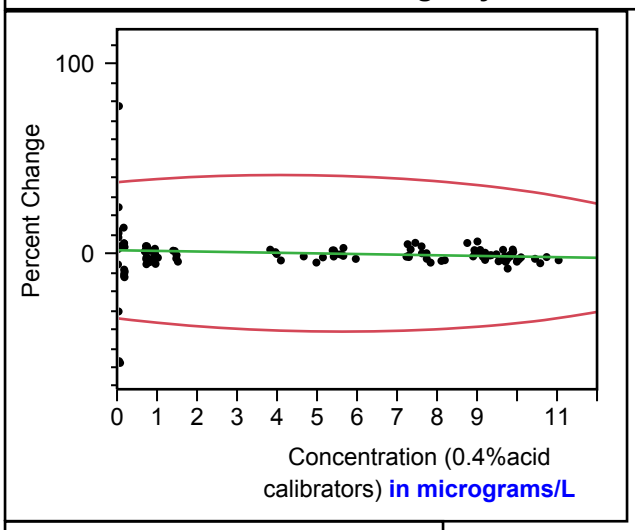
Attachment 1. Bivariate fit of percent change vs concentration measured in 0.4 percent nitric acid calibration standards.

Example with units and explanations:

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Ag



[Percent change in sample concentration, C, resulting from using calibration standards in 1.0 percent nitric acid (C1%, deviating from the SOP) compared to calibration standards in 0.4 percent nitric acid (C0.4%, adhering to the SOP) is positive for samples with C1% greater than C0.4% and negative for samples with C1% less than C0.4%.]

Linear Fit

Percent Change = 1.7365946 - 0.3307312*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.006286
RSquare Adj	-0.003
Root Mean Square Error	16.908
Mean of Response	0.129921
Observations (or Sum Wgts)	109

Analysis of Variance

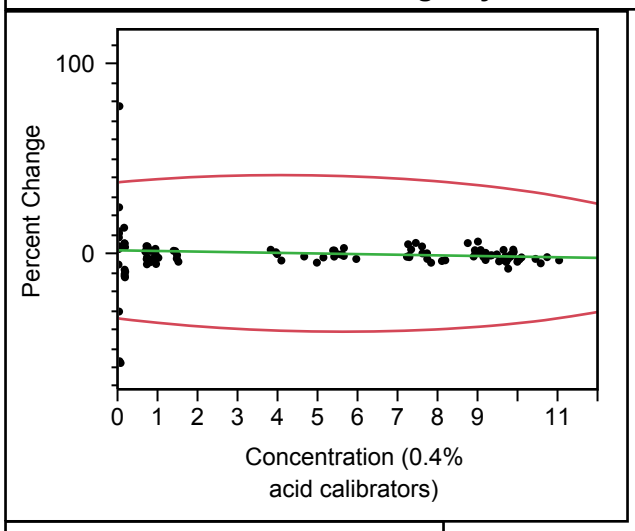
Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	193.493	193.493	0.6768
Error	107	30589.214	285.881	**Prob > F**
C. Total	108	30782.707		0.4125

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	1.7365946	2.537067	0.68	0.4951
Concentration (0.4% acid calibrators)	-0.330731	0.402008	-0.82	0.4125

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Ag



Linear Fit

Percent Change = 1.7365946 - 0.3307312*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.006286
RSquare Adj	-0.003
Root Mean Square Error	16.908
Mean of Response	0.129921
Observations (or Sum Wgts)	109

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	193.493	193.493	0.6768
Error	107	30589.214	285.881	**Prob > F**
C. Total	108	30782.707		0.4125

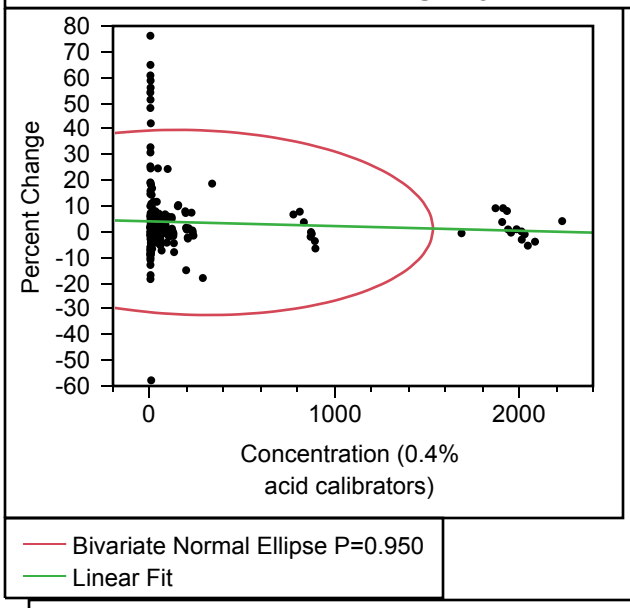
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	1.7365946	2.537067	0.68	0.4951
Concentration (0.4% acid calibrators)	-0.330731	0.402008	-0.82	0.4125

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Al

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Al



Linear Fit

Percent Change = 4.0229924 - 0.0018261*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.004346
RSquare Adj	-0.00073
Root Mean Square Error	14.72142
Mean of Response	3.598013
Observations (or Sum Wgts)	198

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	185.425	185.425	0.8556
Error	196	42477.154	216.720	**Prob > F**
C. Total	197	42662.579		0.3561

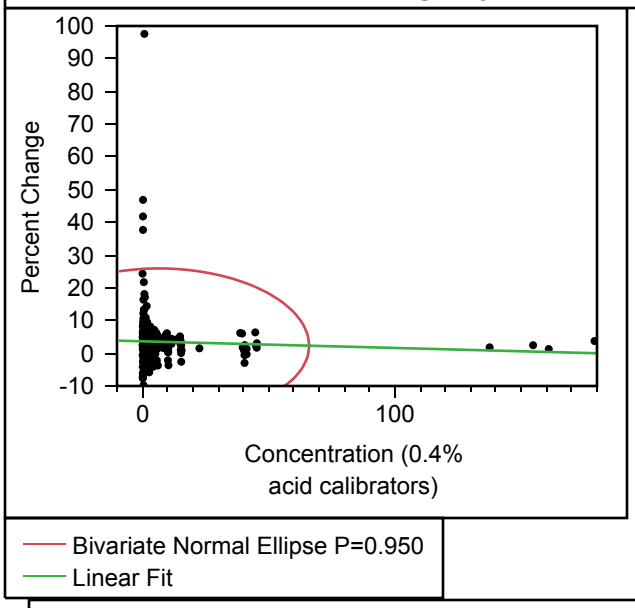
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	4.0229924	1.142645	3.52	0.0005 *
Concentration (0.4% acid calibrators)	-0.001826	0.001974	-0.92	0.3561

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=As

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=As



Linear Fit

Percent Change = 3.658986 - 0.0203388*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.00263
RSquare Adj	-0.00203
Root Mean Square Error	9.187072
Mean of Response	3.467855
Observations (or Sum Wgts)	216

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	47.623	47.6233	0.5642
Error	214	18062.092	84.4023	**Prob > F**
C. Total	215	18109.715		0.4534

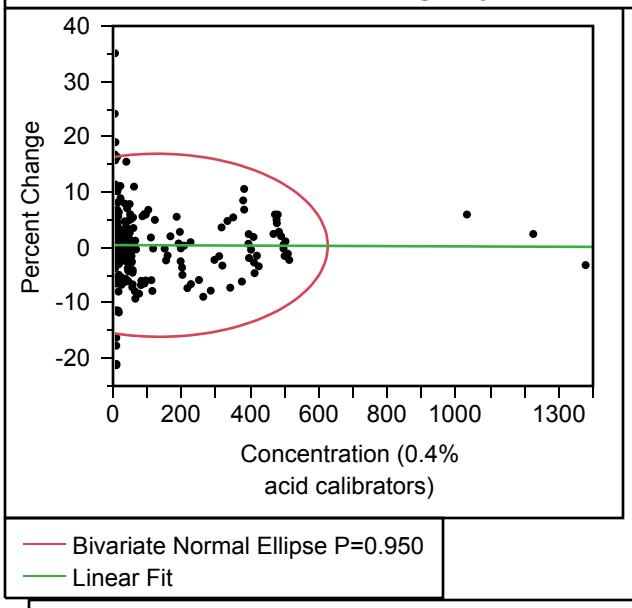
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	3.658986	0.674903	5.42	<.0001 *
Concentration (0.4% acid calibrators)	-0.020339	0.027076	-0.75	0.4534

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=B

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=B



Linear Fit

Percent Change = 0.4422669 - 0.0002318*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.000048
RSquare Adj	-0.00498
Root Mean Square Error	6.771267
Mean of Response	0.411597
Observations (or Sum Wgts)	201

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	0.4379	0.4379	0.0096
Error	199	9124.1617	45.8501	**Prob > F**
C. Total	200	9124.5996		0.9222

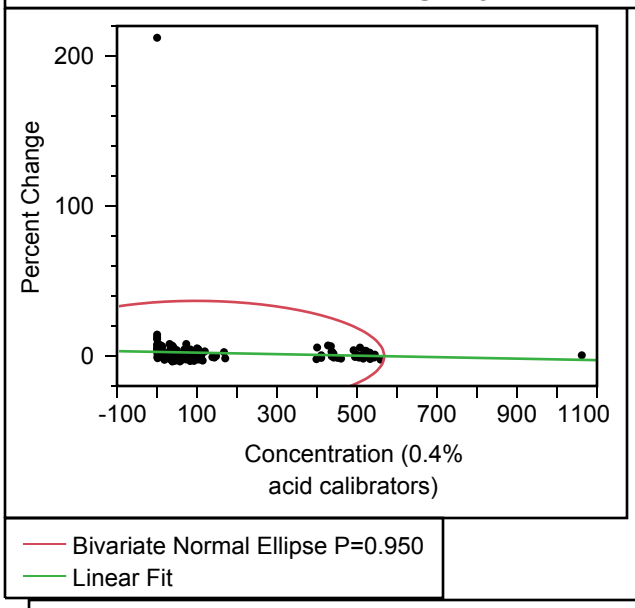
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	0.4422669	0.571483	0.77	0.4399
Concentration (0.4% acid calibrators)	-0.000232	0.002371	-0.10	0.9222

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Ba

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Ba



Linear Fit

Percent Change = 2.732134 - 0.005001*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.004081
RSquare Adj	-0.00023
Root Mean Square Error	14.15902
Mean of Response	2.104737
Observations (or Sum Wgts)	233

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	189.771	189.771	0.9466
Error	231	46310.359	200.478	**Prob > F**
C. Total	232	46500.131		0.3316

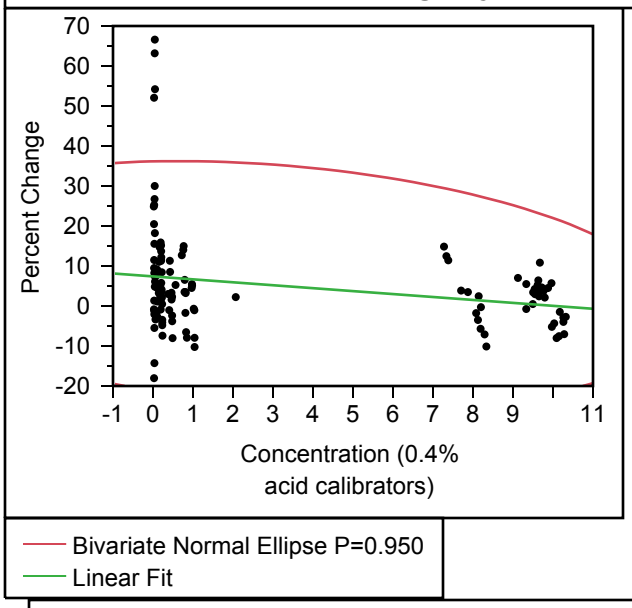
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	2.732134	1.129714	2.42	0.0164 *
Concentration (0.4% acid calibrators)	-0.005001	0.00514	-0.97	0.3316

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Be

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Be



Linear Fit

Percent Change = 7.3972658 - 0.735545*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.057473
RSquare Adj	0.049933
Root Mean Square Error	12.37738
Mean of Response	5.151273
Observations (or Sum Wgts)	127

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	1167.715	1167.72	7.6222
Error	125	19149.928	153.20	**Prob > F**
C. Total	126	20317.643		0.0066 *

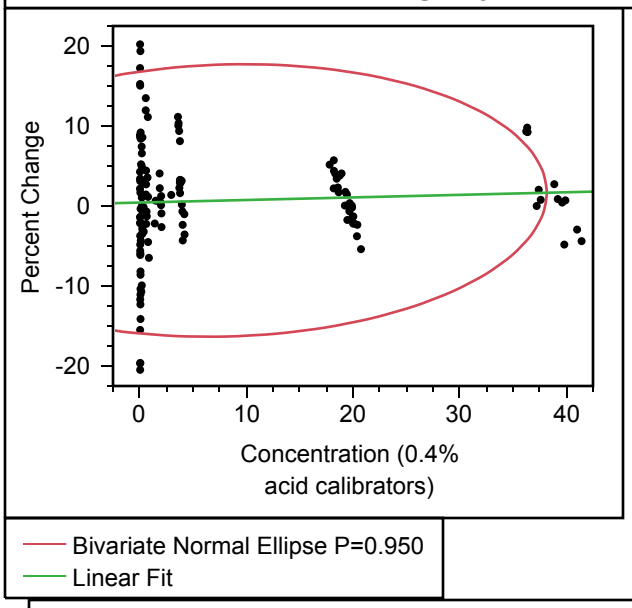
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	7.3972658	1.366788	5.41	<.0001 *
Concentration (0.4% acid calibrators)	-0.735545	0.266422	-2.76	0.0066 *

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Cd

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Cd



Linear Fit

Percent Change = 0.4290163 + 0.0321369*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.003207
RSquare Adj	-0.00423
Root Mean Square Error	6.975273
Mean of Response	0.690806
Observations (or Sum Wgts)	136

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	20.9741	20.9741	0.4311
Error	134	6519.6949	48.6544	**Prob > F**
C. Total	135	6540.6690		0.5126

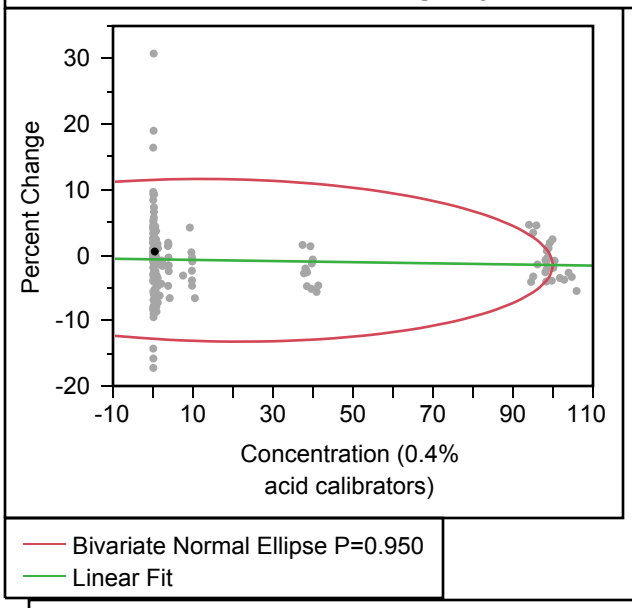
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	0.4290163	0.718842	0.60	0.5516
Concentration (0.4% acid calibrators)	0.0321369	0.048947	0.66	0.5126

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Co

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Co



Linear Fit

Percent Change = -0.648688 - 0.0087065*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.00338
RSquare Adj	-0.00184
Root Mean Square Error	5.083608
Mean of Response	-0.79606
Observations (or Sum Wgts)	193

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	16.7407	16.7407	0.6478
Error	191	4936.0262	25.8431	**Prob > F**
C. Total	192	4952.7670		0.4219

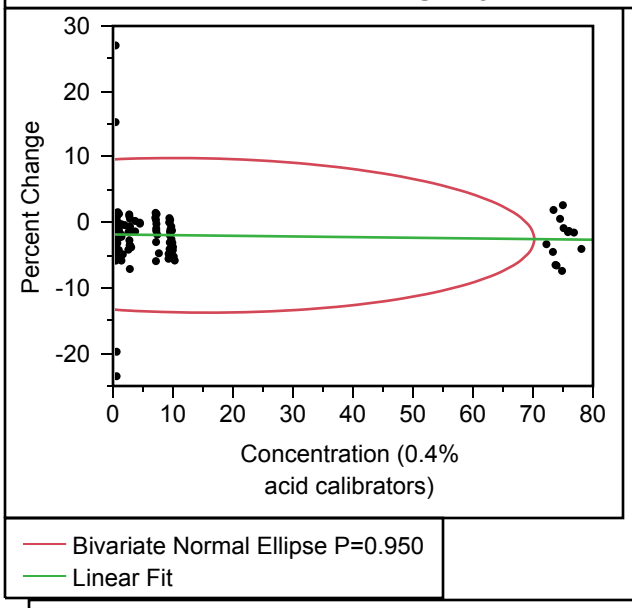
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	-0.648688	0.409179	-1.59	0.1145
Concentration (0.4% acid calibrators)	-0.008707	0.010818	-0.80	0.4219

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Cr

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Cr



Linear Fit

Percent Change = -1.851783 - 0.0100492*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.002372
RSquare Adj	-0.00713
Root Mean Square Error	4.844547
Mean of Response	-1.98212
Observations (or Sum Wgts)	107

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	5.8583	5.8583	0.2496
Error	105	2464.3119	23.4696	**Prob > F**
C. Total	106	2470.1702		0.6184

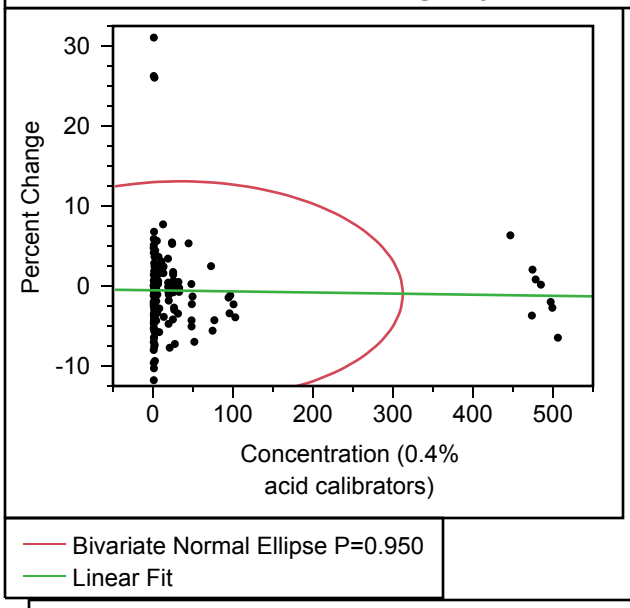
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	-1.851783	0.5361	-3.45	0.0008 *
Concentration (0.4% acid calibrators)	-0.010049	0.020114	-0.50	0.6184

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Cu

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Cu



Linear Fit

Percent Change = -0.537075 - 0.0013785*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.000744
RSquare Adj	-0.00639
Root Mean Square Error	5.609243
Mean of Response	-0.59423
Observations (or Sum Wgts)	142

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	3.2803	3.2803	0.1043
Error	140	4404.9046	31.4636	**Prob > F**
C. Total	141	4408.1849		0.7473

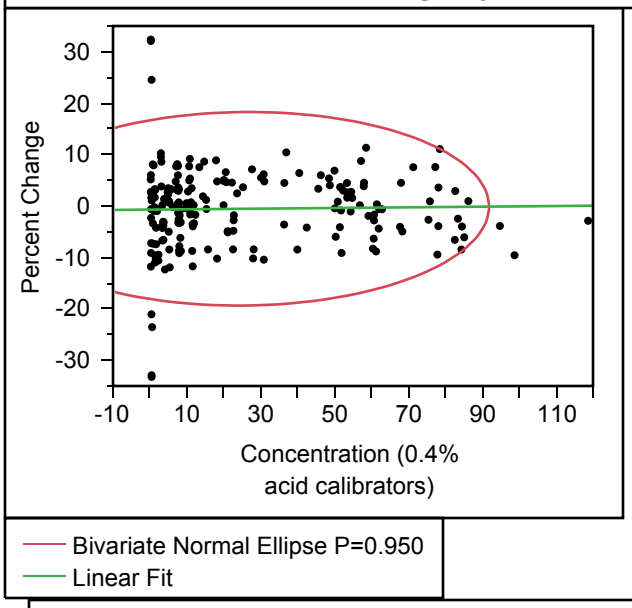
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	-0.537075	0.502901	-1.07	0.2874
Concentration (0.4% acid calibrators)	-0.001378	0.004269	-0.32	0.7473

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Li

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Li



Linear Fit

Percent Change = -0.705822 + 0.0063541*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.000503
RSquare Adj	-0.00433
Root Mean Square Error	7.707892
Mean of Response	-0.54425
Observations (or Sum Wgts)	209

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	6.185	6.1854	0.1041
Error	207	12298.201	59.4116	**Prob > F**
C. Total	208	12304.387		0.7473

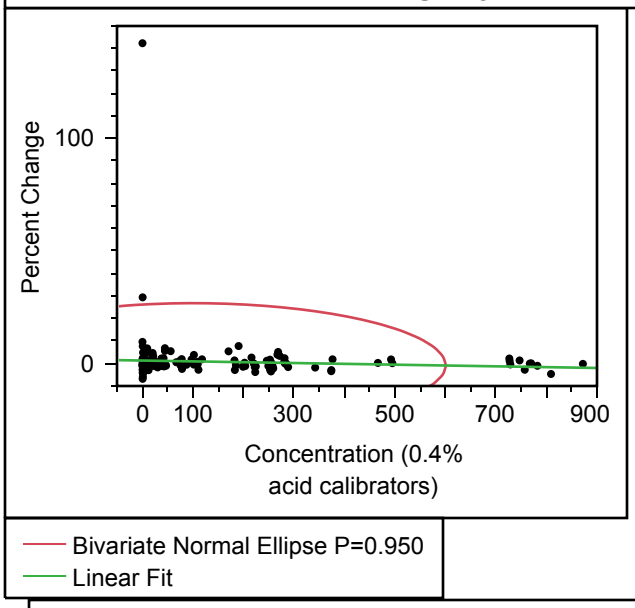
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	-0.705822	0.731456	-0.96	0.3357
Concentration (0.4% acid calibrators)	0.0063541	0.019693	0.32	0.7473

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Mn

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Mn



Linear Fit

Percent Change = 1.3094034 - 0.0036675*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.004383
RSquare Adj	-0.00072
Root Mean Square Error	10.62221
Mean of Response	0.828145
Observations (or Sum Wgts)	197

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	96.869	96.869	0.8585
Error	195	22002.106	112.831	**Prob > F**
C. Total	196	22098.975		0.3553

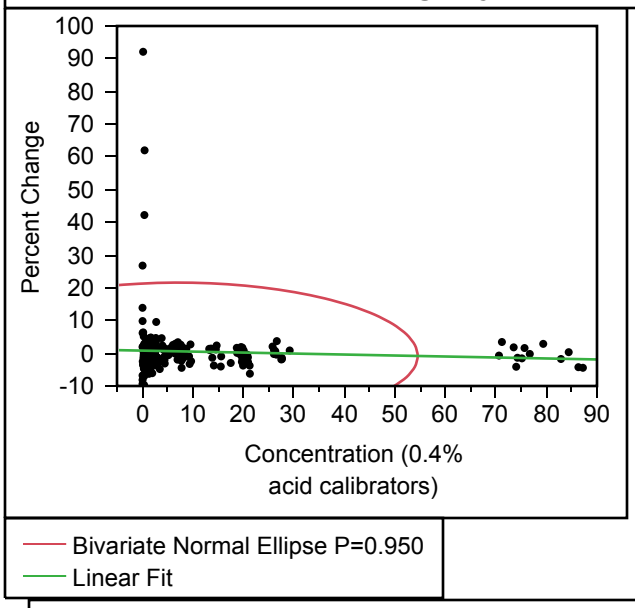
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	1.3094034	0.91789	1.43	0.1553
Concentration (0.4% acid calibrators)	-0.003668	0.003958	-0.93	0.3553

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Mo

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Mo



Linear Fit

Percent Change = 0.808418 - 0.0299749*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.004015
RSquare Adj	-0.00035
Root Mean Square Error	8.616466
Mean of Response	0.510484
Observations (or Sum Wgts)	230

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	68.231	68.2314	0.9190
Error	228	16927.517	74.2435	**Prob > F**
C. Total	229	16995.748		0.3387

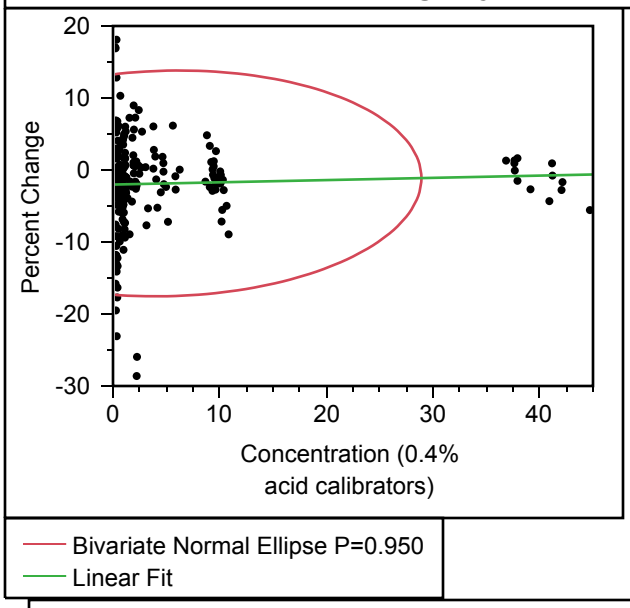
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	0.808418	0.647598	1.25	0.2132
Concentration (0.4% acid calibrators)	-0.029975	0.031268	-0.96	0.3387

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Ni

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Ni



Linear Fit

Percent Change = -2.02334 + 0.031082*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.002232
RSquare Adj	-0.00286
Root Mean Square Error	6.418815
Mean of Response	-1.86566
Observations (or Sum Wgts)	198

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	18.0645	18.0645	0.4384
Error	196	8075.4321	41.2012	**Prob > F**
C. Total	197	8093.4966		0.5087

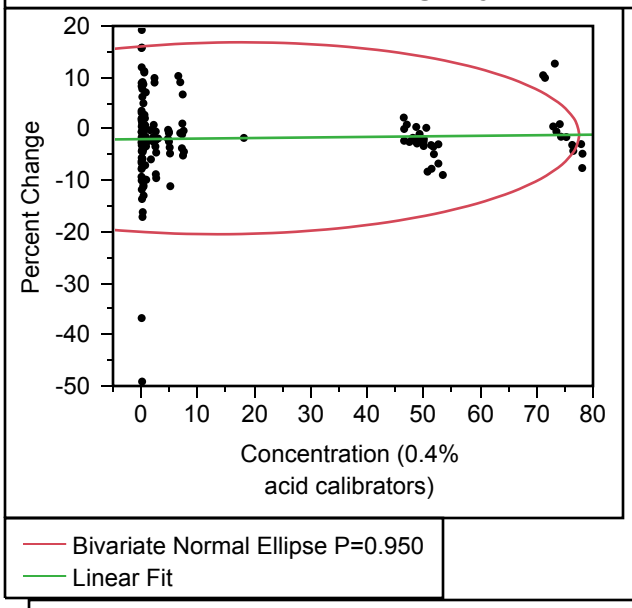
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	-2.02334	0.51458	-3.93	0.0001 *
Concentration (0.4% acid calibrators)	0.031082	0.046941	0.66	0.5087

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Pb

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Pb



Linear Fit

Percent Change = -2.001358 + 0.010872*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.001301
RSquare Adj	-0.00514
Root Mean Square Error	7.645663
Mean of Response	-1.83147
Observations (or Sum Wgts)	157

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	11.7994	11.7994	0.2019
Error	155	9060.7056	58.4562	**Prob > F**
C. Total	156	9072.5050		0.6539

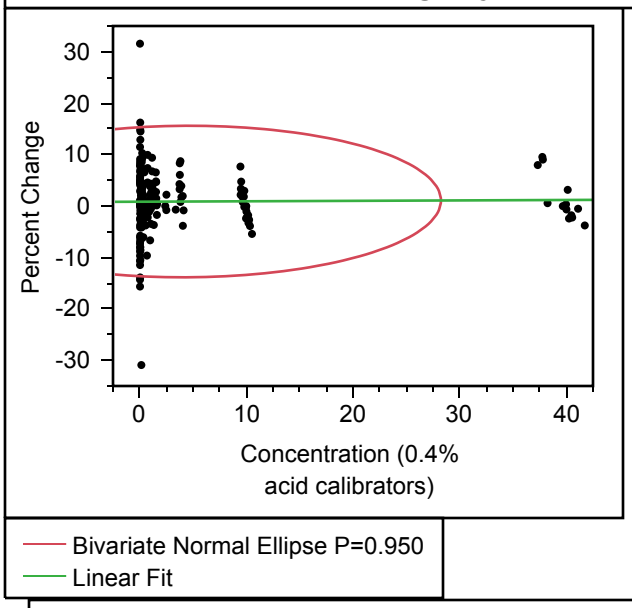
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	-2.001358	0.717858	-2.79	0.0060 *
Concentration (0.4% acid calibrators)	0.010872	0.024199	0.45	0.6539

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Sb

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Sb



Linear Fit

Percent Change = 0.8312128 + 0.0084562*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.000189
RSquare Adj	-0.00476
Root Mean Square Error	6.035109
Mean of Response	0.867758
Observations (or Sum Wgts)	204

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	1.3872	1.3872	0.0381
Error	202	7357.3538	36.4225	**Prob > F**
C. Total	203	7358.7411		0.8455

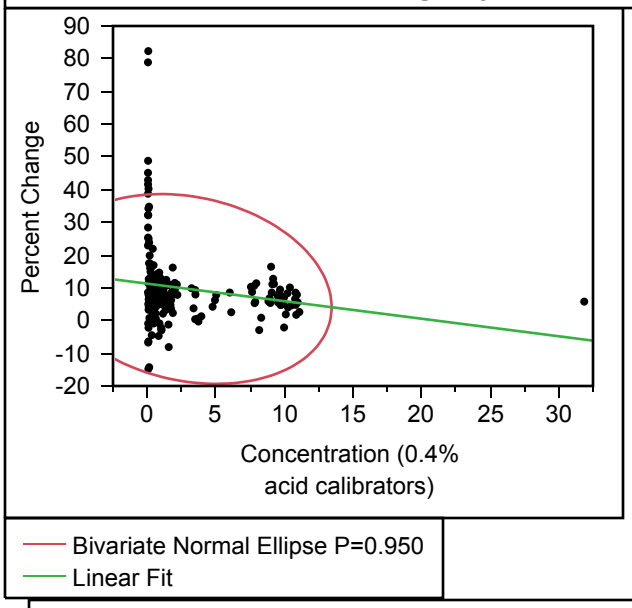
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	0.8312128	0.462177	1.80	0.0736
Concentration (0.4% acid calibrators)	0.0084562	0.043329	0.20	0.8455

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Se

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Se



Linear Fit

Percent Change = 11.272673 - 0.5357632*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.03705
RSquare Adj	0.03206
Root Mean Square Error	11.65615
Mean of Response	9.651909
Observations (or Sum Wgts)	195

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	1008.903	1008.90	7.4257
Error	193	26222.107	135.87	**Prob > F**
C. Total	194	27231.010		0.0070 *

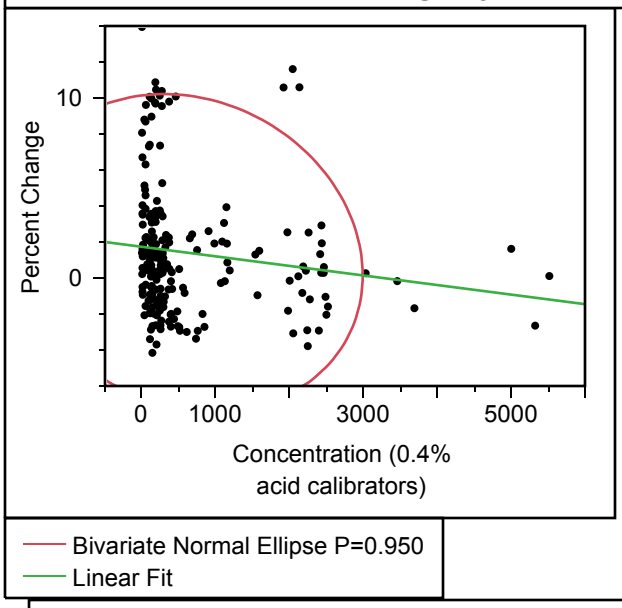
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	11.272673	1.02494	11.00	<.0001 *
Concentration (0.4% acid calibrators)	-0.535763	0.196609	-2.73	0.0070 *

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Sr

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Sr



Linear Fit

Percent Change = 1.7330269 - 0.0005311*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.020099
RSquare Adj	0.015388
Root Mean Square Error	3.577743
Mean of Response	1.395874
Observations (or Sum Wgts)	210

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	54.6095	54.6095	4.2663
Error	208	2662.4512	12.8002	**Prob > F**
C. Total	209	2717.0607		0.0401 *

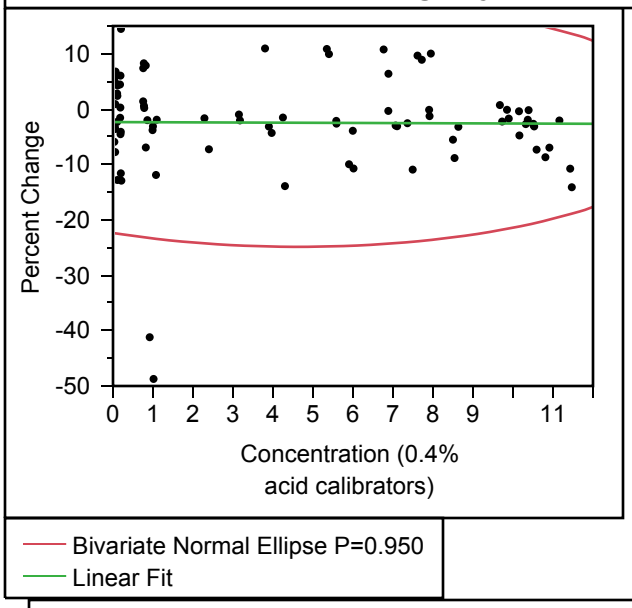
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	1.7330269	0.295969	5.86	<.0001 *
Concentration (0.4% acid calibrators)	-0.000531	0.000257	-2.07	0.0401 *

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Tl

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Tl



Linear Fit

Percent Change = -2.349052 - 0.0257874*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.000135
RSquare Adj	-0.01177
Root Mean Square Error	9.210402
Mean of Response	-2.46569
Observations (or Sum Wgts)	86

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	0.9620	0.9620	0.0113
Error	84	7125.8463	84.8315	**Prob > F**
C. Total	85	7126.8084		0.9154

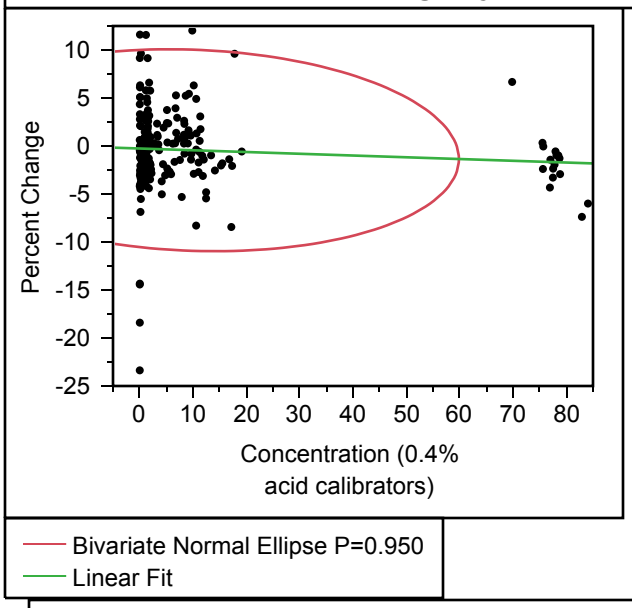
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	-2.349052	1.478551	-1.59	0.1159
Concentration (0.4% acid calibrators)	-0.025787	0.242153	-0.11	0.9154

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=U

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=U



Linear Fit

Percent Change = -0.262183 - 0.0182656*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.007555
RSquare Adj	0.002592
Root Mean Square Error	4.292728
Mean of Response	-0.44125
Observations (or Sum Wgts)	202

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	28.0542	28.0542	1.5224
Error	200	3685.5033	18.4275	**Prob > F**
C. Total	201	3713.5574		0.2187

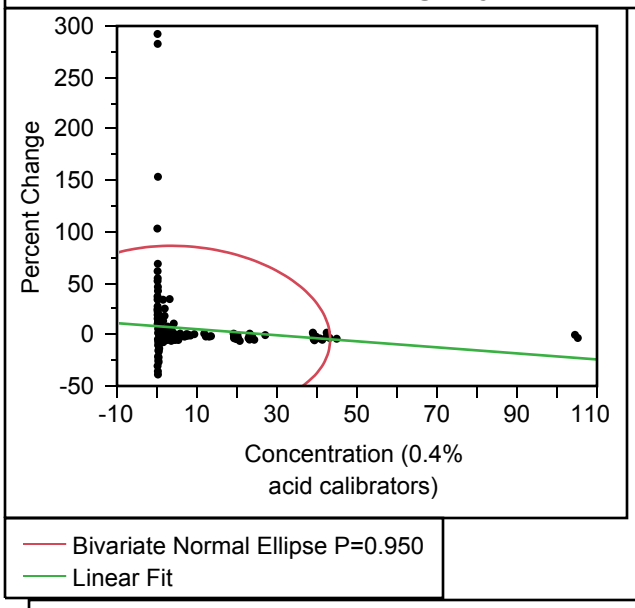
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	-0.262183	0.335092	-0.78	0.4349
Concentration (0.4% acid calibrators)	-0.018266	0.014804	-1.23	0.2187

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=V

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=V



Linear Fit

Percent Change = 8.1520657 - 0.2939003*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.016498
RSquare Adj	0.011881
Root Mean Square Error	32.71935
Mean of Response	5.774695
Observations (or Sum Wgts)	215

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	3825.15	3825.15	3.5731
Error	213	228028.34	1070.56	**Prob > F**
C. Total	214	231853.49		0.0601

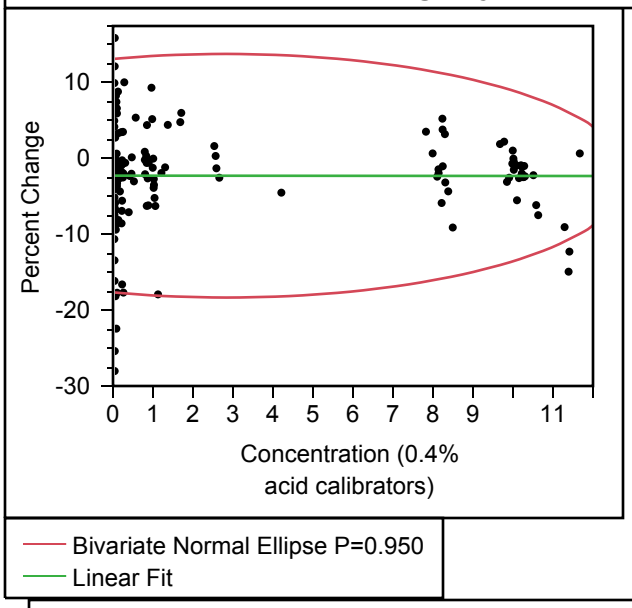
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	8.1520657	2.561472	3.18	0.0017 *
Concentration (0.4% acid calibrators)	-0.2939	0.155482	-1.89	0.0601

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=W

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=W



Linear Fit

Percent Change = -2.246574 - 0.003841*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	5.773e-6
RSquare Adj	-0.00653
Root Mean Square Error	6.588439
Mean of Response	-2.25743
Observations (or Sum Wgts)	155

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	0.0383	0.0383	0.0009
Error	153	6641.3516	43.4075	**Prob > F**
C. Total	154	6641.3900		0.9763

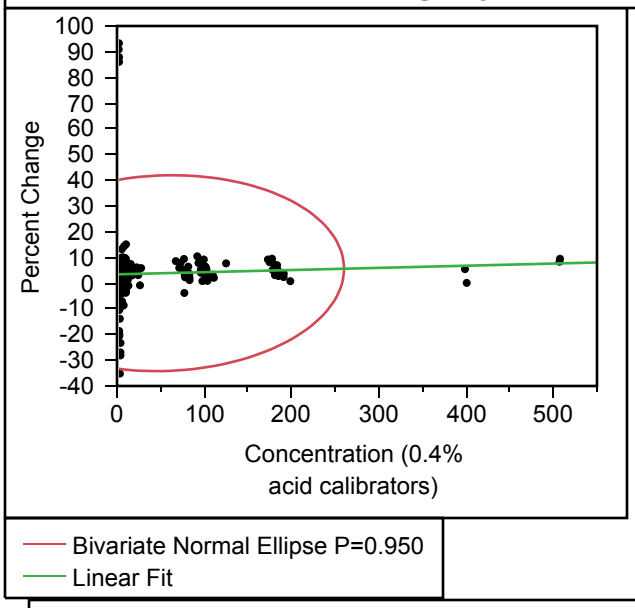
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	-2.246574	0.643028	-3.49	0.0006 *
Concentration (0.4% acid calibrators)	-0.003841	0.12924	-0.03	0.9763

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Zn

Report: Untitled 26

Bivariate Fit of Percent Change By Concentration (0.4% acid calibrators) Analyte=Zn



Linear Fit

Percent Change = 3.4168047 + 0.0083903*Concentration (0.4% acid calibrators)

Summary of Fit

RSquare	0.002062
RSquare Adj	-0.00399
Root Mean Square Error	15.59898
Mean of Response	3.869207
Observations (or Sum Wgts)	167

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	82.976	82.976	0.3410
Error	165	40149.149	243.328	**Prob > F**
C. Total	166	40232.124		0.5600

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	3.4168047	1.434311	2.38	0.0183 *
Concentration (0.4% acid calibrators)	0.0083903	0.014368	0.58	0.5600