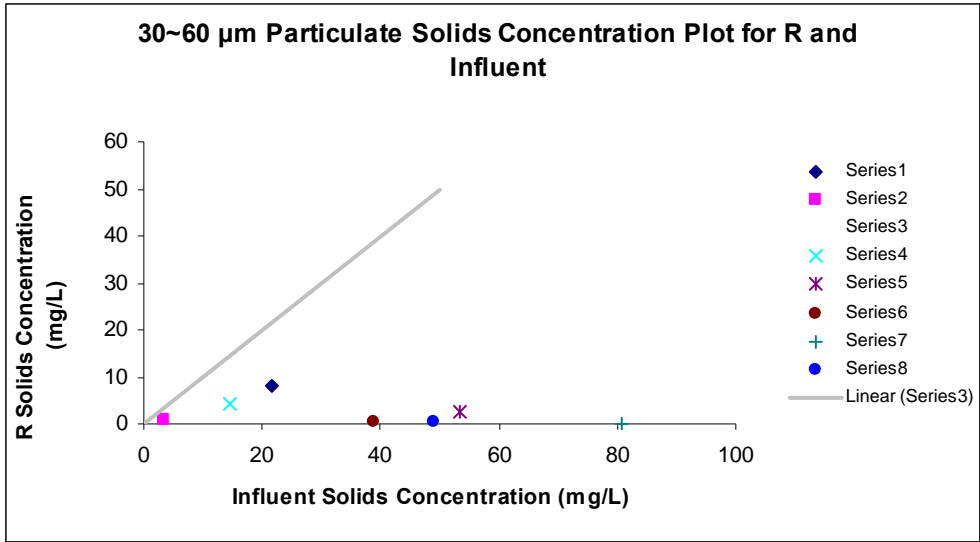
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	4.121	1.996	2.065	0.094	-1.009	9.252	-1.009	9.252
X Variable 1	-0.046	0.045	-1.037	0.347	-0.161	0.069	-0.161	0.069

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	3.126	4.890
2	3.960	-3.252
3	3.442	0.883
4	1.644	0.973
5	2.315	-1.791
6	0.382	-0.174
7	1.853	-1.529







60-120 μm

SUMMARY OUTPUT for 60~120 μm

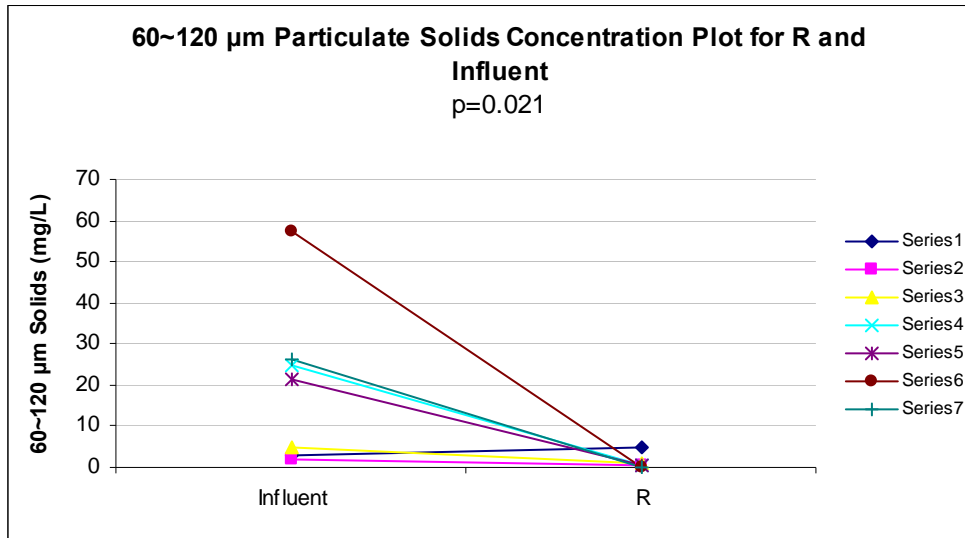
Regression Statistics	
Multiple R	0.526
R Square	0.276
Adjusted R Square	0.132
Standard Error	1.505
Observations	7.000

ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	4.324	4.324	1.910	0.226
Residual	5.000	11.319	2.264		
Total	6.000	15.644			

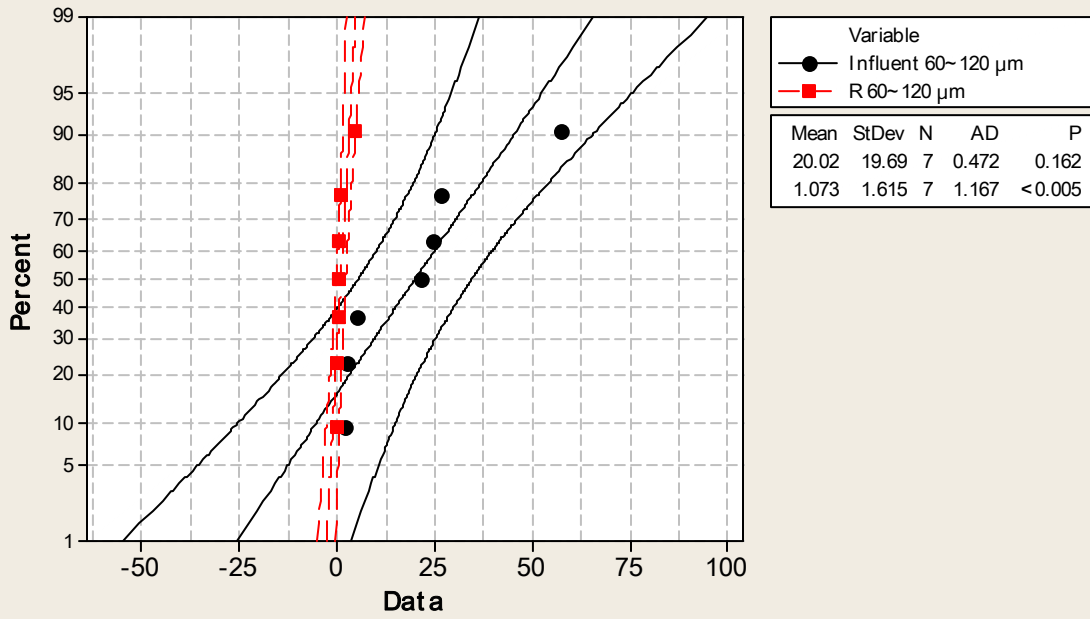
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.936	0.845	2.292	0.070	-0.235	4.107	-0.235	4.107
X Variable 1	-0.043	0.031	-1.362	0.226	-0.123	0.037	-0.123	0.037

RESIDUAL OUTPUT

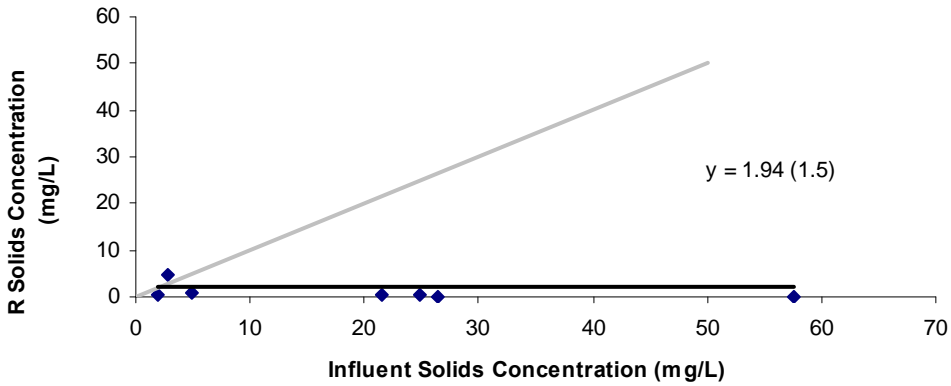
Observation	Predicted Y	Residuals
1	1.815	2.839
2	1.851	-1.241
3	1.721	-0.657
4	0.863	-0.225
5	1.012	-0.704
6	-0.547	0.602
7	0.795	-0.614

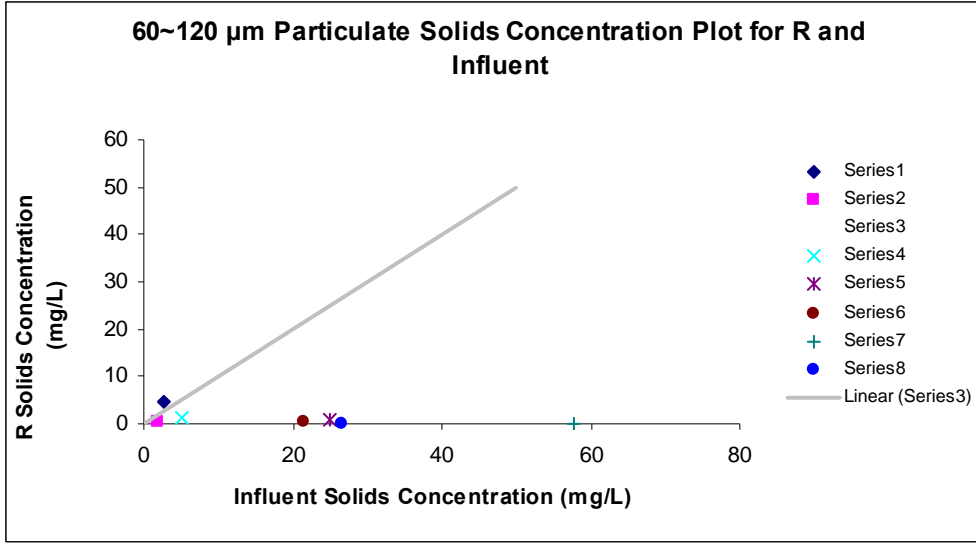


Probability Plot of Influent 60~120 μm, R 60~120 μm
Normal - 95% CI



60~120 μm Particulate Solids Concentration Plot for R and Influent





120-250 μm

SUMMARY OUTPUT for 120~250 μm

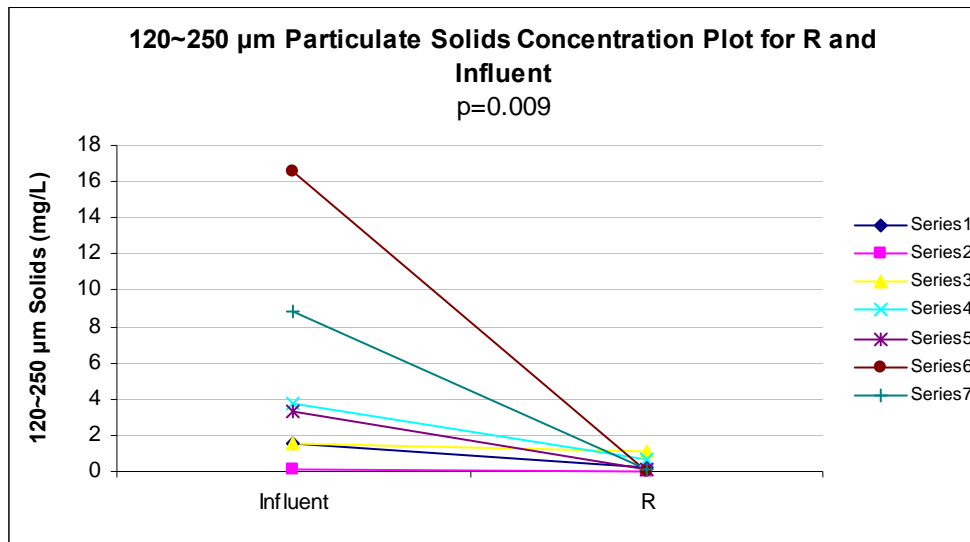
Regression Statistics	
Multiple R	0.367
R Square	0.135
Adjusted R Square	-0.039
Standard Error	0.411
Observations	7.000

ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	0.131	0.131	0.777	0.418
Residual	5.000	0.843	0.169		
Total	6.000	0.974			

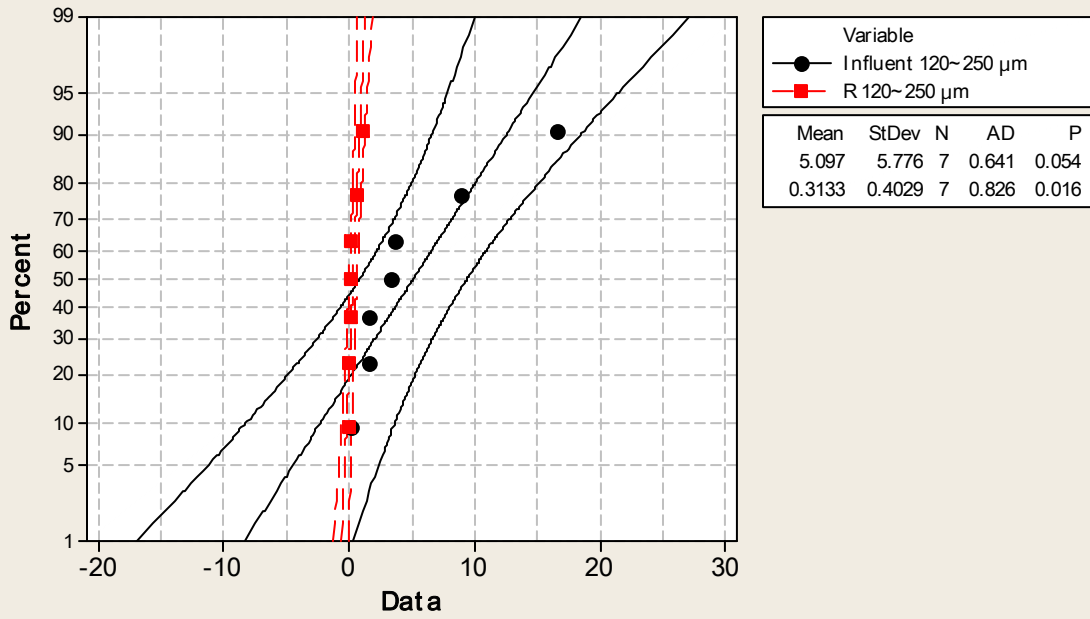
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.444	0.214	2.070	0.093	-0.107	0.995	-0.107	0.995
X Variable 1	-0.026	0.029	-0.862	0.418	-0.100	0.049	-0.100	0.049

RESIDUAL OUTPUT

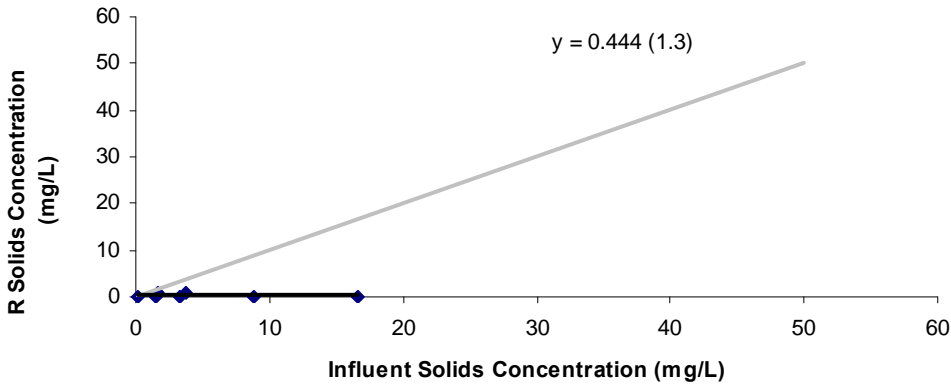
Observation	Predicted Y	Residuals
1	0.404	-0.230
2	0.440	-0.404
3	0.403	0.661
4	0.349	0.339
5	0.360	-0.251
6	0.020	-0.006
7	0.218	-0.110

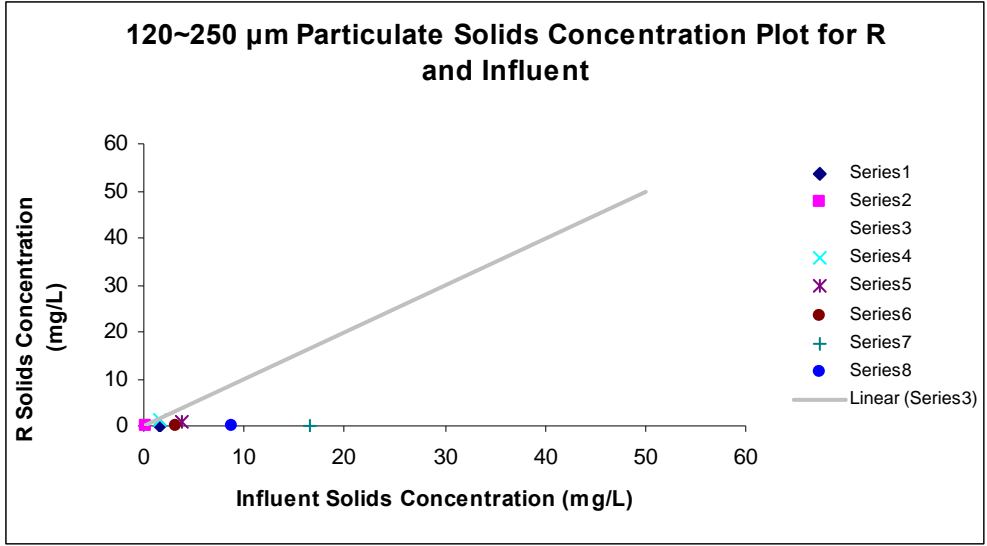


Probability Plot of Influent 120~250 μm , R 120~250 μm
Normal - 95% CI



120~250 μm Particulate Solids Concentration Plot for R and Influent





250-1180 μm

SUMMARY OUTPUT for 250~1180 μm

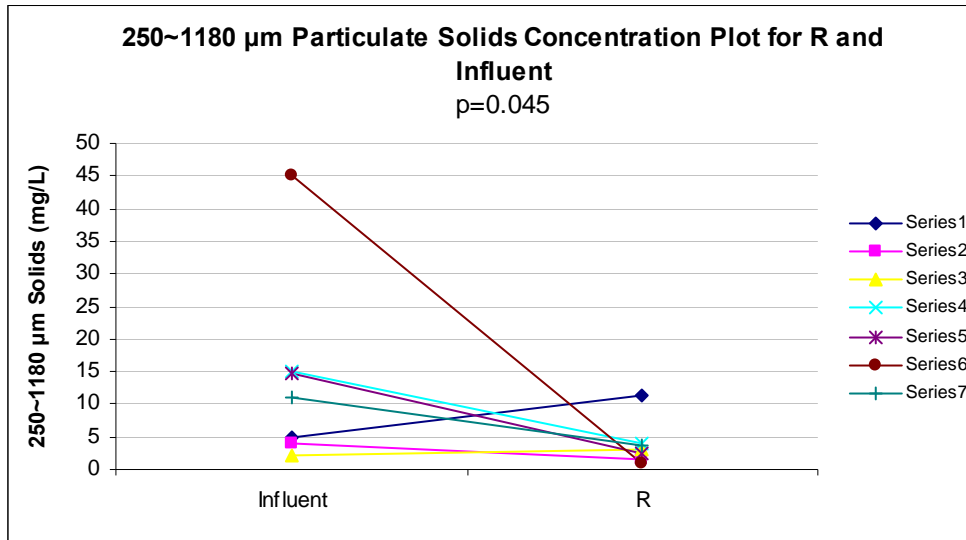
Regression Statistics	
Multiple R	0.403
R Square	0.162
Adjusted R Square	-0.005
Standard Error	3.536
Observations	7.000

ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	12.128	12.128	0.970	0.370
Residual	5.000	62.526	12.505		
Total	6.000	74.654			

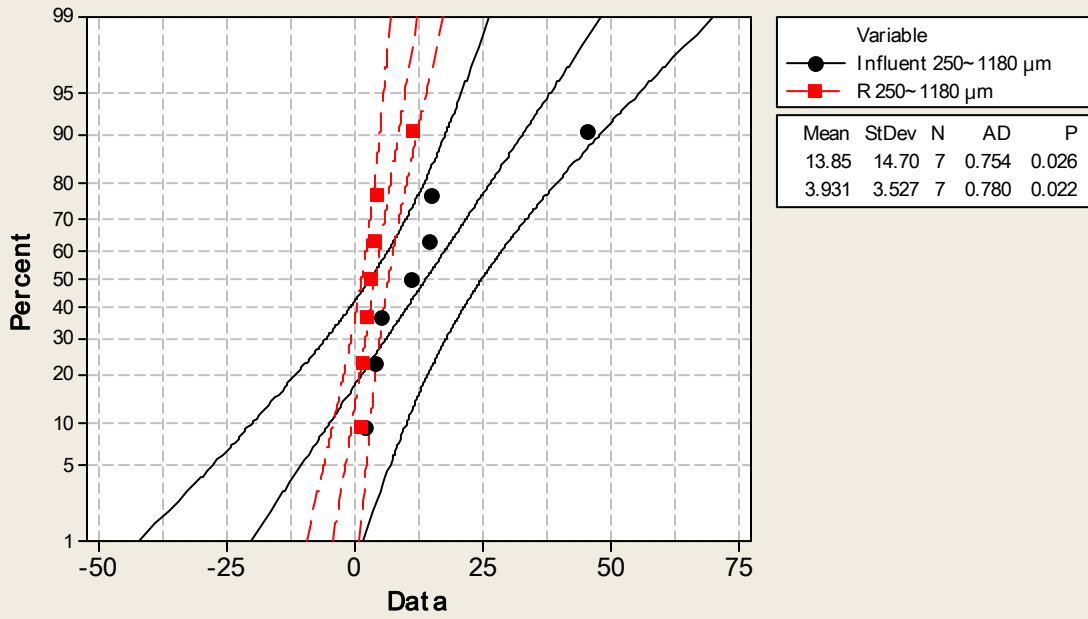
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	5.270	1.907	2.764	0.040	0.369	10.172	0.369	10.172
X Variable 1	-0.097	0.098	-0.985	0.370	-0.349	0.156	-0.349	0.156

RESIDUAL OUTPUT

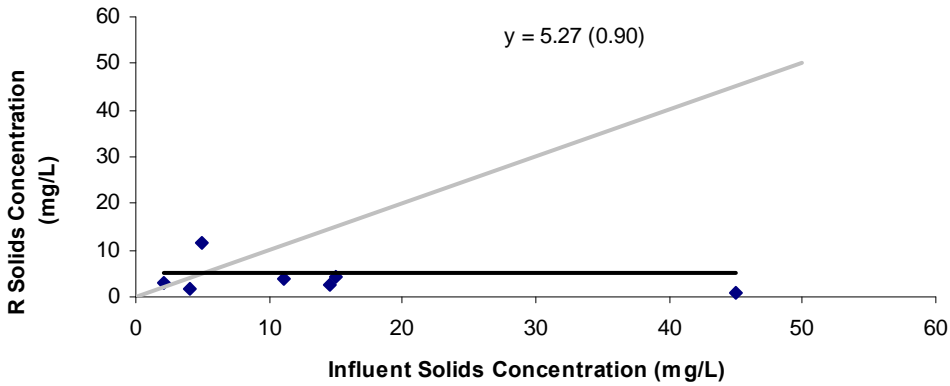
Observation	Predicted Y	Residuals
1	4.787	6.713
2	4.884	-3.384
3	5.065	-1.938
4	3.818	0.317
5	3.857	-1.411
6	0.912	0.096
7	4.196	-0.394

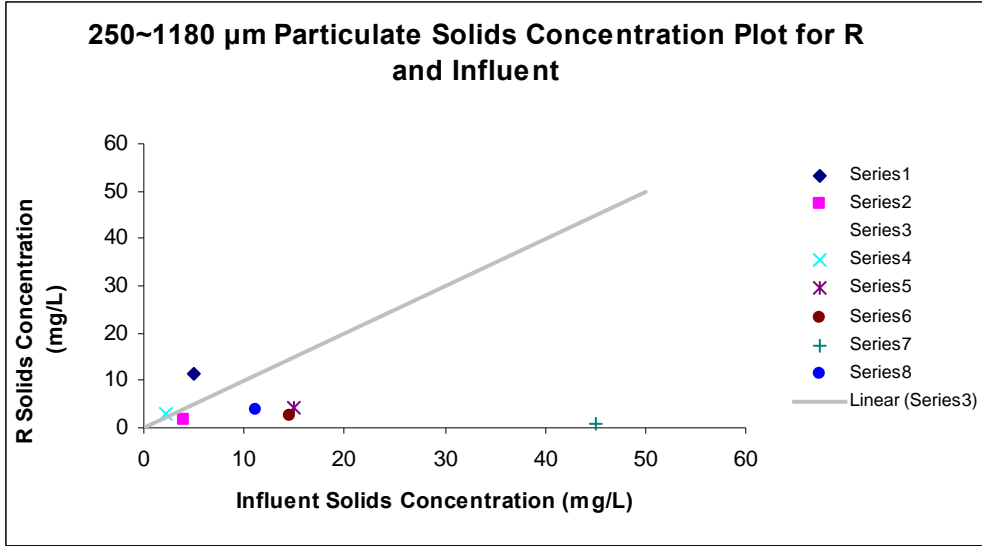


Probability Plot of Influent 250~1180 μm , R 250~1180 μm
Normal - 95% CI



250~1180 μm Particulate Solids Concentration Plot for R and Influent





>1180 μm (no particles observed in this size range)

SSC (>0.45 μm)

SUMMARY OUTPUT for Total

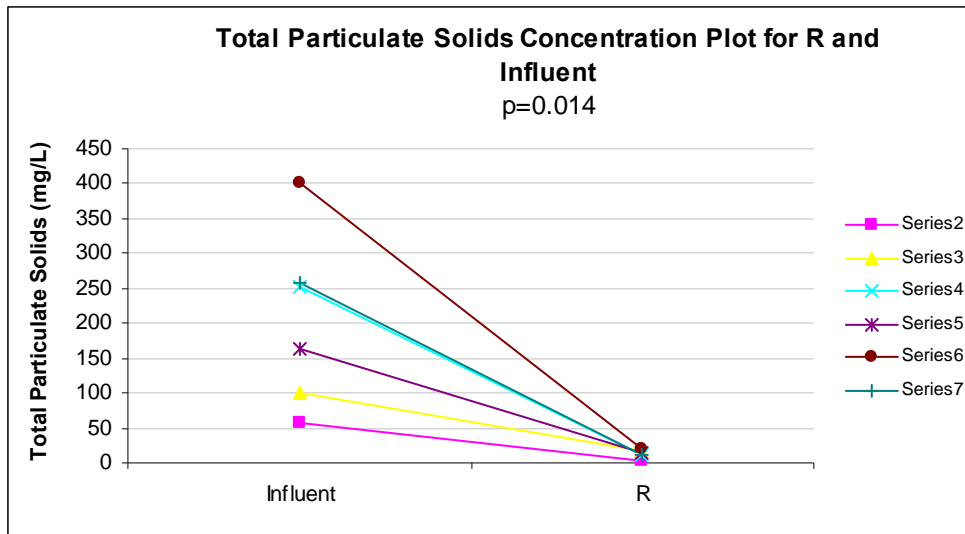
Regression Statistics	
Multiple R	0.615
R Square	0.378
Adjusted R Square	0.222
Standard Error	5.332
Observations	6.000

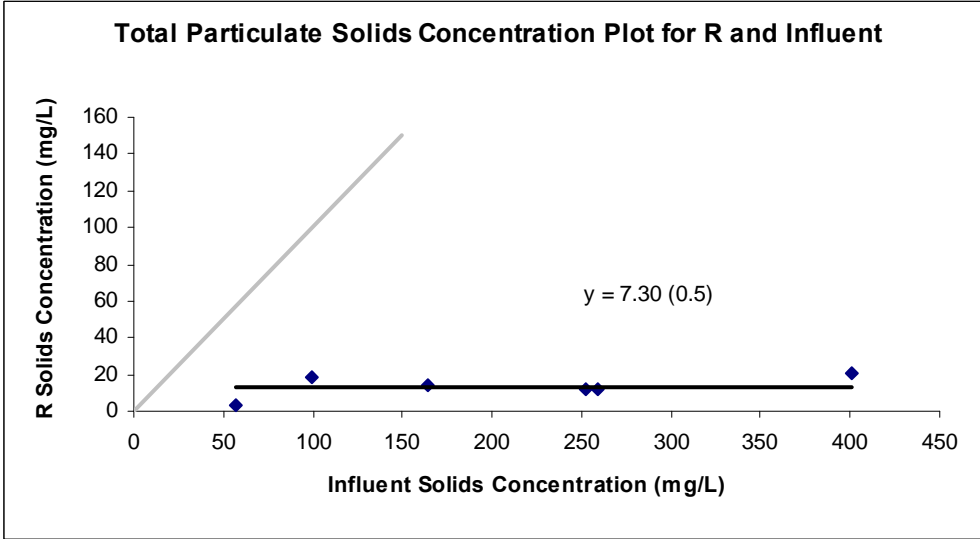
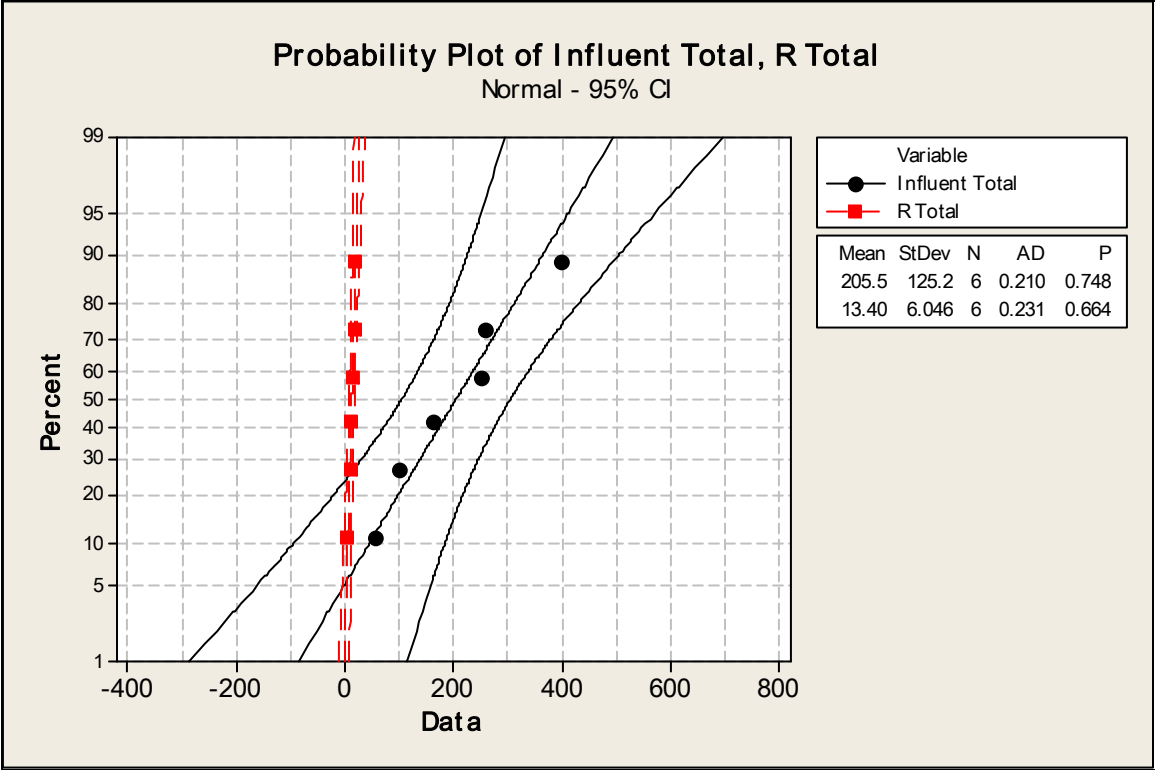
ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	69.067	69.067	2.429	0.194
Residual	4.000	113.715	28.429		
Total	5.000	182.782			

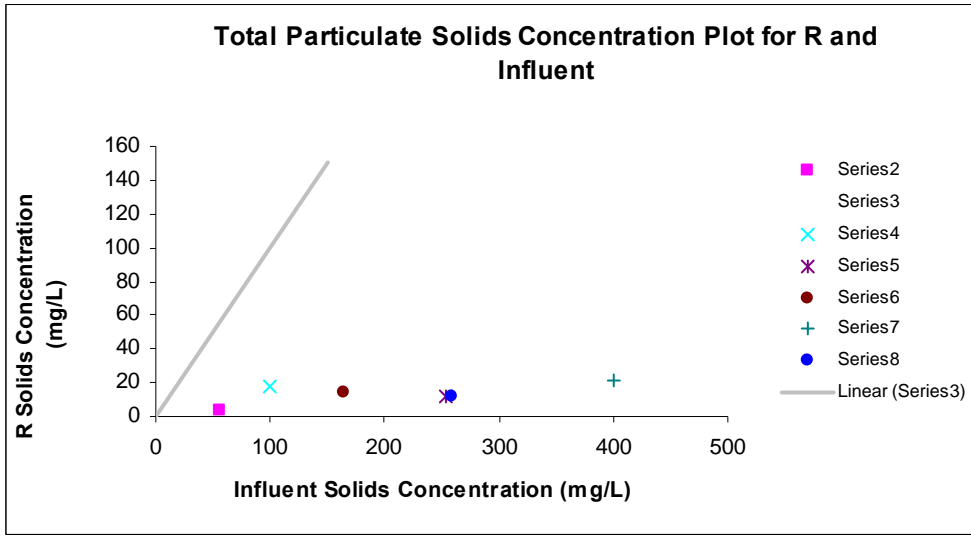
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	7.296	4.479	1.629	0.179	-5.139	19.732	-5.139	19.732
X Variable 1	0.030	0.019	1.559	0.194	-0.023	0.083	-0.023	0.083

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	8.974	-5.474
2	10.241	7.748
3	14.805	-2.374
4	12.184	1.626
5	19.188	1.908
6	14.995	-3.434







TSS (0.45 to 75 µm)

SUMMARY OUTPUT for TSS

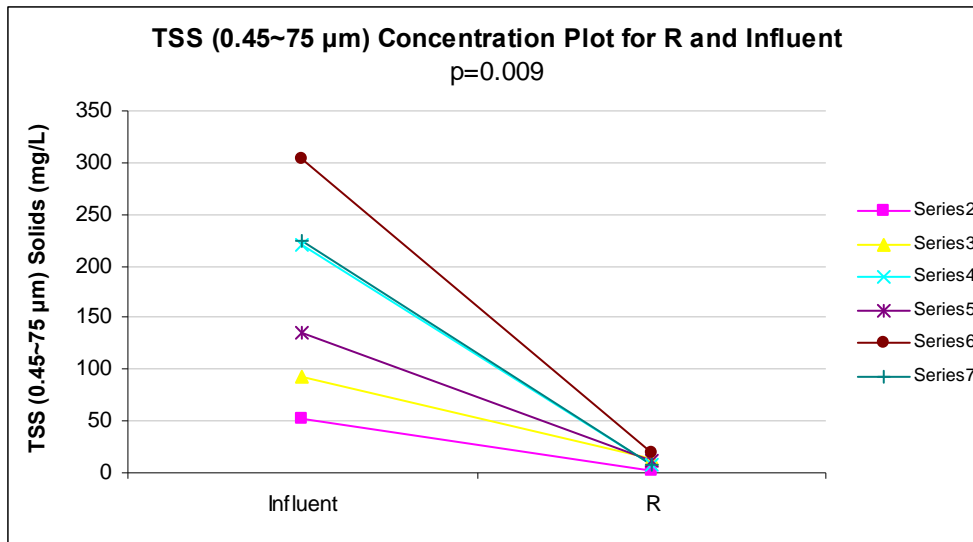
Regression Statistics	
Multiple R	0.586
R Square	0.343
Adjusted R Square	0.179
Standard Error	5.704
Observations	6.000

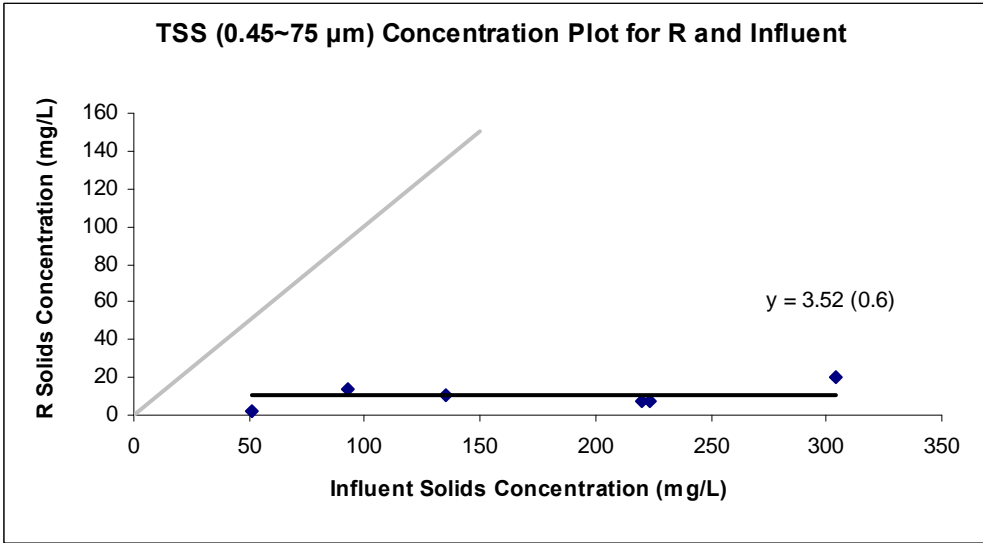
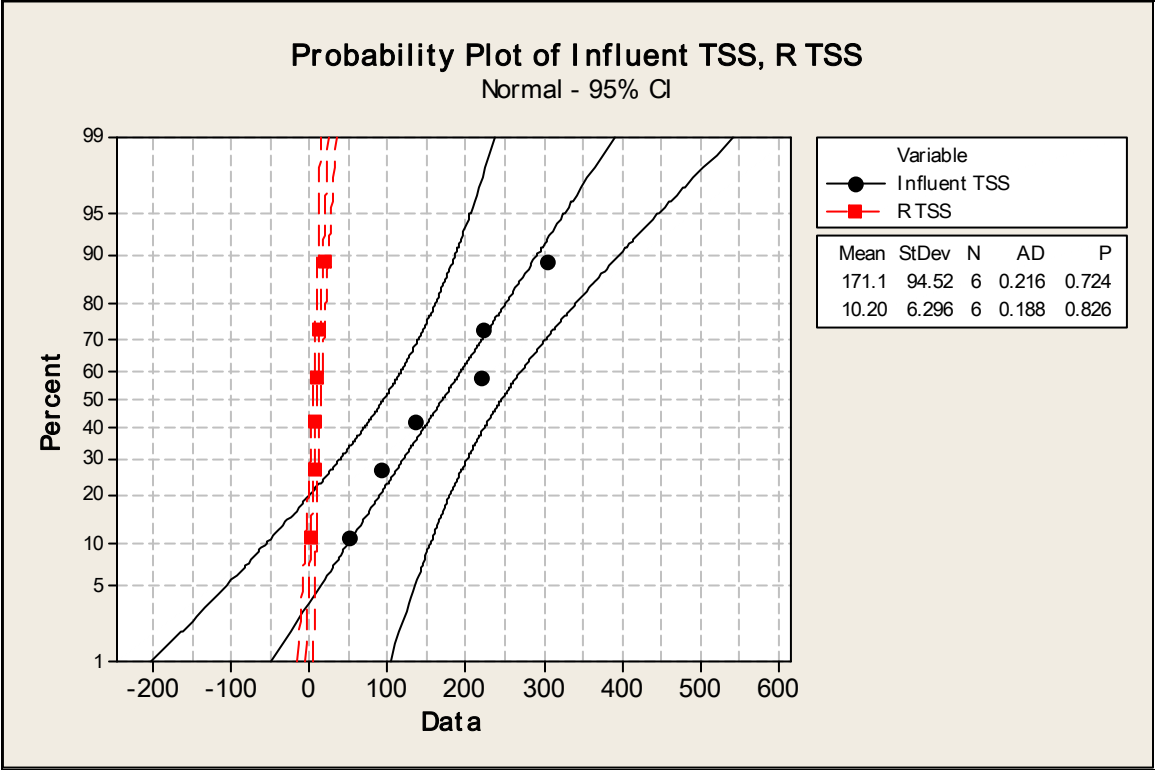
ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	68.068	68.068	2.092	0.222
Residual	4.000	130.142	32.535		
Total	5.000	198.209			

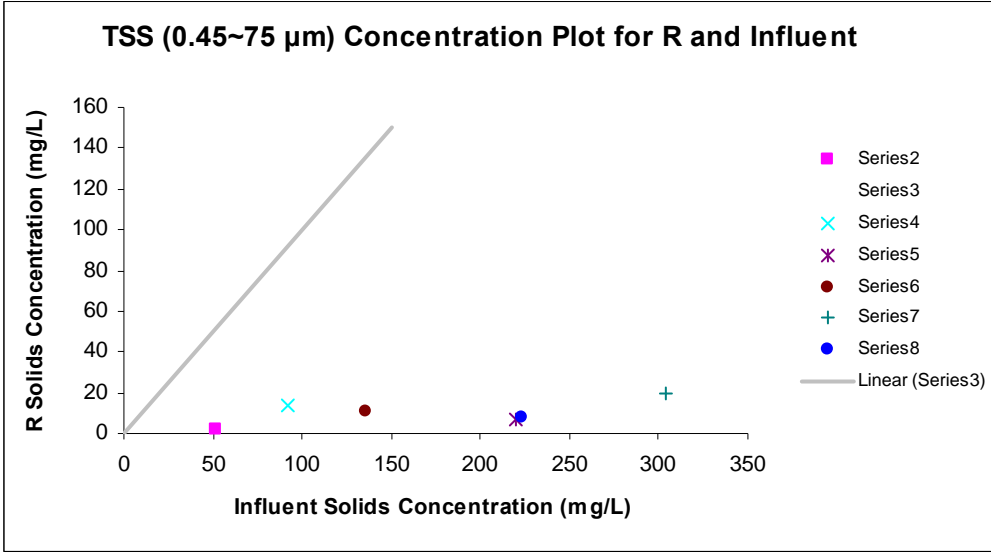
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	3.524	5.172	0.681	0.533	-10.835	17.883	-10.835	17.883
X Variable 1	0.039	0.027	1.446	0.222	-0.036	0.114	-0.036	0.114

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	5.527	-3.840
2	7.126	6.504
3	12.118	-4.875
4	8.808	2.273
5	15.393	4.668
6	12.246	-4.729

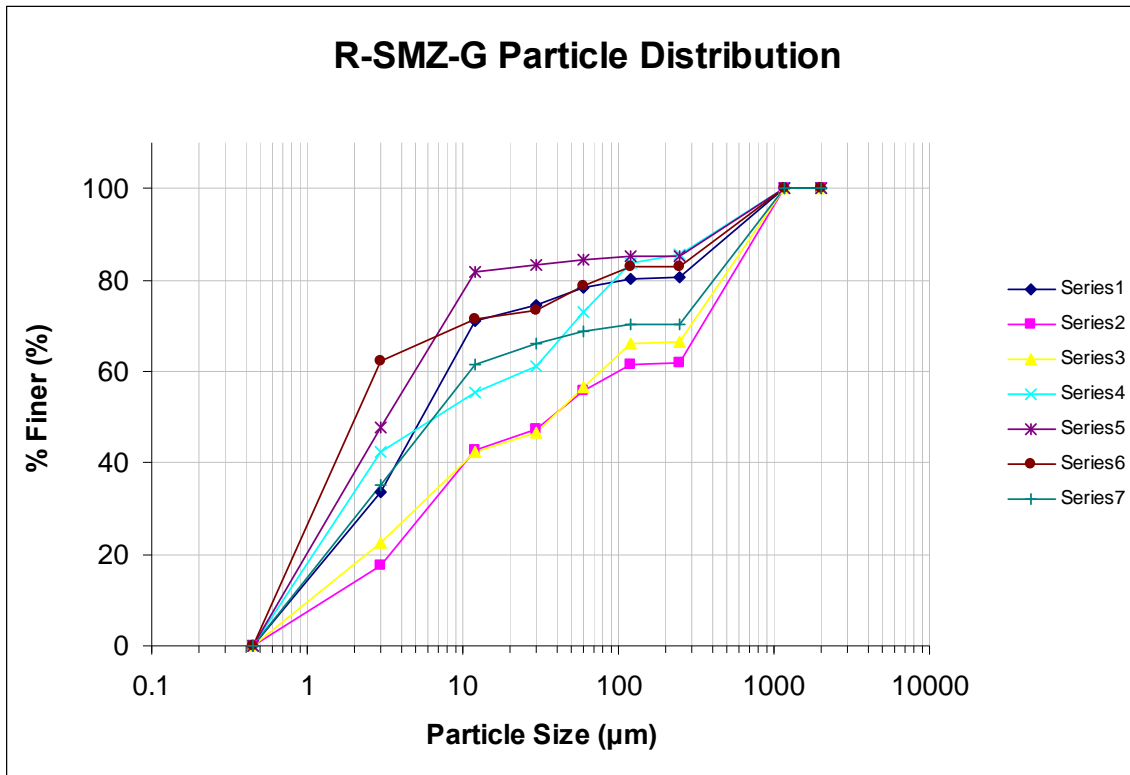


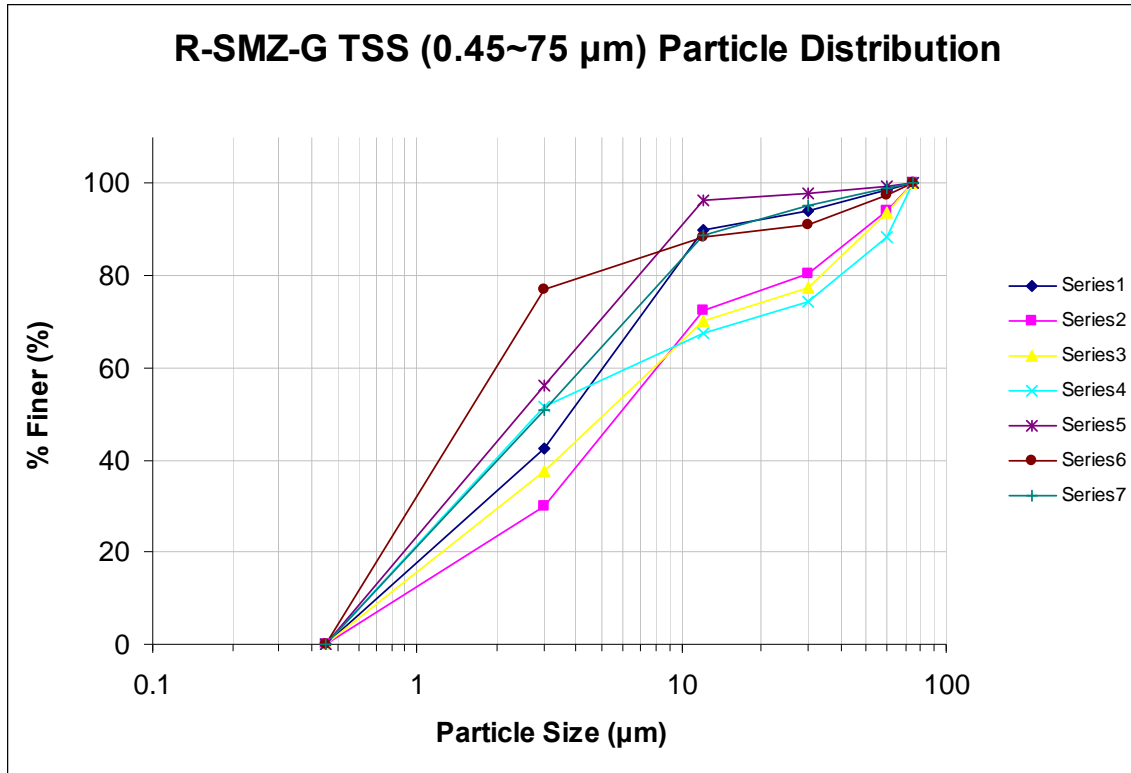




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon (R – SMZ – G) Mixed Media Particulate Removal Data from Column Tests

Effluent Particle Size Distributions





TDS

SUMMARY OUTPUT For < 0.45 μm

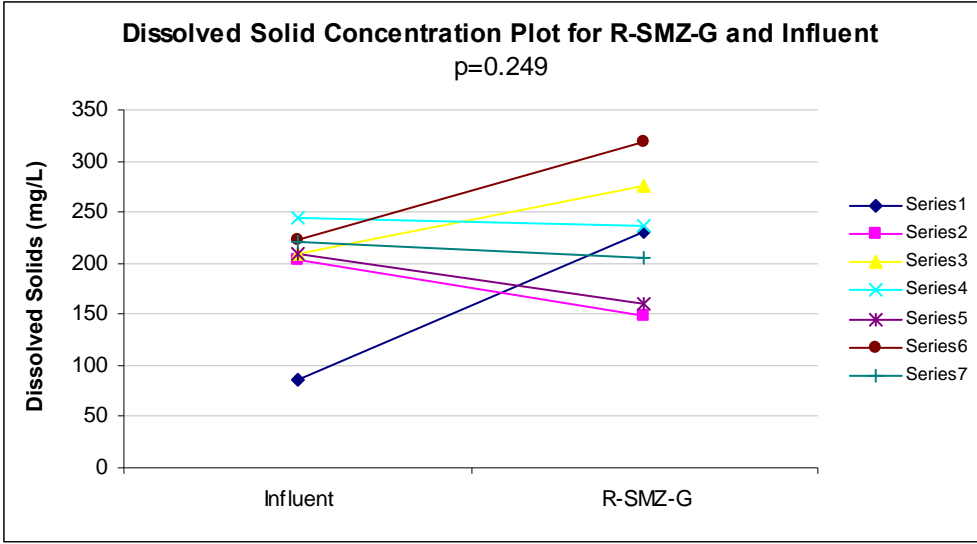
Regression Statistics	
Multiple R	0.066
R Square	0.004
Adjusted R Square	-0.195
Standard Error	66.155
Observations	7.000

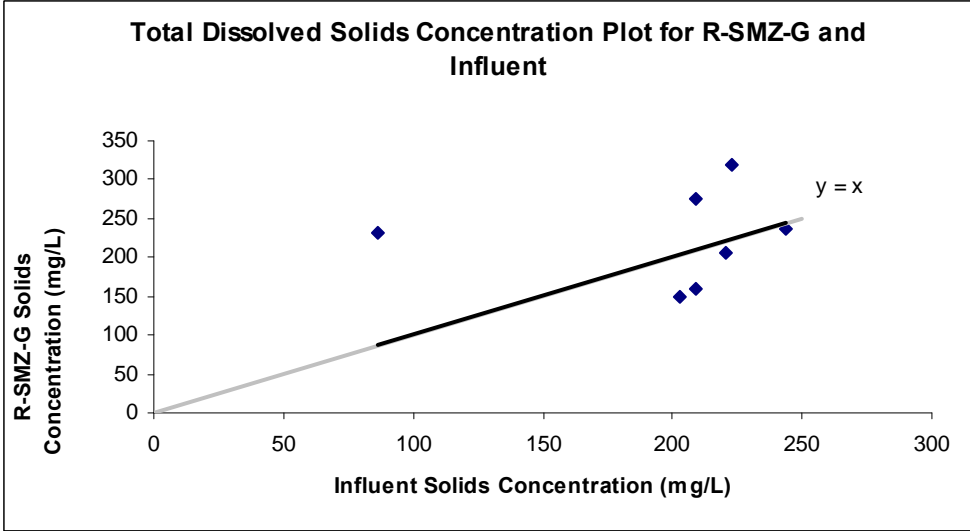
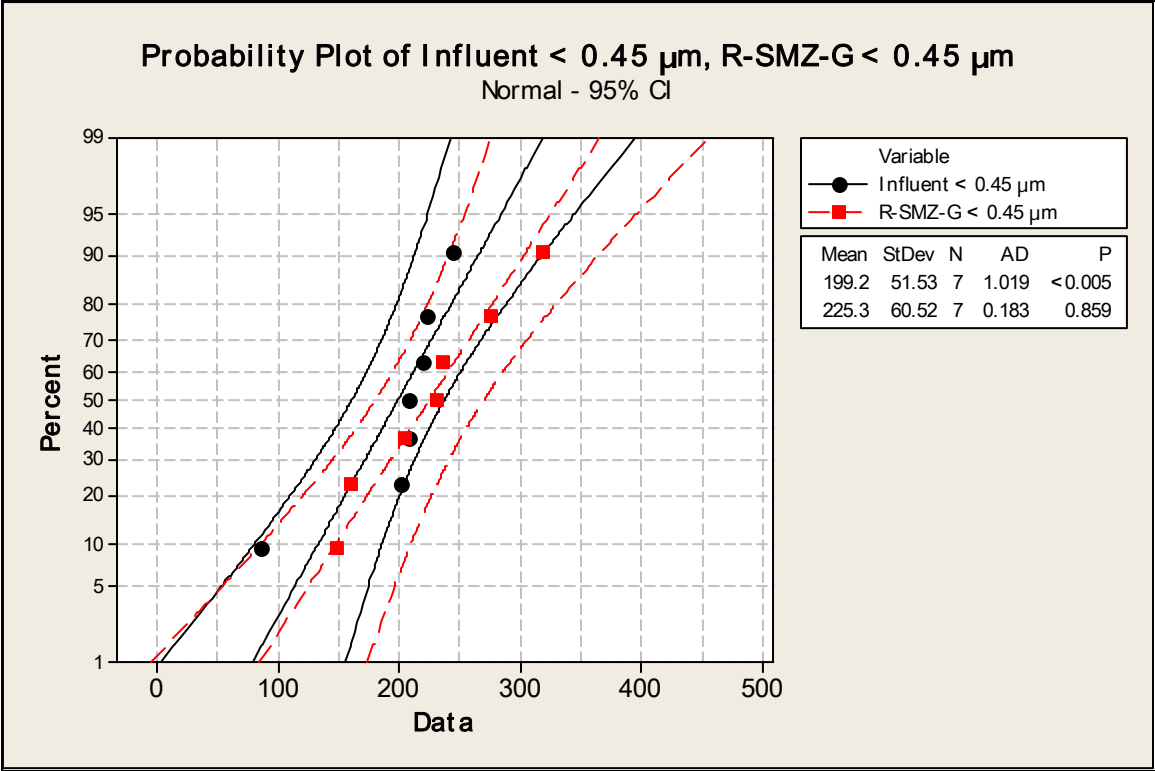
ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	96.925	96.925	0.022	0.888
Residual	5.000	21882.110	4376.422		
Total	6.000	21979.035			

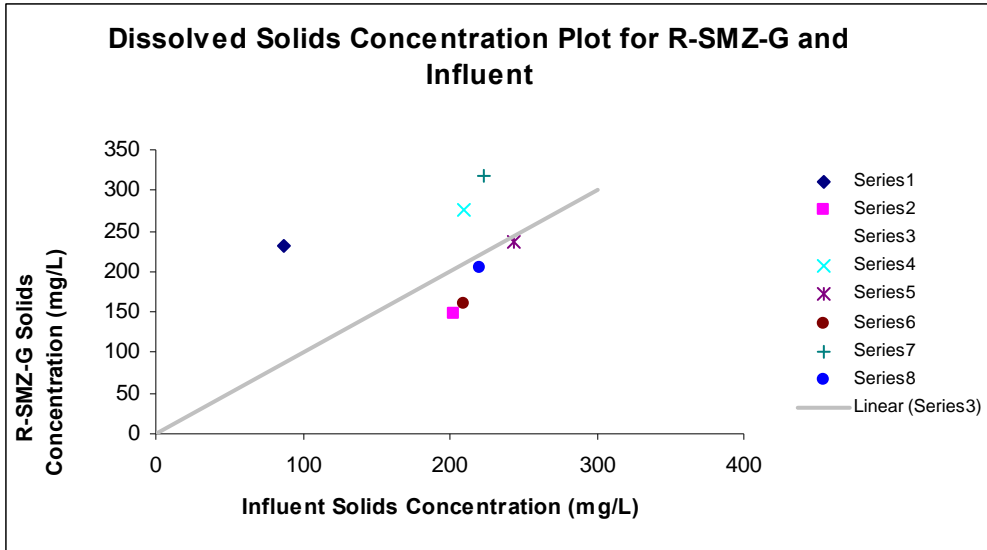
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	209.771	107.381	1.954	0.108	-66.260	485.802	-66.260	485.802
X Variable 1	0.078	0.524	0.149	0.888	-1.269	1.425	-1.269	1.425

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	216.518	14.982
2	225.567	-76.567
3	226.083	49.870
4	228.796	8.161
5	226.078	-66.273
6	227.180	91.533
7	226.963	-21.706







0.45-3 μm

SUMMARY OUTPUT for 0.45~3 μm

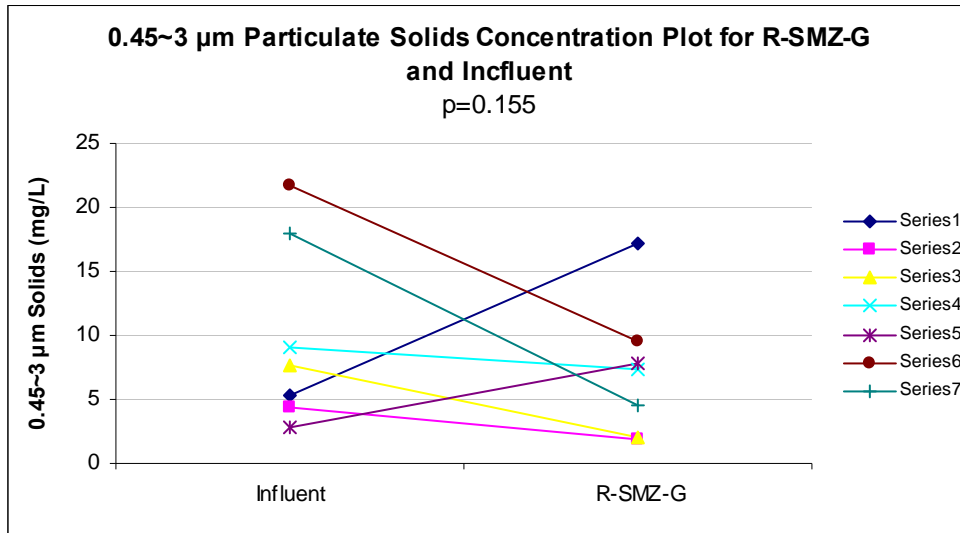
Regression Statistics	
Multiple R	0.013
R Square	0.000
Adjusted R Square	-0.200
Standard Error	5.791
Observations	7.000

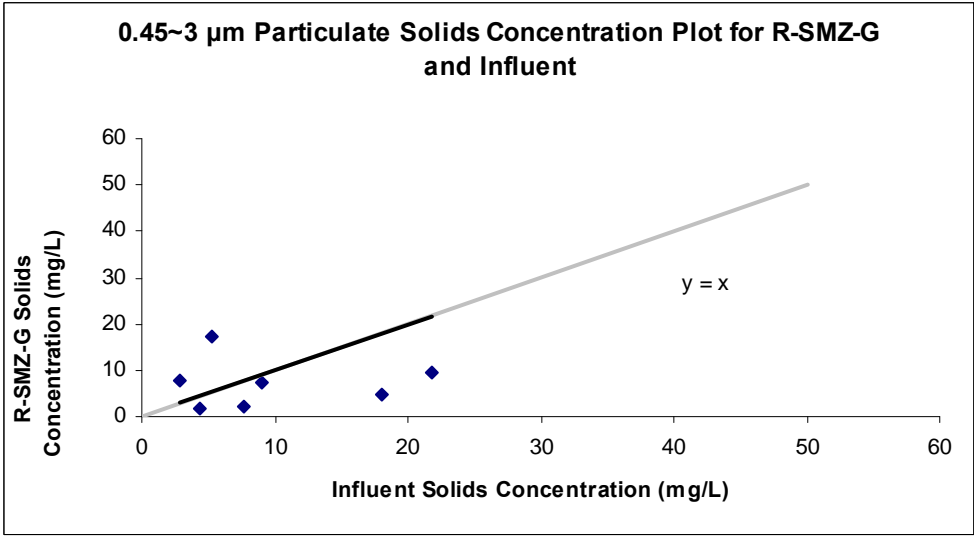
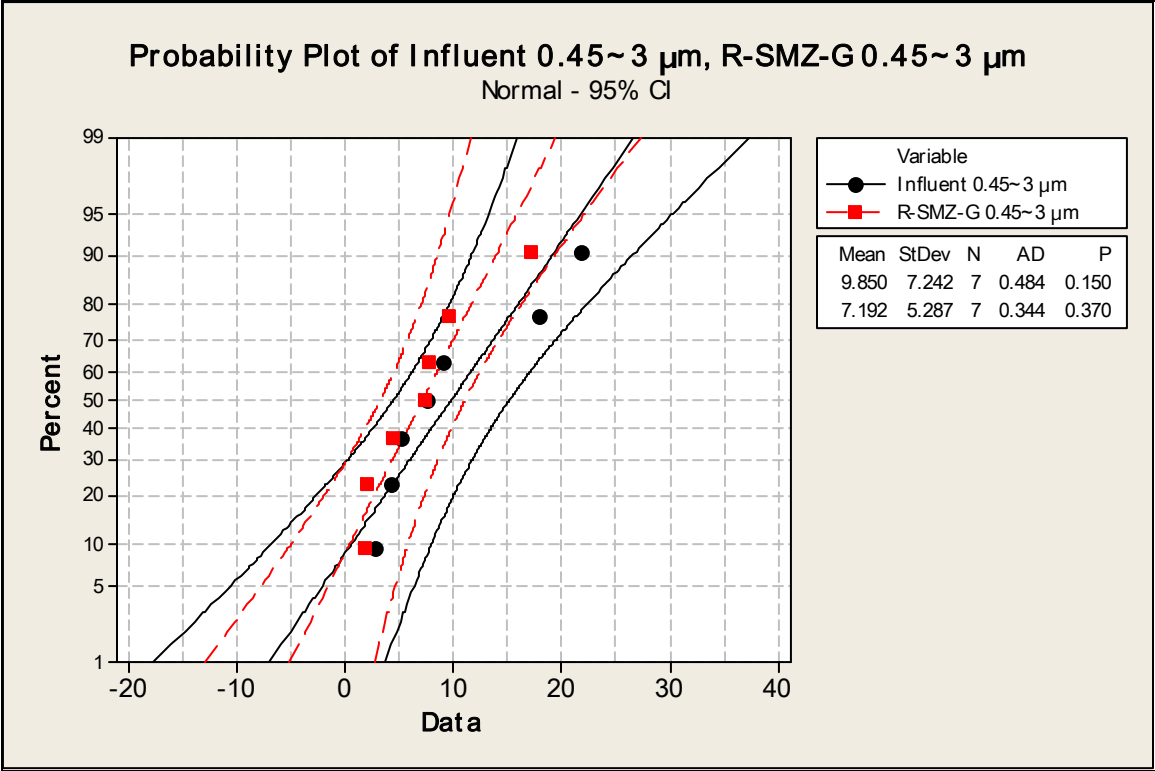
ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	0.029	0.029	0.001	0.978	
Residual	5.000	167.687	33.537			
Total	6.000	167.717				

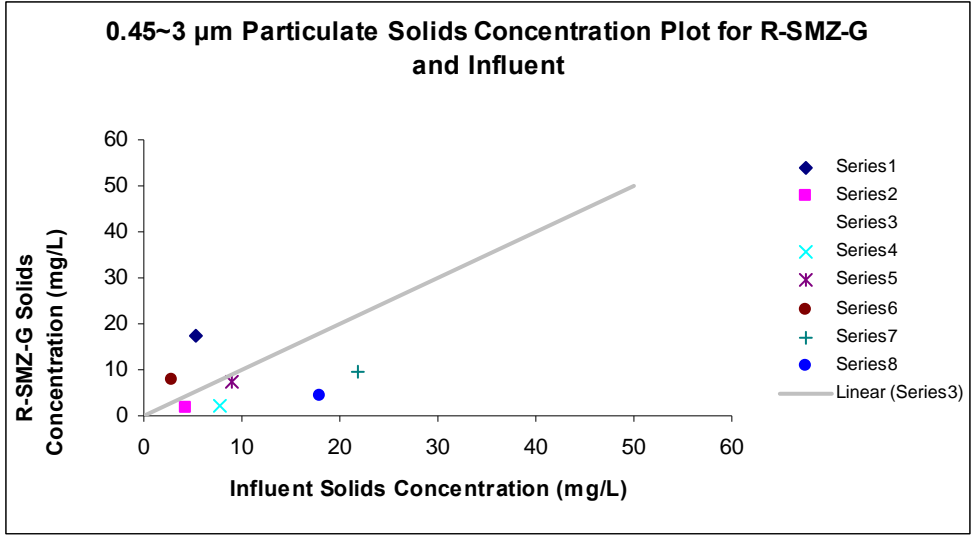
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	7.287	3.890	1.873	0.120	-2.712	17.286	-2.712	17.286
X Variable 1	-0.010	0.326	-0.030	0.978	-0.849	0.830	-0.849	0.830

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	7.236	9.972
2	7.245	-5.390
3	7.213	-5.112
4	7.199	0.146
5	7.260	0.482
6	7.077	2.481
7	7.113	-2.579







3-12 μm

SUMMARY OUTPUT for 3~12 μm

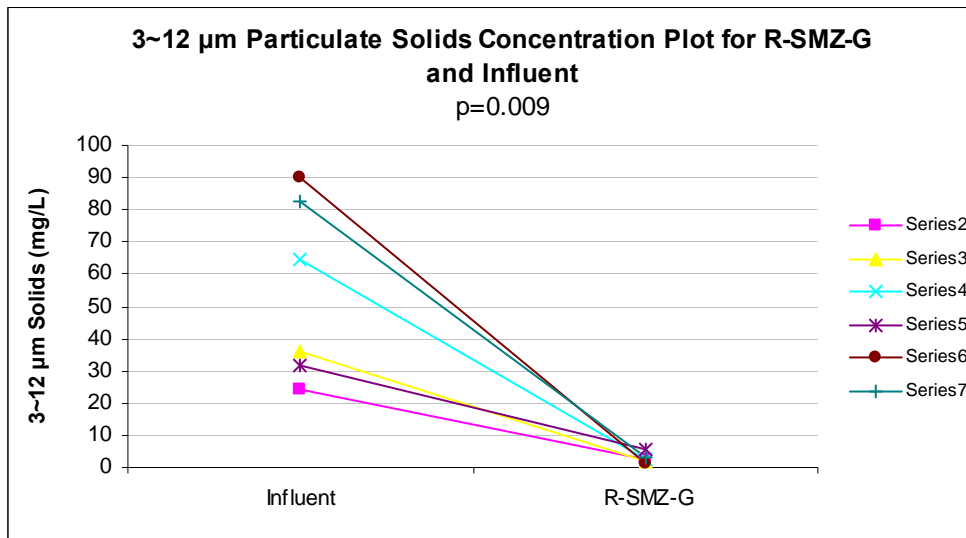
Regression Statistics	
Multiple R	0.381
R Square	0.145
Adjusted R Square	-0.069
Standard Error	1.547
Observations	6.000

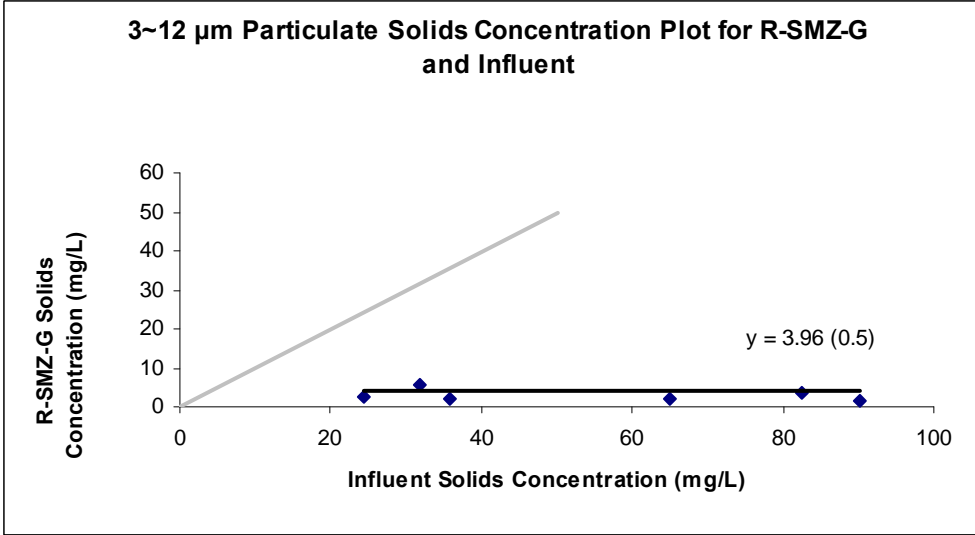
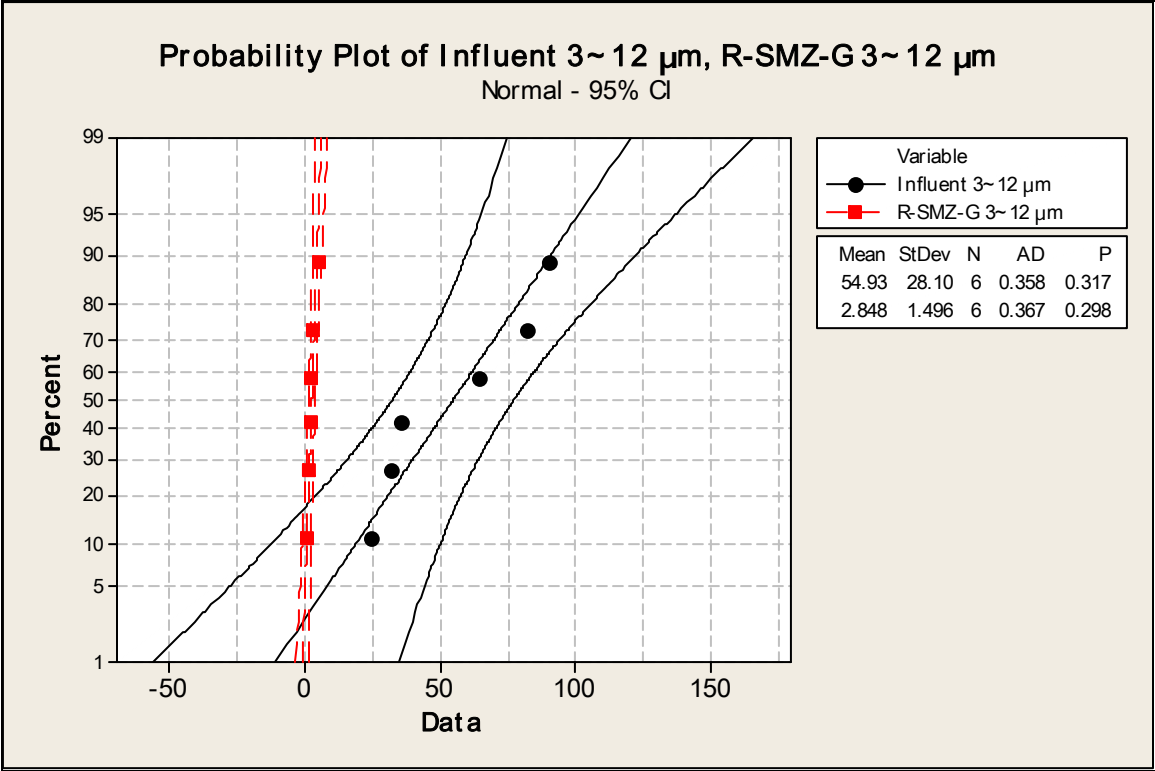
ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1.000	1.621	1.621	0.678	0.457
Residual	4.000	9.568	2.392		
Total	5.000	11.190			

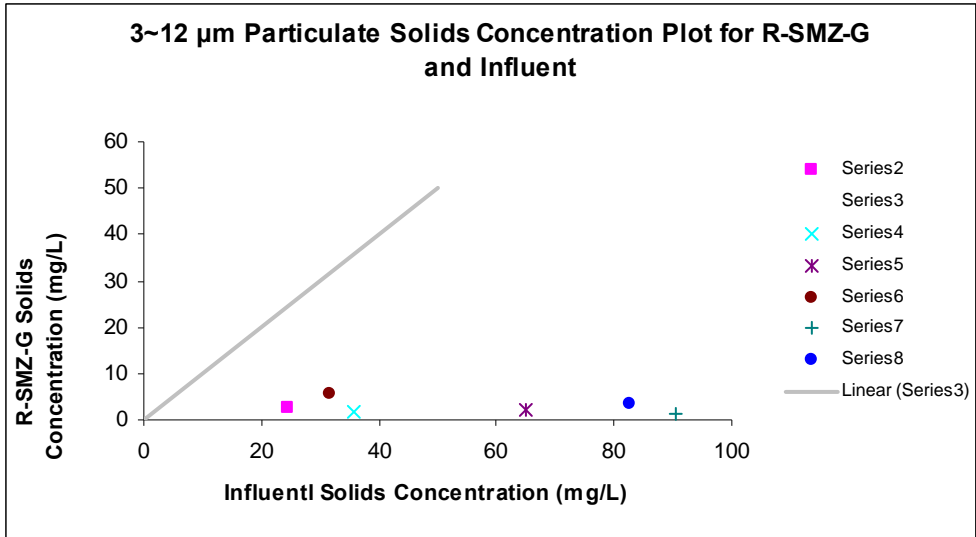
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	3.962	1.492	2.655	0.057	-0.181	8.105	-0.181	8.105
X Variable 1	-0.020	0.025	-0.823	0.457	-0.089	0.048	-0.089	0.048

RESIDUAL OUTPUT

<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	3.467	-0.820
2	3.236	-1.402
3	2.647	-0.370
4	3.319	2.241
5	2.131	-0.749
6	2.290	1.100







12-30 μm

SUMMARY OUTPUT for 12~30 μm

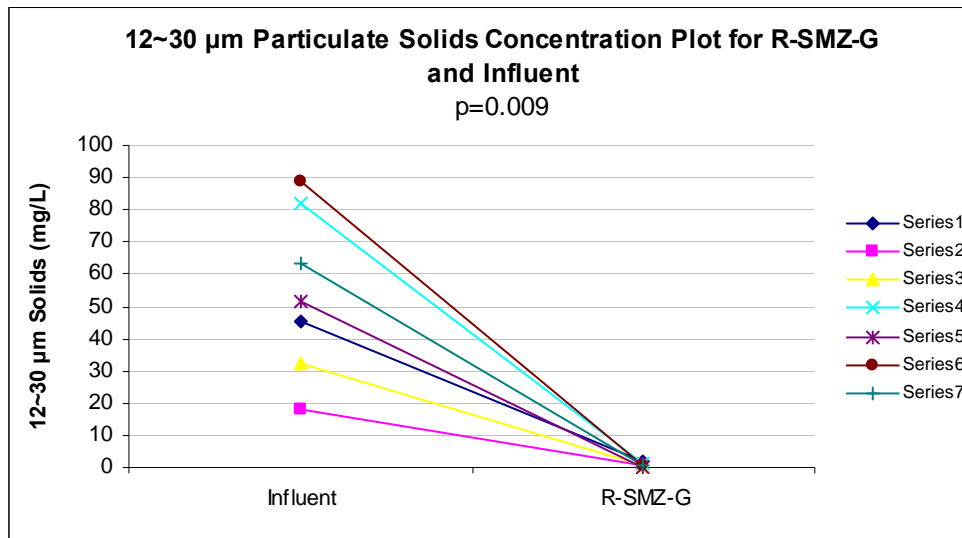
Regression Statistics	
Multiple R	0.010
R Square	0.000
Adjusted R Square	-0.200
Standard Error	0.564
Observations	7.000

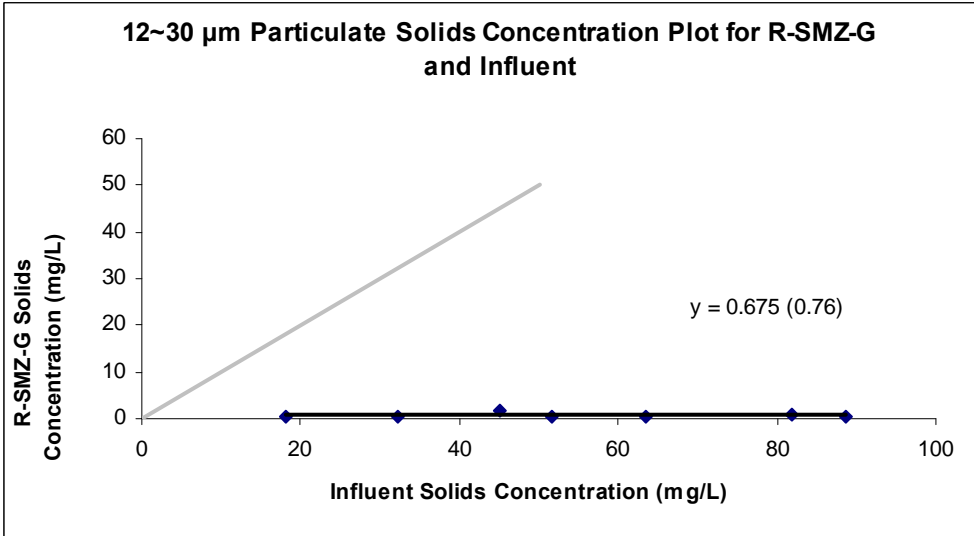
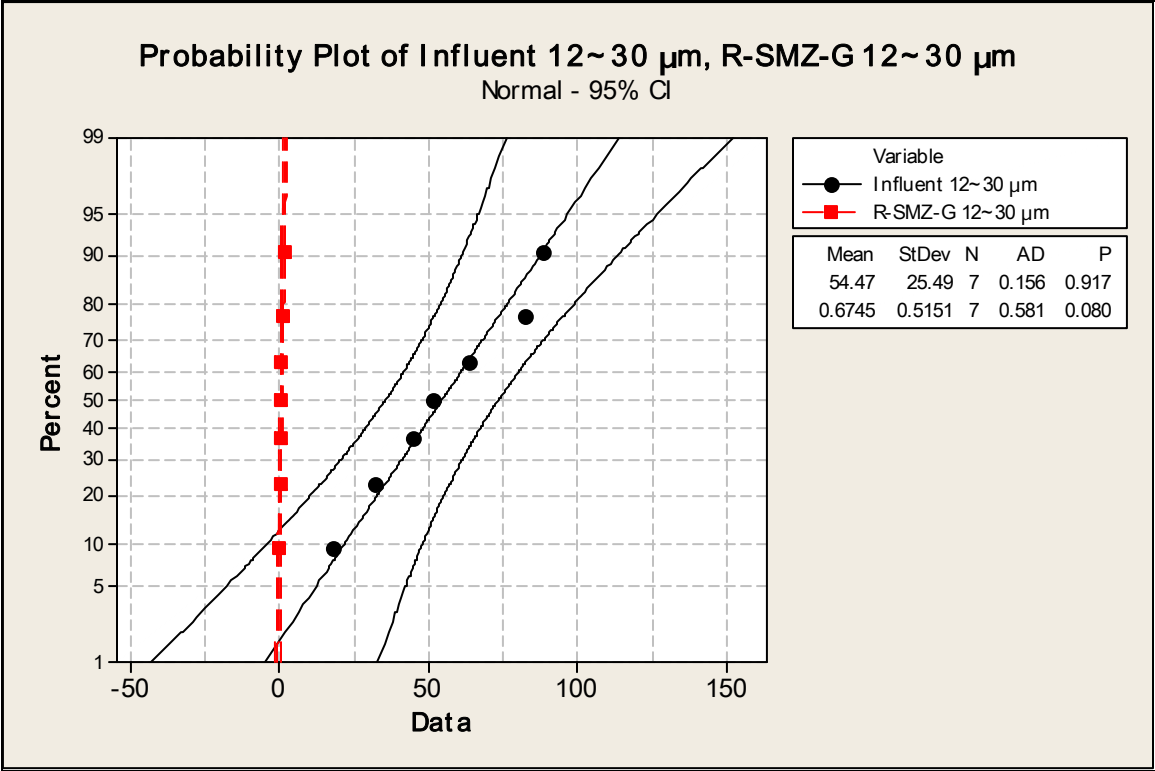
ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	0.000	0.000	0.001	0.982	
Residual	5.000	1.592	0.318			
Total	6.000	1.592				

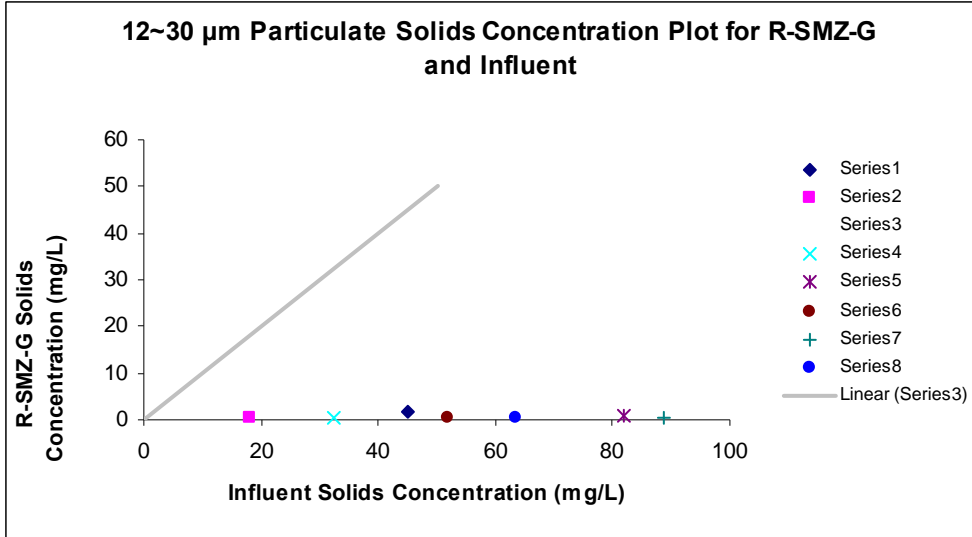
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.663	0.536	1.236	0.271	-0.716	2.042	-0.716	2.042
X Variable 1	0.000	0.009	0.023	0.982	-0.023	0.023	-0.023	0.023

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	0.673	1.021
2	0.667	-0.177
3	0.670	-0.279
4	0.680	0.326
5	0.674	-0.442
6	0.682	-0.362
7	0.676	-0.088







30-60 μm

SUMMARY OUTPUT for 30-60 μm

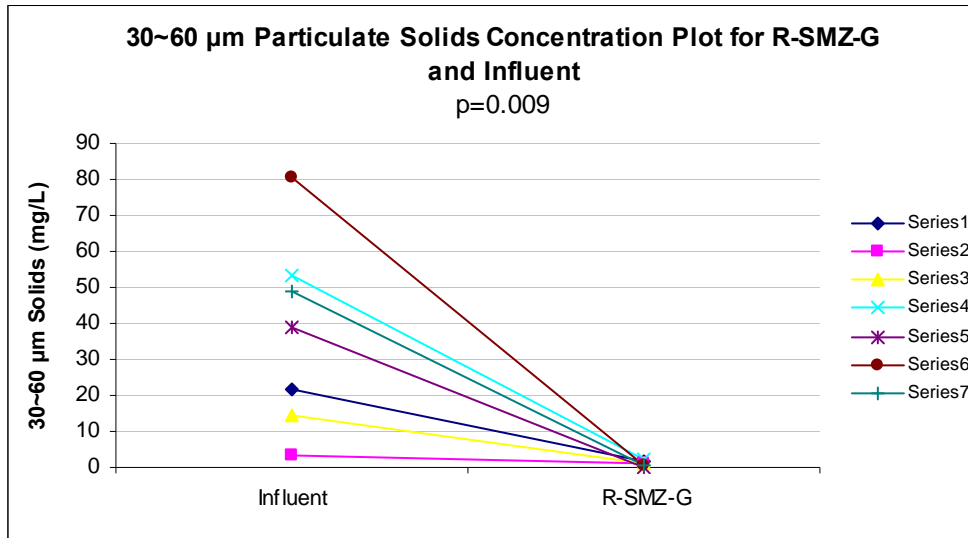
Regression Statistics	
Multiple R	0.071
R Square	0.005
Adjusted R Square	-0.194
Standard Error	0.770
Observations	7.000

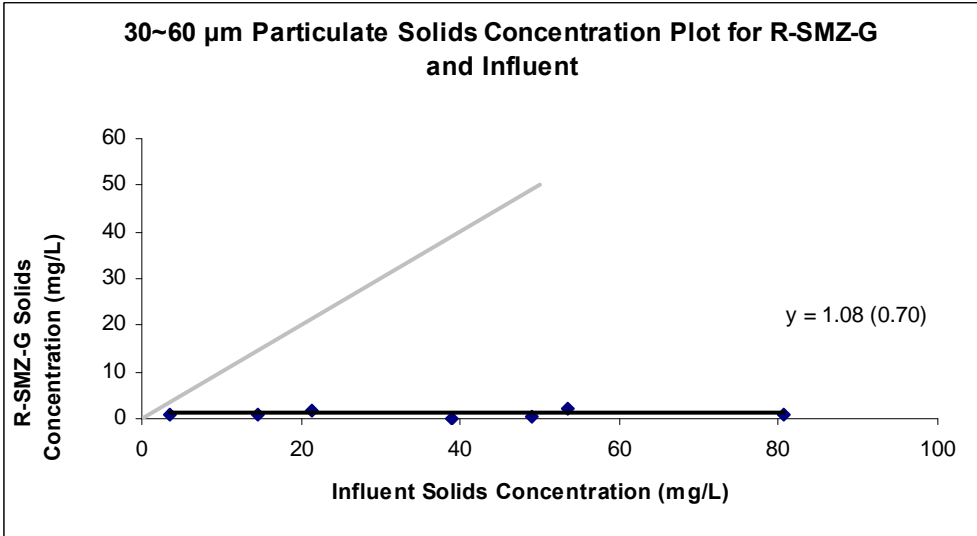
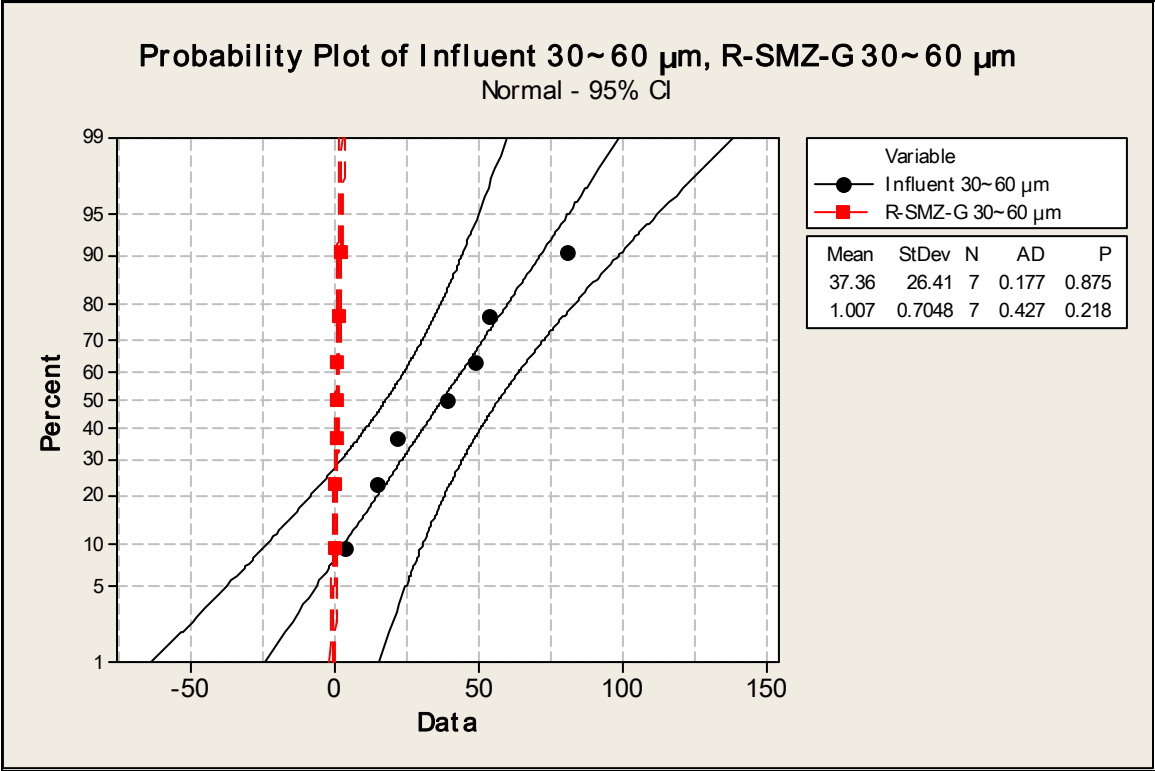
ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	0.015	0.015	0.025	0.881	
Residual	5.000	2.965	0.593			
Total	6.000	2.980				

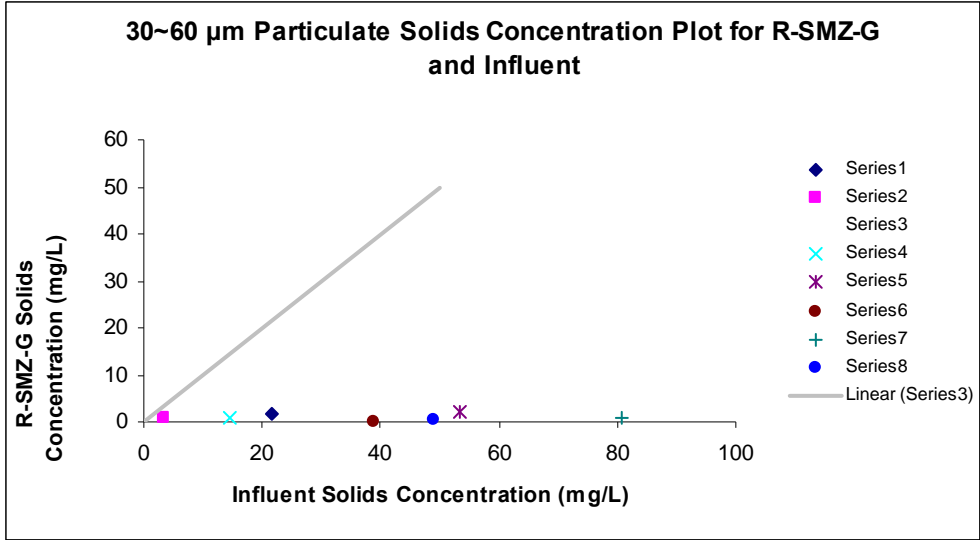
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.077	0.532	2.026	0.099	-0.290	2.444	-0.290	2.444
X Variable 1	-0.002	0.012	-0.158	0.881	-0.032	0.029	-0.032	0.029

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	1.037	0.855
2	1.070	-0.222
3	1.049	-0.123
4	0.976	1.048
5	1.004	-0.802
6	0.925	-0.111
7	0.985	-0.645







60-120 μm

SUMMARY OUTPUT for 60-120 μm

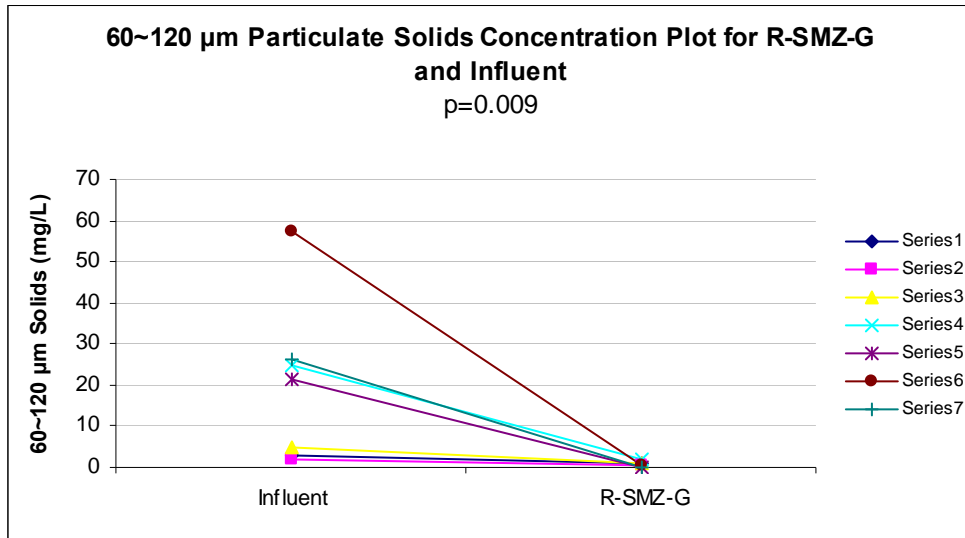
Regression Statistics	
Multiple R	0.142
R Square	0.020
Adjusted R Square	-0.176
Standard Error	0.642
Observations	7.000

ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	0.043	0.043	0.104	0.761	
Residual	5.000	2.058	0.412			
Total	6.000	2.101				

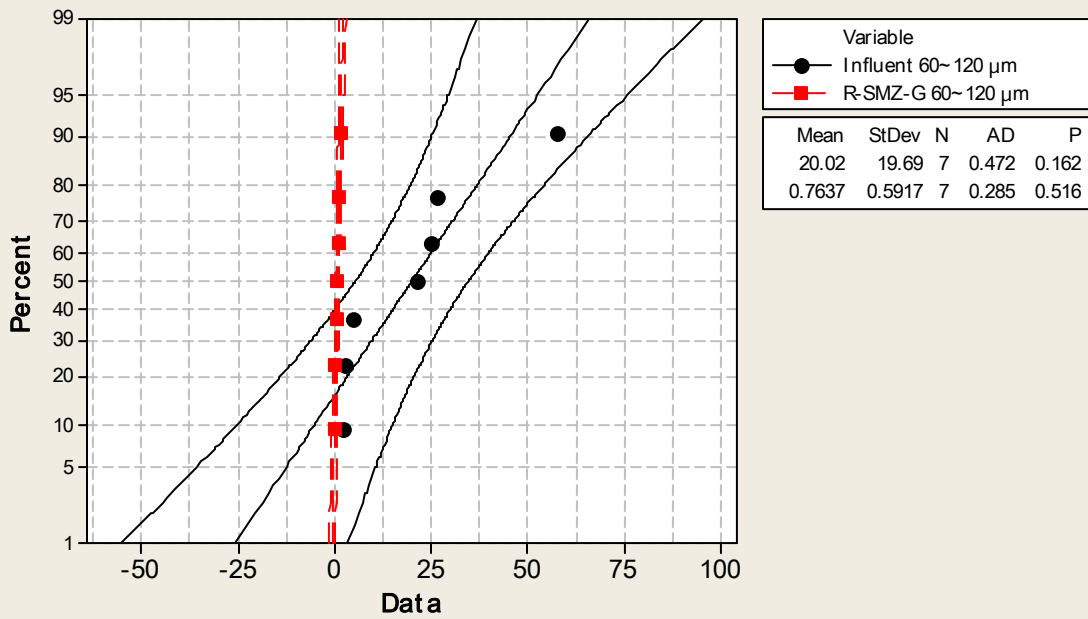
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.849	0.360	2.358	0.065	-0.076	1.775	-0.076	1.775
X Variable 1	-0.004	0.013	-0.322	0.761	-0.038	0.030	-0.038	0.030

RESIDUAL OUTPUT

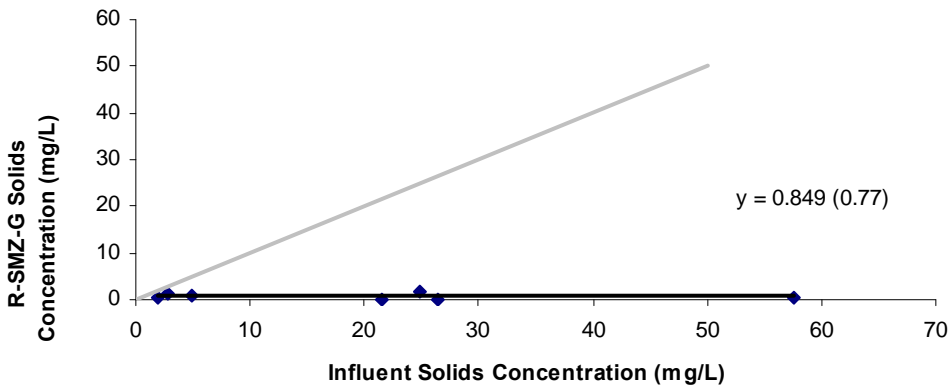
Observation	Predicted Y	Residuals
1	0.837	0.237
2	0.841	-0.209
3	0.828	0.063
4	0.743	1.105
5	0.758	-0.648
6	0.603	0.011
7	0.736	-0.560

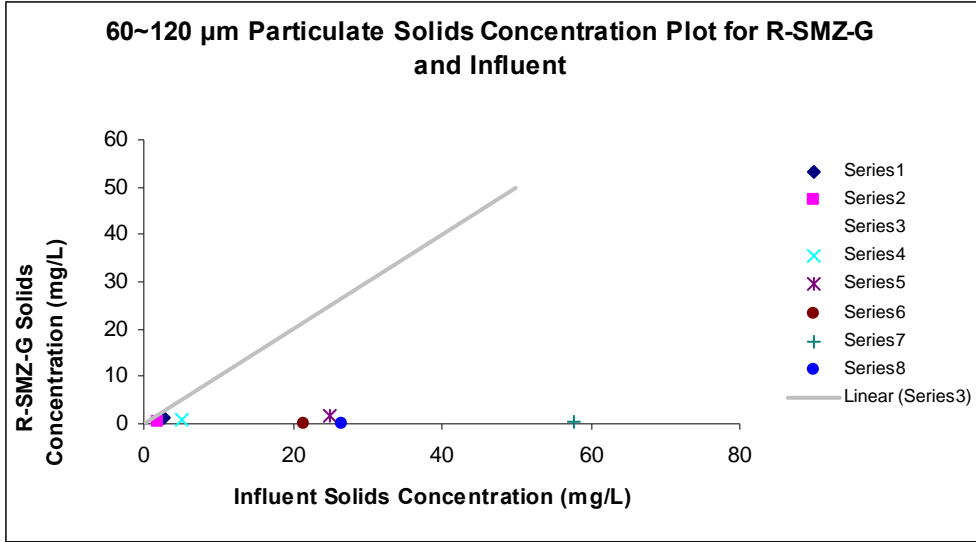


Probability Plot of Influent 60~120 μm, R-SMZ-G 60~120 μm
Normal - 95% CI



60~120 μm Particulate Solids Concentration Plot for R-SMZ-G and Influent





120-250 μm

SUMMARY OUTPUT for 120~250 μm

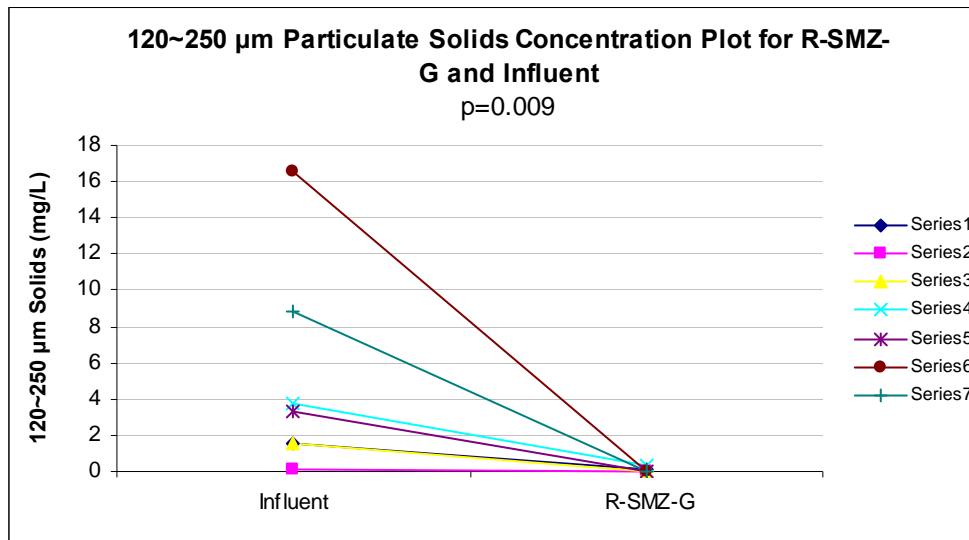
Regression Statistics	
Multiple R	0.152
R Square	0.023
Adjusted R Square	-0.172
Standard Error	0.127
Observations	7.000

ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	0.002	0.002	0.118	0.745
Residual	5.000	0.081	0.016		
Total	6.000	0.083			

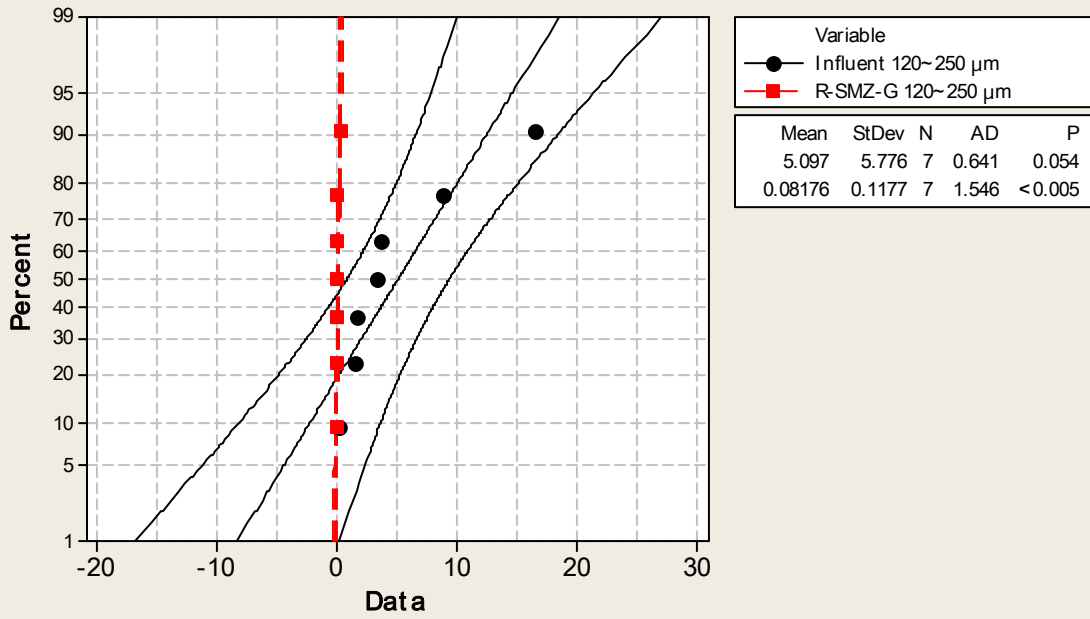
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.098	0.067	1.465	0.203	-0.074	0.269	-0.074	0.269
X Variable 1	-0.003	0.009	-0.343	0.745	-0.026	0.020	-0.026	0.020

RESIDUAL OUTPUT

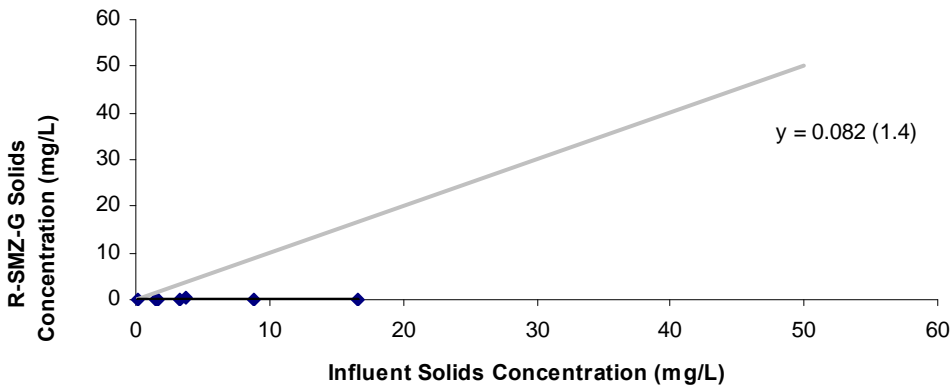
Observation	Predicted Y	Residuals
1	0.093	-0.026
2	0.097	-0.070
3	0.093	-0.047
4	0.086	0.261
5	0.087	-0.060
6	0.046	-0.017
7	0.070	-0.041

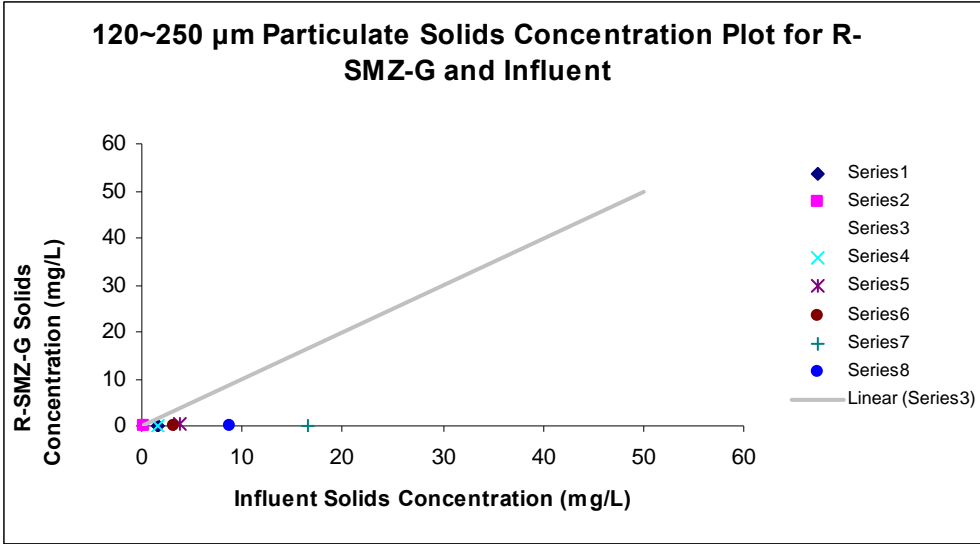


Probability Plot of Influent 120~250 μm , R-SMZ-G 120~250 μm
Normal - 95% CI



120~250 μm Particulate Solids Concentration Plot for R-SMZ-G and Influent





250-1180 μm

SUMMARY OUTPUT for 250~1180 μm

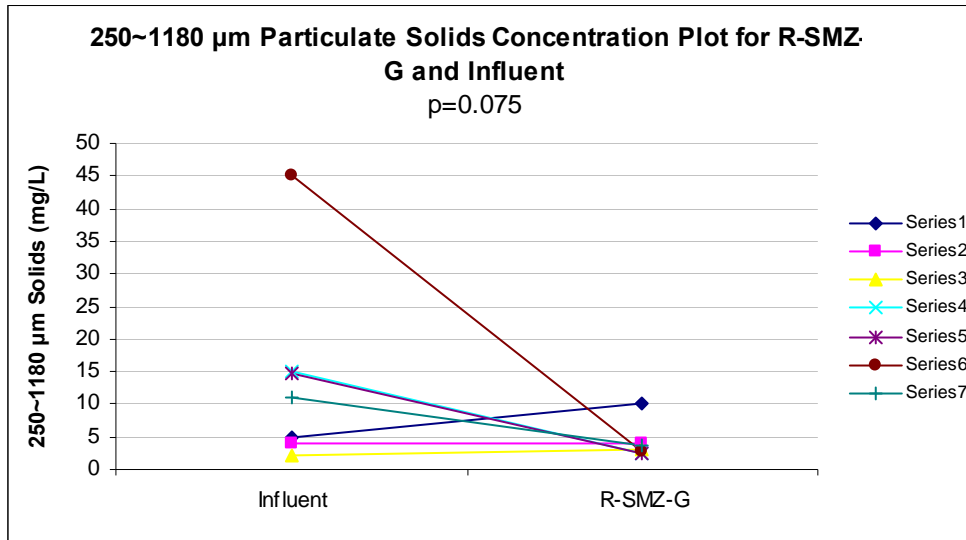
Regression Statistics	
Multiple R	0.373
R Square	0.139
Adjusted R Square	-0.033
Standard Error	2.735
Observations	7.000

ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	6.048	6.048	0.809	0.410	
Residual	5.000	37.401	7.480			
Total	6.000	43.448				

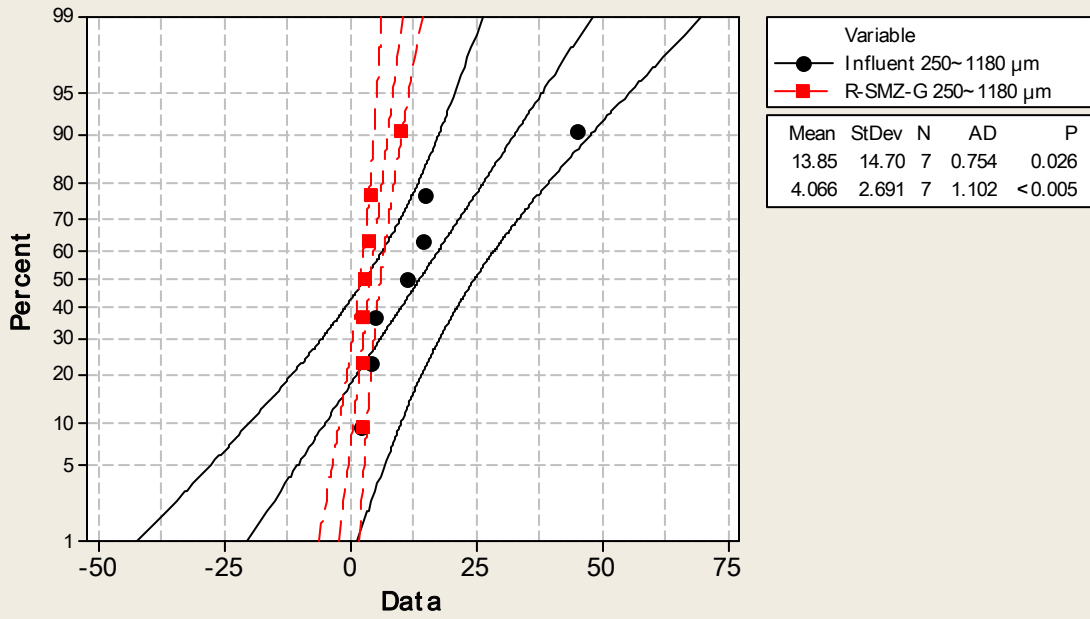
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	5.012	1.475	3.399	0.019	1.221	8.803	1.221	8.803
X Variable 1	-0.068	0.076	-0.899	0.410	-0.264	0.127	-0.264	0.127

RESIDUAL OUTPUT

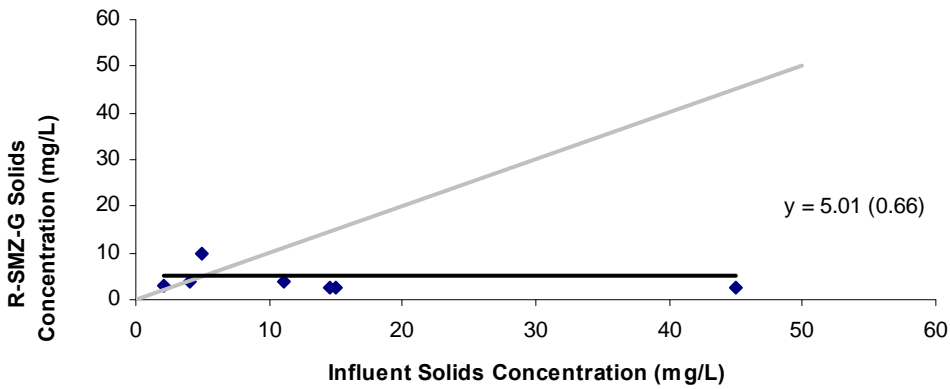
Observation	Predicted Y	Residuals
1	4.670	5.330
2	4.739	-0.739
3	4.867	-1.750
4	3.986	-1.463
5	4.014	-1.610
6	1.934	0.676
7	4.253	-0.443

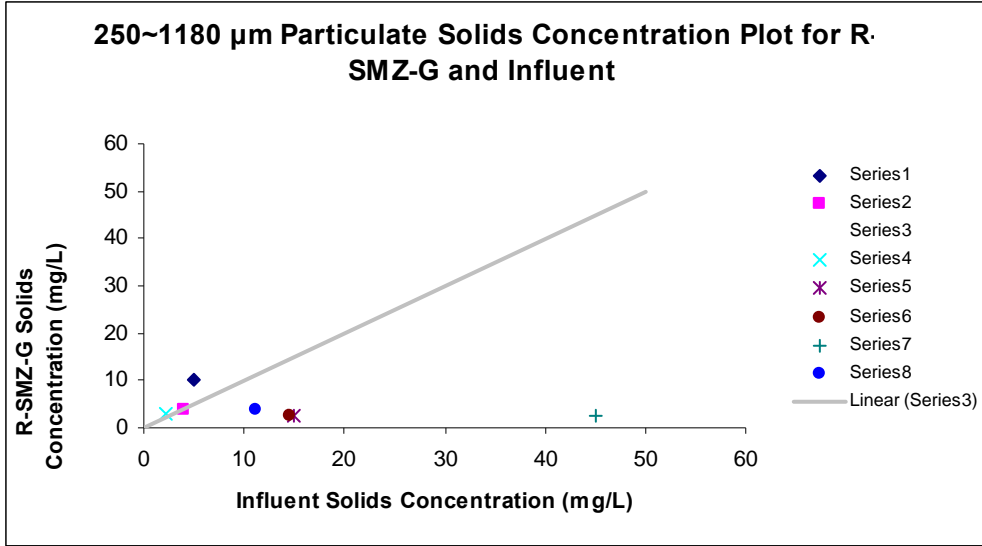


Probability Plot of Influent 250~1180 μm , R-SMZ-G 250~1180 μm
Normal - 95% CI



250~1180 μm Particulate Solids Concentration Plot for R-SMZ-G and Influent





>1180 μm (no particles observed in this size range)

SSC (>0.45 μm)

SUMMARY OUTPUT for Total

Regression Statistics	
Multiple R	0.631
R Square	0.398
Adjusted R Square	0.247
Standard Error	2.823
Observations	6.000

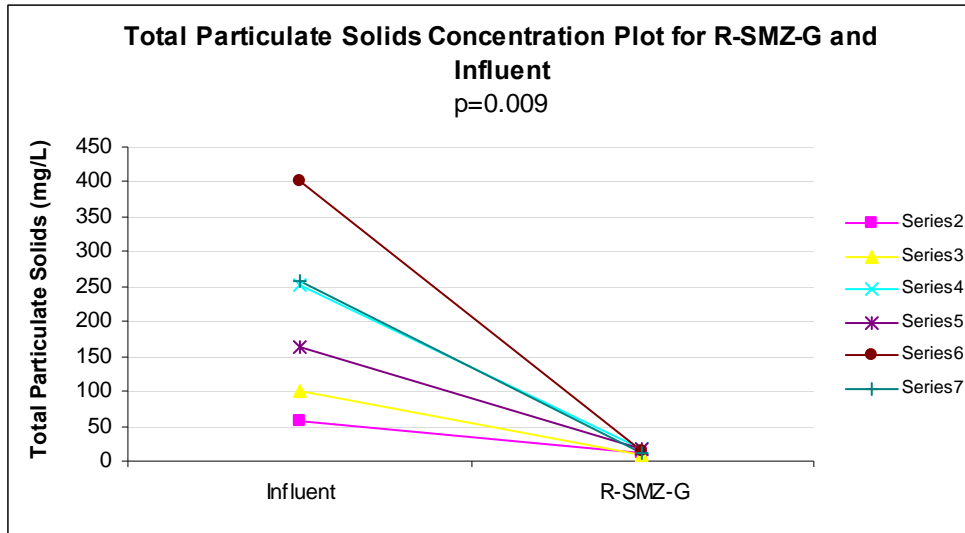
ANOVA

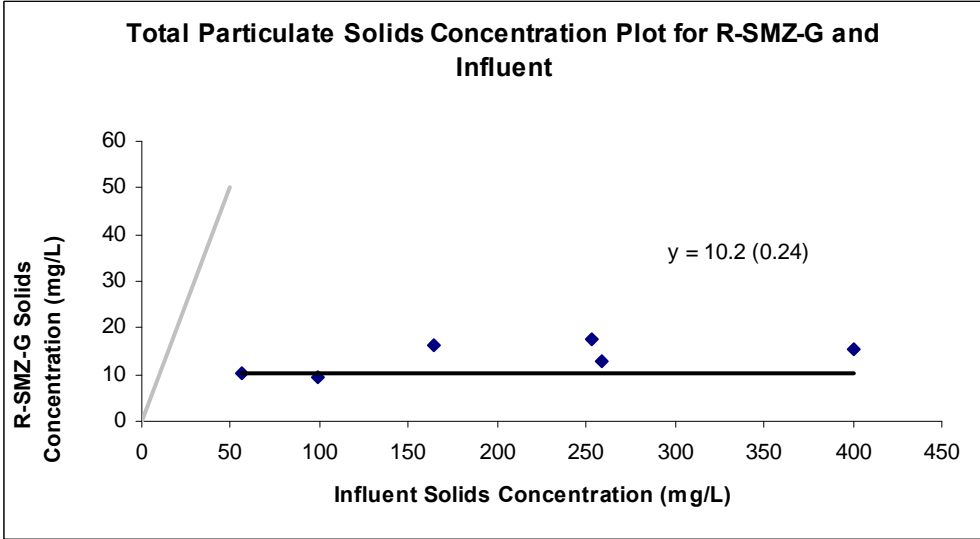
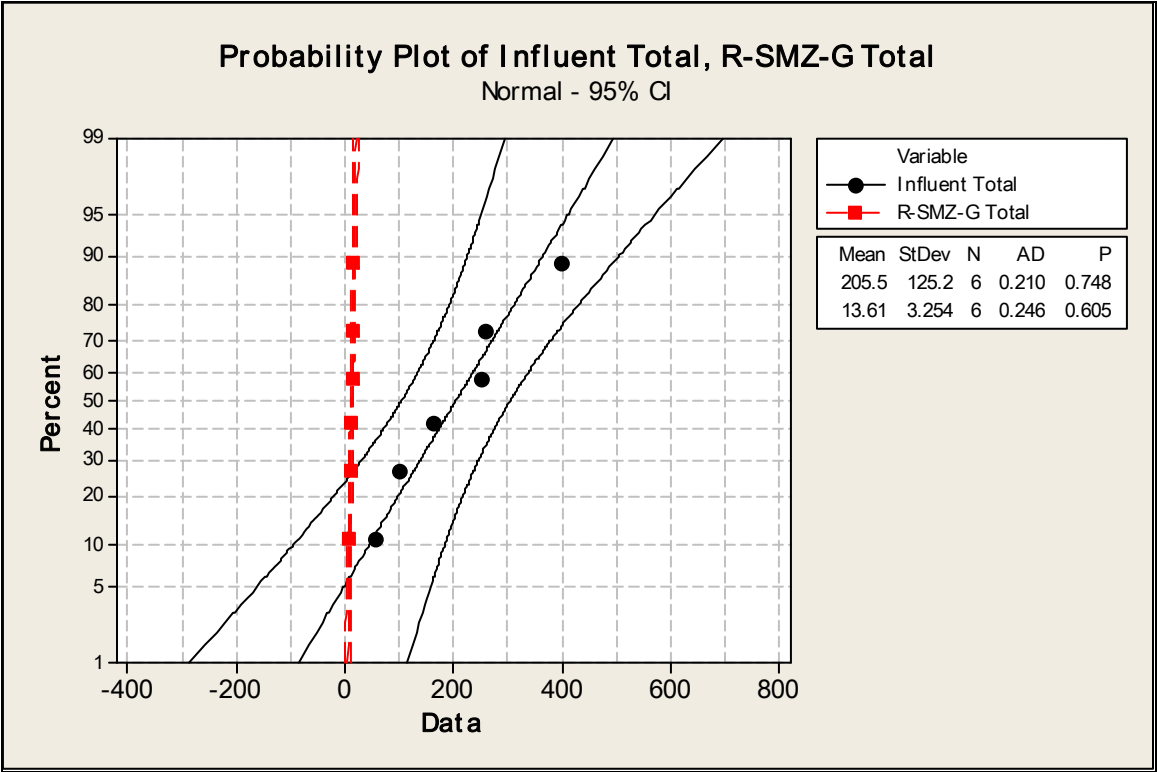
	df	SS	MS	F	Significance F
Regression	1.000	21.069	21.069	2.644	0.179
Residual	4.000	31.879	7.970		
Total	5.000	52.948			

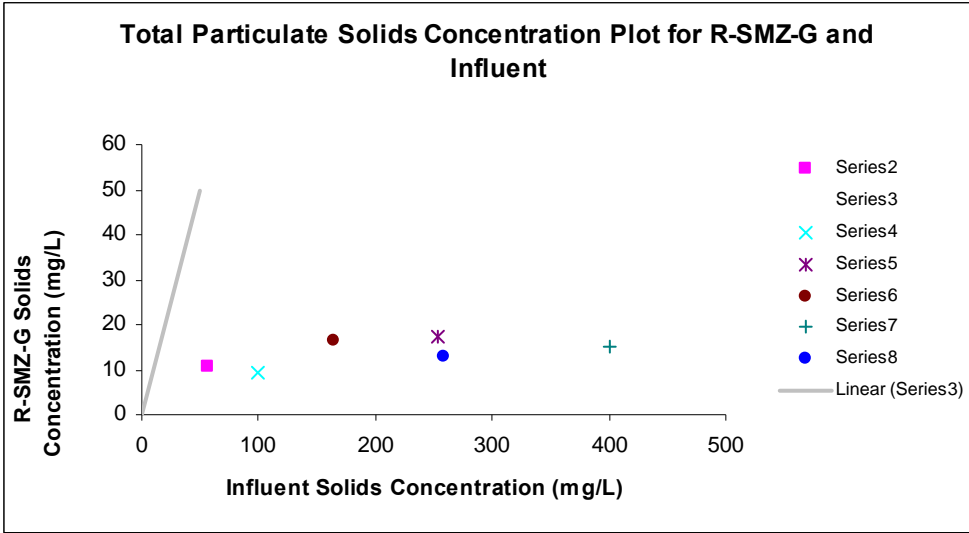
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	10.238	2.371	4.317	0.012	3.654	16.822	3.654	16.822
X Variable 1	0.016	0.010	1.626	0.179	-0.012	0.044	-0.012	0.044

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	11.165	-0.665
2	11.864	-2.557
3	14.385	2.986
4	12.938	3.339
5	16.806	-1.479
6	14.490	-1.625







TSS (0.45 to 75 μm)

SUMMARY OUTPUT for TSS

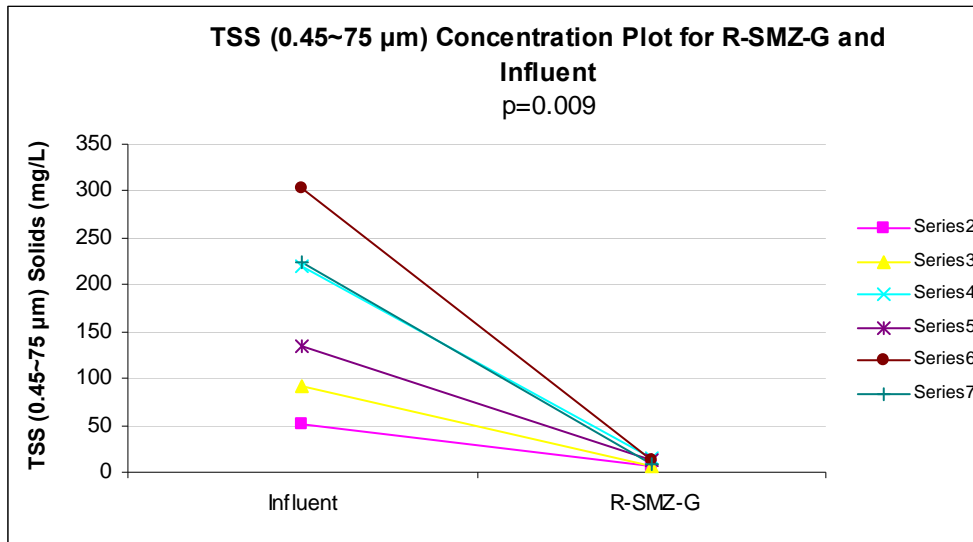
Regression Statistics	
Multiple R	0.628
R Square	0.394
Adjusted R Square	0.243
Standard Error	3.329
Observations	6.000

ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	28.863	28.863	2.605	0.182
Residual	4.000	44.323	11.081		
Total	5.000	73.186			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	5.858	3.018	1.941	0.124	-2.522	14.238	-2.522	14.238
X Variable 1	0.025	0.016	1.614	0.182	-0.018	0.069	-0.018	0.069

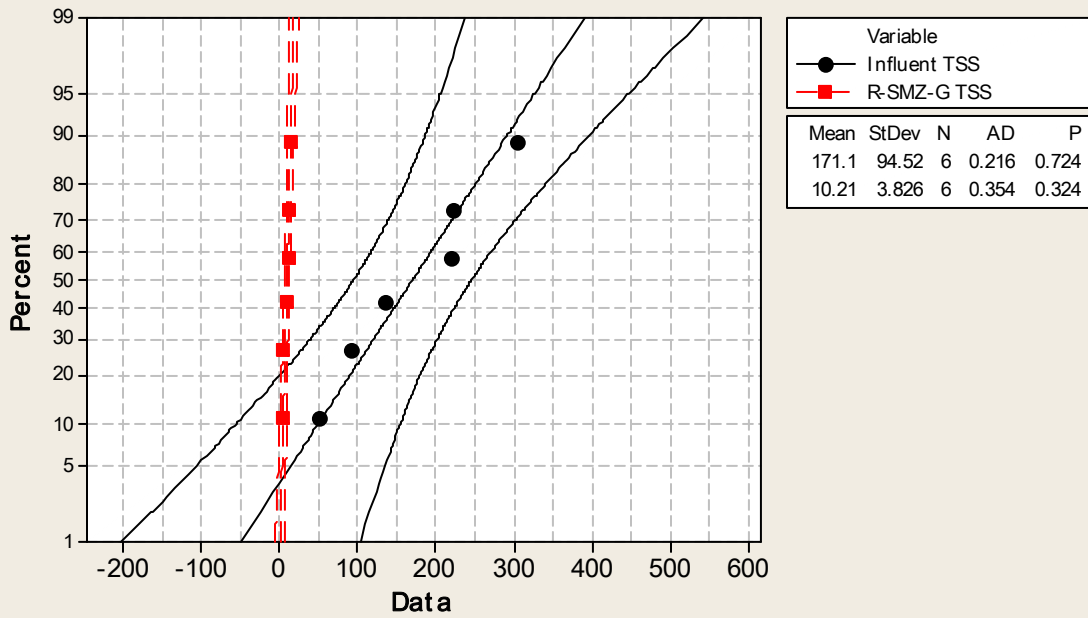
RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	7.162	-0.949
2	8.203	-2.598
3	11.454	2.835
4	9.299	4.518
5	13.587	-1.203
6	11.538	-2.603

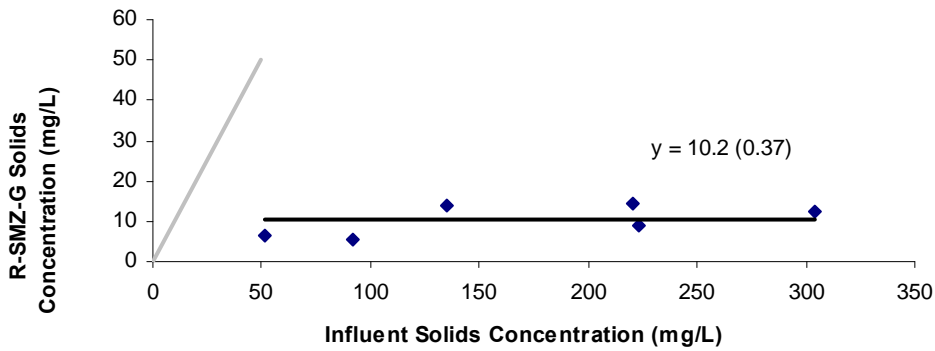


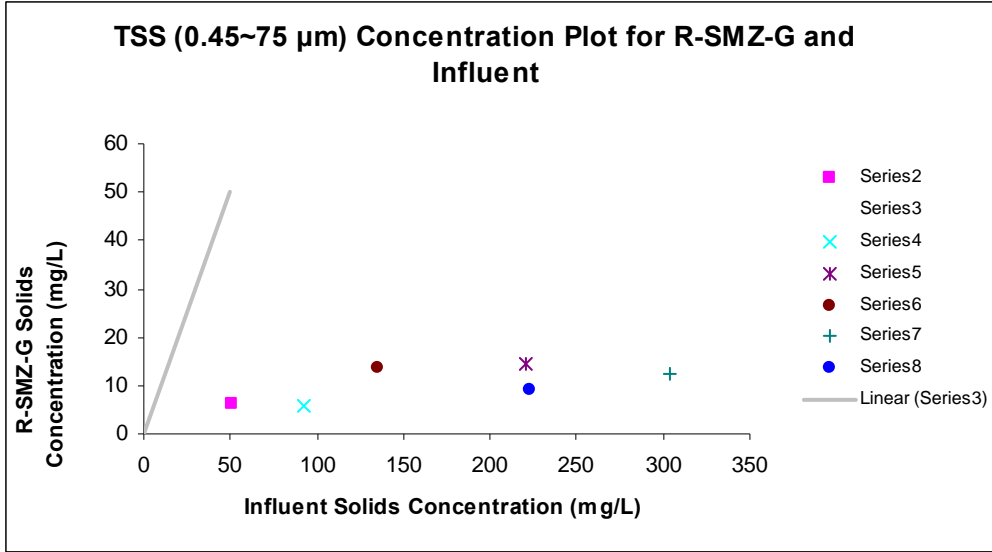
Probability Plot of Influent TSS, R-SMZ-G TSS

Normal - 95% CI



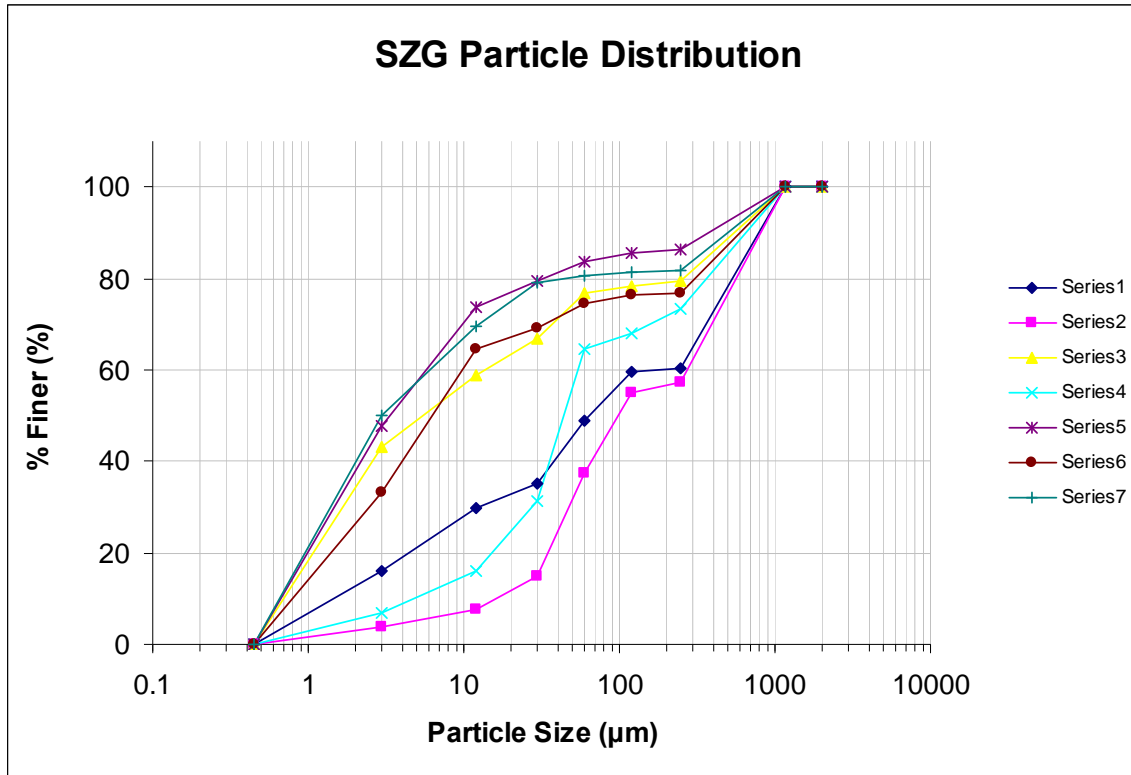
TSS (0.45~75 µm) Concentration Plot for R-SMZ-G and Influent

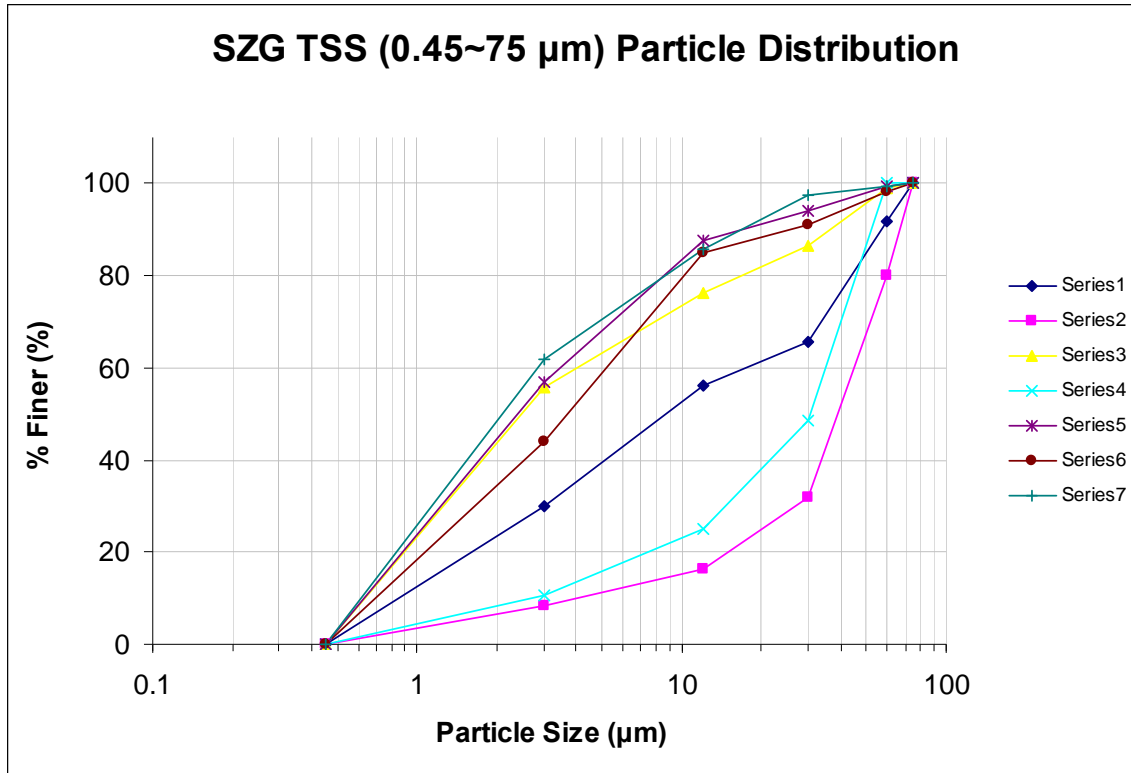




Layered Site Sand – Site Zeolite – Granular Activated Carbon (SZG) Media Particulate Removal Data from Column Tests

Effluent Particle Size Distributions





TDS

SUMMARY OUTPUT For < 0.45 µm

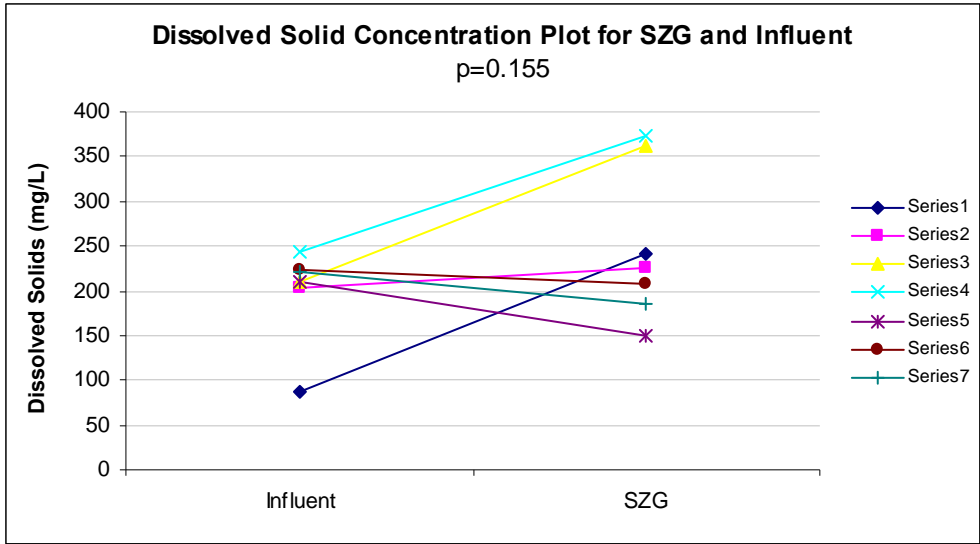
Regression Statistics	
Multiple R	0.158
R Square	0.025
Adjusted R Square	-0.170
Standard Error	92.482
Observations	7.000

ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	1088.243	1088.243	0.127	0.736
Residual	5.000	42764.950	8552.990		
Total	6.000	43853.193			

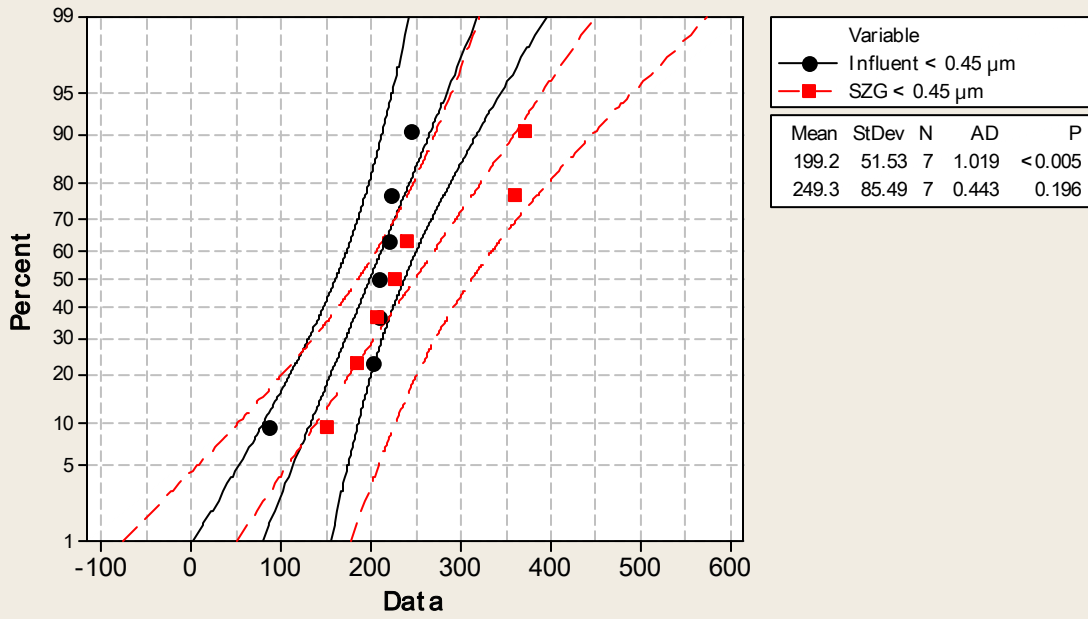
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	197.248	150.116	1.314	0.246	-188.637	583.133	-188.637	583.133
X Variable 1	0.261	0.733	0.357	0.736	-1.622	2.145	-1.622	2.145

RESIDUAL OUTPUT

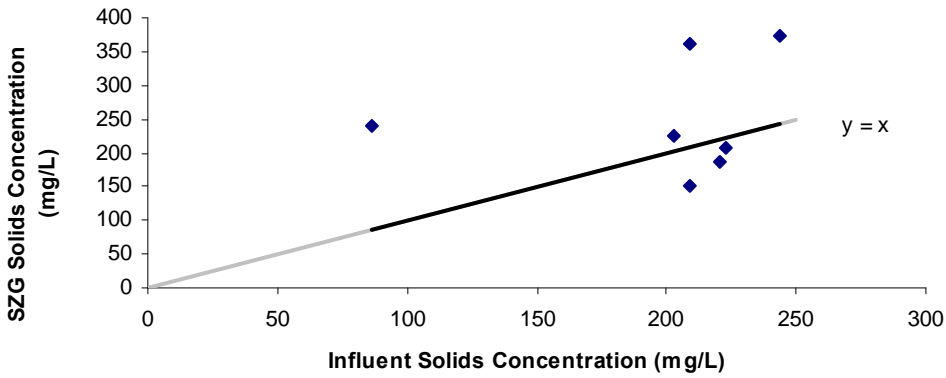
Observation	Predicted Y	Residuals
1	219.857	21.143
2	250.177	-23.677
3	251.904	109.289
4	260.996	111.576
5	251.888	-101.433
6	255.582	-47.433
7	254.855	-69.465

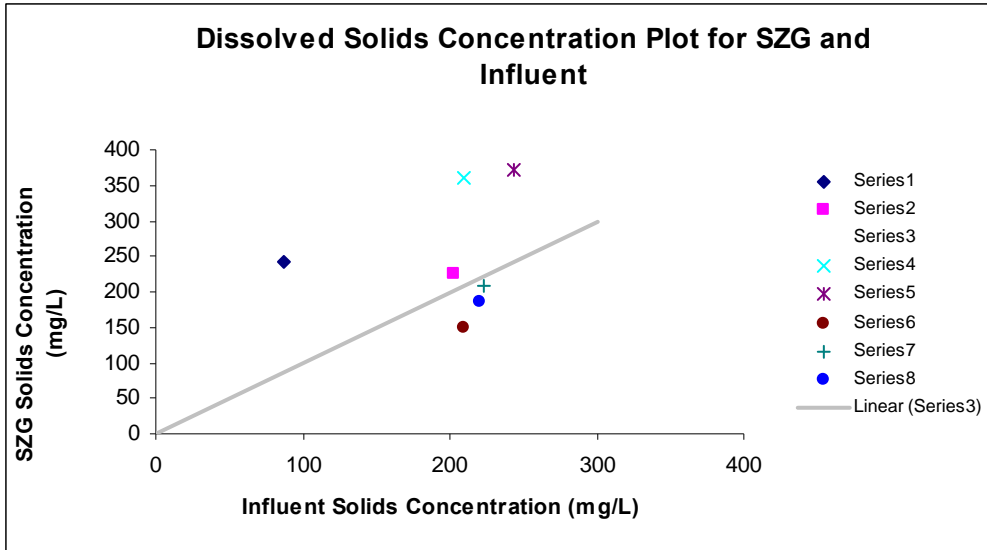


Probability Plot of Influent < 0.45 μm , SZG < 0.45 μm
Normal - 95% CI



Total Dissolved Solids Concentration Plot for SZG and Influent





0.45-3 μm

SUMMARY OUTPUT for 0.45-3 μm

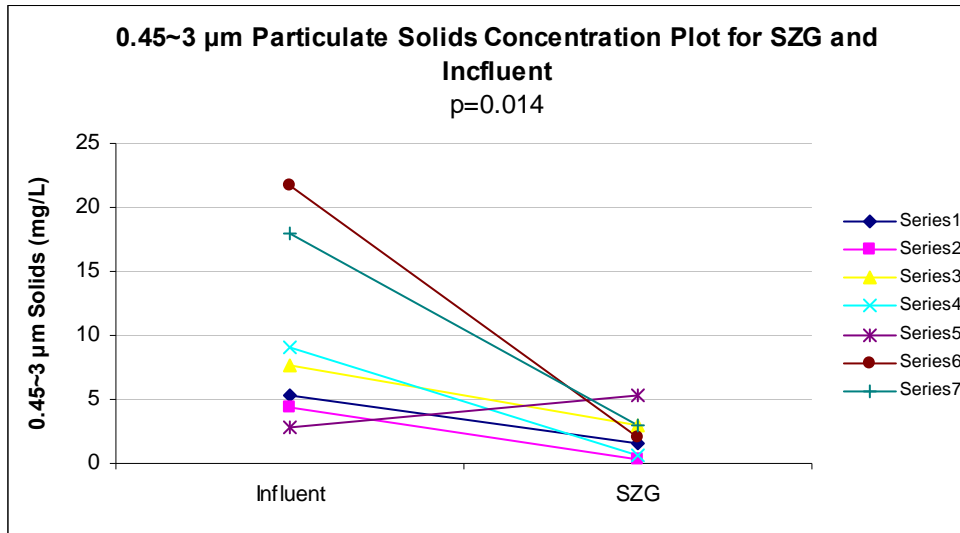
Regression Statistics	
Multiple R	0.043
R Square	0.002
Adjusted R Square	-0.198
Standard Error	1.850
Observations	7.000

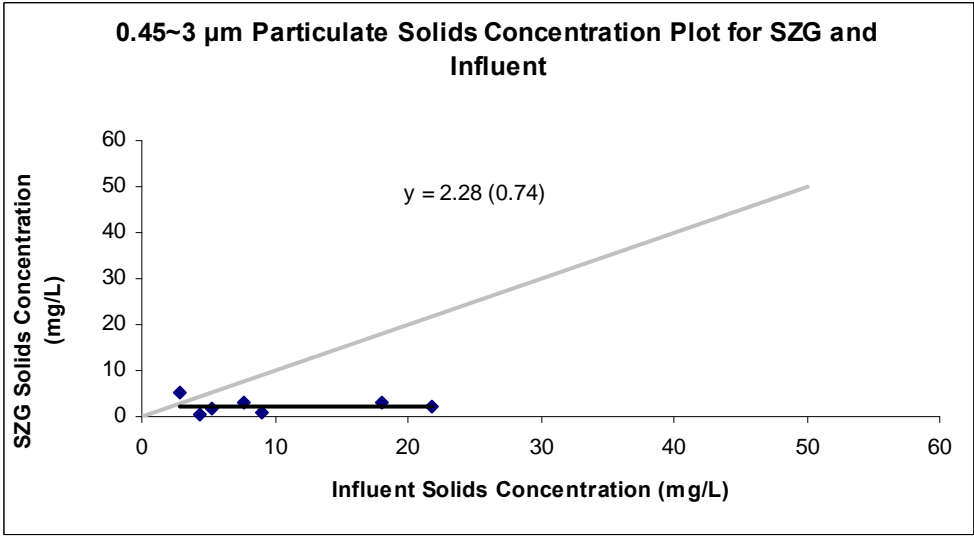
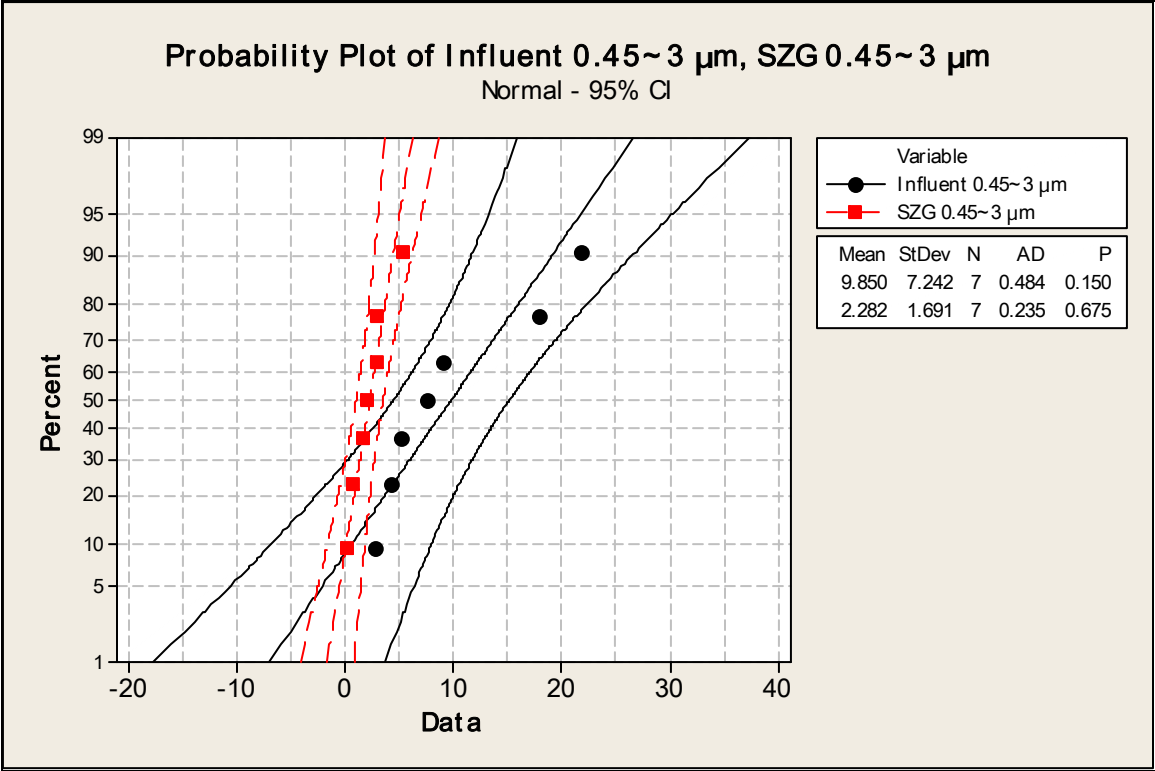
ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	0.032	0.032	0.009	0.927
Residual	5.000	17.121	3.424		
Total	6.000	17.152			

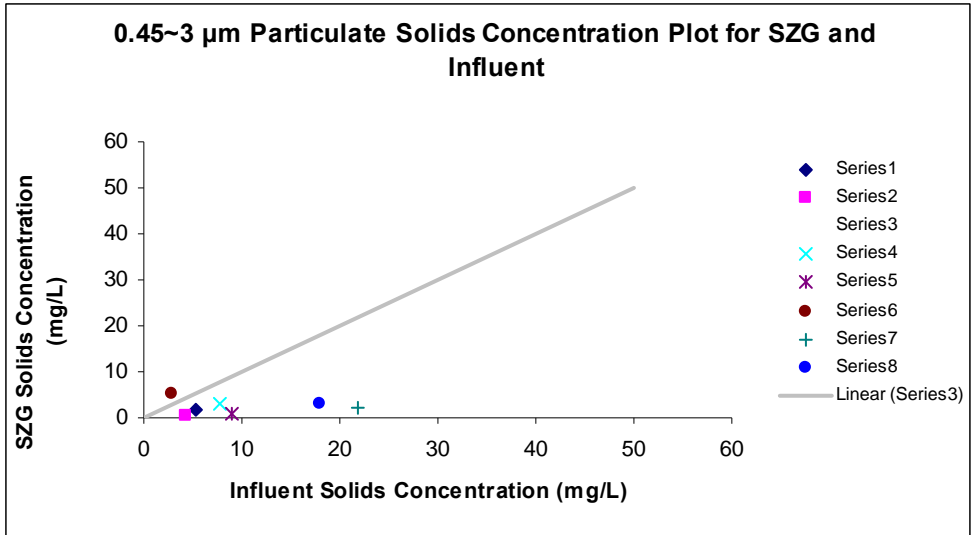
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	2.381	1.243	1.916	0.114	-0.814	5.576	-0.814	5.576
X Variable 1	-0.010	0.104	-0.096	0.927	-0.278	0.258	-0.278	0.258

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	2.328	-0.712
2	2.338	-2.060
3	2.304	0.685
4	2.290	-1.618
5	2.353	2.930
6	2.162	-0.057
7	2.200	0.832







3-12 μm

SUMMARY OUTPUT for 3~12 μm

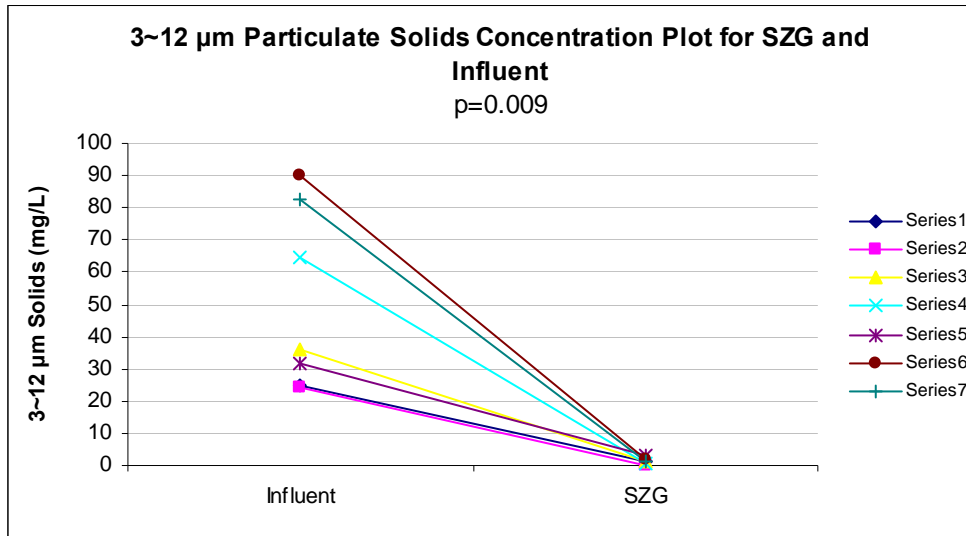
Regression Statistics	
Multiple R	0.103
R Square	0.011
Adjusted R Square	-0.187
Standard Error	0.911
Observations	7.000

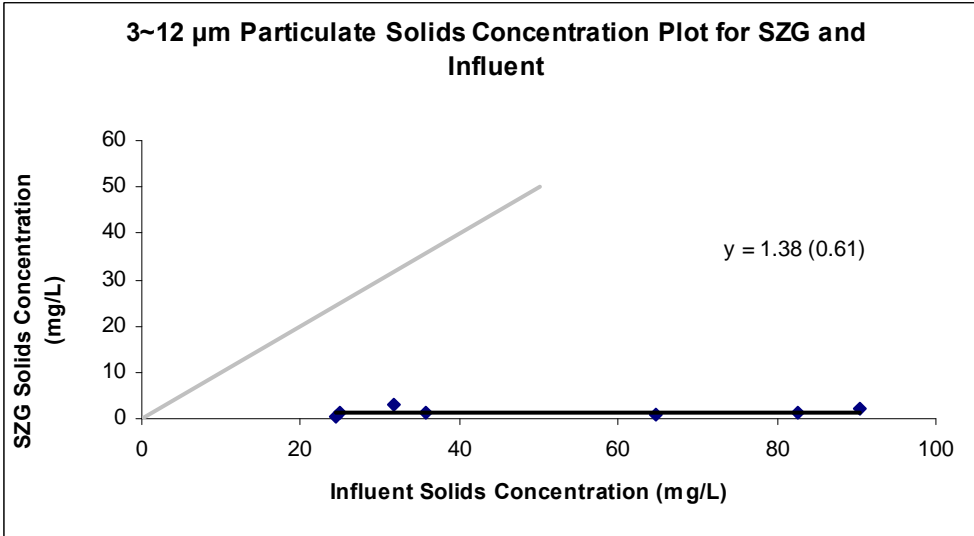
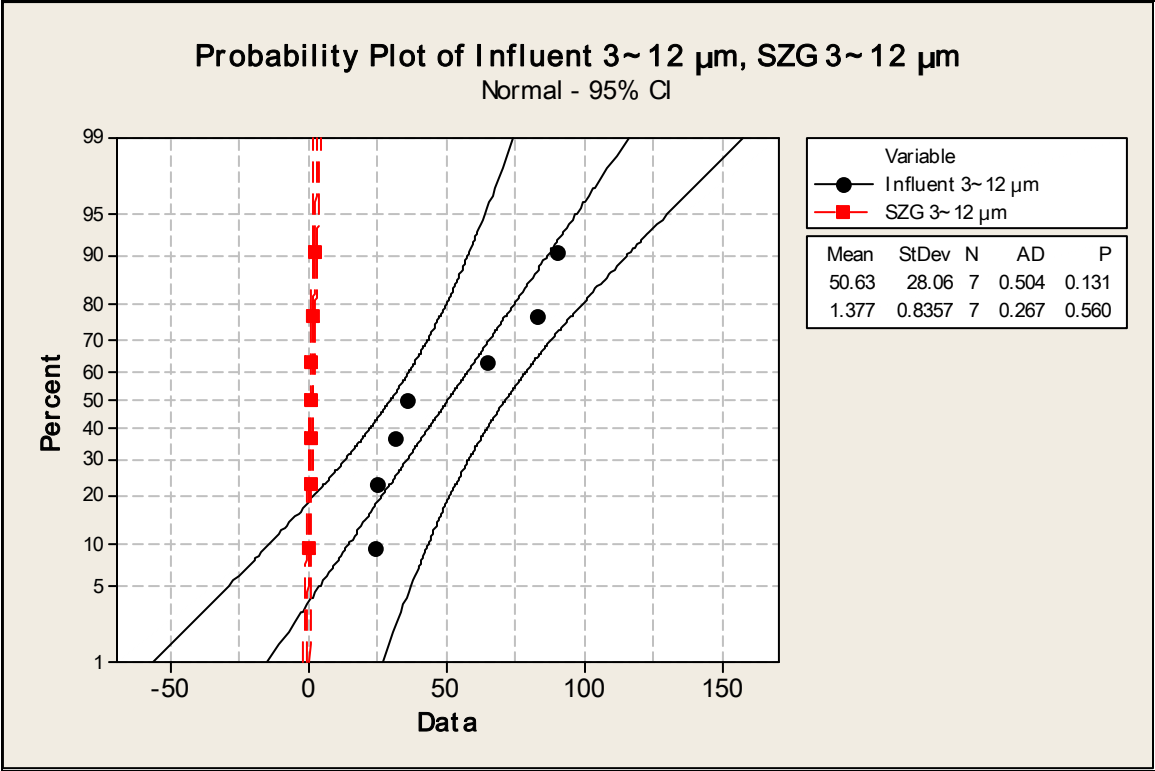
ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	0.044	0.044	0.054	0.826	
Residual	5.000	4.146	0.829			
Total	6.000	4.191				

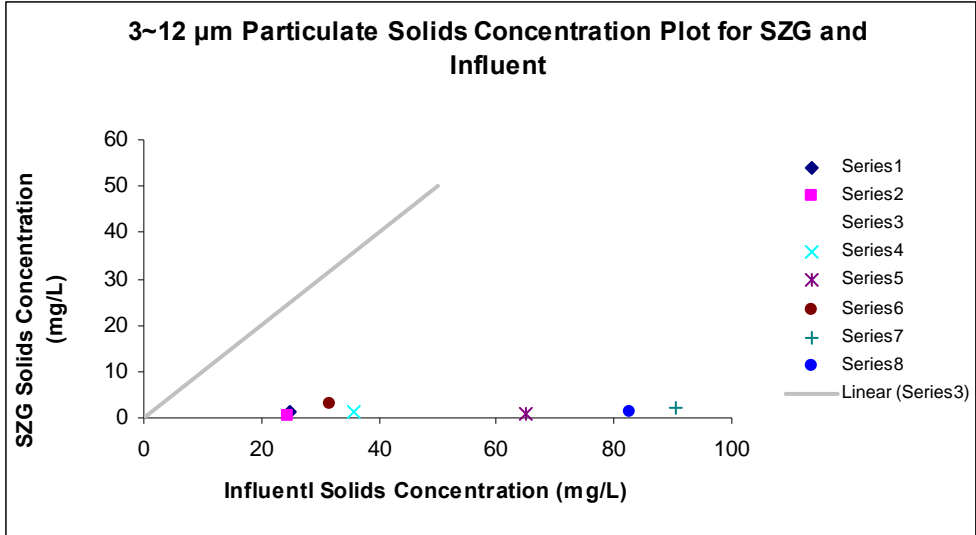
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.222	0.754	1.621	0.166	-0.716	3.160	-0.716	3.160
X Variable 1	0.003	0.013	0.232	0.826	-0.031	0.037	-0.031	0.037

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	1.298	0.104
2	1.297	-1.039
3	1.332	-0.244
4	1.421	-0.532
5	1.319	1.551
6	1.499	0.464
7	1.475	-0.305







12-30 μm

SUMMARY OUTPUT for 12~30 μm

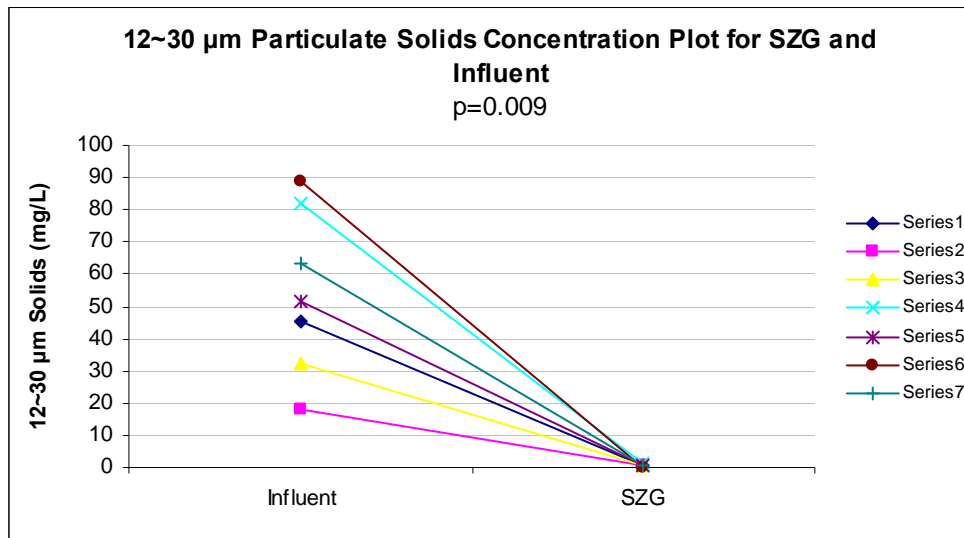
Regression Statistics	
Multiple R	0.310
R Square	0.096
Adjusted R Square	-0.084
Standard Error	0.399
Observations	7.000

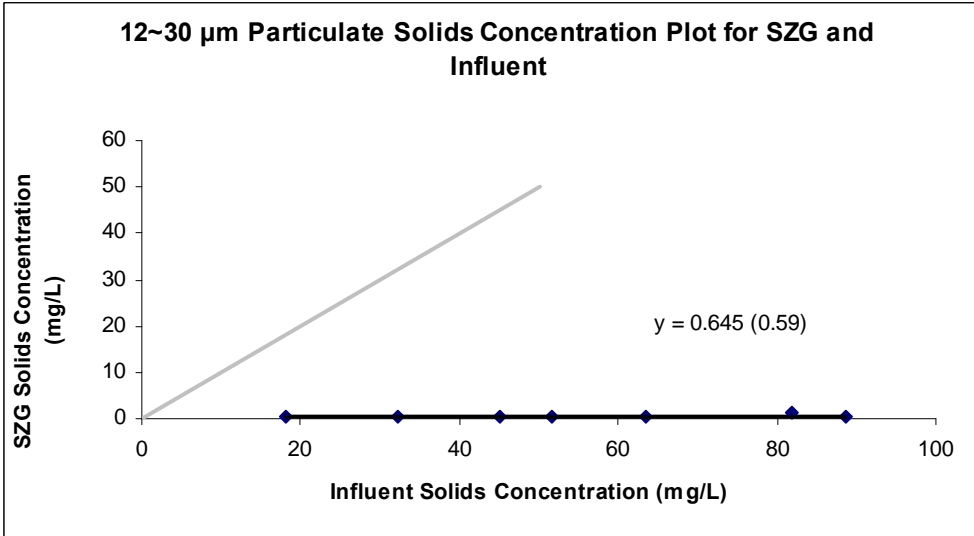
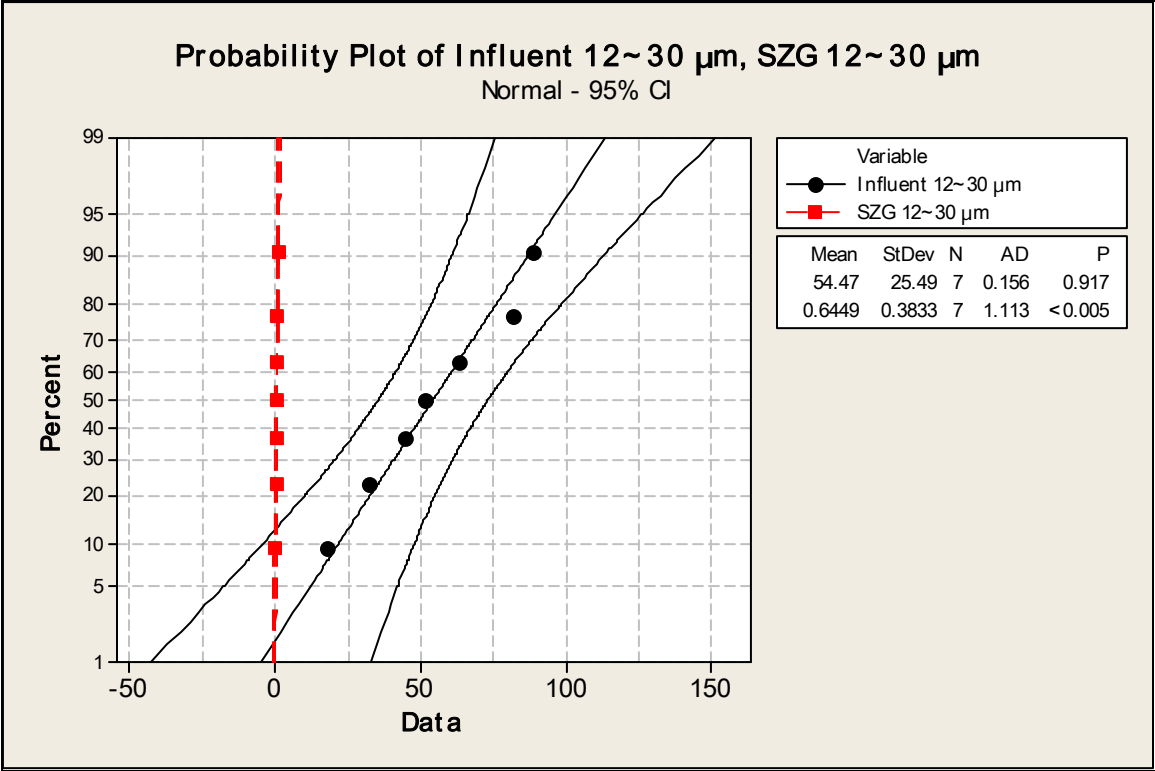
ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	0.085	0.085	0.533	0.498	
Residual	5.000	0.796	0.159			
Total	6.000	0.881				

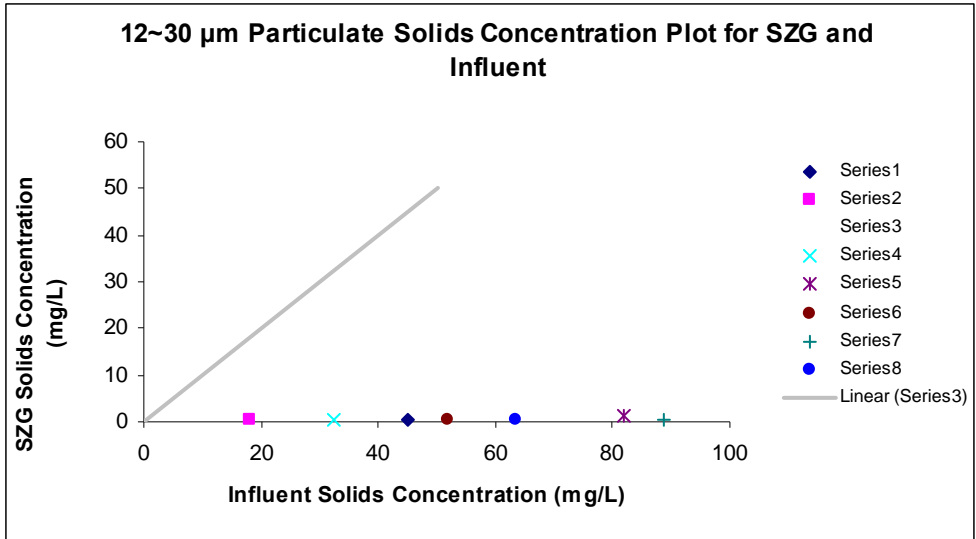
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.391	0.379	1.029	0.350	-0.585	1.366	-0.585	1.366
X Variable 1	0.005	0.006	0.730	0.498	-0.012	0.021	-0.012	0.021

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	0.601	-0.096
2	0.475	0.040
3	0.542	0.016
4	0.773	0.710
5	0.632	-0.030
6	0.804	-0.514
7	0.687	-0.126







30-60 um

SUMMARY OUTPUT for 30~60 um

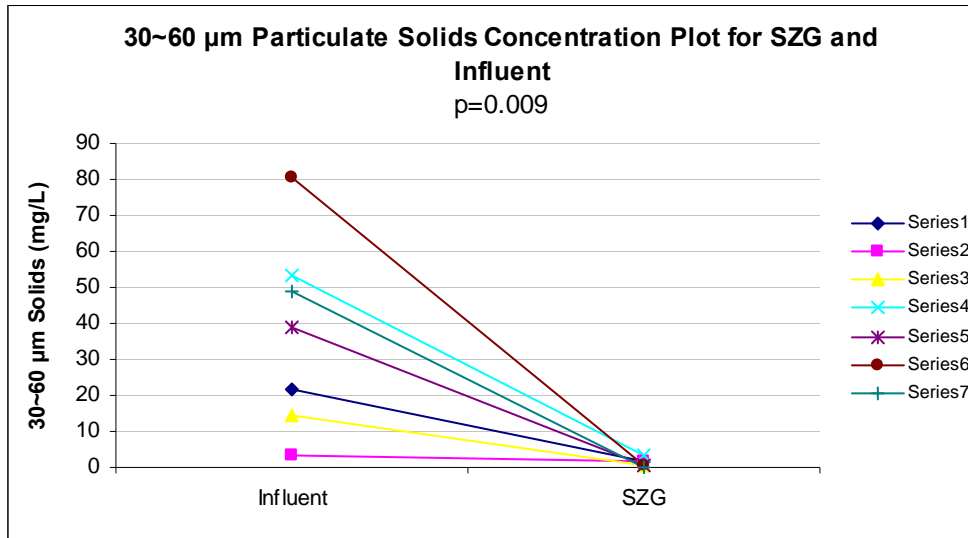
Regression Statistics	
Multiple R	0.132
R Square	0.017
Adjusted R Square	-0.179
Standard Error	1.167
Observations	7.000

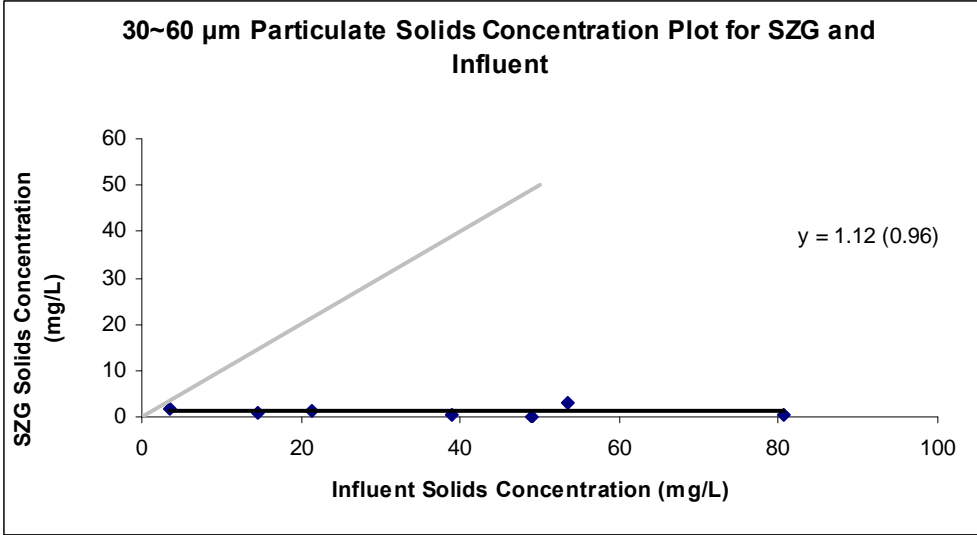
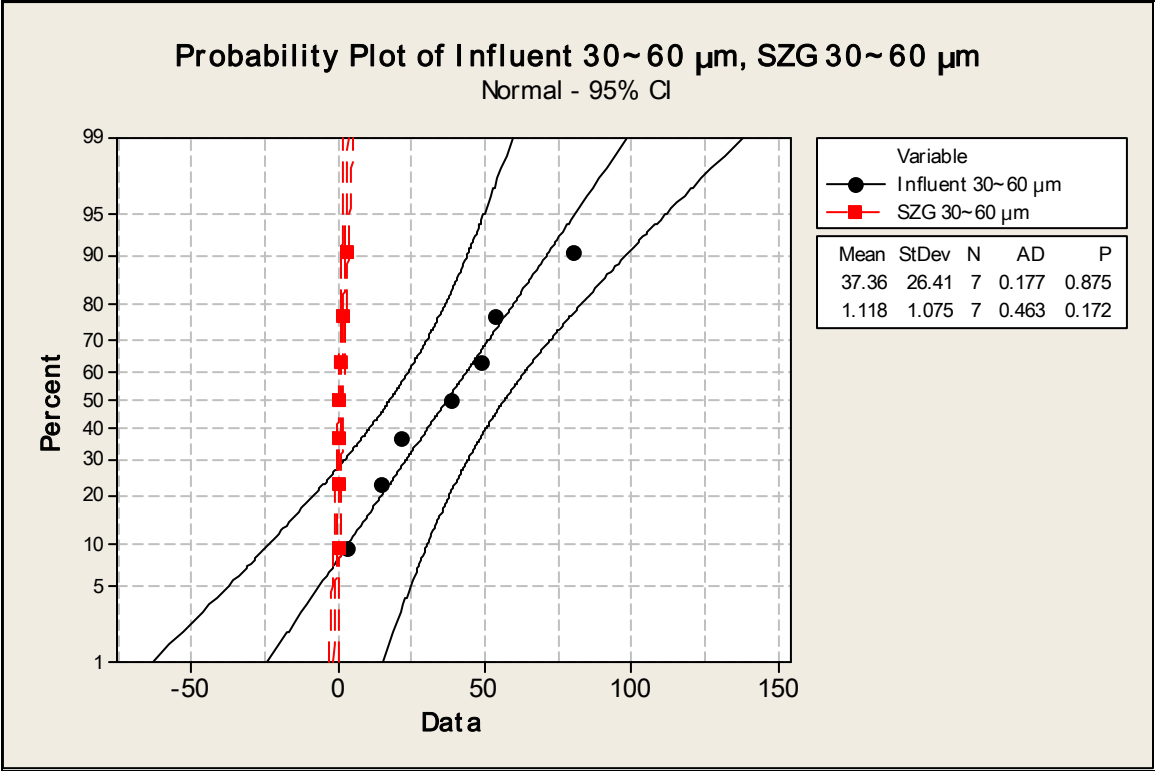
ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	0.120	0.120	0.088	0.778	
Residual	5.000	6.807	1.361			
Total	6.000	6.928				

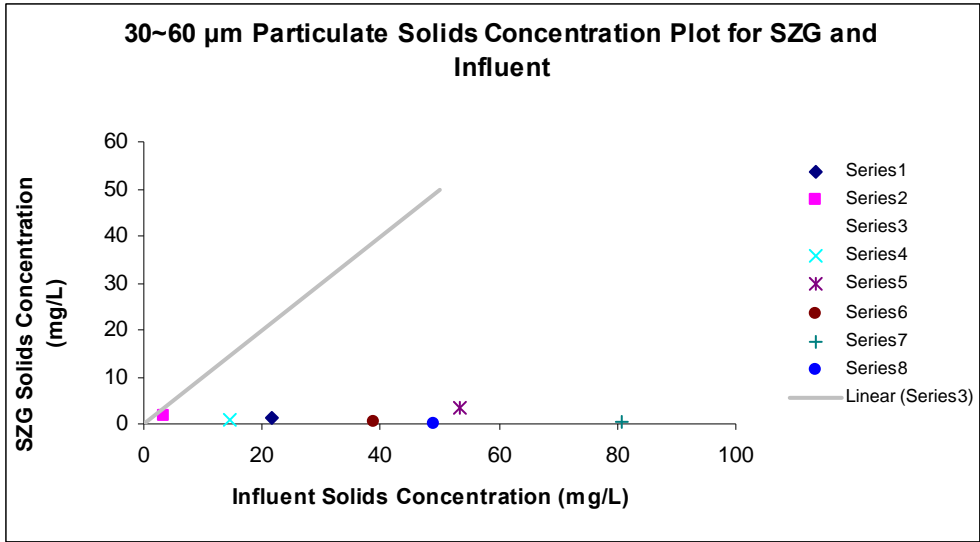
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.318	0.805	1.637	0.163	-0.752	3.389	-0.752	3.389
X Variable 1	-0.005	0.018	-0.297	0.778	-0.052	0.041	-0.052	0.041

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	1.203	0.197
2	1.300	0.282
3	1.240	-0.565
4	1.032	2.191
5	1.109	-0.616
6	0.886	-0.541
7	1.056	-0.948







60-120 μm

SUMMARY OUTPUT for 60-120 μm

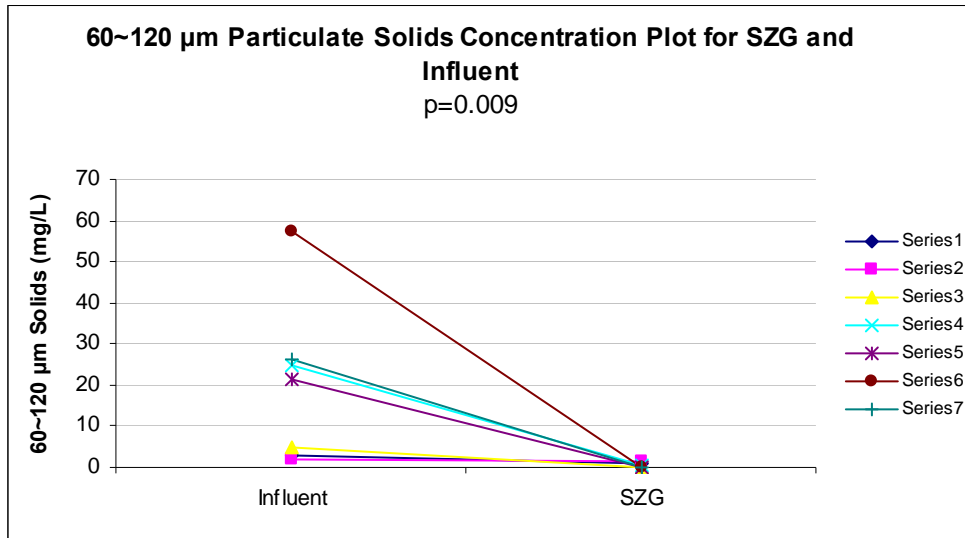
Regression Statistics	
Multiple R	0.614
R Square	0.377
Adjusted R Square	0.252
Standard Error	0.427
Observations	7.000

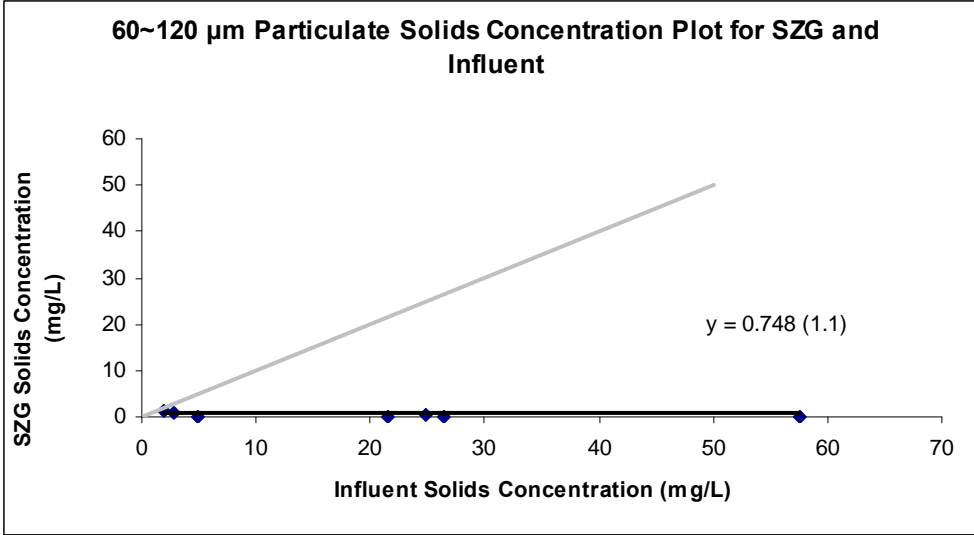
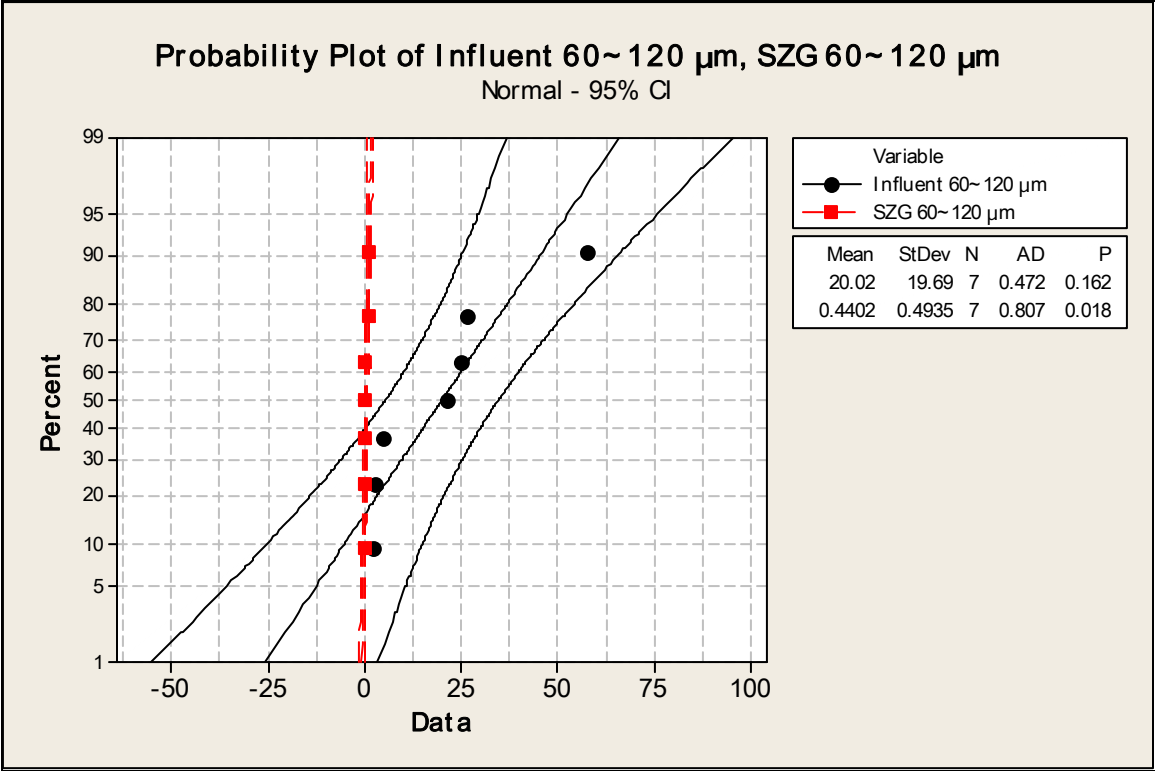
ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	0.550	0.550	3.020	0.143	
Residual	5.000	0.911	0.182			
Total	6.000	1.461				

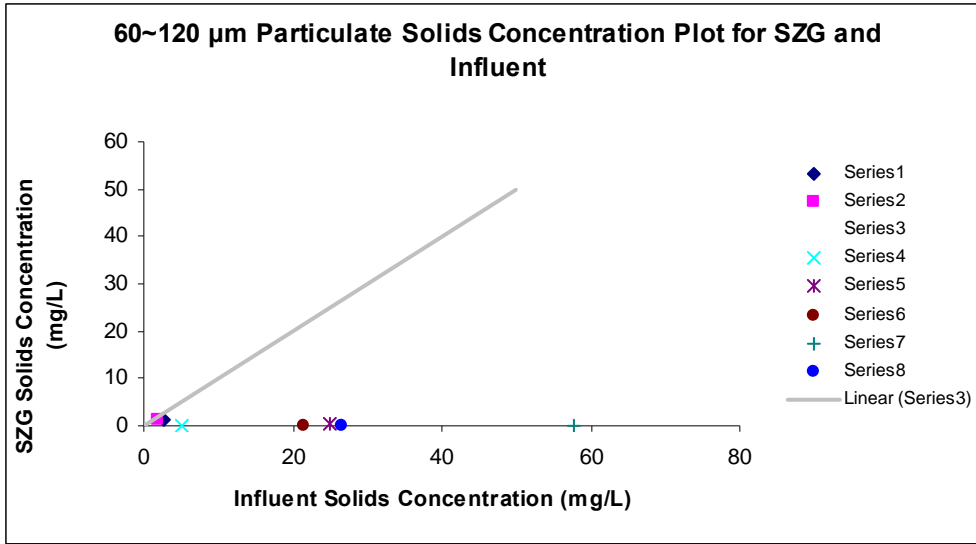
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.748	0.240	3.122	0.026	0.132	1.364	0.132	1.364
X Variable 1	-0.015	0.009	-1.738	0.143	-0.038	0.007	-0.038	0.007

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	0.705	0.372
2	0.718	0.501
3	0.671	-0.558
4	0.365	-0.028
5	0.418	-0.238
6	-0.138	0.251
7	0.341	-0.300







120-250 μm

SUMMARY OUTPUT for 120~250 μm

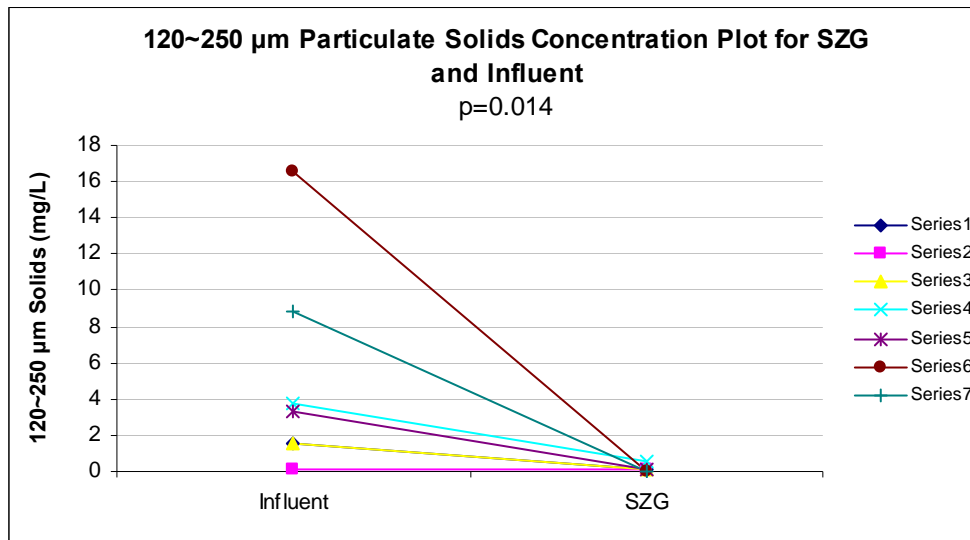
Regression Statistics	
Multiple R	0.328
R Square	0.107
Adjusted R Square	-0.071
Standard Error	0.175
Observations	7.000

ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	0.018	0.018	0.602	0.473	
Residual	5.000	0.153	0.031			
Total	6.000	0.172				

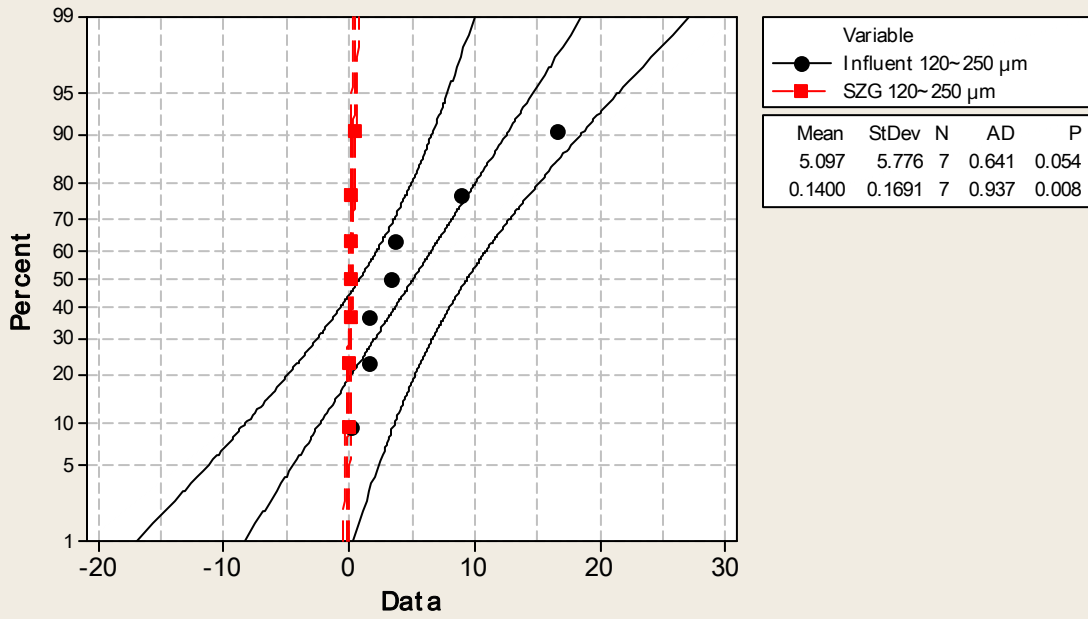
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.189	0.091	2.067	0.094	-0.046	0.424	-0.046	0.424
X Variable 1	-0.010	0.012	-0.776	0.473	-0.041	0.022	-0.041	0.022

RESIDUAL OUTPUT

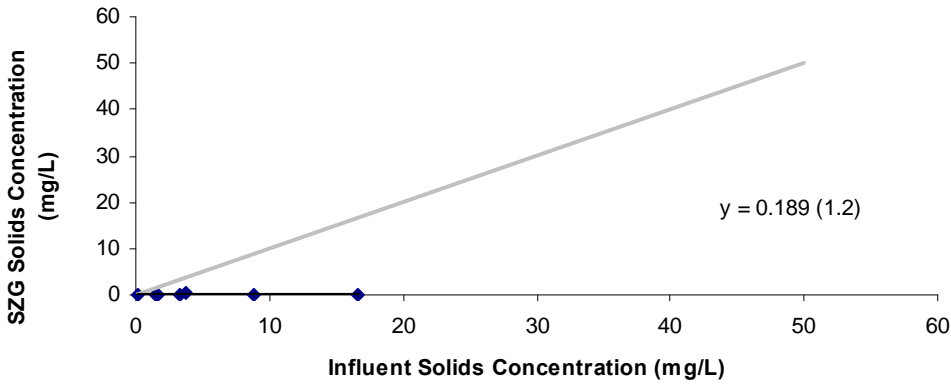
Observation	Predicted Y	Residuals
1	0.174	-0.093
2	0.187	-0.038
3	0.174	-0.089
4	0.153	0.355
5	0.157	-0.041
6	0.030	-0.008
7	0.104	-0.086

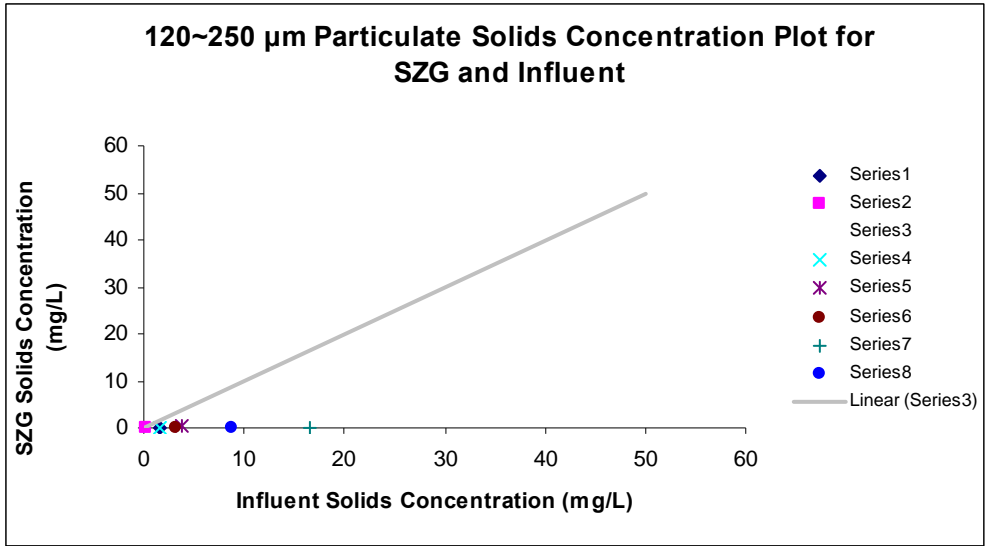


Probability Plot of Influent 120~250 μm , SZG 120~250 μm
Normal - 95% CI



120~250 μm Particulate Solids Concentration Plot for SZG and Influent





250-1180 μm

SUMMARY OUTPUT for 250~1180 μm

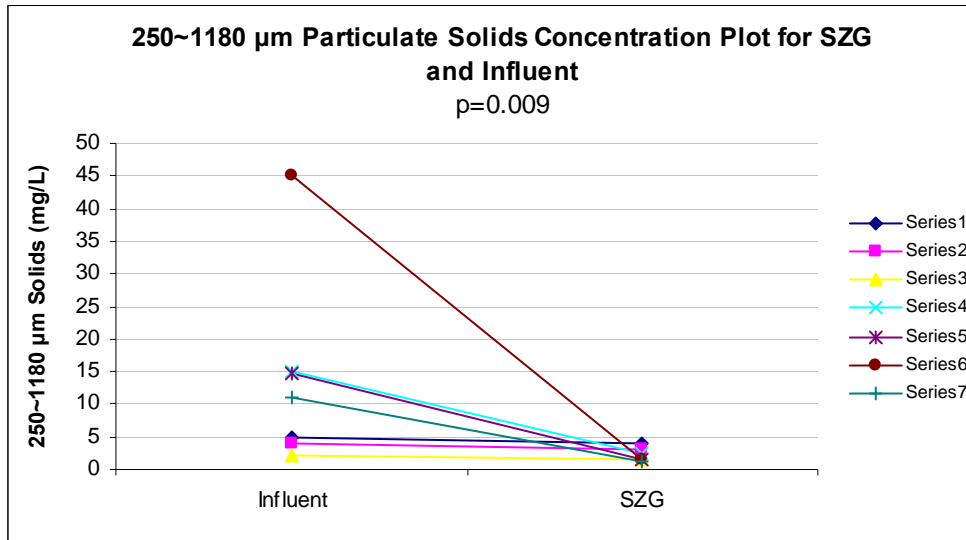
Regression Statistics	
Multiple R	0.365
R Square	0.133
Adjusted R Square	-0.040
Standard Error	1.088
Observations	7.000

ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	0.909	0.909	0.768	0.421	
Residual	5.000	5.914	1.183			
Total	6.000	6.823				

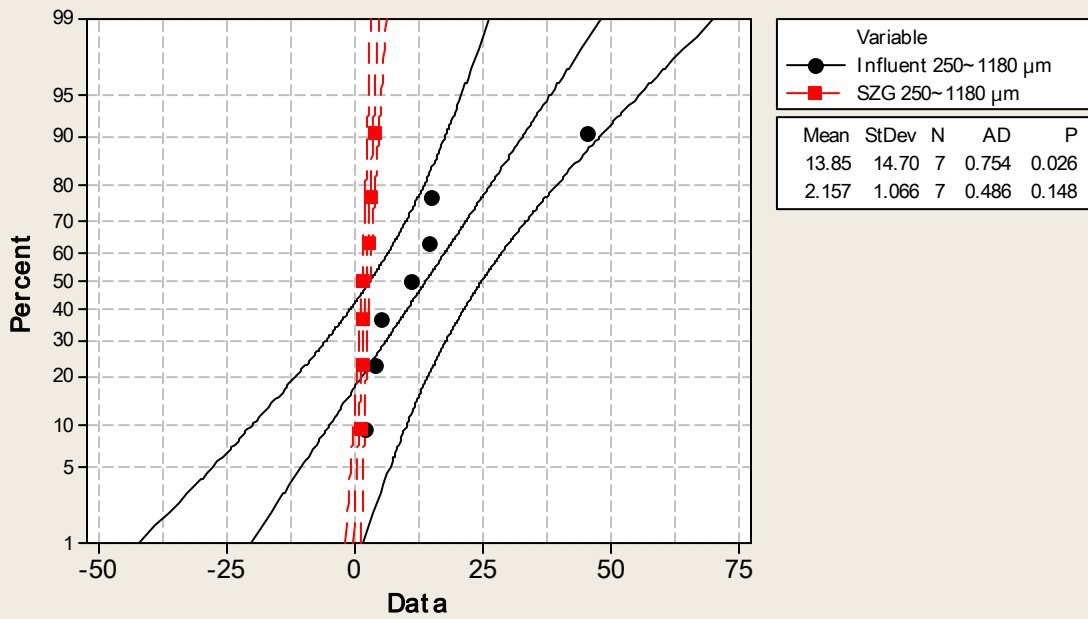
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	2.524	0.586	4.303	0.008	1.016	4.031	1.016	4.031
X Variable 1	-0.026	0.030	-0.877	0.421	-0.104	0.051	-0.104	0.051

RESIDUAL OUTPUT

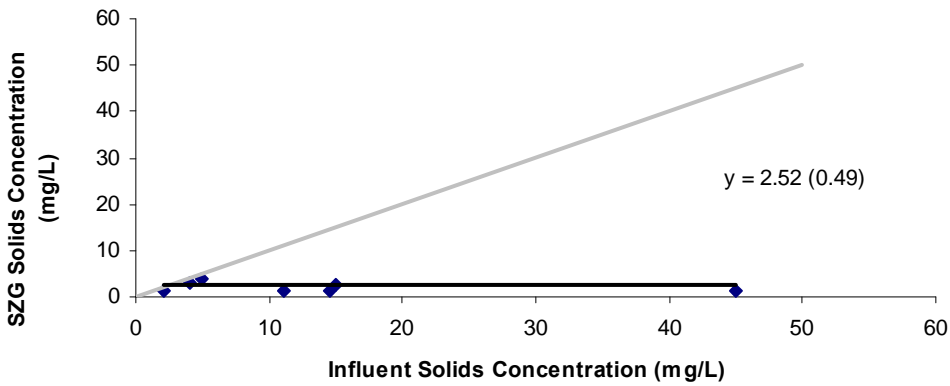
Observation	Predicted Y	Residuals
1	2.391	1.609
2	2.418	0.582
3	2.467	-1.042
4	2.126	0.462
5	2.137	-0.639
6	1.330	0.149
7	2.229	-1.121

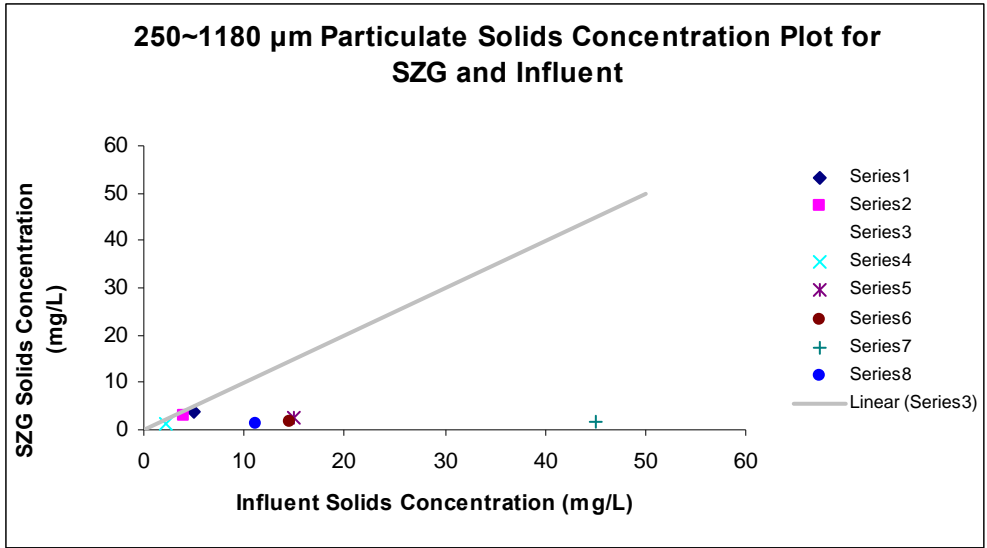


Probability Plot of Influent 250~1180 μm , SZG 250~1180 μm
Normal - 95% CI



250~1180 μm Particulate Solids Concentration Plot for SZG and Influent





>1180 μm (no particles observed in this size range)

SSC (>0.45 μm)

SUMMARY OUTPUT for Total

Regression Statistics	
Multiple R	0.275
R Square	0.076
Adjusted R Square	-0.109
Standard Error	2.155
Observations	7.000

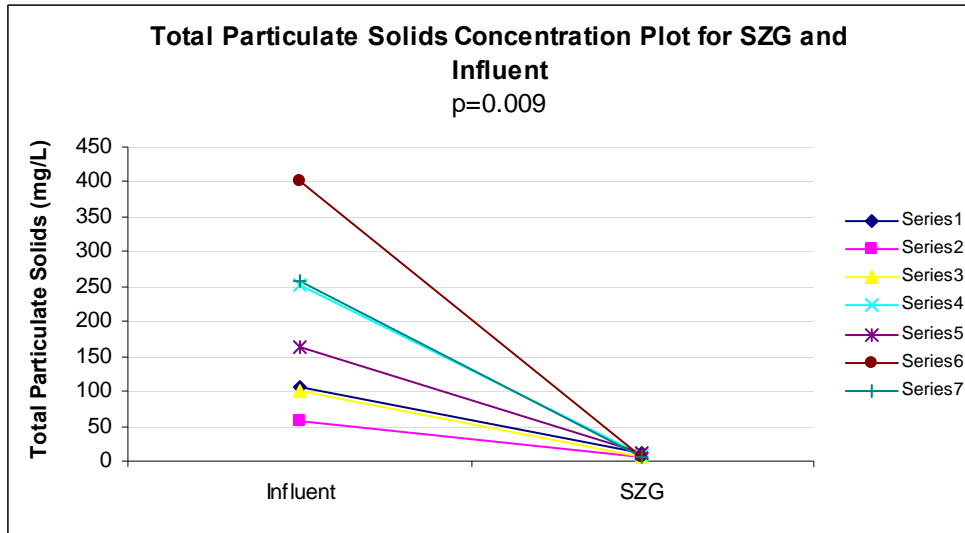
ANOVA

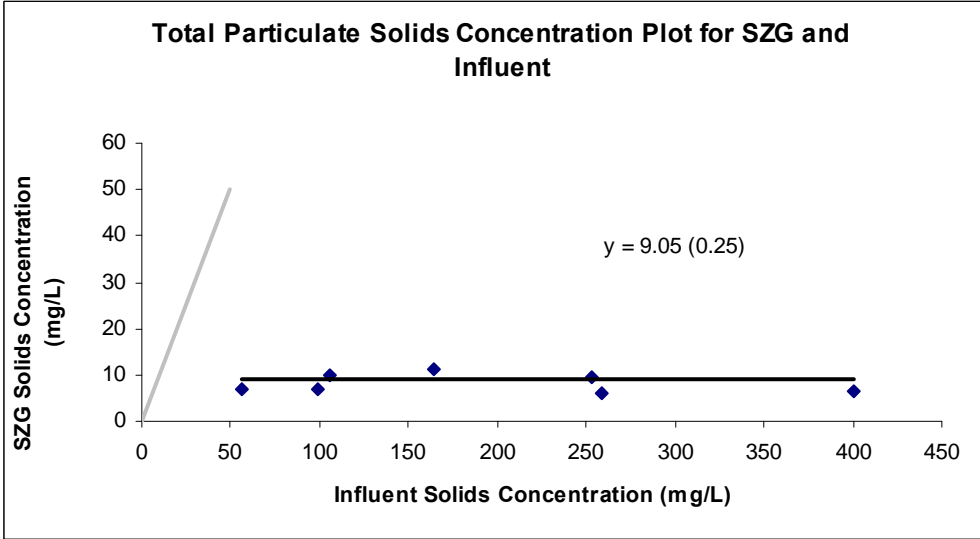
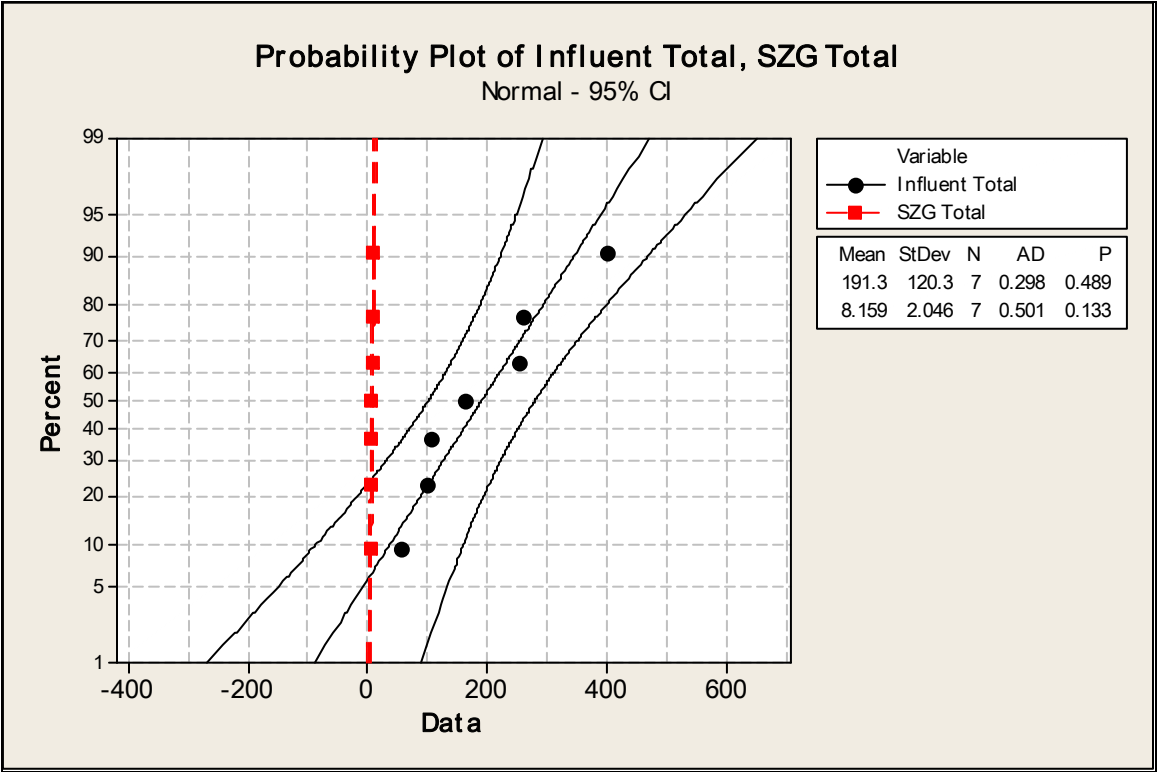
	df	SS	MS	F	Significance F
Regression	1.000	1.900	1.900	0.409	0.551
Residual	5.000	23.221	4.644		
Total	6.000	25.121			

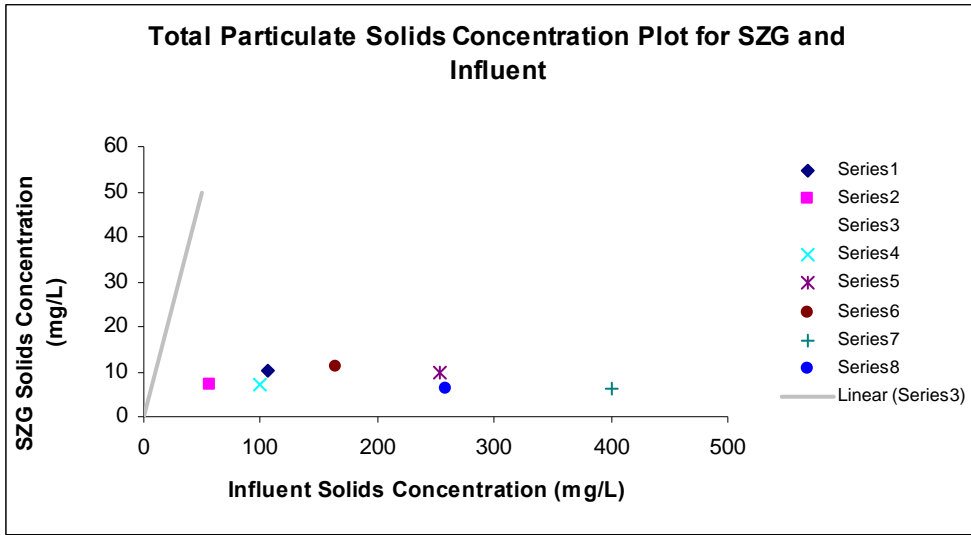
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	9.054	1.619	5.593	0.003	4.893	13.215	4.893	13.215
X Variable 1	-0.005	0.007	-0.640	0.551	-0.023	0.014	-0.023	0.014

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	8.558	1.523
2	8.790	-1.790
3	8.590	-1.657
4	7.871	1.830
5	8.284	2.759
6	7.181	-0.863
7	7.841	-1.802







TSS (0.45 to 75 μm)

SUMMARY OUTPUT for TSS

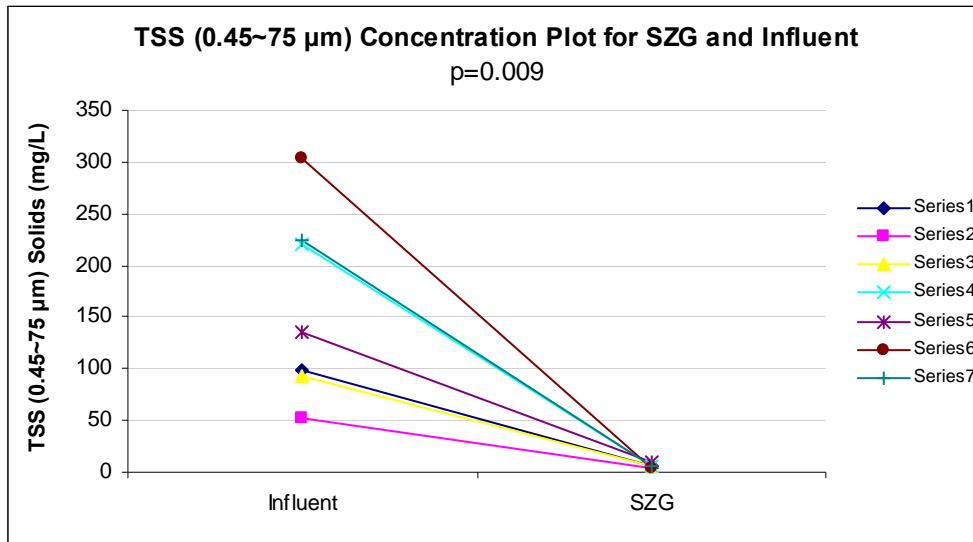
Regression Statistics	
Multiple R	0.068
R Square	0.005
Adjusted R Square	-0.194
Standard Error	2.036
Observations	7.000

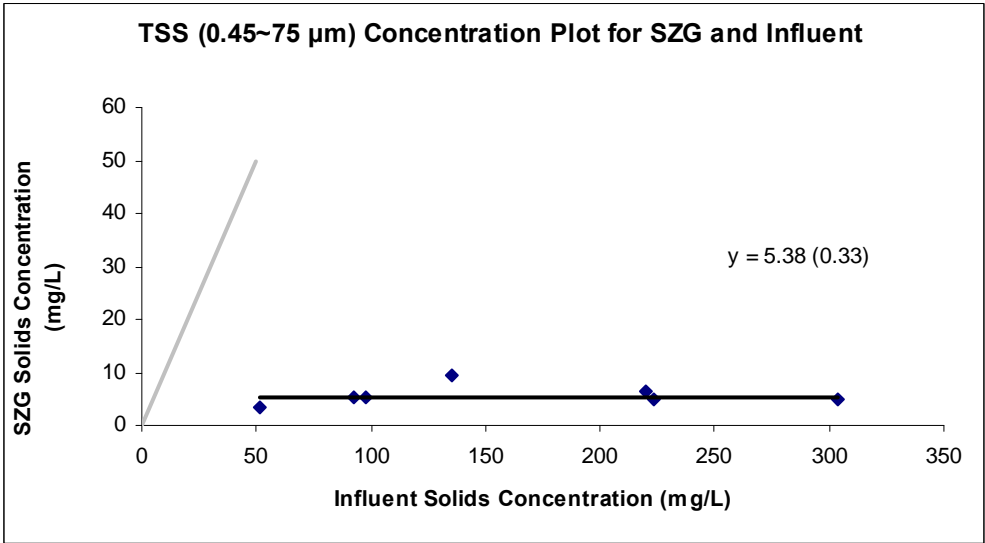
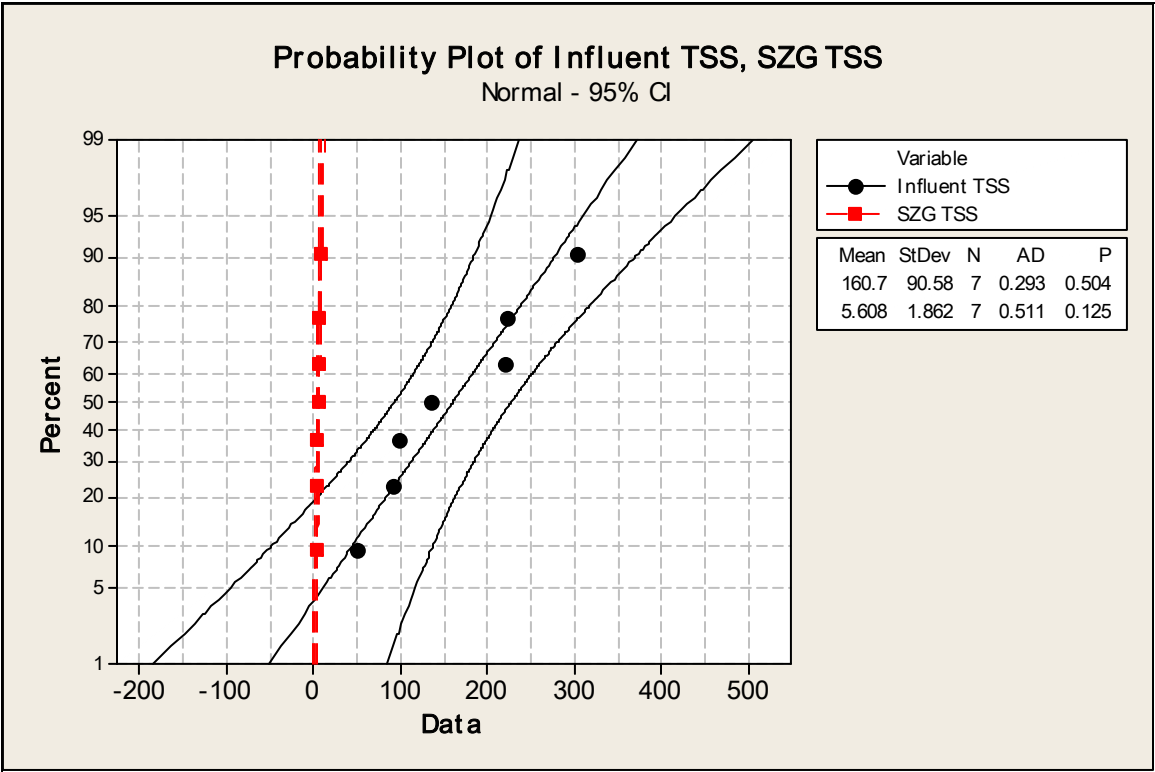
ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	0.097	0.097	0.023	0.885	
Residual	5.000	20.717	4.143			
Total	6.000	20.813				

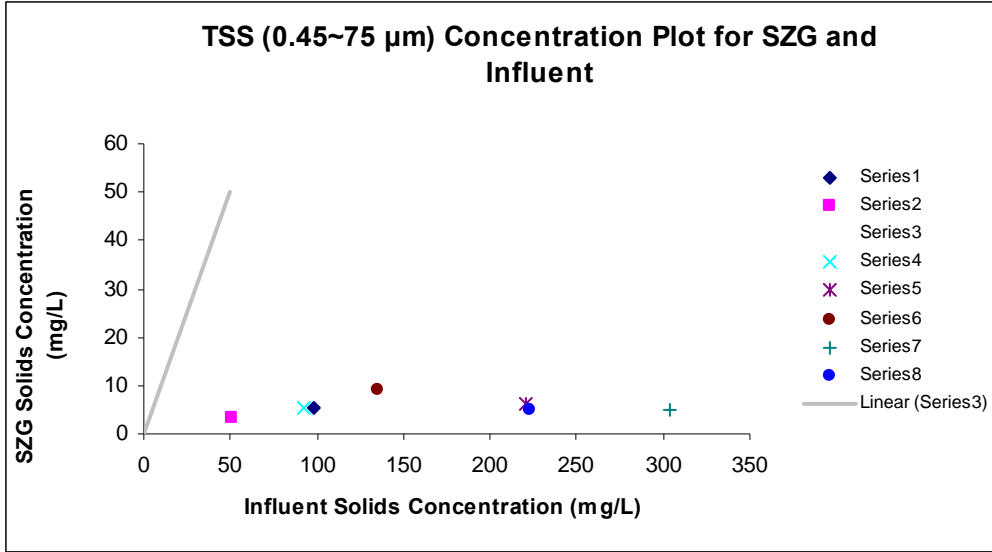
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	5.383	1.663	3.237	0.023	1.108	9.657	1.108	9.657
X Variable 1	0.001	0.009	0.153	0.885	-0.022	0.025	-0.022	0.025

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	5.520	-0.153
2	5.455	-2.170
3	5.512	-0.158
4	5.691	0.575
5	5.572	3.733
6	5.809	-1.027
7	5.696	-0.801

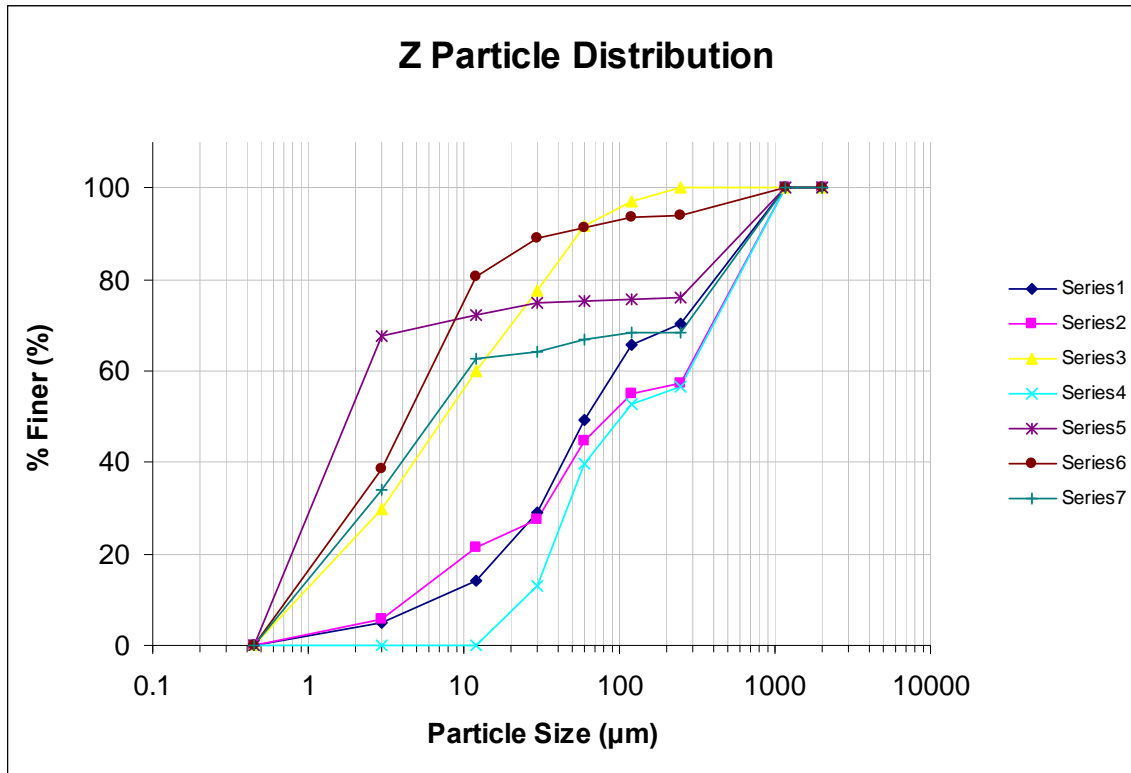


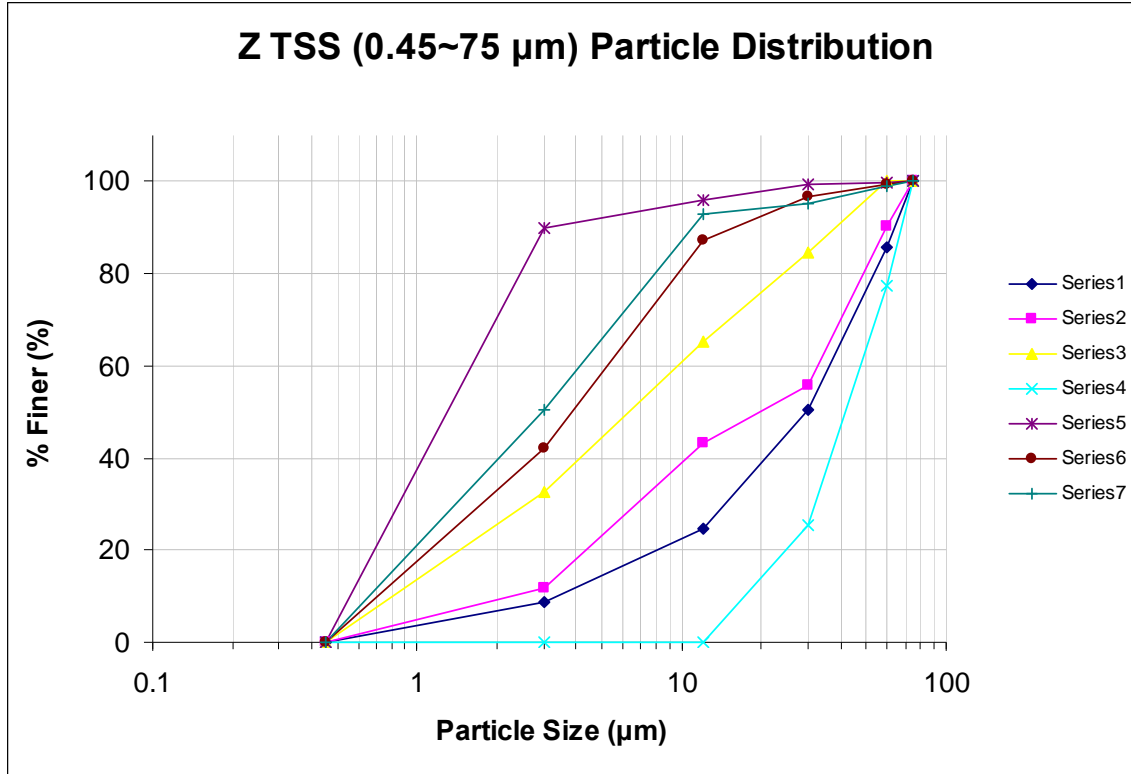




Site Zeolite (Z) Media Particulate Removal Data from Column Tests

Effluent Particle Size Distributions





TDS

SUMMARY OUTPUT For < 0.45 μm

Regression Statistics	
Multiple R	0.738
R Square	0.545
Adjusted R Square	0.431
Standard Error	27.819
Observations	6.000

ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	3700.568	3700.568	4.782	0.094
Residual	4.000	3095.600	773.900		
Total	5.000	6796.168			

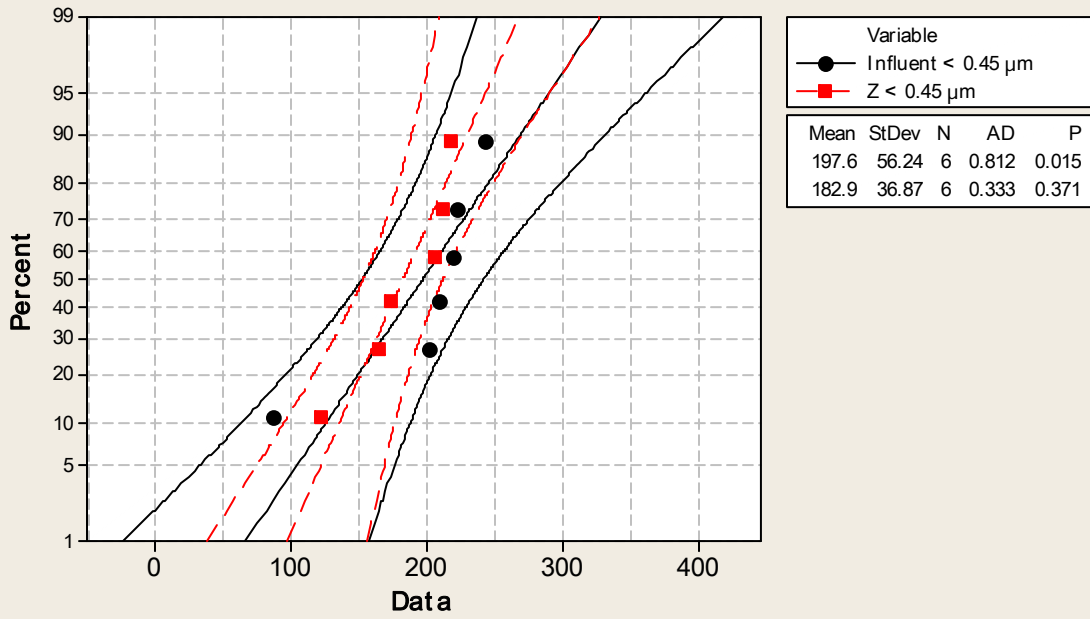
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	87.368	45.159	1.935	0.125	-38.014	212.750	-38.014	212.750
X Variable 1	0.484	0.221	2.187	0.094	-0.130	1.098	-0.130	1.098

RESIDUAL OUTPUT

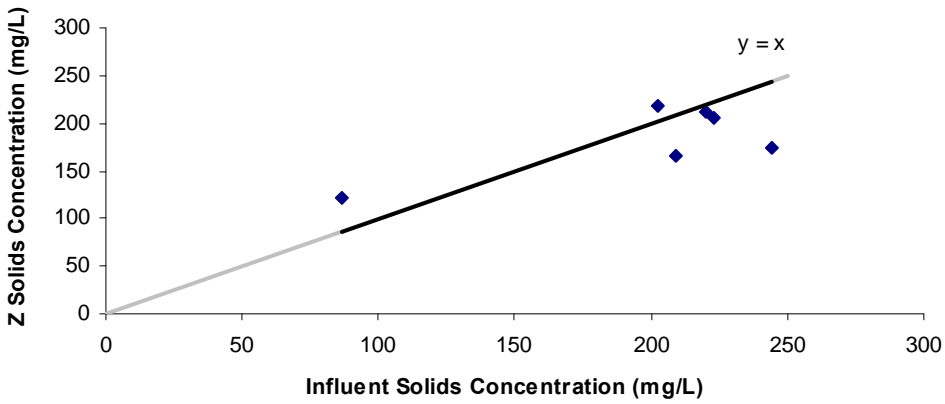
Observation	Predicted Y	Residuals
1	129.210	-7.710
2	185.321	33.179
3	205.344	-31.086
4	188.489	-23.072
5	195.324	10.804
6	193.979	17.886

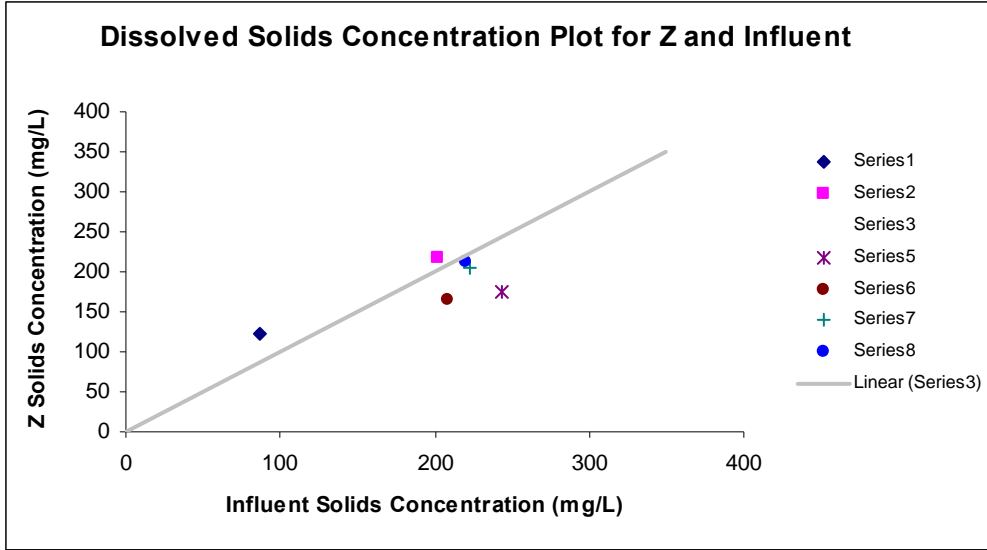


Probability Plot of Influent < 0.45 μm, Z < 0.45 μm
Normal - 95% CI



Total Dissolved Solids Concentration Plot for Z and Influent





0.45-3 μm

SUMMARY OUTPUT for 0.45~3 μm

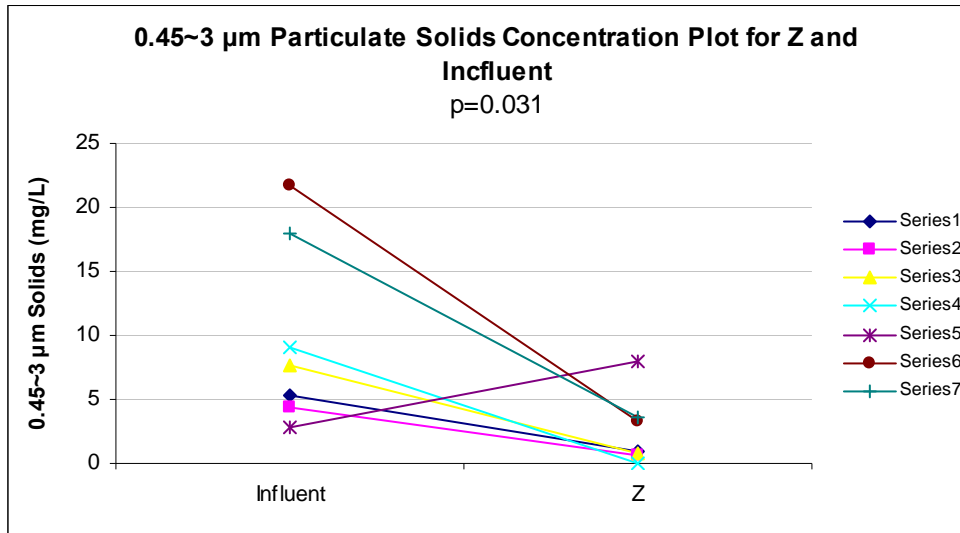
Regression Statistics	
Multiple R	0.036
R Square	0.001
Adjusted R Square	-0.198
Standard Error	3.043
Observations	7.000

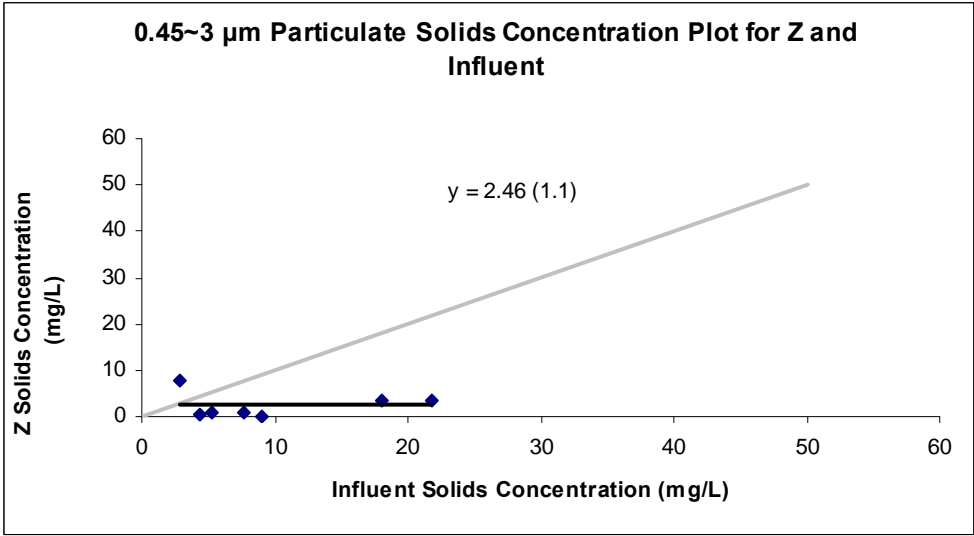
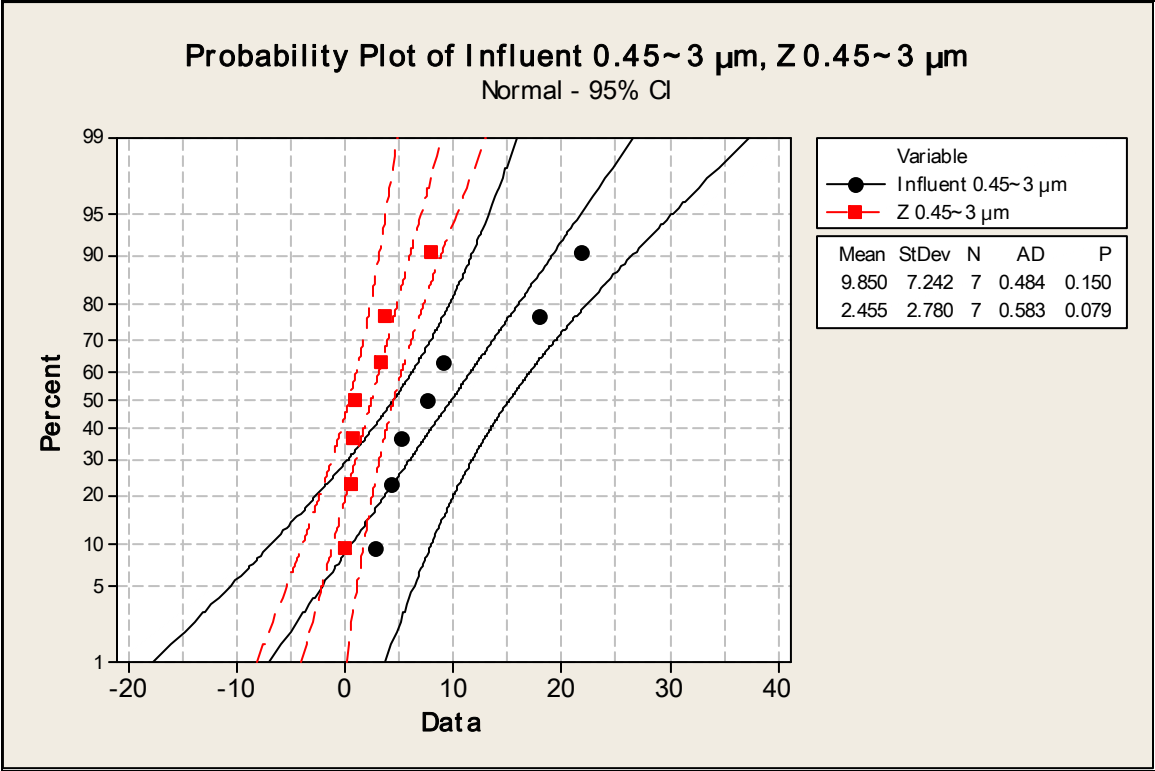
ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	0.059	0.059	0.006	0.939
Residual	5.000	46.303	9.261		
Total	6.000	46.363			

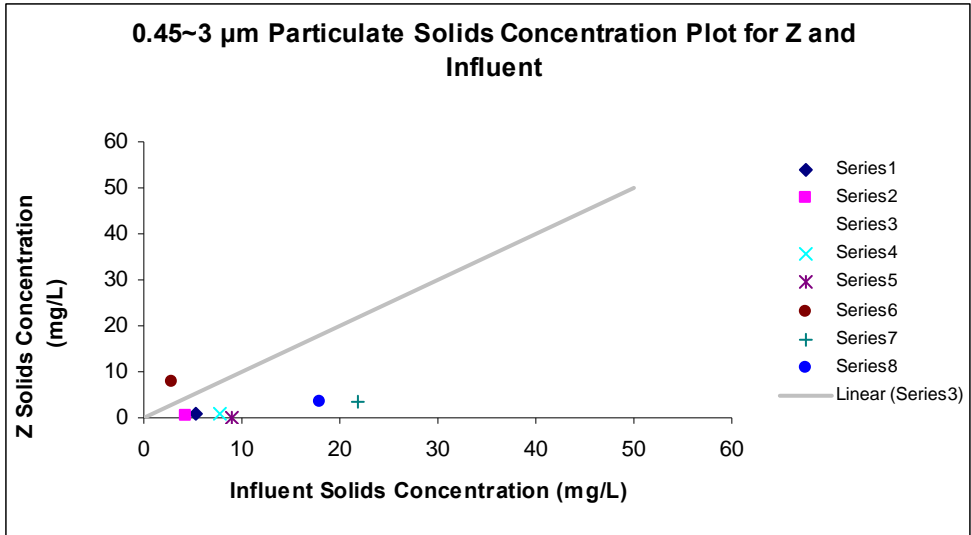
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	2.320	2.044	1.135	0.308	-2.935	7.574	-2.935	7.574
X Variable 1	0.014	0.172	0.080	0.939	-0.427	0.455	-0.427	0.455

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	2.392	-1.481
2	2.379	-1.767
3	2.425	-1.611
4	2.445	-2.445
5	2.359	5.552
6	2.619	0.706
7	2.567	1.046







3-12 μm

SUMMARY OUTPUT for 3~12 μm

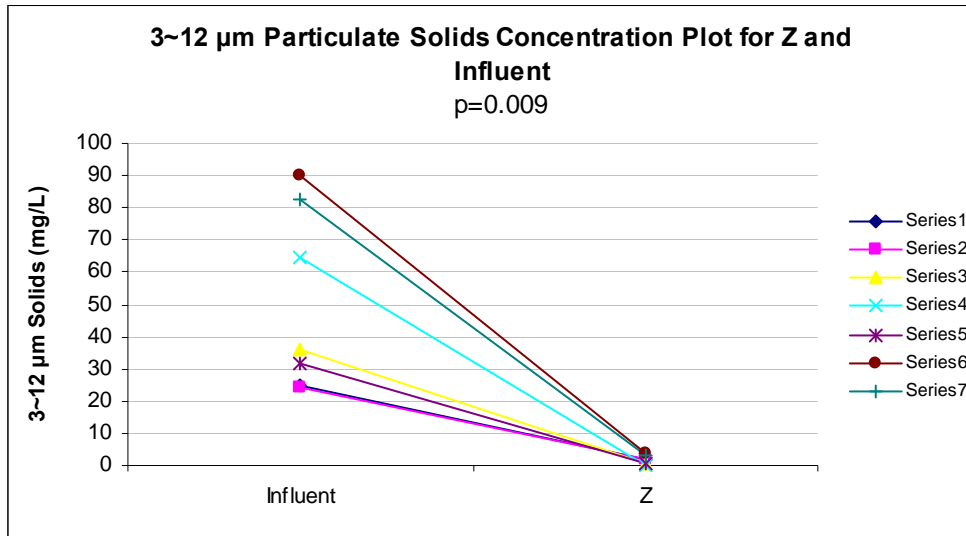
Regression Statistics	
Multiple R	0.588
R Square	0.345
Adjusted R Square	0.214
Standard Error	1.165
Observations	7.000

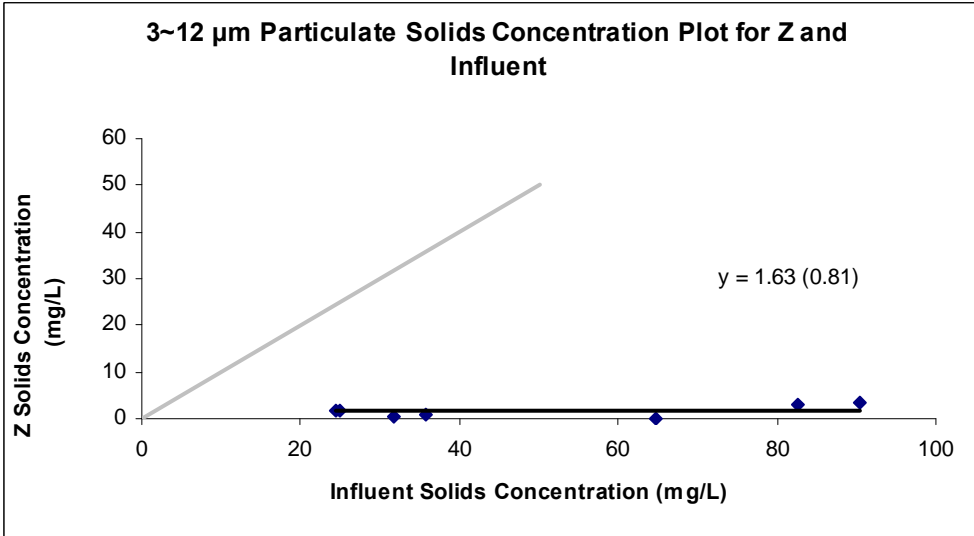
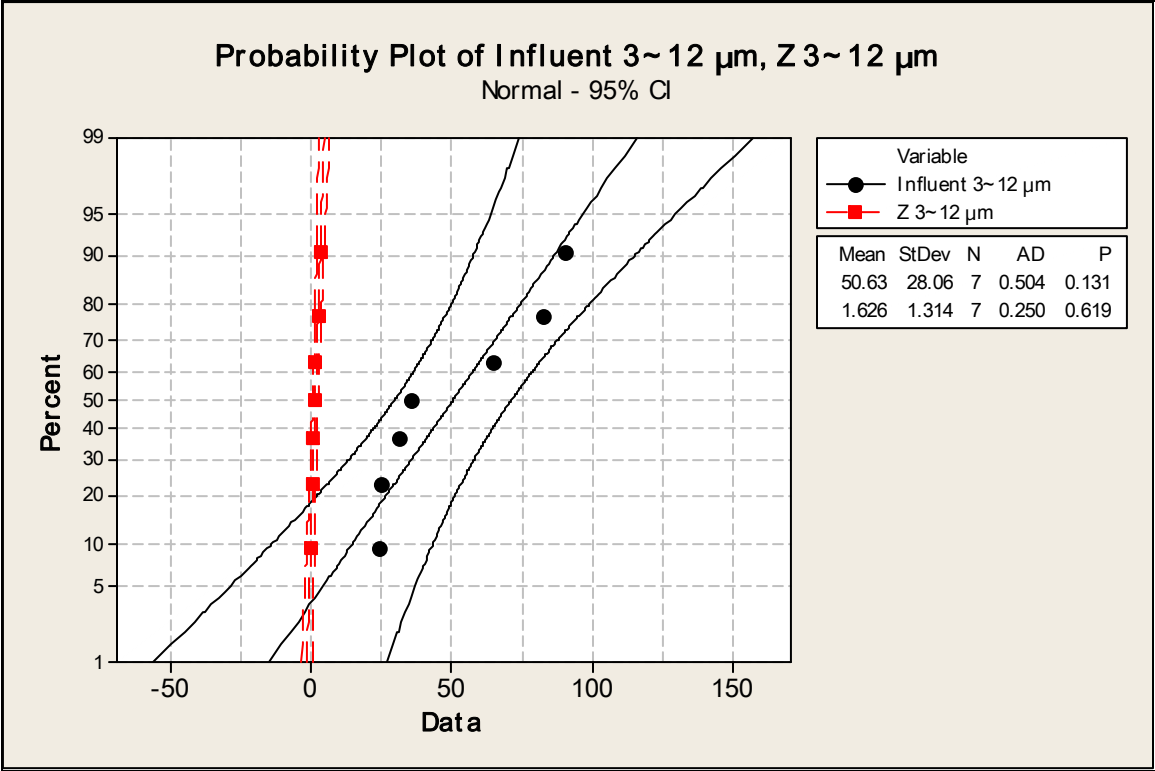
ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1.000	3.576	3.576	2.637	0.165
Residual	5.000	6.781	1.356		
Total	6.000	10.357			

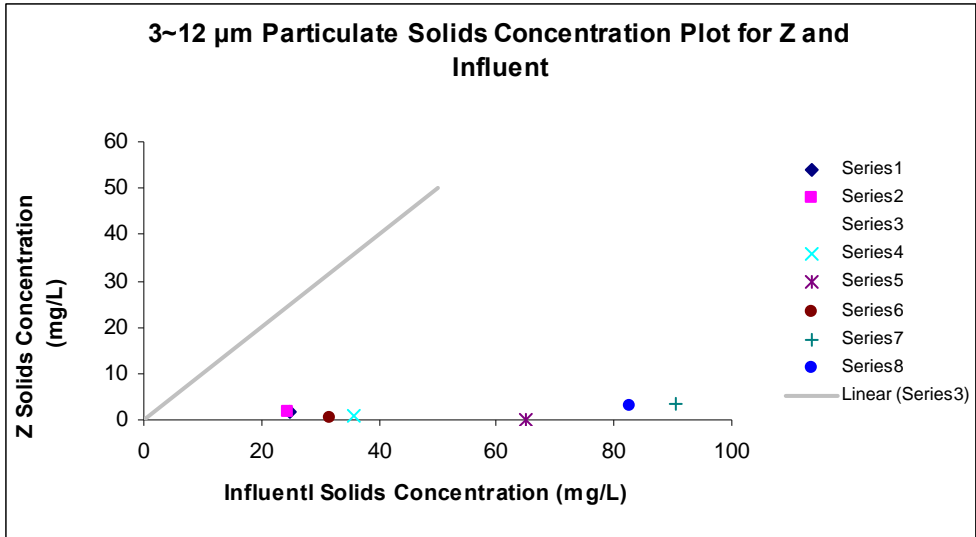
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.233	0.964	0.241	0.819	-2.246	2.712	-2.246	2.712
X Variable 1	0.028	0.017	1.624	0.165	-0.016	0.071	-0.016	0.071

RESIDUAL OUTPUT

<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	0.917	0.798
2	0.904	0.737
3	1.217	-0.391
4	2.018	-2.018
5	1.106	-0.554
6	2.718	0.874
7	2.503	0.553







12-30 μm

SUMMARY OUTPUT for 12-30 μm

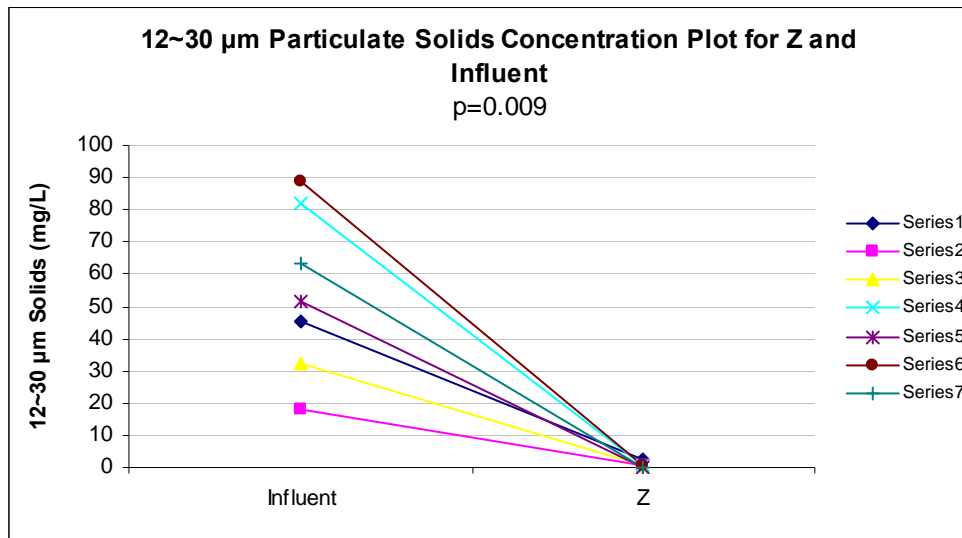
Regression Statistics	
Multiple R	0.168
R Square	0.028
Adjusted R Square	-0.166
Standard Error	0.953
Observations	7.000

ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	0.132	0.132	0.145	0.719
Residual	5.000	4.538	0.908		
Total	6.000	4.670			

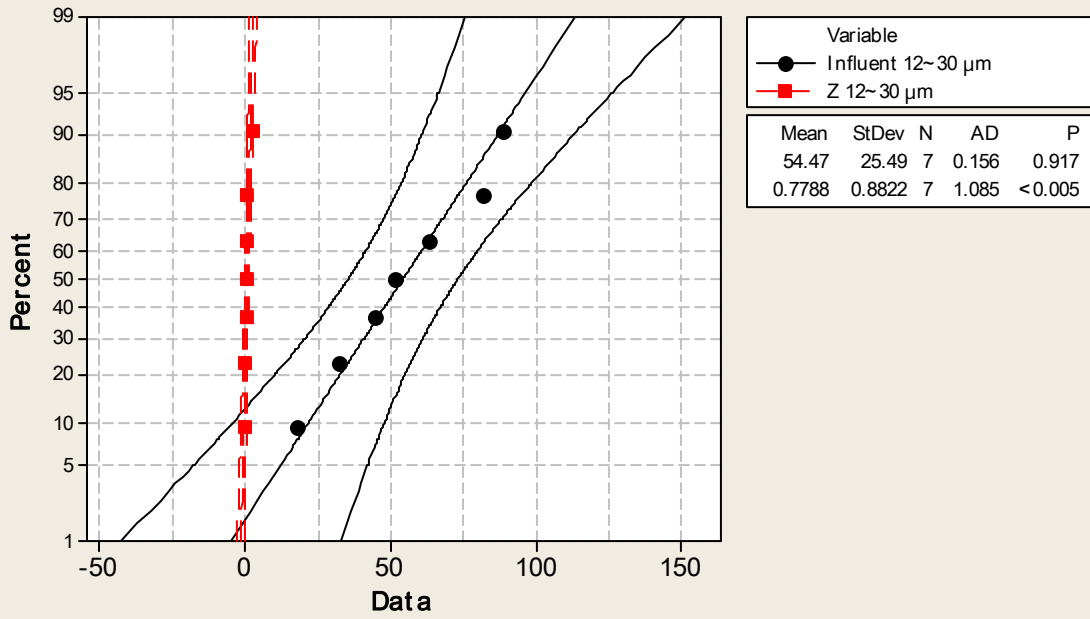
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.095	0.906	1.209	0.281	-1.233	3.423	-1.233	3.423
X Variable 1	-0.006	0.015	-0.381	0.719	-0.045	0.033	-0.045	0.033

RESIDUAL OUTPUT

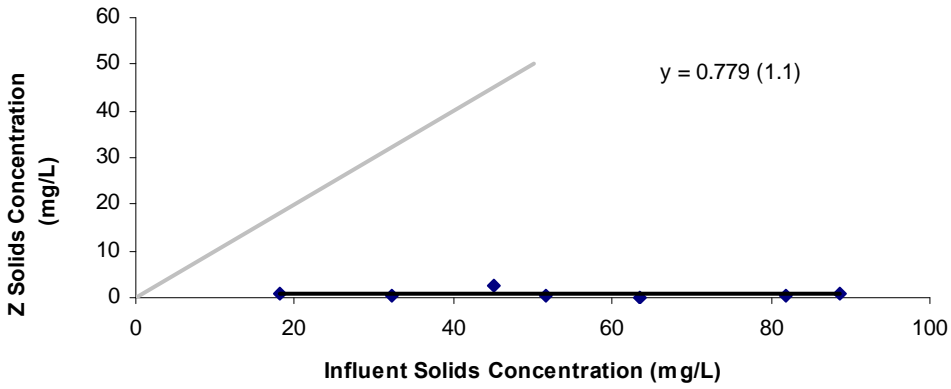
Observation	Predicted Y	Residuals
1	0.834	1.895
2	0.990	-0.339
3	0.907	-0.429
4	0.619	-0.198
5	0.795	-0.512
6	0.581	0.153
7	0.727	-0.670

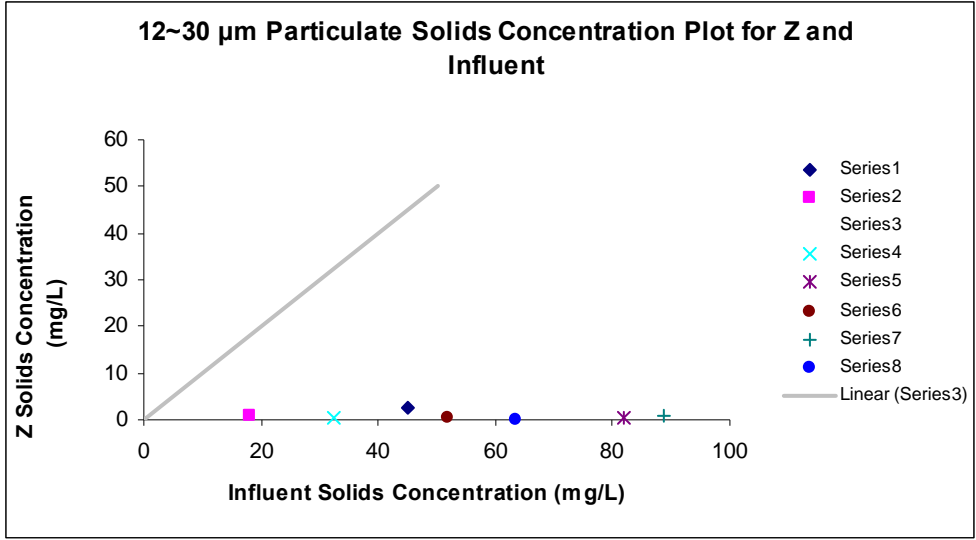


Probability Plot of Influent 12~30 μm , Z 12~30 μm
Normal - 95% CI



12~30 μm Particulate Solids Concentration Plot for Z and Influent





30-60 um

SUMMARY OUTPUT for 30-60 um

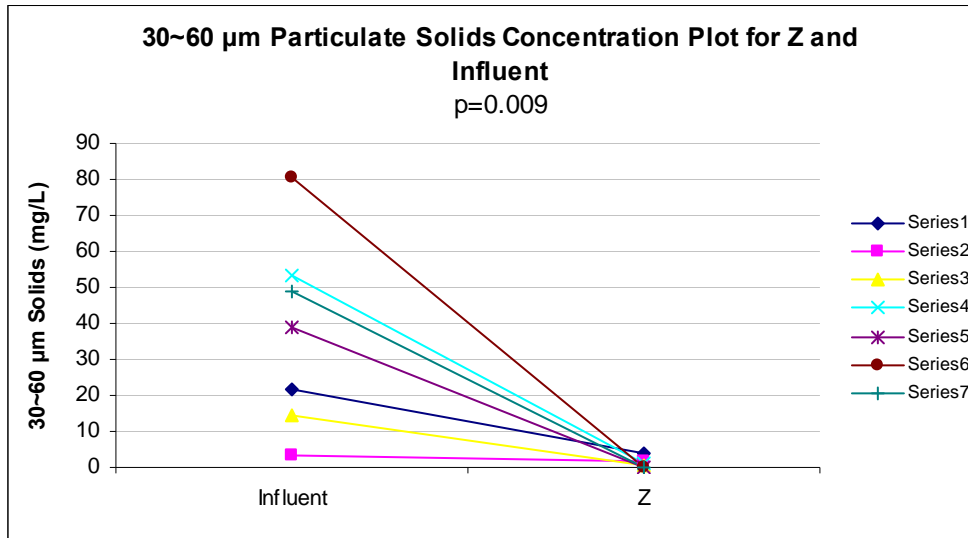
Regression Statistics	
Multiple R	0.488
R Square	0.238
Adjusted R Square	0.086
Standard Error	1.268
Observations	7.000

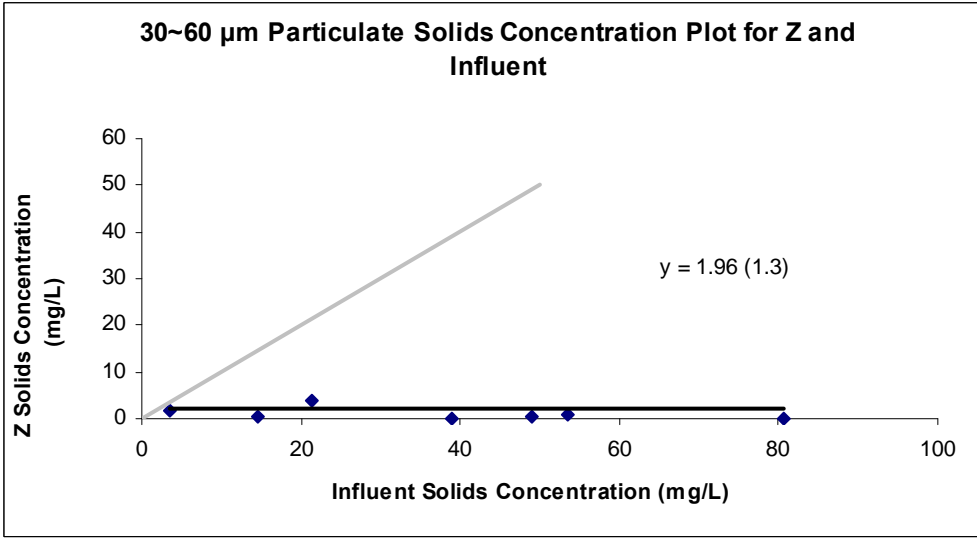
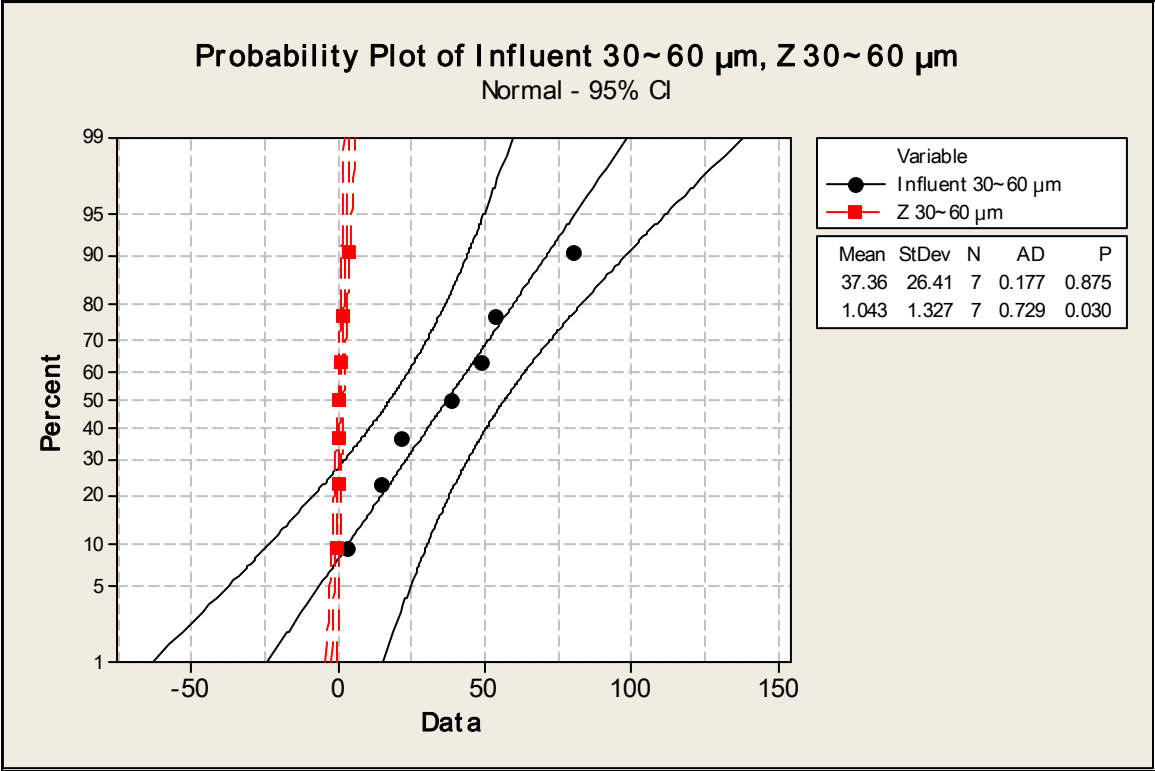
ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	2.516	2.516	1.564	0.266	
Residual	5.000	8.045	1.609			
Total	6.000	10.561				

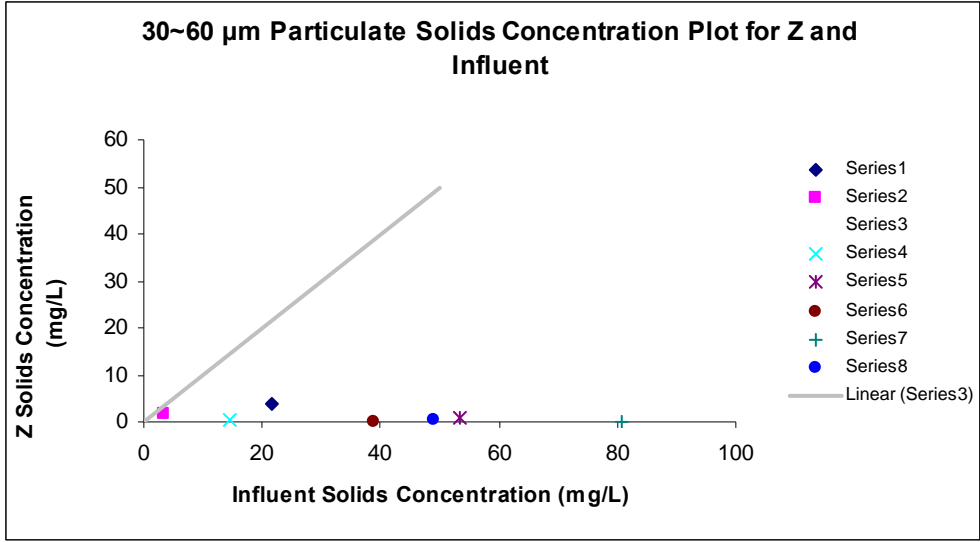
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.959	0.876	2.238	0.075	-0.291	4.210	-0.291	4.210
X Variable 1	-0.025	0.020	-1.251	0.266	-0.075	0.026	-0.075	0.026

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	1.433	2.307
2	1.874	-0.095
3	1.600	-1.210
4	0.649	0.220
5	1.004	-0.956
6	-0.018	0.222
7	0.760	-0.487







60-120 μm

SUMMARY OUTPUT for 60-120 μm

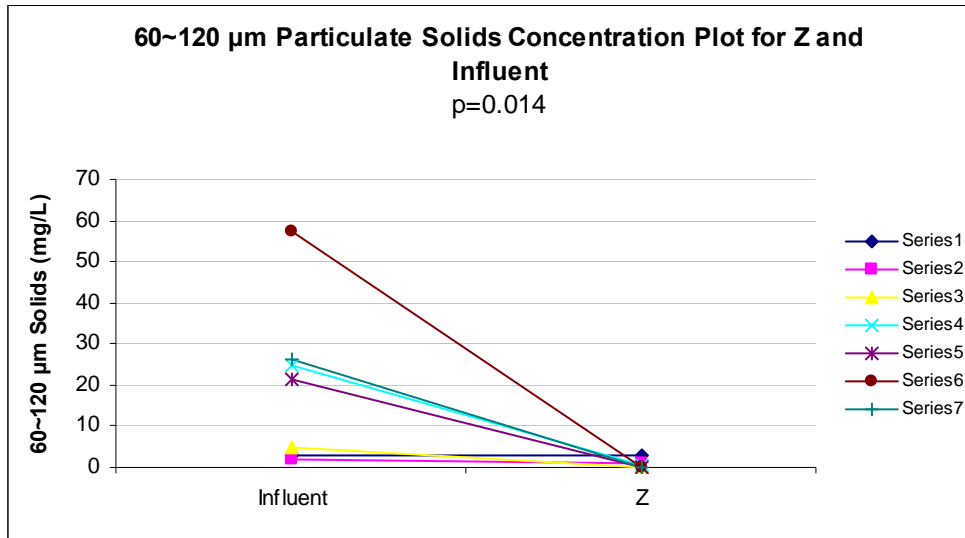
Regression Statistics	
Multiple R	0.499
R Square	0.249
Adjusted R Square	0.099
Standard Error	1.036
Observations	7.000

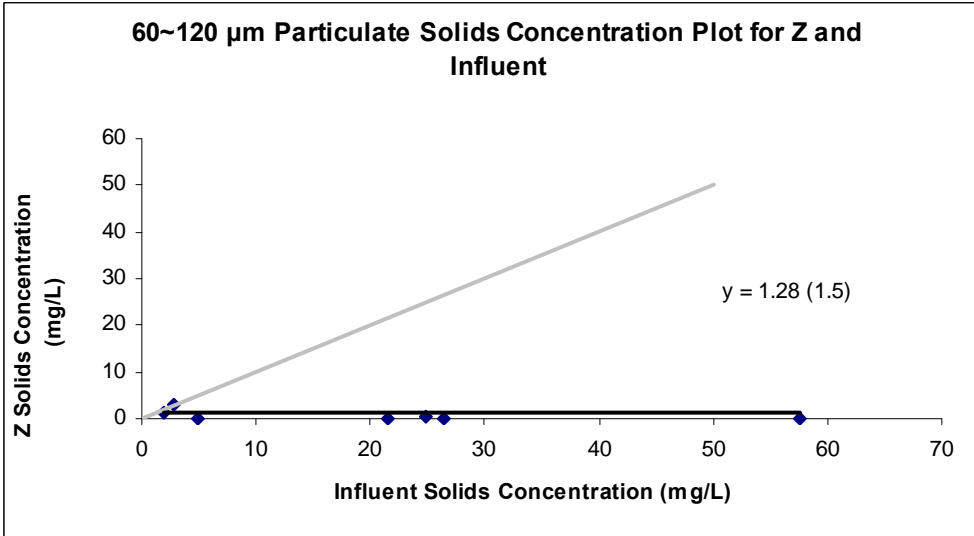
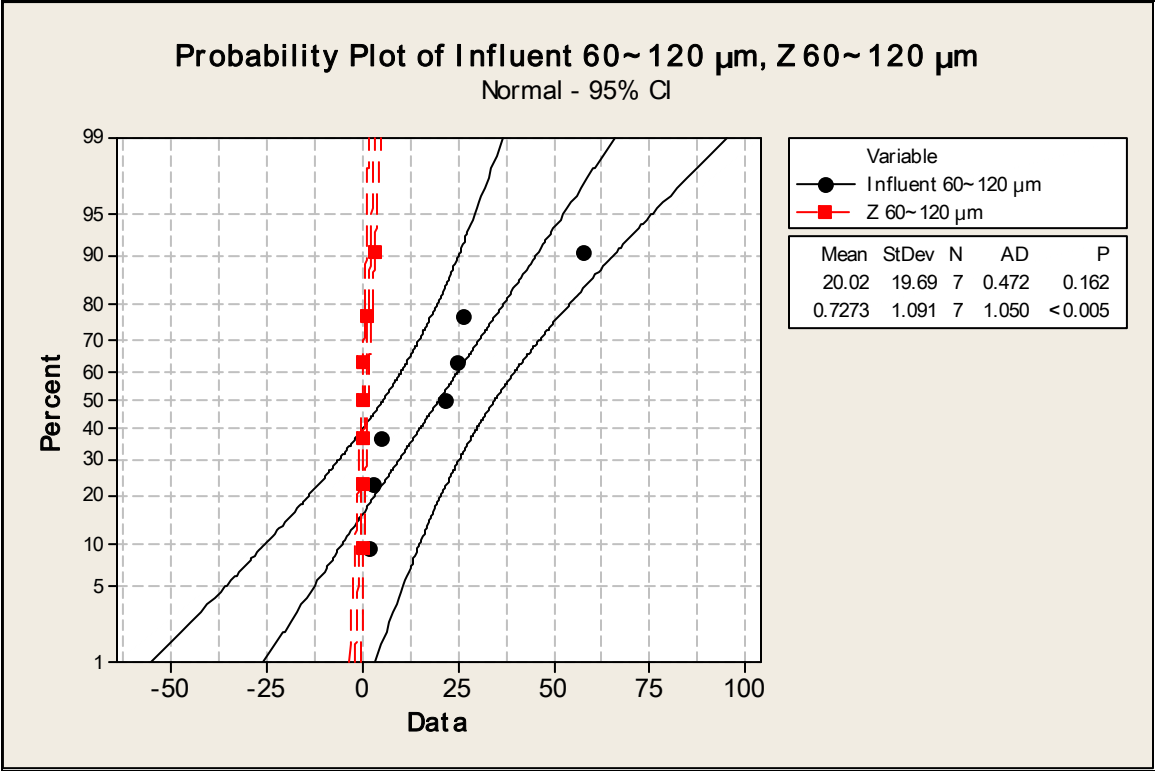
ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	1.000	1.782	1.782	1.661	0.254	
Residual	5.000	5.364	1.073			
Total	6.000	7.146				

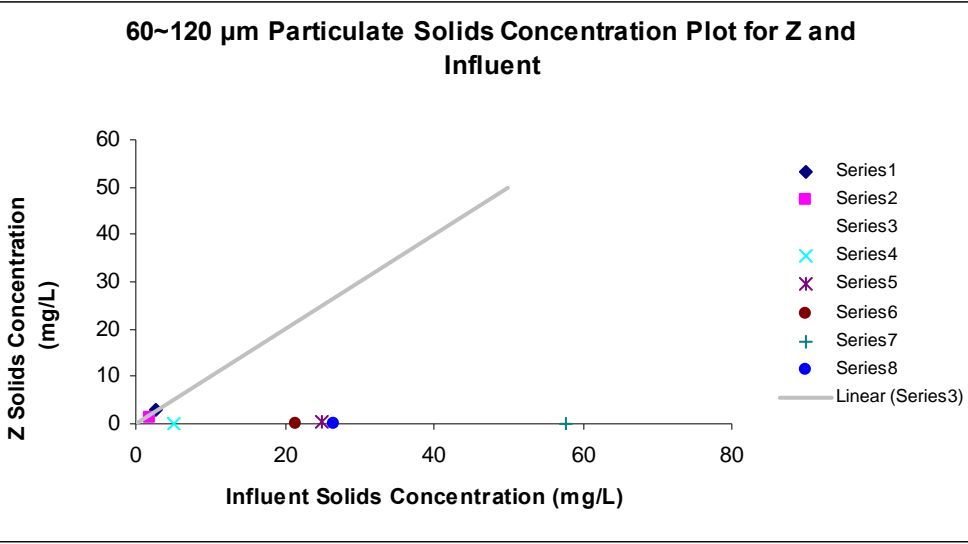
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.281	0.581	2.204	0.079	-0.213	2.776	-0.213	2.776
X Variable 1	-0.028	0.021	-1.289	0.254	-0.083	0.028	-0.083	0.028

RESIDUAL OUTPUT

<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	1.204	1.869
2	1.227	-0.151
3	1.144	-1.000
4	0.593	-0.180
5	0.688	-0.643
6	-0.313	0.498
7	0.549	-0.393







120-250 μm

SUMMARY OUTPUT for 120~250 μm

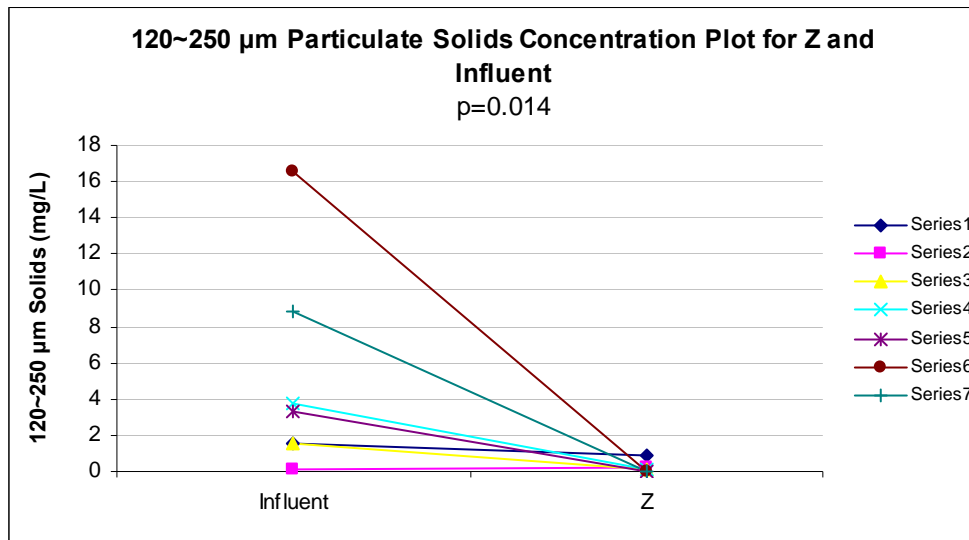
Regression Statistics	
Multiple R	0.422
R Square	0.178
Adjusted R Square	0.014
Standard Error	0.288
Observations	7.000

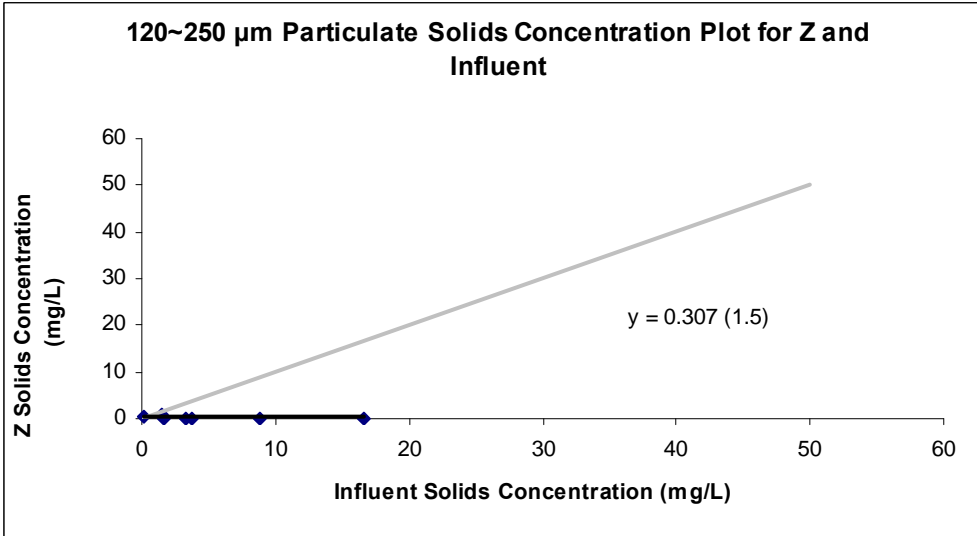
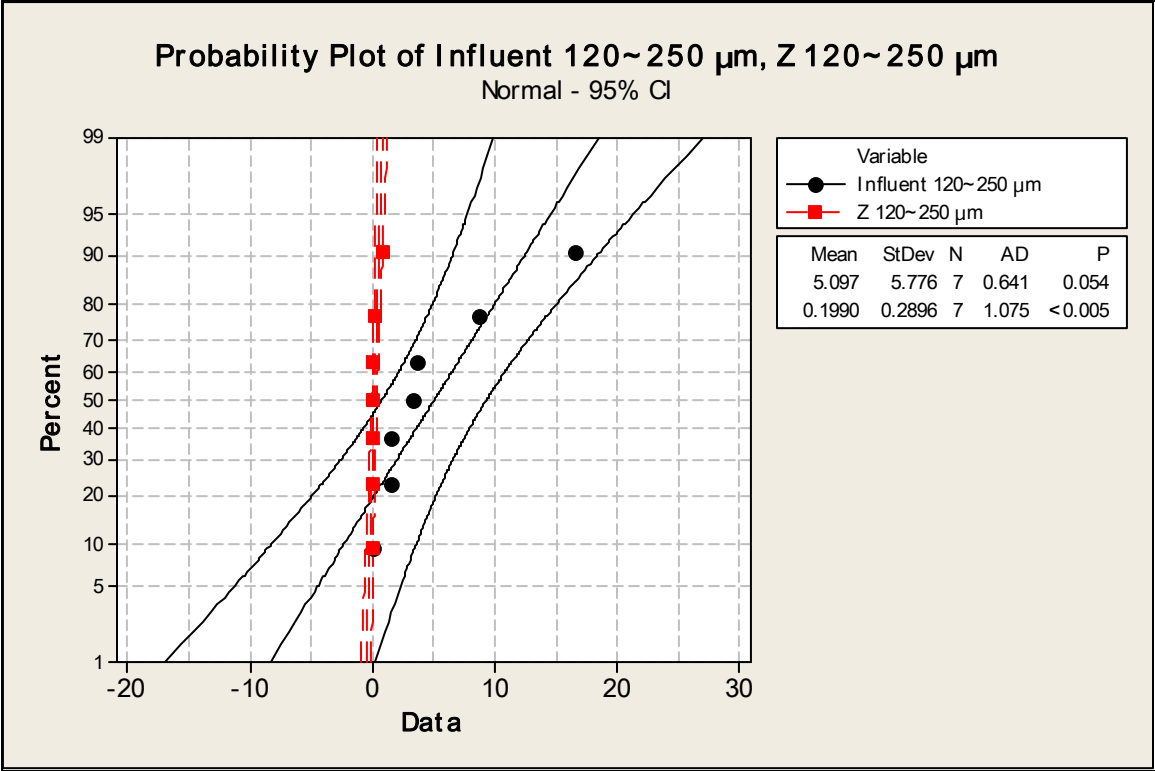
ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	1.000	0.090	0.090	1.085	0.345	
Residual	5.000	0.413	0.083			
Total	6.000	0.503				

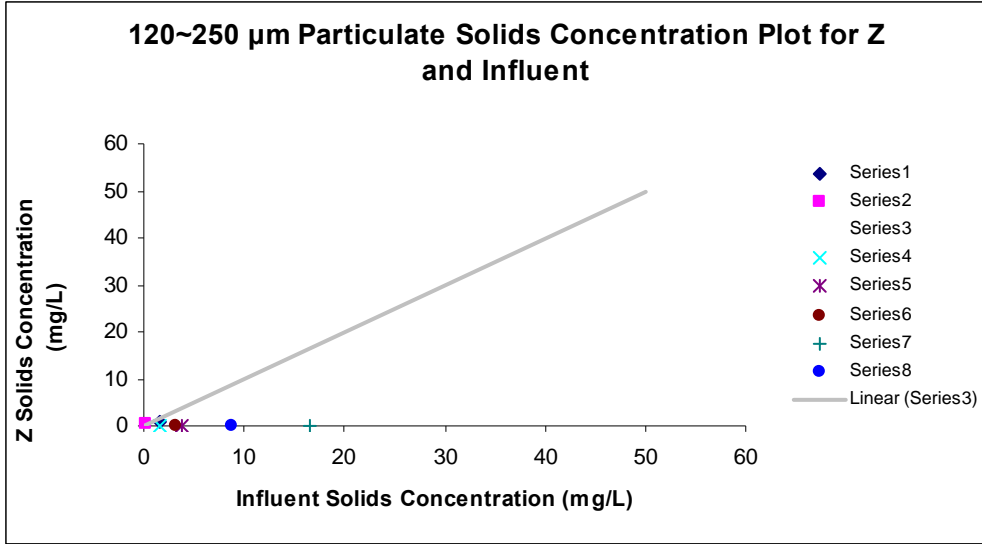
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.307	0.150	2.044	0.096	-0.079	0.693	-0.079	0.693
X Variable 1	-0.021	0.020	-1.042	0.345	-0.073	0.031	-0.073	0.031

RESIDUAL OUTPUT

<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	0.274	0.559
2	0.304	-0.063
3	0.273	-0.194
4	0.228	-0.099
5	0.237	-0.183
6	-0.044	0.079
7	0.120	-0.100







250-1180 μm

SUMMARY OUTPUT for 250~1180 μm

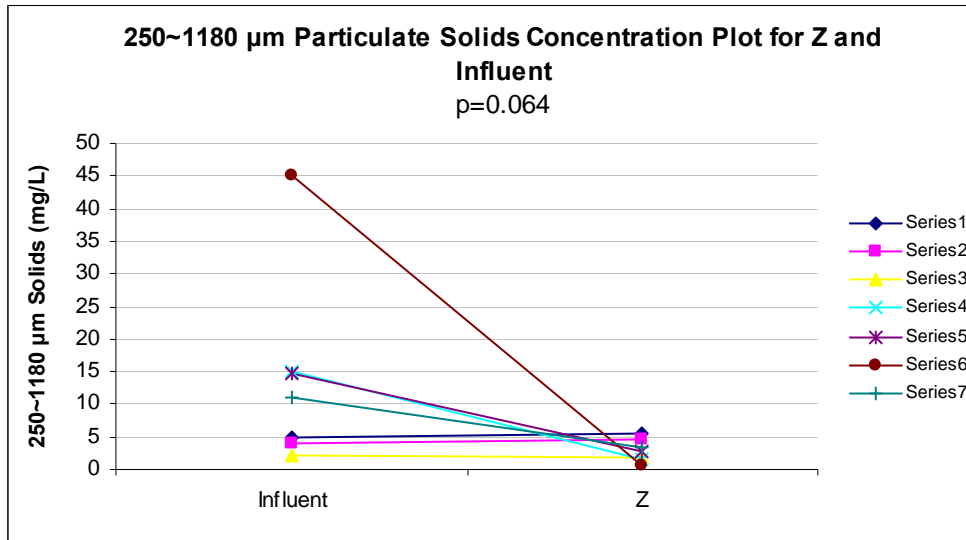
Regression Statistics	
Multiple R	0.676
R Square	0.457
Adjusted R Square	0.348
Standard Error	1.415
Observations	7.000

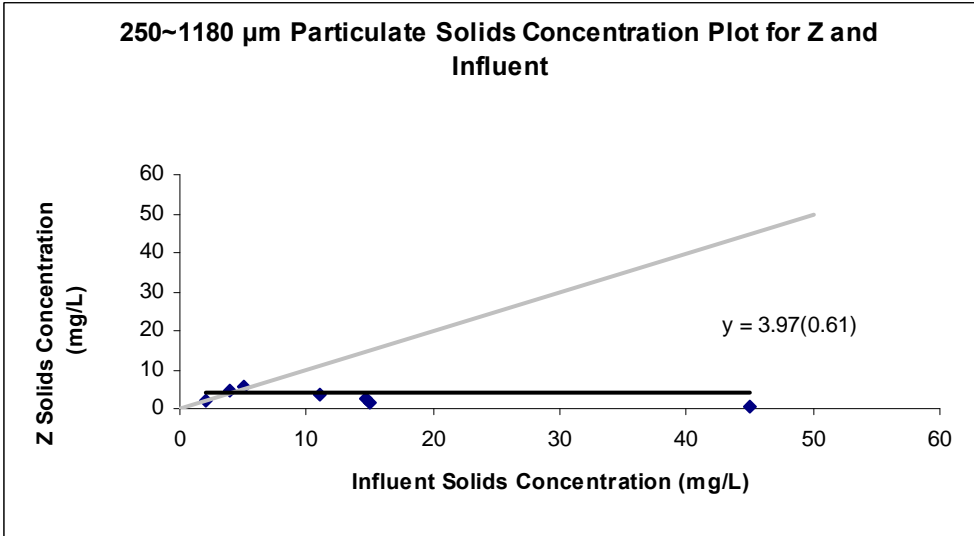
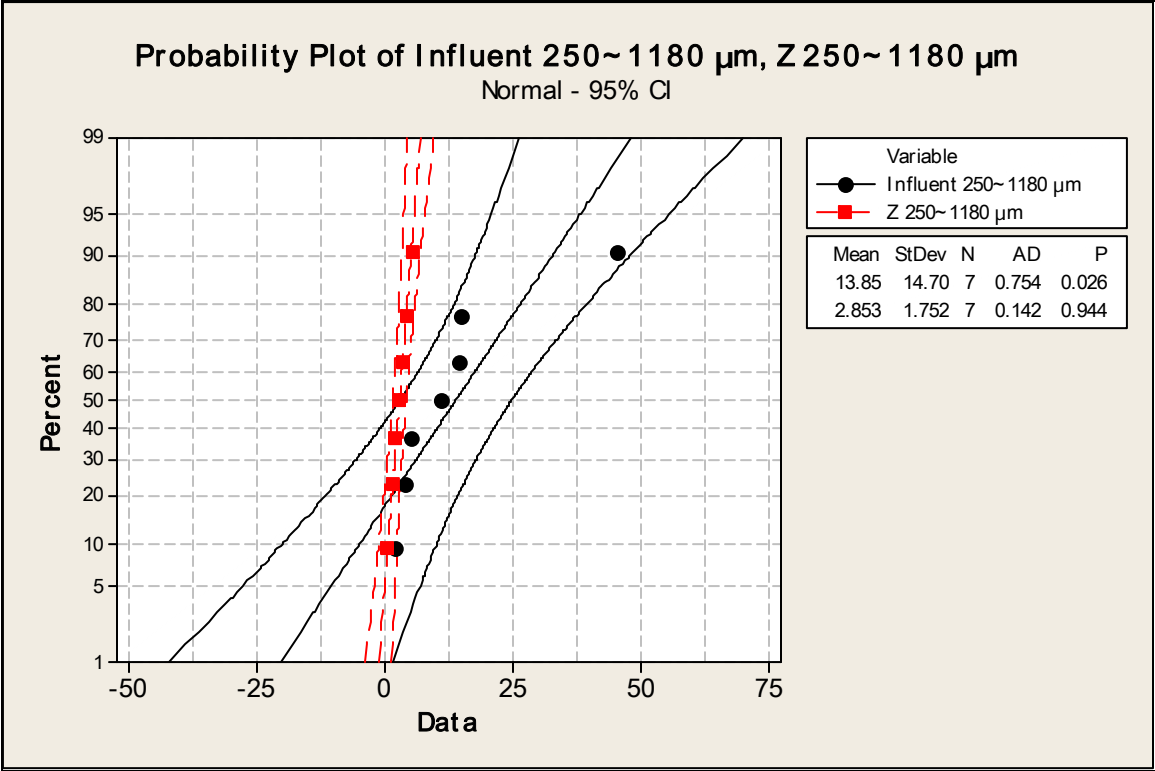
ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1.000	8.414	8.414	4.203	0.096
Residual	5.000	10.010	2.002		
Total	6.000	18.424			

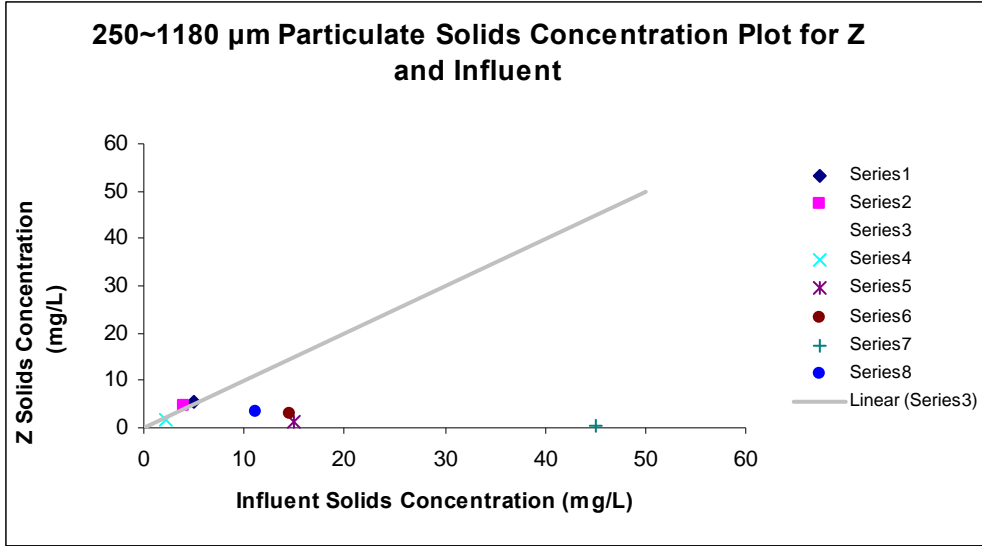
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	3.969	0.763	5.202	0.003	2.008	5.930	2.008	5.930
X Variable 1	-0.081	0.039	-2.050	0.096	-0.182	0.020	-0.182	0.020

RESIDUAL OUTPUT

<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	3.566	1.934
2	3.647	0.853
3	3.798	-1.898
4	2.759	-1.352
5	2.791	0.010
6	0.339	0.179
7	3.074	0.275







>1180 μm (no particles observed in this size range)

SSC (>0.45 μm)

SUMMARY OUTPUT for Total

Regression Statistics	
Multiple R	0.279
R Square	0.078
Adjusted R Square	-0.107
Standard Error	5.287
Observations	7.000

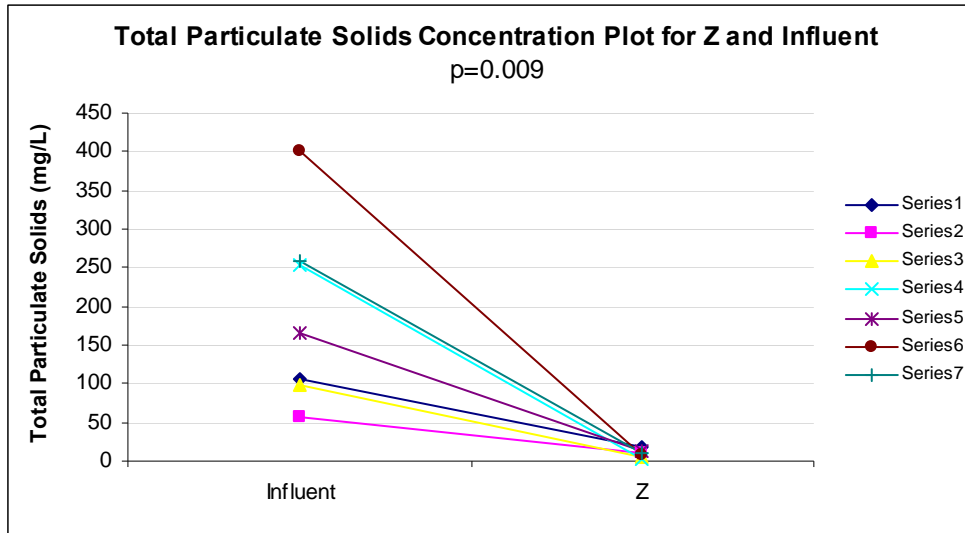
ANOVA

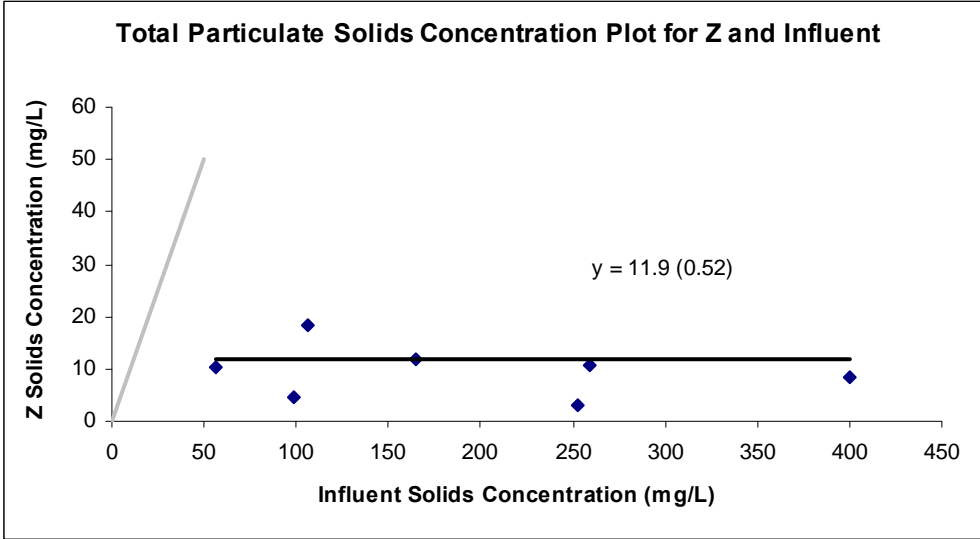
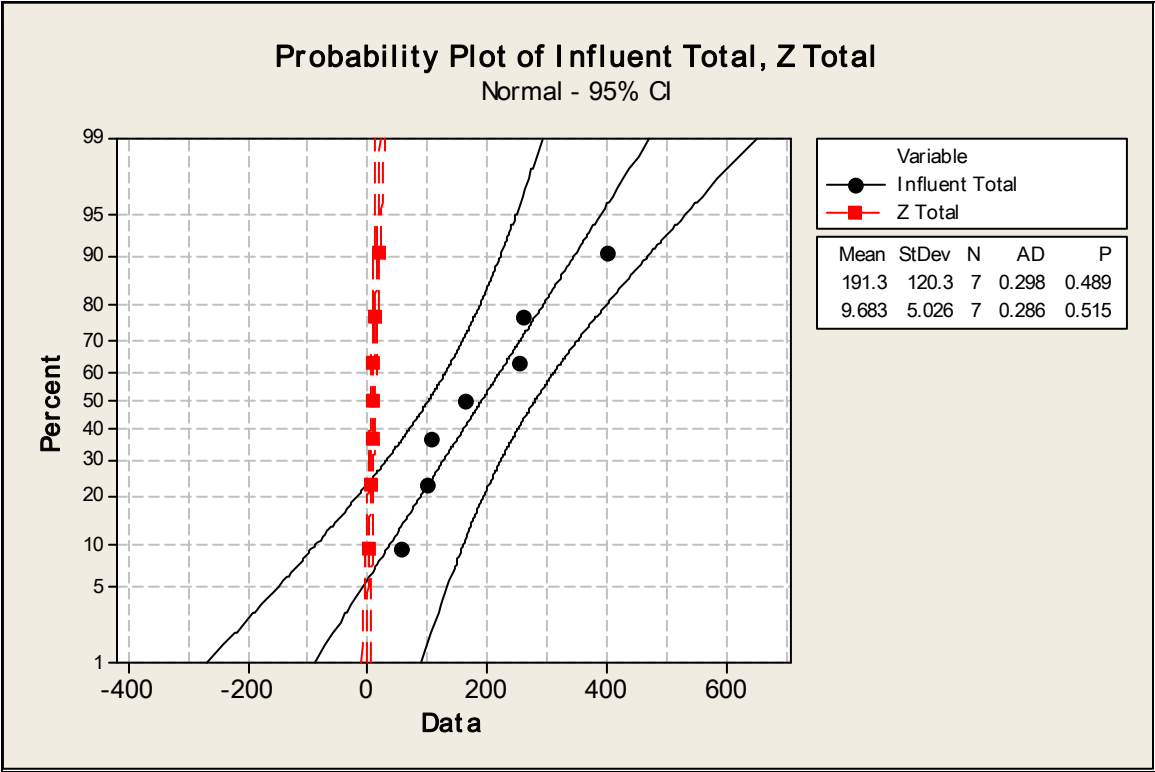
	df	SS	MS	F	Significance F
Regression	1.000	11.788	11.788	0.422	0.545
Residual	5.000	139.763	27.953		
Total	6.000	151.551			

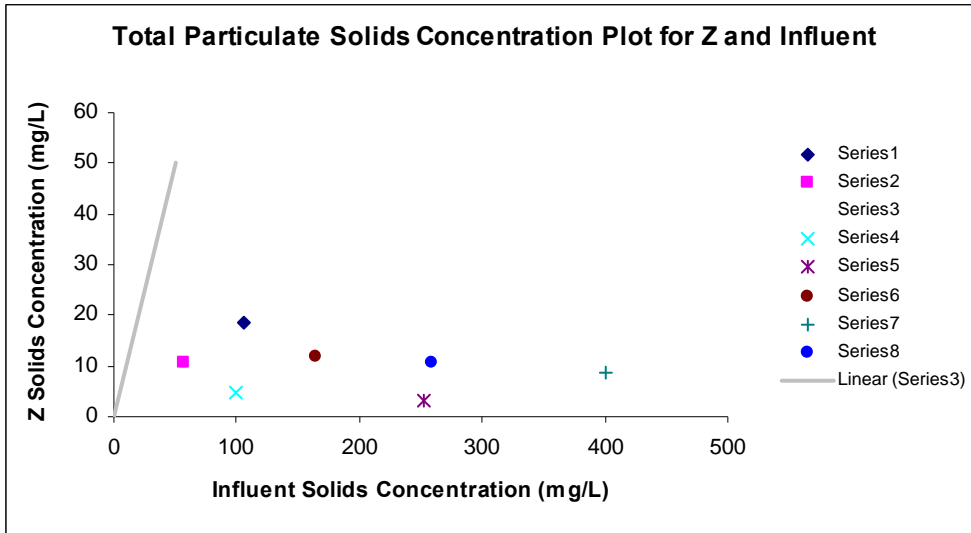
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	11.912	3.971	2.999	0.030	1.703	22.120	1.703	22.120
X Variable 1	-0.012	0.018	-0.649	0.545	-0.058	0.034	-0.058	0.034

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	10.677	7.823
2	11.253	-0.753
3	10.756	-6.124
4	8.965	-5.725
5	9.994	1.701
6	7.245	1.347
7	8.890	1.732







TSS (0.45 to 75 μm)

SUMMARY OUTPUT for TSS

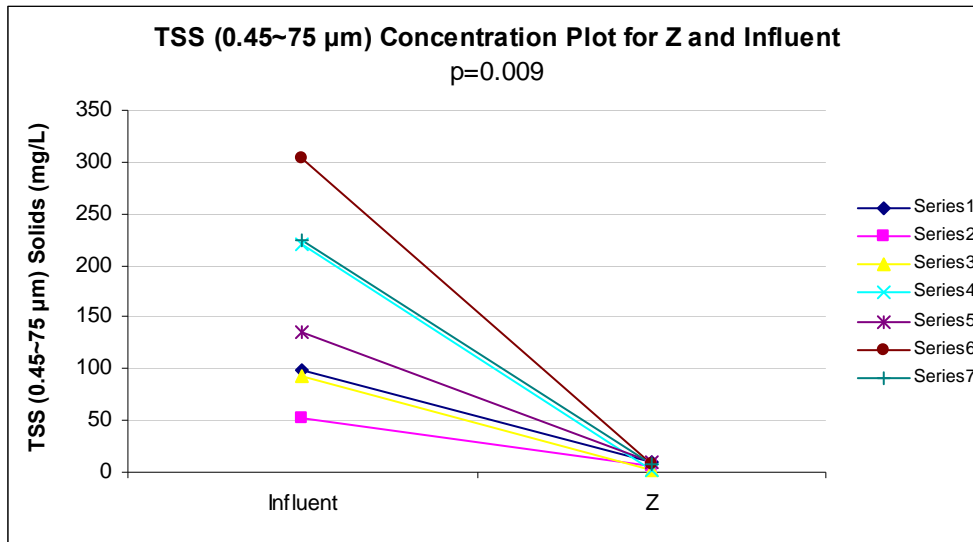
Regression Statistics	
Multiple R	0.033
R Square	0.001
Adjusted R Square	-0.199
Standard Error	3.611
Observations	7.000

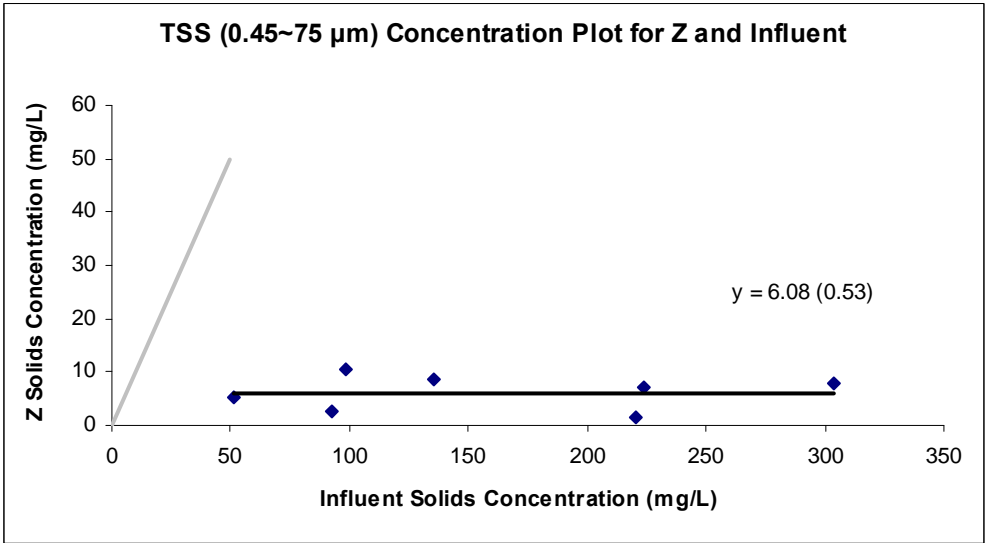
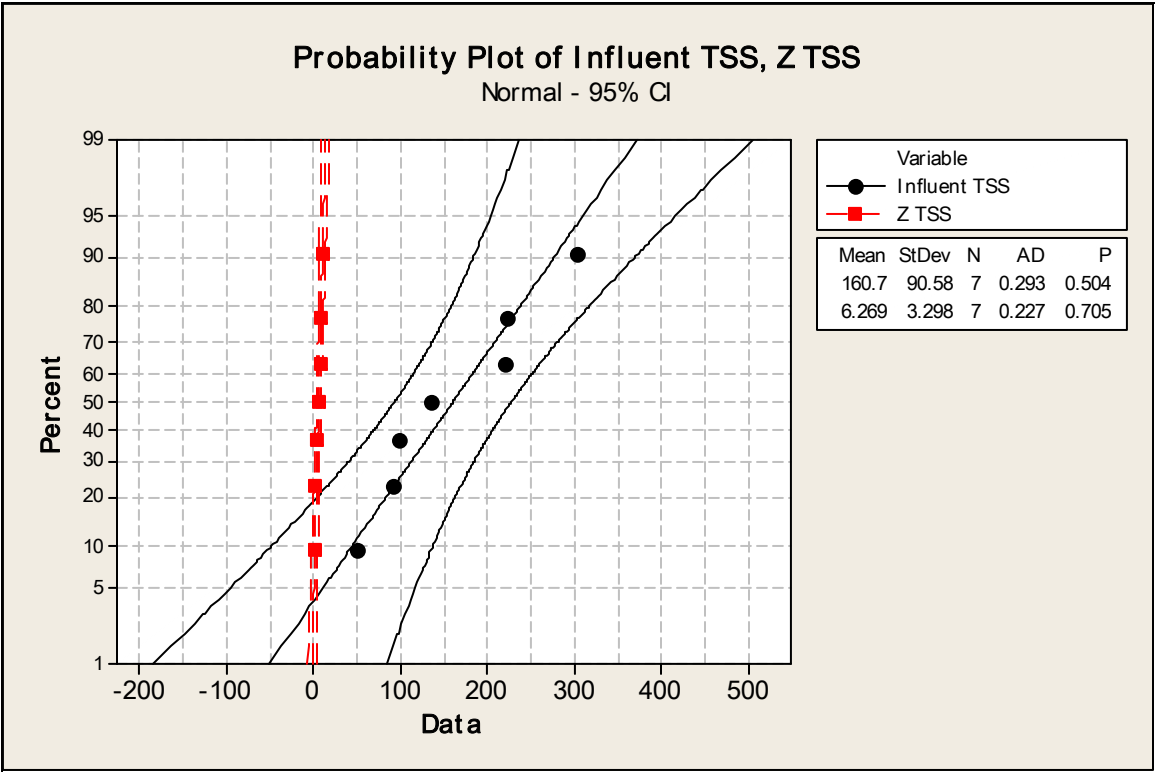
ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	0.069	0.069	0.005	0.945	
Residual	5.000	65.195	13.039			
Total	6.000	65.264				

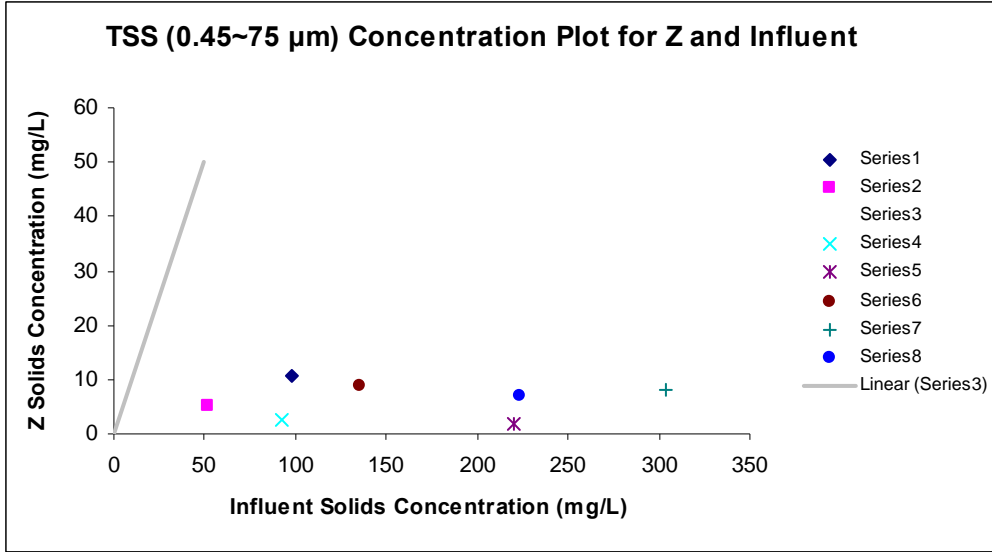
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	6.078	2.950	2.060	0.094	-1.505	13.661	-1.505	13.661
X Variable 1	0.001	0.016	0.073	0.945	-0.041	0.043	-0.041	0.043

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	6.194	4.414
2	6.139	-0.943
3	6.187	-3.677
4	6.339	-4.672
5	6.239	2.568
6	6.439	1.478
7	6.343	0.831

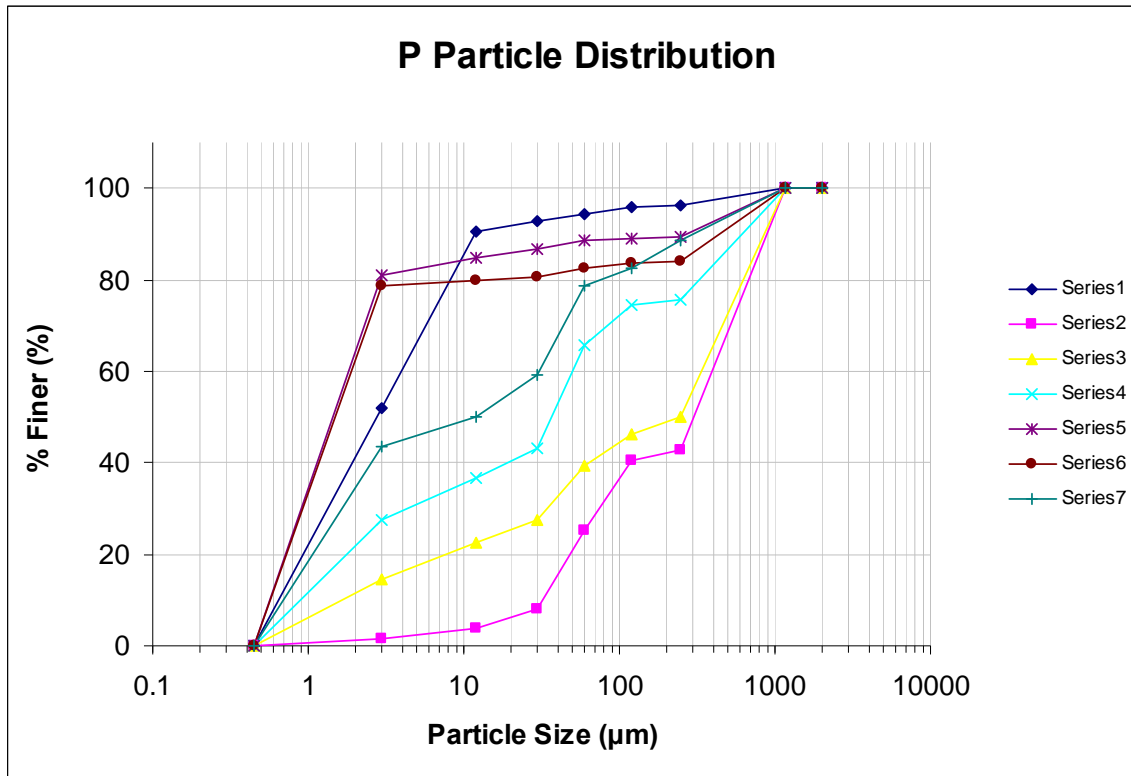


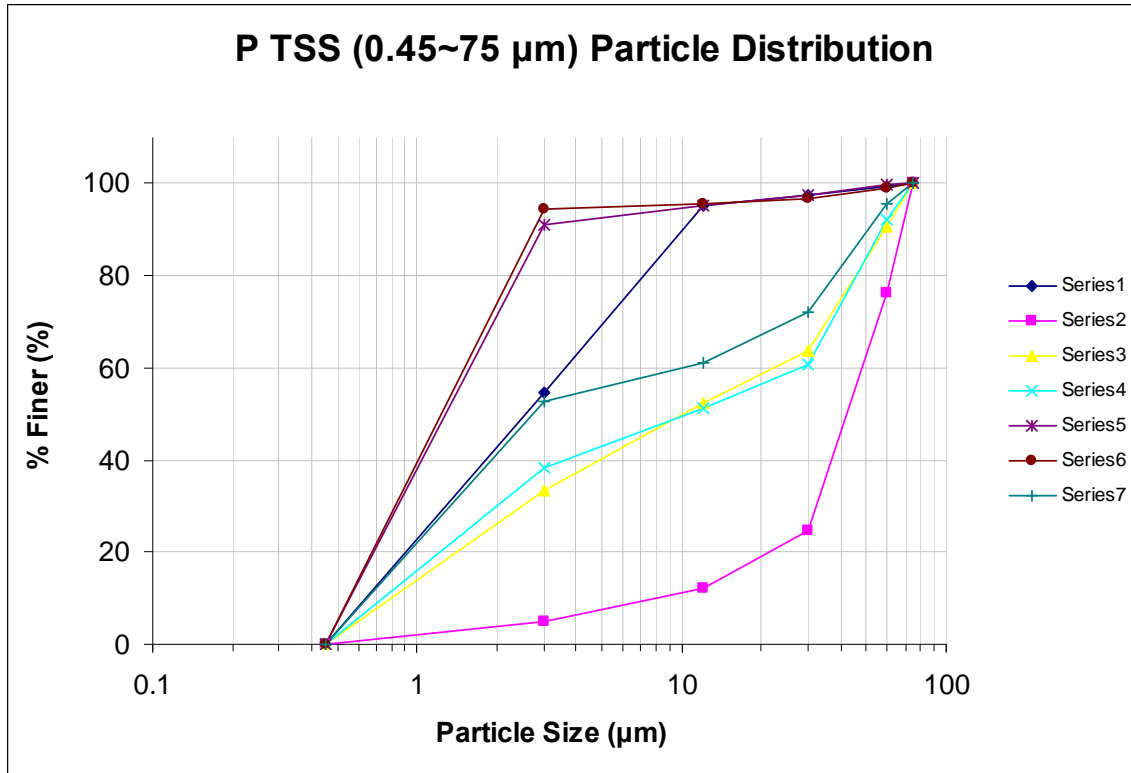




Peat Moss (P) Media Particulate Removal Data from Column Tests

Effluent Particle Size Distributions





TDS

SUMMARY OUTPUT For < 0.45 μm

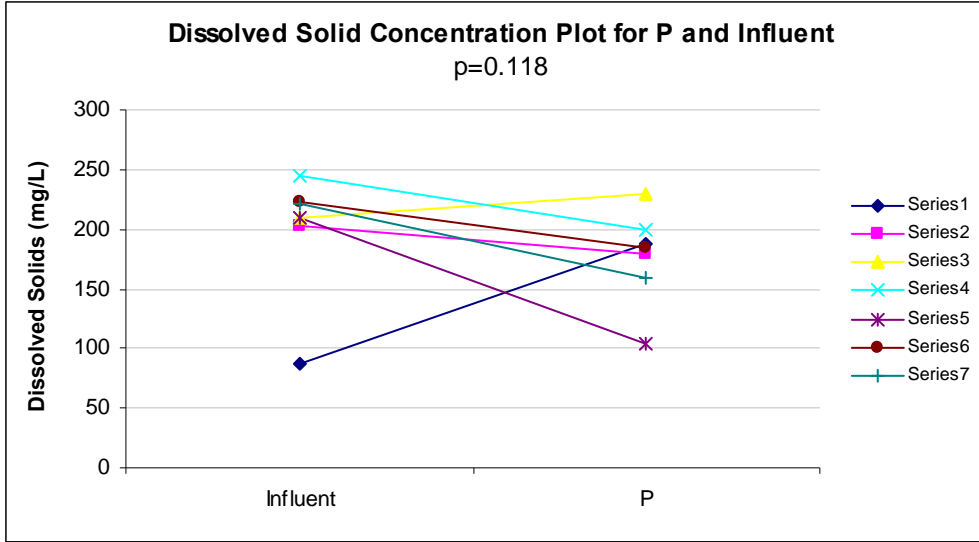
Regression Statistics	
Multiple R	0.043
R Square	0.002
Adjusted R Square	-0.198
Standard Error	42.552
Observations	7.000

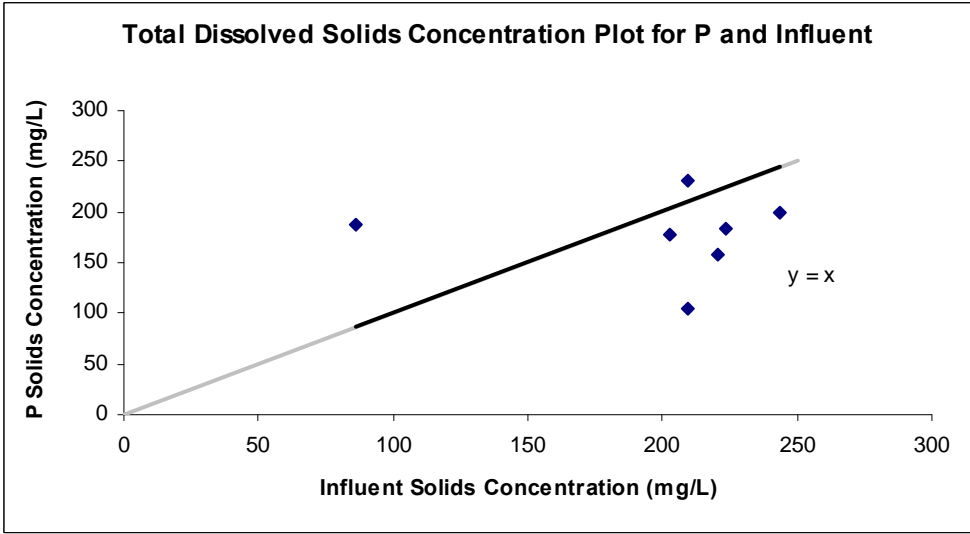
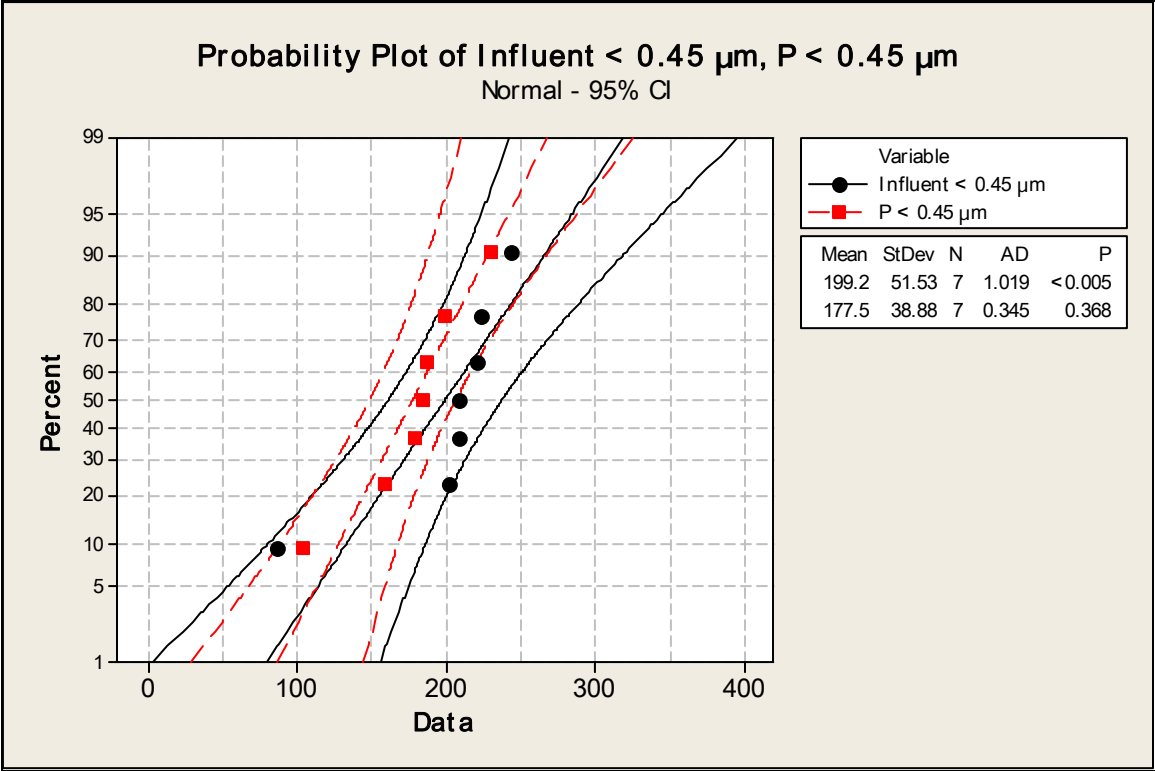
ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	16.688	16.688	0.009	0.927
Residual	5.000	9053.207	1810.641		
Total	6.000	9069.895			

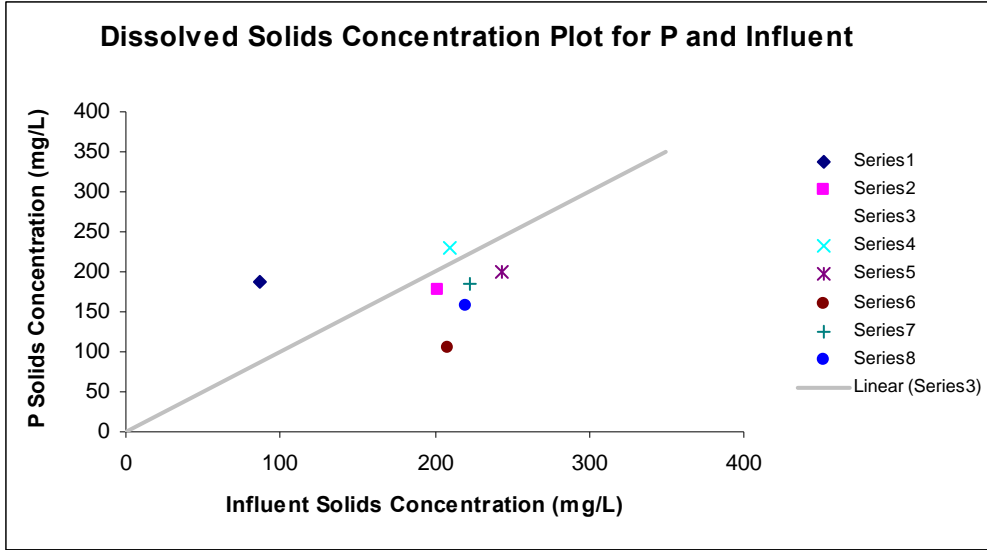
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	183.969	69.069	2.664	0.045	6.422	361.517	6.422	361.517
X Variable 1	-0.032	0.337	-0.096	0.927	-0.899	0.834	-0.899	0.834

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	181.170	5.830
2	177.415	1.085
3	177.201	52.878
4	176.075	23.462
5	177.203	-72.608
6	176.746	7.771
7	176.836	-18.417







0.45-3 μm

SUMMARY OUTPUT for 0.45~3 μm

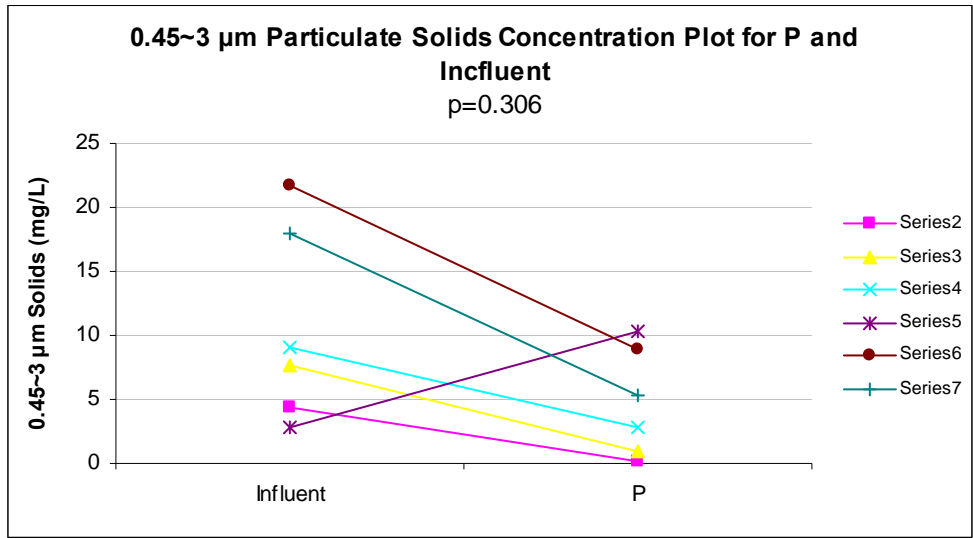
Regression Statistics	
Multiple R	0.315
R Square	0.099
Adjusted R Square	-0.126
Standard Error	4.476
Observations	6.000

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1.000	8.845	8.845	0.441	0.543
Residual	4.000	80.162	20.038		
Total	5.000	88.997			

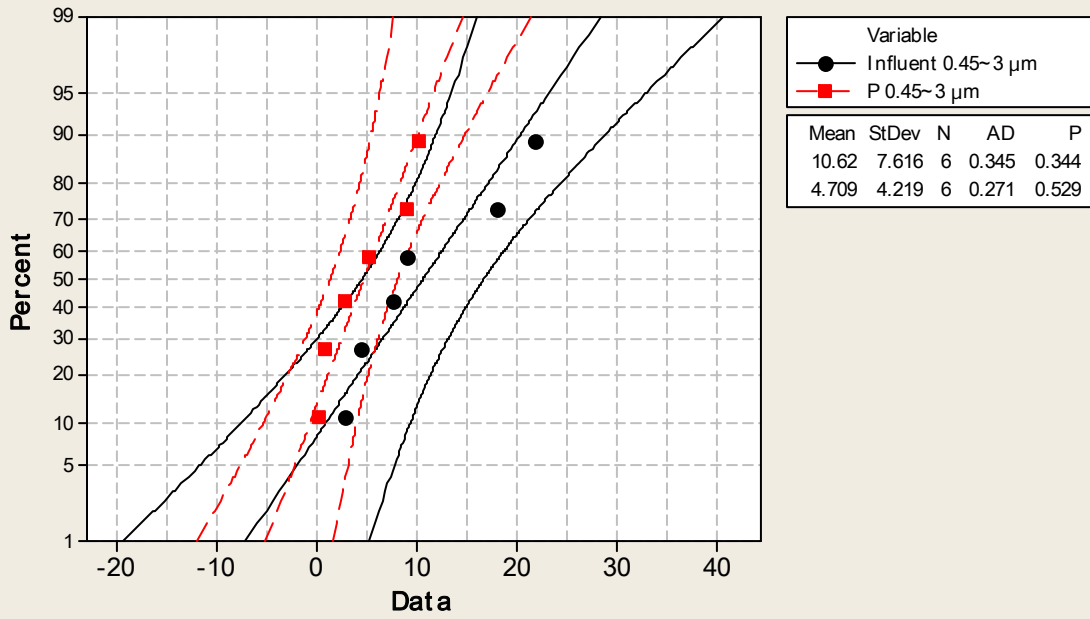
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	2.855	3.336	0.856	0.440	-6.406	12.117	-6.406	12.117
X Variable 1	0.175	0.263	0.664	0.543	-0.555	0.904	-0.555	0.904

RESIDUAL OUTPUT

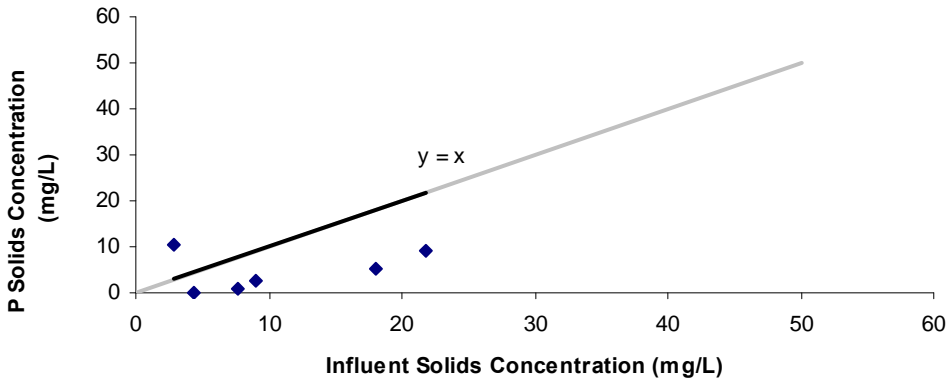
<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	3.612	-3.497
2	4.196	-3.294
3	4.440	-1.690
4	3.351	6.958
5	6.656	2.285
6	6.002	-0.761

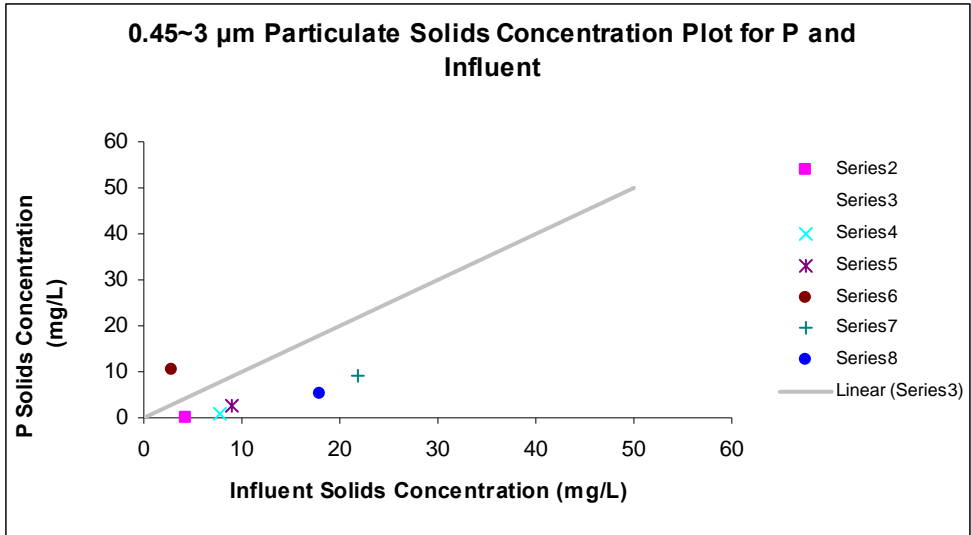


Probability Plot of Influent 0.45~3 μm, P 0.45~3 μm
Normal - 95% CI



0.45~3 μm Particulate Solids Concentration Plot for P and Influent





3-12 μm

SUMMARY OUTPUT for 3~12 μm

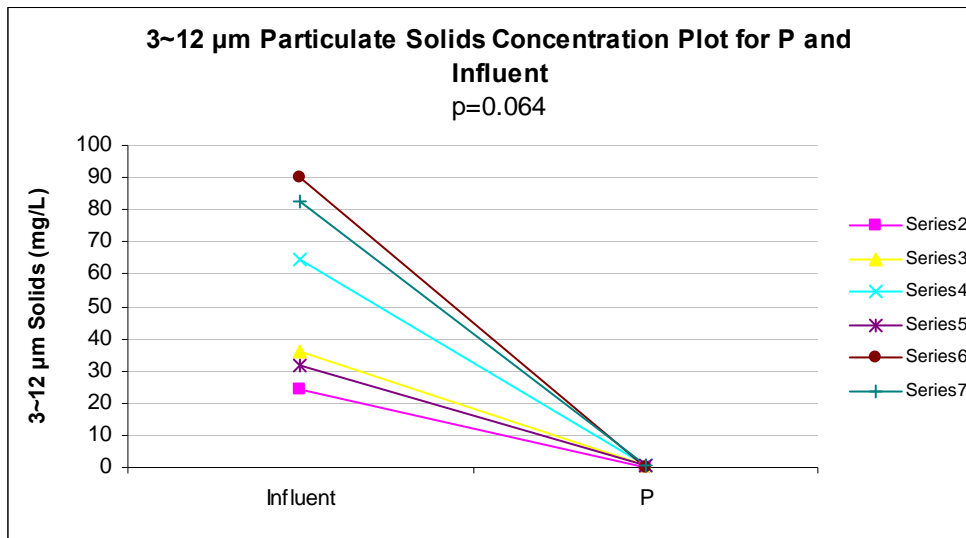
Regression Statistics	
Multiple R	0.207
R Square	0.043
Adjusted R Square	-0.196
Standard Error	0.357
Observations	6.000

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1.000	0.023	0.023	0.179	0.694
Residual	4.000	0.511	0.128		
Total	5.000	0.534			

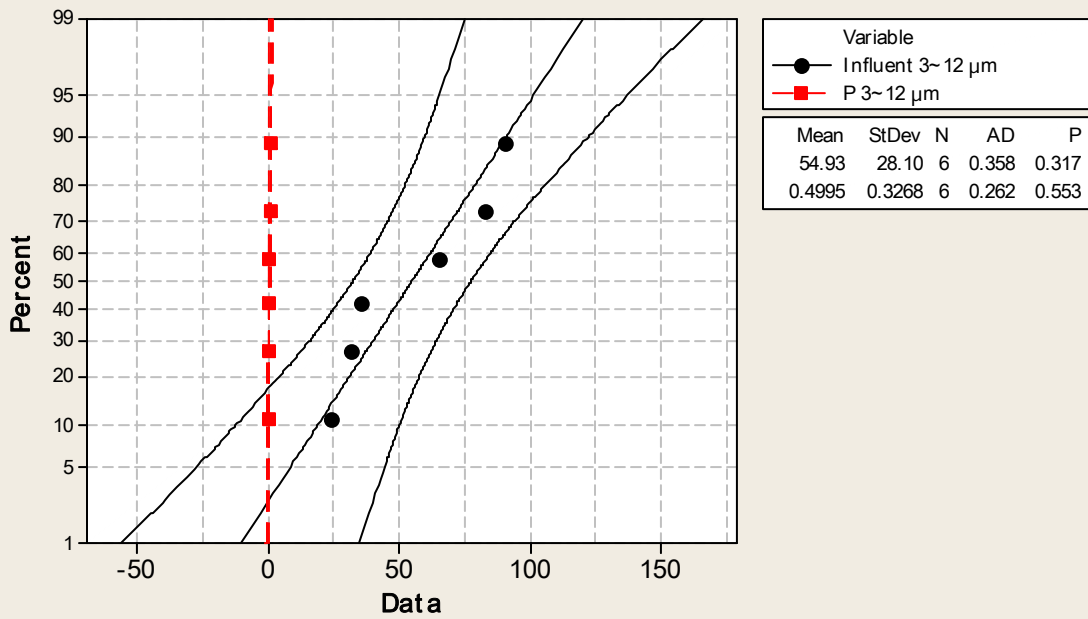
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.367	0.345	1.065	0.347	-0.590	1.325	-0.590	1.325
X Variable 1	0.002	0.006	0.423	0.694	-0.013	0.018	-0.013	0.018

RESIDUAL OUTPUT

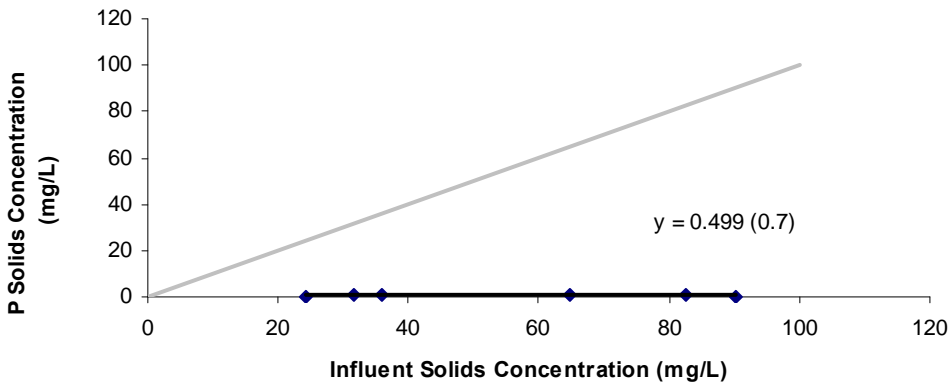
<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	0.426	-0.263
2	0.453	0.061
3	0.523	0.397
4	0.444	0.034
5	0.585	-0.470
6	0.566	0.241

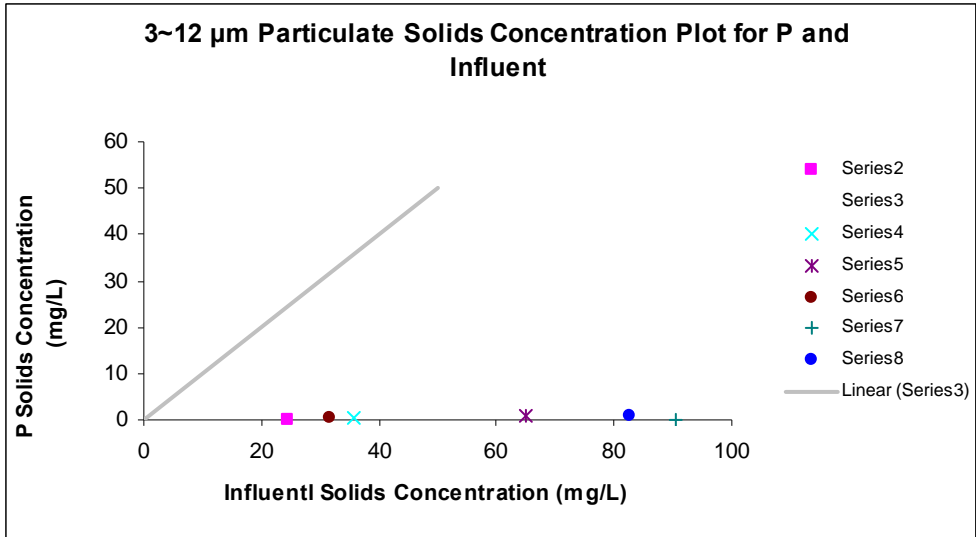


Probability Plot of Influent 3~12 μm , P 3~12 μm
Normal - 95% CI



3~12 μm Particulate Solids Concentration Plot for P and Influent





12-30 μm

SUMMARY OUTPUT for 12-30 μm

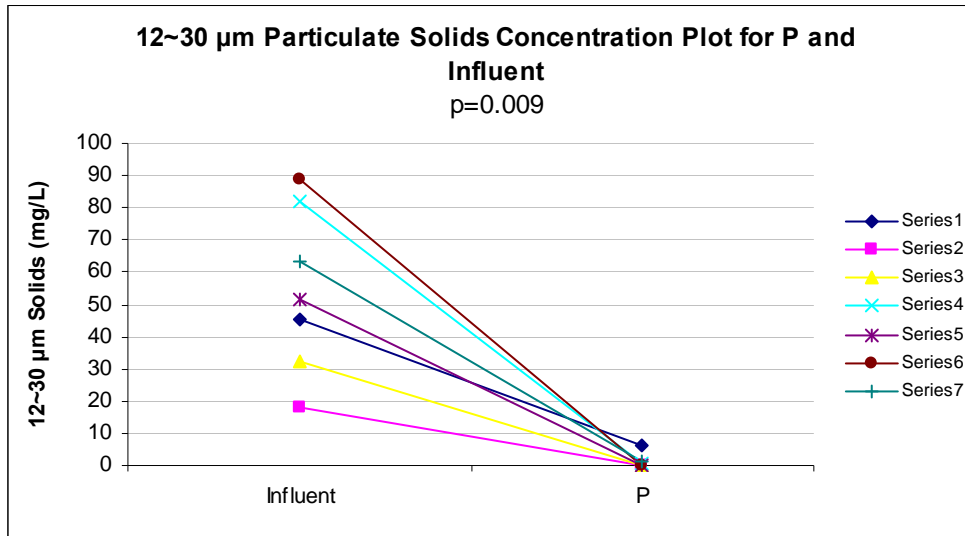
Regression Statistics	
Multiple R	0.134
R Square	0.018
Adjusted R Square	-0.179
Standard Error	2.458
Observations	7.000

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1.000	0.551	0.551	0.091	0.775
Residual	5.000	30.216	6.043		
Total	6.000	30.767			

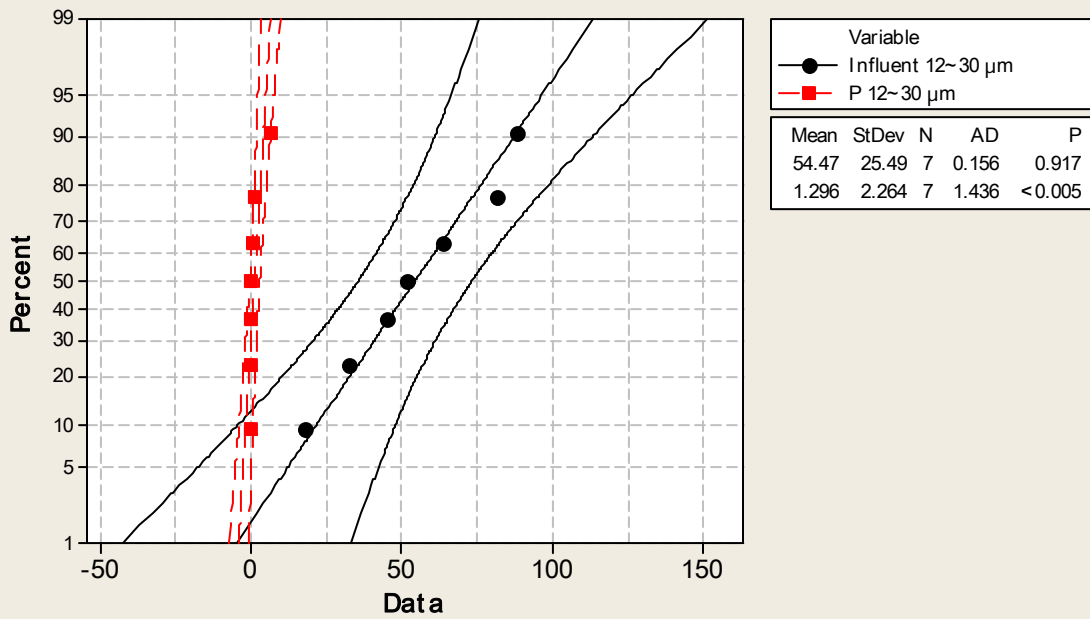
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.944	2.337	0.832	0.443	-4.064	7.951	-4.064	7.951
X Variable 1	-0.012	0.039	-0.302	0.775	-0.113	0.089	-0.113	0.089

RESIDUAL OUTPUT

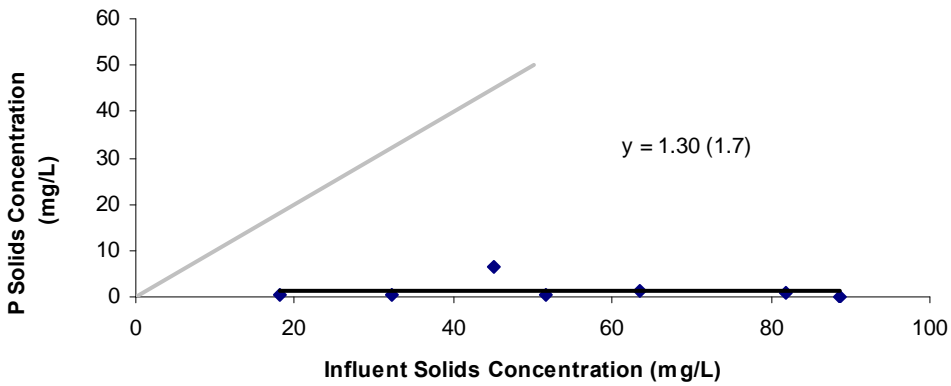
<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	1.408	4.969
2	1.728	-1.432
3	1.559	-1.255
4	0.970	-0.304
5	1.328	-1.091
6	0.891	-0.779
7	1.189	-0.108

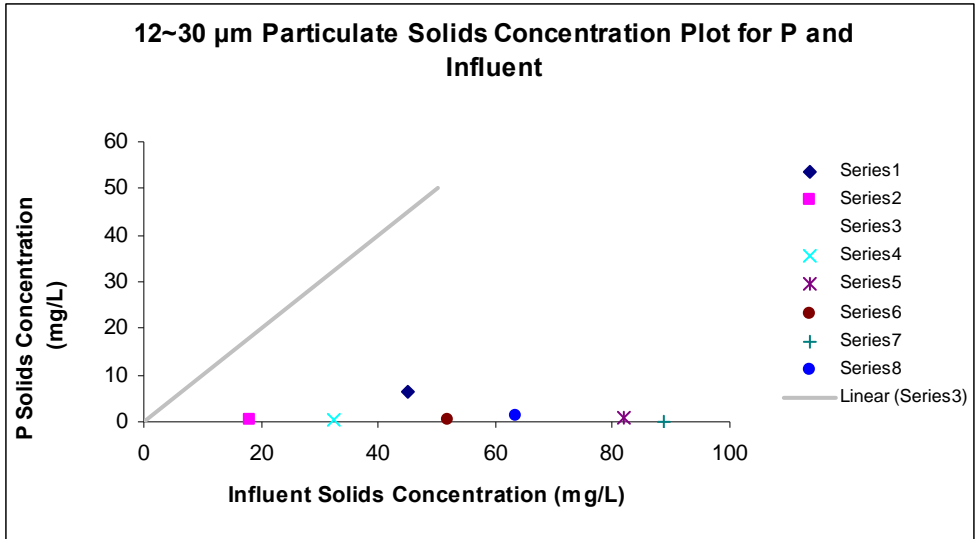


Probability Plot of Influent 12~30 μm , P 12~30 μm
Normal - 95% CI



12~30 μm Particulate Solids Concentration Plot for P and Influent





30-60 um

SUMMARY OUTPUT for 30-60 um

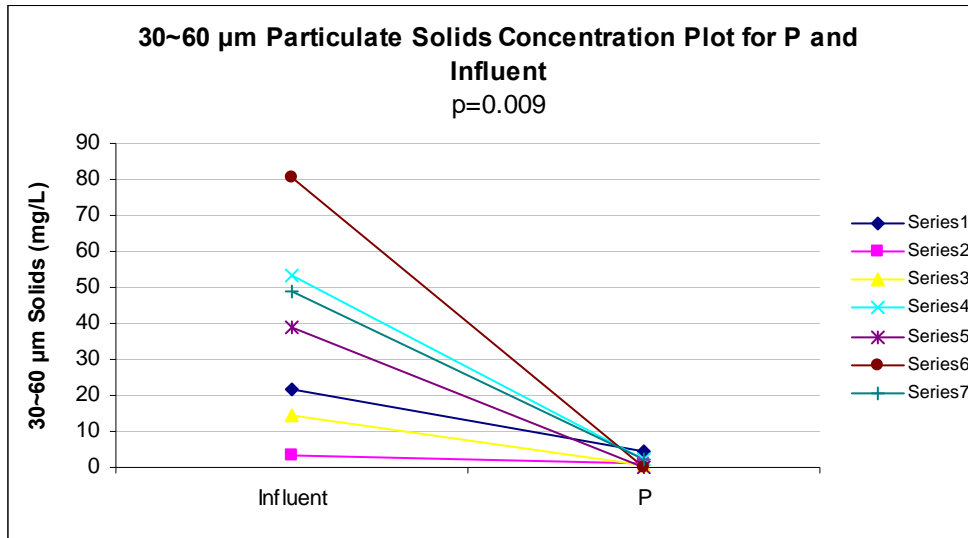
Regression Statistics	
Multiple R	0.224
R Square	0.050
Adjusted R Square	-0.140
Standard Error	1.561
Observations	7.000

ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	0.645	0.645	0.265	0.629
Residual	5.000	12.184	2.437		
Total	6.000	12.829			

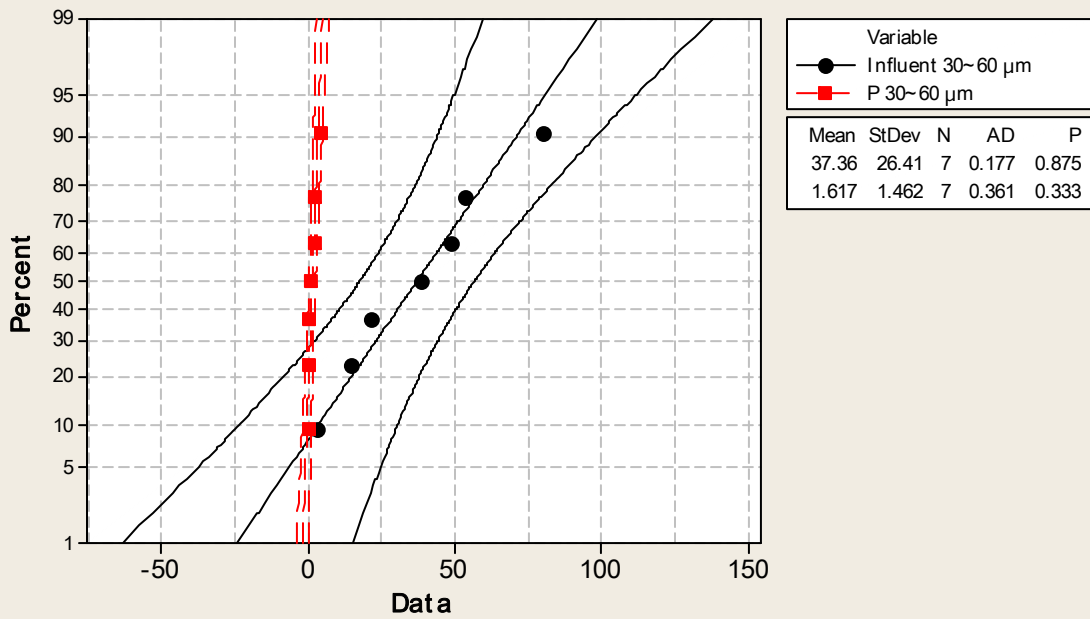
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	2.081	1.078	1.931	0.111	-0.689	4.851	-0.689	4.851
X Variable 1	-0.012	0.024	-0.514	0.629	-0.074	0.050	-0.074	0.050

RESIDUAL OUTPUT

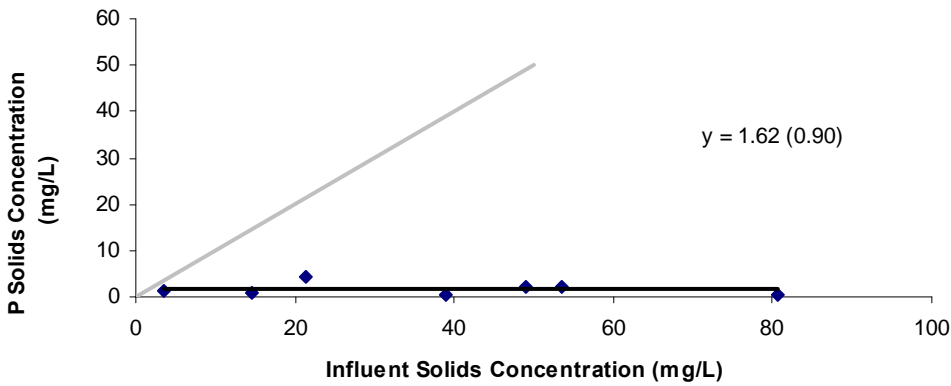
Observation	Predicted Y	Residuals
1	1.814	2.479
2	2.038	-0.842
3	1.899	-1.170
4	1.417	0.837
5	1.597	-1.322
6	1.080	-0.860
7	1.473	0.879

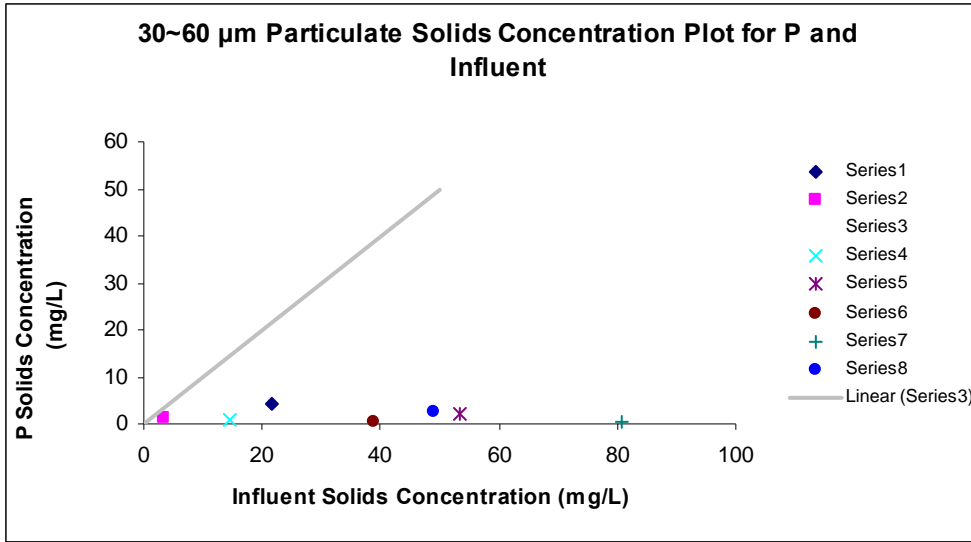


Probability Plot of Influent 30~60 μm, P 30~60 μm
Normal - 95% CI



30~60 μm Particulate Solids Concentration Plot for P and Influent





60-120 μm

SUMMARY OUTPUT for 60~120 μm

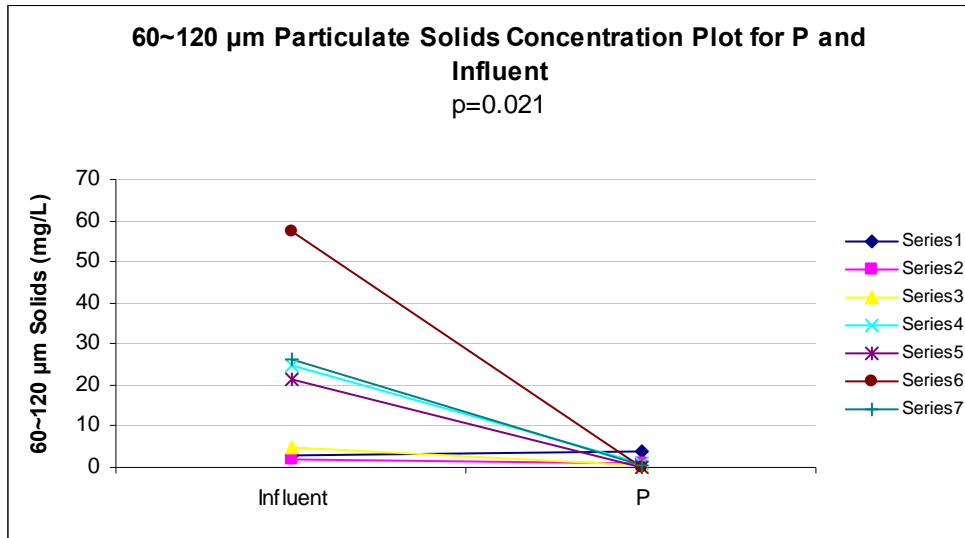
Regression Statistics	
Multiple R	0.507
R Square	0.257
Adjusted R Square	0.109
Standard Error	1.338
Observations	7.000

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1.000	3.099	3.099	1.732	0.245
Residual	5.000	8.948	1.790		
Total	6.000	12.048			

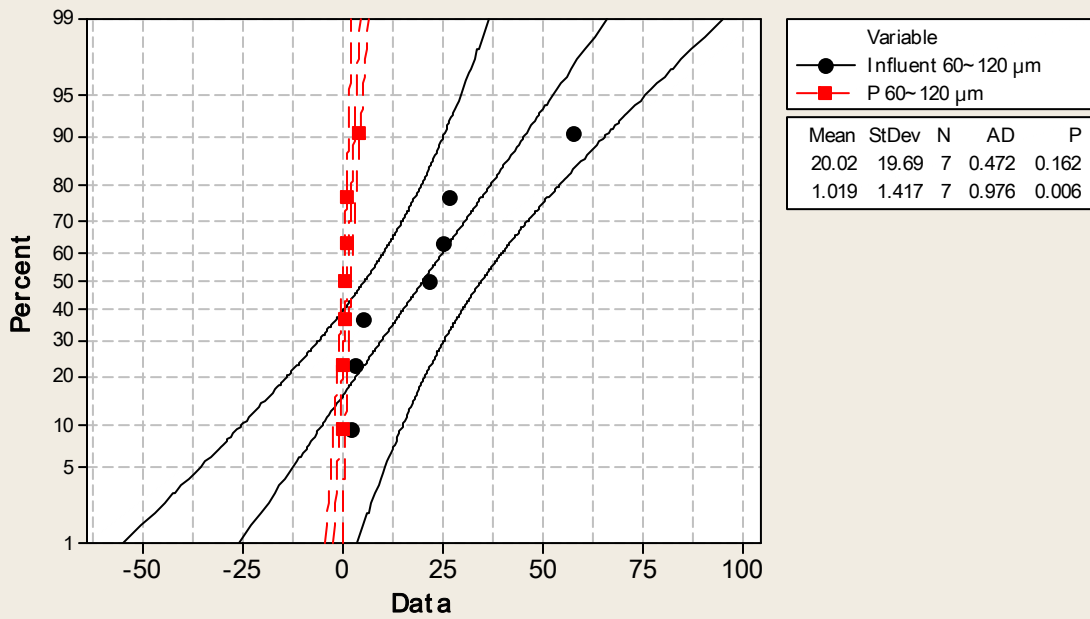
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.750	0.751	2.330	0.067	-0.181	3.680	-0.181	3.680
X Variable 1	-0.036	0.028	-1.316	0.245	-0.108	0.035	-0.108	0.035

RESIDUAL OUTPUT

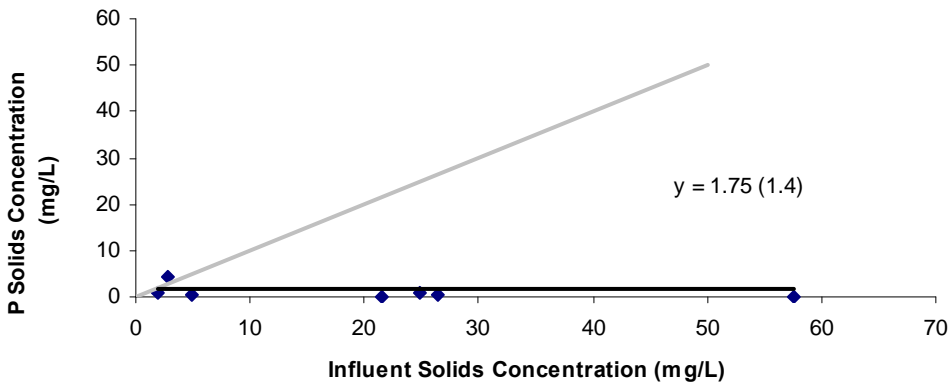
<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	1.647	2.471
2	1.677	-0.610
3	1.568	-1.122
4	0.842	0.039
5	0.967	-0.945
6	-0.352	0.472
7	0.784	-0.305

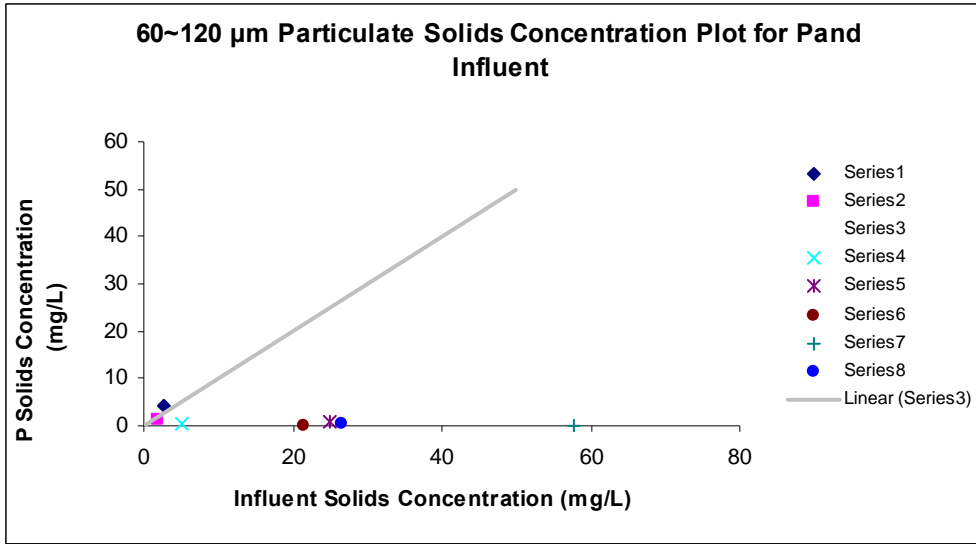


Probability Plot of Influent 60~120 μm, P 60~120 μm
Normal - 95% CI



60~120 μm Particulate Solids Concentration Plot for P and Influent





120-250 μm

SUMMARY OUTPUT for 120~250 μm

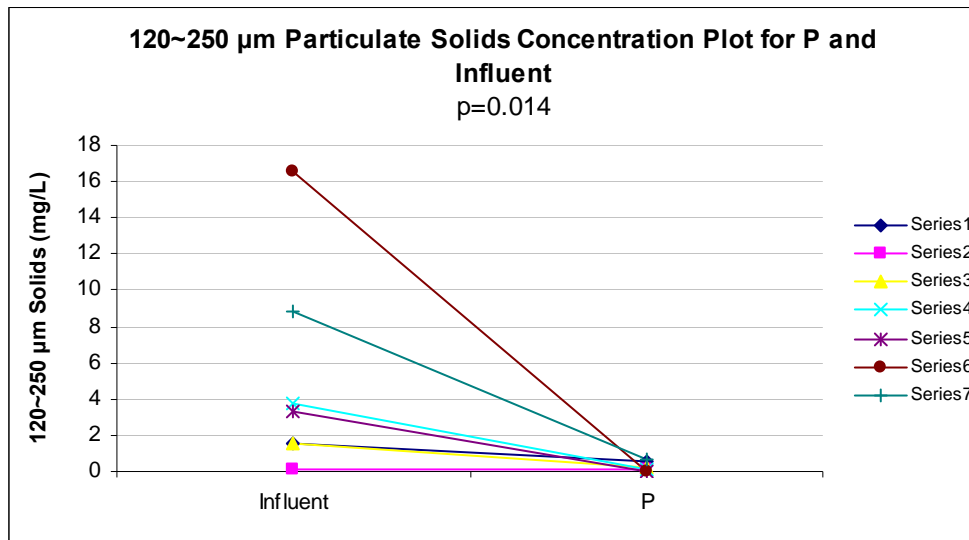
Regression Statistics	
Multiple R	0.112
R Square	0.012
Adjusted R Square	-0.185
Standard Error	0.294
Observations	7.000

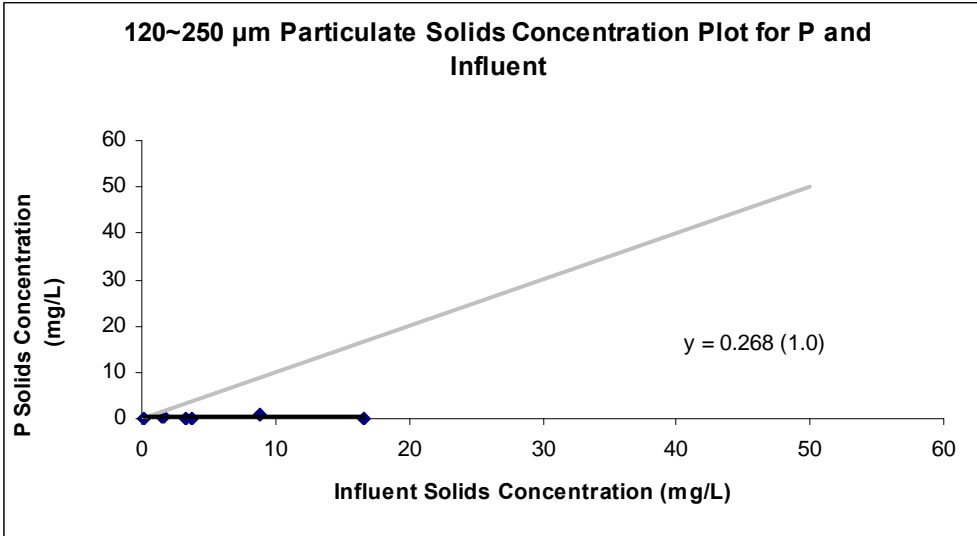
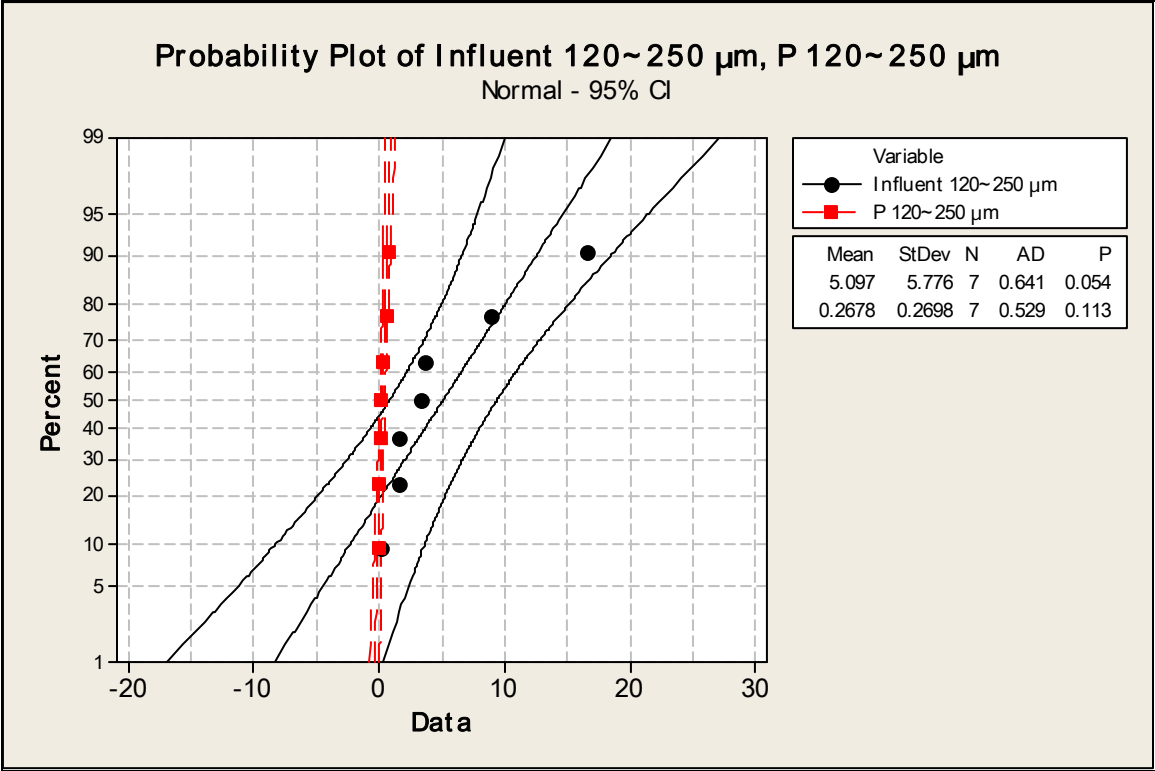
ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	1.000	0.005	0.005	0.063	0.812	
Residual	5.000	0.431	0.086			
Total	6.000	0.437				

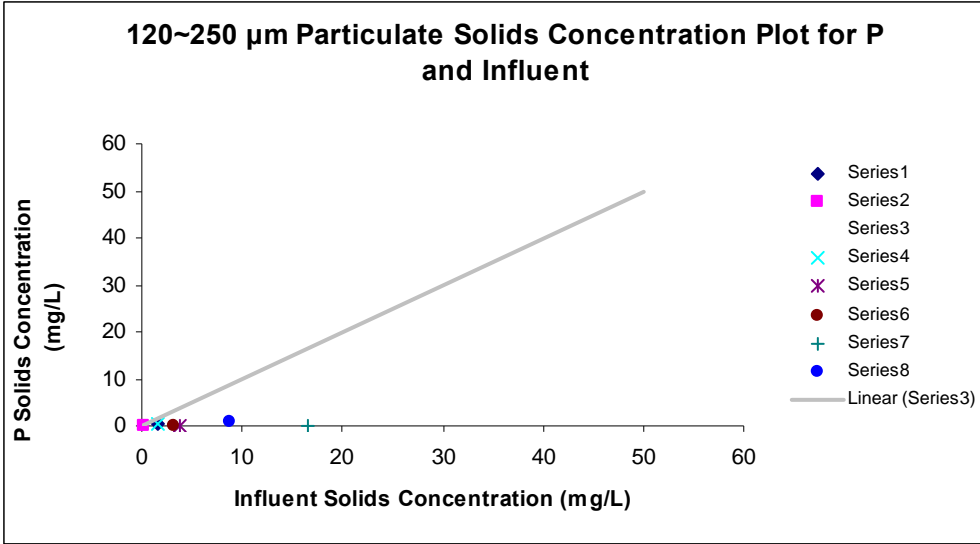
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.294	0.153	1.919	0.113	-0.100	0.689	-0.100	0.689
X Variable 1	-0.005	0.021	-0.251	0.812	-0.059	0.048	-0.059	0.048

RESIDUAL OUTPUT

<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	0.286	0.292
2	0.294	-0.130
3	0.286	-0.051
4	0.275	-0.150
5	0.277	-0.236
6	0.208	-0.187
7	0.248	0.462







250-1180 μm

SUMMARY OUTPUT for 250~1180 μm

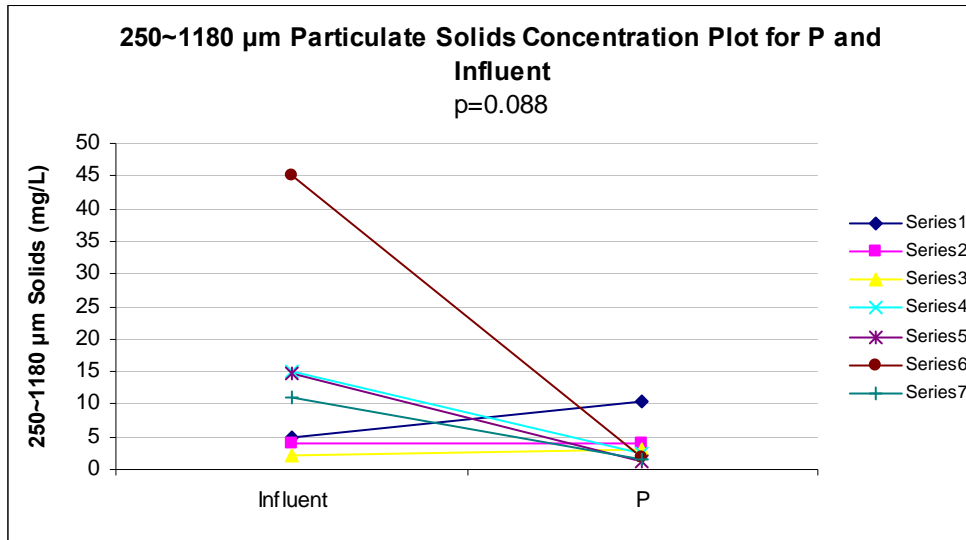
Regression Statistics	
Multiple R	0.393
R Square	0.154
Adjusted R Square	-0.015
Standard Error	3.247
Observations	7.000

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1.000	9.604	9.604	0.911	0.384
Residual	5.000	52.721	10.544		
Total	6.000	62.325			

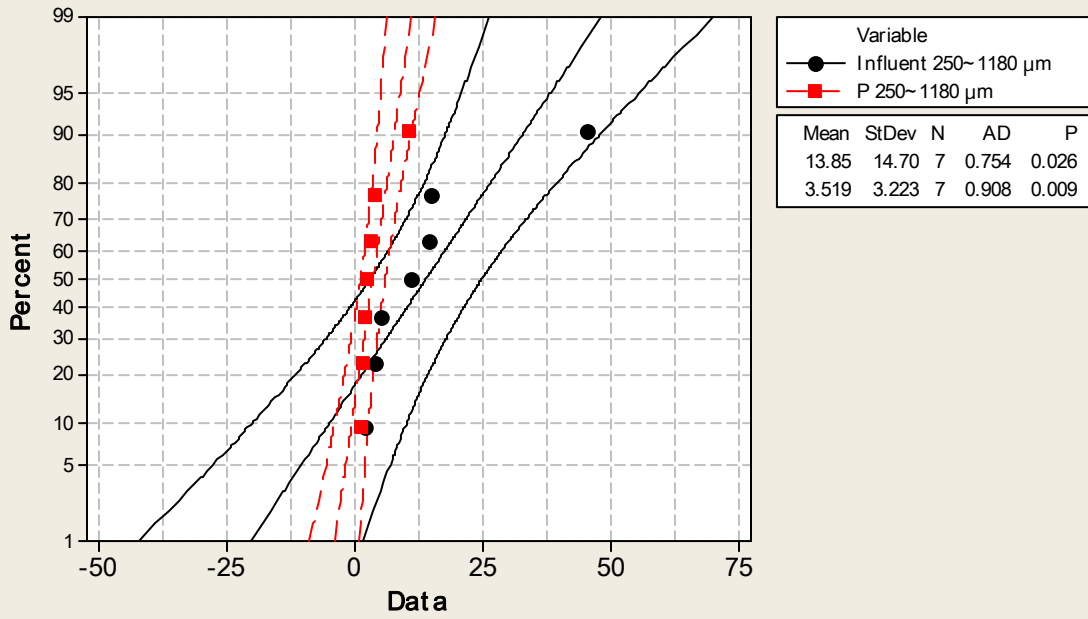
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	4.710	1.751	2.690	0.043	0.210	9.211	0.210	9.211
X Variable 1	-0.086	0.090	-0.954	0.384	-0.318	0.146	-0.318	0.146

RESIDUAL OUTPUT

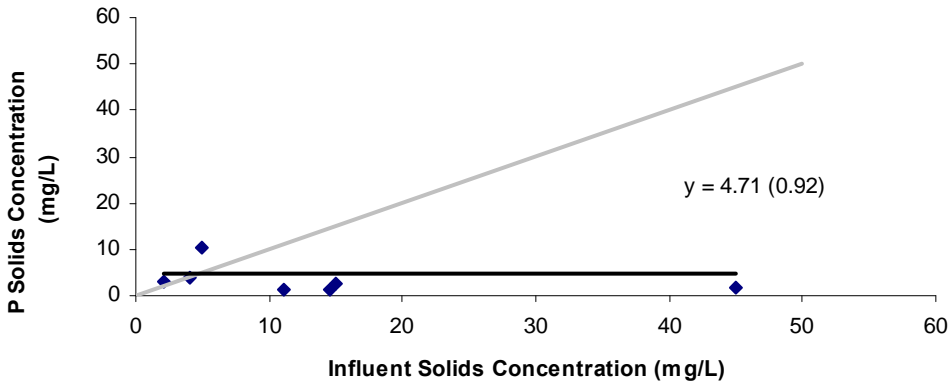
<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	4.280	6.220
2	4.366	-0.366
3	4.528	-1.412
4	3.418	-0.993
5	3.453	-2.077
6	0.832	0.997
7	3.754	-2.369

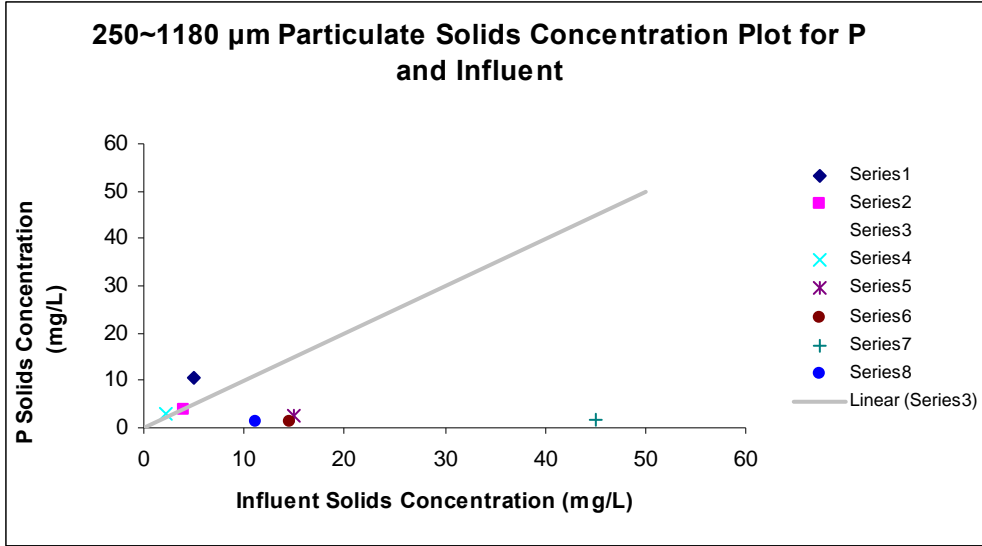


Probability Plot of Influent 250~1180 μm , P 250~1180 μm
Normal - 95% CI



250~1180 μm Particulate Solids Concentration Plot for P and Influent





>1180 μm (no particles observed in this size range)

SSC (>0.45 μm)

SUMMARY OUTPUT for Total

Regression Statistics	
Multiple R	0.656
R Square	0.430
Adjusted R Square	0.287
Standard Error	2.285
Observations	6.000

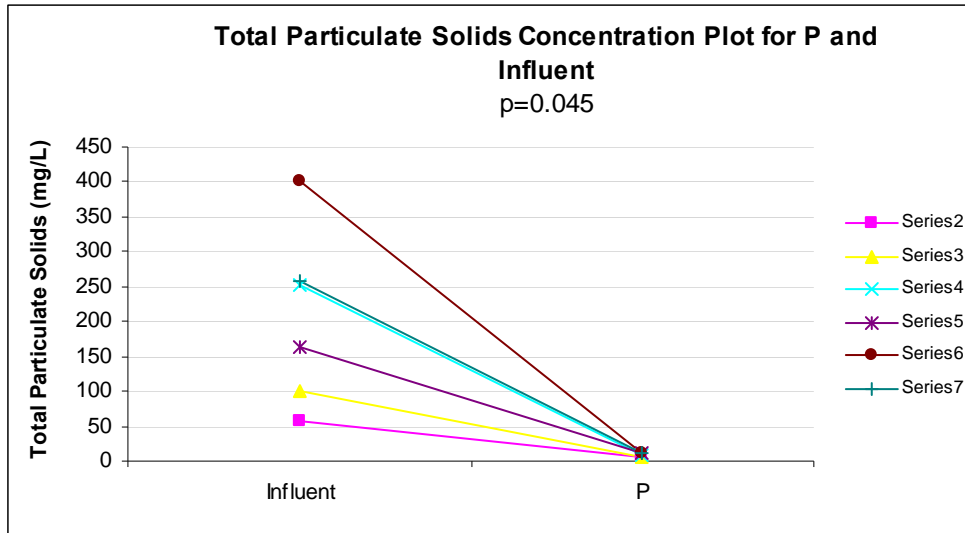
ANOVA

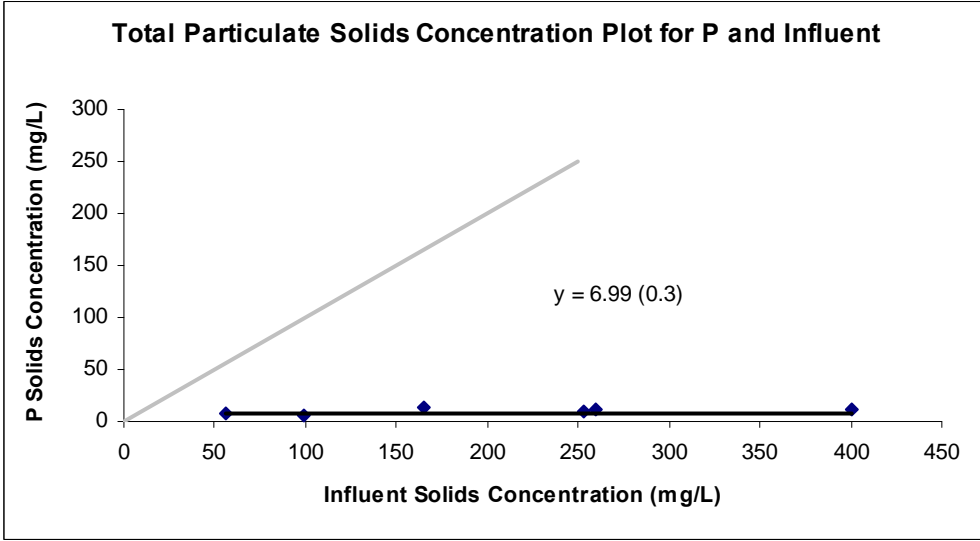
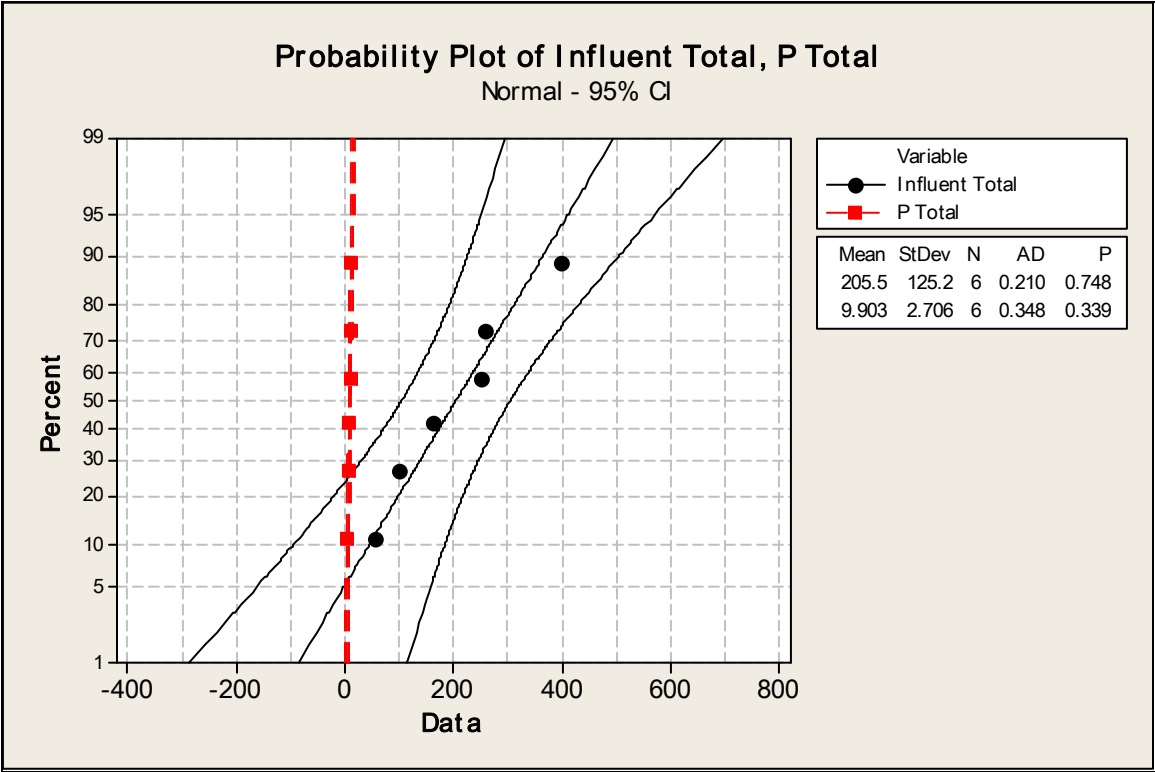
	df	SS	MS	F	Significance F
Regression	1.000	15.734	15.734	3.014	0.158
Residual	4.000	20.879	5.220		
Total	5.000	36.613			

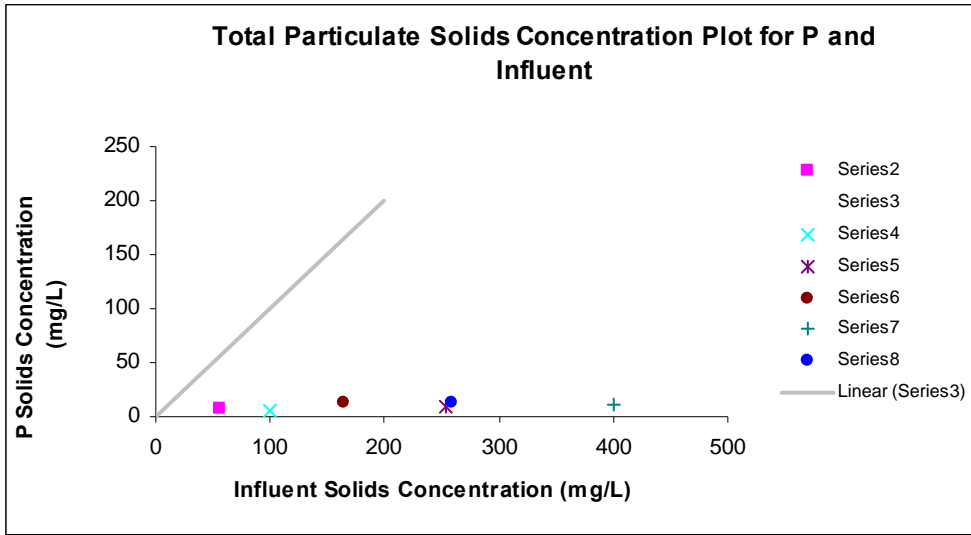
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	6.991	1.919	3.643	0.022	1.662	12.319	1.662	12.319
X Variable 1	0.014	0.008	1.736	0.158	-0.008	0.037	-0.008	0.037

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	7.791	-0.791
2	8.396	-2.151
3	10.575	-0.553
4	9.324	3.416
5	12.666	-1.311
6	10.666	1.390







TSS (0.45 to 75 μm)

SUMMARY OUTPUT for TSS

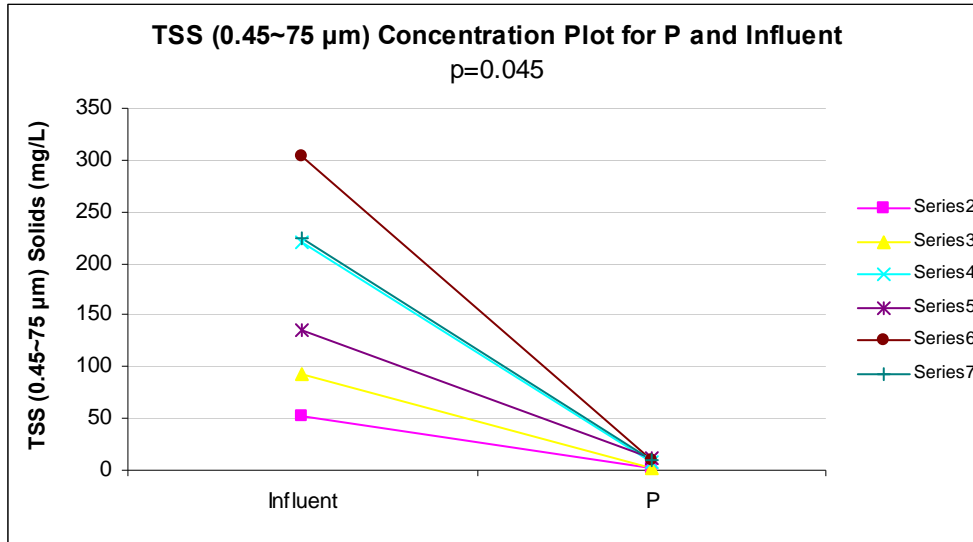
Regression Statistics	
Multiple R	0.681
R Square	0.464
Adjusted R Square	0.330
Standard Error	3.136
Observations	6.000

ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	34.086	34.086	3.466	0.136
Residual	4.000	39.340	9.835		
Total	5.000	73.426			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	2.417	2.843	0.850	0.443	-5.477	10.312	-5.477	10.312
X Variable 1	0.028	0.015	1.862	0.136	-0.014	0.069	-0.014	0.069

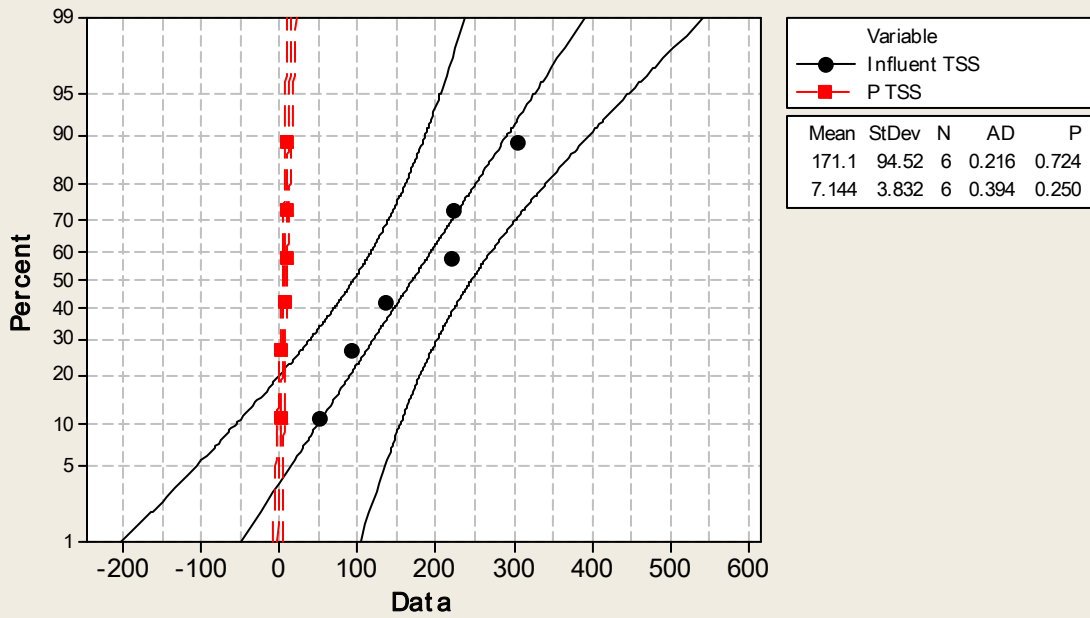
RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	3.835	-1.516
2	4.966	-2.264
3	8.499	-1.346
4	6.157	5.154
5	10.817	-1.344
6	8.590	1.317

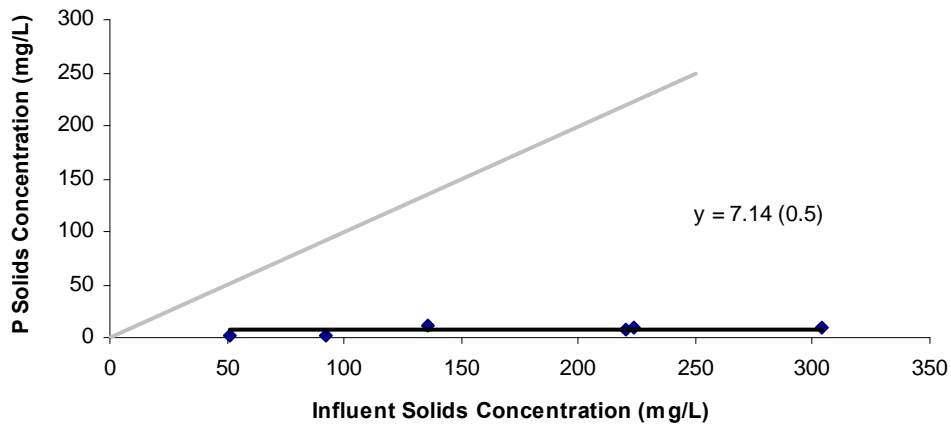


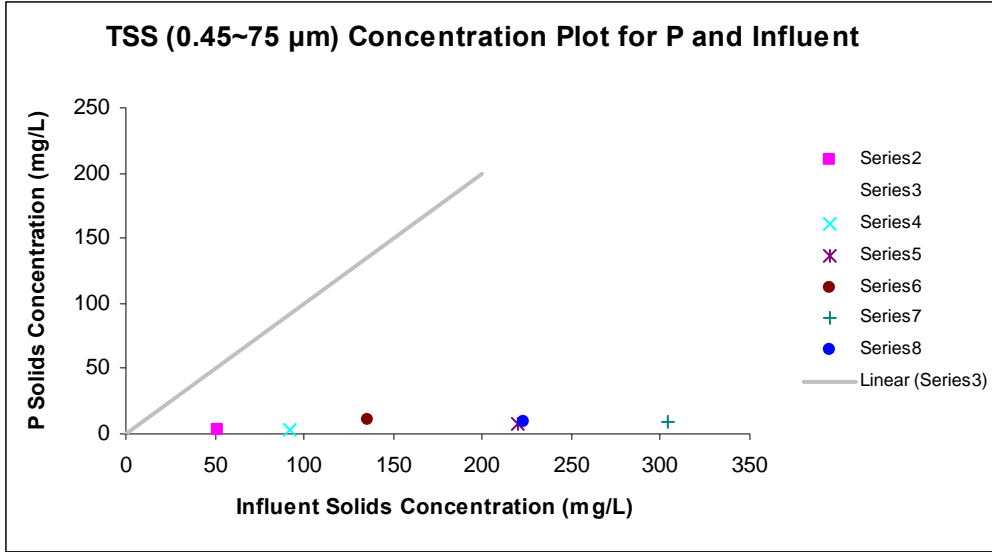
Probability Plot of Influent TSS, P TSS

Normal - 95% CI



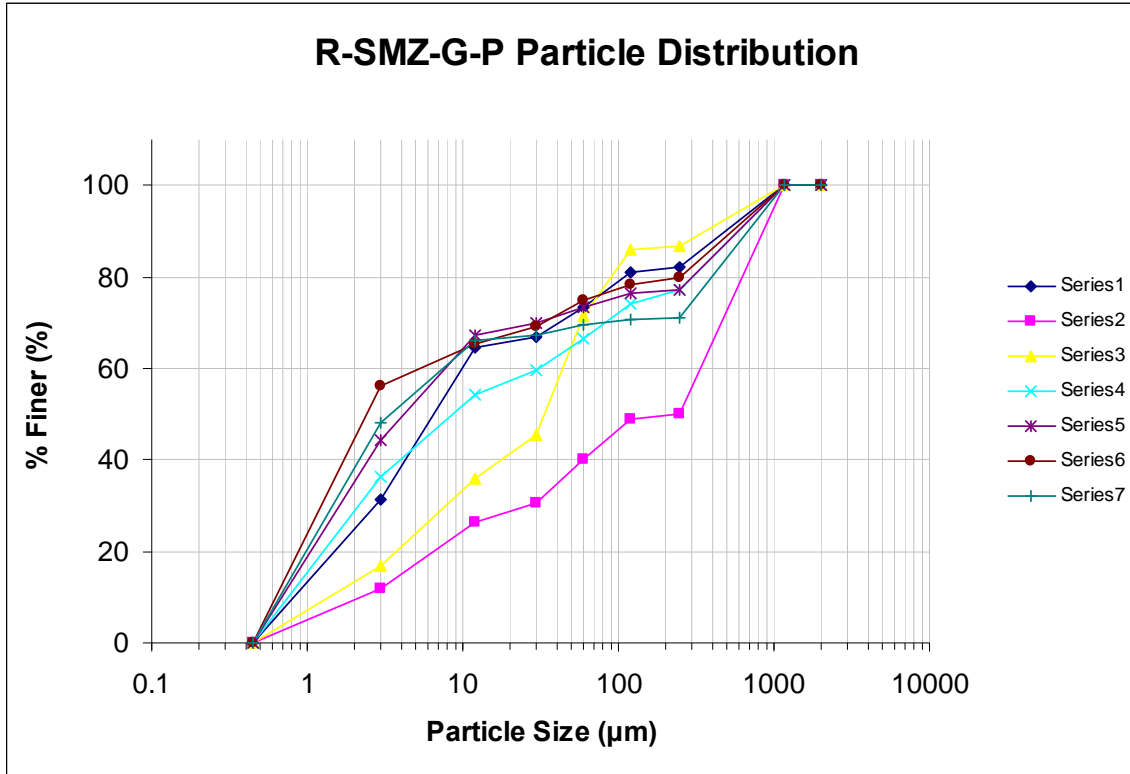
TSS (0.45~75 µm) Concentration Plot for P and Influent

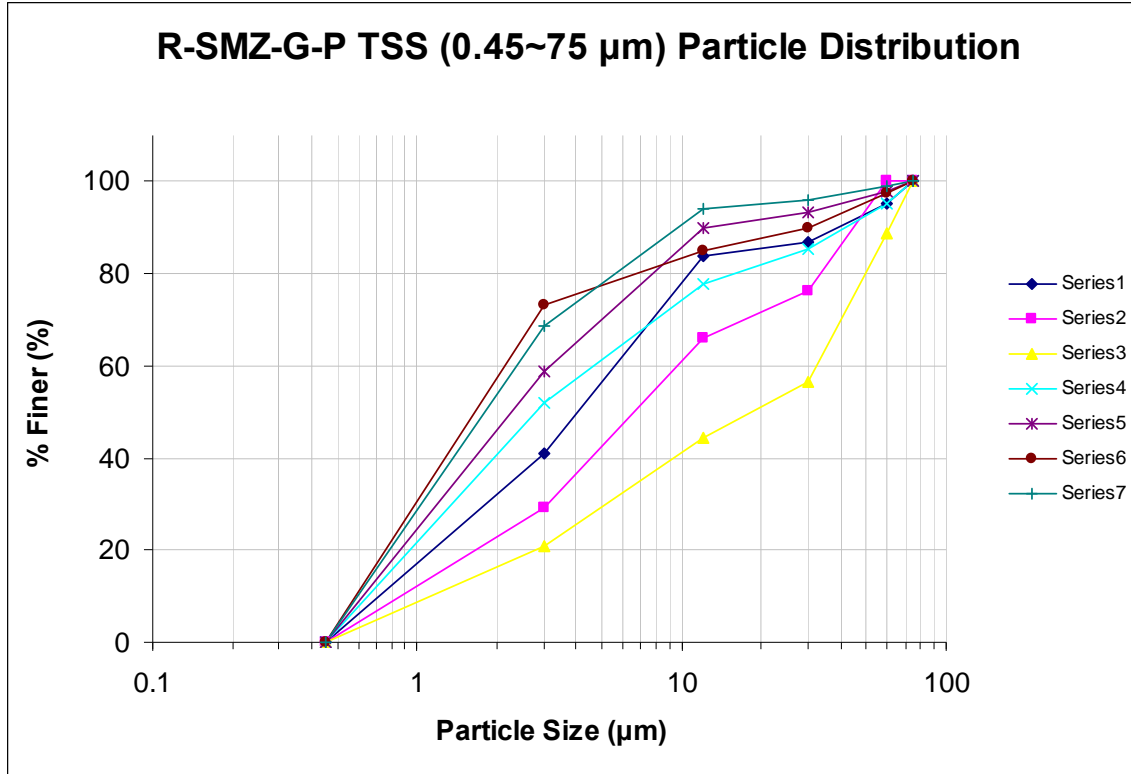




Rhyolite Sand – Surface Modified Zeolite – Granular Activated Carbon – Peat Moss (R – SMZ – G - P) Media Particulate Removal Data from Column Tests

Effluent Particle Size Distributions





TDS

SUMMARY OUTPUT For < 0.45 µm

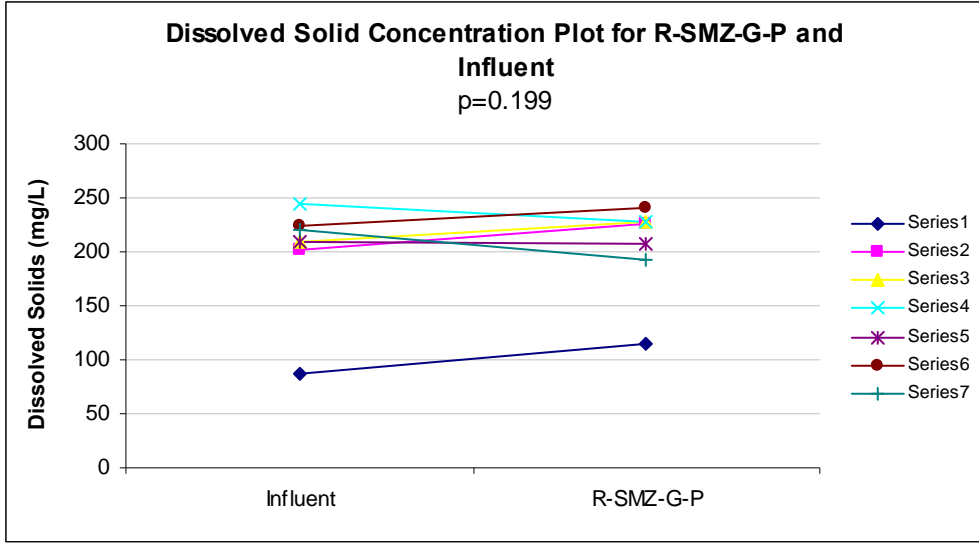
Regression Statistics	
Multiple R	0.913
R Square	0.834
Adjusted R Square	0.800
Standard Error	19.038
Observations	7.000

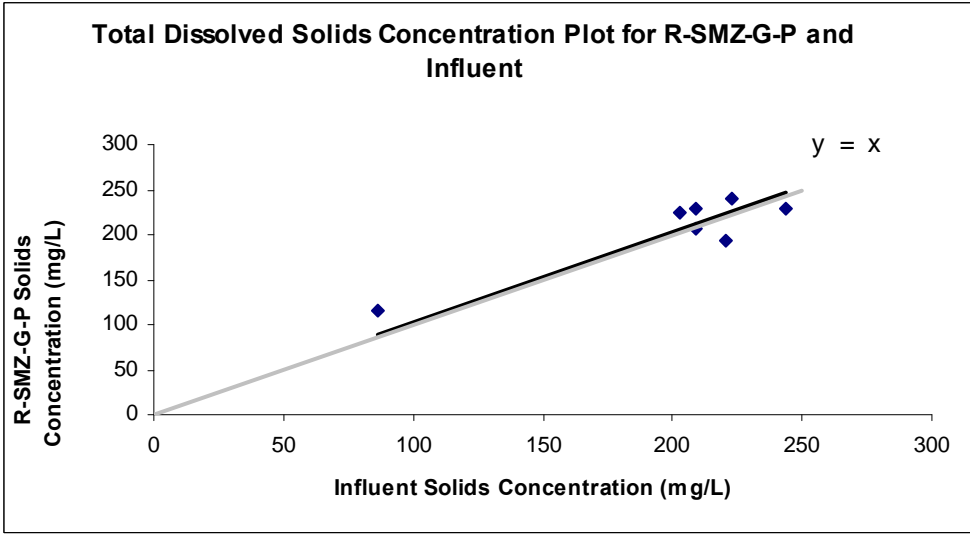
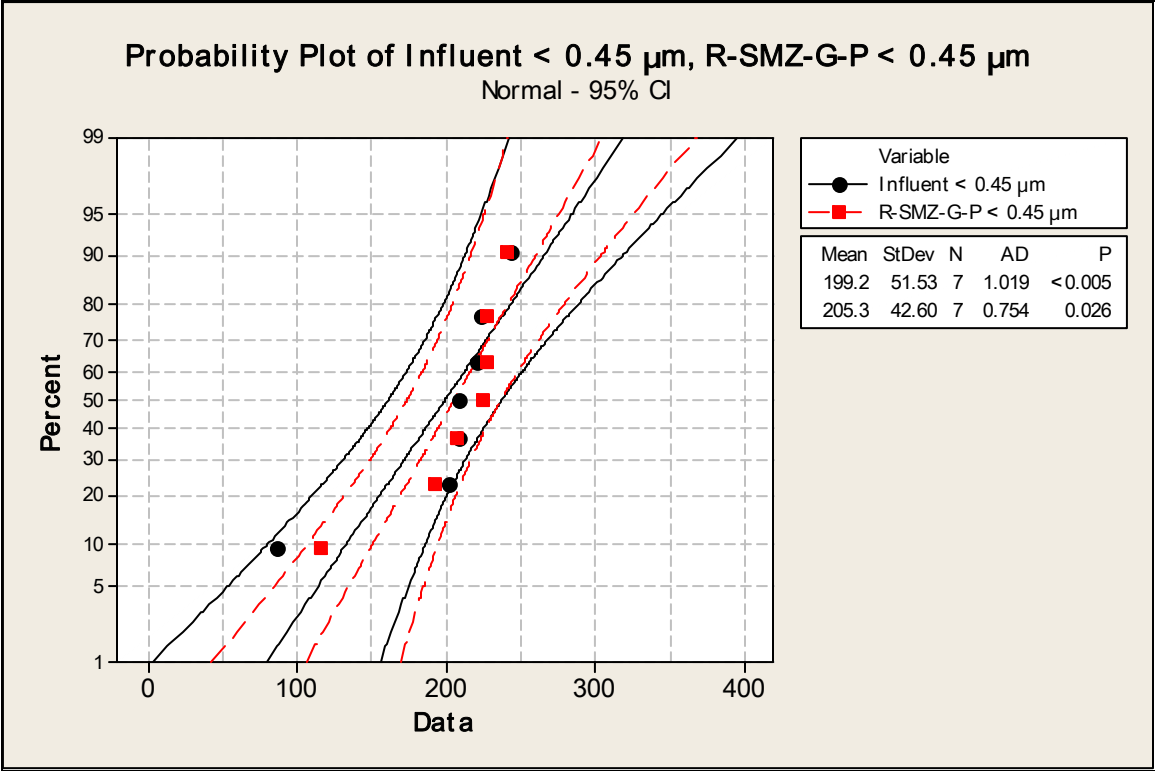
ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	9075.192	9075.192	25.038	0.004
Residual	5.000	1812.301	362.460		
Total	6.000	10887.493			

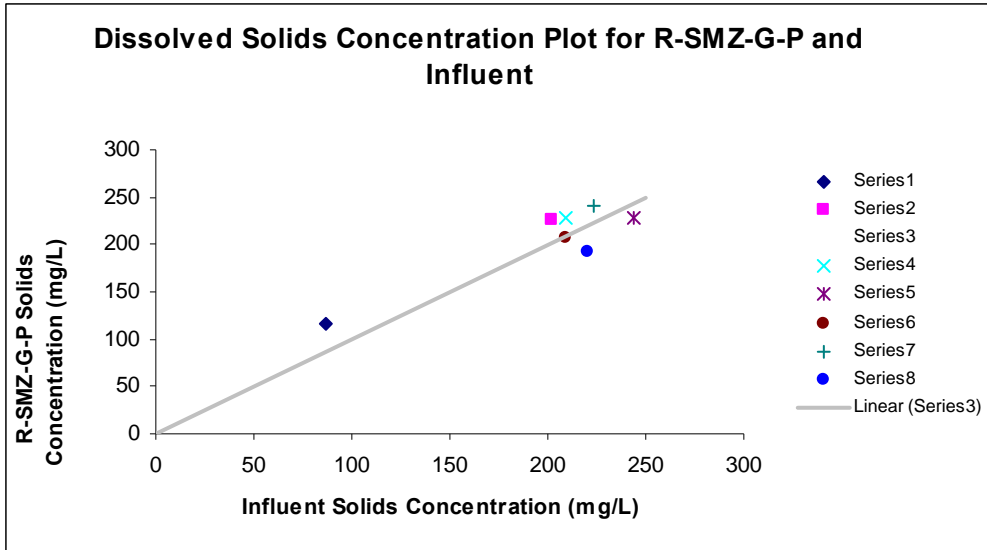
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	54.884	30.903	1.776	0.136	-24.554	134.323	-24.554	134.323
X Variable 1	0.755	0.151	5.004	0.004	0.367	1.143	0.367	1.143

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	120.174	-4.674
2	207.730	17.270
3	212.720	15.072
4	238.974	-11.009
5	212.673	-5.607
6	223.339	17.401
7	221.240	-28.454







0.45-3 μm

SUMMARY OUTPUT for 0.45~3 μm

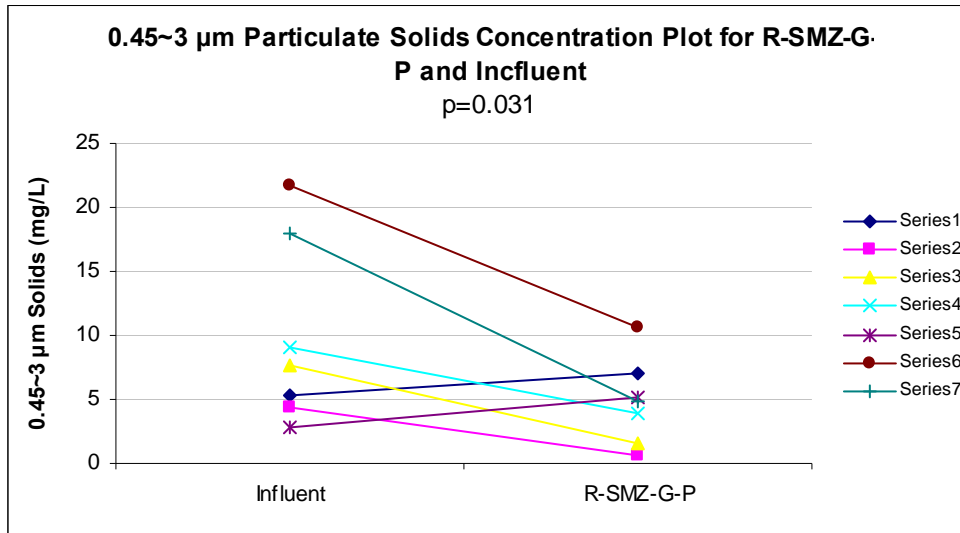
Regression Statistics	
Multiple R	0.601
R Square	0.361
Adjusted R Square	0.233
Standard Error	2.965
Observations	7.000

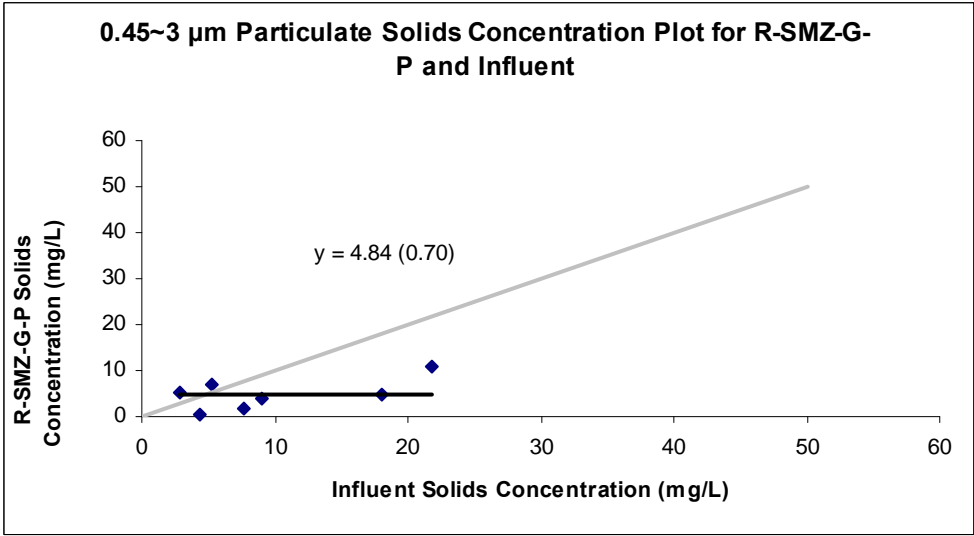
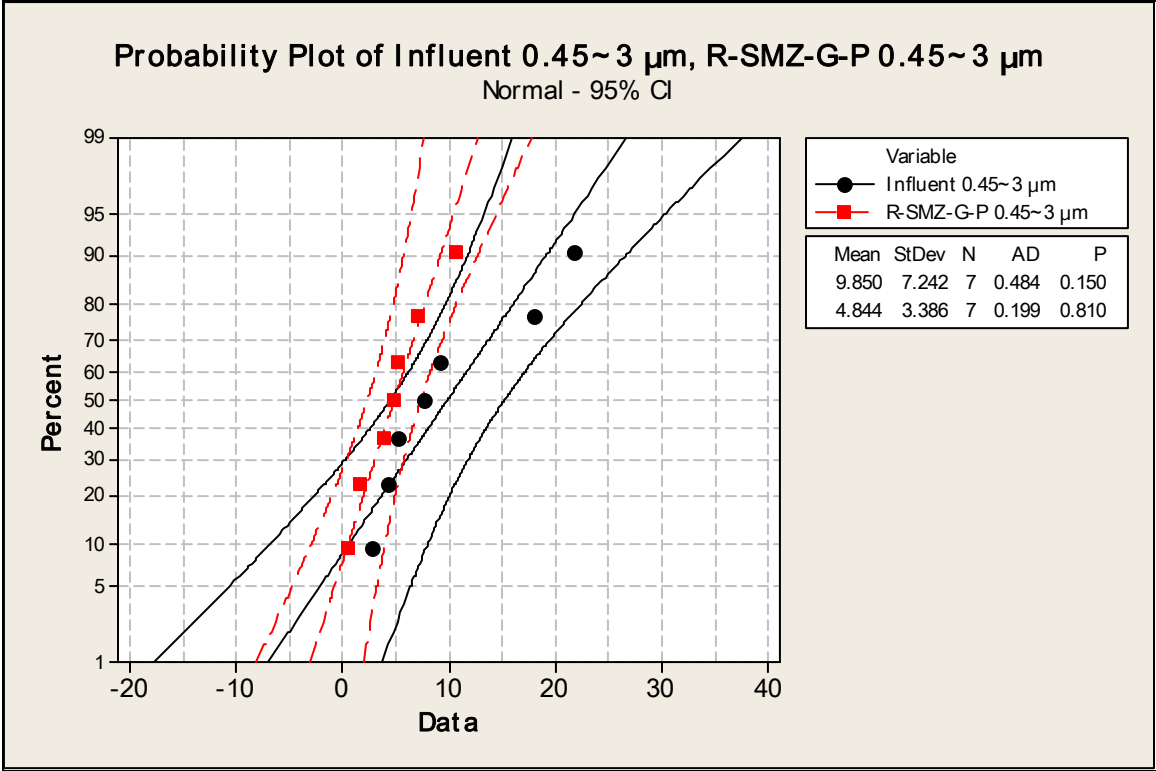
ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1.000	24.844	24.844	2.826	0.154
Residual	5.000	43.952	8.790		
Total	6.000	68.796			

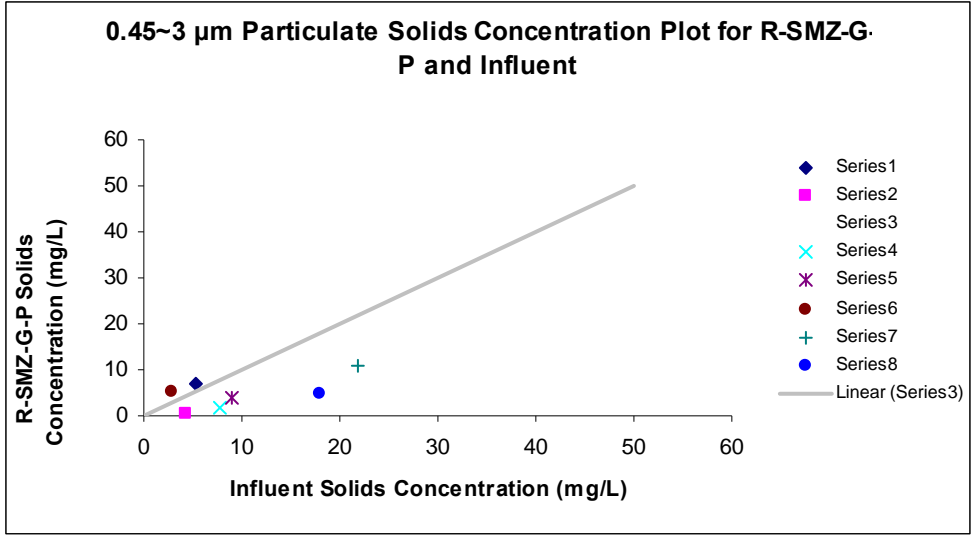
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	2.076	1.991	1.042	0.345	-3.043	7.195	-3.043	7.195
X Variable 1	0.281	0.167	1.681	0.154	-0.149	0.711	-0.149	0.711

RESIDUAL OUTPUT

<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	3.551	3.532
2	3.293	-2.709
3	4.233	-2.656
4	4.626	-0.756
5	2.874	2.338
6	8.190	2.473
7	7.139	-2.222







3-12 μm

SUMMARY OUTPUT for 3~12 μm

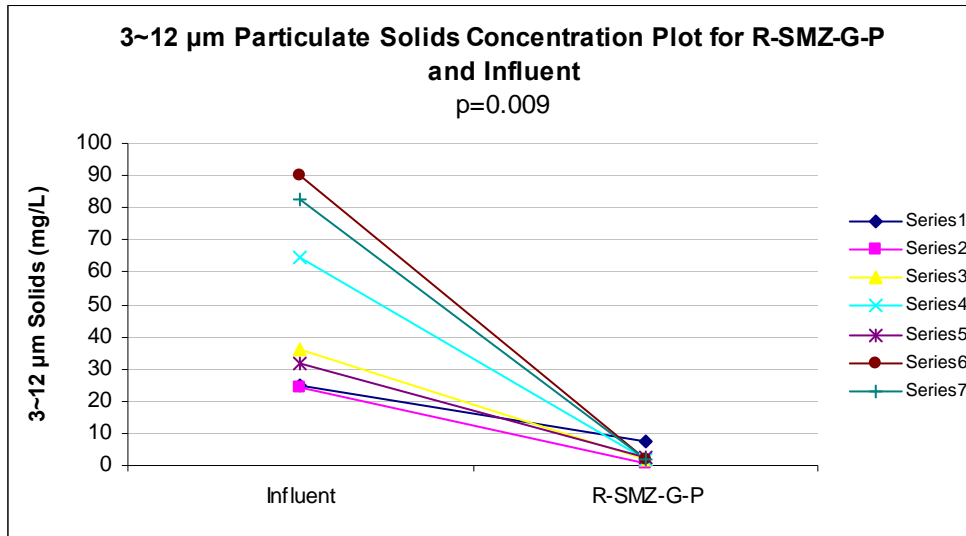
Regression Statistics	
Multiple R	0.368
R Square	0.135
Adjusted R Square	-0.038
Standard Error	2.266
Observations	7.000

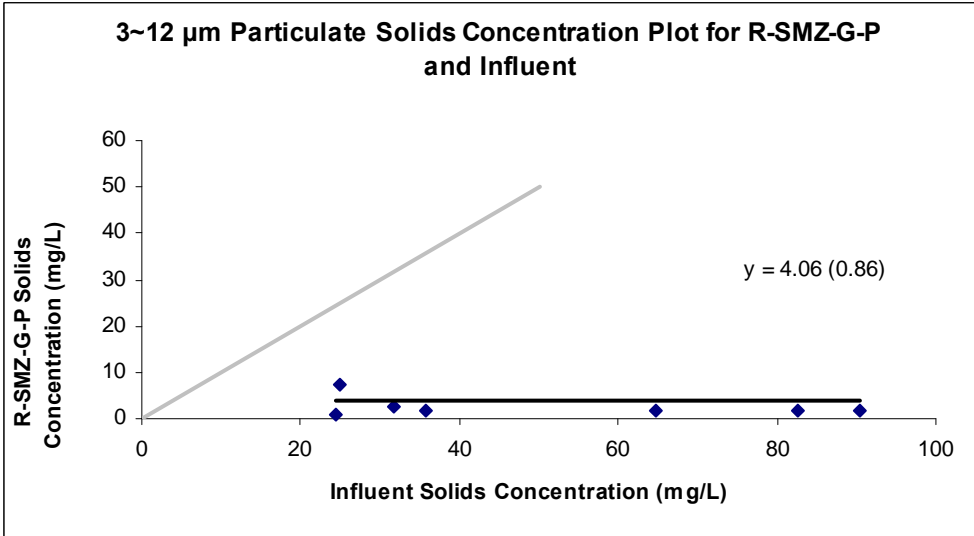
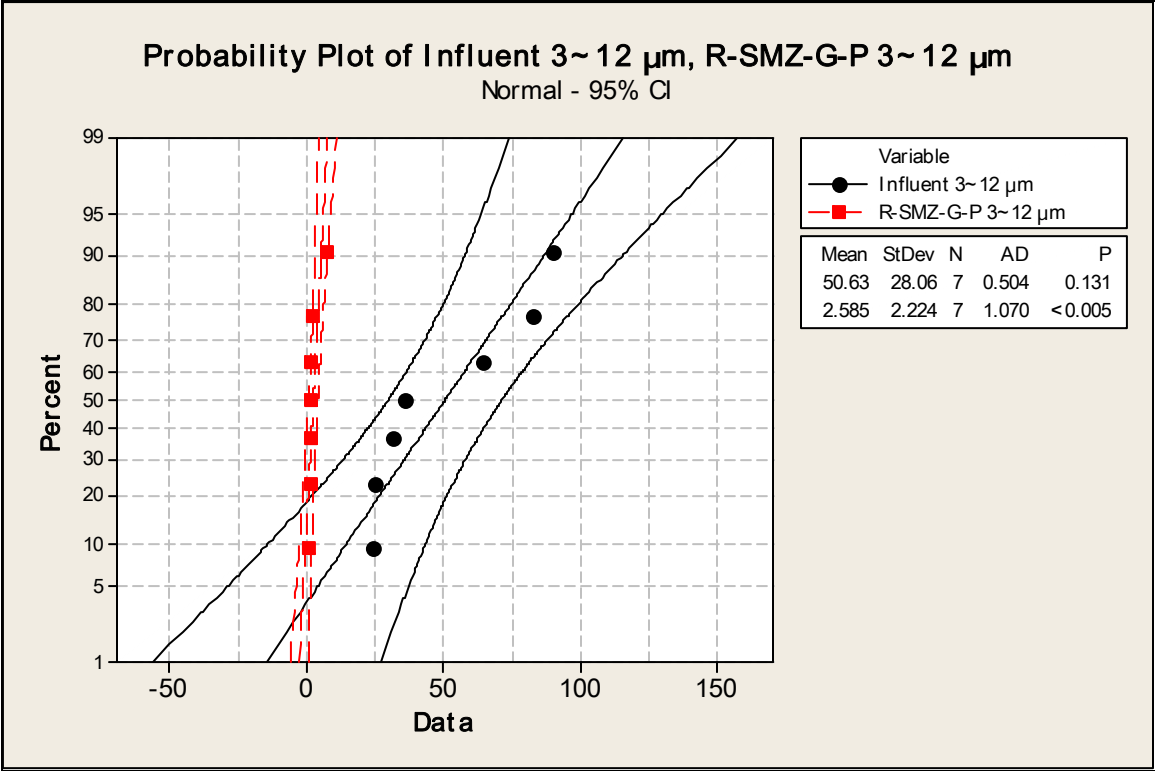
ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	1.000	4.008	4.008	0.781	0.417	
Residual	5.000	25.666	5.133			
Total	6.000	29.674				

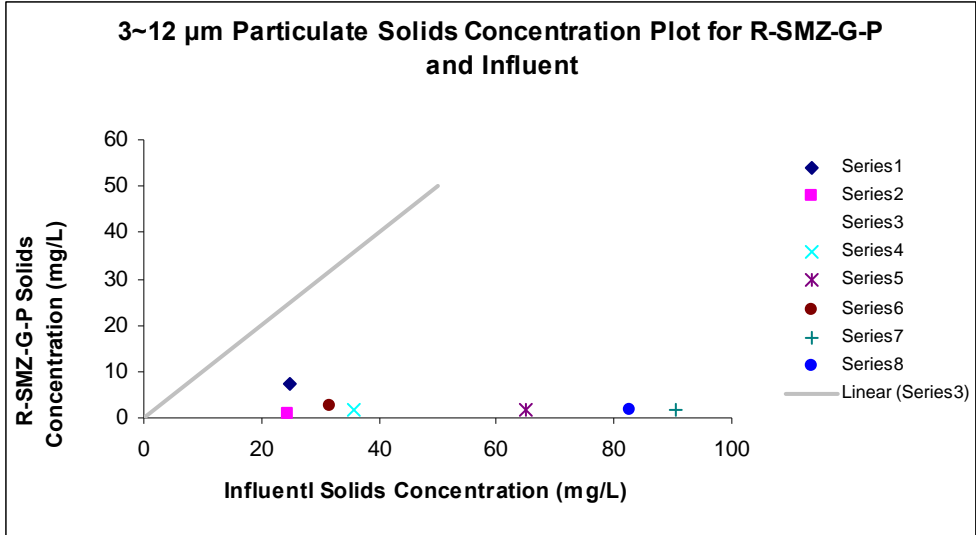
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	4.060	1.876	2.164	0.083	-0.762	8.883	-0.762	8.883
X Variable 1	-0.029	0.033	-0.884	0.417	-0.114	0.056	-0.114	0.056

RESIDUAL OUTPUT

<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	3.336	4.118
2	3.350	-2.610
3	3.018	-1.263
4	2.171	-0.242
5	3.136	-0.404
6	1.429	0.240
7	1.657	0.161







12-30 μm

SUMMARY OUTPUT for 12-30 μm

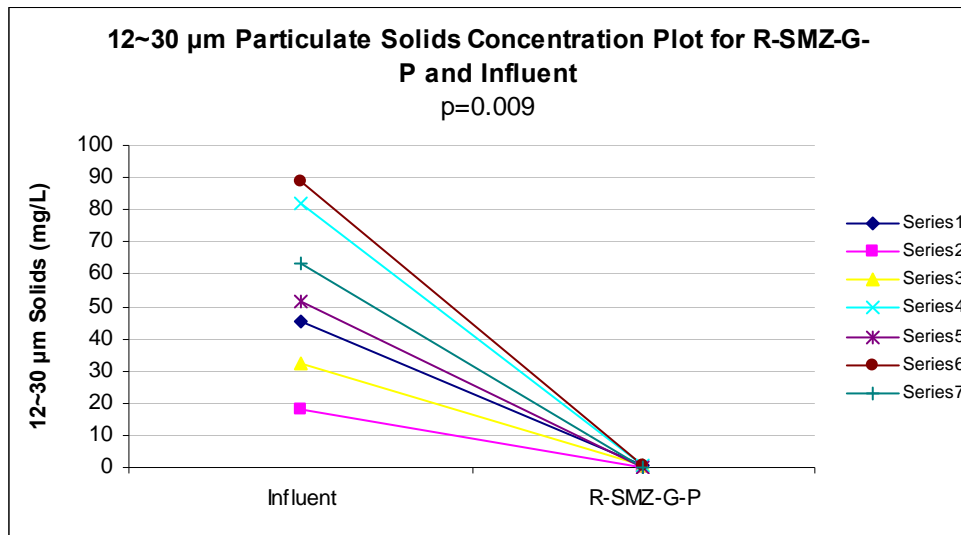
Regression Statistics	
Multiple R	0.203
R Square	0.041
Adjusted R Square	-0.151
Standard Error	0.297
Observations	7.000

ANOVA						
	df	SS	MS	F	Significance F	
Regression	1.000	0.019	0.019	0.215	0.662	
Residual	5.000	0.440	0.088			
Total	6.000	0.459				

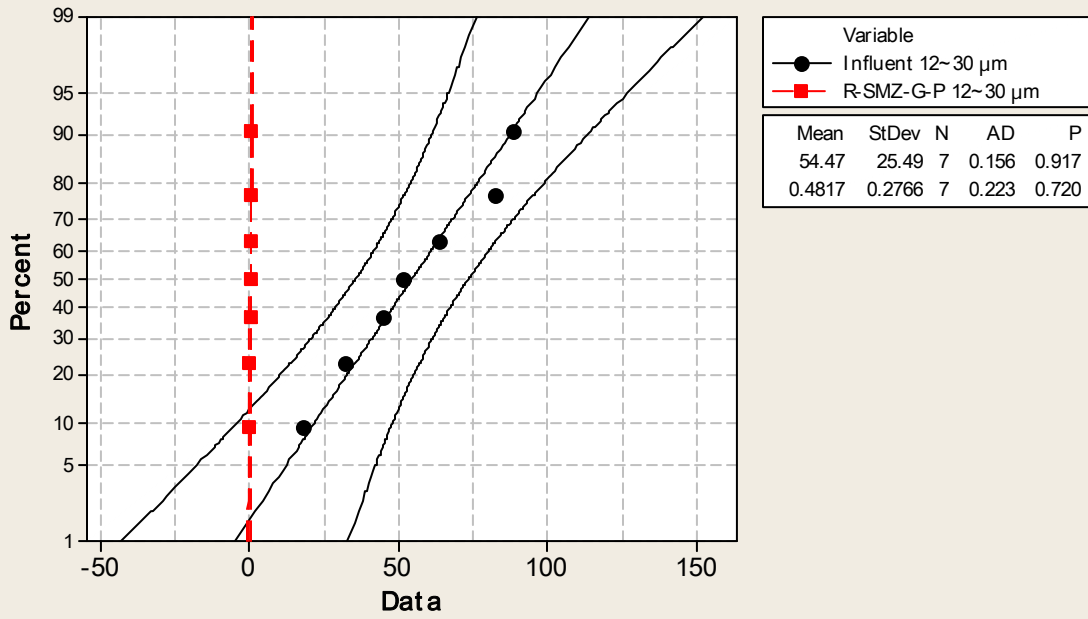
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.362	0.282	1.283	0.256	-0.363	1.087	-0.363	1.087
X Variable 1	0.002	0.005	0.464	0.662	-0.010	0.014	-0.010	0.014

RESIDUAL OUTPUT

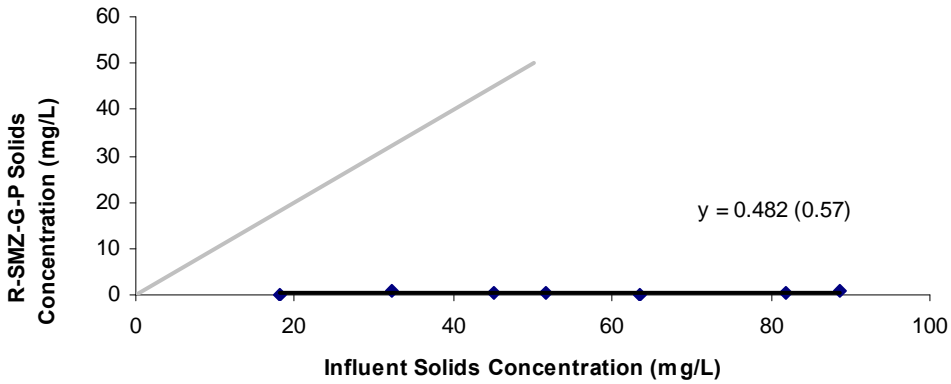
Observation	Predicted Y	Residuals
1	0.461	0.076
2	0.402	-0.199
3	0.433	0.459
4	0.542	0.021
5	0.476	-0.172
6	0.557	0.169
7	0.502	-0.354

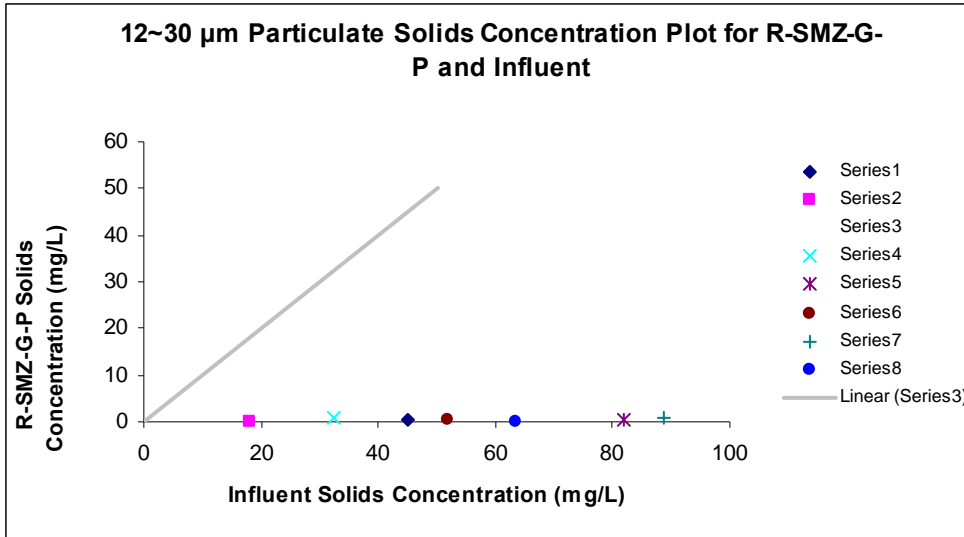


Probability Plot of Influent 12~30 μm , R-SMZ-G-P 12~30 μm
Normal - 95% CI



12~30 μm Particulate Solids Concentration Plot for R-SMZ-G-P and Influent





30-60 μm

SUMMARY OUTPUT for 30-60 μm

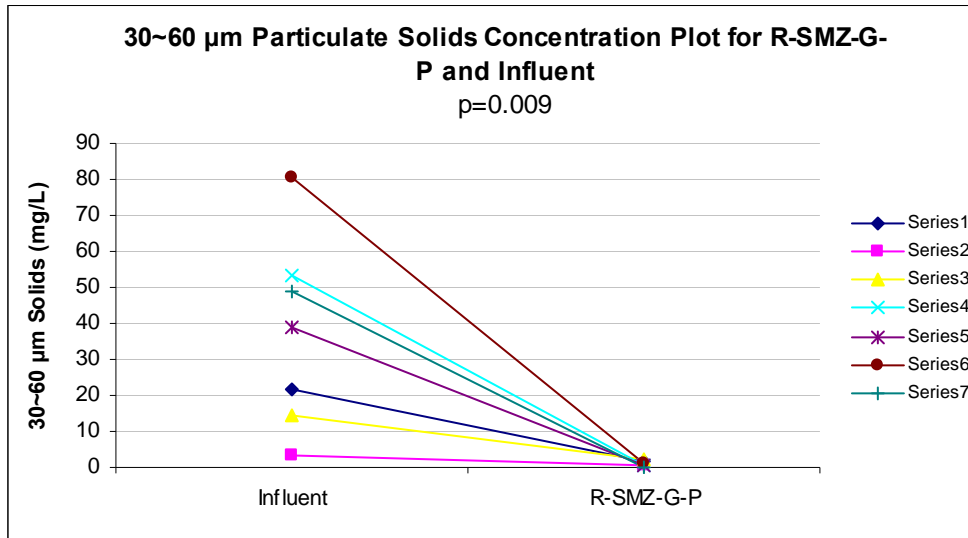
Regression Statistics	
Multiple R	0.256
R Square	0.066
Adjusted R Square	-0.121
Standard Error	0.813
Observations	7.000

ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	1.000	0.232	0.232	0.352	0.579	
Residual	5.000	3.302	0.660			
Total	6.000	3.534				

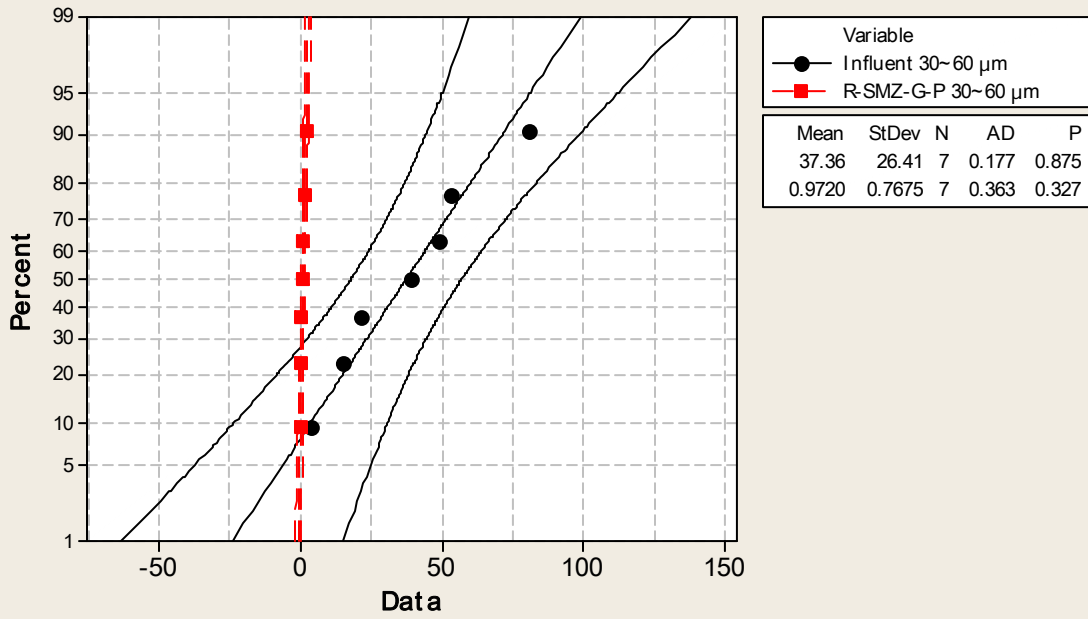
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.250	0.561	2.229	0.076	-0.192	2.692	-0.192	2.692
X Variable 1	-0.007	0.013	-0.593	0.579	-0.040	0.025	-0.040	0.025

RESIDUAL OUTPUT

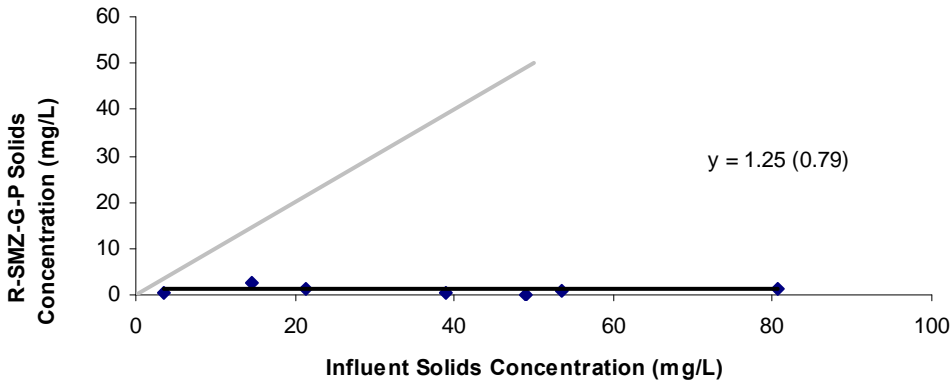
<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	1.090	0.360
2	1.225	-0.749
3	1.141	1.275
4	0.852	-0.126
5	0.960	-0.543
6	0.650	0.463
7	0.886	-0.680

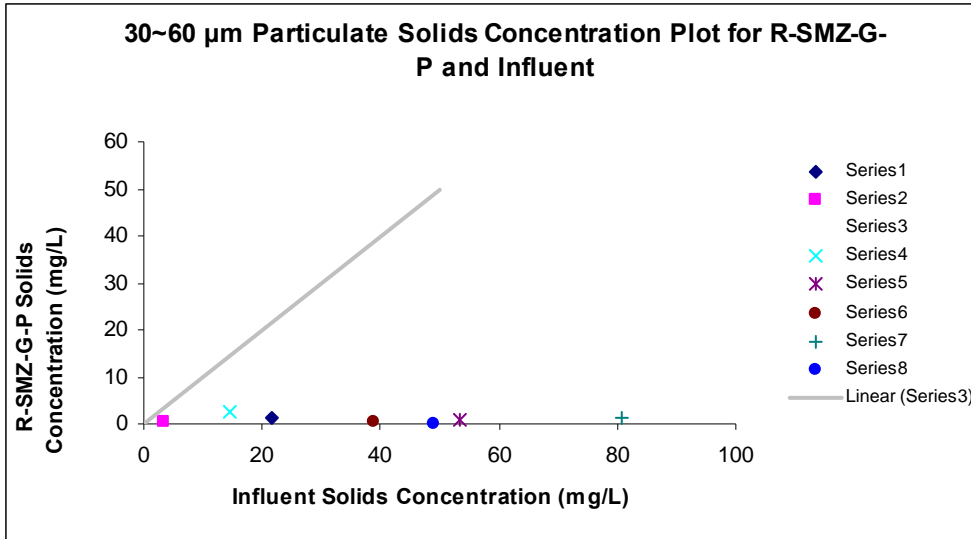


Probability Plot of Influent 30~60 μm, R-SMZ-G-P 30~60 μm
Normal - 95% CI



30~60 μm Particulate Solids Concentration Plot for R-SMZ-G-P and Influent





60-120 μm

SUMMARY OUTPUT for 60-120 μm

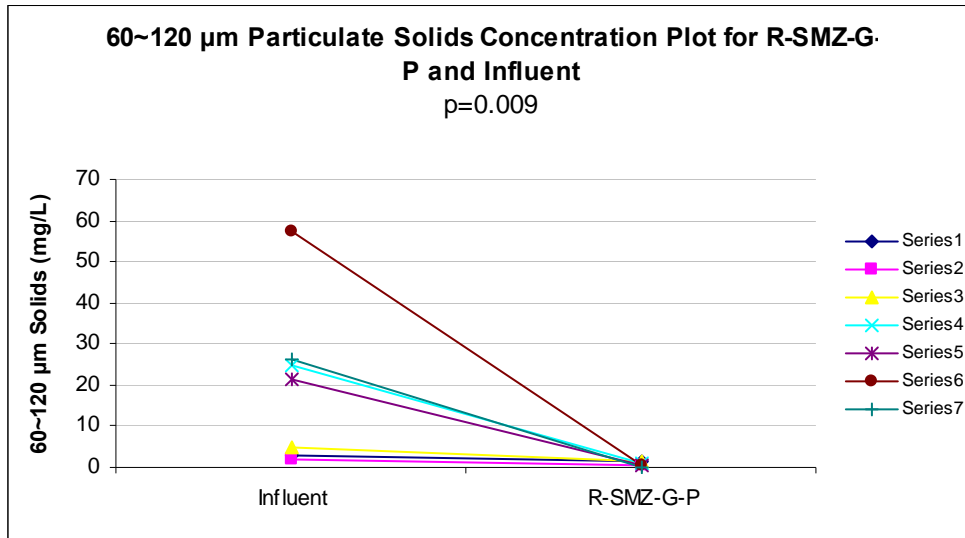
Regression Statistics	
Multiple R	0.418
R Square	0.174
Adjusted R Square	0.009
Standard Error	0.555
Observations	7.000

ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	1.000	0.326	0.326	1.056	0.351	
Residual	5.000	1.543	0.309			
Total	6.000	1.869				

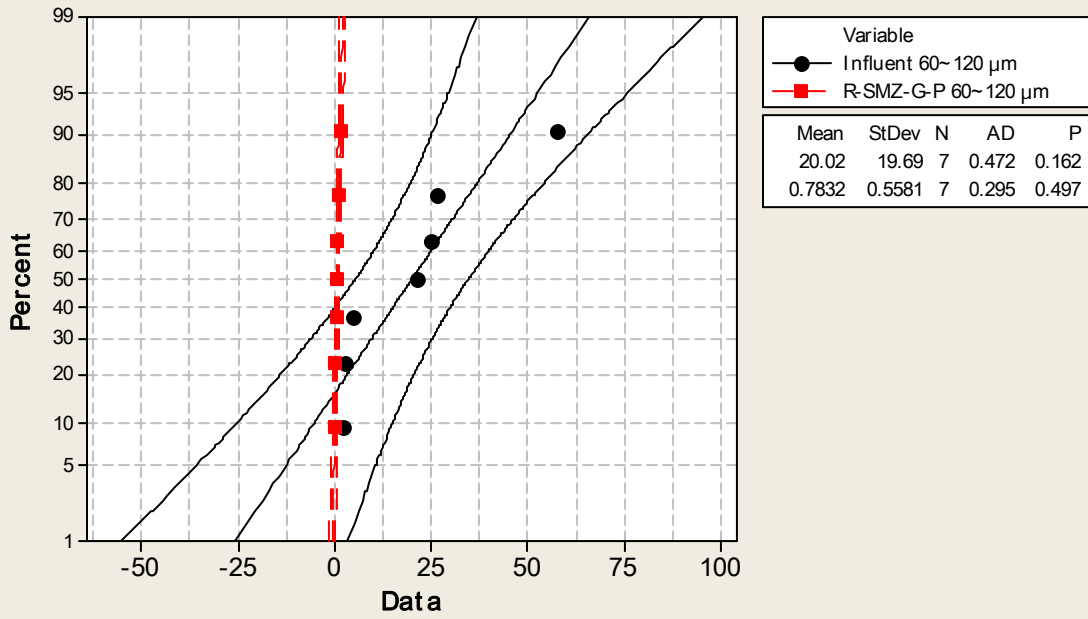
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.020	0.312	3.271	0.022	0.219	1.822	0.219	1.822
X Variable 1	-0.012	0.012	-1.028	0.351	-0.041	0.018	-0.041	0.018

RESIDUAL OUTPUT

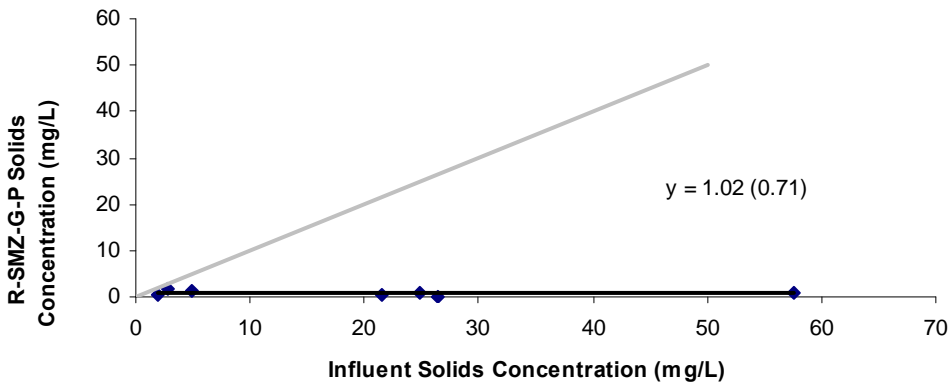
<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	0.987	0.707
2	0.997	-0.550
3	0.961	0.397
4	0.726	0.089
5	0.766	-0.401
6	0.339	0.318
7	0.707	-0.560

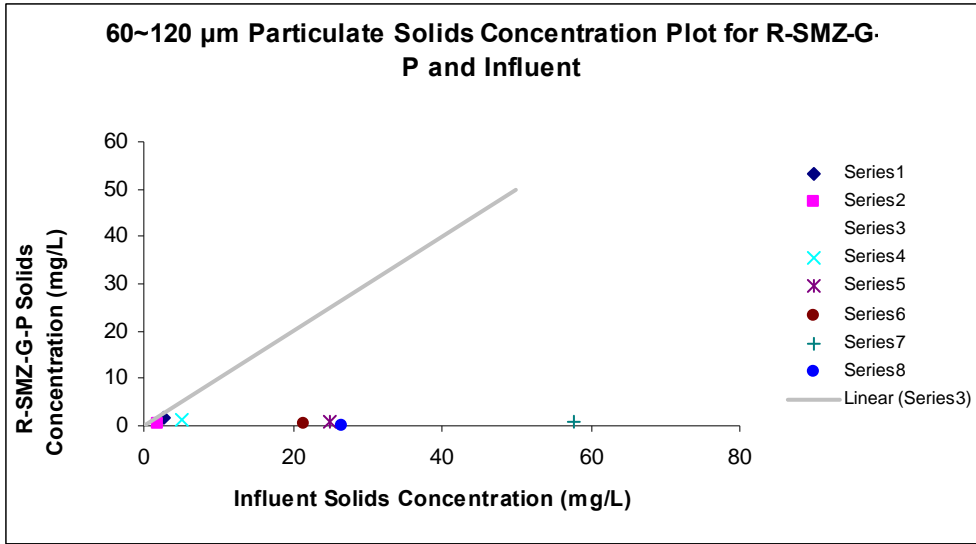


Probability Plot of Influent 60~ 120 μm , R-SMZ-G-P 60~ 120 μm
Normal - 95% CI



60~120 μm Particulate Solids Concentration Plot for R-SMZ-G-P and Influent





120-250 μm

SUMMARY OUTPUT for 120~250 μm

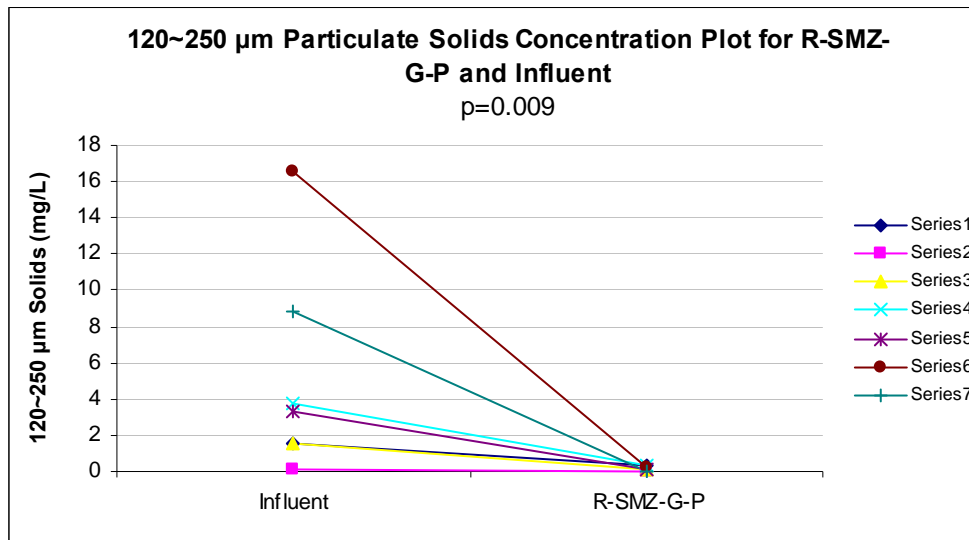
Regression Statistics	
Multiple R	0.185
R Square	0.034
Adjusted R Square	-0.159
Standard Error	0.144
Observations	7.000

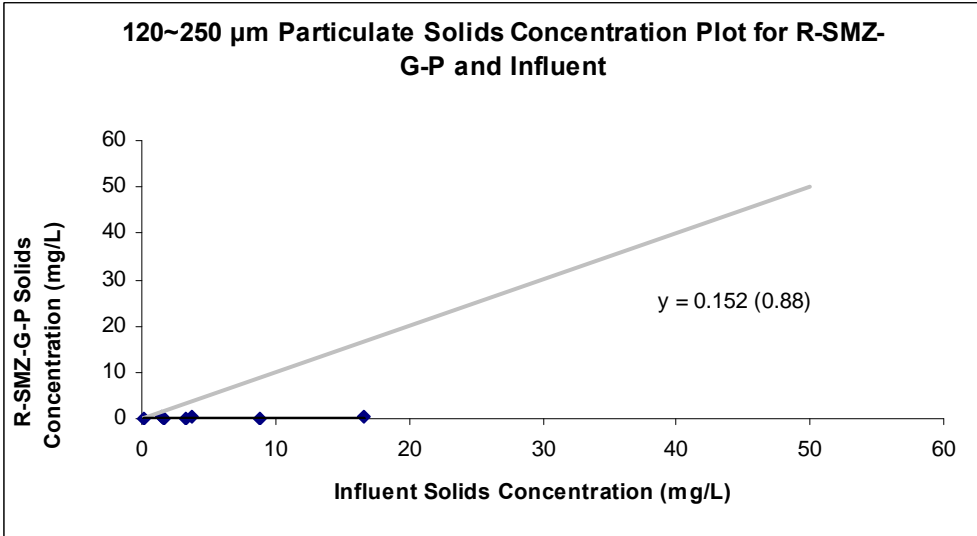
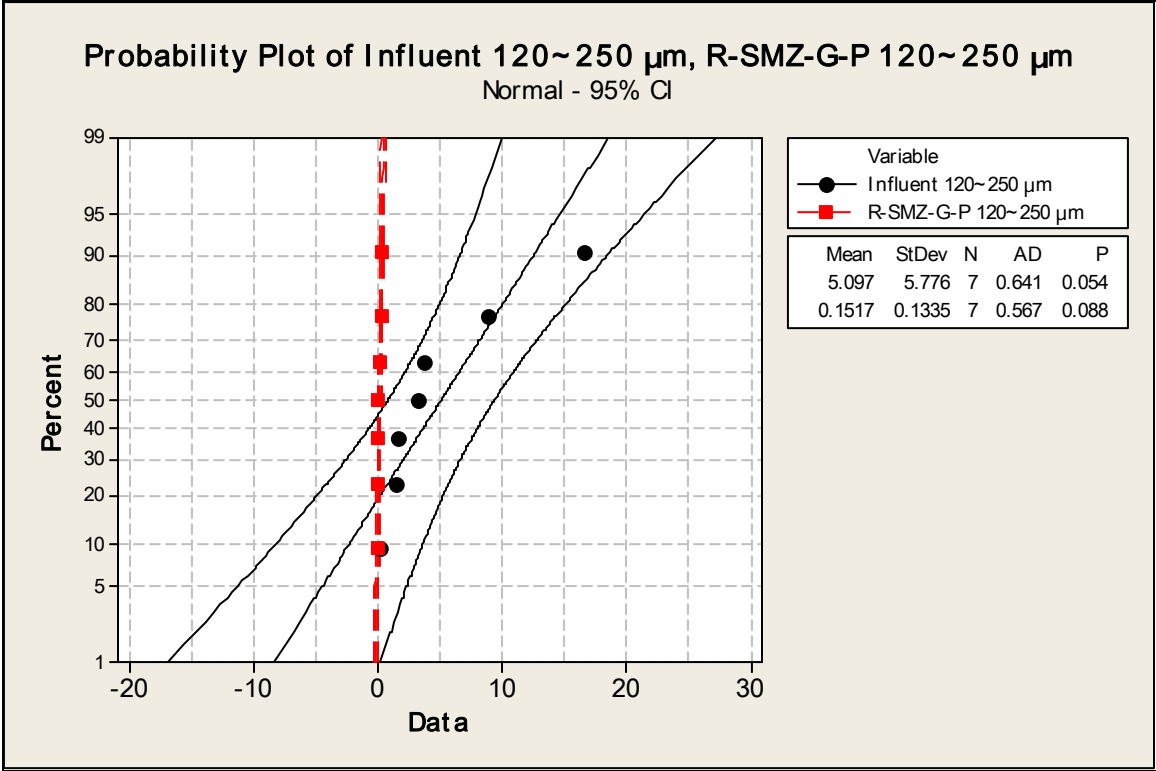
ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	1.000	0.004	0.004	0.177	0.691	
Residual	5.000	0.103	0.021			
Total	6.000	0.107				

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.130	0.075	1.730	0.144	-0.063	0.323	-0.063	0.323
X Variable 1	0.004	0.010	0.421	0.691	-0.022	0.030	-0.022	0.030

RESIDUAL OUTPUT

<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	0.136	0.146
2	0.130	-0.080
3	0.137	-0.069
4	0.146	0.191
5	0.144	-0.083
6	0.201	0.051
7	0.168	-0.157





250-1180 μm

SUMMARY OUTPUT for 250~1180 μm

Regression Statistics	
Multiple R	0.517
R Square	0.267
Adjusted R Square	0.121
Standard Error	0.875
Observations	7.000

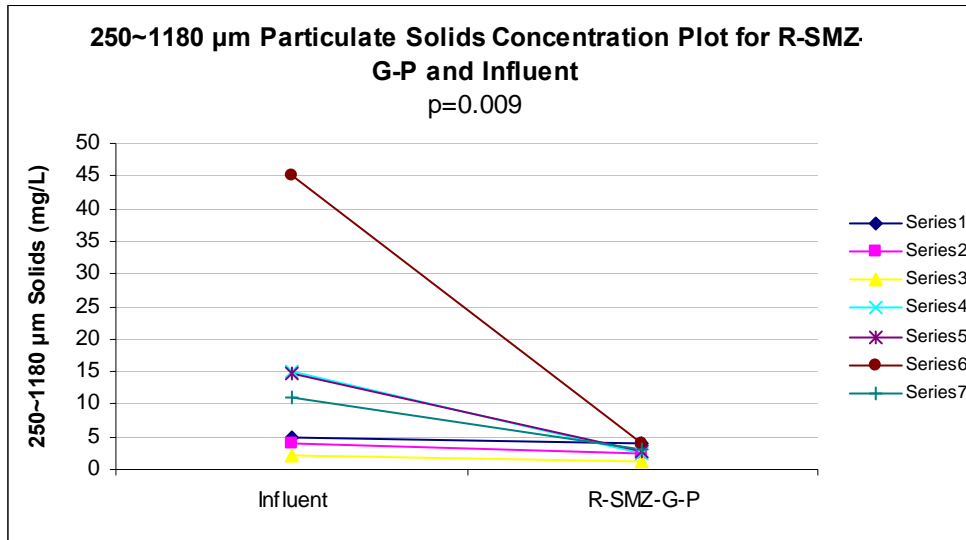
ANOVA

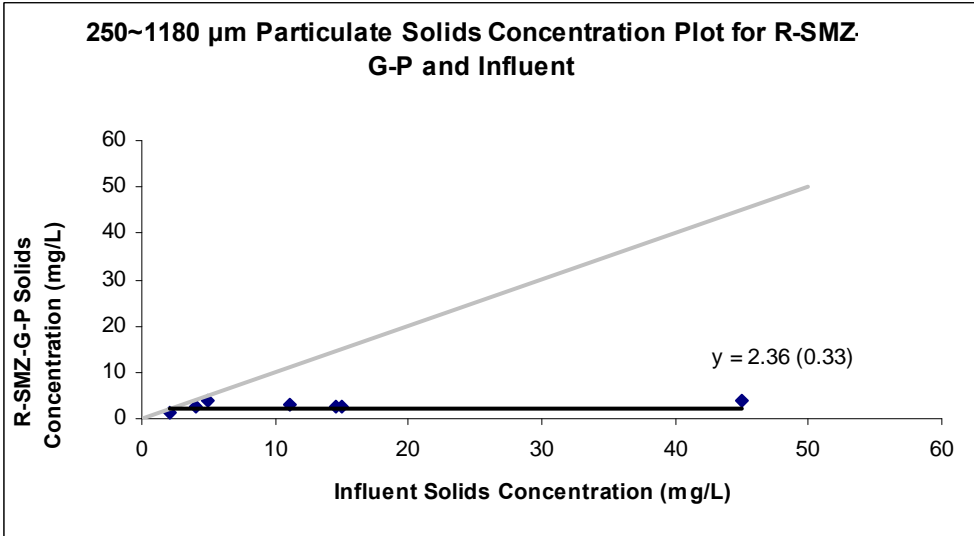
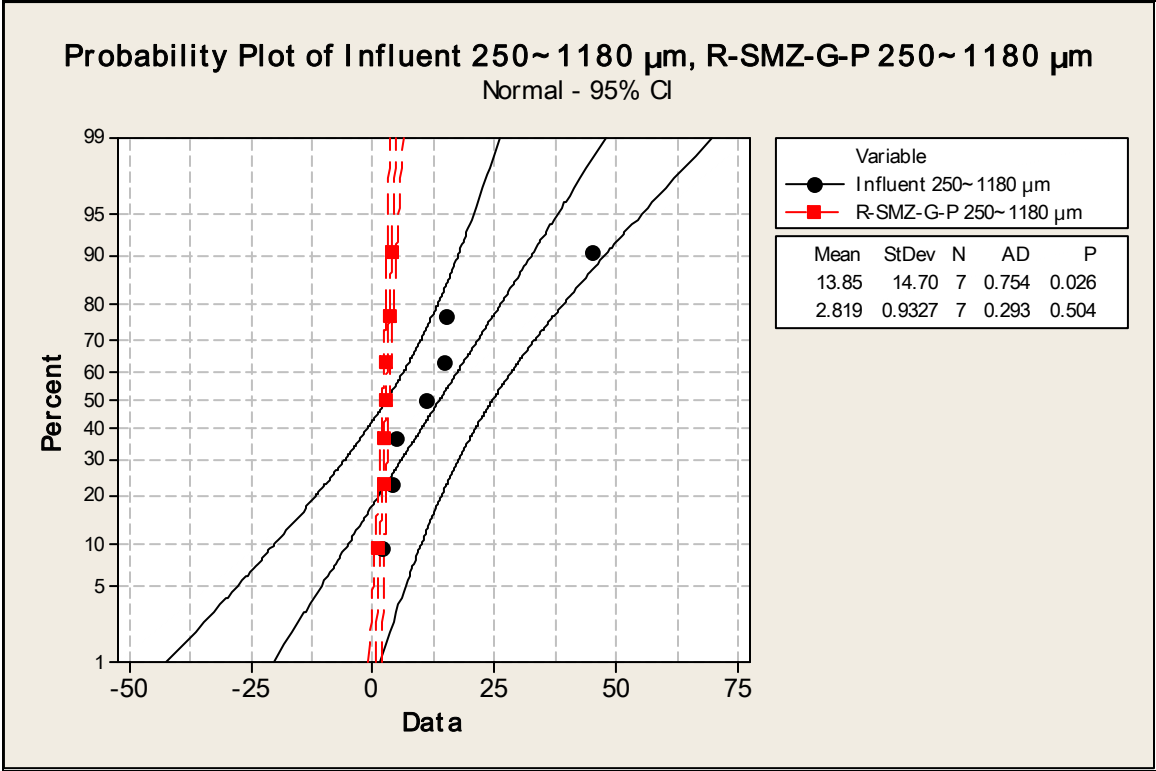
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1.000	1.394	1.394	1.822	0.235
Residual	5.000	3.826	0.765		
Total	6.000	5.220			

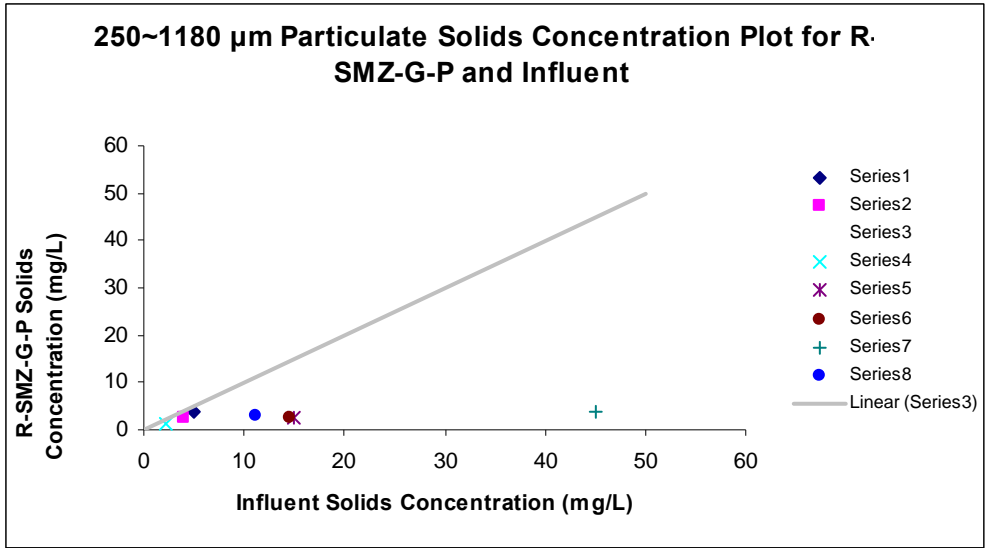
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	2.365	0.472	5.014	0.004	1.152	3.577	1.152	3.577
X Variable 1	0.033	0.024	1.350	0.235	-0.030	0.095	-0.030	0.095

RESIDUAL OUTPUT

<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	2.529	1.471
2	2.496	0.004
3	2.435	-1.193
4	2.857	-0.405
5	2.844	-0.130
6	3.843	0.010
7	2.729	0.242







>1180 μm (no particles observed in this size range)

SSC (>0.45 μm)

SUMMARY OUTPUT for Total

Regression Statistics	
Multiple R	0.357
R Square	0.128
Adjusted R Square	-0.047
Standard Error	6.148
Observations	7.000

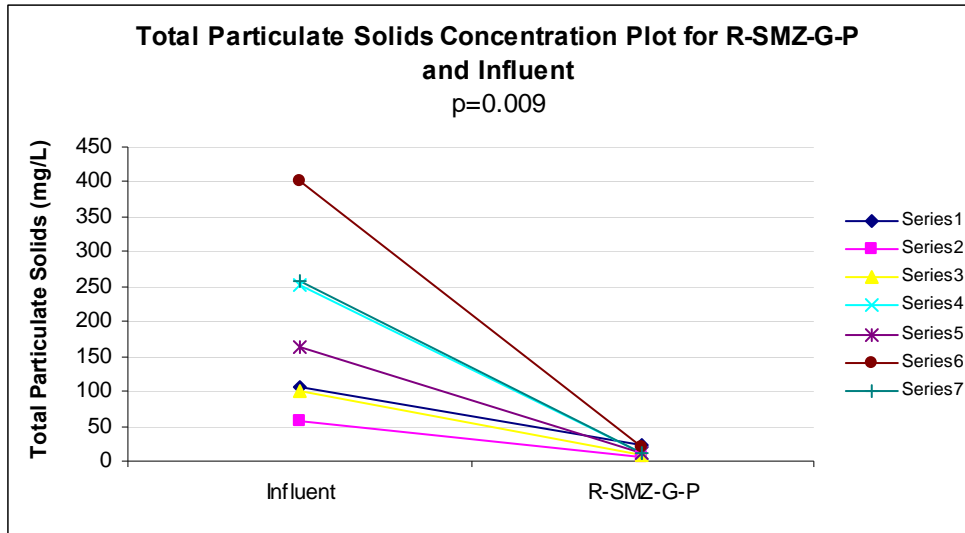
ANOVA

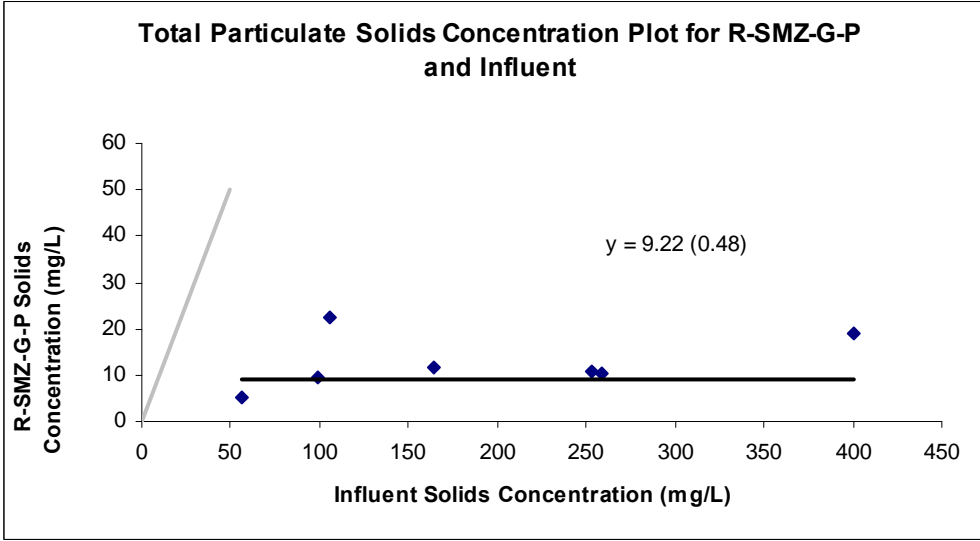
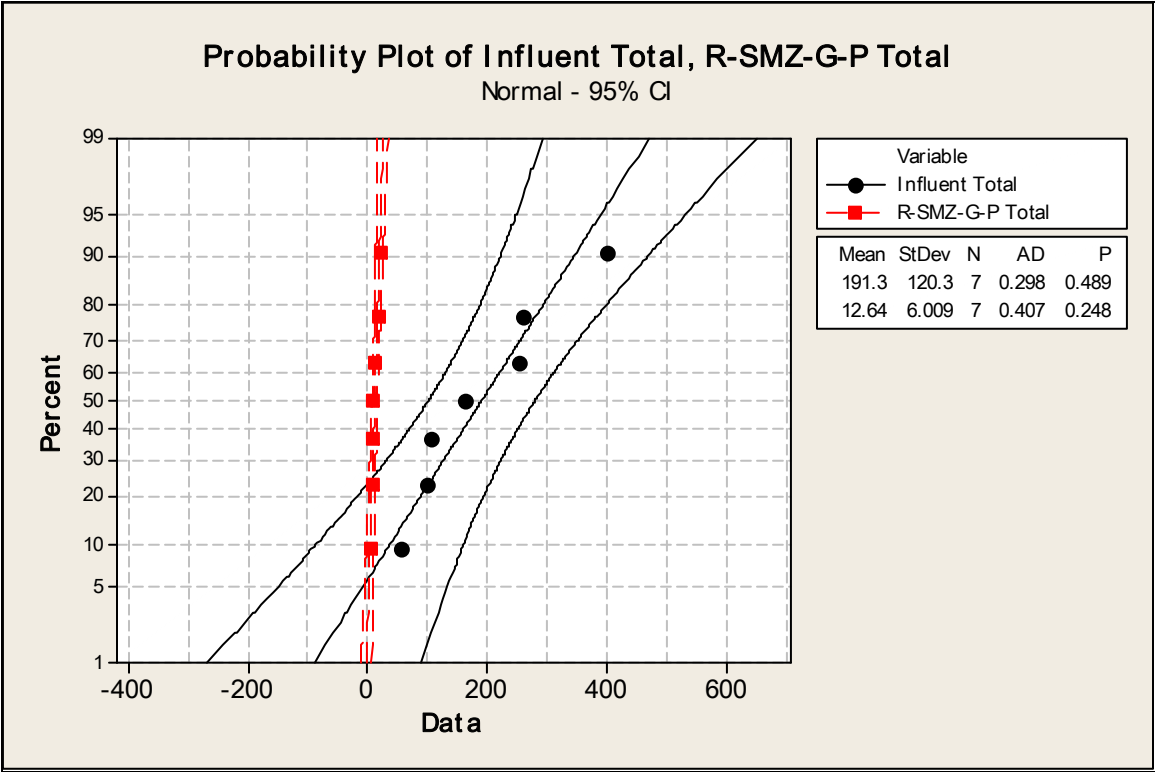
	df	SS	MS	F	Significance F
Regression	1.000	27.664	27.664	0.732	0.431
Residual	5.000	188.988	37.798		
Total	6.000	216.652			

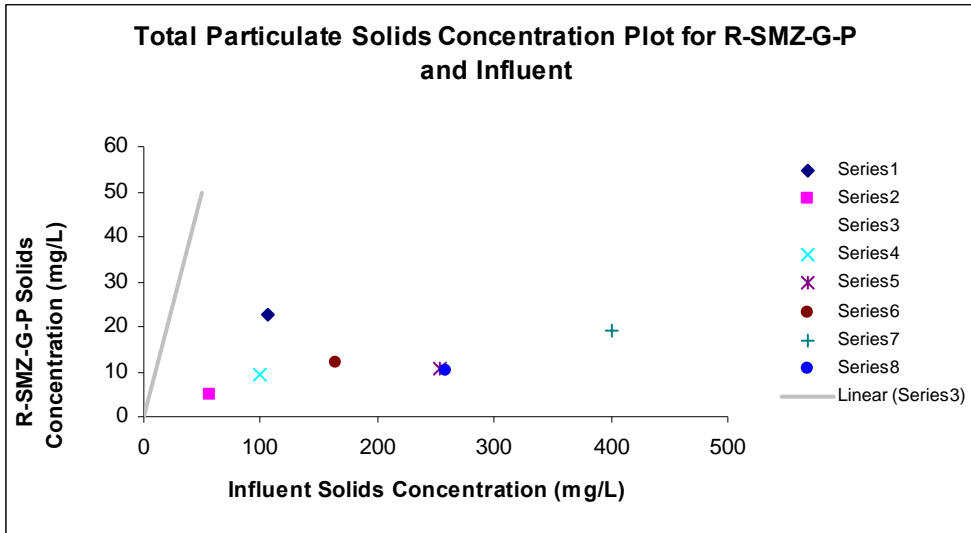
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	9.222	4.618	1.997	0.102	-2.649	21.093	-2.649	21.093
X Variable 1	0.018	0.021	0.856	0.431	-0.036	0.071	-0.036	0.071

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	11.114	11.386
2	10.231	-5.231
3	10.992	-1.685
4	13.736	-3.044
5	12.160	-0.355
6	16.371	2.562
7	13.851	-3.633







TSS (0.45 to 75 μm)

SUMMARY OUTPUT for TSS

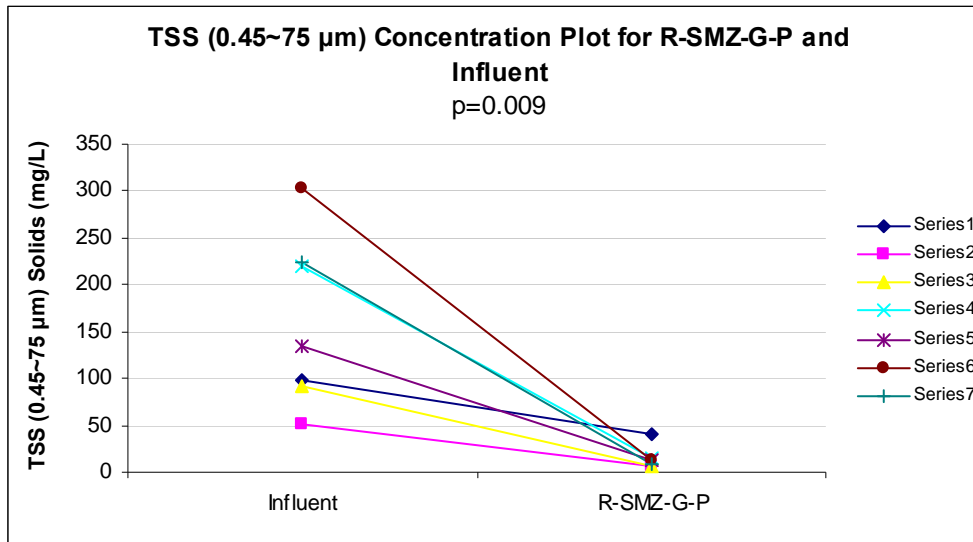
Regression Statistics	
Multiple R	0.116
R Square	0.014
Adjusted R Square	-0.184
Standard Error	13.017
Observations	7.000

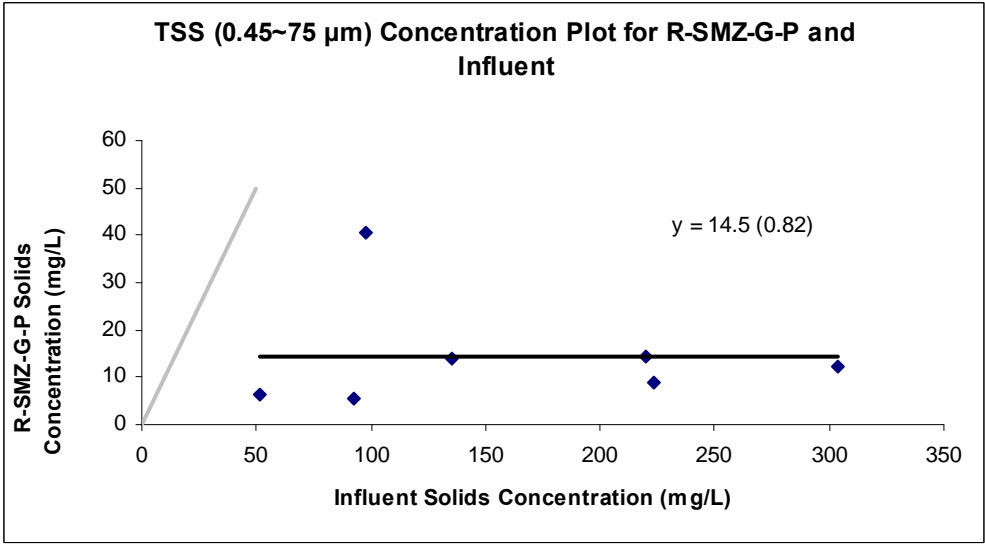
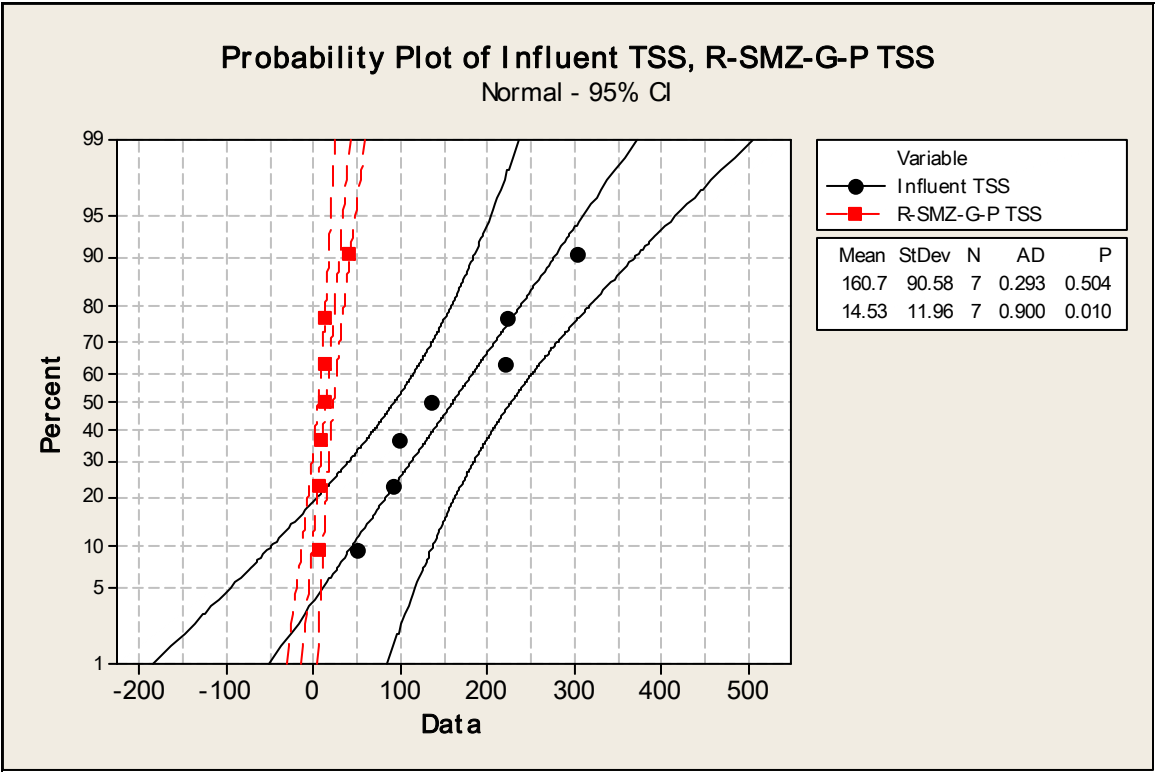
ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	11.648	11.648	0.069	0.804
Residual	5.000	847.234	169.447		
Total	6.000	858.882			

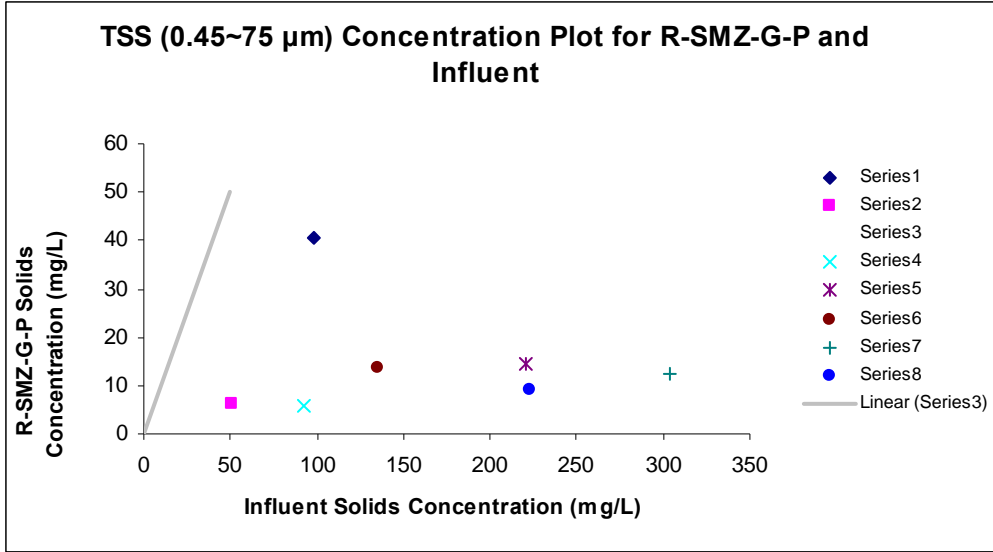
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	17.004	10.634	1.599	0.171	-10.331	44.339	-10.331	44.339
X Variable 1	-0.015	0.059	-0.262	0.804	-0.166	0.135	-0.166	0.135

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	15.494	24.989
2	16.215	-10.002
3	15.585	-9.980
4	13.618	0.672
5	14.922	-1.105
6	12.327	0.057
7	13.567	-4.633

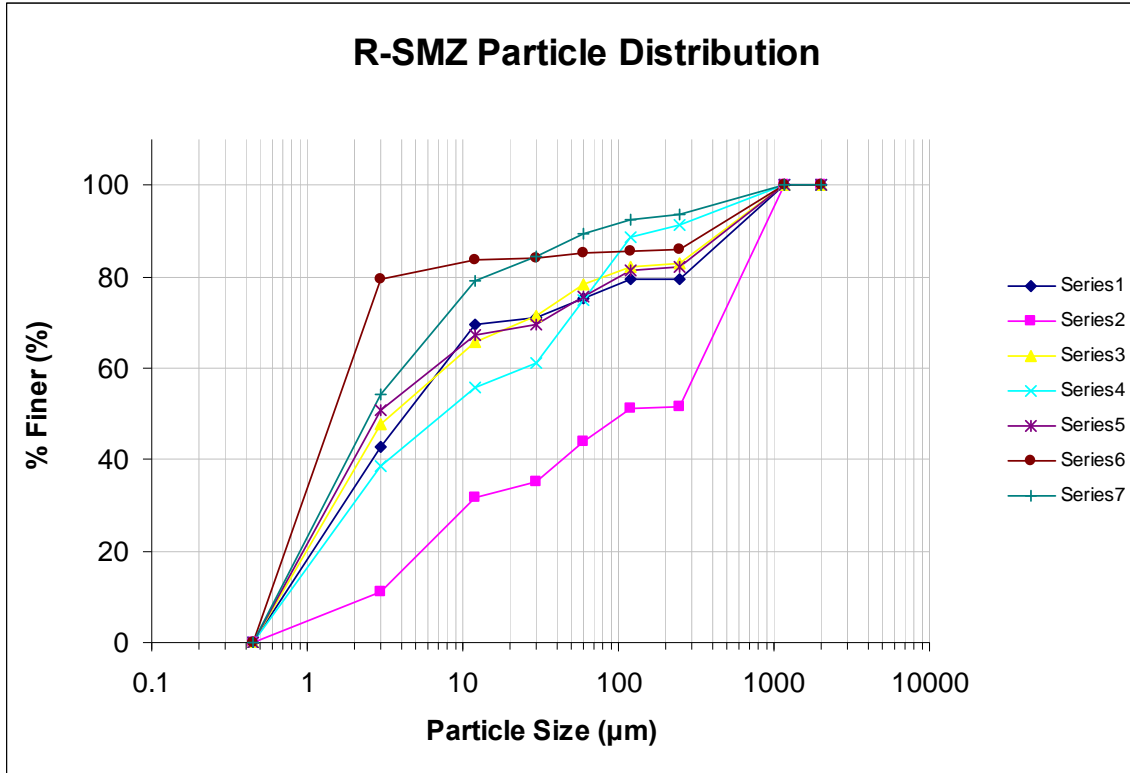


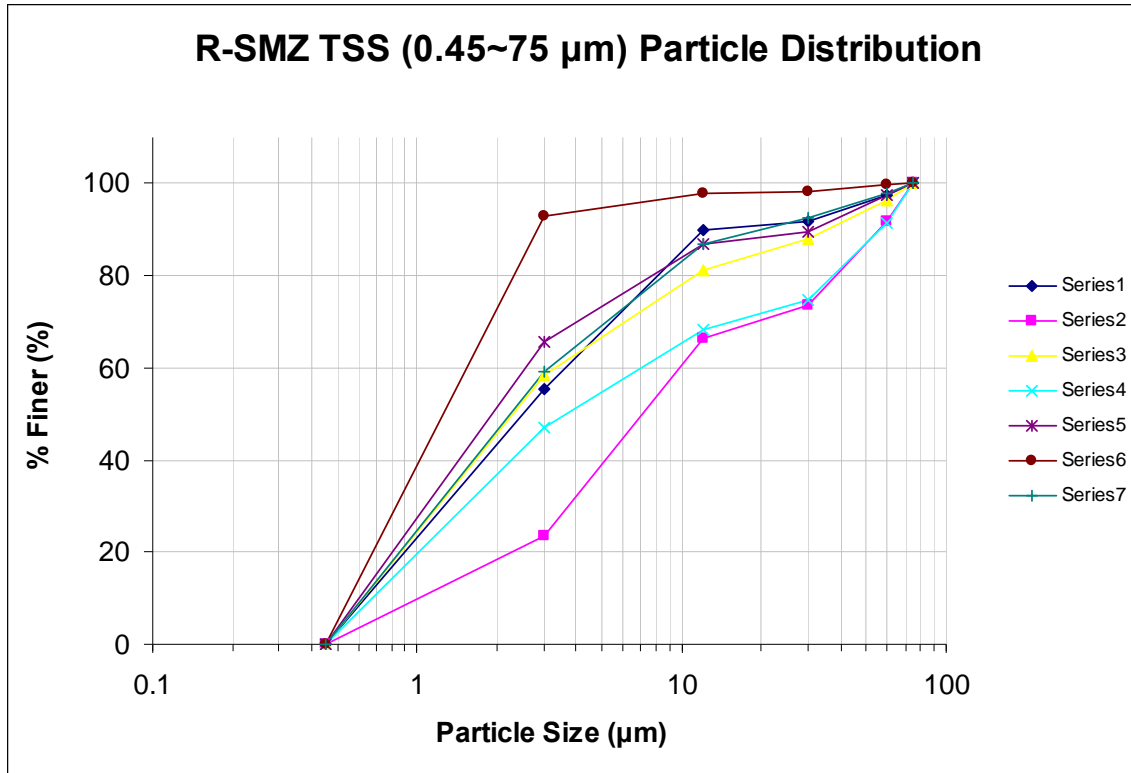




Rhyolite Sand – Surface Modified Zeolite (R – SMZ) Media Particulate Removal Data from Column Tests

Effluent Particle Size Distributions





TDS

SUMMARY OUTPUT For < 0.45 μm

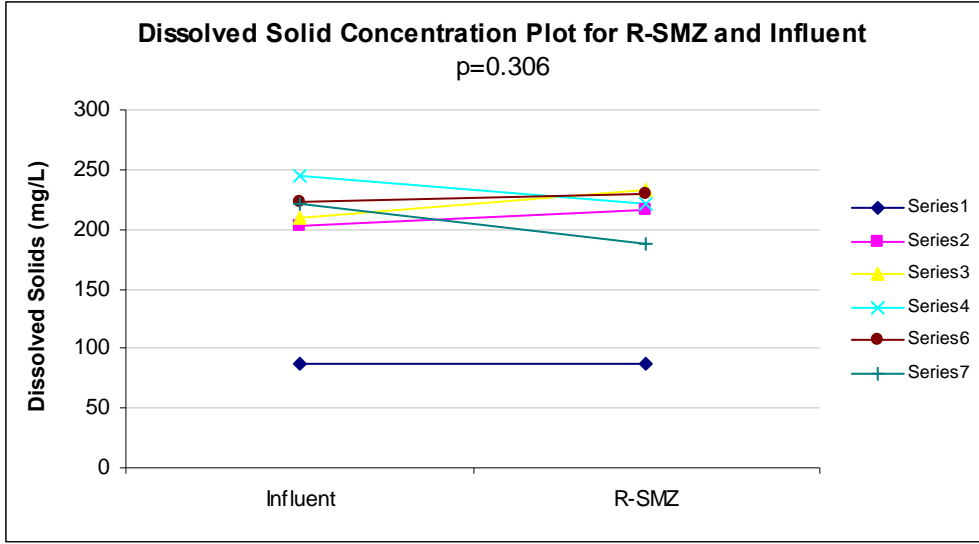
Regression Statistics	
Multiple R	0.923
R Square	0.852
Adjusted R Square	0.815
Standard Error	23.963
Observations	6.000

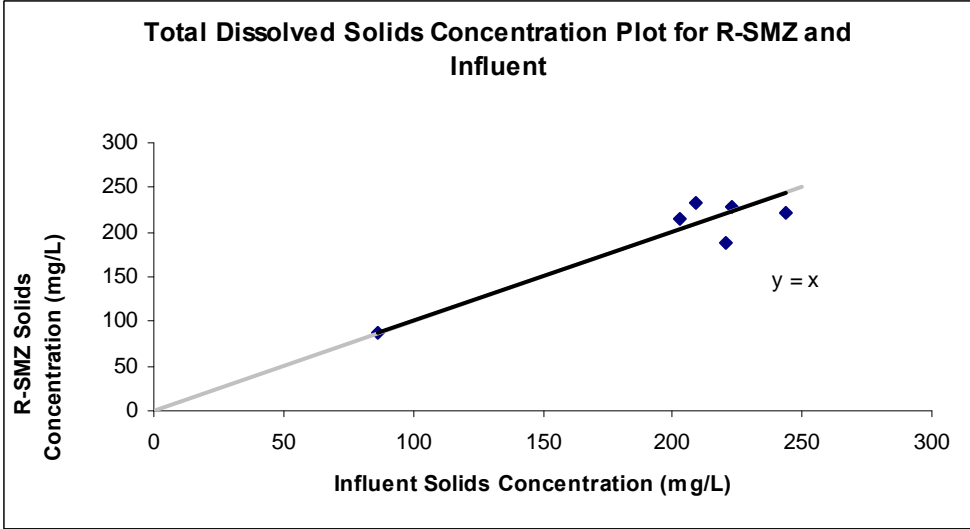
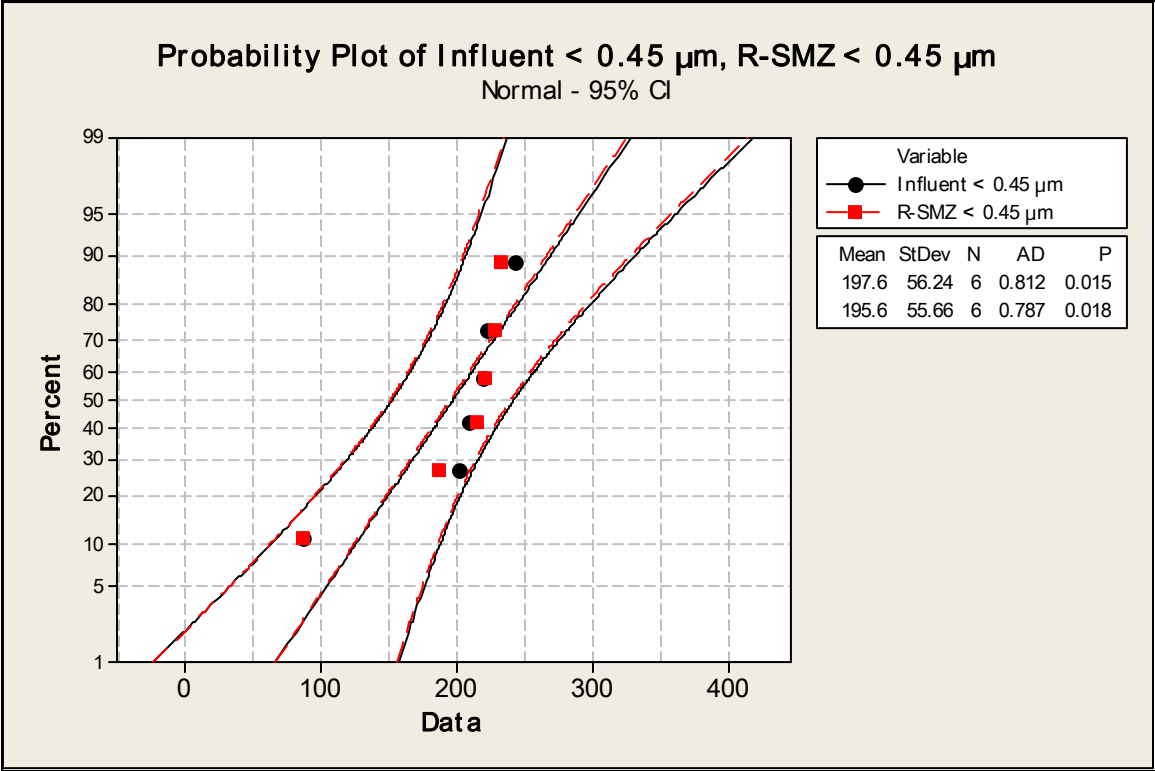
ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	13192.828	13192.828	22.975	0.009
Residual	4.000	2296.863	574.216		
Total	5.000	15489.692			

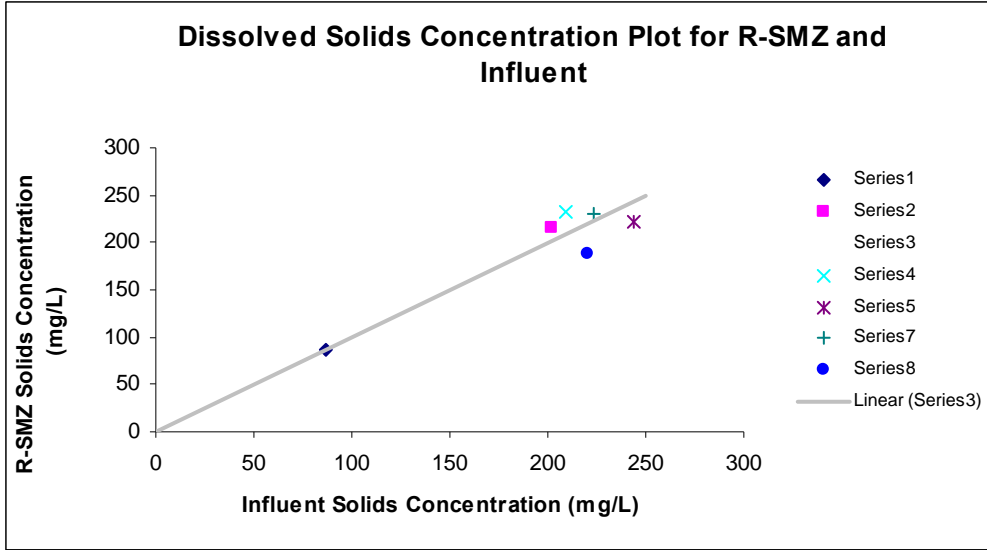
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	15.159	38.900	0.390	0.717	-92.843	123.162	-92.843	123.162
X Variable 1	0.913	0.191	4.793	0.009	0.384	1.442	0.384	1.442

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	94.159	-7.159
2	200.100	15.900
3	206.138	27.222
4	237.905	-16.820
5	218.987	10.248
6	216.447	-29.391







0.45-3 μm

SUMMARY OUTPUT for 0.45~3 μm

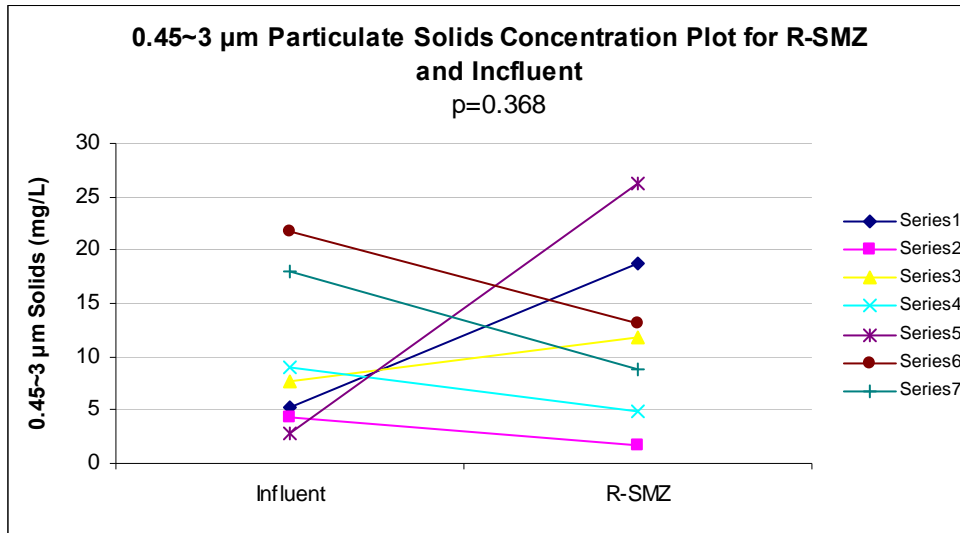
Regression Statistics	
Multiple R	0.219
R Square	0.048
Adjusted R Square	-0.142
Standard Error	8.903
Observations	7.000

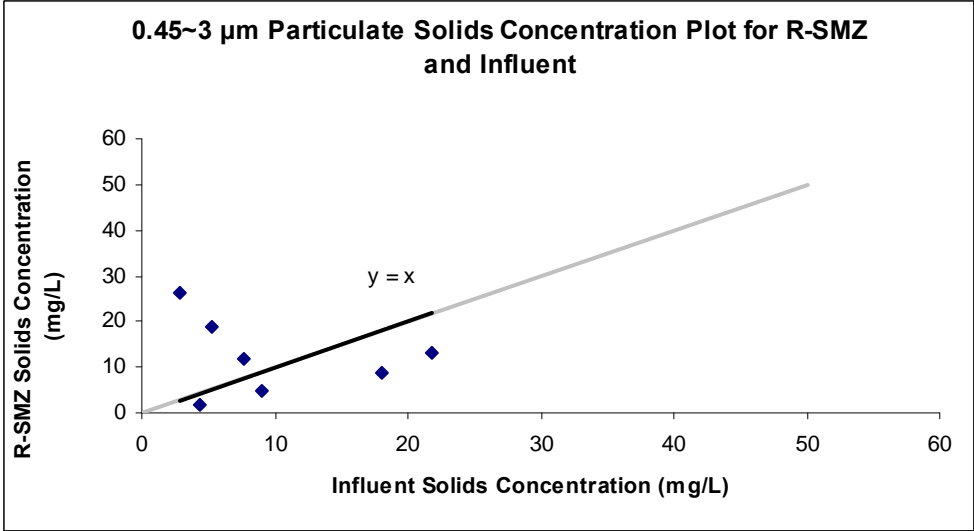
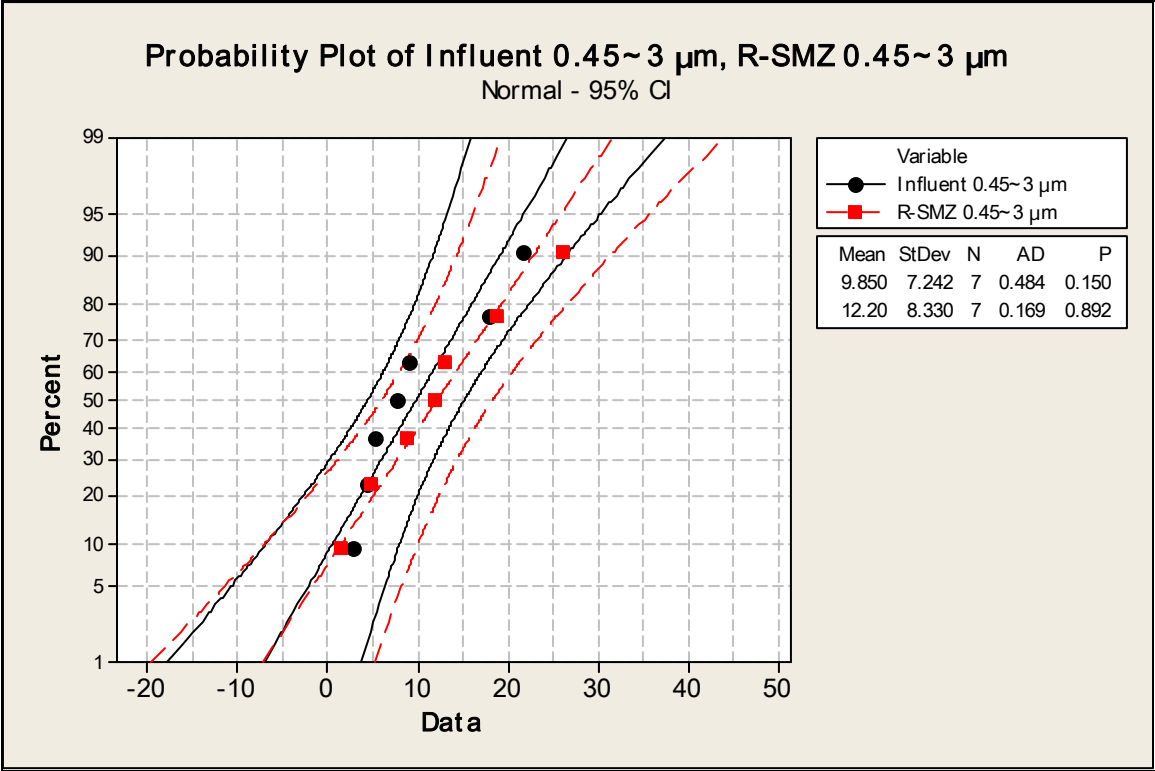
ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	20.030	20.030	0.253	0.637
Residual	5.000	396.290	79.258		
Total	6.000	416.320			

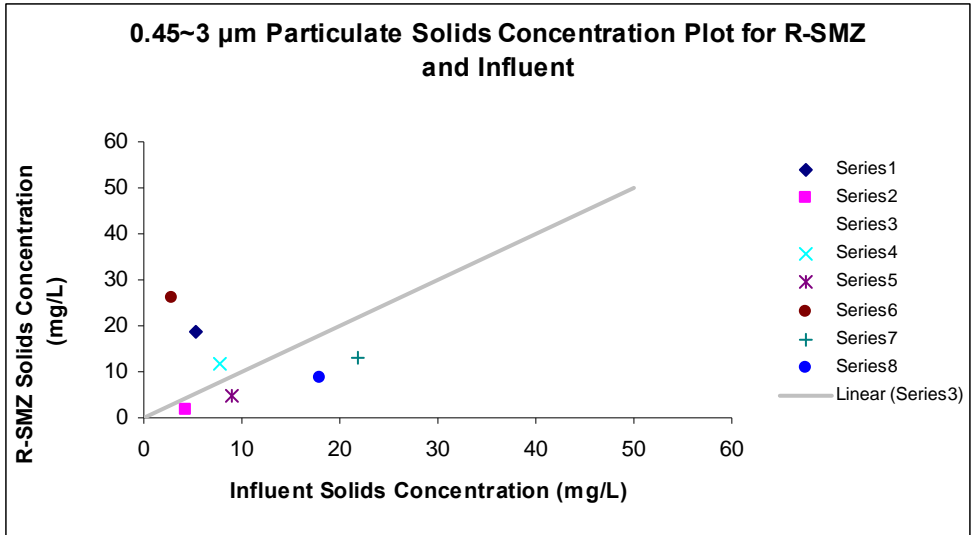
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	14.682	5.980	2.455	0.058	-0.690	30.053	-0.690	30.053
X Variable 1	-0.252	0.502	-0.503	0.637	-1.542	1.038	-1.542	1.038

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	13.357	5.429
2	13.589	-11.971
3	12.745	-0.857
4	12.392	-7.517
5	13.965	12.215
6	9.192	3.941
7	10.136	-1.240







3-12 μm

SUMMARY OUTPUT for 3~12 μm

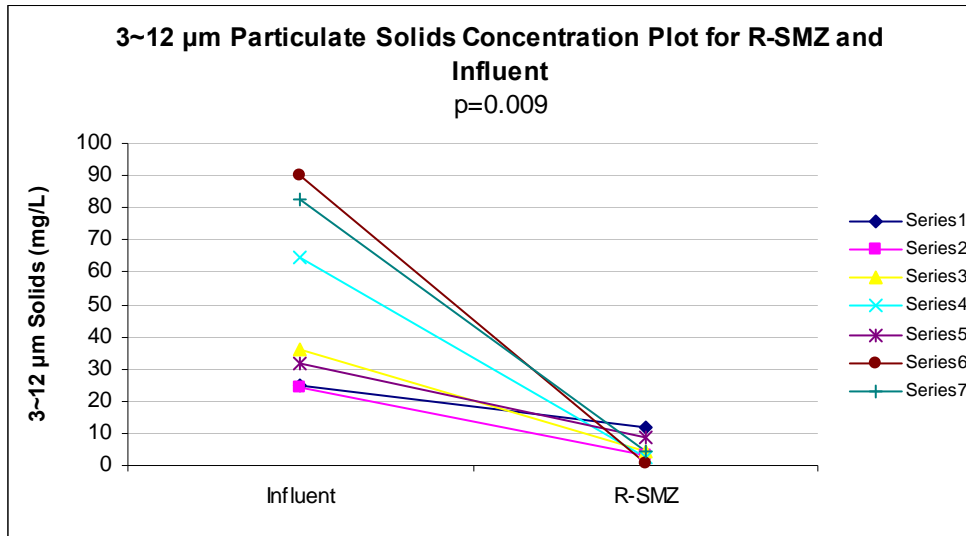
Regression Statistics	
Multiple R	0.644
R Square	0.415
Adjusted R Square	0.298
Standard Error	3.245
Observations	7.000

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1.000	37.404	37.404	3.552	0.118
Residual	5.000	52.657	10.531		
Total	6.000	90.061			

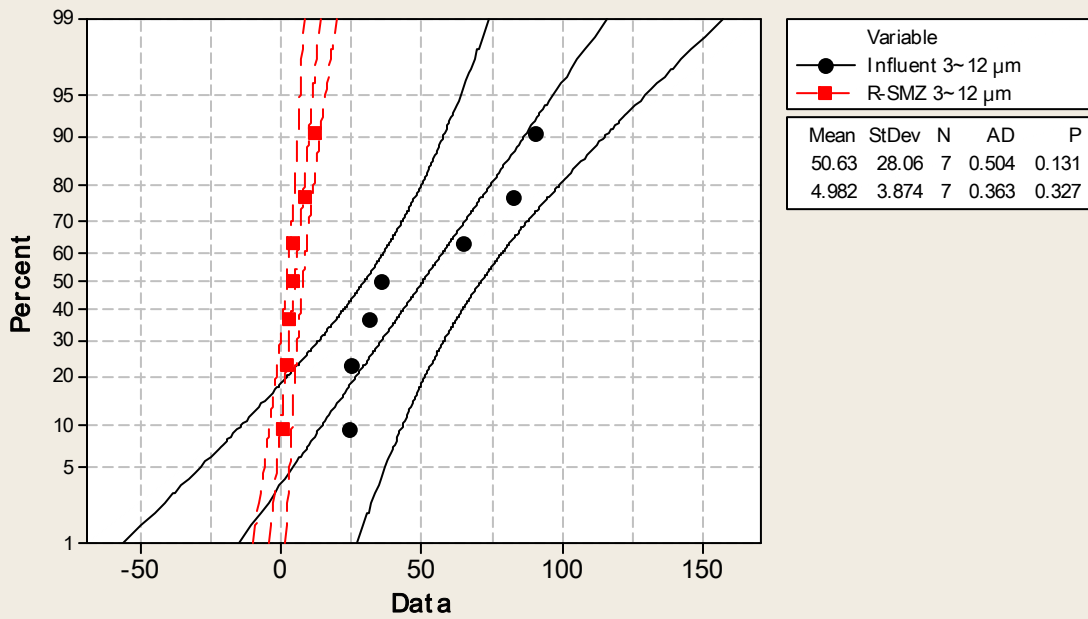
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	9.488	2.687	3.531	0.017	2.580	16.396	2.580	16.396
X Variable 1	-0.089	0.047	-1.885	0.118	-0.210	0.032	-0.210	0.032

RESIDUAL OUTPUT

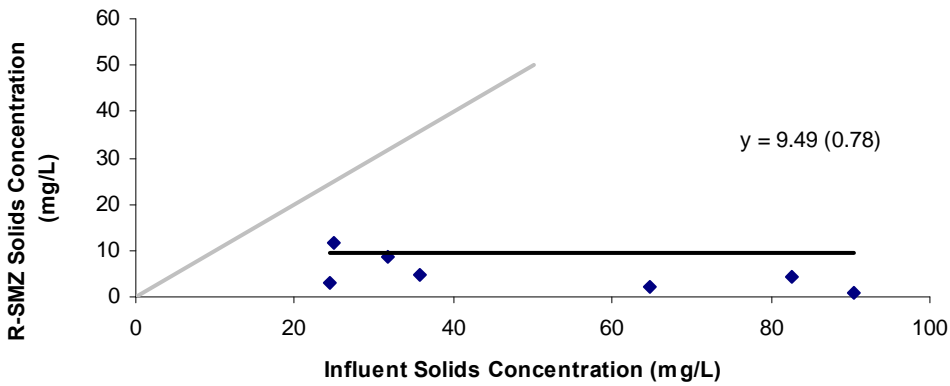
<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	7.275	4.539
2	7.317	-4.352
3	6.304	-1.753
4	3.716	-1.502
5	6.665	1.848
6	1.451	-0.738
7	2.146	1.957

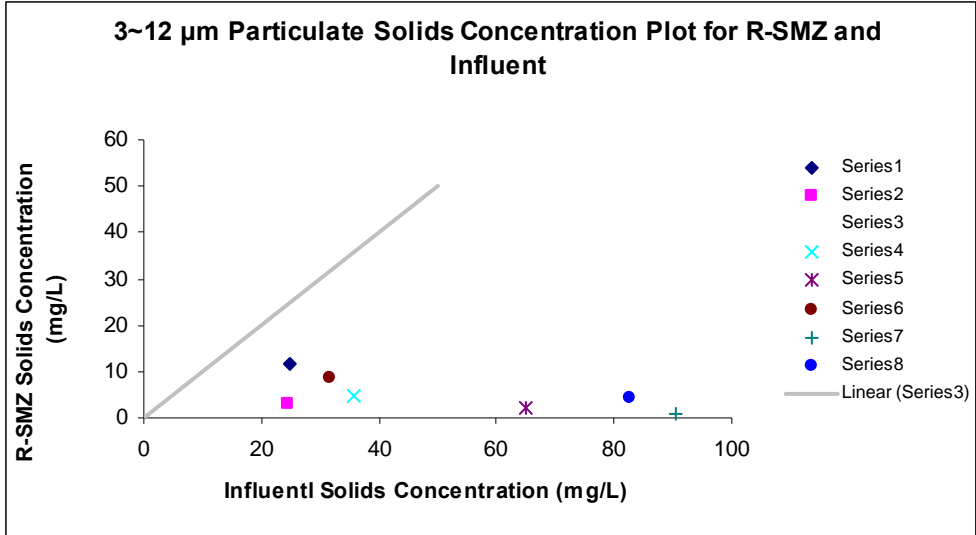


Probability Plot of Influent 3~12 μm , R-SMZ 3~12 μm
Normal - 95% CI



3~12 μm Particulate Solids Concentration Plot for R-SMZ and Influent





12-30 μm

SUMMARY OUTPUT for 12-30 μm

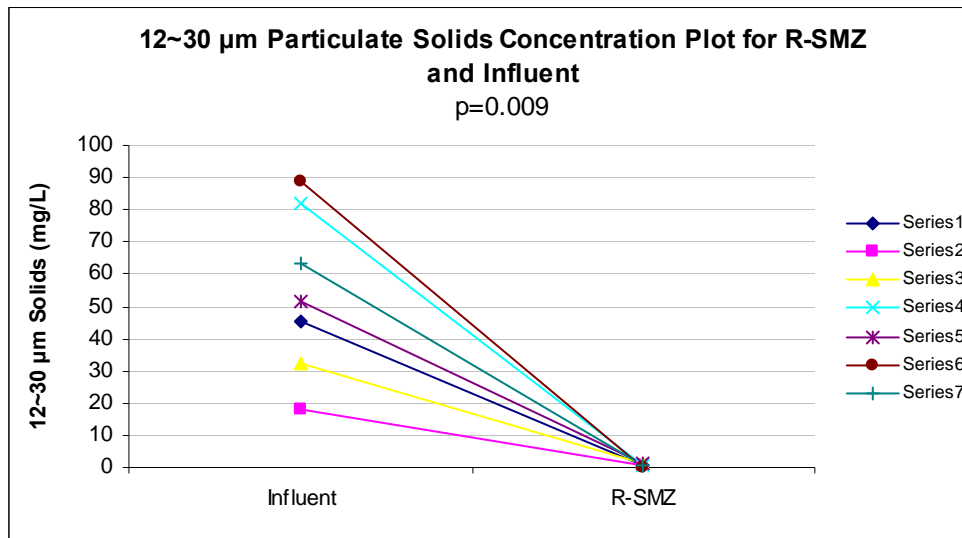
Regression Statistics	
Multiple R	0.444
R Square	0.197
Adjusted R Square	0.036
Standard Error	0.422
Observations	7.000

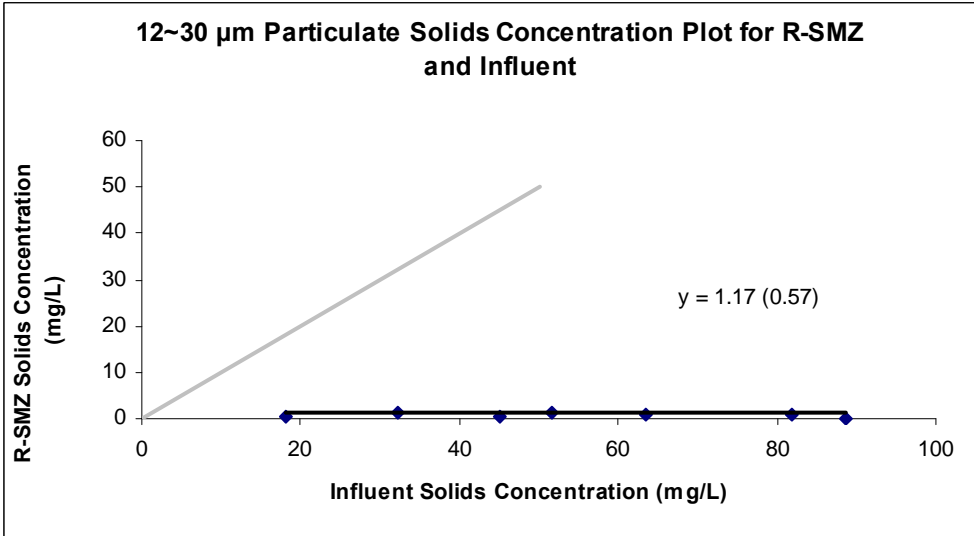
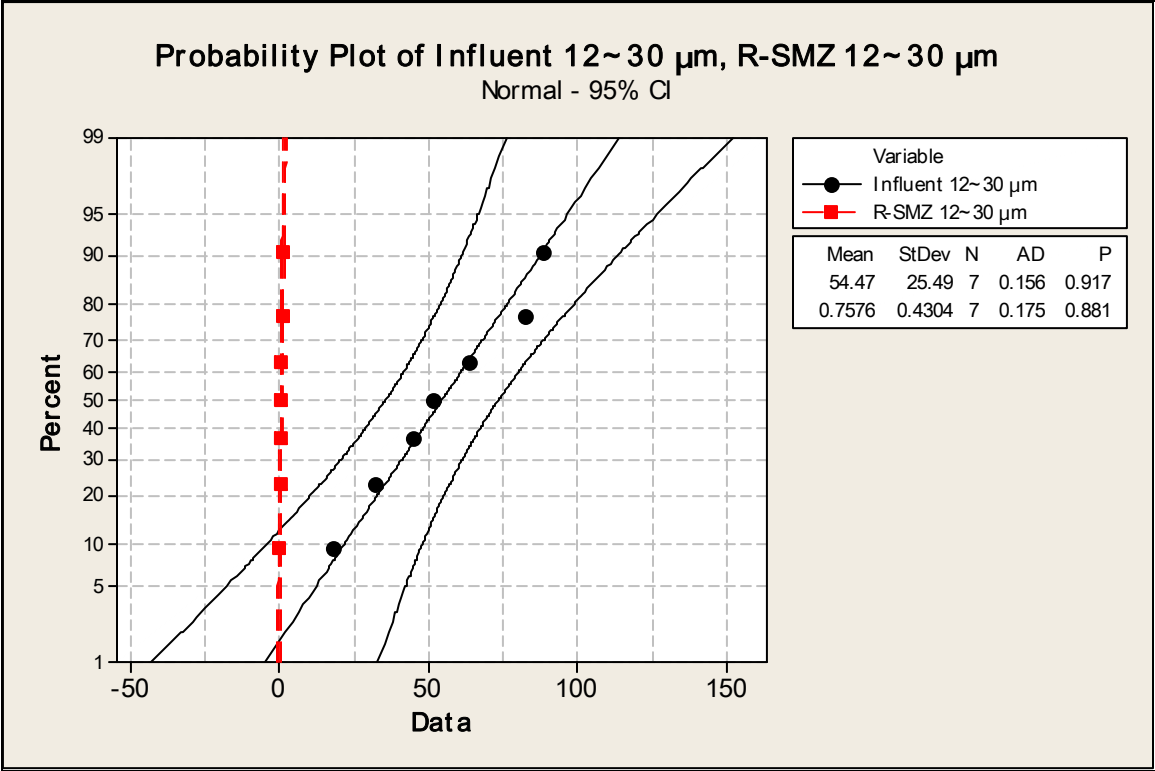
ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	1.000	0.219	0.219	1.226	0.319	
Residual	5.000	0.893	0.179			
Total	6.000	1.111				

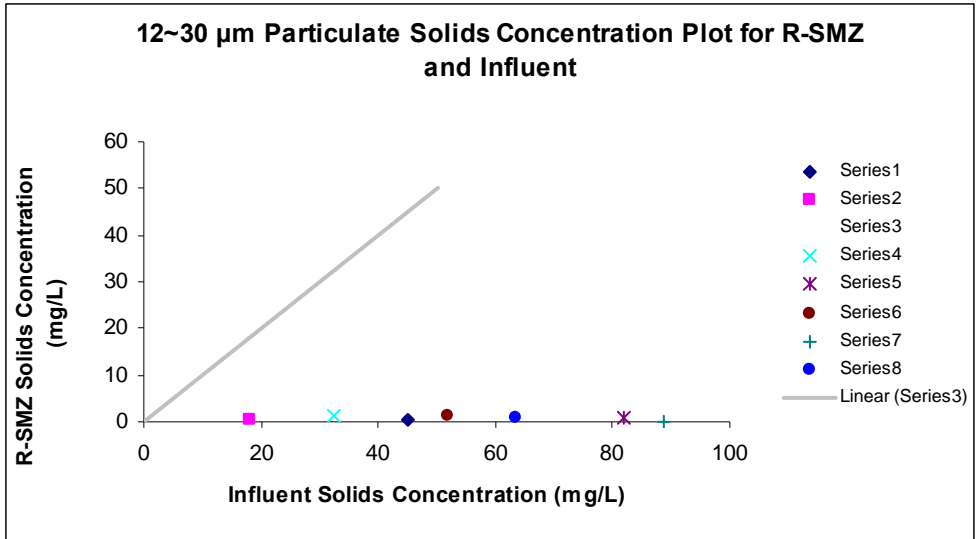
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.166	0.402	2.902	0.034	0.133	2.198	0.133	2.198
X Variable 1	-0.007	0.007	-1.107	0.319	-0.025	0.010	-0.025	0.010

RESIDUAL OUTPUT

<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	0.828	-0.185
2	1.029	-0.525
3	0.923	0.452
4	0.552	0.110
5	0.778	0.376
6	0.502	-0.429
7	0.690	0.202







30-60 μm

SUMMARY OUTPUT for 30-60 μm

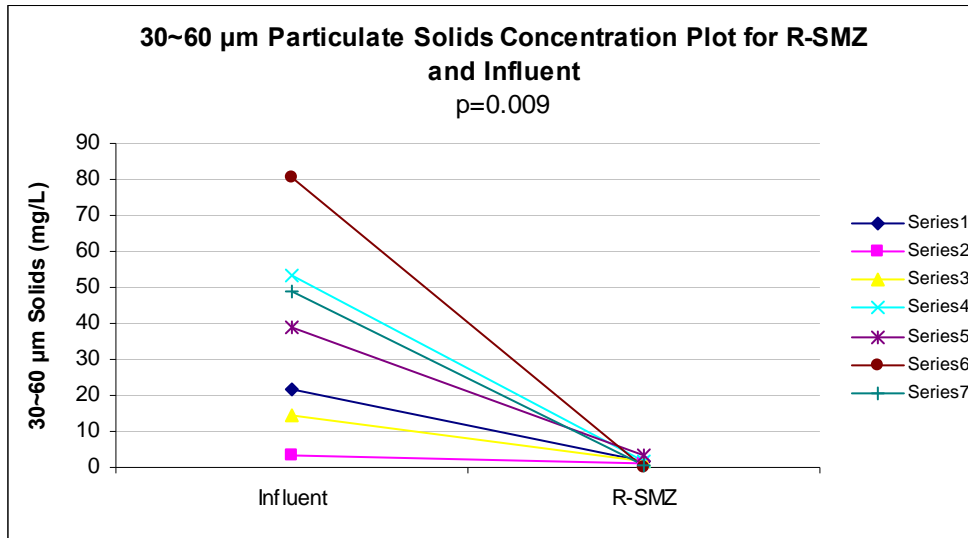
Regression Statistics	
Multiple R	0.435
R Square	0.189
Adjusted R Square	0.027
Standard Error	0.912
Observations	7.000

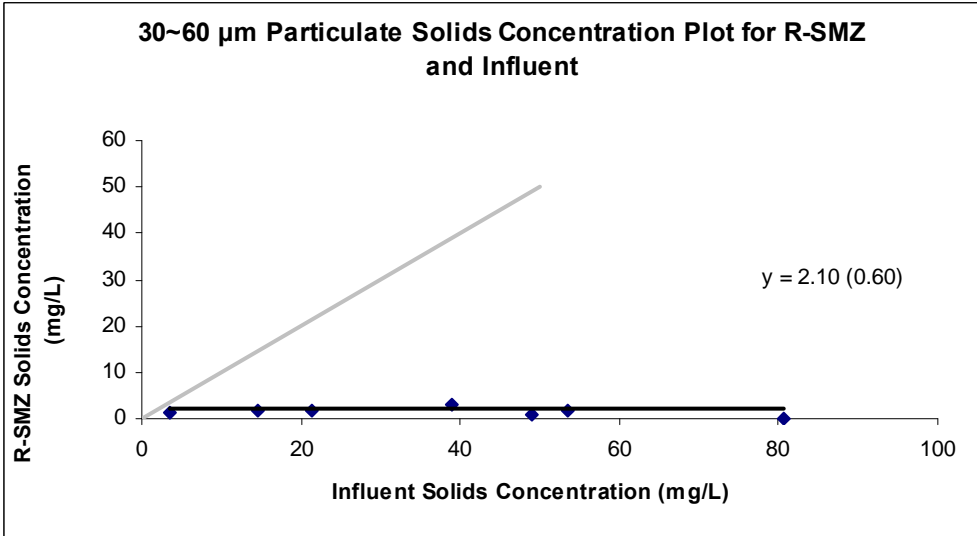
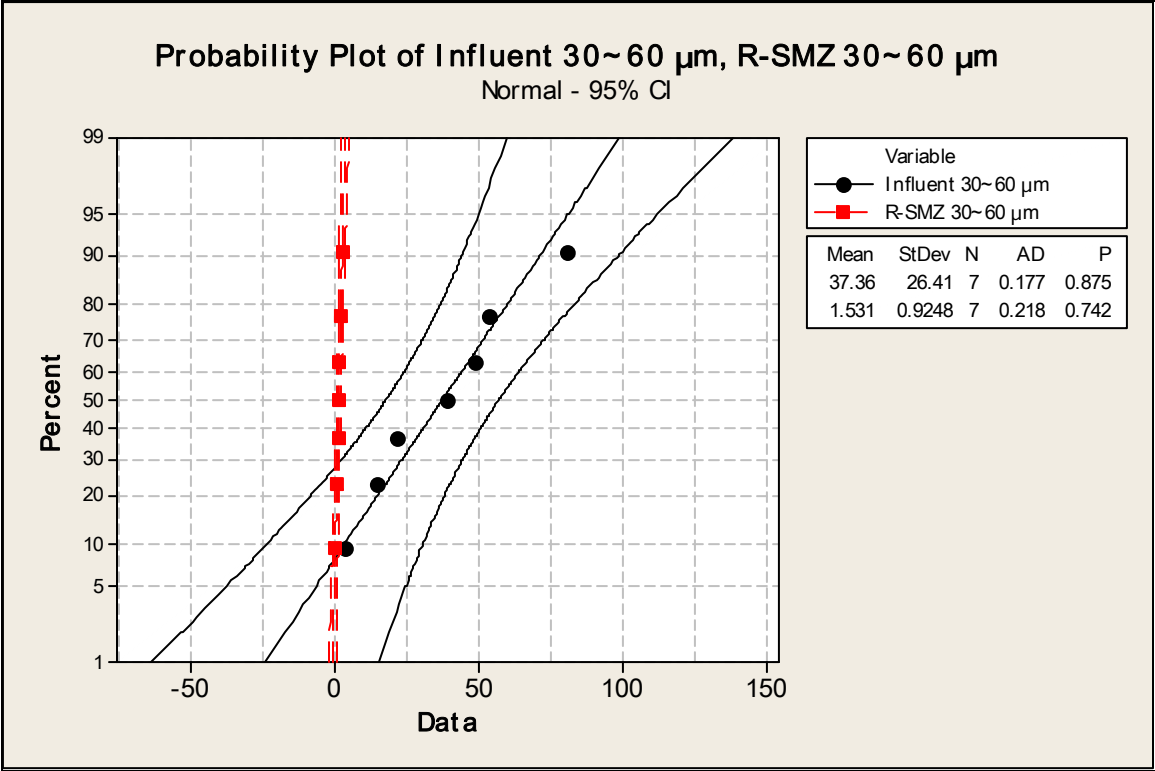
ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1.000	0.972	0.972	1.169	0.329
Residual	5.000	4.160	0.832		
Total	6.000	5.132			

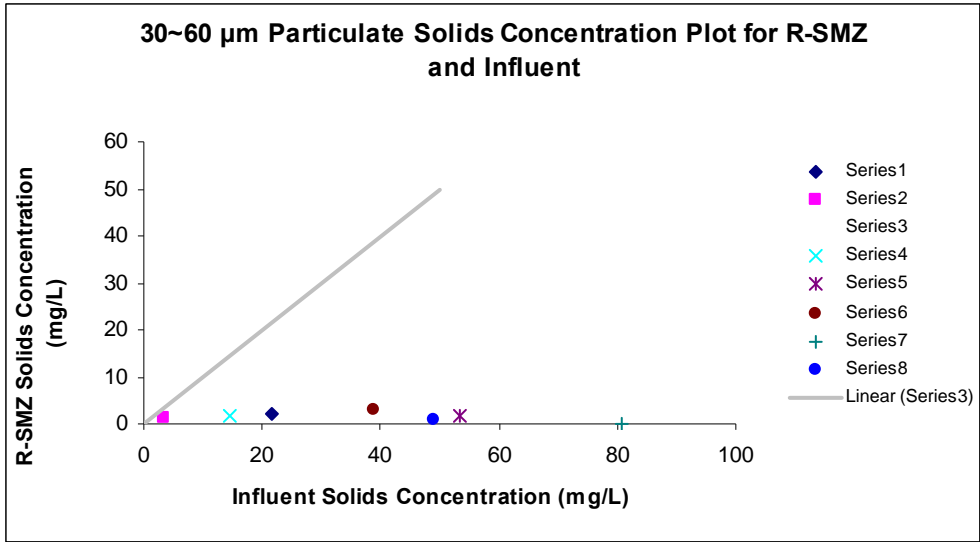
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	2.101	0.630	3.337	0.021	0.482	3.719	0.482	3.719
X Variable 1	-0.015	0.014	-1.081	0.329	-0.051	0.021	-0.051	0.021

RESIDUAL OUTPUT

<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	1.774	0.168
2	2.048	-0.790
3	1.878	-0.135
4	1.286	0.431
5	1.507	1.583
6	0.872	-0.697
7	1.355	-0.560







60-120 μm

SUMMARY OUTPUT for 60~120 μm

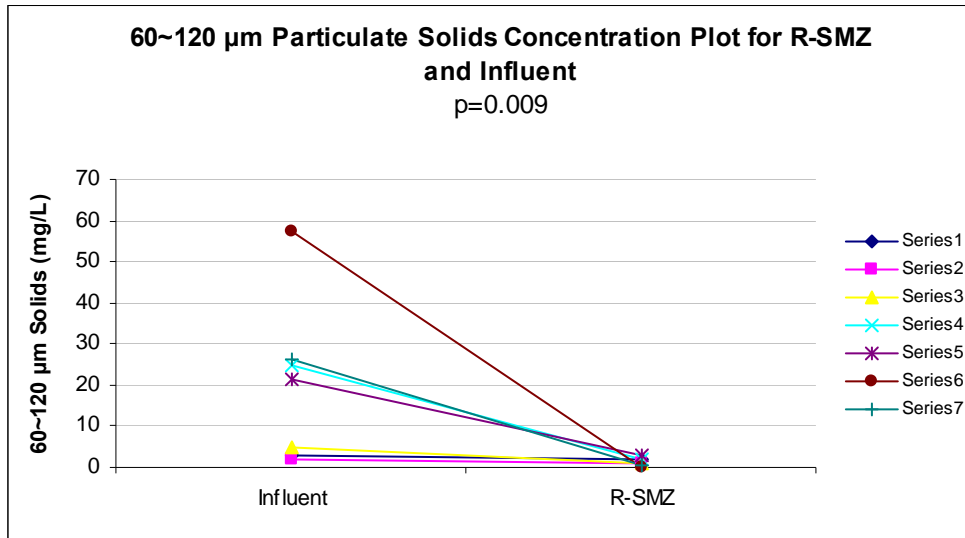
Regression Statistics	
Multiple R	0.381
R Square	0.145
Adjusted R Square	-0.026
Standard Error	0.994
Observations	7.000

ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	1.000	0.840	0.840	0.850	0.399	
Residual	5.000	4.944	0.989			
Total	6.000	5.784				

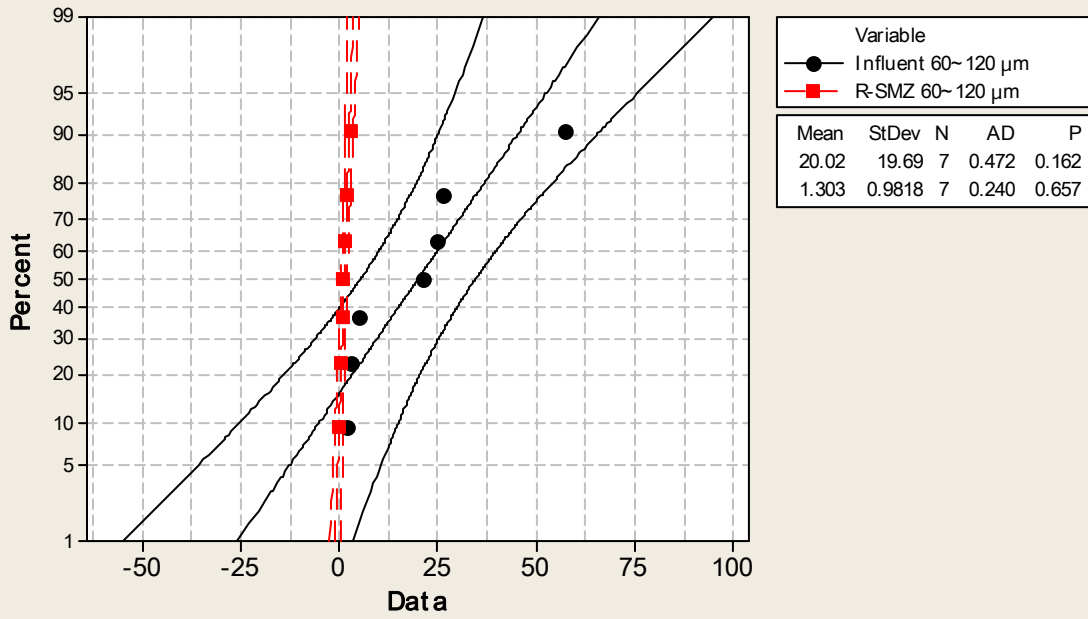
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.683	0.558	3.015	0.030	0.248	3.118	0.248	3.118
X Variable 1	-0.019	0.021	-0.922	0.399	-0.072	0.034	-0.072	0.034

RESIDUAL OUTPUT

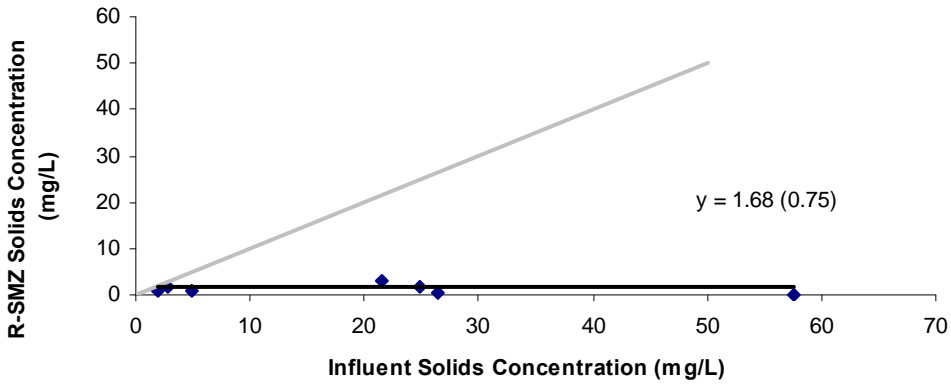
<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	1.630	0.104
2	1.645	-0.588
3	1.588	-0.672
4	1.210	0.533
5	1.276	1.781
6	0.588	-0.517
7	1.180	-0.660

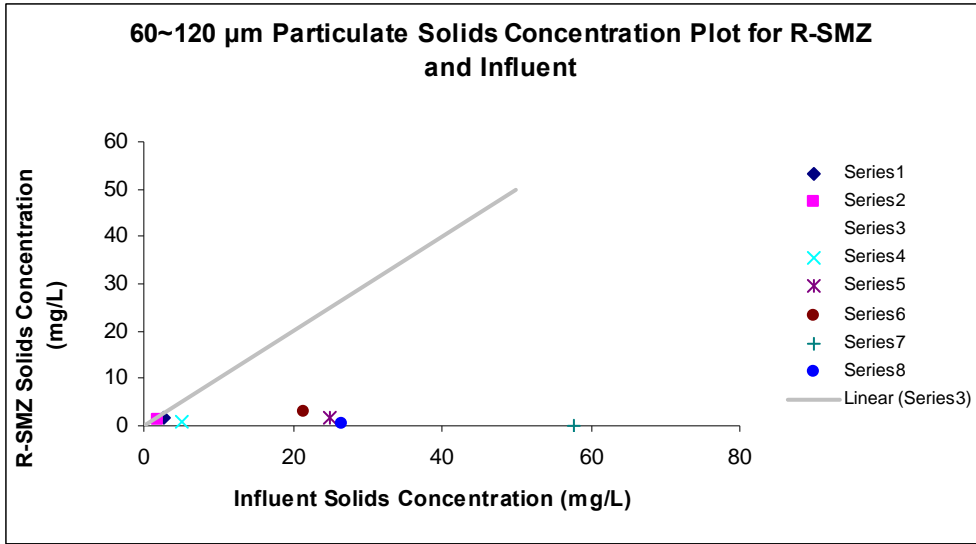


Probability Plot of Influent 60~120 μm, R-SMZ 60~120 μm
Normal - 95% CI



60~120 μm Particulate Solids Concentration Plot for R-SMZ and Influent





120-250 μm

SUMMARY OUTPUT for 120~250 μm

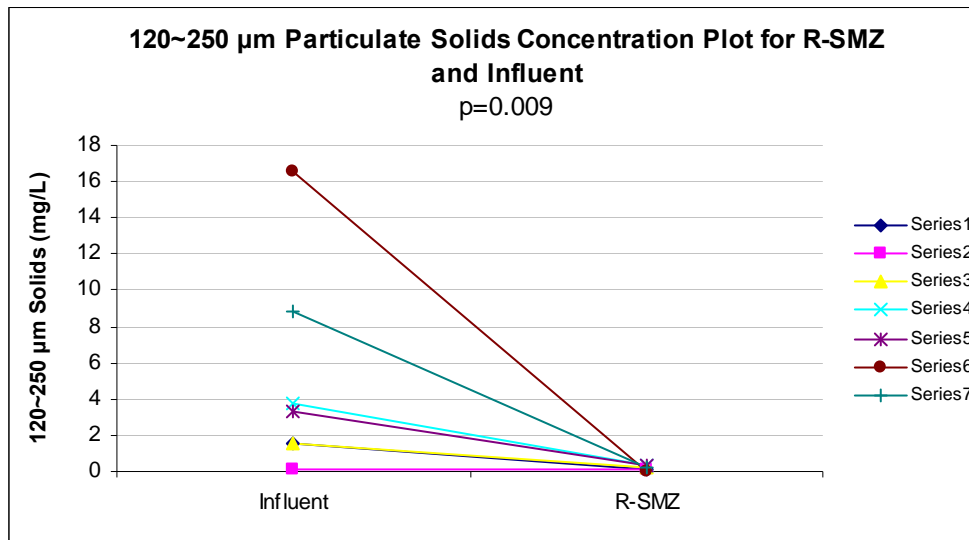
Regression Statistics	
Multiple R	0.359
R Square	0.129
Adjusted R Square	-0.045
Standard Error	0.137
Observations	7.000

ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	1.000	0.014	0.014	0.740	0.429	
Residual	5.000	0.094	0.019			
Total	6.000	0.108				

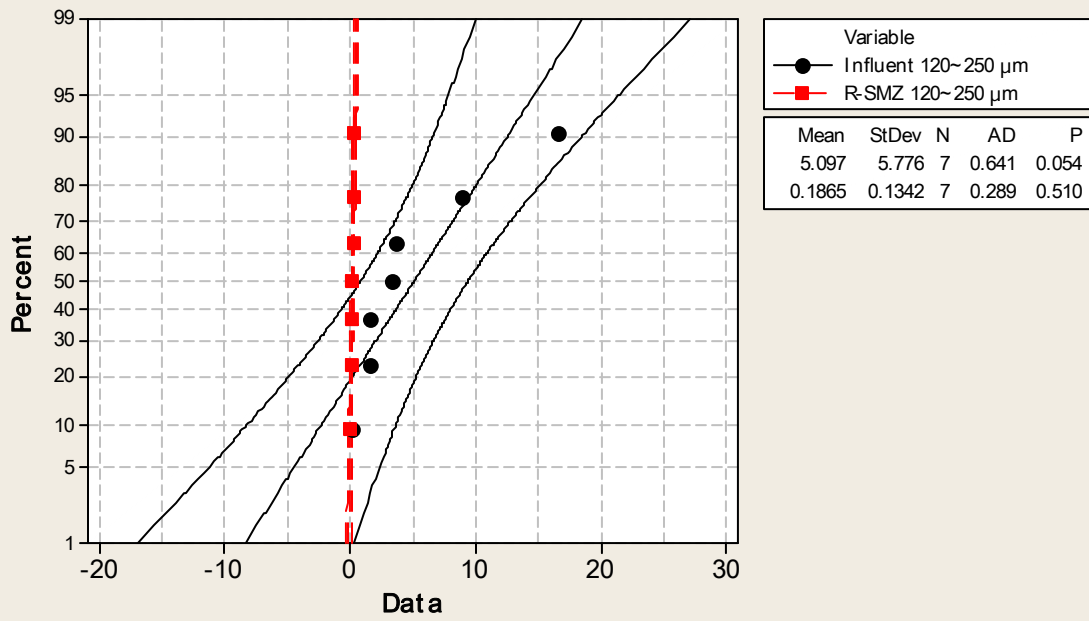
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.229	0.072	3.197	0.024	0.045	0.413	0.045	0.413
X Variable 1	-0.008	0.010	-0.860	0.429	-0.033	0.017	-0.033	0.017

RESIDUAL OUTPUT

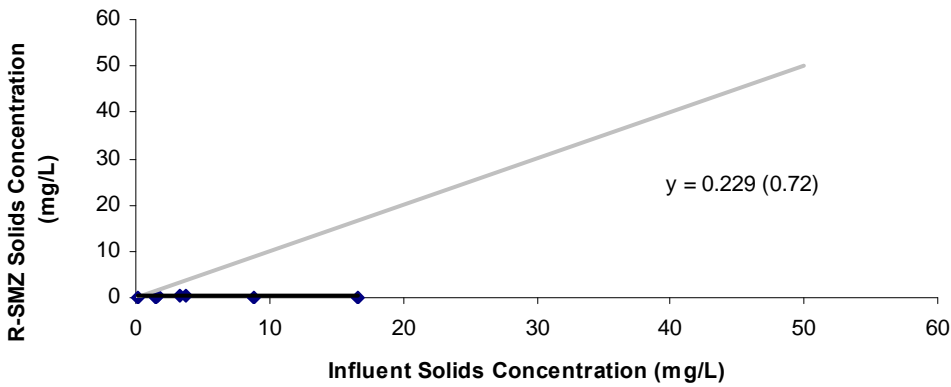
<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	0.216	-0.135
2	0.228	-0.151
3	0.216	0.021
4	0.198	0.170
5	0.202	0.138
6	0.091	-0.066
7	0.155	0.023



Probability Plot of Influent 120~250 μm , R-SMZ 120~250 μm
Normal - 95% CI



120~250 μm Particulate Solids Concentration Plot for R-SMZ and Influent



250-1180 μm

SUMMARY OUTPUT for 250~1180 μm

Regression Statistics	
Multiple R	0.382
R Square	0.146
Adjusted R Square	-0.025
Standard Error	3.602
Observations	7.000

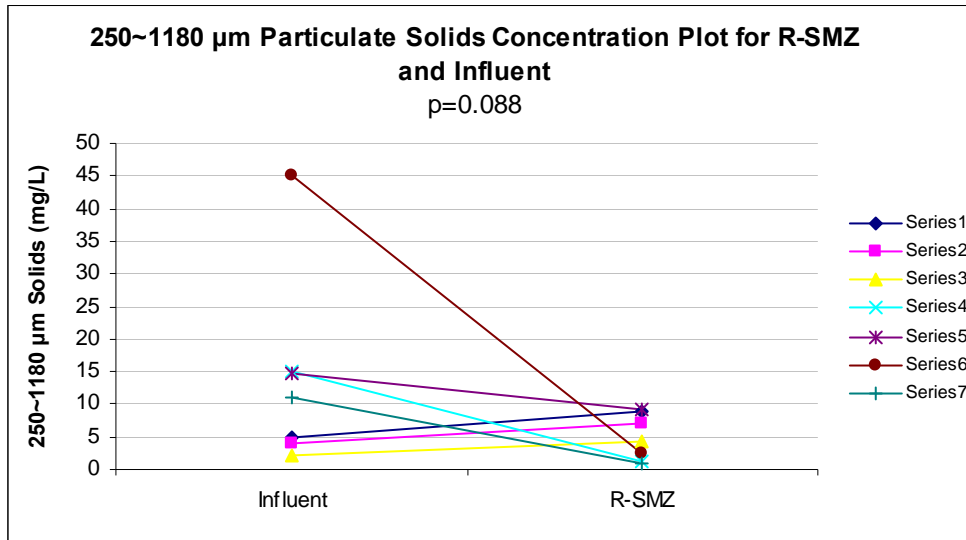
ANOVA

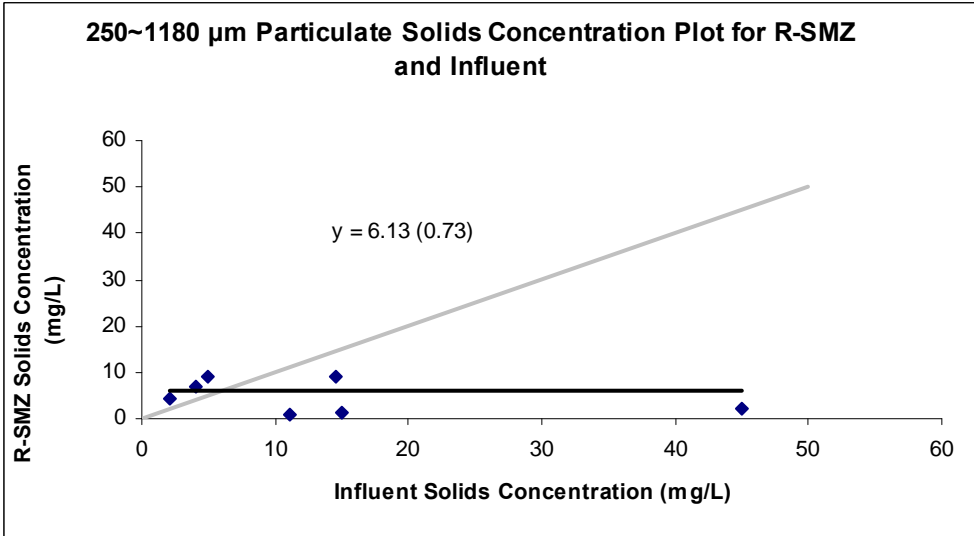
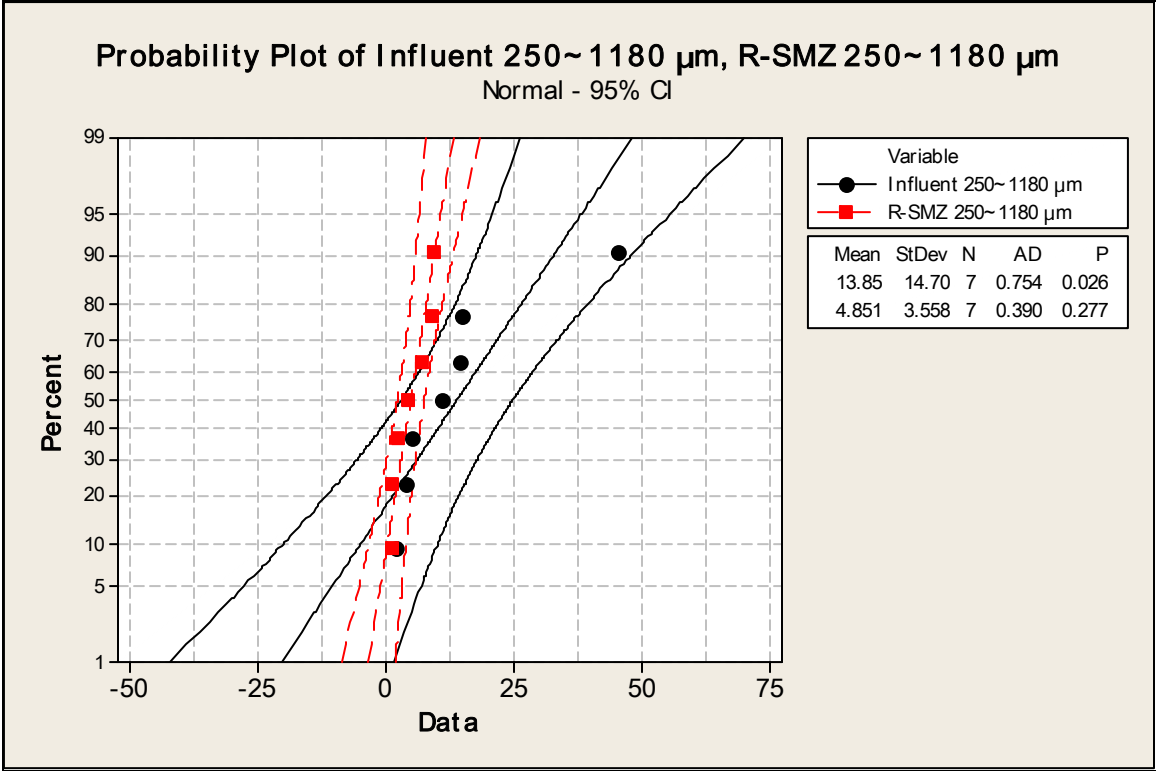
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1.000	11.072	11.072	0.853	0.398
Residual	5.000	64.872	12.974		
Total	6.000	75.944			

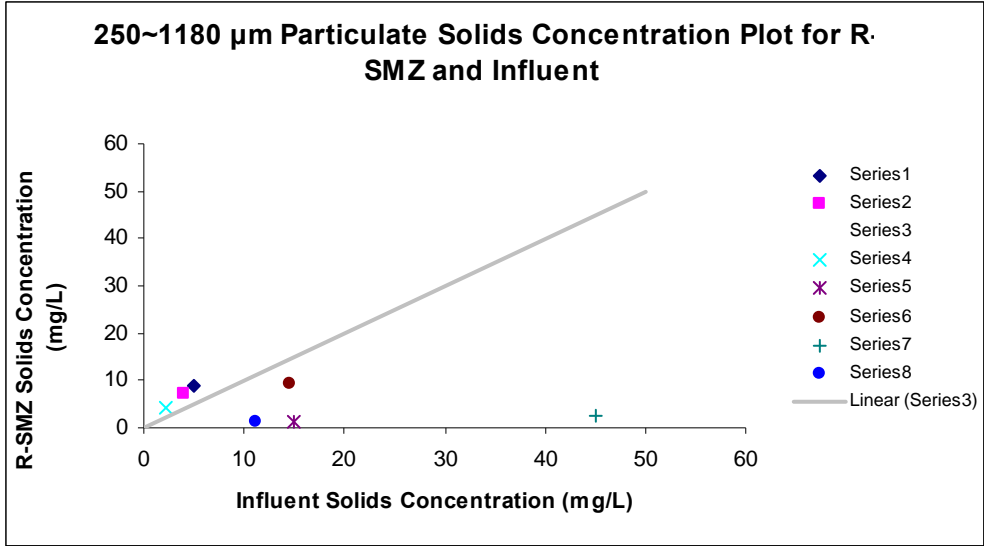
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	6.131	1.942	3.157	0.025	1.138	11.123	1.138	11.123
X Variable 1	-0.092	0.100	-0.924	0.398	-0.350	0.165	-0.350	0.165

RESIDUAL OUTPUT

<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	5.669	3.331
2	5.761	1.239
3	5.934	-1.685
4	4.743	-3.643
5	4.780	4.429
6	1.967	0.375
7	5.104	-4.046







>1180 um (no particles detected in this size range)

SSC (>0.45 μm)

SUMMARY OUTPUT for Total

Regression Statistics	
Multiple R	0.356
R Square	0.127
Adjusted R Square	-0.048
Standard Error	16.010
Observations	7.000

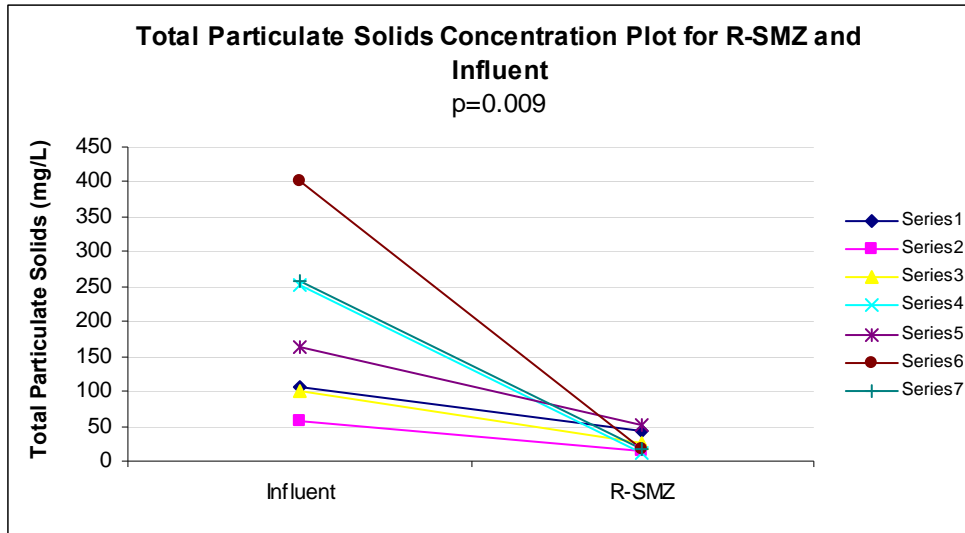
ANOVA

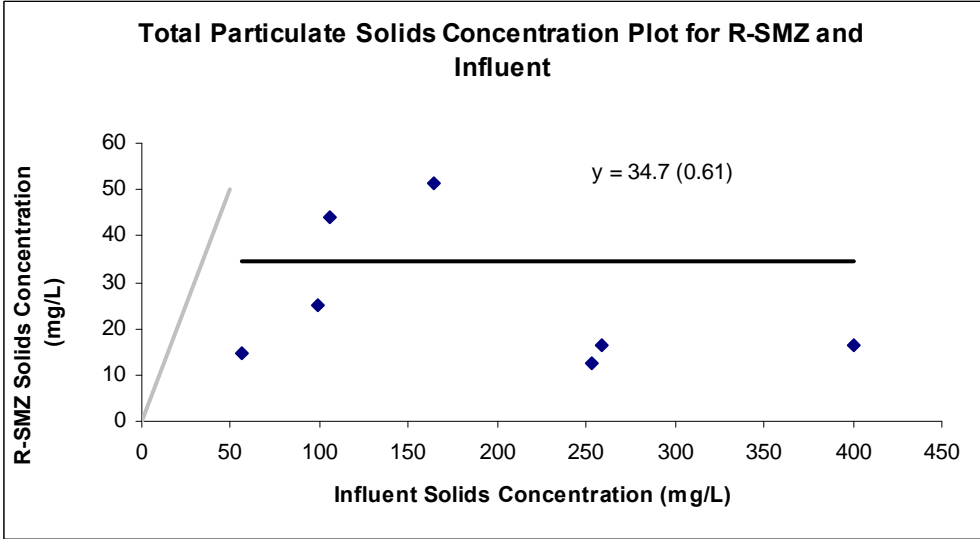
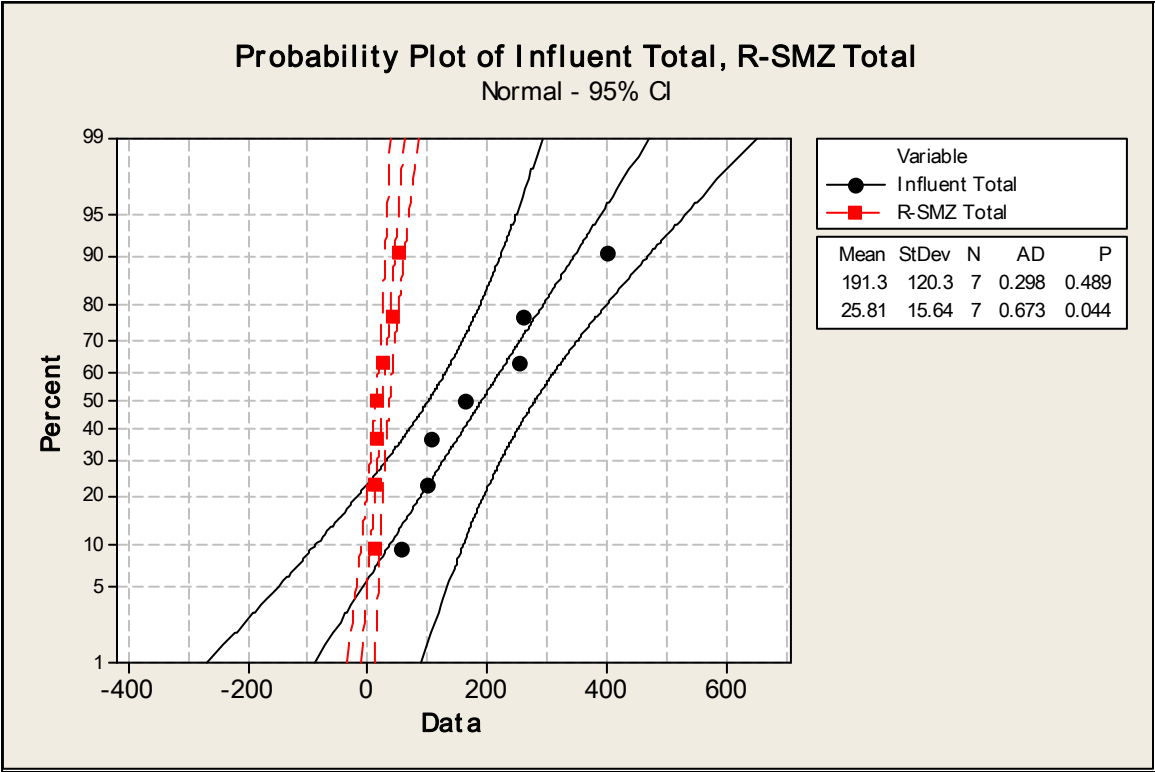
	df	SS	MS	F	Significance F
Regression	1.000	186.337	186.337	0.727	0.433
Residual	5.000	1281.546	256.309		
Total	6.000	1467.883			

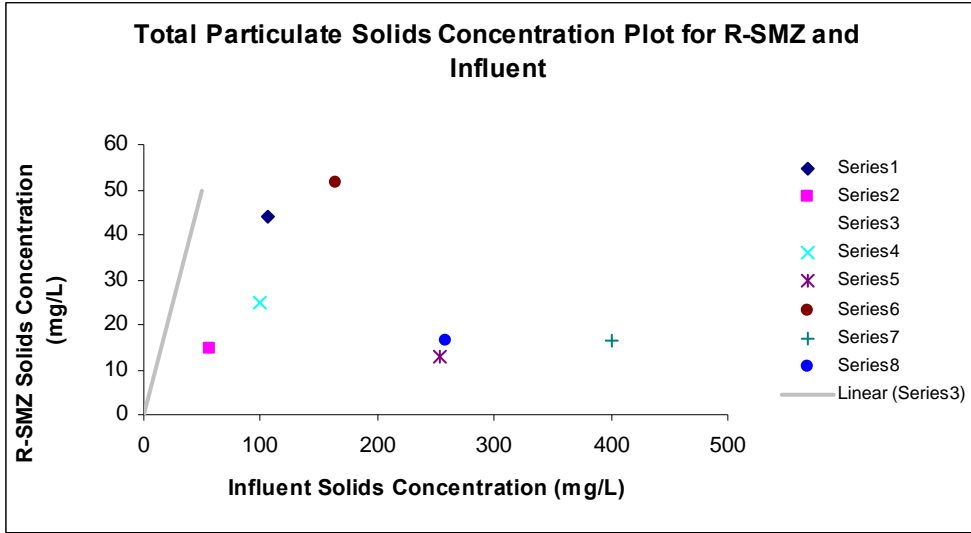
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	34.669	12.026	2.883	0.034	3.756	65.582	3.756	65.582
X Variable 1	-0.046	0.054	-0.853	0.433	-0.186	0.093	-0.186	0.093

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	29.759	14.241
2	32.052	-17.552
3	30.075	-5.115
4	22.954	-10.275
5	27.043	24.498
6	16.116	0.415
7	22.657	-6.214







TSS (0.45 to 75 (µm))

SUMMARY OUTPUT for TSS

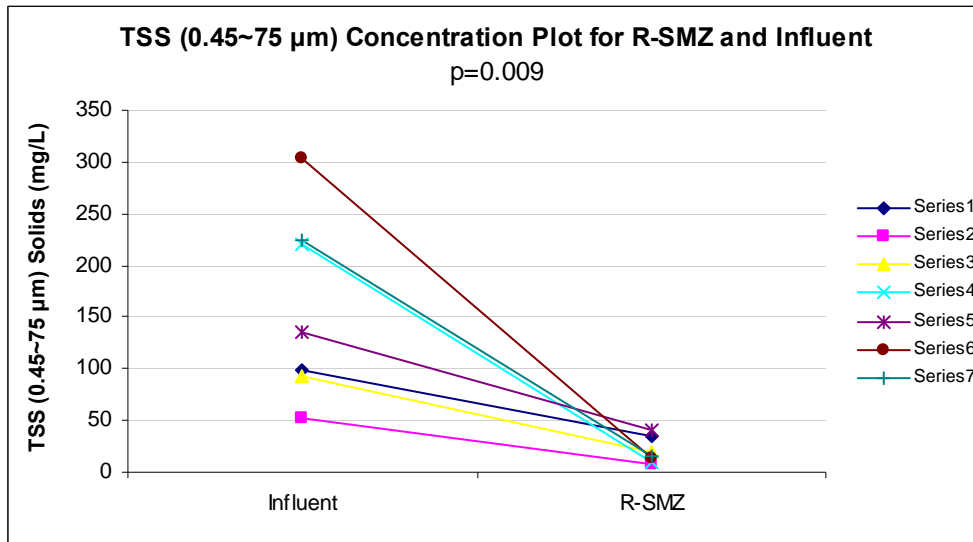
Regression Statistics	
Multiple R	0.252
R Square	0.064
Adjusted R Square	-0.124
Standard Error	13.115
Observations	7.000

ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	58.318	58.318	0.339	0.586
Residual	5.000	860.039	172.008		
Total	6.000	918.357			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	25.627	10.714	2.392	0.062	-1.914	53.168	-1.914	53.168
X Variable 1	-0.034	0.059	-0.582	0.586	-0.186	0.118	-0.186	0.118

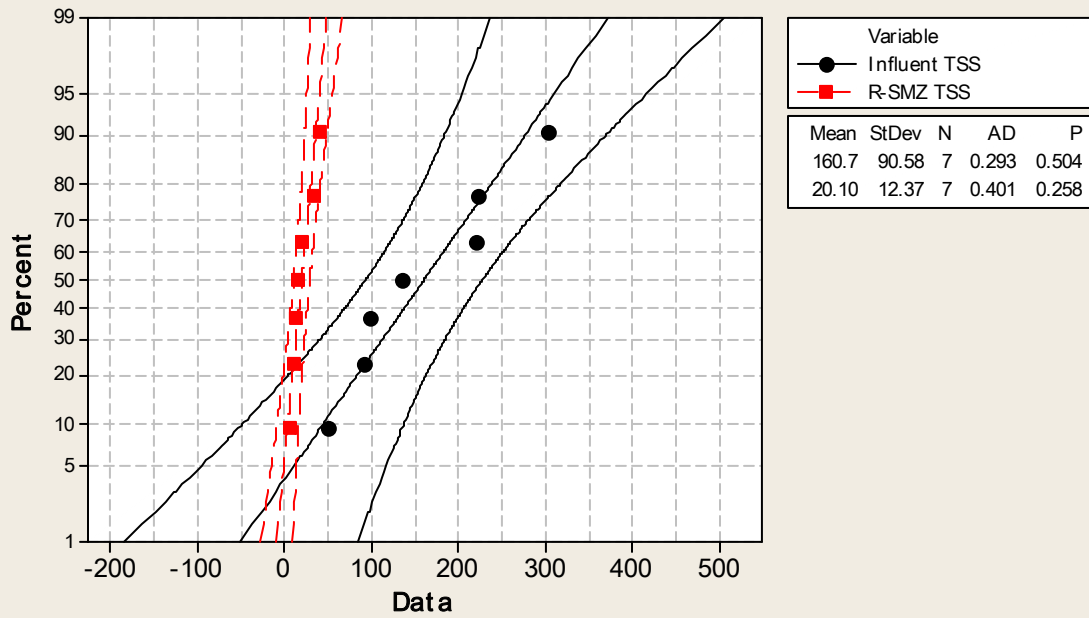
RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	22.248	11.728
2	23.861	-16.949
3	22.451	-2.163
4	18.049	-7.681
5	20.968	19.022
6	15.161	-1.017
7	17.936	-2.940

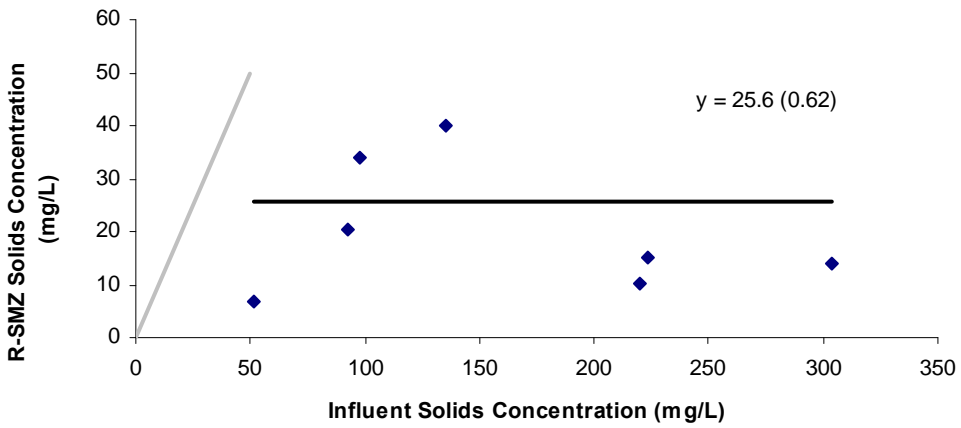


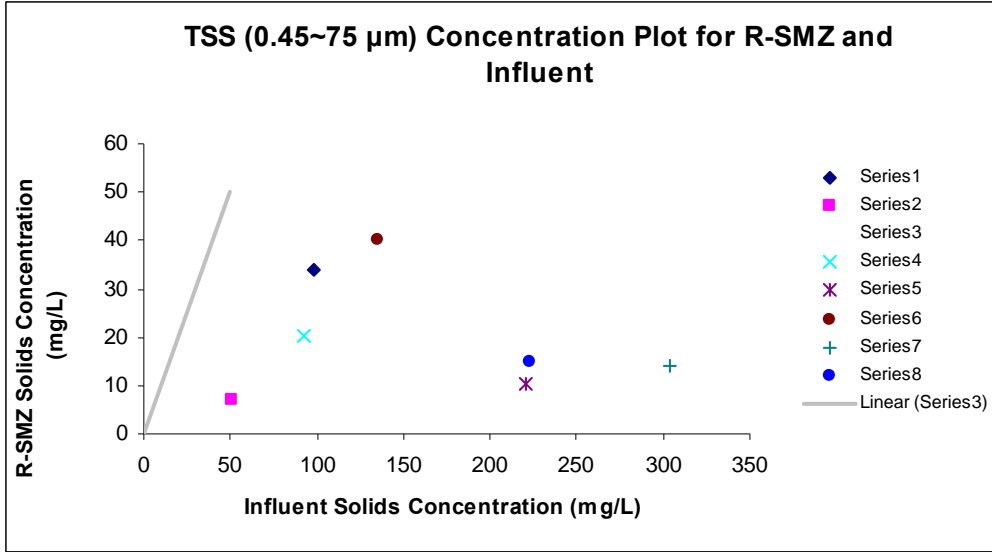
Probability Plot of Influent TSS, R-SMZ TSS

Normal - 95% CI



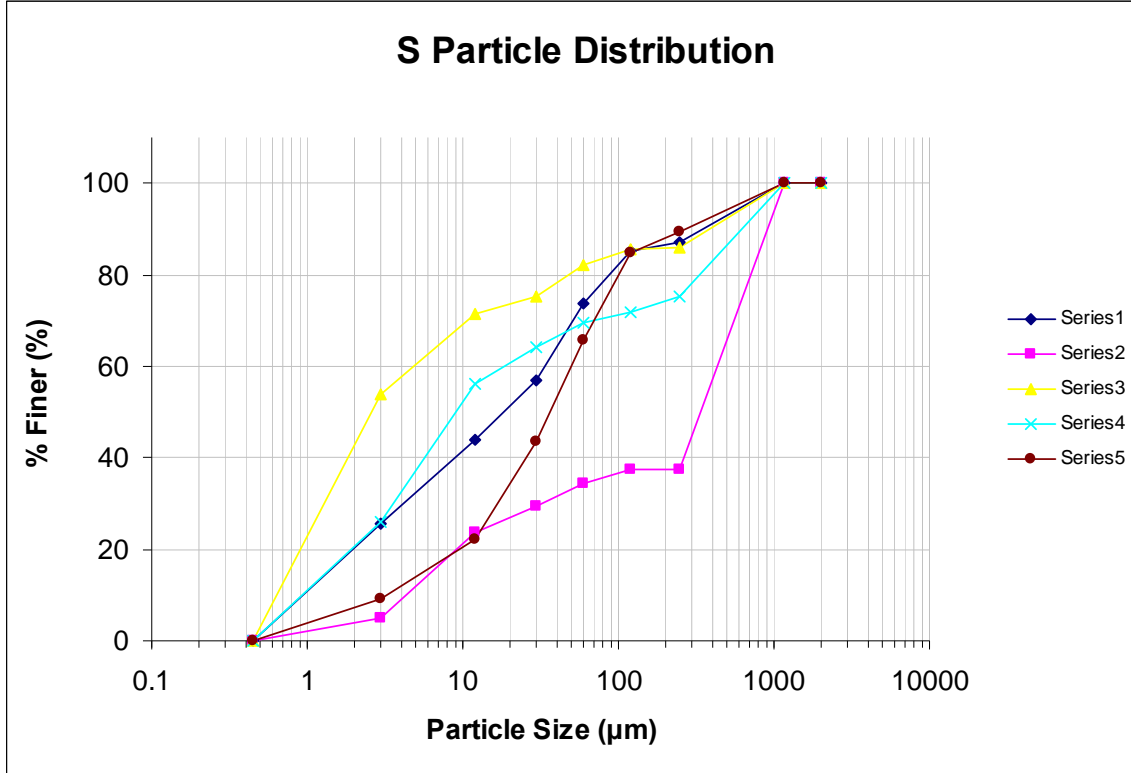
TSS (0.45~75 µm) Concentration Plot for R-SMZ and Influent

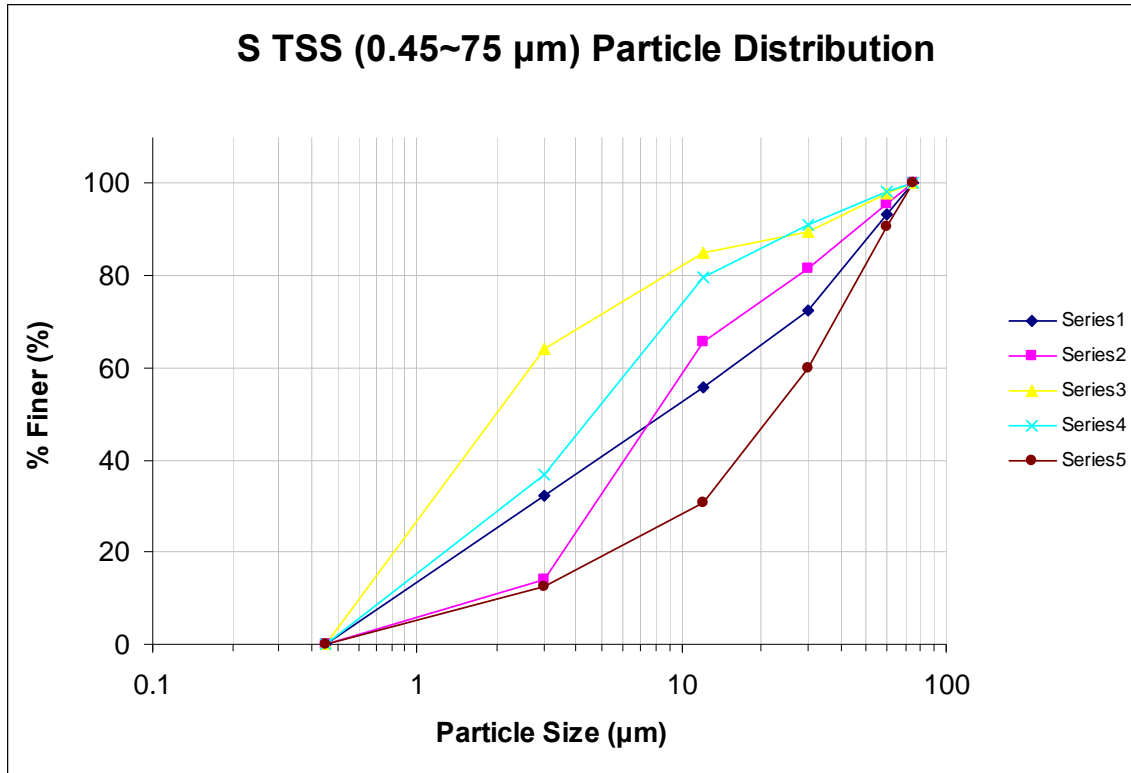




Site Sand (S) Media Particulate Removal Data from Column Tests

Effluent Particle Size Distributions





TDS

SUMMARY OUTPUT For < 0.45 μm

Regression Statistics	
Multiple R	0.822
R Square	0.675
Adjusted R Square	0.567
Standard Error	38.735
Observations	5.000

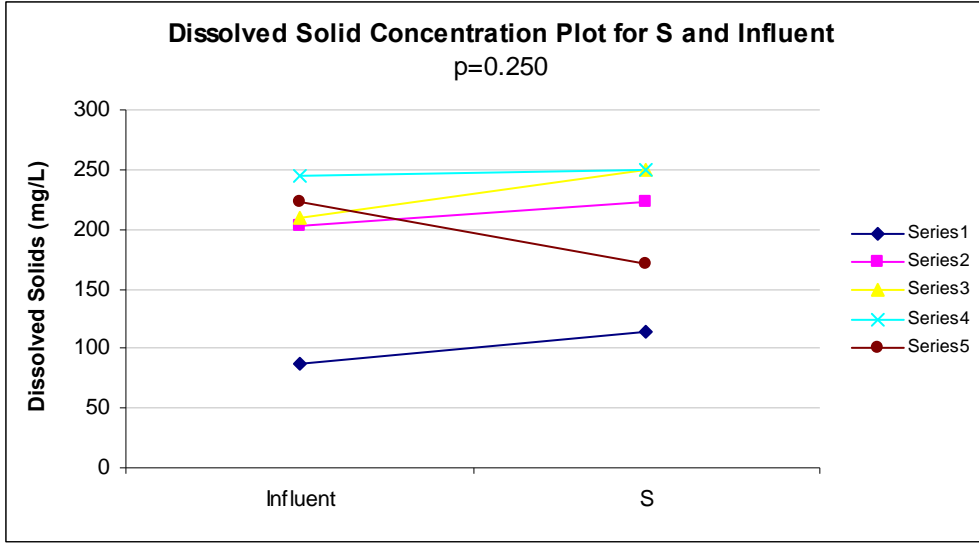
ANOVA

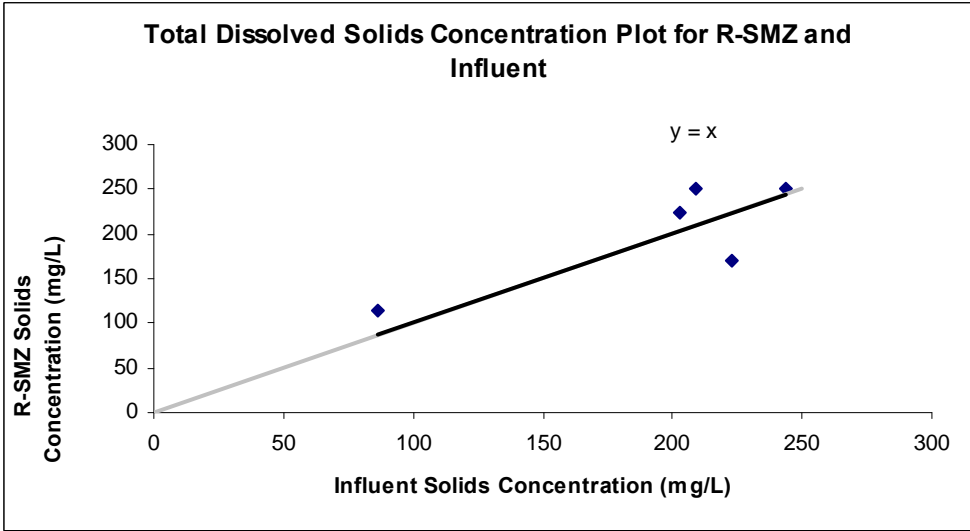
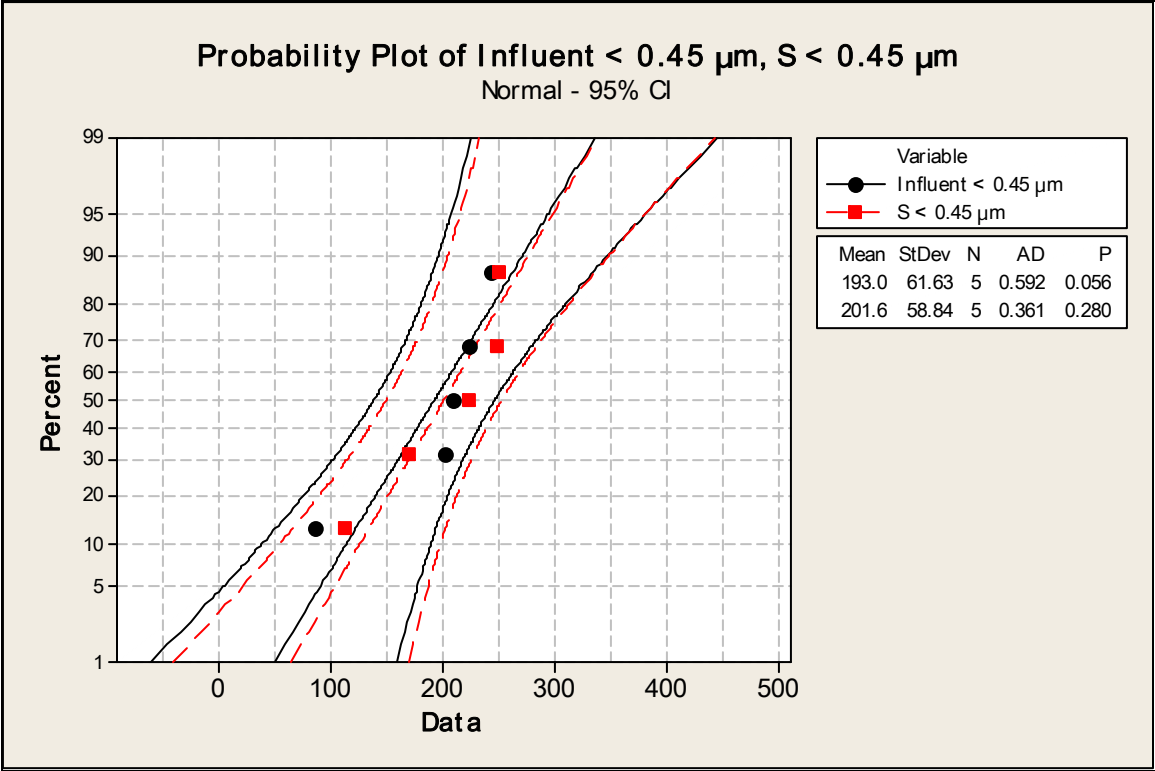
	df	SS	MS	F	Significance F
Regression	1.000	9348.662	9348.662	6.231	0.088
Residual	3.000	4501.252	1500.417		
Total	4.000	13849.914			

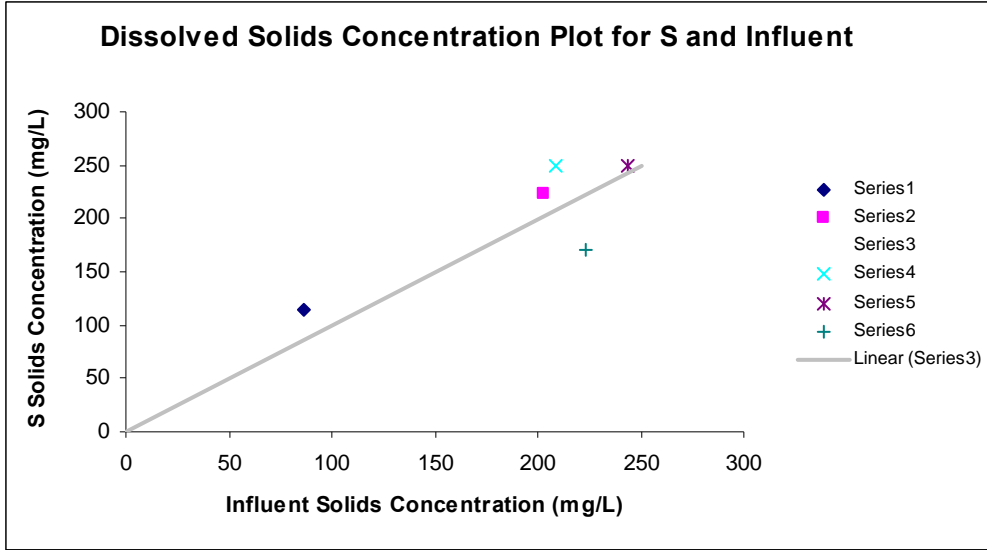
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	50.182	63.088	0.795	0.484	-150.592	250.956	-150.592	250.956
X Variable 1	0.784	0.314	2.496	0.088	-0.216	1.785	-0.216	1.785

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	118.035	-4.535
2	209.028	14.472
3	214.214	35.548
4	241.499	8.668
5	225.250	-54.152







0.45-3 μm

SUMMARY OUTPUT for 0.45-3 μm

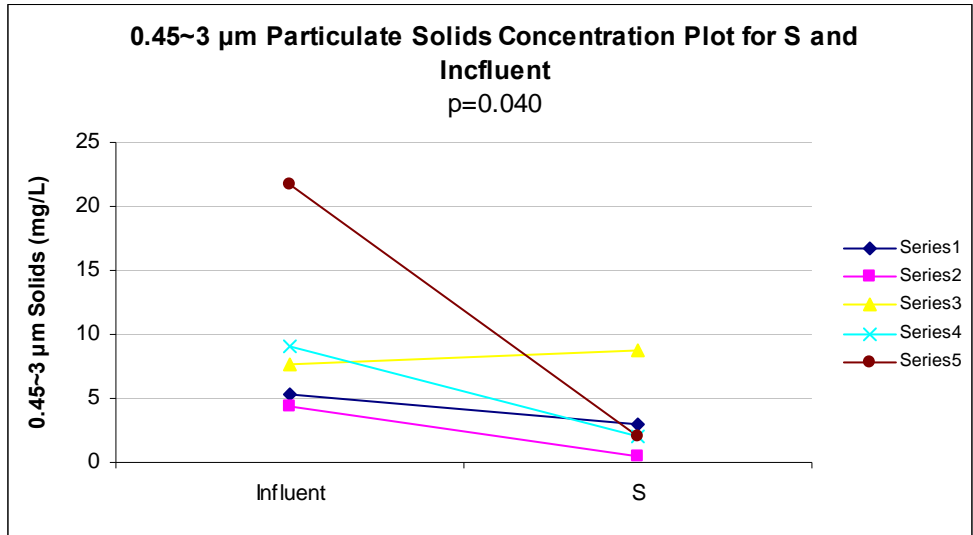
Regression Statistics	
Multiple R	0.083
R Square	0.007
Adjusted R Square	-0.324
Standard Error	3.687
Observations	5.000

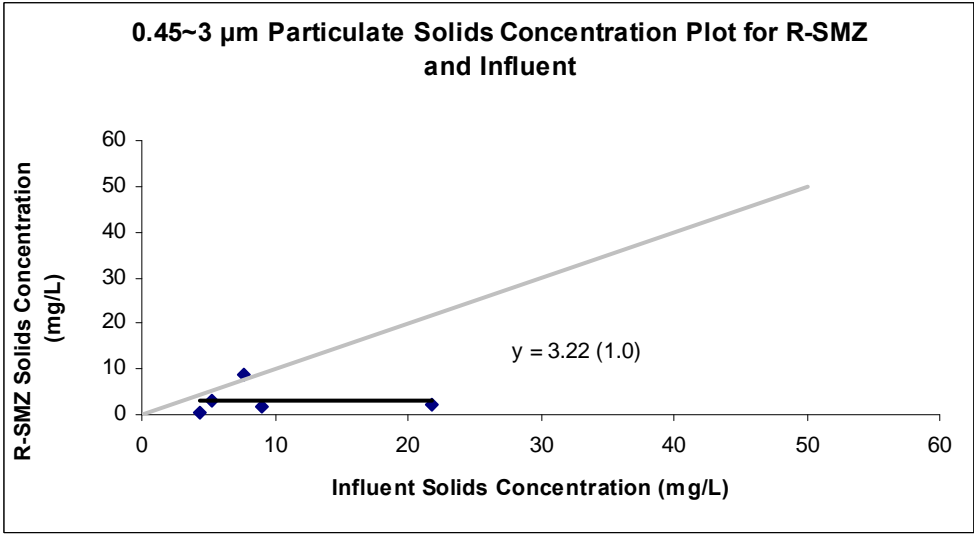
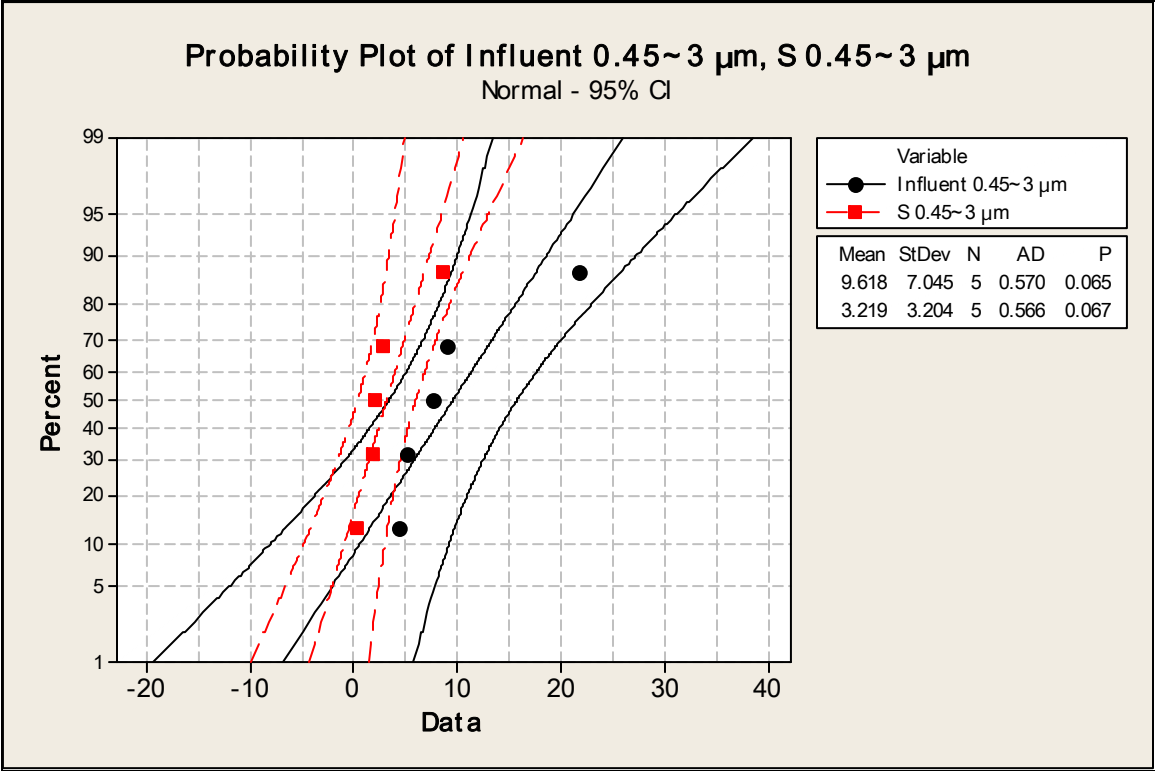
ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	1.000	0.285	0.285	0.021	0.894	
Residual	3.000	40.791	13.597			
Total	4.000	41.075				

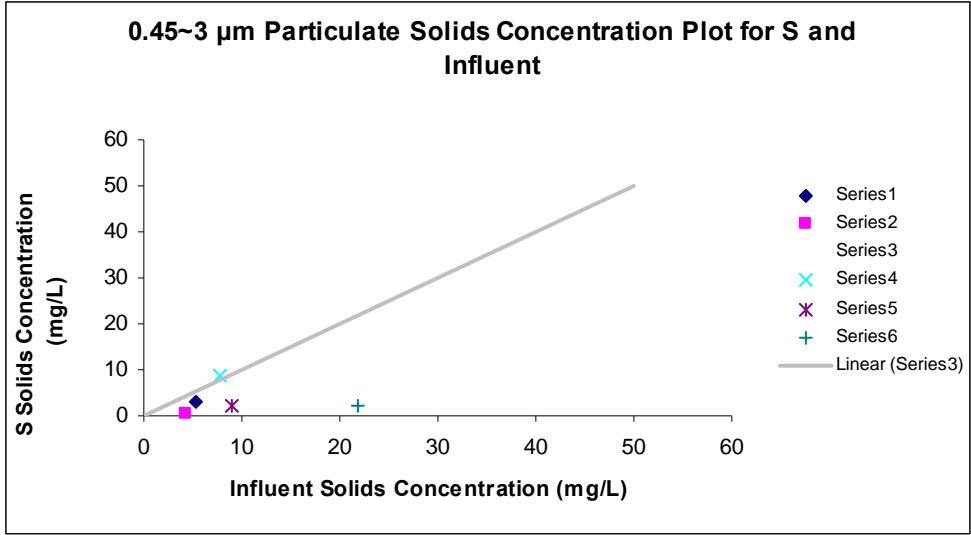
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	3.583	3.009	1.191	0.319	-5.993	13.159	-5.993	13.159
X Variable 1	-0.038	0.262	-0.145	0.894	-0.871	0.795	-0.871	0.795

RESIDUAL OUTPUT

<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	3.384	-0.457
2	3.419	-3.017
3	3.293	5.422
4	3.240	-1.280
5	2.759	-0.668







3-12 μm

SUMMARY OUTPUT for 3~12 μm

Regression Statistics	
Multiple R	0.680
R Square	0.463
Adjusted R Square	0.284
Standard Error	0.525
Observations	5.000

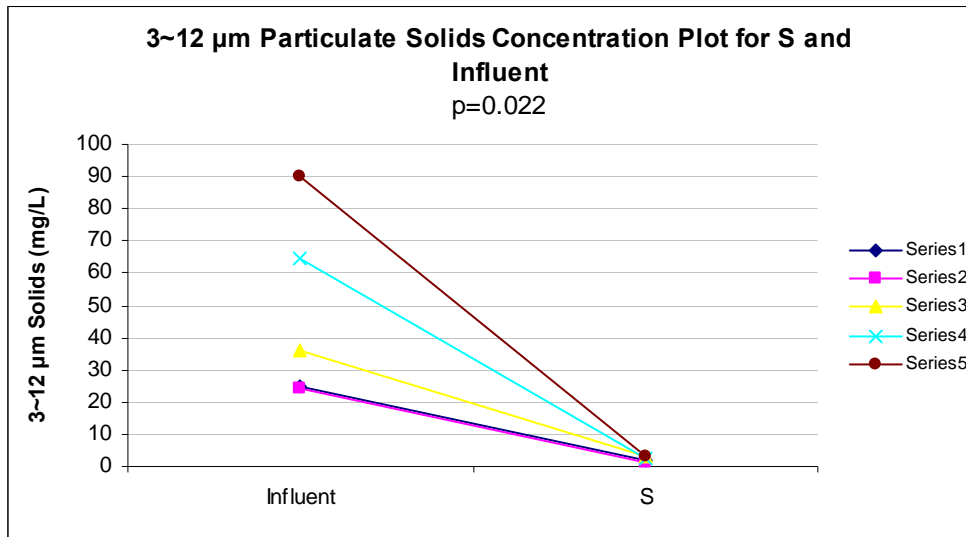
ANOVA

	df	SS	MS	F	Significance F
Regression	1.000	0.713	0.713	2.587	0.206
Residual	3.000	0.827	0.276		
Total	4.000	1.540			

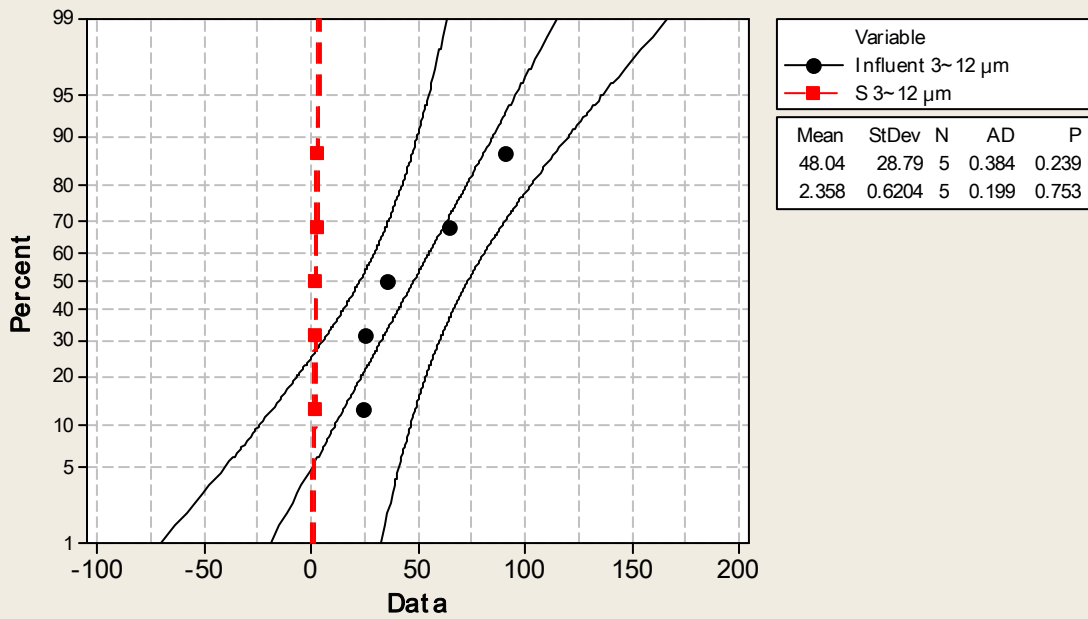
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.653	0.497	3.327	0.045	0.072	3.235	0.072	3.235
X Variable 1	0.015	0.009	1.608	0.206	-0.014	0.044	-0.014	0.044

RESIDUAL OUTPUT

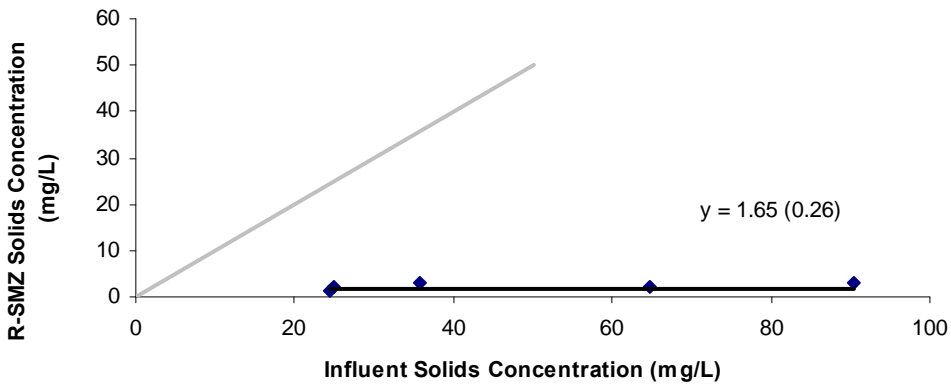
Observation	Predicted Y	Residuals
1	2.018	0.108
2	2.011	-0.512
3	2.178	0.651
4	2.604	-0.345
5	2.977	0.099

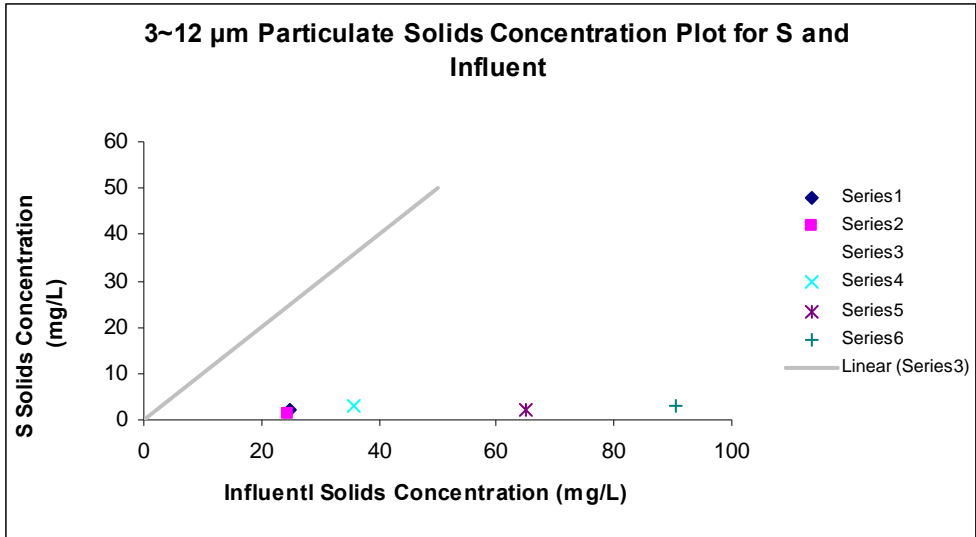


Probability Plot of Influent 3~12 μm , S 3~12 μm
Normal - 95% CI



3~12 μm Particulate Solids Concentration Plot for R-SMZ and Influent





12-30 μm

SUMMARY OUTPUT for 12-30 μm

Regression Statistics	
Multiple R	0.646
R Square	0.417
Adjusted R Square	0.223
Standard Error	1.681
Observations	5.000

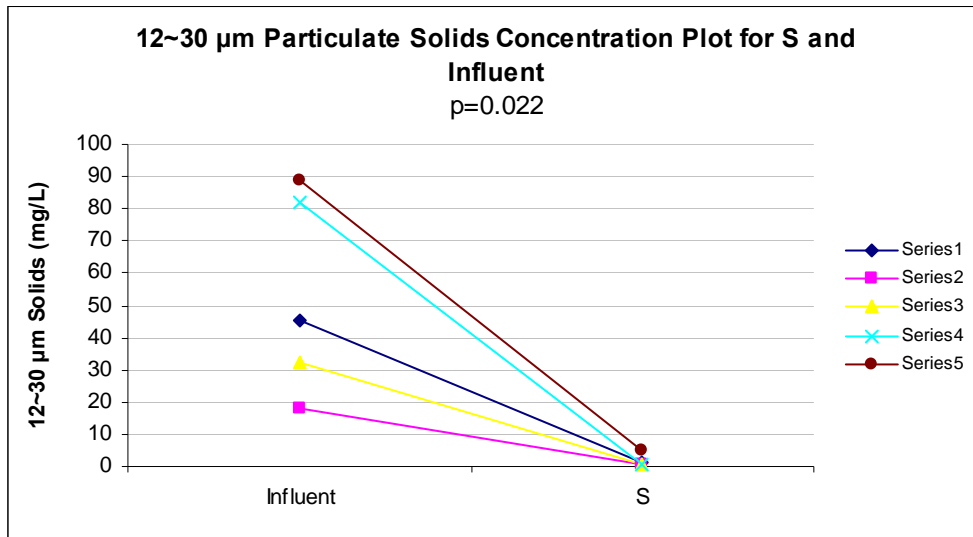
ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1.000	6.074	6.074	2.149	0.239
Residual	3.000	8.479	2.826		
Total	4.000	14.553			

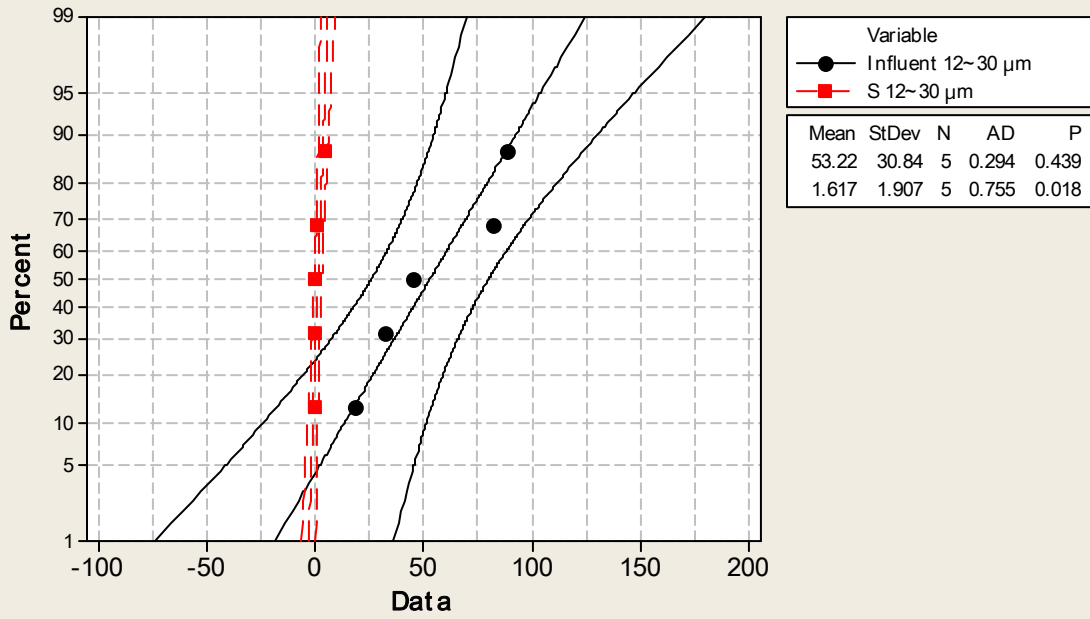
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-0.509	1.634	-0.312	0.776	-5.709	4.691	-5.709	4.691
X Variable 1	0.040	0.027	1.466	0.239	-0.047	0.127	-0.047	0.127

RESIDUAL OUTPUT

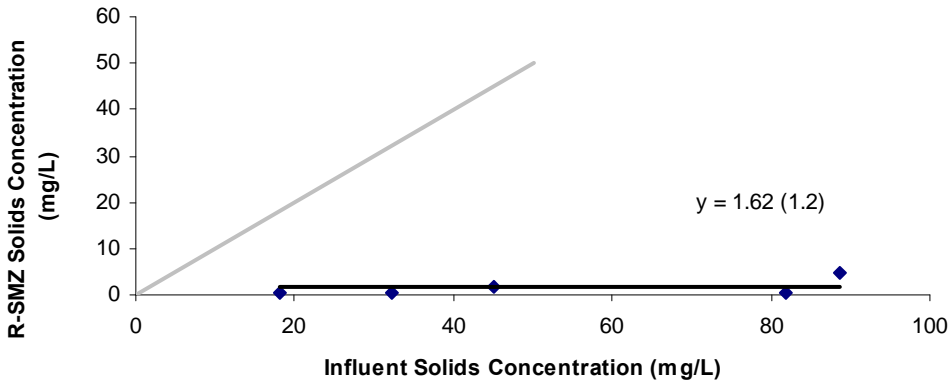
<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	1.291	0.221
2	0.217	0.235
3	0.784	-0.210
4	2.765	-2.160
5	3.030	1.914

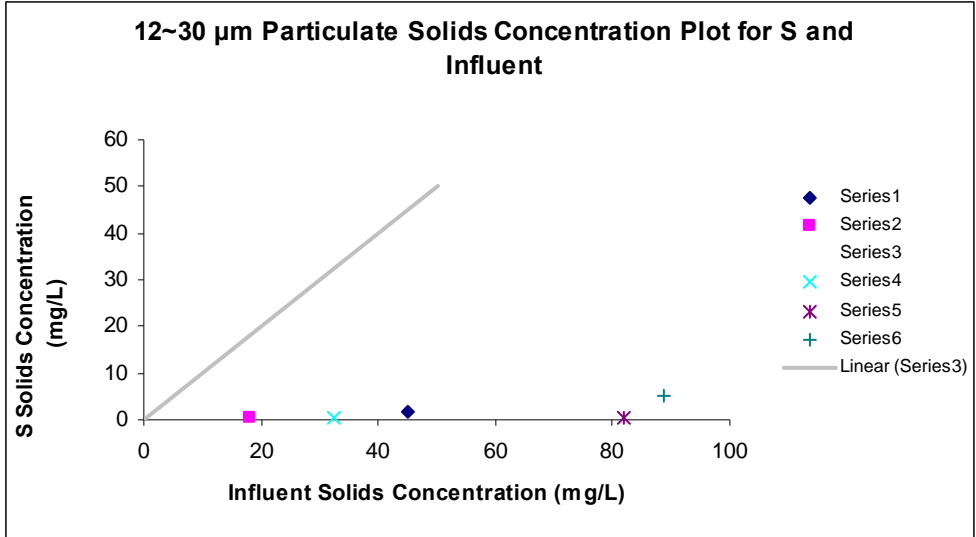


Probability Plot of Influent 12~30 μm , S 12~30 μm
Normal - 95% CI



12~30 μm Particulate Solids Concentration Plot for R-SMZ and Influent





30-60 μm

SUMMARY OUTPUT for 30-60 μm

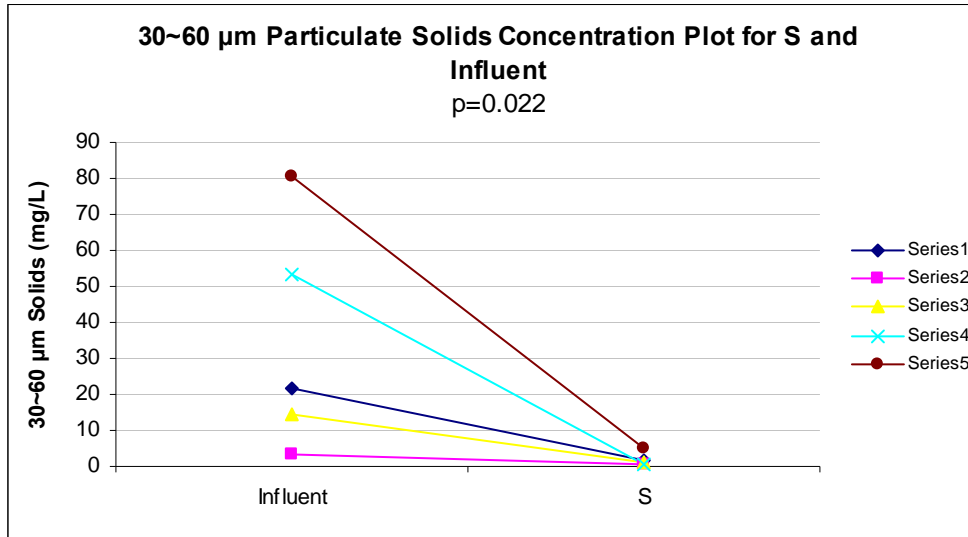
Regression Statistics	
Multiple R	0.729
R Square	0.532
Adjusted R Square	0.376
Standard Error	1.557
Observations	5.000

ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	1.000	8.260	8.260	3.408	0.162	
Residual	3.000	7.272	2.424			
Total	4.000	15.532				

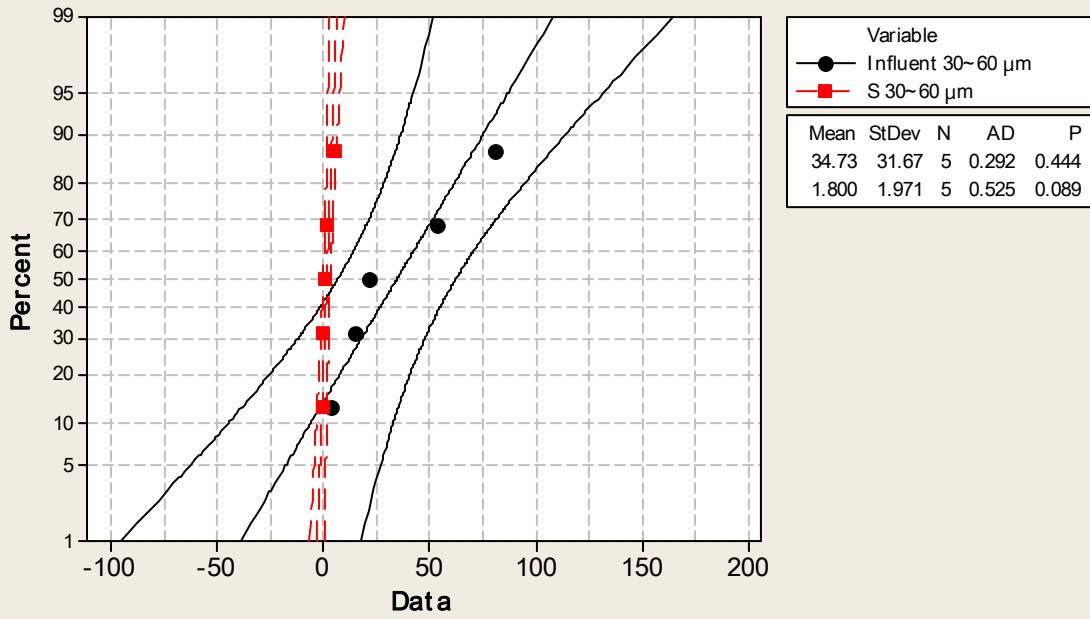
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.225	1.102	0.204	0.852	-3.281	3.730	-3.281	3.730
X Variable 1	0.045	0.025	1.846	0.162	-0.033	0.124	-0.033	0.124

RESIDUAL OUTPUT

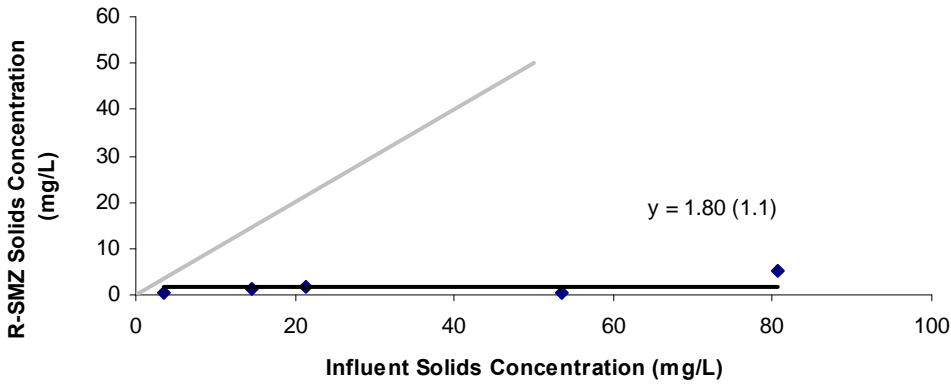
<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	1.199	0.719
2	0.382	0.025
3	0.889	0.258
4	2.648	-2.260
5	3.883	1.258

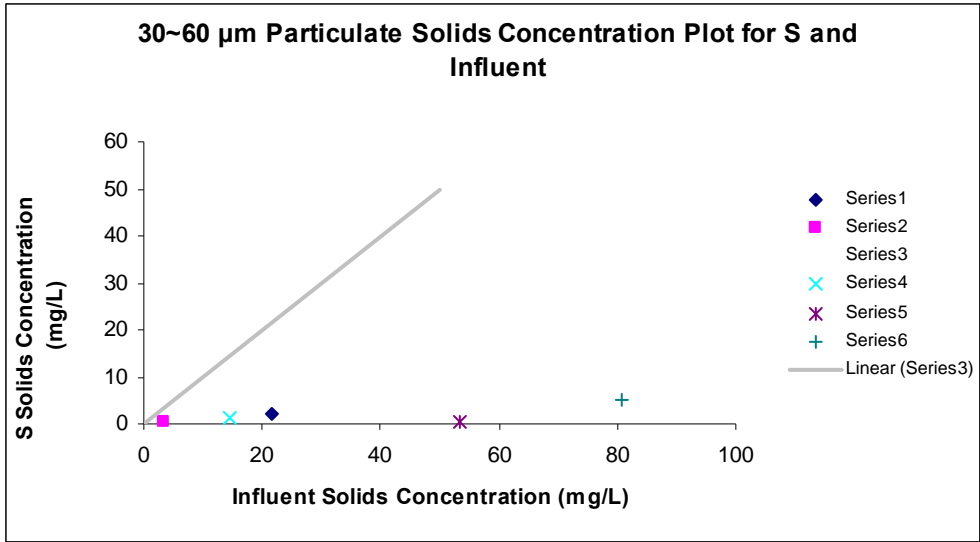


Probability Plot of Influent 30~60 μm, S 30~60 μm
Normal - 95% CI



30~60 μm Particulate Solids Concentration Plot for R-SMZ and Influent





60-120 μm

SUMMARY OUTPUT for 60~120 μm

Regression Statistics	
Multiple R	0.906
R Square	0.820
Adjusted R Square	0.570
Standard Error	0.988
Observations	5.000

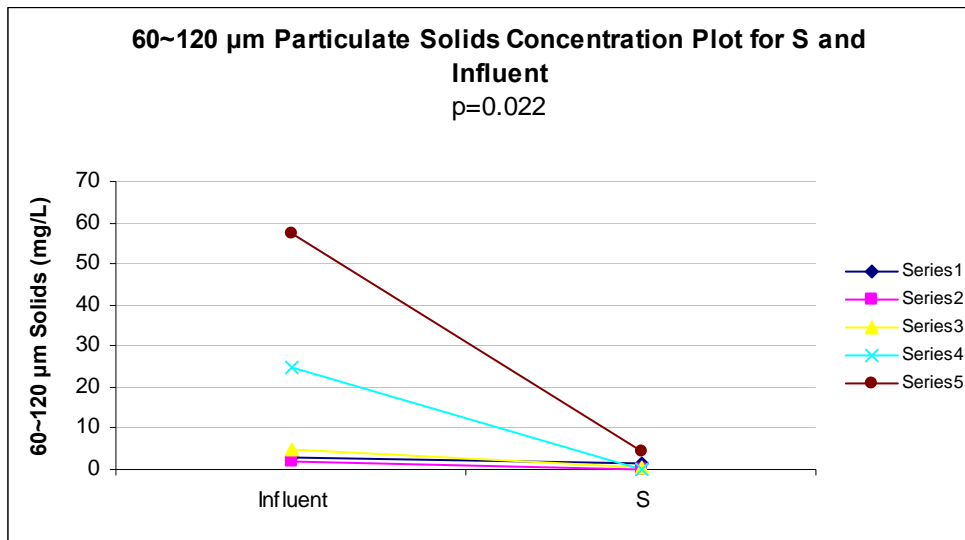
ANOVA

	df	SS	MS	F	Significance F
Regression	1.000	17.791	17.791	18.229	0.024
Residual	4.000	3.904	0.976		
Total	5.000	21.695			

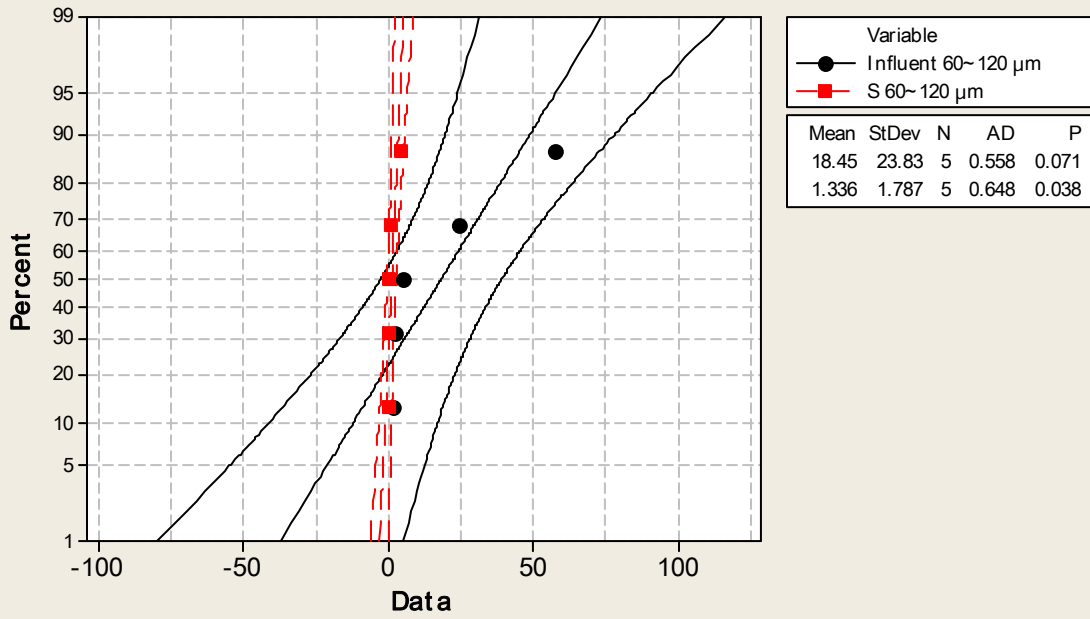
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.067	0.016	4.270	0.013	0.023	0.110	0.023	0.110

RESIDUAL OUTPUT

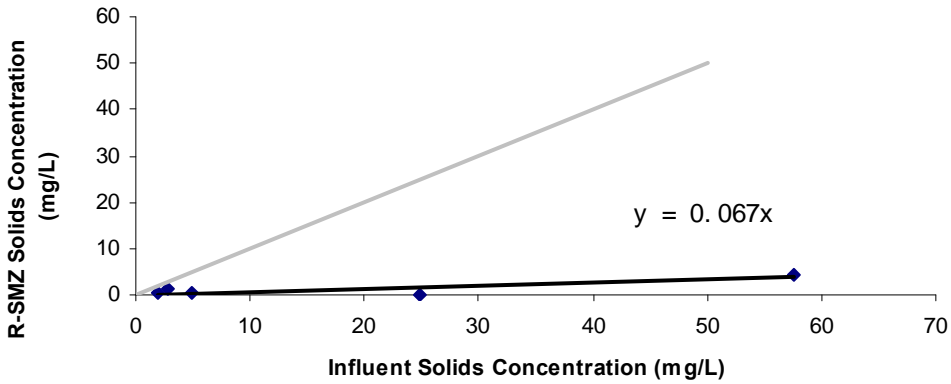
Observation	Predicted Y	Residuals
1	0.188	1.120
2	0.133	0.104
3	0.333	0.215
4	1.665	-1.505
5	3.854	0.573

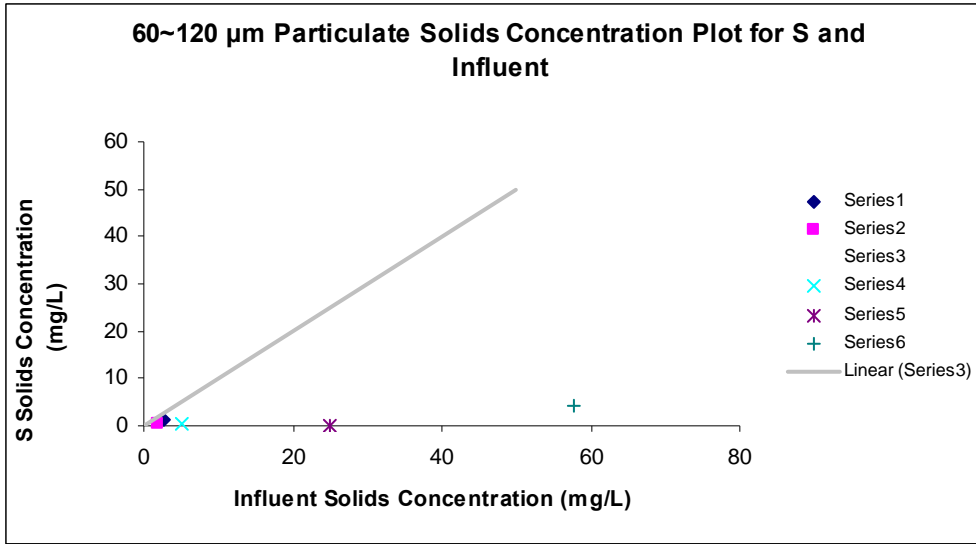


Probability Plot of Influent 60~120 μm, S 60~120 μm
Normal - 95% CI



60~120 μm Particulate Solids Concentration Plot for R-SMZ and Influent





120-250 μm

SUMMARY OUTPUT for 120~250 μm

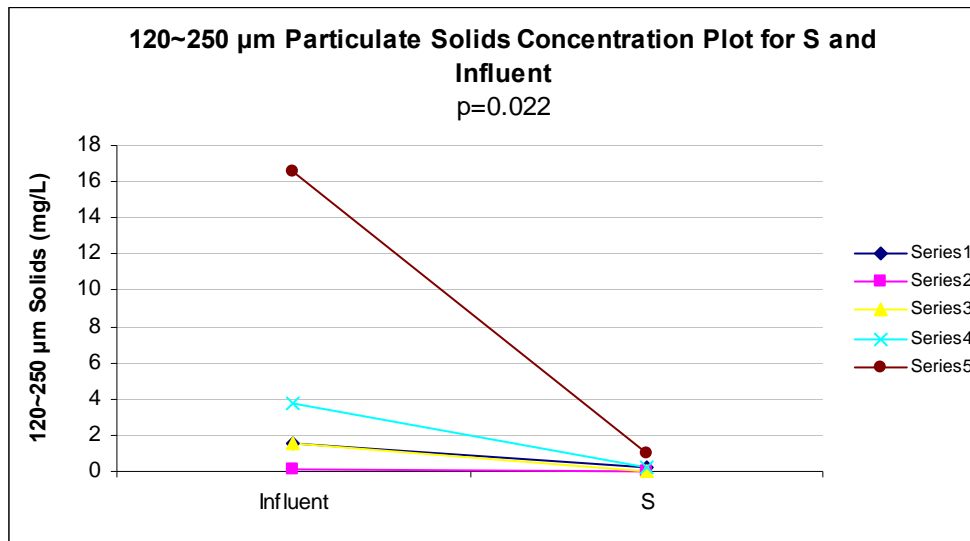
Regression Statistics	
Multiple R	0.991
R Square	0.981
Adjusted R Square	0.731
Standard Error	0.072
Observations	5.000

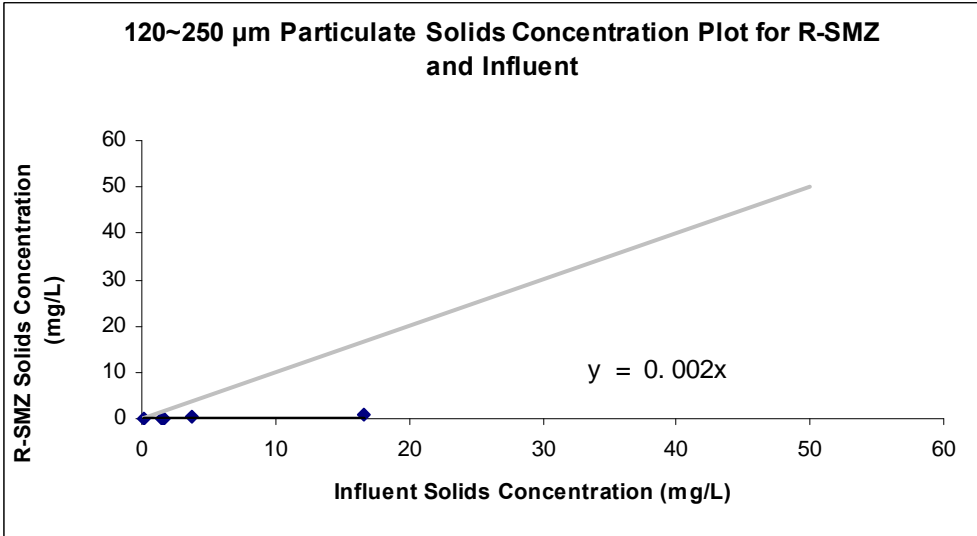
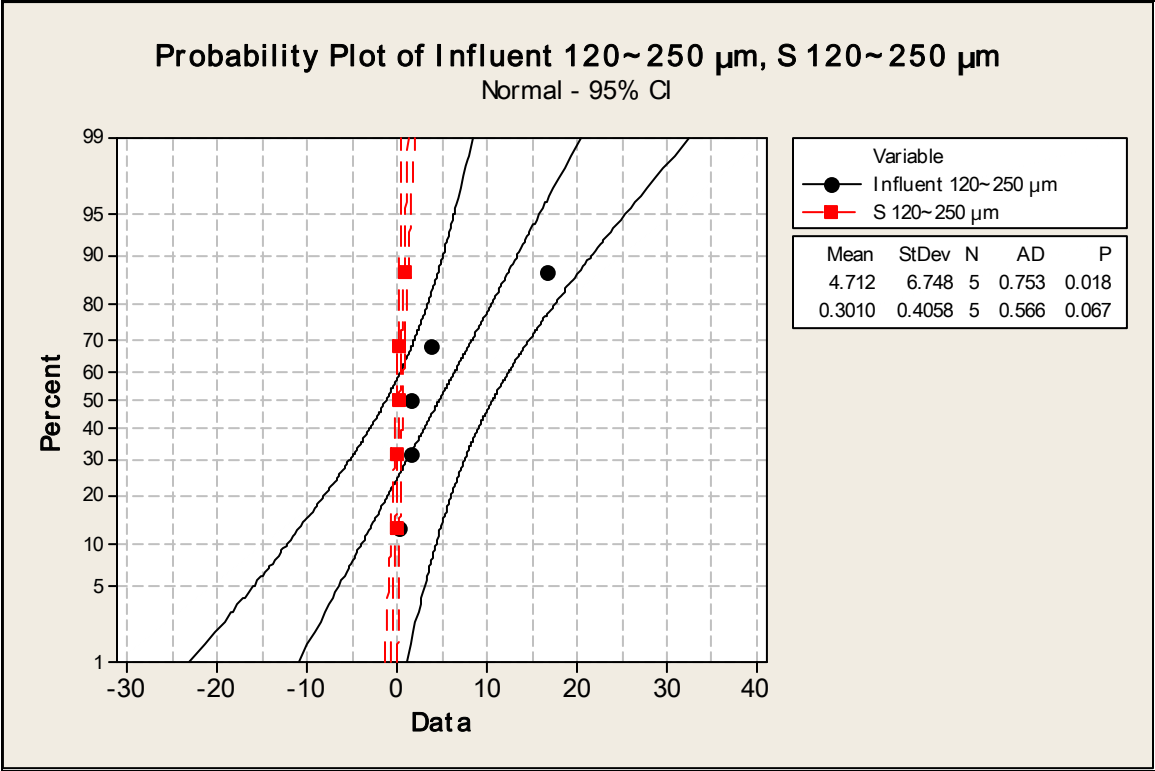
ANOVA					
	df	SS	MS	F	Significance F
Regression	1.000	1.091	1.091	210.409	0.001
Residual	4.000	0.021	0.005		
Total	5.000	1.112			

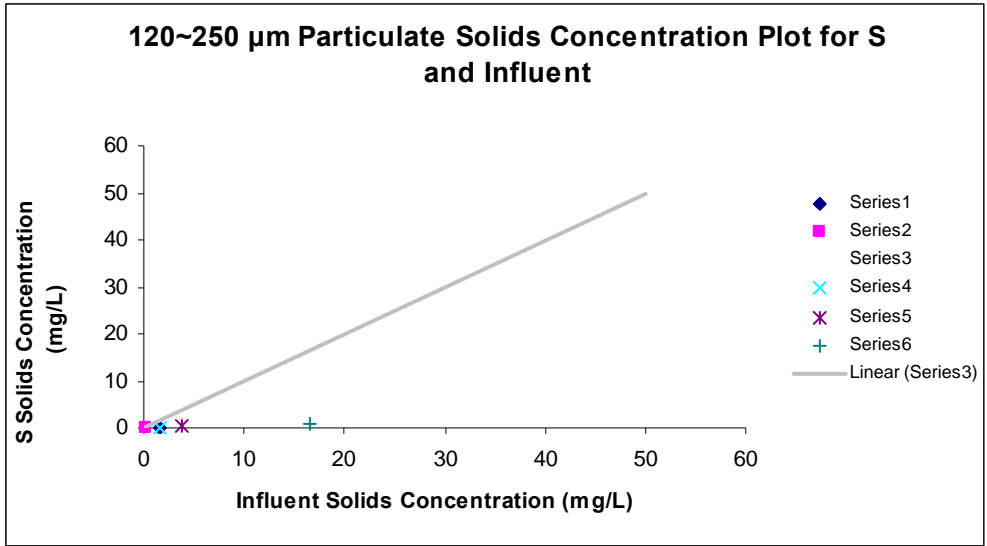
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.000	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	0.061	0.004	14.505	0.000	0.049	0.073	0.049	0.073

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	0.094	0.115
2	0.009	-0.005
3	0.097	-0.073
4	0.227	0.045
5	1.011	-0.014







250- 1180 μm

SUMMARY OUTPUT for 250~1180 μm

Regression Statistics	
Multiple R	0.148
R Square	0.022
Adjusted R Square	-0.304
Standard Error	1.577
Observations	5.000

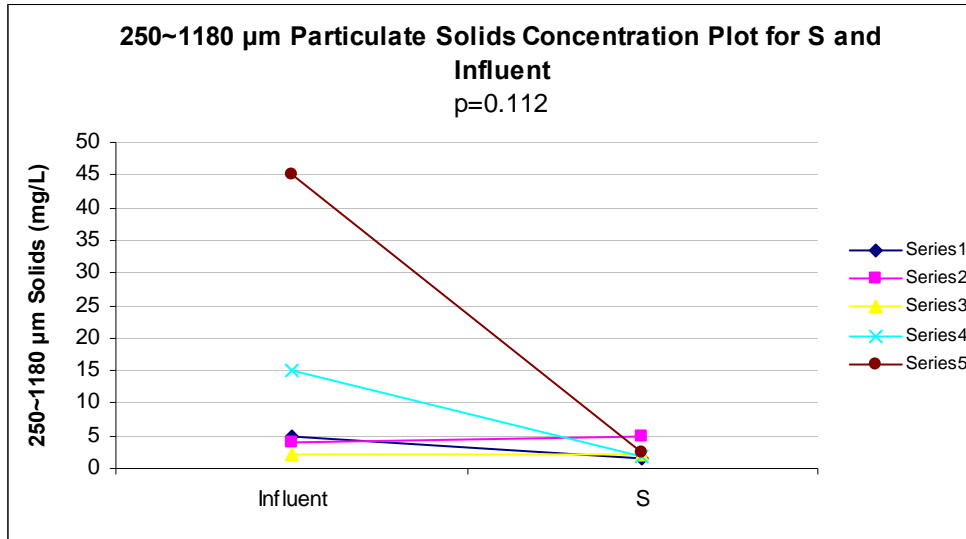
ANOVA

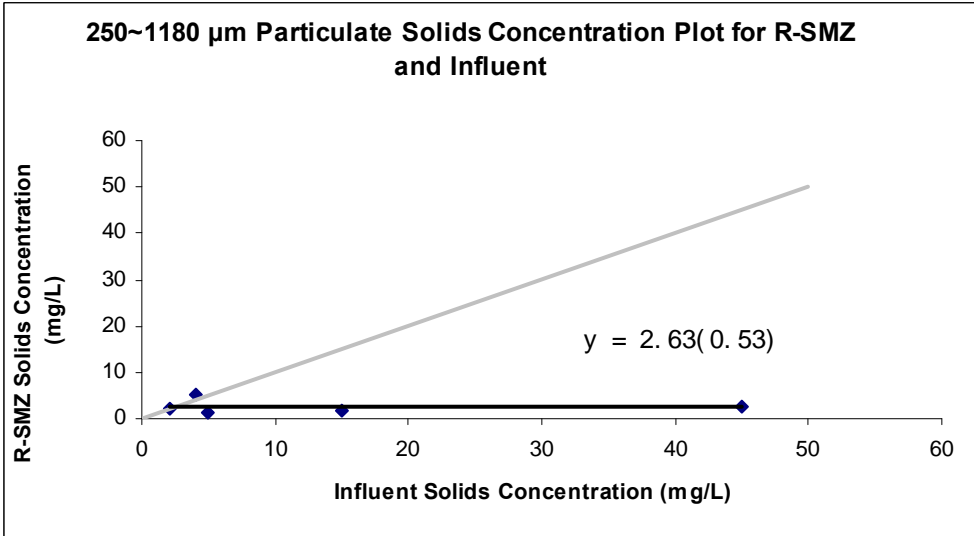
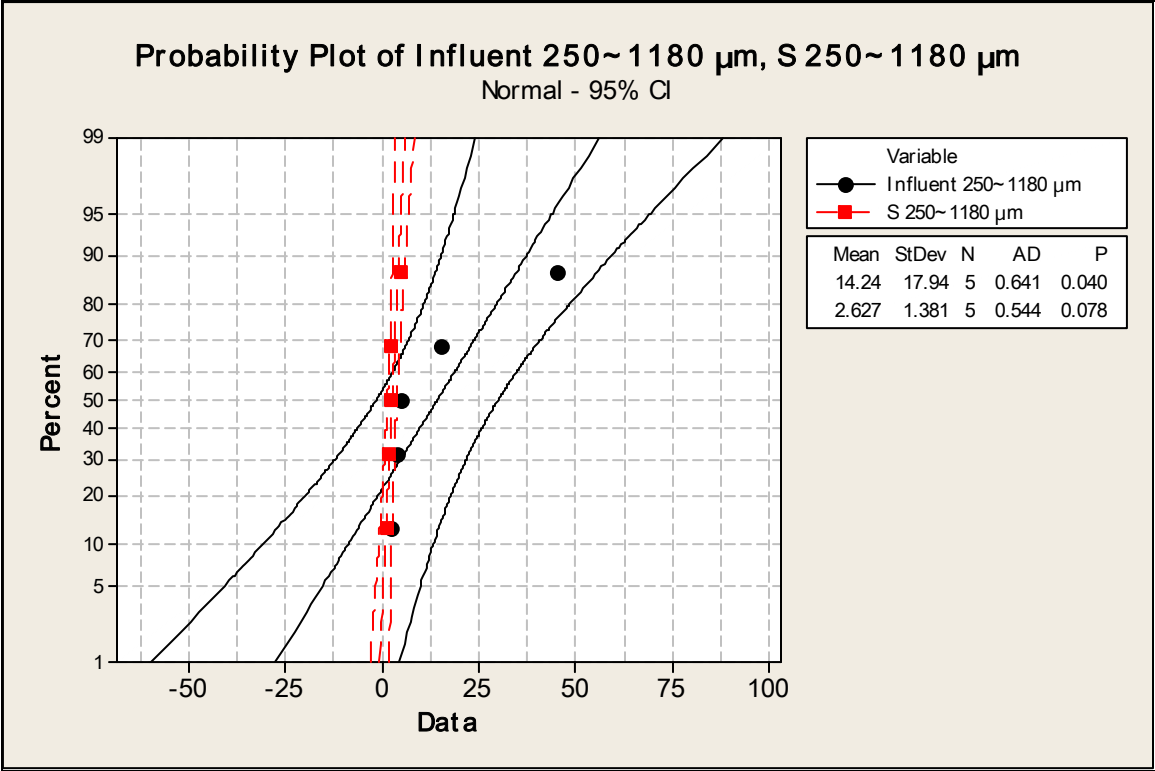
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1.000	0.168	0.168	0.068	0.812
Residual	3.000	7.464	2.488		
Total	4.000	7.632			

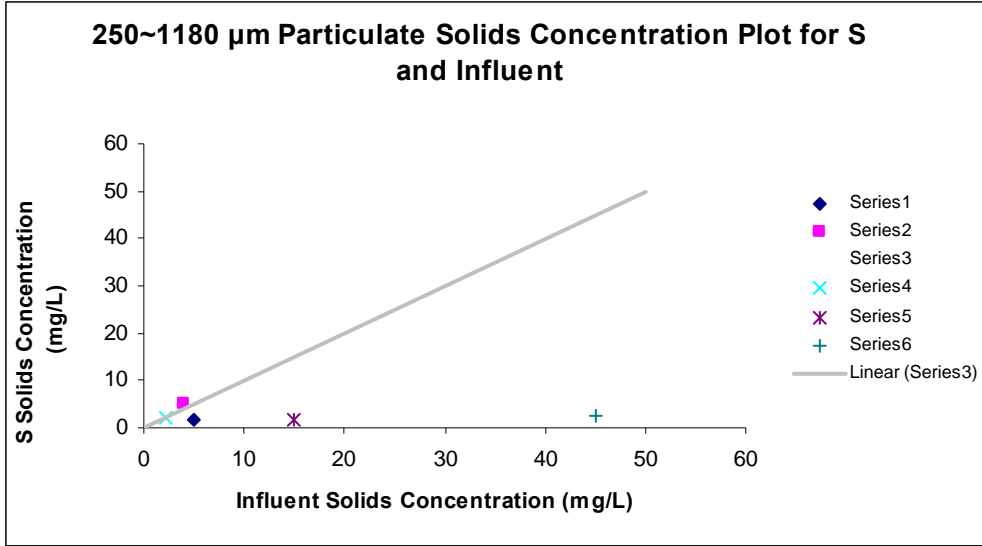
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	2.790	0.943	2.958	0.060	-0.212	5.791	-0.212	5.791
X Variable 1	-0.011	0.044	-0.260	0.812	-0.151	0.128	-0.151	0.128

RESIDUAL OUTPUT

<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>
1	2.732	-1.232
2	2.744	2.256
3	2.765	-0.472
4	2.618	-0.766
5	2.274	0.214







>1180 μm (no particles observed in this size range)

SSC (>0.45 μm)

SUMMARY OUTPUT for Total

Regression Statistics	
Multiple R	0.622
R Square	0.387
Adjusted R Square	0.182
Standard Error	5.901
Observations	5.000

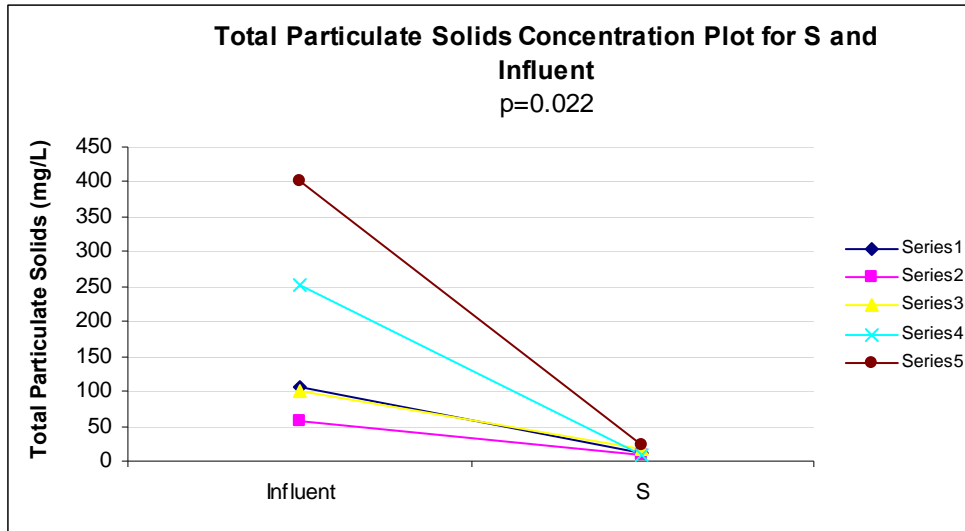
ANOVA

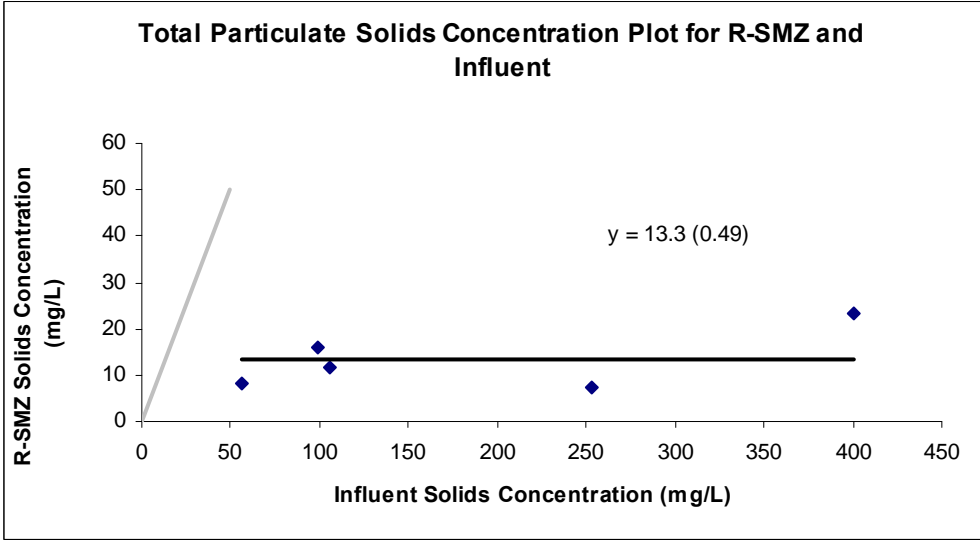
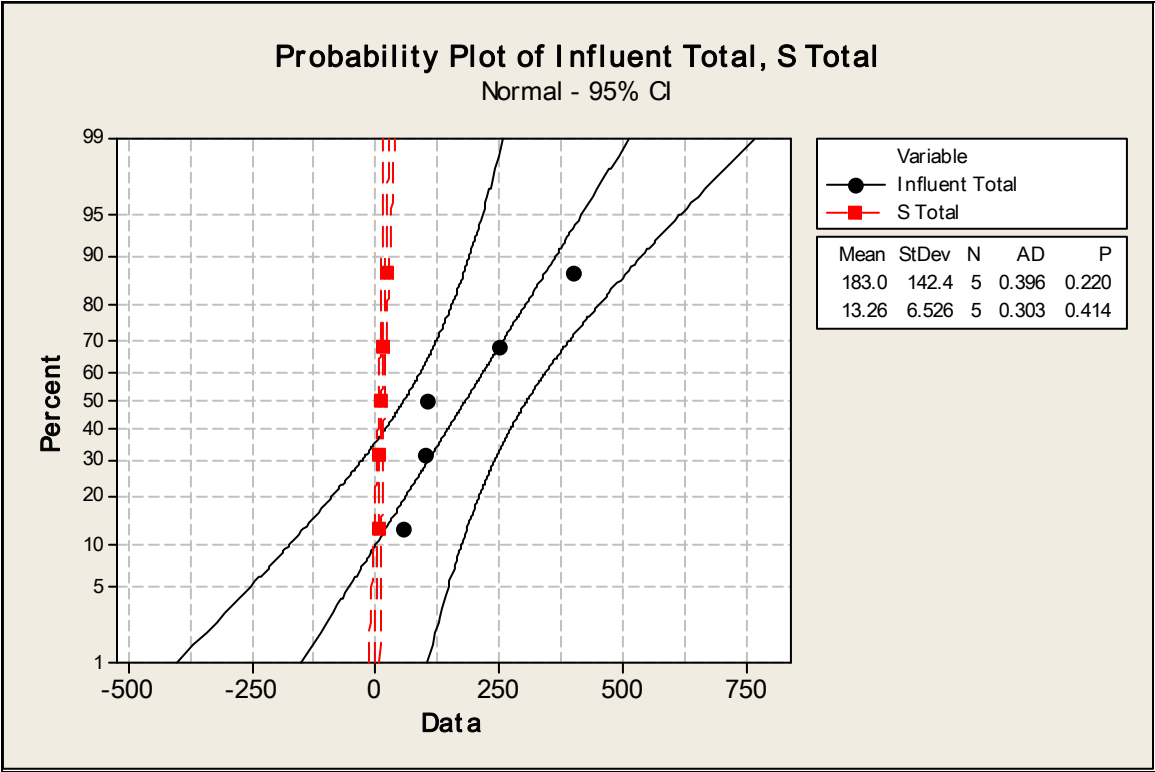
	df	SS	MS	F	Significance F
Regression	1.000	65.851	65.851	1.891	0.263
Residual	3.000	104.482	34.827		
Total	4.000	170.333			

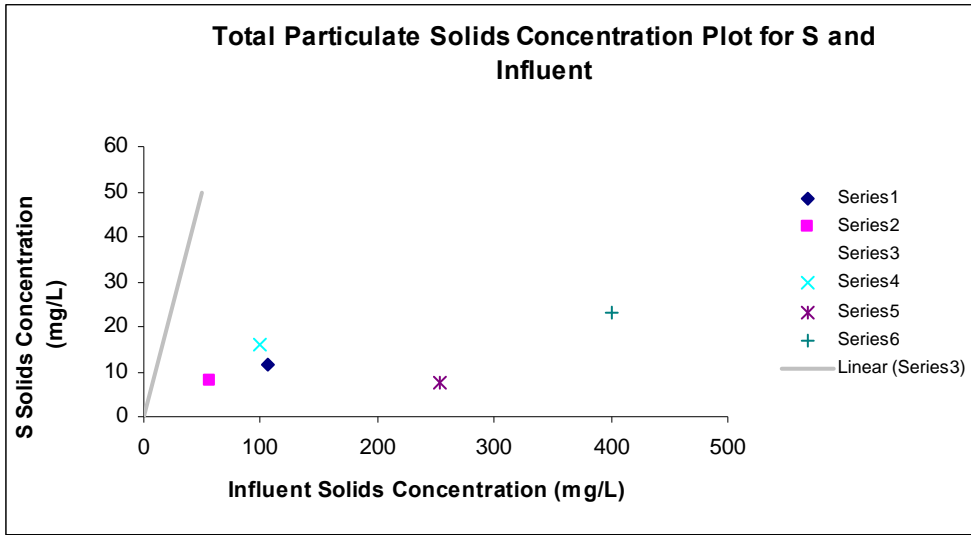
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	8.045	4.619	1.742	0.180	-6.656	22.746	-6.656	22.746
X Variable 1	0.028	0.021	1.375	0.263	-0.037	0.094	-0.037	0.094

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	11.065	0.435
2	9.655	-1.655
3	10.870	5.261
4	15.249	-7.753
5	19.454	3.711







TSS (0.45 to 75 μm)

SUMMARY OUTPUT for TSS

Regression Statistics	
Multiple R	0.527
R Square	0.278
Adjusted R Square	0.038
Standard Error	5.634
Observations	5.000

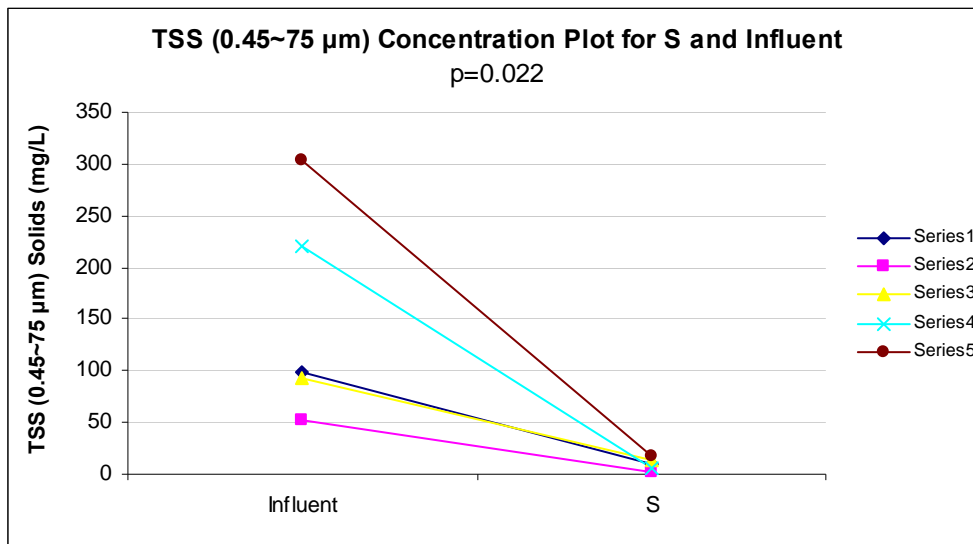
ANOVA

	df	SS	MS	F	Significance F
Regression	1.000	36.710	36.710	1.156	0.361
Residual	3.000	95.233	31.744		
Total	4.000	131.943			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	5.131	4.810	1.067	0.364	-10.178	20.440	-10.178	20.440
X Variable 1	0.029	0.027	1.075	0.361	-0.056	0.114	-0.056	0.114

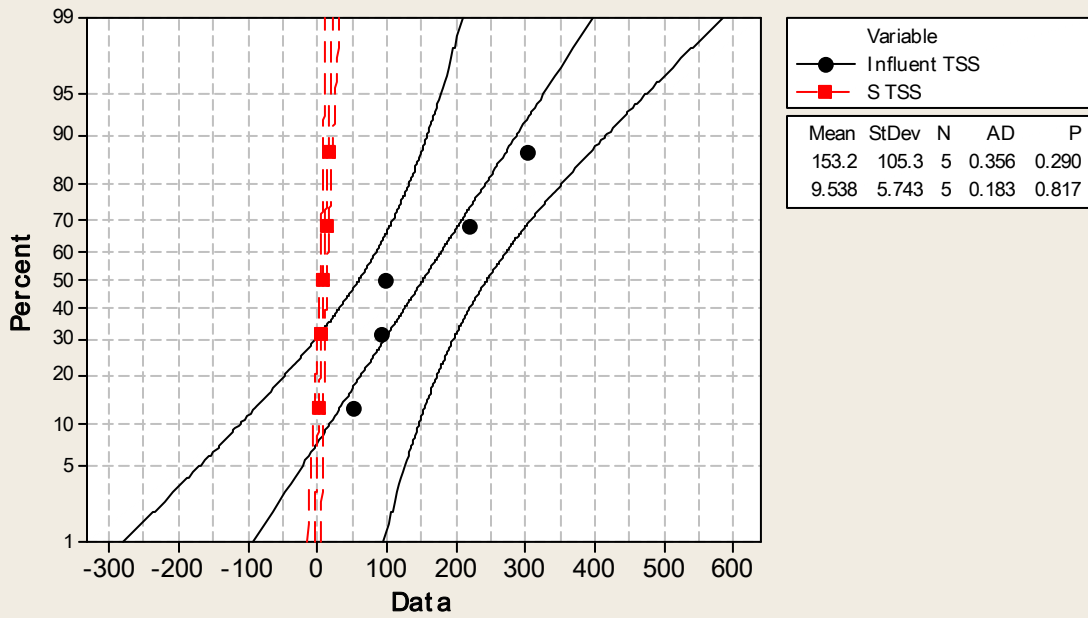
RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	7.955	1.129
2	6.607	-3.717
3	7.785	5.778
4	11.464	-6.160
5	13.877	2.969



Probability Plot of Influent TSS, S TSS

Normal - 95% CI



TSS (0.45~75 μm) Concentration Plot for R-SMZ and Influent

