APPENDIX 6.2

PORTABLE X-RAY FLUORESCENCE STATISITCAL ANALYSIS

Southern Chalk province t-tests – patinated vs unpatinated flint from Harrow Hill

t-Test: Two-Sample Assuming Unequal Variances		
SILICON		
	Variable 1	*Variable 2*
Mean	0.387093209	29
Variance	0.000797336	39
Observations	8	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-7.935762085	
P(T<=t) one-tail	0.007755255	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.01551051	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.008145252	0.6666667
Variance	3.84134E-05	1.3333333
Observations	8	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-0.987776786	
P(T<=t) one-tail	0.21369164	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.427383279	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
CHLORINE		
	Variable 1	*Variable 2*
Mean	0.015607753	2
Variance	2.76606E-06	0
Observations	8	3
Hypothesized Mean Difference	0	
df	7	
t Stat	-3374.752985	
P(T<=t) one-tail	2.64881E-23	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	5.29762E-23	
t Critical two-tail	2.364624252	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.009101545	1.3333333
Variance	5.73473E-05	2.3333333
Observations	8	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-1.501530791	
P(T<=t) one-tail	0.136021988	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.272043976	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
CALCIUM		
	Variable 1	*Variable 2*
Mean	0.041537901	6
Variance	8.17331E-05	7
Observations	8	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-3.900720545	
P(T<=t) one-tail	0.029939781	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.059879562	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.008606773	0.6666667
Variance	2.30195E-06	0.3333333
Observations	8	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-1.974177126	
P(T<=t) one-tail	0.093531649	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.187063298	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
MANGANESE		
	Variable 1	*Variable 2*
Mean	0.007385067	0.6666667
Variance	1.65893E-06	0.3333333
Observations	8	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-1.977842952	
P(T<=t) one-tail	0.093276153	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.186552305	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.027272081	7
Variance	2.31727E-05	21
Observations	8	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-2.635442888	
P(T<=t) one-tail	0.059424984	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.118849967	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.006107641	0.6666667
Variance	2.05835E-06	0.3333333
Observations	8	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-1.981674783	
P(T<=t) one-tail	0.093010089	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.186020178	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.006408219	0.3333333
Variance	2.24117E-06	0.3333333
Observations	8	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-0.980774106	
P(T<=t) one-tail	0.215060609	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.430121218	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.013271251	1.6666667
Variance	3.11739E-06	0.3333333
Observations	8	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-4.960177549	
P(T<=t) one-tail	0.019161792	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.038323584	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
STRONTIUM		
	Variable 1	*Variable 2*
Mean	0.007127668	1
Variance	2.08174E-06	0
Observations	8	3
Hypothesized Mean Difference	0	
df	7	
t Stat	-1946.367278	
P(T<=t) one-tail	1.24787E-21	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	2.49574E-21	
t Critical two-tail	2.364624252	

t-Test: Two-Sample Assuming Unequal Variances		
YTTRIUM		
	Variable 1	*Variable 2*
Mean	0.001179761	0.3333333
Variance	1.81582E-06	0.3333333
Observations	8	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-0.996459698	
P(T<=t) one-tail	0.212007404	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.424014808	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.02036246	2
Variance	0.000273561	12
Observations	8	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-0.989814539	
P(T<=t) one-tail	0.213295064	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.426590127	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.130169714	13.333333
Variance	0.000186649	2.3333333
Observations	8	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-14.9707558	
P(T<=t) one-tail	0.002216092	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.004432184	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.005639324	0.6666667
Variance	1.89782E-06	0.3333333
Observations	8	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-1.98307991	
P(T<=t) one-tail	0.09291278	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.18582556	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
YTTERBIUM		
	Variable 1	*Variable 2*
Mean	0.025726944	2.6666667
Variance	1.13291E-05	0.3333333
Observations	8	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-7.922768679	
P(T<=t) one-tail	0.007780122	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.015560244	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.003893147	0.3333333
Variance	1.69714E-06	0.3333333
Observations	8	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-0.988319615	
P(T<=t) one-tail	0.213585919	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.427171837	
t Critical two-tail	4.30265273	

Southern Chalk province t-tests – patinated vs unpatinated flint from Southwick Hill

t-Test: Two-Sample Assuming Unequal Variances		
SILICON		
	Variable 1	*Variable 2*
Mean	0.354154557	0.368680844
Variance	0.006204783	0.017225266
Observations	12	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-0.152028987	
P(T<=t) one-tail	0.451975412	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.903950823	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.010657434	0.011436081
Variance	2.88487E-05	1.37375E-06
Observations	12	2
Hypothesized Mean Difference	0	
df	10	
t Stat	-0.44288993	
P(T<=t) one-tail	0.333636071	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.667272141	
t Critical two-tail	2.228138852	

t-Test: Two-Sample Assuming Unequal Variances		
CHLORINE		
	Variable 1	*Variable 2*
Mean	0.018224369	0.014496359
Variance	1.21461E-05	4.90756E-07
Observations	12	2
Hypothesized Mean Difference	0	
df	10	
t Stat	3.32440336	
P(T<=t) one-tail	0.003845059	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.007690117	
t Critical two-tail	2.228138852	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.011702771	0.014950652
Variance	5.11821E-05	5.71464E-06
Observations	12	2
Hypothesized Mean Difference	0	
df	5	
t Stat	-1.216981785	
P(T<=t) one-tail	0.1389571	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.277914201	
t Critical two-tail	2.570581836	

t-Test: Two-Sample Assuming Unequal Variances		
CALCIUM		
	Variable 1	*Variable 2*
Mean	0.037057357	0.028962807
Variance	0.000185297	1.13452E-05
Observations	12	2
Hypothesized Mean Difference	0	
df	8	
t Stat	1.761600978	
P(T<=t) one-tail	0.058081613	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.116163226	
t Critical two-tail	2.306004135	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.008087764	0.010113521
Variance	1.07206E-05	2.62002E-06
Observations	12	2
Hypothesized Mean Difference	0	
df	3	
t Stat	-1.364712005	
P(T<=t) one-tail	0.13284416	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.265688321	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
MANGANESE		
	Variable 1	*Variable 2*
Mean	0.007477922	0.005948896
Variance	9.37075E-06	5.1601E-07
Observations	12	2
Hypothesized Mean Difference	0	
df	9	
t Stat	1.500125987	
P(T<=t) one-tail	0.08390931	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.16781862	
t Critical two-tail	2.262157163	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.030591163	0.127457508
Variance	7.02059E-05	0.021876442
Observations	12	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-0.925941297	
P(T<=t) one-tail	0.262234022	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.524468044	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.006129889	0.006398763
Variance	8.69199E-07	2.26785E-06
Observations	12	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-0.244799239	
P(T<=t) one-tail	0.42358084	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.84716168	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.0081709	0.00699462
Variance	4.72865E-06	6.03415E-06
Observations	12	2
Hypothesized Mean Difference	0	
df	1	
t Stat	0.636886432	
P(T<=t) one-tail	0.31948607	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.638972139	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.015320734	0.013052384
Variance	1.06494E-05	5.51166E-06
Observations	12	2
Hypothesized Mean Difference	0	
df	2	
t Stat	1.188402313	
P(T<=t) one-tail	0.178330498	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.356660997	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
STRONTIUM		
	Variable 1	*Variable 2*
Mean	0.005512958	0.003411402
Variance	5.67314E-06	1.33963E-05
Observations	12	2
Hypothesized Mean Difference	0	
df	1	
t Stat	0.784791162	
P(T<=t) one-tail	0.288197169	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.576394338	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.026185095	0.029278085
Variance	0.000235793	5.53598E-06
Observations	12	2
Hypothesized Mean Difference	0	
df	12	
t Stat	-0.653259792	
P(T<=t) one-tail	0.262953935	
t Critical one-tail	1.782287556	
P(T<=t) two-tail	0.525907871	
t Critical two-tail	2.17881283	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.131627985	0.107588695
Variance	0.000409596	6.98098E-05
Observations	12	2
Hypothesized Mean Difference	0	
df	4	
t Stat	2.893196143	
P(T<=t) one-tail	0.022210065	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.044420129	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
CERIUM		
	Variable 1	*Variable 2*
Mean	0.00154696	0.000870448
Variance	2.47421E-06	1.61309E-07
Observations	12	2
Hypothesized Mean Difference	0	
df	8	
t Stat	1.26315515	
P(T<=t) one-tail	0.121051221	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.242102442	
t Critical two-tail	2.306004135	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.005319875	0.003546951
Variance	3.2522E-06	1.59606E-09
Observations	12	2
Hypothesized Mean Difference	0	
df	11	
t Stat	3.400584384	
P(T<=t) one-tail	0.002961494	
t Critical one-tail	1.795884819	
P(T<=t) two-tail	0.005922988	
t Critical two-tail	2.20098516	

t-Test: Two-Sample Assuming Unequal Variances		
YTTERBIUM		
	Variable 1	*Variable 2*
Mean	0.027259932	0.020032503
Variance	3.71506E-05	3.22851E-06
Observations	12	2
Hypothesized Mean Difference	0	
df	6	
t Stat	3.330173202	
P(T<=t) one-tail	0.00790165	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.015803301	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.003299922	0.00380249
Variance	1.89266E-06	3.1125E-06
Observations	12	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-0.383878303	
P(T<=t) one-tail	0.383329375	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.76665875	
t Critical two-tail	12.70620474	

Southern Chalk province t-tests – patinated vs unpatinated flint from Dover Coast

t-Test: Two-Sample Assuming Unequal Variances		
SILICON		
	Variable 1	*Variable 2*
Mean	37.25	6.049170286
Variance	4.916666667	127.7032726
Observations	4	4
Hypothesized Mean Difference	0	
df	3	
t Stat	5.418657816	
P(T<=t) one-tail	0.006164878	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.012329755	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	1	0.259305138
Variance	0	0.243838155
Observations	4	4
Hypothesized Mean Difference	0	
df	3	
t Stat	2.999980939	
P(T<=t) one-tail	0.028834881	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.057669761	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
CHLORINE		
	Variable 1	*Variable 2*
Mean	1.5	0.263474369
Variance	0.333333333	0.241099255
Observations	4	4
Hypothesized Mean Difference	0	
df	6	
t Stat	3.262973778	
P(T<=t) one-tail	0.008592343	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.017184687	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	2.25	0.512371201
Variance	0.25	0.983574768
Observations	4	4
Hypothesized Mean Difference	0	
df	4	
t Stat	3.128990631	
P(T<=t) one-tail	0.017609769	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.035219537	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
CALCIUM		
	Variable 1	*Variable 2*
Mean	3	0.520983922
Variance	0.666666667	0.972220656
Observations	4	4
Hypothesized Mean Difference	0	
df	6	
t Stat	3.872886692	
P(T<=t) one-tail	0.004119138	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.008238277	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	1	0.257034572
Variance	0	0.245333709
Observations	4	4
Hypothesized Mean Difference	0	
df	3	
t Stat	2.999991256	
P(T<=t) one-tail	0.028834644	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.057669287	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
MANGANESE		
	Variable 1	*Variable 2*
Mean	0.75	0.004511191
Variance	0.25	1.06567E-05
Observations	4	4
Hypothesized Mean Difference	0	
df	3	
t Stat	2.98189168	
P(T<=t) one-tail	0.029254221	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.058508442	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	3.25	10.03336396
Variance	0.25	399.1110432
Observations	4	4
Hypothesized Mean Difference	0	
df	3	
t Stat	-0.67887883	
P(T<=t) one-tail	0.272948281	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.545896563	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	1	0.25470373
Variance	0	0.246875797
Observations	4	4
Hypothesized Mean Difference	0	
df	3	
t Stat	2.999989162	
P(T<=t) one-tail	0.028834692	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.057669384	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	1	0.004979477
Variance	0	2.39662E-05
Observations	4	4
Hypothesized Mean Difference	0	
df	3	
t Stat	406.5015768	
P(T<=t) one-tail	1.64151E-08	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	3.28303E-08	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	1.5	0.262134845
Variance	0.333333333	0.241977201
Observations	4	4
Hypothesized Mean Difference	0	
df	6	
t Stat	3.264015184	
P(T<=t) one-tail	0.008581148	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.017162295	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
STRONTIUM		
	Variable 1	*Variable 2*
Mean	1	0.002996284
Variance	0	4.118E-06
Observations	4	4
Hypothesized Mean Difference	0	
df	3	
t Stat	982.6153159	
P(T<=t) one-tail	1.16222E-09	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	2.32444E-09	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	4.5	0.773099925
Variance	0.333333333	2.204047834
Observations	4	4
Hypothesized Mean Difference	0	
df	4	
t Stat	4.679343084	
P(T<=t) one-tail	0.004726166	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.009452332	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	13	1.840251397
Variance	0	11.8324497
Observations	4	4
Hypothesized Mean Difference	0	
df	3	
t Stat	6.488541304	
P(T<=t) one-tail	0.003715836	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.007431671	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0	0.003468621
Variance	0	7.0077E-06
Observations	4	4
Hypothesized Mean Difference	0	
df	3	
t Stat	-2.62058969	
P(T<=t) one-tail	0.03948068	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.07896136	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
YTTERBIUM		
	Variable 1	*Variable 2*
Mean	2	0.267656215
Variance	0	0.238370677
Observations	4	4
Hypothesized Mean Difference	0	
df	3	
t Stat	7.096393073	
P(T<=t) one-tail	0.0028782	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.005756401	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0	0.002668973
Variance	0	4.94544E-06
Observations	4	4
Hypothesized Mean Difference	0	
df	3	
t Stat	-2.40033348	
P(T<=t) one-tail	0.047922868	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.095845736	
t Critical two-tail	3.182446305	

Southern Chalk province t-tests – patinated vs unpatinated flint from Salisbury Plain/Pewsey

t-Test: Two-Sample Assuming Unequal Variances		
SILICON		
	Variable 1	*Variable 2*
Mean	0.413494216	0.374030051
Variance	0.00014637	0.002843414
Observations	3	3
Hypothesized Mean Difference	0	
df	2	
t Stat	1.250096826	
P(T<=t) one-tail	0.168852512	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.337705023	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.012111428	0.012673072
Variance	1.0891E-07	3.72759E-07
Observations	3	3
Hypothesized Mean Difference	0	
df	3	
t Stat	-1.40167488	
P(T<=t) one-tail	0.12777867	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.255557341	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
CHLORINE		
	Variable 1	*Variable 2*
Mean	0.017426756	0.016867398
Variance	7.1536E-07	7.78588E-07
Observations	3	3
Hypothesized Mean Difference	0	
df	4	
t Stat	0.792651224	
P(T<=t) one-tail	0.236171112	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.472342224	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.016467231	0.019106911
Variance	1.3064E-07	9.15694E-06
Observations	3	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-1.50023995	
P(T<=t) one-tail	0.136169179	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.272338358	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
CALCIUM		
	Variable 1	*Variable 2*
Mean	0.031653905	0.034729028
Variance	6.26695E-06	3.7819E-05
Observations	3	3
Hypothesized Mean Difference	0	
df	3	
t Stat	-0.80218263	
P(T<=t) one-tail	0.24055507	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.481110139	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.010760917	0.011672764
Variance	5.22479E-07	1.7291E-06
Observations	3	3
Hypothesized Mean Difference	0	
df	3	
t Stat	-1.05254183	
P(T<=t) one-tail	0.18492096	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.36984192	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
MANGANESE		
	Variable 1	*Variable 2*
Mean	0.006586319	0.007715764
Variance	3.01516E-06	7.25044E-07
Observations	3	3
Hypothesized Mean Difference	0	
df	3	
t Stat	-1.01152882	
P(T<=t) one-tail	0.193131258	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.386262516	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.034395029	0.058879338
Variance	1.85833E-06	0.000647874
Observations	3	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-1.66372359	
P(T<=t) one-tail	0.119035823	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.238071646	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.006983568	0.006255718
Variance	3.9081E-06	1.35883E-07
Observations	3	3
Hypothesized Mean Difference	0	
df	2	
t Stat	0.626899773	
P(T<=t) one-tail	0.297373396	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.594746792	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.008461081	0.007234162
Variance	3.33644E-07	2.21762E-06
Observations	3	3
Hypothesized Mean Difference	0	
df	3	
t Stat	1.330452341	
P(T<=t) one-tail	0.137730666	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.275461333	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.014921926	0.013734702
Variance	1.16883E-06	6.24431E-07
Observations	3	3
Hypothesized Mean Difference	0	
df	4	
t Stat	1.535576987	
P(T<=t) one-tail	0.0997205	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.199441001	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
STRONTIUM		
	Variable 1	*Variable 2*
Mean	0.004948127	0.006905058
Variance	3.94392E-08	9.15438E-07
Observations	3	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-3.46866638	
P(T<=t) one-tail	0.037002956	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.074005912	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.030841056	0.034215469
Variance	2.95145E-06	2.85642E-06
Observations	3	3
Hypothesized Mean Difference	0	
df	4	
t Stat	-2.42521695	
P(T<=t) one-tail	0.036176923	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.072353846	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.118004937	0.111525199
Variance	1.79484E-05	0.000239548
Observations	3	3
Hypothesized Mean Difference	0	
df	2	
t Stat	0.699410818	
P(T<=t) one-tail	0.278346501	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.556693002	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.003913199	0.004244394
Variance	1.59157E-06	5.07841E-07
Observations	3	3
Hypothesized Mean Difference	0	
df	3	
t Stat	-0.39590935	
P(T<=t) one-tail	0.359324103	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.718648206	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
YTTERBIUM		
	Variable 1	*Variable 2*
Mean	0.020862979	0.023535139
Variance	3.84929E-06	4.93366E-07
Observations	3	3
Hypothesized Mean Difference	0	
df	3	
t Stat	-2.22098337	
P(T<=t) one-tail	0.056469872	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.112939745	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.003419121	0.003559625
Variance	3.71072E-07	3.39557E-06
Observations	3	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-0.12539297	
P(T<=t) one-tail	0.455840135	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.911680269	
t Critical two-tail	4.30265273	

Northern Ireland Chalk formation t-tests – patinated vs unpatinated flint from White Park Bay

t-Test: Two-Sample Assuming Unequal Variances		
SILICON		
	Variable 1	*Variable 2*
Mean	0.33243784	0.221371625
Variance	0.001166407	0.005237444
Observations	12	2
Hypothesized Mean Difference	0	
df	1	
t Stat	2.131195431	
P(T<=t) one-tail	0.139649552	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.279299104	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
CHLORINE		
	Variable 1	*Variable 2*
Mean	0.016238743	0.021138419
Variance	8.34001E-06	4.32869E-05
Observations	12	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-1.03667094	
P(T<=t) one-tail	0.244269343	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.488538687	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
CALCIUM		
	Variable 1	*Variable 2*
Mean	0.139233179	0.083657349
Variance	0.002684942	0.004044496
Observations	12	2
Hypothesized Mean Difference	0	
df	1	
t Stat	1.172685976	
P(T<=t) one-tail	0.224753671	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.449507343	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.00524607	0.003685897
Variance	1.09257E-06	6.11472E-06
Observations	12	2
Hypothesized Mean Difference	0	
df	1	
t Stat	0.879280304	
P(T<=t) one-tail	0.270419279	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.540838558	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
MANGANESE		
	Variable 1	*Variable 2*
Mean	0.007498561	0.005072354
Variance	2.44464E-06	9.05006E-08
Observations	12	2
Hypothesized Mean Difference	0	
df	11	
t Stat	4.862439279	
P(T<=t) one-tail	0.000250357	
t Critical one-tail	1.795884819	
P(T<=t) two-tail	0.000500714	
t Critical two-tail	2.20098516	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.028210335	0.097968518
Variance	0.000537761	0.001669426
Observations	12	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-2.35218072	
P(T<=t) one-tail	0.127956443	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.255912886	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.005057445	0.005793413
Variance	8.73943E-07	2.23824E-06
Observations	12	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-0.67410987	
P(T<=t) one-tail	0.311198342	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.622396684	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.00805161	0.013096766
Variance	4.59082E-06	1.72473E-05
Observations	12	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-1.68113702	
P(T<=t) one-tail	0.17080936	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.34161872	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.01094033	0.015329025
Variance	5.58384E-06	6.23622E-06
Observations	12	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-2.31838697	
P(T<=t) one-tail	0.129623318	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.259246637	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
STRONTIUM		
	Variable 1	*Variable 2*
Mean	0.011056674	0.008826735
Variance	4.89361E-06	1.19069E-07
Observations	12	2
Hypothesized Mean Difference	0	
df	12	
t Stat	3.26196053	
P(T<=t) one-tail	0.003401932	
t Critical one-tail	1.782287556	
P(T<=t) two-tail	0.006803864	
t Critical two-tail	2.17881283	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.124926154	0.140071085
Variance	0.000110941	8.43245E-05
Observations	12	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-2.1122958	
P(T<=t) one-tail	0.140743014	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.281486028	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.00590883	0.006140332
Variance	1.49569E-06	4.07101E-07
Observations	12	2
Hypothesized Mean Difference	0	
df	3	
t Stat	-0.40410261	
P(T<=t) one-tail	0.356609901	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.713219802	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
YTTERBIUM		
	Variable 1	*Variable 2*
Mean	0.024756278	0.027941282
Variance	1.03837E-05	1.07522E-06
Observations	12	2
Hypothesized Mean Difference	0	
df	6	
t Stat	-2.68901526	
P(T<=t) one-tail	0.018049986	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.036099973	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.003250233	0.001548829
Variance	2.06617E-06	8.21541E-07
Observations	12	2
Hypothesized Mean Difference	0	
df	2	
t Stat	2.228390431	
P(T<=t) one-tail	0.077838951	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.155677901	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
URANIUM		
	Variable 1	*Variable 2*
Mean	0.002803867	0.002871364
Variance	1.35802E-06	7.92946E-07
Observations	12	2
Hypothesized Mean Difference	0	
df	2	
t Stat	-0.09454771	
P(T<=t) one-tail	0.466646791	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.933293581	
t Critical two-tail	4.30265273	

Northern Ireland Chalk province t-tests – patinated vs unpatinated flint from White Rocks

t-Test: Two-Sample Assuming Unequal Variances		
SILICON		
	Variable 1	*Variable 2*
Mean	0.372848207	0.321373836
Variance	0.001702402	0.010096903
Observations	5	4
Hypothesized Mean Difference	0	
df	4	
t Stat	0.961725232	
P(T<=t) one-tail	0.195324647	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.390649294	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.013761619	0.009678552
Variance	5.73205E-06	7.87508E-06
Observations	5	4
Hypothesized Mean Difference	0	
df	6	
t Stat	2.313369036	
P(T<=t) one-tail	0.029995655	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.05999131	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
CHLORINE		
	Variable 1	*Variable 2*
Mean	0.01925675	0.013146447
Variance	4.23803E-06	9.13033E-06
Observations	5	4
Hypothesized Mean Difference	0	
df	5	
t Stat	3.453643368	
P(T<=t) one-tail	0.009083099	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.018166198	
t Critical two-tail	2.570581836	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.016374687	0.011737425
Variance	2.10309E-06	9.81947E-06
Observations	5	4
Hypothesized Mean Difference	0	
df	4	
t Stat	2.734677365	
P(T<=t) one-tail	0.026095394	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.052190788	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
CALCIUM		
	Variable 1	*Variable 2*
Mean	0.027254235	0.019706096
Variance	1.1584E-05	1.91326E-05
Observations	5	4
Hypothesized Mean Difference	0	
df	6	
t Stat	2.832777212	
P(T<=t) one-tail	0.014924338	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.029848677	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.0085987	0.00680709
Variance	8.46411E-07	2.5559E-06
Observations	5	4
Hypothesized Mean Difference	0	
df	5	
t Stat	1.992822919	
P(T<=t) one-tail	0.05143914	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.10287828	
t Critical two-tail	2.570581836	

t-Test: Two-Sample Assuming Unequal Variances		
MANGANESE		
	Variable 1	*Variable 2*
Mean	0.007301	0.005124948
Variance	4.59871E-06	5.26303E-07
Observations	5	4
Hypothesized Mean Difference	0	
df	5	
t Stat	2.122276782	
P(T<=t) one-tail	0.043626755	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.087253509	
t Critical two-tail	2.570581836	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.054374538	0.23616061
Variance	0.000175642	0.045723374
Observations	5	4
Hypothesized Mean Difference	0	
df	3	
t Stat	-1.69767741	
P(T<=t) one-tail	0.094067082	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.188134165	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.00734926	0.010044809
Variance	8.81753E-07	1.45343E-05
Observations	5	4
Hypothesized Mean Difference	0	
df	3	
t Stat	-1.38098701	
P(T<=t) one-tail	0.130587793	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.261175587	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.007677208	0.005792339
Variance	2.27758E-06	2.58546E-05
Observations	5	4
Hypothesized Mean Difference	0	
df	3	
t Stat	0.716563044	
P(T<=t) one-tail	0.262695092	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.525390184	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.014725209	0.012150584
Variance	3.75107E-06	1.22585E-05
Observations	5	4
Hypothesized Mean Difference	0	
df	4	
t Stat	1.318181394	
P(T<=t) one-tail	0.128929928	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.257859855	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
STRONTIUM		
	Variable 1	*Variable 2*
Mean	0.004057451	0.004038844
Variance	1.83856E-06	4.53243E-07
Observations	5	4
Hypothesized Mean Difference	0	
df	6	
t Stat	0.026828196	
P(T<=t) one-tail	0.489733407	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.979466814	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
YTTRIUM		
	Variable 1	*Variable 2*
Mean	0.003300208	0.003756817
Variance	1.30514E-06	2.87451E-06
Observations	5	4
Hypothesized Mean Difference	0	
df	5	
t Stat	-0.46132492	
P(T<=t) one-tail	0.331969545	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.663939091	
t Critical two-tail	2.570581836	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.035935002	0.025646572
Variance	3.94802E-05	5.90186E-05
Observations	5	4
Hypothesized Mean Difference	0	
df	6	
t Stat	2.161764274	
P(T<=t) one-tail	0.03694838	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.07389676	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.113024071	0.094912768
Variance	0.000159523	0.000946359
Observations	5	4
Hypothesized Mean Difference	0	
df	4	
t Stat	1.105304845	
P(T<=t) one-tail	0.165517251	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.331034503	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.005161409	0.003576556
Variance	1.05205E-06	3.18482E-06
Observations	5	4
Hypothesized Mean Difference	0	
df	5	
t Stat	1.579634997	
P(T<=t) one-tail	0.087513213	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.175026427	
t Critical two-tail	2.570581836	

t-Test: Two-Sample Assuming Unequal Variances		
YTTERBIUM		
	Variable 1	*Variable 2*
Mean	0.024872133	0.016114856
Variance	1.1463E-05	2.18439E-05
Observations	5	4
Hypothesized Mean Difference	0	
df	5	
t Stat	3.144983003	
P(T<=t) one-tail	0.012761343	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.025522686	
t Critical two-tail	2.570581836	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.003889009	0.003448842
Variance	9.34231E-07	3.84724E-06
Observations	5	4
Hypothesized Mean Difference	0	
df	4	
t Stat	0.410697898	
P(T<=t) one-tail	0.351171019	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.702342037	
t Critical two-tail	2.776445105	

Northern Chalk province t-tests – Chalk flint vs Wolds flint

t-Test: Two-Sample Assuming Unequal Variances		
SILICON		
	Variable 1	*Variable 2*
Mean	0.390938372	0.239098693
Variance	0.015165892	0.00666124
Observations	25	29
Hypothesized Mean Difference	0	
df	41	
t Stat	5.250437618	
P(T<=t) one-tail	2.49735E-06	
t Critical one-tail	1.682878002	
P(T<=t) two-tail	4.9947E-06	
t Critical two-tail	2.01954097	

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.002391337	0.000959108
Variance	1.84473E-06	1.54854E-06
Observations	25	29
Hypothesized Mean Difference	0	
df	49	
t Stat	4.015967525	
P(T<=t) one-tail	0.000101451	
t Critical one-tail	1.676550893	
P(T<=t) two-tail	0.000202903	
t Critical two-tail	2.009575237	

t-Test: Two-Sample Assuming Unequal Variances		
CHLORINE		
	Variable 1	*Variable 2*
Mean	0.039467311	0.027505395
Variance	0.000224122	6.22033E-05
Observations	25	29
Hypothesized Mean Difference	0	
df	35	
t Stat	3.588779988	
P(T<=t) one-tail	0.00050332	
t Critical one-tail	1.689572458	
P(T<=t) two-tail	0.00100664	
t Critical two-tail	2.030107928	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.002024388	0.000756315
Variance	1.21486E-05	1.84461E-06
Observations	25	29
Hypothesized Mean Difference	0	
df	30	
t Stat	1.710567128	
P(T<=t) one-tail	0.048742477	
t Critical one-tail	1.697260887	
P(T<=t) two-tail	0.097484954	
t Critical two-tail	2.042272456	

t-Test: Two-Sample Assuming Unequal Variances		
CALCIUM		
	Variable 1	*Variable 2*
Mean	0.113036621	0.081919008
Variance	0.002589077	0.004598525
Observations	25	29
Hypothesized Mean Difference	0	
df	51	
t Stat	1.921965084	
P(T<=t) one-tail	0.030102767	
t Critical one-tail	1.67528495	
P(T<=t) two-tail	0.060205533	
t Critical two-tail	2.00758377	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.003291707	0.002845959
Variance	6.804E-06	5.52769E-06
Observations	25	29
Hypothesized Mean Difference	0	
df	49	
t Stat	0.655249673	
P(T<=t) one-tail	0.257685808	
t Critical one-tail	1.676550893	
P(T<=t) two-tail	0.515371617	
t Critical two-tail	2.009575237	

t-Test: Two-Sample Assuming Unequal Variances		
CHROMIUM		
	Variable 1	*Variable 2*
Mean	0.000761656	0.000469413
Variance	5.43535E-06	3.18127E-06
Observations	25	29
Hypothesized Mean Difference	0	
df	45	
t Stat	0.510969934	
P(T<=t) one-tail	0.30593501	
t Critical one-tail	1.679427393	
P(T<=t) two-tail	0.611870019	
t Critical two-tail	2.014103389	

t-Test: Two-Sample Assuming Unequal Variances		
MANGANESE		
	Variable 1	*Variable 2*
Mean	0.01347733	0.029840607
Variance	4.1803E-05	0.002775554
Observations	25	29
Hypothesized Mean Difference	0	
df	29	
t Stat	-1.6581868	
P(T<=t) one-tail	0.054029666	
t Critical one-tail	1.699127027	
P(T<=t) two-tail	0.108059332	
t Critical two-tail	2.045229642	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.071528224	0.105174722
Variance	0.002502438	0.005136388
Observations	25	29
Hypothesized Mean Difference	0	
df	50	
t Stat	-2.02084043	
P(T<=t) one-tail	0.024333824	
t Critical one-tail	1.675905025	
P(T<=t) two-tail	0.048667648	
t Critical two-tail	2.008559112	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.00835102	0.006193574
Variance	3.57626E-06	3.59594E-06
Observations	25	29
Hypothesized Mean Difference	0	
df	51	
t Stat	4.174889783	
P(T<=t) one-tail	5.81922E-05	
t Critical one-tail	1.67528495	
P(T<=t) two-tail	0.000116384	
t Critical two-tail	2.00758377	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	1.98163E-05	0.004812073
Variance	1.16325E-09	7.23511E-06
Observations	25	29
Hypothesized Mean Difference	0	
df	28	
t Stat	-9.59347555	
P(T<=t) one-tail	1.19327E-10	
t Critical one-tail	1.701130934	
P(T<=t) two-tail	2.38655E-10	
t Critical two-tail	2.048407142	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.007066716	0.015125971
Variance	0.000129715	5.36937E-05
Observations	25	29
Hypothesized Mean Difference	0	
df	40	
t Stat	-3.03742664	
P(T<=t) one-tail	0.00209412	
t Critical one-tail	1.683851013	
P(T<=t) two-tail	0.00418824	
t Critical two-tail	2.02107539	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.00803793	0.002757929
Variance	4.9655E-06	9.16238E-07
Observations	25	29
Hypothesized Mean Difference	0	
df	32	
t Stat	11.00443341	
P(T<=t) one-tail	1.03622E-12	
t Critical one-tail	1.693888748	
P(T<=t) two-tail	2.07243E-12	
t Critical two-tail	2.036933343	

t-Test: Two-Sample Assuming Unequal Variances		
STRONTIUM		
	Variable 1	*Variable 2*
Mean	0.000257171	0.009875726
Variance	4.44583E-08	2.95375E-05
Observations	25	29
Hypothesized Mean Difference	0	
df	28	
t Stat	-9.52233331	
P(T<=t) one-tail	1.40189E-10	
t Critical one-tail	1.701130934	
P(T<=t) two-tail	2.80378E-10	
t Critical two-tail	2.048407142	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	9.47586E-05	0.130695088
Variance	2.48178E-09	0.000305143
Observations	25	29
Hypothesized Mean Difference	0	
df	28	
t Stat	-40.261457	
P(T<=t) one-tail	1.24768E-26	
t Critical one-tail	1.701130934	
P(T<=t) two-tail	2.49535E-26	
t Critical two-tail	2.048407142	

t-Test: Two-Sample Assuming Unequal Variances		
CERIUM		
	Variable 1	*Variable 2*
Mean	0.00528351	0.001675339
Variance	2.06581E-05	2.75831E-06
Observations	25	29
Hypothesized Mean Difference	0	
df	30	
t Stat	3.758845528	
P(T<=t) one-tail	0.000368725	
t Critical one-tail	1.697260887	
P(T<=t) two-tail	0.00073745	
t Critical two-tail	2.042272456	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.010787421	0.004560263
Variance	9.41326E-06	4.44957E-06
Observations	25	29
Hypothesized Mean Difference	0	
df	42	
t Stat	8.553950044	
P(T<=t) one-tail	4.78418E-11	
t Critical one-tail	1.681952357	
P(T<=t) two-tail	9.56835E-11	
t Critical two-tail	2.018081703	

t-Test: Two-Sample Assuming Unequal Variances		
YTTERBIUM		
	Variable 1	*Variable 2*
Mean	0.016800158	0.028400388
Variance	4.167E-05	1.97461E-05
Observations	25	29
Hypothesized Mean Difference	0	
df	42	
t Stat	-7.57086393	
P(T<=t) one-tail	1.12138E-09	
t Critical one-tail	1.681952357	
P(T<=t) two-tail	2.24276E-09	
t Critical two-tail	2.018081703	

t-Test: Two-Sample Assuming Unequal Variances		
THORIUM		
	Variable 1	*Variable 2*
Mean	0.002777887	0.003524267
Variance	1.47465E-06	2.28746E-06
Observations	25	29
Hypothesized Mean Difference	0	
df	52	
t Stat	-2.01017682	
P(T<=t) one-tail	0.024806457	
t Critical one-tail	1.674689154	
P(T<=t) two-tail	0.049612914	
t Critical two-tail	2.006646805	

Northern Chalk province t-tests – Yorkshire Wolds flint vs Lincolnshire Wolds flint

t-Test: Two-Sample Assuming Unequal Variances		
SILICON		
	Variable 1	*Variable 2*
Mean	0.33314494	0.41813528
Variance	0.02671014	0.008607209
Observations	8	17
Hypothesized Mean Difference	0	
df	9	
t Stat	-1.370620477	
P(T<=t) one-tail	0.101851536	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.203703072	
t Critical two-tail	2.262157163	

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.003257974	0.001983507
Variance	3.88178E-06	5.16573E-07
Observations	8	17
Hypothesized Mean Difference	0	
df	8	
t Stat	1.774877728	
P(T<=t) one-tail	0.056918206	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.113836412	
t Critical two-tail	2.306004135	

t-Test: Two-Sample Assuming Unequal Variances		
CHLORINE		
	Variable 1	*Variable 2*
Mean	0.051934785	0.033600264
Variance	0.000218236	0.000126413
Observations	8	17
Hypothesized Mean Difference	0	
df	11	
t Stat	3.111768641	
P(T<=t) one-tail	0.0049471	
t Critical one-tail	1.795884819	
P(T<=t) two-tail	0.0098942	
t Critical two-tail	2.20098516	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	8.65156E-05	0.002936327
Variance	3.9798E-08	1.54442E-05
Observations	8	17
Hypothesized Mean Difference	0	
df	16	
t Stat	-2.981755965	
P(T<=t) one-tail	0.004404142	
t Critical one-tail	1.745883676	
P(T<=t) two-tail	0.008808284	
t Critical two-tail	2.119905299	

t-Test: Two-Sample Assuming Unequal Variances		
CALCIUM		
	Variable 1	*Variable 2*
Mean	0.100975597	0.118712396
Variance	0.00080732	0.003423451
Observations	8	17
Hypothesized Mean Difference	0	
df	23	
t Stat	-1.020140716	
P(T<=t) one-tail	0.159136489	
t Critical one-tail	1.713871528	
P(T<=t) two-tail	0.318272978	
t Critical two-tail	2.06865761	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.001933777	0.003930733
Variance	3.40291E-06	7.36136E-06
Observations	8	17
Hypothesized Mean Difference	0	
df	20	
t Stat	-2.155397506	
P(T<=t) one-tail	0.021746331	
t Critical one-tail	1.724718243	
P(T<=t) two-tail	0.043492661	
t Critical two-tail	2.085963447	

t-Test: Two-Sample Assuming Unequal Variances		
CHROMIUM		
	Variable 1	*Variable 2*
Mean	0.00237985	1.53411E-07
Variance	1.4233E-05	6.89375E-10
Observations	8	17
Hypothesized Mean Difference	0	
df	7	
t Stat	1.784077687	
P(T<=t) one-tail	0.058795905	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	0.117591809	
t Critical two-tail	2.364624252	

t-Test: Two-Sample Assuming Unequal Variances		
MANGANESE		
	Variable 1	*Variable 2*
Mean	0.008266768	0.01592936
Variance	4.85798E-05	2.14876E-05
Observations	8	17
Hypothesized Mean Difference	0	
df	10	
t Stat	-2.828998303	
P(T<=t) one-tail	0.008941299	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.017882598	
t Critical two-tail	2.228138852	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.057158211	0.078290583
Variance	0.001181741	0.003084809
Observations	8	17
Hypothesized Mean Difference	0	
df	21	
t Stat	-1.164752154	
P(T<=t) one-tail	0.128590326	
t Critical one-tail	1.720742903	
P(T<=t) two-tail	0.257180652	
t Critical two-tail	2.079613845	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.007665735	0.008673507
Variance	2.88934E-06	3.755E-06
Observations	8	17
Hypothesized Mean Difference	0	
df	16	
t Stat	-1.320938017	
P(T<=t) one-tail	0.102551864	
t Critical one-tail	1.745883676	
P(T<=t) two-tail	0.205103727	
t Critical two-tail	2.119905299	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.015888461	0.002915306
Variance	0.000277227	1.6062E-05
Observations	8	17
Hypothesized Mean Difference	0	
df	7	
t Stat	2.174359531	
P(T<=t) one-tail	0.033094811	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	0.066189622	
t Critical two-tail	2.364624252	

t-Test: Two-Sample Assuming Unequal Variances		
ZINC		
	Variable 1	*Variable 2*
Mean	0.006786937	0.008626633
Variance	8.4278E-06	2.61037E-06
Observations	8	17
Hypothesized Mean Difference	0	
df	9	
t Stat	-1.674509747	
P(T<=t) one-tail	0.064176858	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.128353717	
t Critical two-tail	2.262157163	

t-Test: Two-Sample Assuming Unequal Variances		
CERIUM		
	Variable 1	*Variable 2*
Mean	0.009049312	0.003511369
Variance	3.49751E-05	5.25808E-06
Observations	8	17
Hypothesized Mean Difference	0	
df	8	
t Stat	2.55959088	
P(T<=t) one-tail	0.016834198	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.033668396	
t Critical two-tail	2.306004135	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.009268561	0.011502179
Variance	1.66009E-05	5.16073E-06
Observations	8	17
Hypothesized Mean Difference	0	
df	9	
t Stat	-1.448240285	
P(T<=t) one-tail	0.090737384	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.181474769	
t Critical two-tail	2.262157163	

t-Test: Two-Sample Assuming Unequal Variances		
YTTERBIUM		
	Variable 1	*Variable 2*
Mean	0.021991522	0.014357164
Variance	5.40971E-05	1.90211E-05
Observations	8	17
Hypothesized Mean Difference	0	
df	9	
t Stat	2.719449823	
P(T<=t) one-tail	0.011814543	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.023629086	
t Critical two-tail	2.262157163	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.002295901	0.004135052
Variance	8.59218E-06	3.62239E-06
Observations	8	17
Hypothesized Mean Difference	0	
df	10	
t Stat	-1.621103269	
P(T<=t) one-tail	0.06803118	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.136062361	
t Critical two-tail	2.228138852	

t-Test: Two-Sample Assuming Unequal Variances		
THORIUM		
	Variable 1	*Variable 2*
Mean	0.003554619	0.002412367
Variance	1.74896E-06	1.00319E-06
Observations	8	17
Hypothesized Mean Difference	0	
df	11	
t Stat	2.167842869	
P(T<=t) one-tail	0.026487906	
t Critical one-tail	1.795884819	
P(T<=t) two-tail	0.052975813	
t Critical two-tail	2.20098516	

t-Test: Two-Sample Assuming Unequal Variances		
URANIUM		
	Variable 1	*Variable 2*
Mean	0.003360713	0.002917683
Variance	1.44057E-06	5.24692E-07
Observations	8	17
Hypothesized Mean Difference	0	
df	9	
t Stat	0.964624766	
P(T<=t) one-tail	0.179967428	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.359934857	
t Critical two-tail	2.262157163	

Southern Chalk province t-tests – South Downs vs North Downs

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.012870172	0.005613896
Variance	7.25104E-07	3.49943E-05
Observations	5	7
Hypothesized Mean Difference	0	
df	6	
t Stat	3.199298236	
P(T<=t) one-tail	0.009308267	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.018616533	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.009444338	0.007341486
Variance	1.29015E-06	3.68668E-06
Observations	5	7
Hypothesized Mean Difference	0	
df	10	
t Stat	2.373870698	
P(T<=t) one-tail	0.019509292	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.039018584	
t Critical two-tail	2.228138852	

t-Test: Two-Sample Assuming Unequal Variances		
MANGANESE		
	Variable 1	*Variable 2*
Mean	0.006334792	0.006853978
Variance	1.42809E-06	9.55751E-07
Observations	5	7
Hypothesized Mean Difference	0	
df	8	
t Stat	-0.79907389	
P(T<=t) one-tail	0.223660061	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.447320122	
t Critical two-tail	2.306004135	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.040682119	0.039721359
Variance	0.000504451	0.001075578
Observations	5	7
Hypothesized Mean Difference	0	
df	10	
t Stat	0.060218963	
P(T<=t) one-tail	0.476583864	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.953167728	
t Critical two-tail	2.228138852	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.006961988	0.006079994
Variance	4.66121E-07	8.7967E-08
Observations	5	7
Hypothesized Mean Difference	0	
df	5	
t Stat	2.711700337	
P(T<=t) one-tail	0.021095246	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.042190492	
t Critical two-tail	2.570581836	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.007299474	0.007930645
Variance	1.19126E-06	1.22841E-06
Observations	5	7
Hypothesized Mean Difference	0	
df	9	
t Stat	-0.98125888	
P(T<=t) one-tail	0.176052652	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.352105305	
t Critical two-tail	2.262157163	

t-Test: Two-Sample Assuming Unequal Variances		
STRONTIUM		
	Variable 1	*Variable 2*
Mean	0.00589116	0.00673545
Variance	2.05335E-06	6.40688E-07
Observations	5	7
Hypothesized Mean Difference	0	
df	6	
t Stat	-1.19139281	
P(T<=t) one-tail	0.13924274	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.278485479	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.038105351	0.013454673
Variance	2.26248E-05	0.000274155
Observations	5	7
Hypothesized Mean Difference	0	
df	7	
t Stat	3.729389337	
P(T<=t) one-tail	0.003682318	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	0.007364635	
t Critical two-tail	2.364624252	

Southern Chalk province t-tests – South Downs vs Southwestern Chalk

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.000511173	0.005613896
Variance	4.33957E-09	3.49943E-05
Observations	2	7
Hypothesized Mean Difference	0	
df	6	
t Stat	-2.281698478	
P(T<=t) one-tail	0.03132677	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.06265354	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.005569966	0.007341486
Variance	3.2124E-07	3.68668E-06
Observations	2	7
Hypothesized Mean Difference	0	
df	7	
t Stat	-2.136861066	
P(T<=t) one-tail	0.034978911	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	0.069957823	
t Critical two-tail	2.364624252	

t-Test: Two-Sample Assuming Unequal Variances		
MANGANESE		
	Variable 1	*Variable 2*
Mean	0.007634712	0.006853978
Variance	1.7441E-06	9.55751E-07
Observations	2	7
Hypothesized Mean Difference	0	
df	1	
t Stat	0.777404696	
P(T<=t) one-tail	0.289657431	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.579314863	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.059377841	0.039721359
Variance	0.000291843	0.001075578
Observations	2	7
Hypothesized Mean Difference	0	
df	4	
t Stat	1.135671182	
P(T<=t) one-tail	0.159762182	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.319524363	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.006639972	0.006079994
Variance	2.14368E-09	8.7967E-08
Observations	2	7
Hypothesized Mean Difference	0	
df	7	
t Stat	4.79497871	
P(T<=t) one-tail	0.000988862	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	0.001977724	
t Critical two-tail	2.364624252	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.009627904	0.007930645
Variance	3.81816E-08	1.22841E-06
Observations	2	7
Hypothesized Mean Difference	0	
df	7	
t Stat	3.847702181	
P(T<=t) one-tail	0.003155602	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	0.006311205	
t Critical two-tail	2.364624252	

t-Test: Two-Sample Assuming Unequal Variances		
STRONTIUM		
	Variable 1	*Variable 2*
Mean	0.006325915	0.00673545
Variance	1.24562E-06	6.40688E-07
Observations	2	7
Hypothesized Mean Difference	0	
df	1	
t Stat	-0.484551073	
P(T<=t) one-tail	0.356374677	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.712749354	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.000294918	0.013454673
Variance	1.30753E-07	0.000274155
Observations	2	7
Hypothesized Mean Difference	0	
df	6	
t Stat	-2.101049072	
P(T<=t) one-tail	0.040180522	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.080361044	
t Critical two-tail	2.446911851	

Southern Chalk province t-tests – South Downs vs Salisbury Plain/Pewsey

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.006942827	0.005613896
Variance	3.28123E-05	3.49943E-05
Observations	6	7
Hypothesized Mean Difference	0	
df	11	
t Stat	0.410745421	
P(T<=t) one-tail	0.344573433	
t Critical one-tail	1.795884819	
P(T<=t) two-tail	0.689146865	
t Critical two-tail	2.20098516	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.008855631	0.007341486
Variance	7.10792E-06	3.68668E-06
Observations	6	7
Hypothesized Mean Difference	0	
df	9	
t Stat	1.157448055	
P(T<=t) one-tail	0.138441709	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.276883419	
t Critical two-tail	2.262157163	

t-Test: Two-Sample Assuming Unequal Variances		
MANGANESE		
	Variable 1	*Variable 2*
Mean	0.005757697	0.006853978
Variance	1.04448E-06	9.55751E-07
Observations	6	7
Hypothesized Mean Difference	0	
df	11	
t Stat	-1.96702706	
P(T<=t) one-tail	0.037455482	
t Critical one-tail	1.795884819	
P(T<=t) two-tail	0.074910965	
t Critical two-tail	2.20098516	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.040857445	0.039721359
Variance	6.6465E-05	0.001075578
Observations	6	7
Hypothesized Mean Difference	0	
df	7	
t Stat	0.088516197	
P(T<=t) one-tail	0.465972794	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	0.931945588	
t Critical two-tail	2.364624252	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.006283283	0.006079994
Variance	2.99771E-07	8.7967E-08
Observations	6	7
Hypothesized Mean Difference	0	
df	7	
t Stat	0.812969208	
P(T<=t) one-tail	0.221501772	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	0.443003543	
t Critical two-tail	2.364624252	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.009264677	0.007930645
Variance	4.0409E-06	1.22841E-06
Observations	6	7
Hypothesized Mean Difference	0	
df	8	
t Stat	1.447838735	
P(T<=t) one-tail	0.092845049	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.185690097	
t Critical two-tail	2.306004135	

t-Test: Two-Sample Assuming Unequal Variances		
STRONTIUM		
	Variable 1	*Variable 2*
Mean	0.005944741	0.00673545
Variance	1.6761E-06	6.40688E-07
Observations	6	7
Hypothesized Mean Difference	0	
df	8	
t Stat	-1.2983791	
P(T<=t) one-tail	0.115166664	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.230333328	
t Critical two-tail	2.306004135	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.016367924	0.013454673
Variance	0.000293776	0.000274155
Observations	6	7
Hypothesized Mean Difference	0	
df	11	
t Stat	0.310328478	
P(T<=t) one-tail	0.381055871	
t Critical one-tail	1.795884819	
P(T<=t) two-tail	0.762111742	
t Critical two-tail	2.20098516	

Southern Chalk province t-tests – North Downs vs Southwestern Chalk

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.000511173	0.012870172
Variance	4.33957E-09	7.25104E-07
Observations	2	5
Hypothesized Mean Difference	0	
df	4	
t Stat	-32.21388991	
P(T<=t) one-tail	2.76798E-06	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	5.53597E-06	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.005569966	0.009444338
Variance	3.2124E-07	1.29015E-06
Observations	2	5
Hypothesized Mean Difference	0	
df	4	
t Stat	-5.987915815	
P(T<=t) one-tail	0.001955664	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.003911328	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
MANGANESE		
	Variable 1	*Variable 2*
Mean	0.007634712	0.006334792
Variance	1.7441E-06	1.42809E-06
Observations	2	5
Hypothesized Mean Difference	0	
df	2	
t Stat	1.208160858	
P(T<=t) one-tail	0.175228048	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.350456095	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.059377841	0.040682119
Variance	0.000291843	0.000504451
Observations	2	5
Hypothesized Mean Difference	0	
df	3	
t Stat	1.190033946	
P(T<=t) one-tail	0.159812409	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.319624819	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.006639972	0.006961988
Variance	2.14368E-09	4.66121E-07
Observations	2	5
Hypothesized Mean Difference	0	
df	4	
t Stat	-1.048652569	
P(T<=t) one-tail	0.176758931	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.353517862	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.009627904	0.007299474
Variance	3.81816E-08	1.19126E-06
Observations	2	5
Hypothesized Mean Difference	0	
df	5	
t Stat	4.589946855	
P(T<=t) one-tail	0.002946949	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.005893899	
t Critical two-tail	2.570581836	

t-Test: Two-Sample Assuming Unequal Variances		
STRONTIUM		
	Variable 1	*Variable 2*
Mean	0.006325915	0.00589116
Variance	1.24562E-06	2.05335E-06
Observations	2	5
Hypothesized Mean Difference	0	
df	2	
t Stat	0.427655834	
P(T<=t) one-tail	0.355273344	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.710546687	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.000294918	0.038105351
Variance	1.30753E-07	2.26248E-05
Observations	2	5
Hypothesized Mean Difference	0	
df	4	
t Stat	-17.64776402	
P(T<=t) one-tail	3.02777E-05	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	6.05554E-05	
t Critical two-tail	2.776445105	

Southern Chalk province t-tests – North Downs vs Salisbury Plain/Pewsey

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.006942827	0.012870172
Variance	3.28123E-05	7.25104E-07
Observations	6	5
Hypothesized Mean Difference	0	
df	5	
t Stat	-2.501693171	
P(T<=t) one-tail	0.027188686	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.054377373	
t Critical two-tail	2.570581836	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.008855631	0.009444338
Variance	7.10792E-06	1.29015E-06
Observations	6	5
Hypothesized Mean Difference	0	
df	7	
t Stat	-0.490132806	
P(T<=t) one-tail	0.319513814	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	0.639027629	
t Critical two-tail	2.364624252	

t-Test: Two-Sample Assuming Unequal Variances		
MANGANESE		
	Variable 1	*Variable 2*
Mean	0.005757697	0.006334792
Variance	1.04448E-06	1.42809E-06
Observations	6	5
Hypothesized Mean Difference	0	
df	8	
t Stat	-0.851160585	
P(T<=t) one-tail	0.209713254	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.419426508	
t Critical two-tail	2.306004135	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.040857445	0.040682119
Variance	6.6465E-05	0.000504451
Observations	6	5
Hypothesized Mean Difference	0	
df	5	
t Stat	0.016569124	
P(T<=t) one-tail	0.493710595	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.98742119	
t Critical two-tail	2.570581836	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.006283283	0.006961988
Variance	2.99771E-07	4.66121E-07
Observations	6	5
Hypothesized Mean Difference	0	
df	8	
t Stat	-1.79362263	
P(T<=t) one-tail	0.055312878	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.110625757	
t Critical two-tail	2.306004135	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.009264677	0.007299474
Variance	4.0409E-06	1.19126E-06
Observations	6	5
Hypothesized Mean Difference	0	
df	8	
t Stat	2.058131867	
P(T<=t) one-tail	0.036786587	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.073573175	
t Critical two-tail	2.306004135	

t-Test: Two-Sample Assuming Unequal Variances		
STRONTIUM		
	Variable 1	*Variable 2*
Mean	0.005944741	0.00589116
Variance	1.6761E-06	2.05335E-06
Observations	6	5
Hypothesized Mean Difference	0	
df	8	
t Stat	0.064504036	
P(T<=t) one-tail	0.475075795	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.950151591	
t Critical two-tail	2.306004135	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.016367924	0.038105351
Variance	0.000293776	2.26248E-05
Observations	6	5
Hypothesized Mean Difference	0	
df	6	
t Stat	-2.972224102	
P(T<=t) one-tail	0.012442882	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.024885764	
t Critical two-tail	2.446911851	

Southern Chalk province t-tests – Southwestern Chalk vs Salisbury Plain/Pewsey

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.000511173	0.006942827
Variance	4.33957E-09	3.28123E-05
Observations	2	6
Hypothesized Mean Difference	0	
df	5	
t Stat	-2.749753379	
P(T<=t) one-tail	0.020161015	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.04032203	
t Critical two-tail	2.570581836	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.005569966	0.008855631
Variance	3.2124E-07	7.10792E-06
Observations	2	6
Hypothesized Mean Difference	0	
df	6	
t Stat	-2.832813437	
P(T<=t) one-tail	0.014923628	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.029847257	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
MANGANESE		
	Variable 1	*Variable 2*
Mean	0.007634712	0.005757697
Variance	1.7441E-06	1.04448E-06
Observations	2	6
Hypothesized Mean Difference	0	
df	1	
t Stat	1.835166211	
P(T<=t) one-tail	0.158813323	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.317626645	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.059377841	0.040857445
Variance	0.000291843	6.6465E-05
Observations	2	6
Hypothesized Mean Difference	0	
df	1	
t Stat	1.47809292	
P(T<=t) one-tail	0.189334536	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.378669073	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.006639972	0.006283283
Variance	2.14368E-09	2.99771E-07
Observations	2	6
Hypothesized Mean Difference	0	
df	5	
t Stat	1.578923492	
P(T<=t) one-tail	0.087593429	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.175186858	
t Critical two-tail	2.570581836	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.009627904	0.009264677
Variance	3.81816E-08	4.0409E-06
Observations	2	6
Hypothesized Mean Difference	0	
df	5	
t Stat	0.436460424	
P(T<=t) one-tail	0.340353091	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.680706182	
t Critical two-tail	2.570581836	

t-Test: Two-Sample Assuming Unequal Variances		
STRONTIUM		
	Variable 1	*Variable 2*
Mean	0.006325915	0.005944741
Variance	1.24562E-06	1.6761E-06
Observations	2	6
Hypothesized Mean Difference	0	
df	2	
t Stat	0.401311321	
P(T<=t) one-tail	0.363504312	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.727008625	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.000294918	0.016367924
Variance	1.30753E-07	0.000293776
Observations	2	6
Hypothesized Mean Difference	0	
df	5	
t Stat	-2.295487352	
P(T<=t) one-tail	0.035083361	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.070166721	
t Critical two-tail	2.570581836	

Transitional Chalk province t-tests

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.006277719	0.00094827
Variance	7.11274E-05	1.60156E-07
Observations	2	4
Hypothesized Mean Difference	0	
df	1	
t Stat	0.893170661	
P(T<=t) one-tail	0.267942815	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.53588563	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
CHLORINE		
	Variable 1	*Variable 2*
Mean	0.01606772	0.015990457
Variance	2.41168E-06	4.65186E-07
Observations	2	4
Hypothesized Mean Difference	0	
df	1	
t Stat	0.06719426	
P(T<=t) one-tail	0.478643506	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.957287012	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.00758264	0.000228602
Variance	0.000111576	1.9652E-07
Observations	2	4
Hypothesized Mean Difference	0	
df	1	
t Stat	0.984156125	
P(T<=t) one-tail	0.252541713	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.505083425	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
CALCIUM		
	Variable 1	*Variable 2*
Mean	0.045895921	0.081602743
Variance	3.16607E-05	0.000281578
Observations	2	4
Hypothesized Mean Difference	0	
df	4	
t Stat	-3.84534387	
P(T<=t) one-tail	0.009187737	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.018375473	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.007252334	0.006510642
Variance	8.46691E-06	8.80284E-07
Observations	2	4
Hypothesized Mean Difference	0	
df	1	
t Stat	0.351456478	
P(T<=t) one-tail	0.392420248	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.784840495	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
MANGANESE		
	Variable 1	*Variable 2*
Mean	0.006789037	0.00696568
Variance	4.98957E-08	2.35955E-06
Observations	2	4
Hypothesized Mean Difference	0	
df	3	
t Stat	-0.22527774	
P(T<=t) one-tail	0.418118405	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.83623681	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.028890299	0.028523671
Variance	8.67375E-07	1.05848E-05
Observations	2	4
Hypothesized Mean Difference	0	
df	4	
t Stat	0.208910142	
P(T<=t) one-tail	0.42236294	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.844725879	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.006097898	0.006342831
Variance	2.17858E-08	1.12861E-06
Observations	2	4
Hypothesized Mean Difference	0	
df	3	
t Stat	-0.45246084	
P(T<=t) one-tail	0.34082622	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.68165244	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.007796548	0.008060842
Variance	3.52797E-06	2.72912E-06
Observations	2	4
Hypothesized Mean Difference	0	
df	2	
t Stat	-0.1689802	
P(T<=t) one-tail	0.440678448	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.881356896	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.014178707	0.010833363
Variance	3.30909E-06	4.1391E-06
Observations	2	4
Hypothesized Mean Difference	0	
df	2	
t Stat	2.039949791	
P(T<=t) one-tail	0.089086934	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.178173867	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
STRONTIUM		
	Variable 1	*Variable 2*
Mean	0.005481572	0.007260491
Variance	4.22488E-07	2.30935E-07
Observations	2	4
Hypothesized Mean Difference	0	
df	2	
t Stat	-3.43003182	
P(T<=t) one-tail	0.037748659	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.075497319	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.016635964	0.000144546
Variance	0.000541414	8.3574E-08
Observations	2	4
Hypothesized Mean Difference	0	
df	1	
t Stat	1.002285826	
P(T<=t) one-tail	0.249636615	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.49927323	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.128239546	0.138613363
Variance	0.000310906	7.22225E-05
Observations	2	4
Hypothesized Mean Difference	0	
df	1	
t Stat	-0.78755002	
P(T<=t) one-tail	0.287654438	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.575308877	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.004647016	0.005778525
Variance	1.53136E-06	6.16516E-07
Observations	2	4
Hypothesized Mean Difference	0	
df	1	
t Stat	-1.17980307	
P(T<=t) one-tail	0.223803221	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.447606442	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
YTTERBIUM		
	Variable 1	*Variable 2*
Mean	0.02429164	0.026884143
Variance	7.39068E-06	6.76691E-07
Observations	2	4
Hypothesized Mean Difference	0	
df	1	
t Stat	-1.31877861	
P(T<=t) one-tail	0.206512332	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.413024663	
t Critical two-tail	12.70620474	

Northern Ireland Chalk formation t-tests – Ballintoy vs Garron Point

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.009577048	0.001358831
Variance	8.71633E-09	4.14121E-07
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	17.87334258	
P(T<=t) one-tail	0.017790649	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.035581299	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.001644365	0.000224417
Variance	1.86832E-07	9.50757E-08
Observations	2	2
Hypothesized Mean Difference	0	
df	2	
t Stat	3.782106768	
P(T<=t) one-tail	0.031669665	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.06333933	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.008727421	0.003135872
Variance	6.05098E-07	2.68948E-06
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	4.356597915	
P(T<=t) one-tail	0.071819787	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.143639574	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.061784038	0.095493072
Variance	9.84341E-05	0.005769075
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-0.62234961	
P(T<=t) one-tail	0.322799704	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.645599409	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.00607322	0.005389535
Variance	9.48482E-08	1.17376E-06
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	0.858436155	
P(T<=t) one-tail	0.274200088	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.548400176	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.00873375	0.009965434
Variance	7.25742E-07	4.87605E-06
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-0.73595502	
P(T<=t) one-tail	0.298047796	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.596095593	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.014657071	0.012590888
Variance	5.79563E-06	8.42888E-07
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	1.134092593	
P(T<=t) one-tail	0.230025722	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.460051444	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.017993193	0.004412814
Variance	1.21652E-06	3.22549E-06
Observations	2	2
Hypothesized Mean Difference	0	
df	2	
t Stat	9.112490481	
P(T<=t) one-tail	0.005914744	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.011829489	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.127207917	0.131570716
Variance	6.85221E-06	5.85317E-06
Observations	2	2
Hypothesized Mean Difference	0	
df	2	
t Stat	-1.73095734	
P(T<=t) one-tail	0.112799524	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.225599048	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.006534688	0.005944814
Variance	3.62781E-06	5.12043E-07
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	0.40999789	
P(T<=t) one-tail	0.37614708	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.752294159	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.003345712	0.003628457
Variance	1.16445E-08	1.54497E-05
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-0.1016916	
P(T<=t) one-tail	0.46774145	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.9354829	
t Critical two-tail	12.70620474	

Northern Ireland Chalk formation t-tests – Ballintoy vs White Rocks

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.009577048	0.008394429
Variance	8.71633E-09	3.1344E-05
Observations	2	10
Hypothesized Mean Difference	0	
df	9	
t Stat	0.667523256	
P(T<=t) one-tail	0.260592342	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.521184684	
t Critical two-tail	2.262157163	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.001644365	0.007955938
Variance	1.86832E-07	6.53275E-05
Observations	2	10
Hypothesized Mean Difference	0	
df	9	
t Stat	-2.45192114	
P(T<=t) one-tail	0.01832053	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.036641061	
t Critical two-tail	2.262157163	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.008727421	0.007131263
Variance	6.05098E-07	4.42597E-06
Observations	2	10
Hypothesized Mean Difference	0	
df	5	
t Stat	1.849079108	
P(T<=t) one-tail	0.061847543	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.123695086	
t Critical two-tail	2.570581836	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.061784038	0.039055517
Variance	9.84341E-05	7.80422E-05
Observations	2	10
Hypothesized Mean Difference	0	
df	1	
t Stat	3.009904832	
P(T<=t) one-tail	0.102102036	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.204204072	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.00607322	0.005921523
Variance	9.48482E-08	1.47635E-06
Observations	2	10
Hypothesized Mean Difference	0	
df	8	
t Stat	0.343473978	
P(T<=t) one-tail	0.370047085	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.74009417	
t Critical two-tail	2.306004135	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.00873375	0.008152731
Variance	7.25742E-07	4.18722E-06
Observations	2	10
Hypothesized Mean Difference	0	
df	4	
t Stat	0.657203723	
P(T<=t) one-tail	0.273471398	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.546942797	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.014657071	0.014000284
Variance	5.79563E-06	4.5829E-06
Observations	2	10
Hypothesized Mean Difference	0	
df	1	
t Stat	0.358515142	
P(T<=t) one-tail	0.390424858	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.780849717	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.017993193	0.02075853
Variance	1.21652E-06	0.000253157
Observations	2	10
Hypothesized Mean Difference	0	
df	9	
t Stat	-0.54312204	
P(T<=t) one-tail	0.300118284	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.600236568	
t Critical two-tail	2.262157163	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.127207917	0.121750031
Variance	6.85221E-06	0.000402581
Observations	2	10
Hypothesized Mean Difference	0	
df	10	
t Stat	0.825775727	
P(T<=t) one-tail	0.214096165	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.428192329	
t Critical two-tail	2.228138852	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.006534688	0.004755761
Variance	3.62781E-06	1.1668E-06
Observations	2	10
Hypothesized Mean Difference	0	
df	1	
t Stat	1.280305837	
P(T<=t) one-tail	0.211067177	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.422134354	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.003345712	0.002741481
Variance	1.16445E-08	1.00116E-06
Observations	2	10
Hypothesized Mean Difference	0	
df	10	
t Stat	1.856425657	
P(T<=t) one-tail	0.046529624	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.093059247	
t Critical two-tail	2.228138852	

Northern Ireland Chalk formation t-tests – Ballintoy vs White Park Bay

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.009577048	0.000366767
Variance	8.71633E-09	1.5815E-08
Observations	2	4
Hypothesized Mean Difference	0	
df	3	
t Stat	101.0234427	
P(T<=t) one-tail	1.06911E-06	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	2.13821E-06	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.001644365	1.60871E-05
Variance	1.86832E-07	4.69322E-10
Observations	2	4
Hypothesized Mean Difference	0	
df	1	
t Stat	5.32408556	
P(T<=t) one-tail	0.059098226	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.118196452	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.008727421	0.005026146
Variance	6.05098E-07	6.39957E-08
Observations	2	4
Hypothesized Mean Difference	0	
df	1	
t Stat	6.557889349	
P(T<=t) one-tail	0.048167413	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.096334827	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.061784038	0.033363547
Variance	9.84341E-05	7.14495E-05
Observations	2	4
Hypothesized Mean Difference	0	
df	2	
t Stat	3.470059539	
P(T<=t) one-tail	0.036976464	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.073952928	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.00607322	0.005238107
Variance	9.48482E-08	6.1976E-08
Observations	2	4
Hypothesized Mean Difference	0	
df	2	
t Stat	3.329338569	
P(T<=t) one-tail	0.039796965	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.07959393	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.00873375	0.009253908
Variance	7.25742E-07	3.09093E-06
Observations	2	4
Hypothesized Mean Difference	0	
df	4	
t Stat	-0.48811467	
P(T<=t) one-tail	0.325508495	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.65101699	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.014657071	0.013330034
Variance	5.79563E-06	6.77453E-06
Observations	2	4
Hypothesized Mean Difference	0	
df	2	
t Stat	0.619310808	
P(T<=t) one-tail	0.29942957	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.59885914	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.017993193	0.000443775
Variance	1.21652E-06	4.22389E-08
Observations	2	4
Hypothesized Mean Difference	0	
df	1	
t Stat	22.30906469	
P(T<=t) one-tail	0.014258641	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.028517283	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.127207917	0.130589106
Variance	6.85221E-06	6.24203E-05
Observations	2	4
Hypothesized Mean Difference	0	
df	4	
t Stat	-0.77506236	
P(T<=t) one-tail	0.240785596	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.481571191	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.006534688	0.005687662
Variance	3.62781E-06	5.79977E-07
Observations	2	4
Hypothesized Mean Difference	0	
df	1	
t Stat	0.605188648	
P(T<=t) one-tail	0.3267675	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.653534999	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.003345712	0.00323784
Variance	1.16445E-08	1.89557E-07
Observations	2	4
Hypothesized Mean Difference	0	
df	4	
t Stat	0.467635177	
P(T<=t) one-tail	0.332192918	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.664385836	
t Critical two-tail	2.776445105	

Northern Ireland Chalk formation t-tests – Ballintoy vs Cloughastucan

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.009577048	0.000398734
Variance	8.71633E-09	2.7039E-07
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	24.56932496	
P(T<=t) one-tail	0.012948434	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.025896869	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.001644365	0.000873668
Variance	1.86832E-07	5.30593E-07
Observations	2	2
Hypothesized Mean Difference	0	
df	2	
t Stat	1.2867977	
P(T<=t) one-tail	0.163499126	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.326998253	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.008727421	0.00573389
Variance	6.05098E-07	4.58274E-07
Observations	2	2
Hypothesized Mean Difference	0	
df	2	
t Stat	4.105406615	
P(T<=t) one-tail	0.027262293	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.054524586	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.061784038	0.050413896
Variance	9.84341E-05	0.00042549
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	0.702500565	
P(T<=t) one-tail	0.305066317	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.610132635	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.00607322	0.004184247
Variance	9.48482E-08	1.04183E-06
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	2.505662575	
P(T<=t) one-tail	0.120870812	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.241741624	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.00873375	0.008678552
Variance	7.25742E-07	4.52683E-07
Observations	2	2
Hypothesized Mean Difference	0	
df	2	
t Stat	0.071909712	
P(T<=t) one-tail	0.474608881	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.949217761	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.014657071	0.009853837
Variance	5.79563E-06	2.01808E-09
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	2.821129568	
P(T<=t) one-tail	0.108432139	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.216864279	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.017993193	0.005595851
Variance	1.21652E-06	2.72476E-06
Observations	2	2
Hypothesized Mean Difference	0	
df	2	
t Stat	8.831306618	
P(T<=t) one-tail	0.006290193	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.012580387	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.127207917	0.125035303
Variance	6.85221E-06	1.34716E-05
Observations	2	2
Hypothesized Mean Difference	0	
df	2	
t Stat	0.68154587	
P(T<=t) one-tail	0.282929772	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.565859543	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.006534688	0.006119516
Variance	3.62781E-06	5.36612E-08
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	0.306007293	
P(T<=t) one-tail	0.40547504	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.81095008	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.003345712	0.004909503
Variance	1.16445E-08	2.02479E-07
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-4.77927364	
P(T<=t) one-tail	0.065654958	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.131309916	
t Critical two-tail	12.70620474	

Northern Ireland Chalk formation t-tests – Ballintoy vs Portbraddan

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.009577048	0.005597997
Variance	8.71633E-09	2.5556E-05
Observations	2	4
Hypothesized Mean Difference	0	
df	3	
t Stat	1.573674139	
P(T<=t) one-tail	0.106812532	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.213625064	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.001644365	0.000139824
Variance	1.86832E-07	3.00688E-08
Observations	2	4
Hypothesized Mean Difference	0	
df	1	
t Stat	4.735727722	
P(T<=t) one-tail	0.066241463	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.132482926	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.008727421	0.006163853
Variance	6.05098E-07	3.97428E-06
Observations	2	4
Hypothesized Mean Difference	0	
df	4	
t Stat	2.251763299	
P(T<=t) one-tail	0.043737099	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.087474198	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.061784038	0.031635775
Variance	9.84341E-05	4.36894E-06
Observations	2	4
Hypothesized Mean Difference	0	
df	1	
t Stat	4.250482962	
P(T<=t) one-tail	0.07355038	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.14710076	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.00607322	0.005595837
Variance	9.48482E-08	2.78871E-07
Observations	2	4
Hypothesized Mean Difference	0	
df	4	
t Stat	1.394798296	
P(T<=t) one-tail	0.117772315	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.23554463	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.00873375	0.008292386
Variance	7.25742E-07	9.39437E-07
Observations	2	4
Hypothesized Mean Difference	0	
df	2	
t Stat	0.570879269	
P(T<=t) one-tail	0.312837661	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.625675322	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.014657071	0.015002719
Variance	5.79563E-06	8.44514E-06
Observations	2	4
Hypothesized Mean Difference	0	
df	3	
t Stat	-0.15443776	
P(T<=t) one-tail	0.443534726	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.887069452	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.017993193	0.011114738
Variance	1.21652E-06	0.000156581
Observations	2	4
Hypothesized Mean Difference	0	
df	3	
t Stat	1.090944488	
P(T<=t) one-tail	0.177539705	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.35507941	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.127207917	0.135930773
Variance	6.85221E-06	4.61409E-05
Observations	2	4
Hypothesized Mean Difference	0	
df	4	
t Stat	-2.25513945	
P(T<=t) one-tail	0.043573935	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.087147871	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.006534688	0.005607839
Variance	3.62781E-06	3.27173E-06
Observations	2	4
Hypothesized Mean Difference	0	
df	2	
t Stat	0.571319879	
P(T<=t) one-tail	0.312713468	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.625426937	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.003345712	0.002798825
Variance	1.16445E-08	5.29328E-07
Observations	2	4
Hypothesized Mean Difference	0	
df	3	
t Stat	1.471347929	
P(T<=t) one-tail	0.11878754	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.237575079	
t Critical two-tail	3.182446305	

Northern Ireland Chalk formation t-tests – Garron Point vs White Rocks

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.008394429	0.001358831
Variance	3.1344E-05	4.14121E-07
Observations	10	2
Hypothesized Mean Difference	0	
df	10	
t Stat	3.848869101	
P(T<=t) one-tail	0.001609078	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.003218155	
t Critical two-tail	2.228138852	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.007955938	0.000224417
Variance	6.53275E-05	9.50757E-08
Observations	10	2
Hypothesized Mean Difference	0	
df	9	
t Stat	3.013995224	
P(T<=t) one-tail	0.007310439	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.014620877	
t Critical two-tail	2.262157163	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.007131263	0.003135872
Variance	4.42597E-06	2.68948E-06
Observations	10	2
Hypothesized Mean Difference	0	
df	2	
t Stat	2.988520974	
P(T<=t) one-tail	0.048049108	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.096098216	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.039055517	0.095493072
Variance	7.80422E-05	0.005769075
Observations	10	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-1.04940562	
P(T<=t) one-tail	0.242327897	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.484655793	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.005921523	0.005389535
Variance	1.47635E-06	1.17376E-06
Observations	10	2
Hypothesized Mean Difference	0	
df	2	
t Stat	0.620728832	
P(T<=t) one-tail	0.299044439	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.598088878	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.008152731	0.009965434
Variance	4.18722E-06	4.87605E-06
Observations	10	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-1.0724847	
P(T<=t) one-tail	0.238871717	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.477743434	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.014000284	0.012590888
Variance	4.5829E-06	8.42888E-07
Observations	10	2
Hypothesized Mean Difference	0	
df	4	
t Stat	1.502648274	
P(T<=t) one-tail	0.103675097	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.207350194	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.02075853	0.004412814
Variance	0.000253157	3.22549E-06
Observations	10	2
Hypothesized Mean Difference	0	
df	10	
t Stat	3.14991127	
P(T<=t) one-tail	0.00516726	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.01033452	
t Critical two-tail	2.228138852	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.121750031	0.131570716
Variance	0.000402581	5.85317E-06
Observations	10	2
Hypothesized Mean Difference	0	
df	10	
t Stat	-1.49443425	
P(T<=t) one-tail	0.082965653	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.165931306	
t Critical two-tail	2.228138852	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.004755761	0.005944814
Variance	1.1668E-06	5.12043E-07
Observations	10	2
Hypothesized Mean Difference	0	
df	2	
t Stat	-1.94769398	
P(T<=t) one-tail	0.095405685	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.190811369	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.002741481	0.003628457
Variance	1.00116E-06	1.54497E-05
Observations	10	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-0.31708081	
P(T<=t) one-tail	0.402262099	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.804524199	
t Critical two-tail	12.70620474	

Northern Ireland Chalk formation t-tests – Garron Point vs White Park Bay

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.000366767	0.001358831
Variance	1.5815E-08	4.14121E-07
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-2.159650916	
P(T<=t) one-tail	0.138032888	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.276065776	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	1.60871E-05	0.000224417
Variance	4.69322E-10	9.50757E-08
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-0.954326485	
P(T<=t) one-tail	0.257437696	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.514875391	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.005026146	0.003135872
Variance	6.39957E-08	2.68948E-06
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	1.620457593	
P(T<=t) one-tail	0.175995197	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.351990393	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.033363547	0.095493072
Variance	7.14495E-05	0.005769075
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-1.153239215	
P(T<=t) one-tail	0.227385022	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.454770043	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.005238107	0.005389535
Variance	6.1976E-08	1.17376E-06
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-0.195108511	
P(T<=t) one-tail	0.438665565	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.877331129	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.009253908	0.009965434
Variance	3.09093E-06	4.87605E-06
Observations	4	2
Hypothesized Mean Difference	0	
df	2	
t Stat	-0.397088663	
P(T<=t) one-tail	0.364835067	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.729670134	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.013330034	0.012590888
Variance	6.77453E-06	8.42888E-07
Observations	4	2
Hypothesized Mean Difference	0	
df	4	
t Stat	0.508238116	
P(T<=t) one-tail	0.319016604	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.638033208	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.000443775	0.004412814
Variance	4.22389E-08	3.22549E-06
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-3.11519358	
P(T<=t) one-tail	0.098872285	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.197744571	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.130589106	0.131570716
Variance	6.24203E-05	5.85317E-06
Observations	4	2
Hypothesized Mean Difference	0	
df	4	
t Stat	-0.228024726	
P(T<=t) one-tail	0.415404525	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.830809051	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.005687662	0.005944814
Variance	5.79977E-07	5.12043E-07
Observations	4	2
Hypothesized Mean Difference	0	
df	2	
t Stat	-0.406078345	
P(T<=t) one-tail	0.362005762	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.724011524	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.00323784	0.003628457
Variance	1.89557E-07	1.54497E-05
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-0.140112653	
P(T<=t) one-tail	0.455689218	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.911378436	
t Critical two-tail	12.70620474	

Northern Ireland Chalk formation t-tests – Garron Point vs Portbraddan

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.005597997	0.001358831
Variance	2.5556E-05	4.14121E-07
Observations	4	2
Hypothesized Mean Difference	0	
df	3	
t Stat	1.65058542	
P(T<=t) one-tail	0.098694076	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.197388152	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.000139824	0.000224417
Variance	3.00688E-08	9.50757E-08
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-0.3605256	
P(T<=t) one-tail	0.389858158	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.779716316	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.006163853	0.003135872
Variance	3.97428E-06	2.68948E-06
Observations	4	2
Hypothesized Mean Difference	0	
df	3	
t Stat	1.980169422	
P(T<=t) one-tail	0.071017033	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.142034065	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.031635775	0.095493072
Variance	4.36894E-06	0.005769075
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-1.18874917	
P(T<=t) one-tail	0.222617943	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.445235886	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.005595837	0.005389535
Variance	2.78871E-07	1.17376E-06
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	0.254597176	
P(T<=t) one-tail	0.420645118	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.841290236	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.008292386	0.009965434
Variance	9.39437E-07	4.87605E-06
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-1.02333702	
P(T<=t) one-tail	0.2463288	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.492657599	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.015002719	0.012590888
Variance	8.44514E-06	8.42888E-07
Observations	4	2
Hypothesized Mean Difference	0	
df	4	
t Stat	1.515487885	
P(T<=t) one-tail	0.102114442	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.204228883	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.011114738	0.004412814
Variance	0.000156581	3.22549E-06
Observations	4	2
Hypothesized Mean Difference	0	
df	3	
t Stat	1.049766245	
P(T<=t) one-tail	0.185465846	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.370931692	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.135930773	0.131570716
Variance	4.61409E-05	5.85317E-06
Observations	4	2
Hypothesized Mean Difference	0	
df	4	
t Stat	1.146517521	
P(T<=t) one-tail	0.157751484	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.315502967	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.005607839	0.005944814
Variance	3.27173E-06	5.12043E-07
Observations	4	2
Hypothesized Mean Difference	0	
df	4	
t Stat	-0.32516579	
P(T<=t) one-tail	0.380676324	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.761352648	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.002798825	0.003628457
Variance	5.29328E-07	1.54497E-05
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-0.29597239	
P(T<=t) one-tail	0.408403893	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.816807786	
t Critical two-tail	12.70620474	

Northern Ireland Chalk formation t-tests – White Rocks vs Portbraddan

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.005597997	0.008394429
Variance	2.5556E-05	3.1344E-05
Observations	4	10
Hypothesized Mean Difference	0	
df	6	
t Stat	-0.90616682	
P(T<=t) one-tail	0.199886733	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.399773467	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.000139824	0.007955938
Variance	3.00688E-08	6.53275E-05
Observations	4	10
Hypothesized Mean Difference	0	
df	9	
t Stat	-3.05628048	
P(T<=t) one-tail	0.006826749	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.013653498	
t Critical two-tail	2.262157163	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.006163853	0.007131263
Variance	3.97428E-06	4.42597E-06
Observations	4	10
Hypothesized Mean Difference	0	
df	6	
t Stat	-0.80725071	
P(T<=t) one-tail	0.225164801	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.450329603	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.031635775	0.039055517
Variance	4.36894E-06	7.80422E-05
Observations	4	10
Hypothesized Mean Difference	0	
df	11	
t Stat	-2.48759802	
P(T<=t) one-tail	0.015081929	
t Critical one-tail	1.795884819	
P(T<=t) two-tail	0.030163858	
t Critical two-tail	2.20098516	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.005595837	0.005921523
Variance	2.78871E-07	1.47635E-06
Observations	4	10
Hypothesized Mean Difference	0	
df	12	
t Stat	-0.69858077	
P(T<=t) one-tail	0.249064809	
t Critical one-tail	1.782287556	
P(T<=t) two-tail	0.498129619	
t Critical two-tail	2.17881283	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.008292386	0.008152731
Variance	9.39437E-07	4.18722E-06
Observations	4	10
Hypothesized Mean Difference	0	
df	11	
t Stat	0.172745537	
P(T<=t) one-tail	0.432994458	
t Critical one-tail	1.795884819	
P(T<=t) two-tail	0.865988917	
t Critical two-tail	2.20098516	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.015002719	0.014000284
Variance	8.44514E-06	4.5829E-06
Observations	4	10
Hypothesized Mean Difference	0	
df	4	
t Stat	0.625353546	
P(T<=t) one-tail	0.282822969	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.565645938	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.015002719	0.014000284
Variance	8.44514E-06	4.5829E-06
Observations	4	10
Hypothesized Mean Difference	0	
df	4	
t Stat	0.625353546	
P(T<=t) one-tail	0.282822969	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.565645938	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.011114738	0.02075853
Variance	0.000156581	0.000253157
Observations	4	10
Hypothesized Mean Difference	0	
df	7	
t Stat	-1.20115532	
P(T<=t) one-tail	0.134375643	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	0.268751286	
t Critical two-tail	2.364624252	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.135930773	0.121750031
Variance	4.61409E-05	0.000402581
Observations	4	10
Hypothesized Mean Difference	0	
df	12	
t Stat	1.970434164	
P(T<=t) one-tail	0.036151442	
t Critical one-tail	1.782287556	
P(T<=t) two-tail	0.072302884	
t Critical two-tail	2.17881283	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.005607839	0.004755761
Variance	3.27173E-06	1.1668E-06
Observations	4	10
Hypothesized Mean Difference	0	
df	4	
t Stat	0.881380665	
P(T<=t) one-tail	0.213944501	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.427889003	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.002798825	0.002741481
Variance	5.29328E-07	1.00116E-06
Observations	4	10
Hypothesized Mean Difference	0	
df	8	
t Stat	0.118940079	
P(T<=t) one-tail	0.454127633	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.908255265	
t Critical two-tail	2.306004135	

Northern Ireland Chalk formation t-tests – Cloughastucan vs White Park Bay

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.000366767	0.000398734
Variance	1.5815E-08	2.7039E-07
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-0.085695234	
P(T<=t) one-tail	0.47278884	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.94557768	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	1.60871E-05	0.000873668
Variance	4.69322E-10	5.30593E-07
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-1.664613653	
P(T<=t) one-tail	0.17219401	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.344388021	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.005026146	0.00573389
Variance	6.39957E-08	4.58274E-07
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-1.429461568	
P(T<=t) one-tail	0.194306972	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.388613944	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.033363547	0.050413896
Variance	7.14495E-05	0.00042549
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-1.122785159	
P(T<=t) one-tail	0.231608958	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.463217916	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.005238107	0.004184247
Variance	6.1976E-08	1.04183E-06
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	1.438915567	
P(T<=t) one-tail	0.193322538	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.386645076	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.009253908	0.008678552
Variance	3.09093E-06	4.52683E-07
Observations	4	2
Hypothesized Mean Difference	0	
df	4	
t Stat	0.575622469	
P(T<=t) one-tail	0.297851807	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.595703614	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.013330034	0.009853837
Variance	6.77453E-06	2.01808E-09
Observations	4	2
Hypothesized Mean Difference	0	
df	3	
t Stat	2.670333916	
P(T<=t) one-tail	0.037834433	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.075668866	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.000443775	0.005595851
Variance	4.22389E-08	2.72476E-06
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-4.396997637	
P(T<=t) one-tail	0.071181781	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.142363562	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.130589106	0.125035303
Variance	6.24203E-05	1.34716E-05
Observations	4	2
Hypothesized Mean Difference	0	
df	4	
t Stat	1.175007178	
P(T<=t) one-tail	0.152581032	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.305162063	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.005687662	0.006119516
Variance	5.79977E-07	5.36612E-08
Observations	4	2
Hypothesized Mean Difference	0	
df	4	
t Stat	-1.041824355	
P(T<=t) one-tail	0.178159022	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.356318043	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.00323784	0.004909503
Variance	1.89557E-07	2.02479E-07
Observations	4	2
Hypothesized Mean Difference	0	
df	2	
t Stat	-4.336084241	
P(T<=t) one-tail	0.024643904	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.049287808	
t Critical two-tail	4.30265273	

Northern Ireland Chalk formation t-tests – Cloughastucan vs Portbraddan

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.005597997	0.000398734
Variance	2.5556E-05	2.7039E-07
Observations	4	2
Hypothesized Mean Difference	0	
df	3	
t Stat	2.035533419	
P(T<=t) one-tail	0.06731215	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.134624299	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.000139824	0.000873668
Variance	3.00688E-08	5.30593E-07
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-1.40498195	
P(T<=t) one-tail	0.196897059	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.393794118	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.006163853	0.00573389
Variance	3.97428E-06	4.58274E-07
Observations	4	2
Hypothesized Mean Difference	0	
df	4	
t Stat	0.388838977	
P(T<=t) one-tail	0.358603219	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.717206437	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.031635775	0.050413896
Variance	4.36894E-06	0.00042549
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-1.28413438	
P(T<=t) one-tail	0.210606275	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.42121255	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.005595837	0.004184247
Variance	2.78871E-07	1.04183E-06
Observations	4	2
Hypothesized Mean Difference	0	
df	1	
t Stat	1.836751249	
P(T<=t) one-tail	0.158697888	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.317395777	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.008292386	0.008678552
Variance	9.39437E-07	4.52683E-07
Observations	4	2
Hypothesized Mean Difference	0	
df	3	
t Stat	-0.56862905	
P(T<=t) one-tail	0.30469494	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.60938988	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.015002719	0.009853837
Variance	8.44514E-06	2.01808E-09
Observations	4	2
Hypothesized Mean Difference	0	
df	3	
t Stat	3.542710447	
P(T<=t) one-tail	0.019144732	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.038289464	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.011114738	0.005595851
Variance	0.000156581	2.72476E-06
Observations	4	2
Hypothesized Mean Difference	0	
df	3	
t Stat	0.86712681	
P(T<=t) one-tail	0.224833472	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.449666944	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.135930773	0.125035303
Variance	4.61409E-05	1.34716E-05
Observations	4	2
Hypothesized Mean Difference	0	
df	4	
t Stat	2.548968625	
P(T<=t) one-tail	0.031687354	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.063374707	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.005607839	0.006119516
Variance	3.27173E-06	5.36612E-08
Observations	4	2
Hypothesized Mean Difference	0	
df	3	
t Stat	-0.55670943	
P(T<=t) one-tail	0.308279516	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.616559031	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.002798825	0.004909503
Variance	5.29328E-07	2.02479E-07
Observations	4	2
Hypothesized Mean Difference	0	
df	3	
t Stat	-4.36729225	
P(T<=t) one-tail	0.011100828	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.022201656	
t Critical two-tail	3.182446305	

Northern Ireland Chalk formation t-tests – Portbraddan vs White Park Bay

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.005597997	0.000366767
Variance	2.5556E-05	1.5815E-08
Observations	4	4
Hypothesized Mean Difference	0	
df	3	
t Stat	2.068963883	
P(T<=t) one-tail	0.065185704	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.130371409	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.000139824	1.60871E-05
Variance	3.00688E-08	4.69322E-10
Observations	4	4
Hypothesized Mean Difference	0	
df	3	
t Stat	1.416148857	
P(T<=t) one-tail	0.125851952	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.251703905	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.006163853	0.005026146
Variance	3.97428E-06	6.39957E-08
Observations	4	4
Hypothesized Mean Difference	0	
df	3	
t Stat	1.132302751	
P(T<=t) one-tail	0.169913747	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.339827494	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.031635775	0.033363547
Variance	4.36894E-06	7.14495E-05
Observations	4	4
Hypothesized Mean Difference	0	
df	3	
t Stat	-0.39685249	
P(T<=t) one-tail	0.359011096	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.718022192	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.005595837	0.005238107
Variance	2.78871E-07	6.1976E-08
Observations	4	4
Hypothesized Mean Difference	0	
df	4	
t Stat	1.225480137	
P(T<=t) one-tail	0.143807747	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.287615495	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.008292386	0.009253908
Variance	9.39437E-07	3.09093E-06
Observations	4	4
Hypothesized Mean Difference	0	
df	5	
t Stat	-0.95789237	
P(T<=t) one-tail	0.19105454	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.38210908	
t Critical two-tail	2.570581836	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.015002719	0.013330034
Variance	8.44514E-06	6.77453E-06
Observations	4	4
Hypothesized Mean Difference	0	
df	6	
t Stat	0.857514794	
P(T<=t) one-tail	0.212041649	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.424083298	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.011114738	0.000443775
Variance	0.000156581	4.22389E-08
Observations	4	4
Hypothesized Mean Difference	0	
df	3	
t Stat	1.70531658	
P(T<=t) one-tail	0.093339925	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.18667985	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.135930773	0.130589106
Variance	4.61409E-05	6.24203E-05
Observations	4	4
Hypothesized Mean Difference	0	
df	6	
t Stat	1.025343681	
P(T<=t) one-tail	0.172375077	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.344750155	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.005607839	0.005687662
Variance	3.27173E-06	5.79977E-07
Observations	4	4
Hypothesized Mean Difference	0	
df	4	
t Stat	-0.08134478	
P(T<=t) one-tail	0.469537685	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.93907537	
t Critical two-tail	2.776445105	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.002798825	0.00323784
Variance	5.29328E-07	1.89557E-07
Observations	4	4
Hypothesized Mean Difference	0	
df	5	
t Stat	-1.03556951	
P(T<=t) one-tail	0.173933224	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.347866448	
t Critical two-tail	2.570581836	

Northern Ireland Chalk formation t-tests – White Park Bay vs White Rocks

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.000366767	0.008394429
Variance	1.5815E-08	3.1344E-05
Observations	4	10
Hypothesized Mean Difference	0	
df	9	
t Stat	-4.531463074	
P(T<=t) one-tail	0.000711605	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.00142321	
t Critical two-tail	2.262157163	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	1.60871E-05	0.007955938
Variance	4.69322E-10	6.53275E-05
Observations	4	10
Hypothesized Mean Difference	0	
df	9	
t Stat	-3.106422358	
P(T<=t) one-tail	0.006295655	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.01259131	
t Critical two-tail	2.262157163	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.005026146	0.007131263
Variance	6.39957E-08	4.42597E-06
Observations	4	10
Hypothesized Mean Difference	0	
df	10	
t Stat	-3.108574823	
P(T<=t) one-tail	0.005543777	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.011087553	
t Critical two-tail	2.228138852	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.033363547	0.039055517
Variance	7.14495E-05	7.80422E-05
Observations	4	10
Hypothesized Mean Difference	0	
df	6	
t Stat	-1.123513644	
P(T<=t) one-tail	0.152076056	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.304152113	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.005238107	0.005921523
Variance	6.1976E-08	1.47635E-06
Observations	4	10
Hypothesized Mean Difference	0	
df	11	
t Stat	-1.692074846	
P(T<=t) one-tail	0.059365096	
t Critical one-tail	1.795884819	
P(T<=t) two-tail	0.118730192	
t Critical two-tail	2.20098516	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.009253908	0.008152731
Variance	3.09093E-06	4.18722E-06
Observations	4	10
Hypothesized Mean Difference	0	
df	6	
t Stat	1.008830577	
P(T<=t) one-tail	0.175997059	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.351994119	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.013330034	0.014000284
Variance	6.77453E-06	4.5829E-06
Observations	4	10
Hypothesized Mean Difference	0	
df	5	
t Stat	-0.456902576	
P(T<=t) one-tail	0.333452702	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.666905404	
t Critical two-tail	2.570581836	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.000443775	0.02075853
Variance	4.22389E-08	0.000253157
Observations	4	10
Hypothesized Mean Difference	0	
df	9	
t Stat	-4.036696477	
P(T<=t) one-tail	0.00147159	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.00294318	
t Critical two-tail	2.262157163	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.130589106	0.121750031
Variance	6.24203E-05	0.000402581
Observations	4	10
Hypothesized Mean Difference	0	
df	12	
t Stat	1.182616553	
P(T<=t) one-tail	0.129931821	
t Critical one-tail	1.782287556	
P(T<=t) two-tail	0.259863642	
t Critical two-tail	2.17881283	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.005687662	0.004755761
Variance	5.79977E-07	1.1668E-06
Observations	4	10
Hypothesized Mean Difference	0	
df	8	
t Stat	1.821751141	
P(T<=t) one-tail	0.052983792	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.105967584	
t Critical two-tail	2.306004135	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.00323784	0.002741481
Variance	1.89557E-07	1.00116E-06
Observations	4	10
Hypothesized Mean Difference	0	
df	12	
t Stat	1.292387383	
P(T<=t) one-tail	0.110277702	
t Critical one-tail	1.782287556	
P(T<=t) two-tail	0.220555405	
t Critical two-tail	2.17881283	

Northern Ireland Chalk formation t-tests – White Rocks vs Cloughastucan

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.008394429	0.000398734
Variance	3.1344E-05	2.7039E-07
Observations	10	2
Hypothesized Mean Difference	0	
df	10	
t Stat	4.421906639	
P(T<=t) one-tail	0.000645139	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.001290277	
t Critical two-tail	2.228138852	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.007955938	0.000873668
Variance	6.53275E-05	5.30593E-07
Observations	10	2
Hypothesized Mean Difference	0	
df	10	
t Stat	2.716317075	
P(T<=t) one-tail	0.01084853	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.021697059	
t Critical two-tail	2.228138852	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.007131263	0.00573389
Variance	4.42597E-06	4.58274E-07
Observations	10	2
Hypothesized Mean Difference	0	
df	6	
t Stat	1.704958234	
P(T<=t) one-tail	0.069542128	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.139084255	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.039055517	0.050413896
Variance	7.80422E-05	0.00042549
Observations	10	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-0.76482768	
P(T<=t) one-tail	0.292168001	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.584336001	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.005921523	0.004184247
Variance	1.47635E-06	1.04183E-06
Observations	10	2
Hypothesized Mean Difference	0	
df	2	
t Stat	2.12472283	
P(T<=t) one-tail	0.083769877	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.167539753	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.008152731	0.008678552
Variance	4.18722E-06	4.52683E-07
Observations	10	2
Hypothesized Mean Difference	0	
df	6	
t Stat	-0.65469153	
P(T<=t) one-tail	0.268470279	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.536940559	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.014000284	0.009853837
Variance	4.5829E-06	2.01808E-09
Observations	10	2
Hypothesized Mean Difference	0	
df	9	
t Stat	6.118265324	
P(T<=t) one-tail	8.76598E-05	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.00017532	
t Critical two-tail	2.262157163	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.02075853	0.005595851
Variance	0.000253157	2.72476E-06
Observations	10	2
Hypothesized Mean Difference	0	
df	10	
t Stat	2.935612137	
P(T<=t) one-tail	0.007448485	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.01489697	
t Critical two-tail	2.228138852	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.121750031	0.125035303
Variance	0.000402581	1.34716E-05
Observations	10	2
Hypothesized Mean Difference	0	
df	10	
t Stat	-0.47923726	
P(T<=t) one-tail	0.321038716	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.642077433	
t Critical two-tail	2.228138852	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.004755761	0.006119516
Variance	1.1668E-06	5.36612E-08
Observations	10	2
Hypothesized Mean Difference	0	
df	9	
t Stat	-3.59993165	
P(T<=t) one-tail	0.002874462	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.005748924	
t Critical two-tail	2.262157163	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.002741481	0.004909503
Variance	1.00116E-06	2.02479E-07
Observations	10	2
Hypothesized Mean Difference	0	
df	4	
t Stat	-4.83150736	
P(T<=t) one-tail	0.00422601	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.008452021	
t Critical two-tail	2.776445105	

Northern Ireland Chalk formation t-tests – Cloughastucan vs Garron Point

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.000398734	0.001358831
Variance	2.7039E-07	4.14121E-07
Observations	2	2
Hypothesized Mean Difference	0	
df	2	
t Stat	-1.641118605	
P(T<=t) one-tail	0.121232951	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.242465901	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.000873668	0.000224417
Variance	5.30593E-07	9.50757E-08
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	1.160794916	
P(T<=t) one-tail	0.226356642	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.452713283	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.00573389	0.003135872
Variance	4.58274E-07	2.68948E-06
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	2.070889736	
P(T<=t) one-tail	0.143195356	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.286390712	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.050413896	0.095493072
Variance	0.00042549	0.005769075
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-0.810000996	
P(T<=t) one-tail	0.283291628	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.566583255	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.004184247	0.005389535
Variance	1.04183E-06	1.17376E-06
Observations	2	2
Hypothesized Mean Difference	0	
df	2	
t Stat	-1.145149075	
P(T<=t) one-tail	0.18534951	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.370699021	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.008678552	0.009965434
Variance	4.52683E-07	4.87605E-06
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-0.788392005	
P(T<=t) one-tail	0.287489091	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.574978183	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.009853837	0.012590888
Variance	2.01808E-09	8.42888E-07
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	-4.211082753	
P(T<=t) one-tail	0.07421398	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.14842796	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.005595851	0.004412814
Variance	2.72476E-06	3.22549E-06
Observations	2	2
Hypothesized Mean Difference	0	
df	2	
t Stat	0.685875578	
P(T<=t) one-tail	0.281812694	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.563625389	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.125035303	0.131570716
Variance	1.34716E-05	5.85317E-06
Observations	2	2
Hypothesized Mean Difference	0	
df	2	
t Stat	-2.102476406	
P(T<=t) one-tail	0.085122527	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.170245054	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.006119516	0.005944814
Variance	5.36612E-08	5.12043E-07
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	0.328487574	
P(T<=t) one-tail	0.398973838	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.797947675	
t Critical two-tail	12.70620474	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.004909503	0.003628457
Variance	2.02479E-07	1.54497E-05
Observations	2	2
Hypothesized Mean Difference	0	
df	1	
t Stat	0.457922378	
P(T<=t) one-tail	0.363310537	
t Critical one-tail	6.313751515	
P(T<=t) two-tail	0.726621074	
t Critical two-tail	12.70620474	

Northern Ireland Chalk formation t-tests – inland flint vs coastal flint

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.004955401	0.001107755
Variance	2.76486E-05	3.43581E-07
Observations	27	3
Hypothesized Mean Difference	0	
df	28	
t Stat	3.605944762	
P(T<=t) one-tail	0.000597749	
t Critical one-tail	1.701130934	
P(T<=t) two-tail	0.001195497	
t Critical two-tail	2.048407142	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.00317359	0.001107755
Variance	3.68077E-05	3.43581E-07
Observations	27	3
Hypothesized Mean Difference	0	
df	28	
t Stat	1.699382825	
P(T<=t) one-tail	0.050166286	
t Critical one-tail	1.701130934	
P(T<=t) two-tail	0.100332572	
t Critical two-tail	2.048407142	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.006058362	0.004102931
Variance	4.43459E-06	3.84561E-07
Observations	27	3
Hypothesized Mean Difference	0	
df	9	
t Stat	3.616019713	
P(T<=t) one-tail	0.002803216	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.005606432	
t Critical two-tail	2.262157163	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.045644118	0.055485573
Variance	0.000616873	0.000583337
Observations	27	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-0.66763106	
P(T<=t) one-tail	0.286547044	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.573094087	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.005520319	0.005067863
Variance	9.30433E-07	3.95067E-07
Observations	27	3
Hypothesized Mean Difference	0	
df	3	
t Stat	1.110008457	
P(T<=t) one-tail	0.173983397	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.347966793	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.008776275	0.010163823
Variance	3.12586E-06	5.53896E-06
Observations	27	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-0.99057729	
P(T<=t) one-tail	0.213146829	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.426293657	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.013642473	0.013603113
Variance	5.74506E-06	6.88577E-06
Observations	27	3
Hypothesized Mean Difference	0	
df	2	
t Stat	0.024853885	
P(T<=t) one-tail	0.491214181	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.982428362	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.011541936	0.000603068
Variance	0.00018127	7.01033E-08
Observations	27	3
Hypothesized Mean Difference	0	
df	26	
t Stat	4.214406784	
P(T<=t) one-tail	0.000133383	
t Critical one-tail	1.70561792	
P(T<=t) two-tail	0.000266766	
t Critical two-tail	2.055529439	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.128915651	0.143171624
Variance	0.000222987	0.000220656
Observations	27	3
Hypothesized Mean Difference	0	
df	2	
t Stat	-1.57612909	
P(T<=t) one-tail	0.127848195	
t Critical one-tail	2.91998558	
P(T<=t) two-tail	0.255696391	
t Critical two-tail	4.30265273	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.005364441	0.004967424
Variance	1.4538E-06	1.0817E-06
Observations	27	3
Hypothesized Mean Difference	0	
df	3	
t Stat	0.616727888	
P(T<=t) one-tail	0.290528531	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.581057062	
t Critical two-tail	3.182446305	

t-Test: Two-Sample Assuming Unequal Variances		
LEAD		
	Variable 1	*Variable 2*
Mean	0.003135932	0.003113785
Variance	1.38854E-06	1.76665E-07
Observations	27	3
Hypothesized Mean Difference	0	
df	7	
t Stat	0.066681842	
P(T<=t) one-tail	0.474349783	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	0.948699566	
t Critical two-tail	2.364624252	

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t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.001716564	0.002724753
Variance	1.89795E-06	2.18957E-05
Observations	46	6
Hypothesized Mean Difference	0	
df	5	
t Stat	-0.524803502	
P(T<=t) one-tail	0.311074127	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.622148253	
t Critical two-tail	2.570581836	

t-Test: Two-Sample Assuming Unequal Variances		
CHLORINE		
	Variable 1	*Variable 2*
Mean	0.033796559	0.016016211
Variance	0.000175687	7.63039E-07
Observations	46	6
Hypothesized Mean Difference	0	
df	48	
t Stat	8.95028321	
P(T<=t) one-tail	4.19672E-12	
t Critical one-tail	1.677224196	
P(T<=t) two-tail	8.39343E-12	
t Critical two-tail	2.010634758	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.001447069	0.002679948
Variance	7.56051E-06	3.6855E-05
Observations	46	6
Hypothesized Mean Difference	0	
df	5	
t Stat	-0.490923844	
P(T<=t) one-tail	0.322133364	
t Critical one-tail	2.015048373	
P(T<=t) two-tail	0.644266729	
t Critical two-tail	2.570581836	

t-Test: Two-Sample Assuming Unequal Variances		
CALCIUM		
	Variable 1	*Variable 2*
Mean	0.098179117	0.069700469
Variance	0.003539396	0.000515273
Observations	46	6
Hypothesized Mean Difference	0	
df	17	
t Stat	2.231837622	
P(T<=t) one-tail	0.019686694	
t Critical one-tail	1.739606726	
P(T<=t) two-tail	0.039373388	
t Critical two-tail	2.109815578	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.003022044	0.006757873
Variance	5.09489E-06	2.36825E-06
Observations	46	6
Hypothesized Mean Difference	0	
df	8	
t Stat	-5.25461477	
P(T<=t) one-tail	0.000384756	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.000769513	
t Critical two-tail	2.306004135	

t-Test: Two-Sample Assuming Unequal Variances		
MANGANESE		
	Variable 1	*Variable 2*
Mean	0.022664442	0.006906799
Variance	0.001169192	1.43403E-06
Observations	46	6
Hypothesized Mean Difference	0	
df	46	
t Stat	3.110963941	
P(T<=t) one-tail	0.001599751	
t Critical one-tail	1.678660414	
P(T<=t) two-tail	0.003199501	
t Critical two-tail	2.012895599	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.088126588	0.02864588
Variance	0.004158345	6.56018E-06
Observations	46	6
Hypothesized Mean Difference	0	
df	46	
t Stat	6.21847918	
P(T<=t) one-tail	6.80568E-08	
t Critical one-tail	1.678660414	
P(T<=t) two-tail	1.36114E-07	
t Critical two-tail	2.012895599	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.007402409	0.006261187
Variance	4.54775E-06	6.9752E-07
Observations	46	6
Hypothesized Mean Difference	0	
df	16	
t Stat	2.460551339	
P(T<=t) one-tail	0.01281278	
t Critical one-tail	1.745883676	
P(T<=t) two-tail	0.025625561	
t Critical two-tail	2.119905299	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.002214486	0.007972744
Variance	8.16656E-06	2.36169E-06
Observations	46	6
Hypothesized Mean Difference	0	
df	10	
t Stat	-7.619321213	
P(T<=t) one-tail	9.00023E-06	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	1.80005E-05	
t Critical two-tail	2.228138852	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.010486915	0.011948478
Variance	0.000100225	6.12963E-06
Observations	46	6
Hypothesized Mean Difference	0	
df	33	
t Stat	-0.816985715	
P(T<=t) one-tail	0.209897931	
t Critical one-tail	1.692360309	
P(T<=t) two-tail	0.419795861	
t Critical two-tail	2.034515297	

t-Test: Two-Sample Assuming Unequal Variances		
ZINC		
	Variable 1	*Variable 2*
Mean	0.005660318	0.0015183
Variance	9.92524E-06	7.72859E-07
Observations	46	6
Hypothesized Mean Difference	0	
df	27	
t Stat	7.056180021	
P(T<=t) one-tail	6.90742E-08	
t Critical one-tail	1.703288446	
P(T<=t) two-tail	1.38148E-07	
t Critical two-tail	2.051830516	

t-Test: Two-Sample Assuming Unequal Variances		
STRONTIUM		
	Variable 1	*Variable 2*
Mean	0.004816771	0.006667518
Variance	4.10524E-05	1.06694E-06
Observations	46	6
Hypothesized Mean Difference	0	
df	48	
t Stat	-1.788961798	
P(T<=t) one-tail	0.039966103	
t Critical one-tail	1.677224196	
P(T<=t) two-tail	0.079932205	
t Critical two-tail	2.010634758	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.058984412	0.135155424
Variance	0.004314718	0.000134212
Observations	46	6
Hypothesized Mean Difference	0	
df	46	
t Stat	-7.067217451	
P(T<=t) one-tail	3.61252E-09	
t Critical one-tail	1.678660414	
P(T<=t) two-tail	7.22505E-09	
t Critical two-tail	2.012895599	

t-Test: Two-Sample Assuming Unequal Variances		
CERIUM		
	Variable 1	*Variable 2*
Mean	0.003641003	0.001664223
Variance	1.56881E-05	3.696E-07
Observations	46	6
Hypothesized Mean Difference	0	
df	48	
t Stat	3.115274479	
P(T<=t) one-tail	0.001549177	
t Critical one-tail	1.677224196	
P(T<=t) two-tail	0.003098353	
t Critical two-tail	2.010634758	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.007965413	0.005401355
Variance	1.6232E-05	1.0176E-06
Observations	46	6
Hypothesized Mean Difference	0	
df	32	
t Stat	3.54729676	
P(T<=t) one-tail	0.000612571	
t Critical one-tail	1.693888748	
P(T<=t) two-tail	0.001225143	
t Critical two-tail	2.036933343	

t-Test: Two-Sample Assuming Unequal Variances		
YTTERBIUM		
	Variable 1	*Variable 2*
Mean	0.021950068	0.026019975
Variance	6.02493E-05	3.67644E-06
Observations	46	6
Hypothesized Mean Difference	0	
df	33	
t Stat	-2.935287696	
P(T<=t) one-tail	0.003013318	
t Critical one-tail	1.692360309	
P(T<=t) two-tail	0.006026636	
t Critical two-tail	2.034515297	

t-Test: Two-Sample Assuming Unequal Variances		
THORIUM		
	Variable 1	*Variable 2*
Mean	0.003101269	0.001190042
Variance	1.76498E-06	1.10697E-06
Observations	46	6
Hypothesized Mean Difference	0	
df	7	
t Stat	4.048480791	
P(T<=t) one-tail	0.002440089	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	0.004880179	
t Critical two-tail	2.364624252	

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t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.001716564	0.00599432
Variance	1.89795E-06	3.5827E-05
Observations	46	95
Hypothesized Mean Difference	0	
df	113	
t Stat	-6.613437726	
P(T<=t) one-tail	6.50058E-10	
t Critical one-tail	1.658450216	
P(T<=t) two-tail	1.30012E-09	
t Critical two-tail	1.981180359	

t-Test: Two-Sample Assuming Unequal Variances		
CHLORINE		
	Variable 1	*Variable 2*
Mean	0.033796559	0.0174297
Variance	0.000175687	1.2836E-05
Observations	46	95
Hypothesized Mean Difference	0	
df	48	
t Stat	8.230485133	
P(T<=t) one-tail	4.94872E-11	
t Critical one-tail	1.677224196	
P(T<=t) two-tail	9.89745E-11	
t Critical two-tail	2.010634758	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.001447069	0.00719963
Variance	7.56051E-06	6.7269E-05
Observations	46	95
Hypothesized Mean Difference	0	
df	128	
t Stat	-6.158696092	
P(T<=t) one-tail	4.39157E-09	
t Critical one-tail	1.656845226	
P(T<=t) two-tail	8.78313E-09	
t Critical two-tail	1.97867085	

t-Test: Two-Sample Assuming Unequal Variances		
CALCIUM		
	Variable 1	*Variable 2*
Mean	0.098179117	0.05259633
Variance	0.003539396	0.00085011
Observations	46	95
Hypothesized Mean Difference	0	
df	56	
t Stat	4.918410962	
P(T<=t) one-tail	4.00848E-06	
t Critical one-tail	1.672522303	
P(T<=t) two-tail	8.01696E-06	
t Critical two-tail	2.003240719	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.003022044	0.00747582
Variance	5.09489E-06	7.084E-06
Observations	46	95
Hypothesized Mean Difference	0	
df	104	
t Stat	-10.34570165	
P(T<=t) one-tail	5.67971E-18	
t Critical one-tail	1.659637437	
P(T<=t) two-tail	1.13594E-17	
t Critical two-tail	1.983037526	

t-Test: Two-Sample Assuming Unequal Variances		
MANGANESE		
	Variable 1	*Variable 2*
Mean	0.022664442	0.00656835
Variance	0.001169192	1.1261E-05
Observations	46	95
Hypothesized Mean Difference	0	
df	45	
t Stat	3.185269619	
P(T<=t) one-tail	0.001313429	
t Critical one-tail	1.679427393	
P(T<=t) two-tail	0.002626859	
t Critical two-tail	2.014103389	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.088126588	0.04769569
Variance	0.004158345	0.00344662
Observations	46	95
Hypothesized Mean Difference	0	
df	82	
t Stat	3.592204619	
P(T<=t) one-tail	0.000278867	
t Critical one-tail	1.663649184	
P(T<=t) two-tail	0.000557733	
t Critical two-tail	1.989318557	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.007402409	0.00631204
Variance	4.54775E-06	1.7917E-06
Observations	46	95
Hypothesized Mean Difference	0	
df	63	
t Stat	3.177893515	
P(T<=t) one-tail	0.001149703	
t Critical one-tail	1.669402222	
P(T<=t) two-tail	0.002299405	
t Critical two-tail	1.998340543	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.002214486	0.0085109
Variance	8.16656E-06	9.8853E-06
Observations	46	95
Hypothesized Mean Difference	0	
df	97	
t Stat	-11.86548267	
P(T<=t) one-tail	6.76569E-21	
t Critical one-tail	1.66071461	
P(T<=t) two-tail	1.35314E-20	
t Critical two-tail	1.984723186	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.010486915	0.01474697
Variance	0.000100225	2.2645E-05
Observations	46	95
Hypothesized Mean Difference	0	
df	55	
t Stat	-2.740069126	
P(T<=t) one-tail	0.004133155	
t Critical one-tail	1.673033965	
P(T<=t) two-tail	0.008266309	
t Critical two-tail	2.004044783	

t-Test: Two-Sample Assuming Unequal Variances		
ZINC		
	Variable 1	*Variable 2*
Mean	0.005660318	0.00274516
Variance	9.92524E-06	1.2186E-06
Observations	46	95
Hypothesized Mean Difference	0	
df	50	
t Stat	6.097189757	
P(T<=t) one-tail	7.72812E-08	
t Critical one-tail	1.675905025	
P(T<=t) two-tail	1.54562E-07	
t Critical two-tail	2.008559112	

t-Test: Two-Sample Assuming Unequal Variances		
STRONTIUM		
	Variable 1	*Variable 2*
Mean	0.004816771	0.00641409
Variance	4.10524E-05	4.1307E-06
Observations	46	95
Hypothesized Mean Difference	0	
df	49	
t Stat	-1.651096223	
P(T<=t) one-tail	0.052557317	
t Critical one-tail	1.676550893	
P(T<=t) two-tail	0.105114635	
t Critical two-tail	2.009575237	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.058984412	0.13037137
Variance	0.004314718	0.00028766
Observations	46	95
Hypothesized Mean Difference	0	
df	48	
t Stat	-7.25474756	
P(T<=t) one-tail	1.49747E-09	
t Critical one-tail	1.677224196	
P(T<=t) two-tail	2.99494E-09	
t Critical two-tail	2.010634758	

t-Test: Two-Sample Assuming Unequal Variances		
CERIUM		
	Variable 1	*Variable 2*
Mean	0.003641003	0.00172899
Variance	1.56881E-05	2.5129E-06
Observations	46	95
Hypothesized Mean Difference	0	
df	52	
t Stat	3.154017732	
P(T<=t) one-tail	0.001337609	
t Critical one-tail	1.674689154	
P(T<=t) two-tail	0.002675217	
t Critical two-tail	2.006646805	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.007965413	0.00474531
Variance	1.6232E-05	3.6904E-06
Observations	46	95
Hypothesized Mean Difference	0	
df	55	
t Stat	5.144980867	
P(T<=t) one-tail	1.84354E-06	
t Critical one-tail	1.673033965	
P(T<=t) two-tail	3.68707E-06	
t Critical two-tail	2.004044783	

t-Test: Two-Sample Assuming Unequal Variances		
YTTERBIUM		
	Variable 1	*Variable 2*
Mean	0.021950068	0.02607202
Variance	6.02493E-05	2.4414E-05
Observations	46	95
Hypothesized Mean Difference	0	
df	63	
t Stat	-3.293074086	
P(T<=t) one-tail	0.000813958	
t Critical one-tail	1.669402222	
P(T<=t) two-tail	0.001627917	
t Critical two-tail	1.998340543	

t-Test: Two-Sample Assuming Unequal Variances		
THORIUM		
	Variable 1	*Variable 2*
Mean	0.003101269	0.00170668
Variance	1.76498E-06	1.8276E-06
Observations	46	95
Hypothesized Mean Difference	0	
df	91	
t Stat	5.81043626	
P(T<=t) one-tail	4.53937E-08	
t Critical one-tail	1.661771155	
P(T<=t) two-tail	9.07874E-08	
t Critical two-tail	1.986377154	

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t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.00599432	0.002724753
Variance	3.5827E-05	2.18957E-05
Observations	95	6
Hypothesized Mean Difference	0	
df	6	
t Stat	1.629412736	
P(T<=t) one-tail	0.077174162	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.154348324	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
CHLORINE		
	Variable 1	*Variable 2*
Mean	0.0174297	0.016016211
Variance	1.28357E-05	7.63039E-07
Observations	95	6
Hypothesized Mean Difference	0	
df	20	
t Stat	2.759972403	
P(T<=t) one-tail	0.006039134	
t Critical one-tail	1.724718243	
P(T<=t) two-tail	0.012078268	
t Critical two-tail	2.085963447	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.007199629	0.002679948
Variance	6.72695E-05	3.6855E-05
Observations	95	6
Hypothesized Mean Difference	0	
df	6	
t Stat	1.726806356	
P(T<=t) one-tail	0.067474614	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.134949229	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
CALCIUM		
	Variable 1	*Variable 2*
Mean	0.052596334	0.069700469
Variance	0.000850106	0.000515273
Observations	95	6
Hypothesized Mean Difference	0	
df	6	
t Stat	-1.75644482	
P(T<=t) one-tail	0.064765359	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.129530718	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.007475822	0.006757873
Variance	7.08396E-06	2.36825E-06
Observations	95	6
Hypothesized Mean Difference	0	
df	7	
t Stat	1.04804404	
P(T<=t) one-tail	0.164725317	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	0.329450633	
t Critical two-tail	2.364624252	

t-Test: Two-Sample Assuming Unequal Variances		
MANGANESE		
	Variable 1	*Variable 2*
Mean	0.006568351	0.006906799
Variance	1.12606E-05	1.43403E-06
Observations	95	6
Hypothesized Mean Difference	0	
df	11	
t Stat	-0.56601946	
P(T<=t) one-tail	0.29137159	
t Critical one-tail	1.795884819	
P(T<=t) two-tail	0.582743181	
t Critical two-tail	2.20098516	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.047695692	0.02864588
Variance	0.003446618	6.56018E-06
Observations	95	6
Hypothesized Mean Difference	0	
df	98	
t Stat	3.11607934	
P(T<=t) one-tail	0.00120233	
t Critical one-tail	1.660551217	
P(T<=t) two-tail	0.002404659	
t Critical two-tail	1.984467455	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.006312043	0.006261187
Variance	1.79171E-06	6.9752E-07
Observations	95	6
Hypothesized Mean Difference	0	
df	7	
t Stat	0.138355059	
P(T<=t) one-tail	0.446927904	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	0.893855808	
t Critical two-tail	2.364624252	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.008510905	0.007972744
Variance	9.88529E-06	2.36169E-06
Observations	95	6
Hypothesized Mean Difference	0	
df	8	
t Stat	0.762853029	
P(T<=t) one-tail	0.233723326	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.467446653	
t Critical two-tail	2.306004135	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.014746972	0.011948478
Variance	2.26449E-05	6.12963E-06
Observations	95	6
Hypothesized Mean Difference	0	
df	8	
t Stat	2.49312381	
P(T<=t) one-tail	0.018670003	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.037340006	
t Critical two-tail	2.306004135	

t-Test: Two-Sample Assuming Unequal Variances		
ZINC		
	Variable 1	*Variable 2*
Mean	0.002745164	0.0015183
Variance	1.2186E-06	7.72859E-07
Observations	95	6
Hypothesized Mean Difference	0	
df	6	
t Stat	3.259926833	
P(T<=t) one-tail	0.008625192	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.017250385	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
STRONTIUM		
	Variable 1	*Variable 2*
Mean	0.006414094	0.006667518
Variance	4.13075E-06	1.06694E-06
Observations	95	6
Hypothesized Mean Difference	0	
df	8	
t Stat	-0.53870547	
P(T<=t) one-tail	0.302376013	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.604752025	
t Critical two-tail	2.306004135	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.130371366	0.135155424
Variance	0.000287662	0.000134212
Observations	95	6
Hypothesized Mean Difference	0	
df	6	
t Stat	-0.94930896	
P(T<=t) one-tail	0.189558116	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.379116232	
t Critical two-tail	2.446911851	

t-Test: Two-Sample Assuming Unequal Variances		
CERIUM		
	Variable 1	*Variable 2*
Mean	0.001728986	0.001664223
Variance	2.51293E-06	3.696E-07
Observations	95	6
Hypothesized Mean Difference	0	
df	10	
t Stat	0.21824978	
P(T<=t) one-tail	0.415811957	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.831623914	
t Critical two-tail	2.228138852	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.004745312	0.005401355
Variance	3.69044E-06	1.0176E-06
Observations	95	6
Hypothesized Mean Difference	0	
df	8	
t Stat	-1.43692926	
P(T<=t) one-tail	0.094335853	
t Critical one-tail	1.859548038	
P(T<=t) two-tail	0.188671706	
t Critical two-tail	2.306004135	

t-Test: Two-Sample Assuming Unequal Variances		
YTTERBIUM		
	Variable 1	*Variable 2*
Mean	0.026072017	0.026019975
Variance	2.44143E-05	3.67644E-06
Observations	95	6
Hypothesized Mean Difference	0	
df	10	
t Stat	0.055803797	
P(T<=t) one-tail	0.478298664	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.956597328	
t Critical two-tail	2.228138852	

t-Test: Two-Sample Assuming Unequal Variances		
THORIUM		
	Variable 1	*Variable 2*
Mean	0.001706677	0.001190042
Variance	1.82763E-06	1.10697E-06
Observations	95	6
Hypothesized Mean Difference	0	
df	6	
t Stat	1.144596449	
P(T<=t) one-tail	0.147986944	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.295973889	
t Critical two-tail	2.446911851	

Flint from Ireland vs flint from Britain

t-Test: Two-Sample Assuming Unequal Variances		
PHOSPHORUS		
	Variable 1	*Variable 2*
Mean	0.004522251	0.003759262
Variance	2.84245E-05	2.4186E-05
Observations	147	107
Hypothesized Mean Difference	0	
df	238	
t Stat	1.178156992	
P(T<=t) one-tail	0.119955338	
t Critical one-tail	1.651281164	
P(T<=t) two-tail	0.239910675	
t Critical two-tail	1.96998153	

t-Test: Two-Sample Assuming Unequal Variances		
CHLORINE		
	Variable 1	*Variable 2*
Mean	0.022493609	0.017901372
Variance	0.000121102	1.44025E-05
Observations	147	107
Hypothesized Mean Difference	0	
df	191	
t Stat	4.690774336	
P(T<=t) one-tail	2.58717E-06	
t Critical one-tail	1.652870547	
P(T<=t) two-tail	5.17434E-06	
t Critical two-tail	1.97246199	

t-Test: Two-Sample Assuming Unequal Variances		
POTASSIUM		
	Variable 1	*Variable 2*
Mean	0.005215031	0.002398084
Variance	5.42031E-05	2.99707E-05
Observations	147	107
Hypothesized Mean Difference	0	
df	252	
t Stat	3.49714787	
P(T<=t) one-tail	0.000277828	
t Critical one-tail	1.650922755	
P(T<=t) two-tail	0.000555656	
t Critical two-tail	1.969422365	

t-Test: Two-Sample Assuming Unequal Variances		
CALCIUM		
	Variable 1	*Variable 2*
Mean	0.067558462	0.098193841
Variance	0.002097155	0.011594164
Observations	147	107
Hypothesized Mean Difference	0	
df	134	
t Stat	-2.76654182	
P(T<=t) one-tail	0.003233106	
t Critical one-tail	1.656304542	
P(T<=t) two-tail	0.006466213	
t Critical two-tail	1.977825758	

t-Test: Two-Sample Assuming Unequal Variances		
TITANIUM		
	Variable 1	*Variable 2*
Mean	0.006052819	0.005619327
Variance	1.04445E-05	5.81167E-06
Observations	147	107
Hypothesized Mean Difference	0	
df	252	
t Stat	1.224309719	
P(T<=t) one-tail	0.110989372	
t Critical one-tail	1.650922755	
P(T<=t) two-tail	0.221978745	
t Critical two-tail	1.969422365	

t-Test: Two-Sample Assuming Unequal Variances		
MANGANESE		
	Variable 1	*Variable 2*
Mean	0.011619037	0.00835217
Variance	0.000423616	0.000107631
Observations	147	107
Hypothesized Mean Difference	0	
df	228	
t Stat	1.656870866	
P(T<=t) one-tail	0.0494605	
t Critical one-tail	1.651564228	
P(T<=t) two-tail	0.098921	
t Critical two-tail	1.970423195	

t-Test: Two-Sample Assuming Unequal Variances		
IRON		
	Variable 1	*Variable 2*
Mean	0.059569994	0.042518178
Variance	0.003888939	0.000657132
Observations	147	107
Hypothesized Mean Difference	0	
df	206	
t Stat	2.986642395	
P(T<=t) one-tail	0.001581292	
t Critical one-tail	1.652284144	
P(T<=t) two-tail	0.003162584	
t Critical two-tail	1.971546669	

t-Test: Two-Sample Assuming Unequal Variances		
COBALT		
	Variable 1	*Variable 2*
Mean	0.00665117	0.005469675
Variance	2.83805E-06	1.71841E-06
Observations	147	107
Hypothesized Mean Difference	0	
df	251	
t Stat	6.282556586	
P(T<=t) one-tail	7.30284E-10	
t Critical one-tail	1.650947025	
P(T<=t) two-tail	1.46057E-09	
t Critical two-tail	1.969460227	

t-Test: Two-Sample Assuming Unequal Variances		
NICKEL		
	Variable 1	*Variable 2*
Mean	0.006518631	0.008844878
Variance	1.74689E-05	1.01638E-05
Observations	147	107
Hypothesized Mean Difference	0	
df	251	
t Stat	-5.0306821	
P(T<=t) one-tail	4.65917E-07	
t Critical one-tail	1.650947025	
P(T<=t) two-tail	9.31834E-07	
t Critical two-tail	1.969460227	

t-Test: Two-Sample Assuming Unequal Variances		
COPPER		
	Variable 1	*Variable 2*
Mean	0.013299669	0.013596562
Variance	4.96115E-05	1.46543E-05
Observations	147	107
Hypothesized Mean Difference	0	
df	235	
t Stat	-0.43102832	
P(T<=t) one-tail	0.333421442	
t Critical one-tail	1.651363544	
P(T<=t) two-tail	0.666842884	
t Critical two-tail	1.970110062	

t-Test: Two-Sample Assuming Unequal Variances		
ZINC		
	Variable 1	*Variable 2*
Mean	0.003607313	0.002801934
Variance	5.86115E-06	1.7226E-06
Observations	147	107
Hypothesized Mean Difference	0	
df	235	
t Stat	3.404234088	
P(T<=t) one-tail	0.000390011	
t Critical one-tail	1.651363544	
P(T<=t) two-tail	0.000780022	
t Critical two-tail	1.970110062	

t-Test: Two-Sample Assuming Unequal Variances		
STRONTIUM		
	Variable 1	*Variable 2*
Mean	0.005924596	0.009302461
Variance	1.59145E-05	1.18421E-05
Observations	147	107
Hypothesized Mean Difference	0	
df	245	
t Stat	-7.21912382	
P(T<=t) one-tail	3.27646E-12	
t Critical one-tail	1.65109682	
P(T<=t) two-tail	6.55292E-12	
t Critical two-tail	1.969693921	

t-Test: Two-Sample Assuming Unequal Variances		
PALLADIUM		
	Variable 1	*Variable 2*
Mean	0.108227859	0.131405448
Variance	0.002632549	0.000427109
Observations	147	107
Hypothesized Mean Difference	0	
df	204	
t Stat	-4.95272878	
P(T<=t) one-tail	7.6612E-07	
t Critical one-tail	1.652357326	
P(T<=t) two-tail	1.53224E-06	
t Critical two-tail	1.971660889	

t-Test: Two-Sample Assuming Unequal Variances		
CERIUM		
	Variable 1	*Variable 2*
Mean	0.002324661	0.001657031
Variance	7.2607E-06	1.54389E-06
Observations	147	107
Hypothesized Mean Difference	0	
df	218	
t Stat	2.642729361	
P(T<=t) one-tail	0.004410359	
t Critical one-tail	1.651873373	
P(T<=t) two-tail	0.008820717	
t Critical two-tail	1.970905601	

t-Test: Two-Sample Assuming Unequal Variances		
PRASEODYMIUM		
	Variable 1	*Variable 2*
Mean	0.00577974	0.005406231
Variance	9.62117E-06	2.92865E-06
Observations	147	107
Hypothesized Mean Difference	0	
df	237	
t Stat	1.22596778	
P(T<=t) one-tail	0.110713782	
t Critical one-tail	1.651308391	
P(T<=t) two-tail	0.221427565	
t Critical two-tail	1.97002401	

t-Test: Two-Sample Assuming Unequal Variances		
YTTERBIUM		
	Variable 1	*Variable 2*
Mean	0.024780032	0.025960574
Variance	3.80873E-05	2.58766E-05
Observations	147	107
Hypothesized Mean Difference	0	
df	248	
t Stat	-1.66798164	
P(T<=t) one-tail	0.048290734	
t Critical one-tail	1.651021013	
P(T<=t) two-tail	0.096581469	
t Critical two-tail	1.969575654	

t-Test: Two-Sample Assuming Unequal Variances		
THORIUM		
	Variable 1	*Variable 2*
Mean	0.002121993	0.00199604
Variance	2.20867E-06	1.78022E-06
Observations	147	107
Hypothesized Mean Difference	0	
df	241	
t Stat	0.707840069	
P(T<=t) one-tail	0.239864282	
t Critical one-tail	1.651200843	
P(T<=t) two-tail	0.479728564	
t Critical two-tail	1.969856213	

t-Test: Two-Sample Assuming Unequal Variances		
ALUMINIUM		
	Variable 1	*Variable 2*
Mean	2.63465E-05	3.65882E-05
Variance	2.79145E-08	1.90797E-08
Observations	166	107
Hypothesized Mean Difference	0	
df	255	
t Stat	-0.55022101	
P(T<=t) one-tail	0.291324715	
t Critical one-tail	1.650851092	
P(T<=t) two-tail	0.582649429	
t Critical two-tail	1.96931057	

t-Test: Two-Sample Assuming Unequal Variances		
ZIRCONIUM		
	Variable 1	*Variable 2*
Mean	0.009604983	0.008201741
Variance	0.000242737	0.000169
Observations	166	107
Hypothesized Mean Difference	0	
df	254	
t Stat	0.804588438	
P(T<=t) one-tail	0.21090483	
t Critical one-tail	1.650874791	
P(T<=t) two-tail	0.42180966	
t Critical two-tail	1.96934754	