Supplement of The Cryosphere, 17, 3987–4006, 2023
https://doi.org/10.5194/tc-17-3987-2023-supplement

The Cryosphere Open Access EGU

Supplement of

Environmental controls on observed spatial variability of soil pore water geochemistry in small headwater catchments underlain with permafrost

Nathan Alec Conroy et al.

Correspondence to: Nathan Alec Conroy (nconroy@lanl.gov)

Supplement

S1.1 Principal Components Analysis (PCA)

The PCA helps highlight some of the more interesting geochemical relationships between the different analytes. There were three components that had variance contributions above 10 %. We have chosen to focus on those for this discussion since their combined variance contribution was 46 % of the total variance; additional components only increased the total variance contribution by small increments. Principal Component 1 contributed 21.4% of the total variance (Table S2). Analytes with large weightings (i.e., eigenvalues with an absolute value > 0.25) for this component included Ca, Mg, and Mn (positive values) and Al, Ti, oxalate, Zn, and NO_2 (negative values). Principal Component 2 contributed 13.4% of the variance. Analytes with large weightings for this component included Zn, Si, Na, Ba, K, Cr, and Li (negative values); there were no positive values greater than 0.25 for Principal Component 2. Principal Component 3 contributed 11.3% of the total variance. Analytes with large weightings for this component included Fe, Sr, Mn, Ti, and NO_2 (positive values) and NO_3, Na, F, and Cl (negative values). The relevance of the PCA results to general geochemical relationships and to differences between the Kougarok and Teller sites are examined in Section 4.1. Correlations between analytes for Teller and Kougarok data combined are shown in **Figure S6**.

Principal Components Analysis provides additional information about the relationships between the analytes. Analytes that have high weightings in Principal Component 1 (Ca, Mg, and Mn (positive values) and Al, Ti, oxalate, Zn, and NO_2 (negative values) are an assemblage with no obvious geochemical connection. However, examination of correlations (**Figure S7**, significant at p=0.05) helps clarify why these analytes appear to be important based on the PCA results. Ca and Mg are well correlated (r = 0.65) and have a broad range of concentrations, which explains why they have the highest positive eigenvalues in Principal Component 1. Although Mn is more redox sensitive, it is correlated with Ca (r=0.49) and Mg (r=0.47). Mn correlations within the Teller watershed are particularly high with r values of 0.80 and 0.85 for Ca and Mg, respectively. With respect to analytes with large negative eigenvalues, Al, Ti, and oxalate have significant negative correlations with the positive eigenvalue analytes Ca, Mg, and Mn. Zn and NO_2 also have negative correlations with Ca, Mg, and Mn, although they were not always significant. Oxalate appears to be an important control on geochemical variability related to Principal Component 1 and has strong correlations with Al (r=0.60) and Ti (r=0.53), and significant correlations with Zn and NO_2. However, these correlations are all driven by Kougarok. There are no significant correlations with oxalate for any analytes within the Teller. The median oxalate concentration is over an order of magnitude higher at Kougarok than Teller. Oxalate forms from fungal breakdown of plant material (Uren, 2018) and its abundance at Kougarok may be related to the degradation of alder leaf litter or woody material. Because oxalate is an effective metal chelator it might explain the significant correlations between oxalate and Al (r=0.60) , Ti (r=0.53), and Zn (r=0.34) within Kougarok. A significant correlation between oxalate and NO_2 (r=0.36) within Kougarok also supports the hypothesis of an alder association. Median NO_2 concentrations at Kougarok are also an order of magnitude higher than at Teller.

Analytes with large weightings for Principal Component 2 included Zn, Si, Na, Ba, K, Cr, and Li. Si is correlated with Zn, Na, K, Cr, and Li suggesting a possible water/rock interaction control. However, Si is not correlated with Ba. Ba has strong correlations with Na (r=0.71) and Zn (r=0.68), and significant correlations with K, Cr, and Li. The large eigenvalues for Ba, K, Li, and Zn in Principal Component 2 appear to be related to substantially higher median concentrations at Kougarok, which are more than twice those at Teller (Table S1).

Analytes with large weightings for Principal Component 3 included Fe, Sr, Mn, Ti, and NO_2 (positive values), and NO_3, Na, F, and Cl (negative values). This component includes multiple redox sensitive species (NO_3, Fe, Mn and NO_2) and their presence in Principal Component 3 likely reflects the significant concentration differences between the two watersheds and that both watersheds have redox gradients that contribute to increased variability of these analytes. Sr is significantly correlated with Fe and Mn although it is not considered to be particularly redox sensitive. However, it is highly correlated with Ca (0.86) and strongly correlated with Mg (0.55), which both occur in Principal Component 1. It is thus likely that Sr variability was too low to generate a large eigenvalue in Principal Component 1 and so it ended up being prominent in Principal Component 3.

Overall, the PCA results appear to be highly affected by the strong geochemical differences between the two watersheds (see Principal Component 1 versus Principal Component 2 plot in Figure S6 as an example which demonstrates the large difference between the watersheds in principal component space), and many of the analytes which are prominent in one of the three components also have substantial within site variability because of water/rock interaction effects and/or redox/pH changes. The PCA also highlights the importance of oxalate and NO_2 which are analytes that may not typically receive much attention. However, their prominence in Principal Component 1 and their association with alder sites at Kougarok demonstrates their biogeochemical importance at that site. In addition, oxalate may help explain associations with some metals because of its strong chelation properties; additional study would be required to evaluate this speculation.

Table S1: Geochemical modelling parameters

	Low Concentration (25^{th} Percentile)	Median Concentration (50^{th} Percentile)	High Concentration (100^{th} Percentile)
Al	8.64E-07	6.66E-06	3.37E-04
B	9.39E-07	3.58E-06	7.14E-05
Ba	9.52E-07	1.90E-06	1.30E-05
Br	6.26E-08	6.26E-08	3.78E-06
Cd	5.22E-05	9.43E-05	2.10E-03
Cl	8.68E-05	1.15E-04	2.74E-03
F	1.05E-06	2.11E-06	2.95E-05
Fe	1.78E-06	5.86E-06	1.14E-03
Li	4.32E-08	4.32E-08	2.42E-05
Mg	2.87E-05	4.10E-05	4.44E-04
Mn	4.62E-08	1.23E-07	7.88E-06
NO_3	3.98E-07	1.24E-06	9.97E-04
PO_4	5.26E-08	5.26E-08	2.83E-05
K	5.71E-06	1.15E-05	2.52E-03
Si	6.77E-05	1.30E-04	6.96E-04
Na	1.26E-04	1.62E-04	8.03E-04
Sr	1.26E-07	2.17E-07	7.00E-06
SO_4	2.81E-06	6.14E-06	2.84E-04
Ti	2.09E-09	5.44E-08	5.06E-06
Zn	1.37E-06	2.79E-06	7.11E-05
CO_3	2.62E-04	3.99E-04	3.87E-02

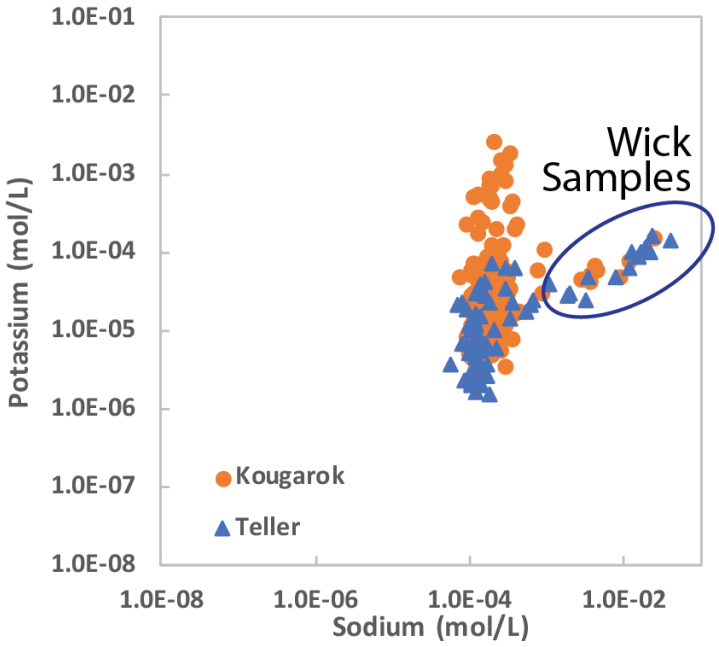

Figure S1: Evidence for leaching effects on monovalent cations associated with the use of wicks.

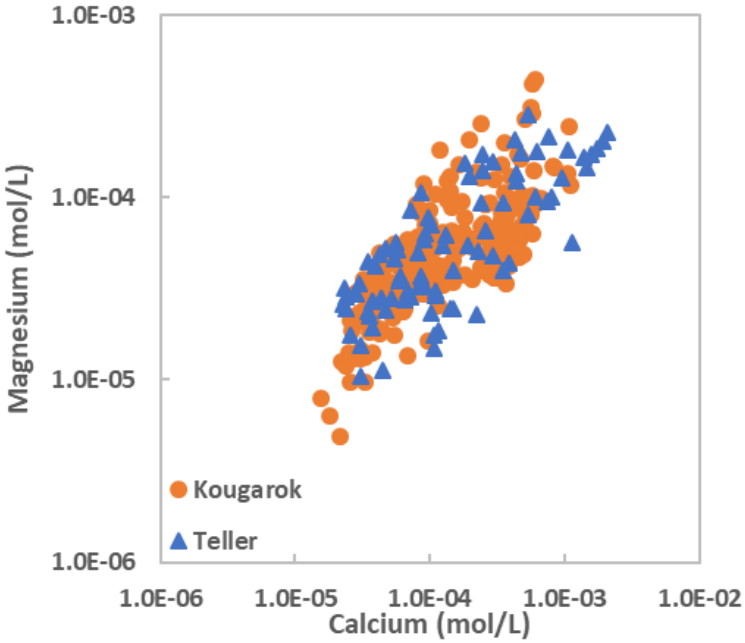

Figure S2: Complementary Figure to Figure S1, but for divalent cations.

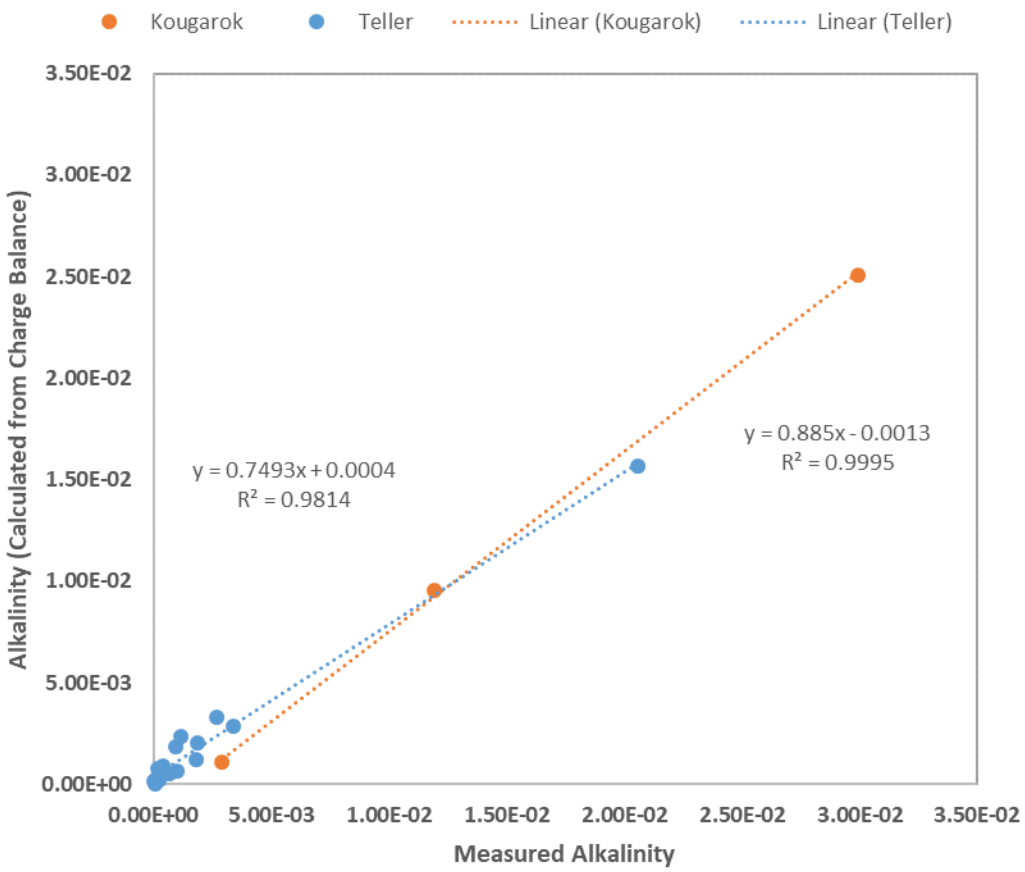

Figure S3: Alkalinity versus charge imbalance for select samples measured for alkalinity in the field.

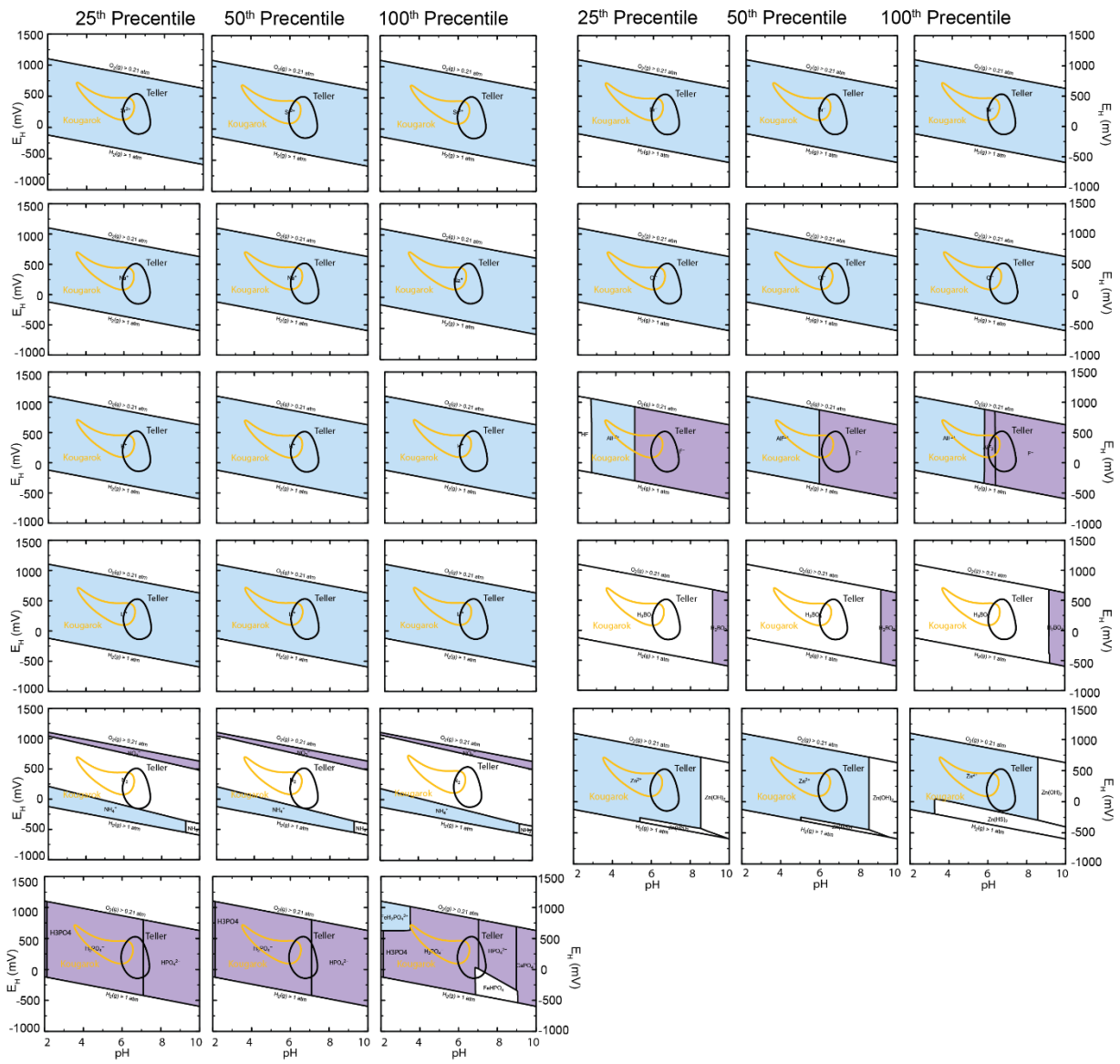

Figure S4: E_H/pH diagrams for species where no mineral phases are expected to form

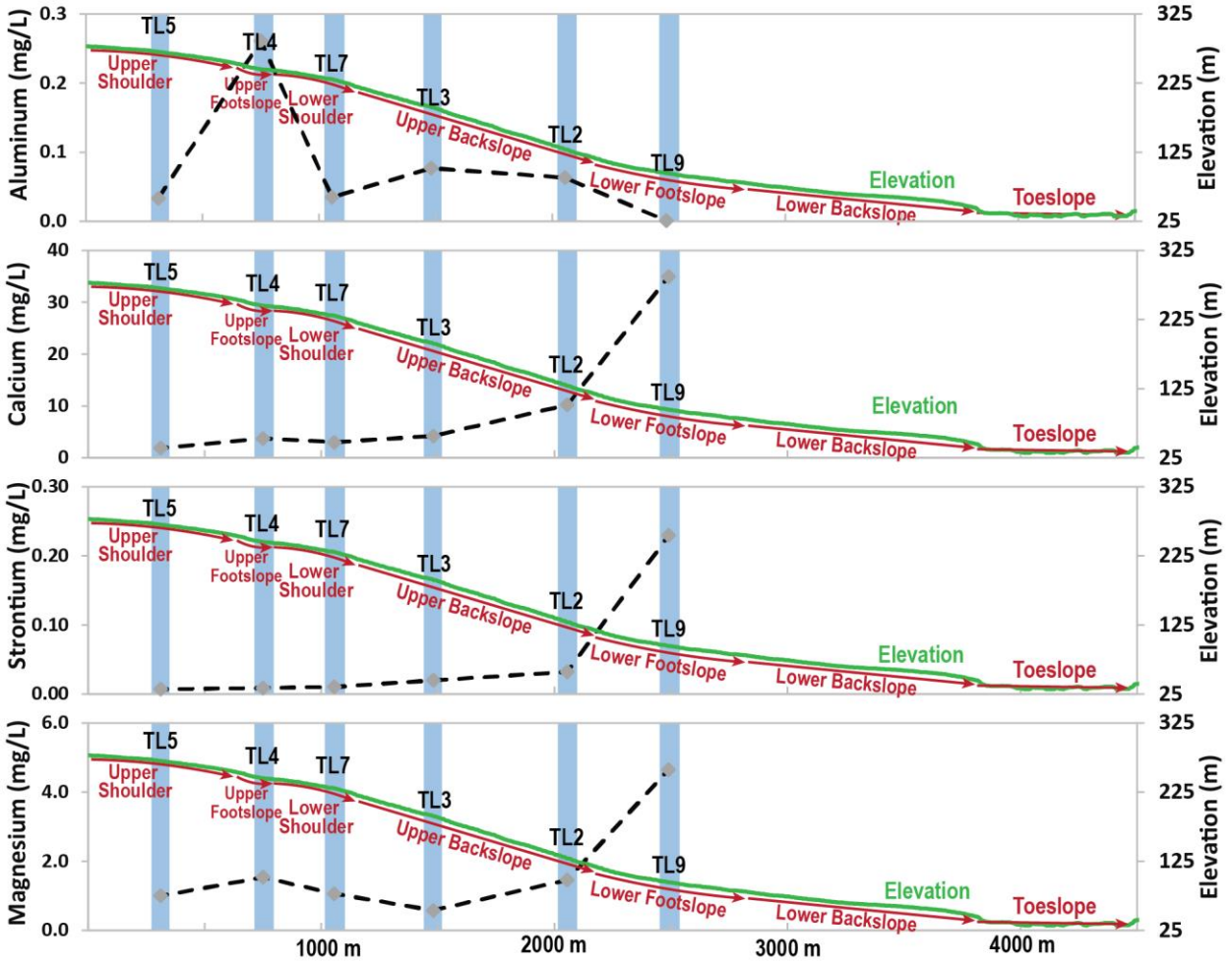

Figure S5: Median (50th percentile) concentrations (grey diamonds with dashed black lines) of Al, Ca, Sr, and Mg, with distance downslope at Teller along the topographic transect; areas of stations are indicated by blue colouring. The elevation profile of the hillslope is plotted in green, on a separate y-axis (right axis).

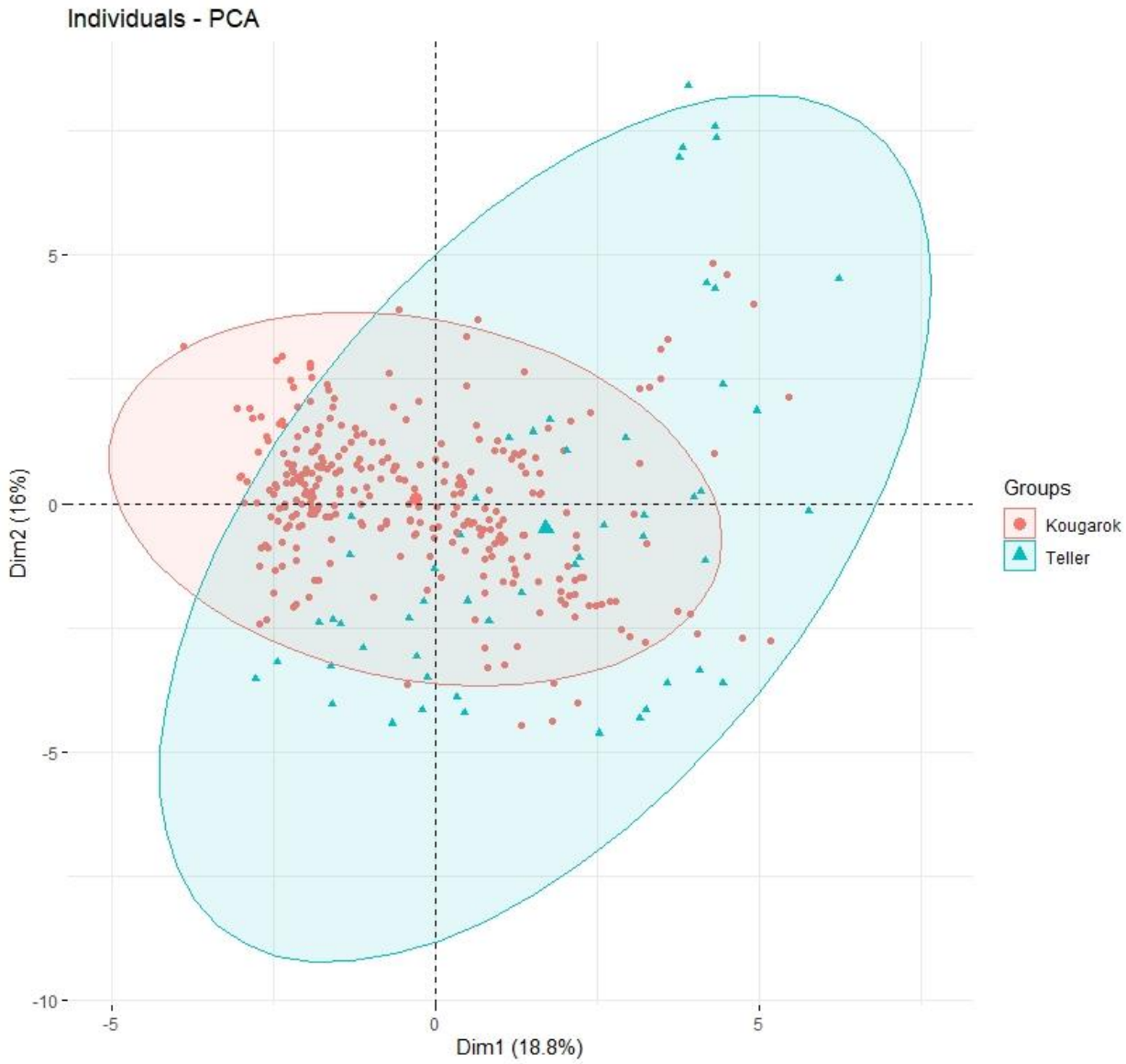

Figure S6: Individual samples are plotted with their scores from principal components 1 and 2, which correspond to the X and Y axes respectively. Teller samples are plotted in blue and Kougarok samples are plotted in red. The means of all the Teller and Kougarok samples are in the large circle and triangle. The ellipses around the mean indicate a 95% confidence interval.

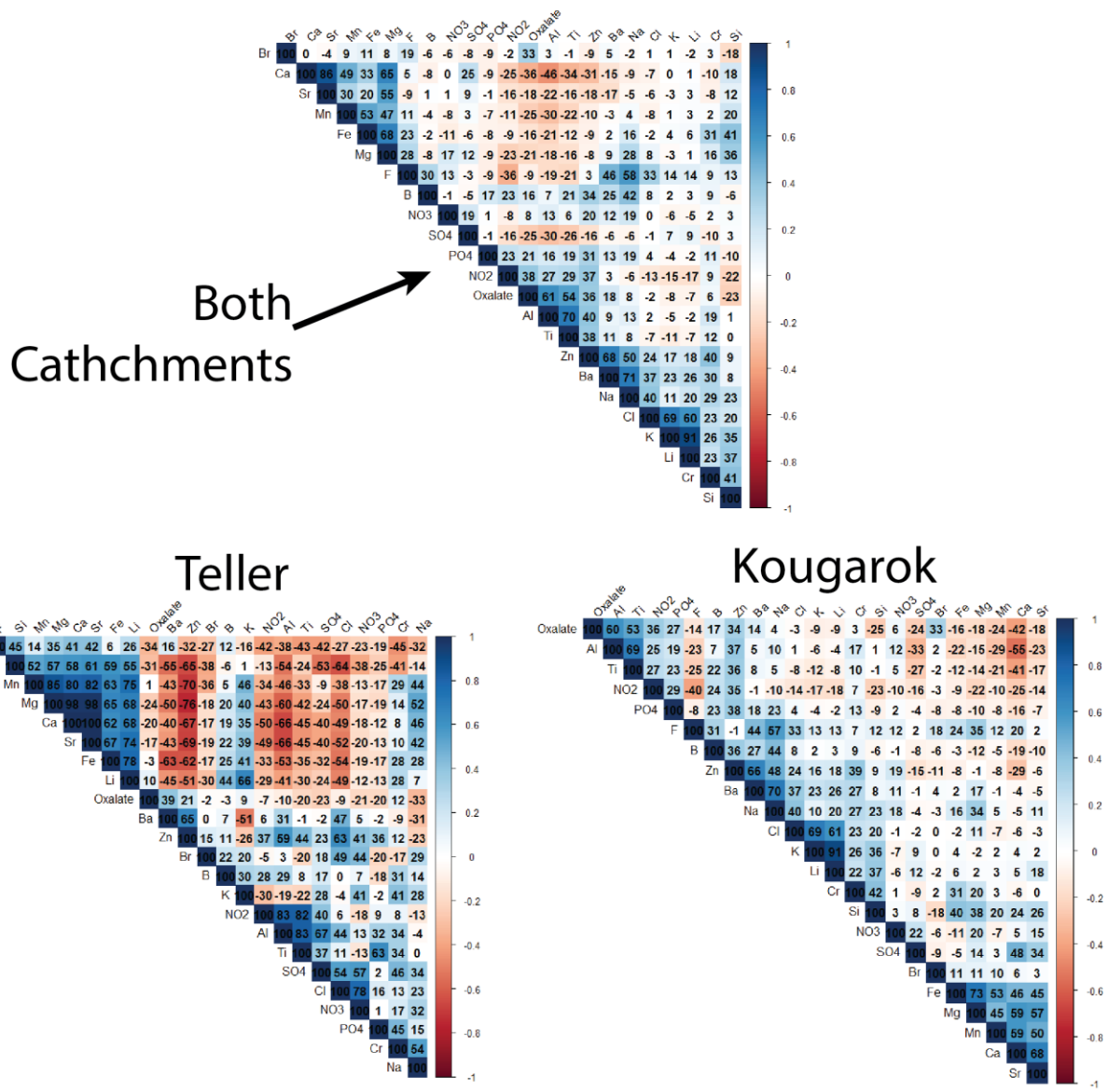

Figure S7: Principal Component Analysis correlation tables for both watersheds together (top), Teller (bottom left), and Kougarok (bottom right).

Table S2. Principle Components 1 – 3 sorted by analyte contribution to variability (both catchments are analysed jointly). Solutes with a contribution greater than +/- 0.25 are highlighted in yellow.

PC1 (21.4%)		PC2 (13.38%; cumulative 34.7%		PC3 (11.25%; 46.03% cumulative)	
0.381	Ca	0.017	NO2	-0.387	NO3
0.280	Mg	-0.020	Oxalate	0.454	Fe
0.211	Mn	-0.028	Al	0.269	Sr
0.197	SO4	-0.032	SO4	0.266	Mn
0.162	K	-0.052	PO4	0.223	Ti
0.152	Sr	-0.057	NO3	0.206	NO2
0.132	Si	-0.068	Ti	0.158	Al
0.086	F	-0.107	Br	0.138	Cr
0.063	Fe	-0.125	Ca	0.127	Mg
0.039	Br	-0.135	Fe	0.104	Oxalate
0.009	Li	-0.158	Sr	0.061	Br
-0.038	Cl	-0.162	B	0.055	B
-0.098	Na	-0.175	Mg	0.039	Ca
-0.131	Cr	-0.180	F	0.031	Si
-0.133	NO3	-0.182	Mn	0.027	K
-0.144	PO4	-0.191	Cl	0.013	Zn
-0.166	Ba	-0.268	Zn	-0.008	Li
-0.170	B	-0.273	Si	-0.035	PO4
-0.253	NO2	-0.307	Na	-0.173	Ba
-0.284	Zn	-0.316	Ba	-0.185	SO4
-0.317	Oxalate	-0.355	K	-0.265	Na
-0.344	Ti	-0.356	Cr	-0.289	F
-0.355	Al	-0.405	Li	-0.330	Cl

Table S3. Principle Components 1 – 4 sorted by analyte contribution to variability (catchments analysed separately with Teller in blue and Kougarok in orange). Solutes with a contribution greater than +/- 0.25 are highlighted in yellow.

TL PC1 -36.42%		TL PC2 (20.23%; 56.65% cumulative)		TL PC3 (9.86%; 66.51% cumulative)		TL PC4 (8.933%; 75.45% cumulative)		KG PC1 -20.92%		KG PC2 (13.21%; 34.14% cumulative)		KG PC3 (11.55%; 45.69% cumulative)		KG PC4 (8.449%; 54.14% cumulative)	
0.310	Al	0.310	F	0.380	Cl	0.480	Oxalate	0.390	Ca	0.010	SO4	0.430	Fe	0.300	K
0.300	Zn	0.220	Si	0.310	Br	0.370	Br	0.280	Mg	0.000	NO3	0.240	Mn	0.270	Sr
0.260	Ba	0.100	Oxalate	0.240	Na	0.260	K	0.230	SO4	-0.040	NO2	0.240	Sr	0.260	SO4
0.230	Cl	0.040	Ba	0.220	Ba	0.240	Fe	0.210	K	-0.040	Oxalate	0.170	Ti	0.210	Si
0.190	NO2	-0.010	Li	0.170	Ca	0.090	Li	0.190	Mn	-0.060	F	0.170	NO2	0.150	PO4
0.180	Ti	-0.060	Zn	0.150	F	0.060	B	0.180	F	-0.080	PO4	0.130	Al	0.130	Li
0.160	SO4	-0.080	Mn	0.150	Sr	0.040	SO4	0.150	Si	-0.080	Al	0.130	Mg	0.070	Zn
0.090	Oxalate	-0.100	Sr	0.130	NO3	0.030	Cl	0.110	Sr	-0.090	Ca	0.080	Oxalate	0.060	Cr
0.060	PO4	-0.100	Mg	0.090	Mg	0.020	NO3	0.060	Br	-0.100	Br	0.070	Br	0.050	NO3
0.020	Br	-0.110	Al	0.090	SO4	-0.030	Cr	0.050	Fe	-0.130	Ti	0.060	Cr	0.050	Ti
-0.010	B	-0.120	Cl	0.040	Mn	-0.050	Ba	0.050	Li	-0.150	Cl	0.060	Ca	0.020	B
-0.020	NO3	-0.120	Ca	0.030	Zn	-0.080	Zn	0.010	Cl	-0.160	Mg	0.000	K	0.010	NO2
-0.060	Cr	-0.140	Fe	-0.040	PO4	-0.100	Na	-0.050	Na	-0.180	Fe	0.000	Si	-0.040	Ca
-0.120	F	-0.150	NO2	-0.080	Cr	-0.100	Ca	-0.100	Ba	-0.190	B	-0.020	B	-0.050	Al
-0.140	K	-0.170	Br	-0.120	Si	-0.110	Mg	-0.100	Cr	-0.220	Mn	-0.060	Zn	-0.140	Cl
-0.160	Na	-0.170	PO4	-0.140	Al	-0.110	Sr	-0.110	NO3	-0.220	Sr	-0.080	Li	-0.140	Mn
-0.170	Fe	-0.180	Ti	-0.160	B	-0.110	Al	-0.160	PO4	-0.250	Na	-0.090	PO4	-0.150	Ba
-0.220	Si	-0.210	B	-0.160	K	-0.170	Mn	-0.160	B	-0.260	Si	-0.160	SO4	-0.200	Oxalate
-0.250	Li	-0.310	K	-0.170	Oxalate	-0.180	F	-0.250	Zn	-0.310	Ba	-0.230	Ba	-0.210	Na
-0.290	Mn	-0.350	Na	-0.290	Ti	-0.210	Si	-0.260	NO2	-0.320	Zn	-0.270	F	-0.220	Mg
-0.300	Ca	-0.350	Cr	-0.300	Li	-0.250	NO2	-0.320	Oxalate	-0.320	K	-0.340	Na	-0.310	Fe
-0.310	Sr	-0.350	SO4	-0.310	NO2	-0.330	Ti	-0.350	Ti	-0.380	Cr	-0.350	Cl	-0.410	F
-0.320	Mg	-0.360	NO3	-0.390	Fe	-0.390	PO4	-0.350	Al	-0.390	Li	-0.420	NO3	-0.450	Br

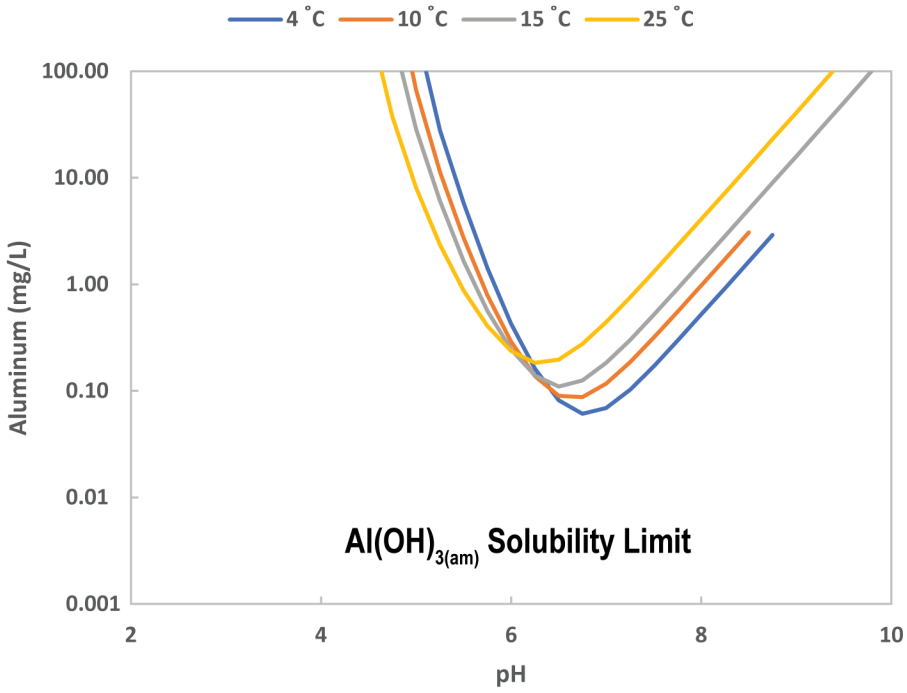

Figure S8. Modelled solution concentrations in solutions saturated with $Al(OH)_{3(am)}$ with respect to pH (x-axis) and temperature (blue = 4 °C; orange = 10 °C; gray = 15 °C; yellow = 25 °C).

Figure S9. Alder savanna plant functional type at Kougarok-64 Hillslope.

Figure S10. Alder shrubland plant functional type at Kougarok-64 Hillslope.

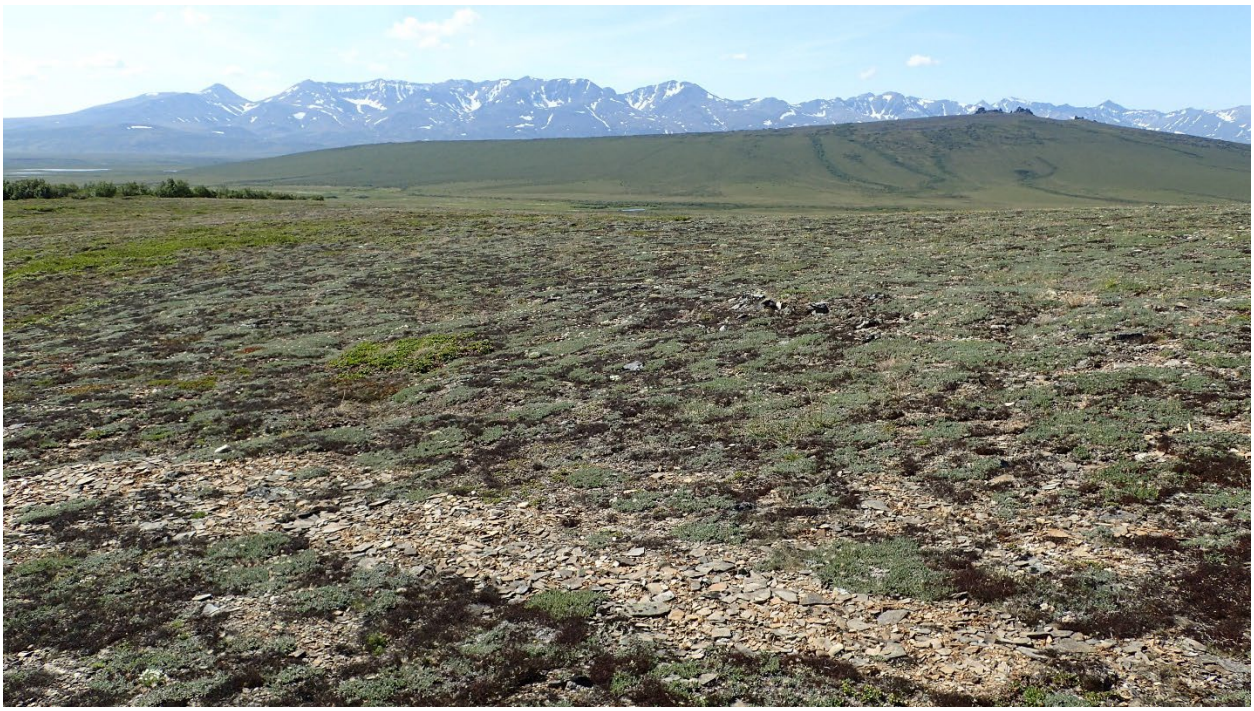

Figure S11. Dryas lichen shrub plant functional type at Kougarok-64 Hillslope.

Figure S12. Tussock tundra plant functional type at Kougarok-64 Hillslope.

Figure S13. Willow birch plant functional type at Kougarok-64 Hillslope.

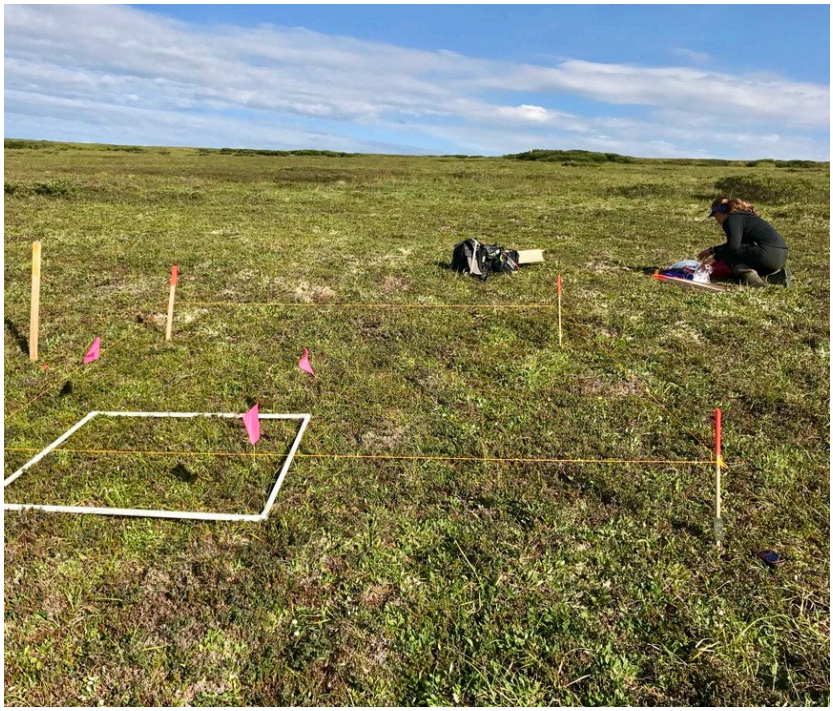

Figure S14. Cassiope dwarf shrub plant functional type at Teller-27 Catchment.

Figure S15. Mesic willow shrubland plant functional type at Teller-27 Catchment.

Figure S16. Wetland complex plant functional type at Teller-27 Catchment.

Figure S17. Willow birch tundra plant functional type at Teller-27 Catchment.

S1.2 PhreePlot Example Model Code

The following is an example code used to generate the 25th percentile plots for strontium in Figure #.

```
SPECIATION
  jobTitle                              "Kougarok 25 %"
  database                              teller_kougarok.dat
  calculationType                       ht1      # grid method
  calculationMethod                     1        # 1=calculate
  mainSpecies                           Sr
  xmin                                  2.0      # pH range (x-axis) 2-10
  xmax                                  10.0
  ymin                                  -90.0    # log f(O2(g)) range (
  ymax                                  0.0
  resolution                            250      # 250 x 250 grid

PLOT
  plotTitle                             "25 Percentile Values"
  xtitle                                pH
  yscale                                Eh
  pymin                                 -1
  pymajor                               0.5
  pdf                                   T
CHEMISTRY

include 'ht1.inc'

SOLUTION 1
   pH         1.8
   units      mol/kgw
      C      2.62E-04
      Al     8.64E-07
      B      9.39E-07
      Ba     9.52E-07
      Br     6.26E-08
      Ca     5.22E-05
      Cl     8.68E-05
      F      1.05E-06
      Fe     1.78E-06
      Li     4.32E-08
      Mg     2.87E-05
      Mn     4.62E-08
      N      3.98E-07
      P      5.26E-08
      K      5.71E-06
      Si     6.77E-05
      Na     1.26E-04
      Sr     1.26E-07
      S      2.81E-06
      Ti     2.09E-09
      Zn     1.37E-06
SAVE solution 1
END

USE solution 1
```

```
EQUILIBRIUM_PHASES 1
   Fix_H+ -<x_axis> NaOH 10
     -force_equality true
   O2(g)  <y_axis>

      Calcite   0 0
      Gypsum    0 0
      Al(OH)3(a)  0 0
      Strontianite 0 0
      Fe(OH)3(a)  0  0
      Dolomite   0  0
      Barite    0  0
      Fluorite  0  0
      Chalcedony 0  0
      Pyrite    0   0
      Pyrolusite 0  0
      Hausmannite 0 0
      Manganite 0 0
      Pyrochroite 0 0
      Celestite  0  0
      Witherite  0  0
      Rhodochrosite   0  0
      Siderite  0  0
      Sepiolite  0  0
      Sylvite  0  0
      Halite   0  0
END
```

S1.3 Tables of Intra-site Mann-Whitney U Testing results

The following pages contain the intra-site Mann-Whitney U Testing results organized into COI specific tables.

Teller Intensive Station Mann Whitney U-Test Results

Aluminum

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 5 / 13	6 / 5 / 11	7 / 5 / 12					
TL_IS7_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11	6 / 6 / 12		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	5 / 10 / 15	6 / 10 / 16	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	55 / 50							
TL_IS4_	48 / 72	31 / 60						
TL_IS5_	95 / 76	67 / 69	95 / 58					
TL_IS6_	63 / 28	41 / 25	57 / 21	80 / 40				
TL_IS7_	71 / 34	47 / 31	69 / 22	90 / 46	32 / 34			
TL_IS8_	77 / 28	54 / 24	70 / 21	99 / 37	39 / 27	45 / 33		
TL_IS9_	110 / 61	77 / 59	97 / 56	147 / 63	61 / 59	67 / 69	61.5 / 74.5	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	29 / 19							
TL_IS4_	44 / 12	32 / 10						
TL_IS5_	21 / 59	14 / 46	3 / 67					
TL_IS6_	13 / 27	10 / 20	6 / 29	25 / 25				
TL_IS7_	13 / 35	10 / 26	1 / 41	25 / 35	13 / 17			
TL_IS8_	7 / 41	3 / 33	0 / 42	16 / 44	6 / 24	12 / 24		
TL_IS9_	6 / 74	4 / 56	1 / 69	8 / 92	4 / 46	14 / 46	19.5 / 40.5	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.65							
TL_IS4_	1.85	1.57						
TL_IS5_	1.69	1.74	**3.12**					
TL_IS6_	1.02	0.91	1.87	0.00				
TL_IS7_	1.42	1.28	**2.86**	0.54	0.37			
TL_IS8_	**2.19**	**2.40**	**3.00**	1.52	1.64	0.96		
TL_IS9_	**3.02**	**2.82**	**3.32**	**3.17**	**2.57**	1.74	1.14	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.05							
TL_IS4_	0.12	0.12						
TL_IS5_	0.09	0.11	0.18					
TL_IS6_	0.08	0.08	0.16	0.00				
TL_IS7_	0.10	0.11	0.22	0.03	0.03			
TL_IS8_	0.16	0.20	0.23	0.09	0.15	0.08		
TL_IS9_	0.17	0.18	0.20	0.16	0.17	0.11	0.07	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small							
TL_IS4_	small-medium	small-medium						
TL_IS5_	small	small-medium	small-medium					
TL_IS6_	small	small	small-medium	small				
TL_IS7_	small-medium	small-medium	small-medium	small	small			
TL_IS8_	small-medium	small-medium	small-medium	small	small-medium	small		
TL_IS9_	small-medium	small-medium	small-medium	small-medium	small-medium	small-medium	small	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	NO							
TL_IS4_	NO	NO						
TL_IS5_	NO	NO	**YES**					
TL_IS6_	NO	NO	NO	NO				
TL_IS7_	NO	NO	**YES**	NO	NO			
TL_IS8_	**YES**	**YES**	**YES**	NO	NO	NO		
TL_IS9_	**YES**	**YES**	**YES**	**YES**	**YES**	NO	NO	

Teller Intensive Station Mann Whitney U-Test Results

Barium

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 5 / 13	6 / 5 / 11	7 / 5 / 12					
TL_IS7_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11	6 / 6 / 12		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	5 / 10 / 15	6 / 10 / 16	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	55 / 50							
TL_IS4_	62 / 58	41 / 50						
TL_IS5_	71 / 100	51 / 85	67 / 86					
TL_IS6_	59 / 32	40 / 26	47 / 31	84 / 36				
TL_IS7_	60 / 45	41 / 37	52 / 39	93 / 43	28 / 38			
TL_IS8_	60 / 45	40 / 38	48 / 43	83 / 53	27 / 39	37 / 41		
TL_IS9_	93 / 78	63 / 73	74 / 79	125 / 85	46 / 74	57 / 79	63 / 73	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	29 / 19							
TL_IS4_	30 / 26	22 / 20						
TL_IS5_	45 / 35	30 / 30	31 / 39					
TL_IS6_	17 / 23	11 / 19	16 / 19	21 / 29				
TL_IS7_	24 / 24	16 / 20	18 / 24	22 / 38	17 / 13			
TL_IS8_	24 / 24	17 / 19	22 / 20	32 / 28	18 / 12	20 / 16		
TL_IS9_	23 / 57	18 / 42	24 / 46	30 / 70	19 / 31	24 / 36	18 / 42	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.65							
TL_IS4_	0.23	0.14						
TL_IS5_	0.44	0.00	0.39					
TL_IS6_	0.44	0.73	0.24	0.49				
TL_IS7_	0.00	0.32	0.43	0.87	0.37			
TL_IS8_	0.00	0.16	0.14	0.22	0.55	0.32		
TL_IS9_	1.51	1.30	1.07	1.51	0.73	0.65	1.30	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.05							
TL_IS4_	0.02	0.01						
TL_IS5_	0.02	0.00	0.02					
TL_IS6_	0.03	0.07	0.02	0.03				
TL_IS7_	0.00	0.03	0.03	0.05	0.03			
TL_IS8_	0.00	0.01	0.01	0.01	0.05	0.03		
TL_IS9_	0.08	0.08	0.06	0.08	0.05	0.04	0.08	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small							
TL_IS4_	small	small						
TL_IS5_	small	small	small					
TL_IS6_	small	small	small	small				
TL_IS7_	small	small	small	small	small			
TL_IS8_	small	small	small	small	small	small		
TL_IS9_	small	small	small	small	small	small	small	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	NO							
TL_IS4_	NO	NO						
TL_IS5_	NO	NO	NO					
TL_IS6_	NO	NO	NO	NO				
TL_IS7_	NO	NO	NO	NO	NO			
TL_IS8_	NO	NO	NO	NO	NO	NO		
TL_IS9_	NO	NO	NO	NO	NO	NO	NO	

Teller Intensive Station Mann Whitney U-Test Results

Boron

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13					
TL_IS7_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	6 / 6 / 12			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	6 / 6 / 12	6 / 6 / 12		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	6 / 10 / 16	6 / 10 / 16	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	56 / 49							
TL_IS4_	60 / 60	43 / 48						
TL_IS5_	76 / 95	56 / 80	68 / 85					
TL_IS6_	60 / 45	42 / 36	52 / 39	85 / 51				
TL_IS7_	56 / 49	39.5 / 38.5	49 / 42	80 / 56	36 / 42			
TL_IS8_	60 / 45	42 / 36	52 / 39	85 / 51	39 / 39	42 / 36		
TL_IS9_	72 / 99	52.5 / 83.5	64 / 89	100 / 110	48 / 88	52.5 / 83.5	48 / 88	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	28 / 20							
TL_IS4_	32 / 24	20 / 22						
TL_IS5_	40 / 40	25 / 35	30 / 40					
TL_IS6_	24 / 24	15 / 21	18 / 24	30 / 30				
TL_IS7_	28 / 20	17.5 / 18.5	21 / 21	35 / 25	21 / 15			
TL_IS8_	24 / 24	15 / 21	18 / 24	30 / 30	18 / 18	15 / 21		
TL_IS9_	44 / 36	28.5 / 31.5	34 / 36	55 / 45	33 / 27	28.5 / 31.5	33 / 27	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.52							
TL_IS4_	0.46	0.14						
TL_IS5_	0.00	0.54	0.49					
TL_IS6_	0.00	0.48	0.43	0.00				
TL_IS7_	0.52	0.08	0.00	0.54	0.48			
TL_IS8_	0.00	0.48	0.43	0.00	0.00	0.48		
TL_IS9_	0.36	0.16	0.10	0.38	0.33	0.16	0.33	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.04							
TL_IS4_	0.03	0.01						
TL_IS5_	0.00	0.03	0.03					
TL_IS6_	0.00	0.04	0.03	0.00				
TL_IS7_	0.04	0.01	0.00	0.03	0.04			
TL_IS8_	0.00	0.04	0.03	0.00	0.00	0.04		
TL_IS9_	0.02	0.01	0.01	0.02	0.02	0.01	0.02	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small							
TL_IS4_	small	small						
TL_IS5_	small	small	small					
TL_IS6_	small	small	small	small				
TL_IS7_	small	small	small	small	small			
TL_IS8_	small	small	small	small	small	small		
TL_IS9_	small	small	small	small	small	small	small	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	NO							
TL_IS4_	NO	NO						
TL_IS5_	NO	NO	NO					
TL_IS6_	NO	NO	NO	NO				
TL_IS7_	NO	NO	NO	NO	NO			
TL_IS8_	NO	NO	NO	NO	NO	NO		
TL_IS9_	NO	NO	NO	NO	NO	NO	NO	

Teller Intensive Station Mann Whitney U-Test Results

Bromide

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 5 / 13	6 / 5 / 11	7 / 5 / 12					
TL_IS7_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11	6 / 6 / 12		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	5 / 10 / 15	6 / 10 / 16	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	59.5 / 45.5							
TL_IS4_	67.5 / 52.5	45.5 / 45.5						
TL_IS5_	74 / 97	50 / 86	56 / 97					
TL_IS6_	55 / 36	35 / 31	42 / 36	80 / 40				
TL_IS7_	56 / 49	37 / 41	42 / 49	82.5 / 53.5	29 / 37			
TL_IS8_	59.5 / 45.5	38.5 / 39.5	45.5 / 45.5	86 / 50	30 / 36	41 / 37		
TL_IS9_	74 / 97	50 / 86	56 / 97	106 / 104	41 / 79	55 / 81	51 / 85	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	24.5 / 23.5							
TL_IS4_	24.5 / 31.5	17.5 / 24.5						
TL_IS5_	42 / 38	31 / 29	42 / 28					
TL_IS6_	21 / 19	16 / 14	21 / 14	25 / 25				
TL_IS7_	28 / 20	20 / 16	28 / 14	32.5 / 27.5	16 / 14			
TL_IS8_	24.5 / 23.5	18.5 / 17.5	24.5 / 17.5	29 / 31	15 / 15	16 / 20		
TL_IS9_	42 / 38	31 / 29	42 / 28	49 / 51	24 / 26	26 / 34	30 / 30	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.06							
TL_IS4_	0.41	0.50						
TL_IS5_	0.18	0.11	0.68					
TL_IS6_	0.15	0.18	0.57	0.00				
TL_IS7_	0.52	0.32	1.00	0.27	0.18			
TL_IS8_	0.06	0.08	0.50	0.11	0.00	0.32		
TL_IS9_	0.18	0.11	0.68	0.08	0.12	0.43	0.00	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.00							
TL_IS4_	0.03	0.04						
TL_IS5_	0.01	0.01	0.04					
TL_IS6_	0.01	0.02	0.05	0.00				
TL_IS7_	0.04	0.03	0.08	0.02	0.02			
TL_IS8_	0.00	0.01	0.04	0.01	0.00	0.03		
TL_IS9_	0.01	0.01	0.04	0.00	0.01	0.03	0.00	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small							
TL_IS4_	small	small						
TL_IS5_	small	small	small					
TL_IS6_	small	small	small	small				
TL_IS7_	small	small	small	small	small			
TL_IS8_	small	small	small	small	small	small		
TL_IS9_	small	small	small	small	small	small	small	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	NO							
TL_IS4_	NO	NO						
TL_IS5_	NO	NO	NO					
TL_IS6_	NO	NO	NO	NO				
TL_IS7_	NO	NO	NO	NO	NO			
TL_IS8_	NO	NO	NO	NO	NO	NO		
TL_IS9_	NO	NO	NO	NO	NO	NO	NO	

Teller Intensive Station Mann Whitney U-Test Results

Calcium

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 5 / 13	6 / 5 / 11	7 / 5 / 12					
TL_IS7_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11	6 / 6 / 12		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	5 / 10 / 15	6 / 10 / 16	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	81 / 24							
TL_IS4_	91 / 29	50 / 41						
TL_IS5_	113 / 58	70 / 66	75 / 78					
TL_IS6_	74 / 17	43 / 23	50 / 28	79 / 41				
TL_IS7_	73 / 32	40 / 38	47 / 44	67 / 69	23 / 43			
TL_IS8_	67 / 38	33 / 45	39 / 52	71 / 65	24 / 42	38 / 40		
TL_IS9_	43 / 128	21 / 115	28 / 125	56 / 154	16 / 104	25 / 111	25 / 111	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	3 / 45							
TL_IS4_	1 / 55	13 / 29						
TL_IS5_	3 / 77	11 / 49	23 / 47					
TL_IS6_	2 / 38	8 / 22	13 / 22	26 / 24				
TL_IS7_	11 / 37	17 / 19	23 / 19	48 / 12	22 / 8			
TL_IS8_	17 / 31	24 / 12	31 / 11	44 / 16	21 / 9	19 / 17		
TL_IS9_	73 / 7	60 / 0	70 / 0	99 / 1	49 / 1	56 / 4	56 / 4	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	**2.71**							
TL_IS4_	**3.12**	1.14						
TL_IS5_	**3.29**	**2.06**	1.17					
TL_IS6_	**2.63**	1.28	0.73	0.12				
TL_IS7_	1.68	0.16	0.29	1.95	1.28			
TL_IS8_	0.90	0.96	1.43	1.52	1.10	0.16		
TL_IS9_	**2.93**	**3.25**	**3.42**	**3.70**	**2.94**	**2.82**	**2.82**	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.19							
TL_IS4_	0.21	0.09						
TL_IS5_	0.18	0.13	0.07					
TL_IS6_	0.20	0.12	0.06	0.01				
TL_IS7_	0.12	0.01	0.02	0.12	0.12			
TL_IS8_	0.06	0.08	0.11	0.09	0.10	0.01		
TL_IS9_	0.16	0.20	0.20	0.19	0.20	0.18	0.18	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small-medium							
TL_IS4_	small-medium	small						
TL_IS5_	small-medium	small-medium	small					
TL_IS6_	small-medium	small-medium	small	small				
TL_IS7_	small-medium	small	small	small-medium	small-medium			
TL_IS8_	small	small	small-medium	small	small	small		
TL_IS9_	small-medium	small-medium	small-medium	small-medium	small-medium	small-medium	small-medium	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	**YES**							
TL_IS4_	**YES**	NO						
TL_IS5_	**YES**	**YES**	NO					
TL_IS6_	**YES**	NO	NO	NO				
TL_IS7_	NO	NO	NO	NO	NO			
TL_IS8_	NO	NO	NO	NO	NO	NO		
TL_IS9_	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	

Teller Intensive Station Mann Whitney U-Test Results

Chloride

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 5 / 13	6 / 5 / 11	7 / 5 / 12					
TL_IS7_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11	6 / 6 / 12		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	5 / 10 / 15	6 / 10 / 16	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	72 / 33							
TL_IS4_	80 / 40	44 / 47						
TL_IS5_	97 / 74	51 / 85	56 / 97					
TL_IS6_	56.5 / 34.5	30 / 36	36 / 42	71 / 49				
TL_IS7_	50 / 55	27 / 51	35 / 56	65 / 71	25 / 41			
TL_IS8_	63 / 42	32 / 46	39 / 52	73 / 63	30 / 36	46 / 32		
TL_IS9_	98 / 73	45 / 91	57 / 96	99 / 111	49 / 71	72 / 64	59 / 77	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	12 / 36							
TL_IS4_	12 / 44	19 / 23						
TL_IS5_	19 / 61	30 / 30	42 / 28					
TL_IS6_	19.5 / 20.5	21 / 9	27 / 8	34 / 16				
TL_IS7_	34 / 14	30 / 6	35 / 7	50 / 10	20 / 10			
TL_IS8_	21 / 27	25 / 11	31 / 11	42 / 18	15 / 15	11 / 25		
TL_IS9_	18 / 62	36 / 24	41 / 29	56 / 44	16 / 34	9 / 51	22 / 38	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	1.55							
TL_IS4_	1.85	0.29						
TL_IS5_	1.87	0.00	0.68					
TL_IS6_	0.07	1.10	1.54	1.10				
TL_IS7_	1.29	1.92	**2.00**	**2.17**	0.91			
TL_IS8_	0.39	1.12	1.43	1.30	0.00	1.12		
TL_IS9_	1.95	0.65	0.59	0.45	1.10	**2.28**	0.87	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.11							
TL_IS4_	0.12	0.02						
TL_IS5_	0.10	0.00	0.04					
TL_IS6_	0.01	0.10	0.13	0.07				
TL_IS7_	0.09	0.16	0.15	0.14	0.08			
TL_IS8_	0.03	0.09	0.11	0.08	0.00	0.09		
TL_IS9_	0.11	0.04	0.03	0.02	0.07	0.14	0.05	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small-medium							
TL_IS4_	small-medium	small						
TL_IS5_	small-medium	small	small					
TL_IS6_	small	small	small-medium	small				
TL_IS7_	small	small-medium	small-medium	small-medium	small			
TL_IS8_	small	small	small-medium	small	small	small		
TL_IS9_	small-medium	small	small	small	small	small-medium	small	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	NO							
TL_IS4_	NO	NO						
TL_IS5_	NO	NO	NO					
TL_IS6_	NO	NO	NO	NO				
TL_IS7_	NO	NO	**YES**	**YES**	NO			
TL_IS8_	NO	NO	NO	NO	NO	NO		
TL_IS9_	NO	NO	NO	NO	NO	**YES**	NO	

Teller Intensive Station Mann Whitney U-Test Results

Chromium

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 5 / 13	6 / 5 / 11	7 / 5 / 12					
TL_IS7_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11	6 / 6 / 12		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	5 / 10 / 15	6 / 10 / 16	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	70 / 35							
TL_IS4_	70 / 50	39 / 52						
TL_IS5_	93 / 78	55 / 81	71 / 82					
TL_IS6_	63 / 28	38 / 28	50 / 28	81 / 39				
TL_IS7_	63 / 42	34 / 44	47 / 44	75 / 61	25 / 41			
TL_IS8_	73 / 32	36 / 42	52 / 39	78 / 58	29 / 37	42 / 36		
TL_IS9_	94 / 77	52 / 84	70.5 / 82.5	102 / 108	38 / 82	58 / 78	54 / 82	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	14 / 34							
TL_IS4_	22 / 34	24 / 18						
TL_IS5_	23 / 57	26 / 34	27 / 43					
TL_IS6_	13 / 27	13 / 17	13 / 22	24 / 26				
TL_IS7_	21 / 27	23 / 13	23 / 19	40 / 20	20 / 10			
TL_IS8_	11 / 37	21 / 15	18 / 24	37 / 23	16 / 14	15 / 21		
TL_IS9_	22 / 58	29 / 31	27.5 / 42.5	53 / 47	27 / 23	23 / 37	27 / 33	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	1.29							
TL_IS4_	0.69	0.43						
TL_IS5_	1.51	0.43	0.78					
TL_IS6_	1.02	0.37	0.73	0.12				
TL_IS7_	0.39	0.80	0.29	1.08	0.91			
TL_IS8_	1.68	0.48	0.43	0.76	0.18	0.48		
TL_IS9_	1.60	0.11	0.73	0.23	0.24	0.76	0.33	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.09							
TL_IS4_	0.05	0.03						
TL_IS5_	0.08	0.03	0.05					
TL_IS6_	0.08	0.03	0.06	0.01				
TL_IS7_	0.03	0.07	0.02	0.07	0.08			
TL_IS8_	0.12	0.04	0.03	0.05	0.02	0.04		
TL_IS9_	0.09	0.01	0.04	0.01	0.02	0.05	0.02	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small							
TL_IS4_	small	small						
TL_IS5_	small	small	small					
TL_IS6_	small	small	small	small				
TL_IS7_	small	small	small	small	small			
TL_IS8_	small-medium	small	small	small	small	small		
TL_IS9_	small	small	small	small	small	small	small	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	NO							
TL_IS4_	NO	NO						
TL_IS5_	NO	NO	NO					
TL_IS6_	NO	NO	NO	NO				
TL_IS7_	NO	NO	NO	NO	NO			
TL_IS8_	NO	NO	NO	NO	NO	NO		
TL_IS9_	NO	NO	NO	NO	NO	NO	NO	

Teller Intensive Station Mann Whitney U-Test Results

Fluoride

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13					
TL_IS7_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	6 / 6 / 12			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	6 / 6 / 12	6 / 6 / 12		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	6 / 10 / 16	6 / 10 / 16	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	60 / 45							
TL_IS4_	64 / 56	42 / 49						
TL_IS5_	76 / 95	51 / 85	63 / 90					
TL_IS6_	56 / 49	36 / 42	45.5 / 45.5	80 / 56				
TL_IS7_	60 / 45	39 / 39	49 / 42	85 / 51	42 / 36			
TL_IS8_	60 / 45	39 / 39	49 / 42	85 / 51	42 / 36	39 / 39		
TL_IS9_	64 / 107	42 / 94	52.5 / 100.5	90 / 120	48.5 / 87.5	42 / 94	42 / 94	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	24 / 24							
TL_IS4_	28 / 28	21 / 21						
TL_IS5_	40 / 40	30 / 30	35 / 35					
TL_IS6_	28 / 20	21 / 15	24.5 / 17.5	35 / 25				
TL_IS7_	24 / 24	18 / 18	21 / 21	30 / 30	15 / 21			
TL_IS8_	24 / 24	18 / 18	21 / 21	30 / 30	15 / 21	18 / 18		
TL_IS9_	52 / 28	39 / 21	45.5 / 24.5	65 / 35	32.5 / 27.5	39 / 21	39 / 21	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.00							
TL_IS4_	0.00	0.00						
TL_IS5_	0.00	0.00	0.00					
TL_IS6_	0.52	0.48	0.50	0.54				
TL_IS7_	0.00	0.00	0.00	0.00	0.48			
TL_IS8_	0.00	0.00	0.00	0.00	0.48	0.00		
TL_IS9_	1.07	0.98	1.02	1.13	0.27	0.98	0.98	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.00							
TL_IS4_	0.00	0.00						
TL_IS5_	0.00	0.00	0.00					
TL_IS6_	0.04	0.04	0.04	0.03				
TL_IS7_	0.00	0.00	0.00	0.00	0.04			
TL_IS8_	0.00	0.00	0.00	0.00	0.04	0.00		
TL_IS9_	0.06	0.06	0.06	0.06	0.02	0.06	0.06	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small							
TL_IS4_	small	small						
TL_IS5_	small	small	small					
TL_IS6_	small	small	small	small				
TL_IS7_	small	small	small	small	small			
TL_IS8_	small	small	small	small	small	small		
TL_IS9_	small	small	small	small	small	small	small	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	NO							
TL_IS4_	NO	NO						
TL_IS5_	NO	NO	NO					
TL_IS6_	NO	NO	NO	NO				
TL_IS7_	NO	NO	NO	NO	NO			
TL_IS8_	NO	NO	NO	NO	NO	NO		
TL_IS9_	NO	NO	NO	NO	NO	NO	NO	

Teller Intensive Station Mann Whitney U-Test Results

Iron

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 5 / 13	6 / 5 / 11	7 / 5 / 12					
TL_IS7_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11	6 / 6 / 12		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	5 / 10 / 15	6 / 10 / 16	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	84 / 21							
TL_IS4_	64 / 56	21 / 70						
TL_IS5_	86 / 85	43 / 93	65 / 88					
TL_IS6_	76 / 15	45 / 21	63 / 15	96 / 24				
TL_IS7_	80 / 25	46 / 32	65 / 26	102 / 34	29 / 37			
TL_IS8_	62 / 43	23 / 55	48 / 43	81 / 55	16 / 50	25 / 53		
TL_IS9_	80 / 91	39 / 97	66 / 87	102 / 108	27 / 93	35.5 / 100.5	54 / 82	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0 / 48							
TL_IS4_	28 / 28	42 / 0						
TL_IS5_	30 / 50	38 / 22	33 / 37					
TL_IS6_	0 / 40	6 / 24	0 / 35	9 / 41				
TL_IS7_	4 / 44	11 / 25	5 / 37	13 / 47	16 / 14			
TL_IS8_	22 / 26	34 / 2	22 / 20	34 / 26	29 / 1	32 / 4		
TL_IS9_	36 / 44	42 / 18	32 / 38	53 / 47	38 / 12	45.5 / 14.5	27 / 33	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	**3.10**							
TL_IS4_	0.00	**3.00**						
TL_IS5_	0.89	0.87	0.20					
TL_IS6_	**2.93**	1.64	**2.84**	1.96				
TL_IS7_	**2.58**	1.12	**2.29**	1.84	0.18			
TL_IS8_	0.26	**2.56**	0.14	0.43	**2.56**	**2.24**		
TL_IS9_	0.36	1.30	0.29	0.23	1.59	1.68	0.33	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.22							
TL_IS4_	0.00	0.23						
TL_IS5_	0.05	0.05	0.01					
TL_IS6_	0.23	0.15	0.24	0.13				
TL_IS7_	0.18	0.09	0.18	0.12	0.02			
TL_IS8_	0.02	0.21	0.01	0.03	0.23	0.19		
TL_IS9_	0.02	0.08	0.02	0.01	0.11	0.11	0.02	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small-medium							
TL_IS4_	small	small-medium						
TL_IS5_	small	small	small					
TL_IS6_	small-medium	small-medium	small-medium	small-medium				
TL_IS7_	small-medium	small	small-medium	small-medium	small			
TL_IS8_	small	small-medium	small	small	small-medium	small-medium		
TL_IS9_	small	small	small	small	small-medium	small-medium	small	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	**YES**							
TL_IS4_	NO	**YES**						
TL_IS5_	NO	NO	NO					
TL_IS6_	**YES**	NO	**YES**	NO				
TL_IS7_	**YES**	NO	**YES**	NO	NO			
TL_IS8_	NO	**YES**	NO	NO	**YES**	**YES**		
TL_IS9_	NO	NO	NO	NO	NO	NO	NO	

Teller Intensive Station Mann Whitney U-Test Results

Lithium

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 5 / 13	6 / 5 / 11	7 / 5 / 12					
TL_IS7_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11	6 / 6 / 12		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	5 / 10 / 15	6 / 10 / 16	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	68 / 37							
TL_IS4_	72.5 / 47.5	42 / 49						
TL_IS5_	77.5 / 93.5	43 / 93	54.5 / 98.5					
TL_IS6_	63 / 28	37 / 29	46 / 32	86 / 34				
TL_IS7_	63 / 42	38 / 40	47 / 44	88 / 48	28 / 38			
TL_IS8_	63 / 42	37 / 41	47 / 44	87 / 49	28 / 38	39 / 39		
TL_IS9_	75.5 / 95.5	43 / 93	54.5 / 98.5	103.5 / 106.5	34 / 86	47 / 89	49 / 87	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	16 / 32							
TL_IS4_	19.5 / 36.5	21 / 21						
TL_IS5_	38.5 / 41.5	38 / 22	43.5 / 26.5					
TL_IS6_	13 / 27	14 / 16	17 / 18	19 / 31				
TL_IS7_	21 / 27	19 / 17	23 / 19	27 / 33	17 / 13			
TL_IS8_	21 / 27	20 / 16	23 / 19	28 / 32	17 / 13	18 / 18		
TL_IS9_	40.5 / 39.5	38 / 22	43.5 / 26.5	51.5 / 48.5	31 / 19	34 / 26	32 / 28	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	1.03							
TL_IS4_	0.98	0.00						
TL_IS5_	0.13	0.87	0.83					
TL_IS6_	1.02	0.18	0.08	0.73				
TL_IS7_	0.39	0.16	0.29	0.33	0.37			
TL_IS8_	0.39	0.32	0.29	0.22	0.37	0.00		
TL_IS9_	0.04	0.87	0.83	0.11	0.73	0.43	0.22	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.07							
TL_IS4_	0.07	0.00						
TL_IS5_	0.01	0.05	0.05					
TL_IS6_	0.08	0.02	0.01	0.05				
TL_IS7_	0.03	0.01	0.02	0.02	0.03			
TL_IS8_	0.03	0.03	0.02	0.01	0.03	0.00		
TL_IS9_	0.00	0.05	0.05	0.01	0.05	0.03	0.01	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small							
TL_IS4_	small	small						
TL_IS5_	small	small	small					
TL_IS6_	small	small	small	small				
TL_IS7_	small	small	small	small	small			
TL_IS8_	small	small	small	small	small	small		
TL_IS9_	small	small	small	small	small	small	small	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	NO							
TL_IS4_	NO	NO						
TL_IS5_	NO	NO	NO					
TL_IS6_	NO	NO	NO	NO				
TL_IS7_	NO	NO	NO	NO	NO			
TL_IS8_	NO	NO	NO	NO	NO	NO		
TL_IS9_	NO	NO	NO	NO	NO	NO	NO	

Teller Intensive Station Mann Whitney U-Test Results

Magnesium

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 5 / 13	6 / 5 / 11	7 / 5 / 12					
TL_IS7_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11	6 / 6 / 12		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	5 / 10 / 15	6 / 10 / 16	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	81 / 24							
TL_IS4_	66 / 54	24 / 67						
TL_IS5_	89 / 82	33 / 103	74 / 79					
TL_IS6_	64 / 27	34 / 32	53 / 25	86 / 34				
TL_IS7_	67 / 38	22 / 56	54 / 37	79 / 57	26 / 40			
TL_IS8_	57 / 48	27 / 51	44 / 47	75 / 61	23 / 43	31 / 47		
TL_IS9_	46 / 125	21 / 115	33 / 120	64 / 146	19 / 101	24 / 112	31 / 105	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	3 / 45							
TL_IS4_	26 / 30	39 / 3						
TL_IS5_	27 / 53	48 / 12	24 / 46					
TL_IS6_	12 / 28	17 / 13	10 / 25	19 / 31				
TL_IS7_	17 / 31	35 / 1	16 / 26	36 / 24	19 / 11			
TL_IS8_	27 / 21	30 / 6	26 / 16	40 / 20	22 / 8	26 / 10		
TL_IS9_	70 / 10	60 / 0	65 / 5	91 / 9	46 / 4	57 / 3	50 / 10	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	**2.71**							
TL_IS4_	0.23	**2.57**						
TL_IS5_	1.16	1.95	1.07					
TL_IS6_	1.17	0.37	1.22	0.73				
TL_IS7_	0.90	**2.72**	0.71	0.65	0.73			
TL_IS8_	0.39	1.92	0.71	1.08	1.28	1.28		
TL_IS9_	**2.67**	**3.25**	**2.93**	**3.10**	**2.57**	**2.93**	**2.17**	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.19							
TL_IS4_	0.02	0.20						
TL_IS5_	0.06	0.12	0.06					
TL_IS6_	0.09	0.03	0.10	0.05				
TL_IS7_	0.06	0.23	0.05	0.04	0.07			
TL_IS8_	0.03	0.16	0.05	0.07	0.12	0.11		
TL_IS9_	0.15	0.20	0.17	0.15	0.17	0.18	0.14	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small-medium							
TL_IS4_	small	small-medium						
TL_IS5_	small	small-medium	small					
TL_IS6_	small	small	small-medium	small				
TL_IS7_	small	small-medium	small	small	small			
TL_IS8_	small	small-medium	small	small	small-medium	small-medium		
TL_IS9_	small-medium	small-medium	small-medium	small-medium	small-medium	small-medium	small-medium	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	**YES**							
TL_IS4_	NO	**YES**						
TL_IS5_	NO	NO	NO					
TL_IS6_	NO	NO	NO	NO				
TL_IS7_	NO	**YES**	NO	NO	NO			
TL_IS8_	NO	NO	NO	NO	NO	NO		
TL_IS9_	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	

Teller Intensive Station Mann Whitney U-Test Results

Manganese

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 5 / 13	6 / 5 / 11	7 / 5 / 12					
TL_IS7_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11	6 / 6 / 12		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	5 / 10 / 15	6 / 10 / 16	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	61 / 44							
TL_IS4_	56 / 64	30 / 61						
TL_IS5_	83 / 88	48 / 88	81 / 72					
TL_IS6_	59 / 32	31 / 35	53 / 25	78 / 42				
TL_IS7_	65.5 / 39.5	44 / 34	64 / 27	96 / 40	37 / 29			
TL_IS8_	49 / 56	29 / 49	41 / 50	70 / 66	21 / 45	26 / 52		
TL_IS9_	56 / 115	30 / 106	54 / 99	75 / 135	27 / 93	28 / 108	56 / 80	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	23 / 25							
TL_IS4_	36 / 20	33 / 9						
TL_IS5_	33 / 47	33 / 27	17 / 53					
TL_IS6_	17 / 23	20 / 10	10 / 25	27 / 23				
TL_IS7_	18.5 / 29.5	13 / 23	6 / 36	19 / 41	8 / 22			
TL_IS8_	35 / 13	28 / 8	29 / 13	45 / 15	24 / 6	31 / 5		
TL_IS9_	60 / 20	51 / 9	44 / 26	80 / 20	38 / 12	53 / 7	25 / 35	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.13							
TL_IS4_	0.93	1.71						
TL_IS5_	0.62	0.33	1.76					
TL_IS6_	0.44	0.91	1.22	0.24				
TL_IS7_	0.71	0.80	**2.14**	1.19	1.28			
TL_IS8_	1.42	1.60	1.14	1.63	1.64	**2.08**		
TL_IS9_	1.78	**2.28**	0.88	**2.27**	1.59	**2.49**	0.54	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.01							
TL_IS4_	0.06	0.13						
TL_IS5_	0.03	0.02	0.10					
TL_IS6_	0.03	0.08	0.10	0.02				
TL_IS7_	0.05	0.07	0.16	0.07	0.12			
TL_IS8_	0.10	0.13	0.09	0.10	0.15	0.17		
TL_IS9_	0.10	0.14	0.05	0.11	0.11	0.16	0.03	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small							
TL_IS4_	small	small-medium						
TL_IS5_	small	small	small-medium					
TL_IS6_	small	small	small-medium	small				
TL_IS7_	small	small	small-medium	small	small-medium			
TL_IS8_	small-medium	small-medium	small	small-medium	small-medium	small-medium		
TL_IS9_	small	small-medium	small	small-medium	small-medium	small-medium	small	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	NO							
TL_IS4_	NO	NO						
TL_IS5_	NO	NO	NO					
TL_IS6_	NO	NO	NO	NO				
TL_IS7_	NO	NO	**YES**	NO	NO			
TL_IS8_	NO	NO	NO	NO	NO	**YES**		
TL_IS9_	NO	**YES**	NO	**YES**	NO	**YES**	NO	

Teller Intensive Station Mann Whitney U-Test Results

Nitrate

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 5 / 13	6 / 5 / 11	7 / 5 / 12					
TL_IS7_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11	6 / 6 / 12		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	5 / 10 / 15	6 / 10 / 16	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	63 / 42							
TL_IS4_	79.5 / 40.5	55 / 36						
TL_IS5_	79.5 / 91.5	52 / 84	46.5 / 106.5					
TL_IS6_	69 / 22	46 / 20	46 / 32	95 / 25				
TL_IS7_	39 / 66	23 / 55	28 / 63	57 / 79	15 / 51			
TL_IS8_	76.5 / 28.5	52 / 26	53.5 / 37.5	104.5 / 31.5	31 / 35	57 / 21		
TL_IS9_	85 / 86	58 / 78	48 / 105	115 / 95	24 / 96	81 / 55	33 / 103	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	21 / 27							
TL_IS4_	12.5 / 43.5	8 / 34						
TL_IS5_	36.5 / 43.5	29 / 31	51.5 / 18.5					
TL_IS6_	7 / 33	5 / 25	17 / 18	10 / 40				
TL_IS7_	45 / 3	34 / 2	42 / 0	58 / 2	30 / 0			
TL_IS8_	7.5 / 40.5	5 / 31	16.5 / 25.5	10.5 / 49.5	14 / 16	0 / 36		
TL_IS9_	31 / 49	23 / 37	50 / 20	40 / 60	41 / 9	0 / 60	48 / 12	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.39							
TL_IS4_	1.79	1.86						
TL_IS5_	0.31	0.11	1.61					
TL_IS6_	1.90	1.83	0.08	1.84				
TL_IS7_	**2.71**	**2.56**	**3.00**	**3.04**	**2.74**			
TL_IS8_	**2.13**	**2.08**	0.64	**2.12**	0.18	**2.88**		
TL_IS9_	0.80	0.76	1.46	0.76	1.96	**3.25**	1.95	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.03							
TL_IS4_	0.12	0.14						
TL_IS5_	0.02	0.01	0.09					
TL_IS6_	0.15	0.17	0.01	0.12				
TL_IS7_	0.19	0.21	0.23	0.19	0.25			
TL_IS8_	0.15	0.17	0.05	0.13	0.02	0.24		
TL_IS9_	0.04	0.05	0.09	0.04	0.13	0.20	0.12	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small							
TL_IS4_	small-medium	small-medium						
TL_IS5_	small	small	small					
TL_IS6_	small-medium	small-medium	small	small-medium				
TL_IS7_	small-medium	small-medium	small-medium	small-medium	small-medium			
TL_IS8_	small-medium	small-medium	small	small-medium	small	small-medium		
TL_IS9_	small	small	small	small	small-medium	small-medium	small-medium	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	NO							
TL_IS4_	NO	NO						
TL_IS5_	NO	NO	NO					
TL_IS6_	NO	NO	NO	NO				
TL_IS7_	**YES**	**YES**	**YES**	**YES**	**YES**			
TL_IS8_	**YES**	**YES**	NO	**YES**	NO	**YES**		
TL_IS9_	NO	NO	NO	NO	NO	**YES**	NO	

Teller Intensive Station Mann Whitney U-Test Results

Nitrite

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	7 / 5 / 12							
TL_IS4_	7 / 7 / 14	5 / 7 / 12						
TL_IS5_	7 / 10 / 17	5 / 10 / 15	7 / 10 / 17					
TL_IS6_	7 / 4 / 11	5 / 4 / 9	7 / 4 / 11					
TL_IS7_	7 / 5 / 12	5 / 5 / 10	7 / 5 / 12	10 / 5 / 15	4 / 5 / 9			
TL_IS8_	7 / 6 / 13	5 / 6 / 11	7 / 6 / 13	10 / 6 / 16	4 / 6 / 10	5 / 6 / 11		
TL_IS9_	7 / 10 / 17	5 / 10 / 15	7 / 10 / 17	10 / 10 / 20	4 / 10 / 14	5 / 10 / 15	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	44 / 34							
TL_IS4_	48 / 57	30 / 48						
TL_IS5_	64 / 89	42 / 78	70.5 / 82.5					
TL_IS6_	44 / 22	27 / 18	46 / 20	77 / 28				
TL_IS7_	44 / 34	27 / 28	46 / 32	77 / 43	18 / 27			
TL_IS8_	48 / 43	30 / 36	51.5 / 39.5	82.5 / 53.5	20 / 35	31 / 35		
TL_IS9_	64 / 89	42 / 78	68.5 / 84.5	104.5 / 105.5	28 / 77	43 / 77	52.5 / 83.5	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	19 / 16							
TL_IS4_	29 / 20	20 / 15						
TL_IS5_	34 / 36	23 / 27	27.5 / 42.5					
TL_IS6_	12 / 16	8 / 12	10 / 18	18 / 22				
TL_IS7_	19 / 16	13 / 12	17 / 18	28 / 22	12 / 8			
TL_IS8_	22 / 20	15 / 15	18.5 / 23.5	32.5 / 27.5	14 / 10	14 / 16		
TL_IS9_	34 / 36	23 / 27	29.5 / 40.5	50.5 / 49.5	22 / 18	22 / 28	28.5 / 31.5	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.24							
TL_IS4_	0.57	0.41						
TL_IS5_	0.10	0.24	0.73					
TL_IS6_	0.38	0.49	0.76	0.28				
TL_IS7_	0.24	0.10	0.08	0.37	0.49			
TL_IS8_	0.14	0.00	0.36	0.27	0.43	0.18		
TL_IS9_	0.10	0.24	0.54	0.04	0.28	0.37	0.16	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.02							
TL_IS4_	0.04	0.03						
TL_IS5_	0.01	0.02	0.04					
TL_IS6_	0.03	0.05	0.07	0.02				
TL_IS7_	0.02	0.01	0.01	0.02	0.05			
TL_IS8_	0.01	0.00	0.03	0.02	0.04	0.02		
TL_IS9_	0.01	0.02	0.03	0.00	0.02	0.02	0.01	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small							
TL_IS4_	small	small						
TL_IS5_	small	small	small					
TL_IS6_	small	small	small	small				
TL_IS7_	small	small	small	small	small			
TL_IS8_	small	small	small	small	small	small		
TL_IS9_	small	small	small	small	small	small	small	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	NO							
TL_IS4_	NO	NO						
TL_IS5_	NO	NO	NO					
TL_IS6_	NO	NO	NO	NO				
TL_IS7_	NO	NO	NO	NO	NO			
TL_IS8_	NO	NO	NO	NO	NO	NO		
TL_IS9_	NO	NO	NO	NO	NO	NO	NO	

Teller Intensive Station Mann Whitney U-Test Results

Oxalate

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 5 / 13	6 / 5 / 11	7 / 5 / 12					
TL_IS7_	8 / 5 / 13	6 / 5 / 11	7 / 5 / 12	10 / 5 / 15	5 / 5 / 10			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11	5 / 6 / 11		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	5 / 10 / 15	5 / 10 / 15	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	56 / 49							
TL_IS4_	58 / 62	40 / 51						
TL_IS5_	62 / 109	49.5 / 86.5	61 / 92					
TL_IS6_	55 / 36	40.5 / 25.5	49 / 29	91.5 / 28.5				
TL_IS7_	57 / 34	39 / 27	50 / 28	89 / 31	29 / 26			
TL_IS8_	50 / 55	35 / 43	45 / 46	80 / 56	23 / 43	24 / 42		
TL_IS9_	74 / 97	54 / 82	70 / 83	119 / 91	36 / 84	37 / 83	63 / 73	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	28 / 20							
TL_IS4_	34 / 22	23 / 19						
TL_IS5_	54 / 26	31.5 / 28.5	37 / 33					
TL_IS6_	21 / 19	10.5 / 19.5	14 / 21	13.5 / 36.5				
TL_IS7_	19 / 21	12 / 18	13 / 22	16 / 34	11 / 14			
TL_IS8_	34 / 14	22 / 14	25 / 17	35 / 25	22 / 8	21 / 9		
TL_IS9_	42 / 38	27 / 33	28 / 42	36 / 64	29 / 21	28 / 22	18 / 42	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.52							
TL_IS4_	0.69	0.29						
TL_IS5_	1.24	0.16	0.20					
TL_IS6_	0.15	0.82	0.57	1.41				
TL_IS7_	0.15	0.55	0.73	1.10	0.31			
TL_IS8_	1.29	0.64	0.57	0.54	1.28	1.10		
TL_IS9_	0.18	0.33	0.68	1.06	0.49	0.37	1.30	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.04							
TL_IS4_	0.05	0.02						
TL_IS5_	0.07	0.01	0.01					
TL_IS6_	0.01	0.07	0.05	0.09				
TL_IS7_	0.01	0.05	0.06	0.07	0.03			
TL_IS8_	0.09	0.05	0.04	0.03	0.12	0.10		
TL_IS9_	0.01	0.02	0.04	0.05	0.03	0.02	0.08	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small							
TL_IS4_	small	small						
TL_IS5_	small	small	small					
TL_IS6_	small	small	small	small				
TL_IS7_	small	small	small	small	small			
TL_IS8_	small	small	small	small	small-medium	small		
TL_IS9_	small	small	small	small	small	small	small	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	NO							
TL_IS4_	NO	NO						
TL_IS5_	NO	NO	NO					
TL_IS6_	NO	NO	NO	NO				
TL_IS7_	NO	NO	NO	NO	NO			
TL_IS8_	NO	NO	NO	NO	NO	NO		
TL_IS9_	NO	NO	NO	NO	NO	NO	NO	

Teller Intensive Station Mann Whitney U-Test Results

Phosphate

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	7 / 5 / 12							
TL_IS4_	7 / 7 / 14	5 / 7 / 12						
TL_IS5_	7 / 10 / 17	5 / 10 / 15	7 / 10 / 17					
TL_IS6_	7 / 4 / 11	5 / 4 / 9	7 / 4 / 11					
TL_IS7_	7 / 5 / 12	5 / 5 / 10	7 / 5 / 12	10 / 5 / 15	4 / 5 / 9			
TL_IS8_	7 / 6 / 13	5 / 6 / 11	7 / 6 / 13	10 / 6 / 16	4 / 6 / 10	5 / 6 / 11		
TL_IS9_	7 / 10 / 17	5 / 10 / 15	7 / 10 / 17	10 / 10 / 20	4 / 10 / 14	5 / 10 / 15	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	54 / 24							
TL_IS4_	60 / 45	29 / 49						
TL_IS5_	81.5 / 71.5	43 / 77	74 / 79					
TL_IS6_	50 / 16	27 / 18	48 / 18	77 / 28				
TL_IS7_	52.5 / 25.5	26 / 29	47 / 31	73.5 / 46.5	16 / 29			
TL_IS8_	59.5 / 31.5	31 / 35	54.5 / 36.5	83.5 / 52.5	20 / 35	33.5 / 32.5		
TL_IS9_	81.5 / 71.5	43 / 77	74.5 / 78.5	105.5 / 104.5	28 / 77	47.5 / 72.5	53 / 83	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	9 / 26							
TL_IS4_	17 / 32	21 / 14						
TL_IS5_	16.5 / 53.5	22 / 28	24 / 46					
TL_IS6_	6 / 22	8 / 12	8 / 20	18 / 22				
TL_IS7_	10.5 / 24.5	14 / 11	16 / 19	31.5 / 18.5	14 / 6			
TL_IS8_	10.5 / 31.5	14 / 16	15.5 / 26.5	31.5 / 28.5	14 / 10	11.5 / 18.5		
TL_IS9_	16.5 / 53.5	22 / 28	23.5 / 46.5	49.5 / 50.5	22 / 18	17.5 / 32.5	28 / 32	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	1.38							
TL_IS4_	0.96	0.57						
TL_IS5_	1.81	0.37	1.07					
TL_IS6_	1.51	0.49	1.13	0.28				
TL_IS7_	1.14	0.31	0.24	0.80	0.98			
TL_IS8_	1.50	0.18	0.79	0.16	0.43	0.64		
TL_IS9_	1.81	0.37	1.12	0.04	0.28	0.92	0.22	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.12							
TL_IS4_	0.07	0.05						
TL_IS5_	0.11	0.02	0.06					
TL_IS6_	0.14	0.05	0.10	0.02				
TL_IS7_	0.09	0.03	0.02	0.05	0.11			
TL_IS8_	0.12	0.02	0.06	0.01	0.04	0.06		
TL_IS9_	0.11	0.02	0.07	0.00	0.02	0.06	0.01	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small-medium							
TL_IS4_	small	small						
TL_IS5_	small-medium	small	small					
TL_IS6_	small-medium	small	small-medium	small				
TL_IS7_	small	small	small	small	small-medium			
TL_IS8_	small-medium	small	small	small	small	small		
TL_IS9_	small-medium	small	small	small	small	small	small	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	NO							
TL_IS4_	NO	NO						
TL_IS5_	NO	NO	NO					
TL_IS6_	NO	NO	NO	NO				
TL_IS7_	NO	NO	NO	NO	NO			
TL_IS8_	NO	NO	NO	NO	NO	NO		
TL_IS9_	NO	NO	NO	NO	NO	NO	NO	

Teller Intensive Station Mann Whitney U-Test Results

Potassium

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13					
TL_IS7_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	6 / 6 / 12			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	6 / 6 / 12	6 / 6 / 12		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	6 / 10 / 16	6 / 10 / 16	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	59.5 / 45.5							
TL_IS4_	63 / 57	42 / 49						
TL_IS5_	77.5 / 93.5	53.5 / 82.5	65 / 88					
TL_IS6_	63 / 42	42 / 36	52 / 39	88 / 48				
TL_IS7_	58.5 / 46.5	38.5 / 39.5	48 / 43	82.5 / 53.5	36 / 42			
TL_IS8_	59.5 / 45.5	38.5 / 39.5	49 / 42	82.5 / 53.5	36 / 42	39.5 / 38.5		
TL_IS9_	60.5 / 110.5	40.5 / 95.5	50 / 103	83.5 / 126.5	36 / 100	41.5 / 94.5	40.5 / 95.5	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	24.5 / 23.5							
TL_IS4_	29 / 27	21 / 21						
TL_IS5_	38.5 / 41.5	27.5 / 32.5	33 / 37					
TL_IS6_	21 / 27	15 / 21	18 / 24	27 / 33				
TL_IS7_	25.5 / 22.5	18.5 / 17.5	22 / 20	32.5 / 27.5	21 / 15			
TL_IS8_	24.5 / 23.5	18.5 / 17.5	21 / 21	32.5 / 27.5	21 / 15	17.5 / 18.5		
TL_IS9_	55.5 / 24.5	40.5 / 19.5	48 / 22	71.5 / 28.5	45 / 15	39.5 / 20.5	40.5 / 19.5	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.06							
TL_IS4_	0.12	0.00						
TL_IS5_	0.13	0.27	0.20					
TL_IS6_	0.39	0.48	0.43	0.33				
TL_IS7_	0.19	0.08	0.14	0.27	0.48			
TL_IS8_	0.06	0.08	0.00	0.27	0.48	0.08		
TL_IS9_	1.38	1.14	1.27	1.63	1.63	1.03	1.14	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.00							
TL_IS4_	0.01	0.00						
TL_IS5_	0.01	0.02	0.01					
TL_IS6_	0.03	0.04	0.03	0.02				
TL_IS7_	0.01	0.01	0.01	0.02	0.04			
TL_IS8_	0.00	0.01	0.00	0.02	0.04	0.01		
TL_IS9_	0.08	0.07	0.07	0.08	0.10	0.06	0.07	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small							
TL_IS4_	small	small						
TL_IS5_	small	small	small					
TL_IS6_	small	small	small	small				
TL_IS7_	small	small	small	small	small			
TL_IS8_	small	small	small	small	small	small		
TL_IS9_	small	small	small	small	small-medium	small	small	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	NO							
TL_IS4_	NO	NO						
TL_IS5_	NO	NO	NO					
TL_IS6_	NO	NO	NO	NO				
TL_IS7_	NO	NO	NO	NO	NO			
TL_IS8_	NO	NO	NO	NO	NO	NO		
TL_IS9_	NO	NO	NO	NO	NO	NO	NO	

Teller Intensive Station Mann Whitney U-Test Results

Silica

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13					
TL_IS7_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	6 / 6 / 12			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	6 / 6 / 12	6 / 6 / 12		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	6 / 10 / 16	6 / 10 / 16	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	59.5 / 45.5							
TL_IS4_	63 / 57	42 / 49						
TL_IS5_	76.5 / 94.5	52.5 / 83.5	64 / 89					
TL_IS6_	58.5 / 46.5	38.5 / 39.5	48 / 43	83.5 / 52.5				
TL_IS7_	59.5 / 45.5	38.5 / 39.5	49 / 42	83.5 / 52.5	39.5 / 38.5			
TL_IS8_	59.5 / 45.5	39.5 / 38.5	49 / 42	83.5 / 52.5	39.5 / 38.5	39.5 / 38.5		
TL_IS9_	58.5 / 112.5	38.5 / 97.5	48 / 105	87.5 / 122.5	40.5 / 95.5	38.5 / 97.5	38.5 / 97.5	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	24.5 / 23.5							
TL_IS4_	29 / 27	21 / 21						
TL_IS5_	39.5 / 40.5	28.5 / 31.5	34 / 36					
TL_IS6_	25.5 / 22.5	18.5 / 17.5	22 / 20	31.5 / 28.5				
TL_IS7_	24.5 / 23.5	18.5 / 17.5	21 / 21	31.5 / 28.5	17.5 / 18.5			
TL_IS8_	24.5 / 23.5	17.5 / 18.5	21 / 21	31.5 / 28.5	17.5 / 18.5	17.5 / 18.5		
TL_IS9_	57.5 / 22.5	42.5 / 17.5	50 / 20	67.5 / 32.5	40.5 / 19.5	42.5 / 17.5	42.5 / 17.5	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.06							
TL_IS4_	0.12	0.00						
TL_IS5_	0.04	0.16	0.10					
TL_IS6_	0.19	0.08	0.14	0.16				
TL_IS7_	0.06	0.08	0.00	0.16	0.08			
TL_IS8_	0.06	0.08	0.00	0.16	0.08	0.08		
TL_IS9_	1.55	1.36	1.46	1.32	1.14	1.36	1.36	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.00							
TL_IS4_	0.01	0.00						
TL_IS5_	0.00	0.01	0.01					
TL_IS6_	0.01	0.01	0.01	0.01				
TL_IS7_	0.00	0.01	0.00	0.01	0.01			
TL_IS8_	0.00	0.01	0.00	0.01	0.01	0.01		
TL_IS9_	0.09	0.08	0.09	0.07	0.07	0.08	0.08	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small							
TL_IS4_	small	small						
TL_IS5_	small	small	small					
TL_IS6_	small	small	small	small				
TL_IS7_	small	small	small	small	small			
TL_IS8_	small	small	small	small	small	small		
TL_IS9_	small	small	small	small	small	small	small	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	NO							
TL_IS4_	NO	NO						
TL_IS5_	NO	NO	NO					
TL_IS6_	NO	NO	NO	NO				
TL_IS7_	NO	NO	NO	NO	NO			
TL_IS8_	NO	NO	NO	NO	NO	NO		
TL_IS9_	NO	NO	NO	NO	NO	NO	NO	

Teller Intensive Station Mann Whitney U-Test Results

Sodium

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13					
TL_IS7_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	6 / 6 / 12			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	6 / 6 / 12	6 / 6 / 12		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	6 / 10 / 16	6 / 10 / 16	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	59.5 / 45.5							
TL_IS4_	64 / 56	42 / 49						
TL_IS5_	77.5 / 93.5	53.5 / 82.5	65 / 88					
TL_IS6_	59.5 / 45.5	39.5 / 38.5	49 / 42	83.5 / 52.5				
TL_IS7_	58.5 / 46.5	38.5 / 39.5	48 / 43	82.5 / 53.5	38.5 / 39.5			
TL_IS8_	59.5 / 45.5	39.5 / 38.5	49 / 42	82.5 / 53.5	38.5 / 39.5	39.5 / 38.5		
TL_IS9_	61.5 / 109.5	40.5 / 95.5	51 / 102	82.5 / 127.5	38.5 / 97.5	41.5 / 94.5	38.5 / 97.5	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	24.5 / 23.5							
TL_IS4_	28 / 28	21 / 21						
TL_IS5_	38.5 / 41.5	27.5 / 32.5	33 / 37					
TL_IS6_	24.5 / 23.5	17.5 / 18.5	21 / 21	31.5 / 28.5				
TL_IS7_	25.5 / 22.5	18.5 / 17.5	22 / 20	32.5 / 27.5	18.5 / 17.5			
TL_IS8_	24.5 / 23.5	17.5 / 18.5	21 / 21	32.5 / 27.5	18.5 / 17.5	17.5 / 18.5		
TL_IS9_	54.5 / 25.5	40.5 / 19.5	47 / 23	72.5 / 27.5	42.5 / 17.5	39.5 / 20.5	42.5 / 17.5	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.06							
TL_IS4_	0.00	0.00						
TL_IS5_	0.13	0.27	0.20					
TL_IS6_	0.06	0.08	0.00	0.16				
TL_IS7_	0.19	0.08	0.14	0.27	0.08			
TL_IS8_	0.06	0.08	0.00	0.27	0.08	0.08		
TL_IS9_	1.29	1.14	1.17	1.70	1.36	1.03	1.36	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.00							
TL_IS4_	0.00	0.00						
TL_IS5_	0.01	0.02	0.01					
TL_IS6_	0.00	0.01	0.00	0.01				
TL_IS7_	0.01	0.01	0.01	0.02	0.01			
TL_IS8_	0.00	0.01	0.00	0.02	0.01	0.01		
TL_IS9_	0.07	0.07	0.07	0.09	0.08	0.06	0.08	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small							
TL_IS4_	small	small						
TL_IS5_	small	small	small					
TL_IS6_	small	small	small	small				
TL_IS7_	small	small	small	small	small			
TL_IS8_	small	small	small	small	small	small		
TL_IS9_	small	small	small	small	small	small	small	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	NO							
TL_IS4_	NO	NO						
TL_IS5_	NO	NO	NO					
TL_IS6_	NO	NO	NO	NO				
TL_IS7_	NO	NO	NO	NO	NO			
TL_IS8_	NO	NO	NO	NO	NO	NO		
TL_IS9_	NO	NO	NO	NO	NO	NO	NO	

Teller Intensive Station Mann Whitney U-Test Results

Strontium

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 5 / 13	6 / 5 / 11	7 / 5 / 12					
TL_IS7_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11	6 / 6 / 12		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	5 / 10 / 15	6 / 10 / 16	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	74 / 31							
TL_IS4_	83 / 37	50 / 41						
TL_IS5_	105 / 66	65 / 71	69 / 84					
TL_IS6_	73 / 18	42 / 24	50 / 28	83 / 37				
TL_IS7_	68 / 37	37 / 41	44 / 47	75 / 61	22 / 44			
TL_IS8_	73 / 32	43 / 35	45 / 46	74 / 62	23 / 43	40 / 38		
TL_IS9_	46 / 125	22 / 114	29 / 124	55 / 155	15 / 105	25 / 111	22 / 114	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	10 / 38							
TL_IS4_	9 / 47	13 / 29						
TL_IS5_	11 / 69	16 / 44	29 / 41					
TL_IS6_	3 / 37	9 / 21	13 / 22	22 / 28				
TL_IS7_	16 / 32	20 / 16	26 / 16	40 / 20	23 / 7			
TL_IS8_	11 / 37	14 / 22	25 / 17	41 / 19	22 / 8	17 / 19		
TL_IS9_	70 / 10	59 / 1	69 / 1	100 / 0	50 / 0	56 / 4	59 / 1	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	1.81							
TL_IS4_	**2.20**	1.14						
TL_IS5_	**2.58**	1.52	0.59					
TL_IS6_	**2.49**	1.10	0.73	0.37				
TL_IS7_	1.03	0.32	0.71	1.08	1.46			
TL_IS8_	1.68	0.64	0.57	1.19	1.28	0.16		
TL_IS9_	**2.67**	**3.15**	**3.32**	**3.78**	**3.06**	**2.82**	**3.15**	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.13							
TL_IS4_	0.15	0.09						
TL_IS5_	0.14	0.09	0.03					
TL_IS6_	0.19	0.10	0.06	0.02				
TL_IS7_	0.07	0.03	0.05	0.07	0.13			
TL_IS8_	0.12	0.05	0.04	0.07	0.12	0.01		
TL_IS9_	0.15	0.20	0.20	0.19	0.20	0.18	0.20	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small-medium							
TL_IS4_	small-medium	small						
TL_IS5_	small-medium	small	small					
TL_IS6_	small-medium	small	small	small				
TL_IS7_	small	small	small	small	small-medium			
TL_IS8_	small-medium	small	small	small	small-medium	small		
TL_IS9_	small-medium	small-medium	small-medium	small-medium	small-medium	small-medium	small-medium	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	NO							
TL_IS4_	**YES**	NO						
TL_IS5_	**YES**	NO	NO					
TL_IS6_	**YES**	NO	NO	NO				
TL_IS7_	NO	NO	NO	NO	NO			
TL_IS8_	NO	NO	NO	NO	NO	NO		
TL_IS9_	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	

Teller Intensive Station Mann Whitney U-Test Results

Sulfate

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 5 / 13	6 / 5 / 11	7 / 5 / 12					
TL_IS7_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11	6 / 6 / 12		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	5 / 10 / 15	6 / 10 / 16	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	61 / 44							
TL_IS4_	70 / 50	48 / 43						
TL_IS5_	91 / 80	63 / 73	65 / 88					
TL_IS6_	60 / 31	42 / 24	44 / 34	75 / 45				
TL_IS7_	48 / 57	30 / 48	39 / 52	67 / 69	22 / 44			
TL_IS8_	67 / 38	42.5 / 35.5	44 / 47	79 / 57	28 / 38	49 / 29		
TL_IS9_	80 / 91	50 / 86	59 / 94	90 / 120	36.5 / 83.5	65 / 71	46 / 90	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	23 / 25							
TL_IS4_	22 / 34	15 / 27						
TL_IS5_	25 / 55	18 / 42	33 / 37					
TL_IS6_	16 / 24	9 / 21	19 / 16	30 / 20				
TL_IS7_	36 / 12	27 / 9	31 / 11	48 / 12	23 / 7			
TL_IS8_	17 / 31	14.5 / 21.5	26 / 16	36 / 24	17 / 13	8 / 28		
TL_IS9_	36 / 44	31 / 29	39 / 31	65 / 35	28.5 / 21.5	16 / 44	35 / 25	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.13							
TL_IS4_	0.69	0.86						
TL_IS5_	1.33	1.30	0.20					
TL_IS6_	0.59	1.10	0.24	0.61				
TL_IS7_	1.55	1.44	1.43	1.95	1.46			
TL_IS8_	0.90	0.56	0.71	0.65	0.37	1.60		
TL_IS9_	0.36	0.11	0.39	1.13	0.43	1.52	0.54	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.01							
TL_IS4_	0.05	0.07						
TL_IS5_	0.07	0.08	0.01					
TL_IS6_	0.05	0.10	0.02	0.04				
TL_IS7_	0.11	0.12	0.11	0.12	0.13			
TL_IS8_	0.06	0.05	0.05	0.04	0.03	0.13		
TL_IS9_	0.02	0.01	0.02	0.06	0.03	0.09	0.03	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small							
TL_IS4_	small	small						
TL_IS5_	small	small	small					
TL_IS6_	small	small	small	small				
TL_IS7_	small-medium	small-medium	small-medium	small-medium	small-medium			
TL_IS8_	small	small	small	small	small	small-medium		
TL_IS9_	small	small	small	small	small	small	small	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	NO							
TL_IS4_	NO	NO						
TL_IS5_	NO	NO	NO					
TL_IS6_	NO	NO	NO	NO				
TL_IS7_	NO	NO	NO	NO	NO			
TL_IS8_	NO	NO	NO	NO	NO	NO		
TL_IS9_	NO	NO	NO	NO	NO	NO	NO	

Teller Intensive Station Mann Whitney U-Test Results

Titanium

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 5 / 13	6 / 5 / 11	7 / 5 / 12					
TL_IS7_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11	6 / 6 / 12		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	5 / 10 / 15	6 / 10 / 16	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	69.5 / 35.5							
TL_IS4_	52 / 68	28 / 63						
TL_IS5_	93.5 / 77.5	51.5 / 84.5	93 / 60					
TL_IS6_	66 / 25	41 / 25	57 / 21	86 / 34				
TL_IS7_	69.5 / 35.5	40.5 / 37.5	60 / 31	86.5 / 49.5	29 / 37			
TL_IS8_	80 / 25	52 / 26	70 / 21	103 / 33	37 / 29	45 / 33		
TL_IS9_	103.5 / 67.5	67.5 / 68.5	92 / 61	126.5 / 83.5	45 / 75	59.5 / 76.5	49 / 87	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	14.5 / 33.5							
TL_IS4_	40 / 16	35 / 7						
TL_IS5_	22.5 / 57.5	29.5 / 30.5	5 / 65					
TL_IS6_	10 / 30	10 / 20	6 / 29	19 / 31				
TL_IS7_	14.5 / 33.5	16.5 / 19.5	10 / 32	28.5 / 31.5	16 / 14			
TL_IS8_	4 / 44	5 / 31	0 / 42	12 / 48	8 / 22	12 / 24		
TL_IS9_	12.5 / 67.5	13.5 / 46.5	6 / 64	28.5 / 71.5	20 / 30	21.5 / 38.5	32 / 28	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	1.23							
TL_IS4_	1.39	**2.00**						
TL_IS5_	1.55	0.05	**2.93**					
TL_IS6_	1.46	0.91	1.87	0.73				
TL_IS7_	1.23	0.24	1.57	0.16	0.18			
TL_IS8_	**2.58**	**2.08**	**3.00**	1.95	1.28	0.96		
TL_IS9_	**2.44**	1.79	**2.83**	1.63	0.61	0.92	0.22	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.09							
TL_IS4_	0.09	0.15						
TL_IS5_	0.09	0.00	0.17					
TL_IS6_	0.11	0.08	0.16	0.05				
TL_IS7_	0.09	0.02	0.12	0.01	0.02			
TL_IS8_	0.18	0.17	0.23	0.12	0.12	0.08		
TL_IS9_	0.14	0.11	0.17	0.08	0.04	0.06	0.01	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small							
TL_IS4_	small	small-medium						
TL_IS5_	small	small	small-medium					
TL_IS6_	small-medium	small	small-medium	small				
TL_IS7_	small	small	small-medium	small	small			
TL_IS8_	small-medium	small-medium	small-medium	small-medium	small-medium	small		
TL_IS9_	small-medium	small-medium	small-medium	small	small	small	small	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	NO							
TL_IS4_	NO	**YES**						
TL_IS5_	NO	NO	**YES**					
TL_IS6_	NO	NO	NO	NO				
TL_IS7_	NO	NO	NO	NO	NO			
TL_IS8_	**YES**	**YES**	**YES**	NO	NO	NO		
TL_IS9_	**YES**	NO	**YES**	NO	NO	NO	NO	

Teller Intensive Station Mann Whitney U-Test Results

Zinc

n= (top / left / total)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	8 / 6 / 14							
TL_IS4_	8 / 7 / 15	6 / 7 / 13						
TL_IS5_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17					
TL_IS6_	8 / 5 / 13	6 / 5 / 11	7 / 5 / 12					
TL_IS7_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11			
TL_IS8_	8 / 6 / 14	6 / 6 / 12	7 / 6 / 13	10 / 6 / 16	5 / 6 / 11	6 / 6 / 12		
TL_IS9_	8 / 10 / 18	6 / 10 / 16	7 / 10 / 17	10 / 10 / 20	5 / 10 / 15	6 / 10 / 16	6 / 10 / 16	

∑[Rank] (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	63 / 42							
TL_IS4_	69 / 51	42 / 49						
TL_IS5_	84 / 87	51 / 85	61 / 92					
TL_IS6_	60 / 31	37 / 29	46 / 32	81 / 39				
TL_IS7_	61 / 44	38 / 40	47 / 44	81 / 55	29 / 37			
TL_IS8_	65 / 40	42 / 36	49 / 42	87 / 49	30 / 36	42 / 36		
TL_IS9_	103 / 68	72 / 64	77 / 76	138 / 72	55 / 65	72 / 64	70 / 66	

U (top / left)	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	21 / 27							
TL_IS4_	23 / 33	21 / 21						
TL_IS5_	32 / 48	30 / 30	37 / 33					
TL_IS6_	16 / 24	14 / 16	17 / 18	24 / 26				
TL_IS7_	23 / 25	19 / 17	23 / 19	34 / 26	16 / 14			
TL_IS8_	19 / 29	15 / 21	21 / 21	28 / 32	15 / 15	15 / 21		
TL_IS9_	13 / 67	9 / 51	21 / 49	17 / 83	10 / 40	9 / 51	11 / 49	

|z|	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.39							
TL_IS4_	0.58	0.00						
TL_IS5_	0.71	0.00	0.20					
TL_IS6_	0.59	0.18	0.08	0.12				
TL_IS7_	0.13	0.16	0.29	0.43	0.18			
TL_IS8_	0.65	0.48	0.00	0.22	0.00	0.48		
TL_IS9_	**2.40**	**2.28**	1.37	**2.49**	1.84	**2.28**	**2.06**	

ES	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	0.03							
TL_IS4_	0.04	0.00						
TL_IS5_	0.04	0.00	0.01					
TL_IS6_	0.05	0.02	0.01	0.01				
TL_IS7_	0.01	0.01	0.02	0.03	0.02			
TL_IS8_	0.05	0.04	0.00	0.01	0.00	0.04		
TL_IS9_	0.13	0.14	0.08	0.12	0.12	0.14	0.13	

Degree of Association	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	small							
TL_IS4_	small	small						
TL_IS5_	small	small	small					
TL_IS6_	small	small	small	small				
TL_IS7_	small	small	small	small	small			
TL_IS8_	small	small	small	small	small	small		
TL_IS9_	small-medium	small-medium	small	small-medium	small-medium	small-medium	small-medium	

Significantly Different	TL_IS2_	TL_IS3_	TL_IS4_	TL_IS5_	TL_IS6_	TL_IS7_	TL_IS8_	TL_IS9_
TL_IS2_								
TL_IS3_	NO							
TL_IS4_	NO	NO						
TL_IS5_	NO	NO	NO					
TL_IS6_	NO	NO	NO	NO				
TL_IS7_	NO	NO	NO	NO	NO			
TL_IS8_	NO	NO	NO	NO	NO	NO		
TL_IS9_	**YES**	**YES**	NO	**YES**	NO	**YES**	**YES**	

Kougarok Intensive Station Mann Whitney U-Test Results

Aluminum

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	17 / 64 / 81									
KG_IS3_	17 / 25 / 42	64 / 25 / 89								
KG_IS5_	17 / 3 / 20	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32							
KG_IS7_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	17 / 10 / 27	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	17 / 73 / 90	64 / 73 / 137	25 / 73 / 98	3 / 73 / 76	7 / 73 / 80	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	17 / 54 / 71	64 / 54 / 118	25 / 54 / 79	3 / 54 / 57	7 / 54 / 61	7 / 54 / 61	10 / 54 / 64	73 / 54 / 127		
KG_IS13_	17 / 12 / 29	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	54 / 12 / 66	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	1114 / 2207									
KG_IS3_	382 / 521	2292 / 1713								
KG_IS5_	200 / 10	2190 / 88	394 / 12							
KG_IS6_	249 / 51	2247 / 309	459 / 69	12 / 43						
KG_IS7_	236 / 64	2177 / 379	440 / 88	8 / 47	47 / 58					
KG_IS10_	249 / 129	2111 / 664	445 / 185	6 / 85	38 / 115	46 / 107				
KG_IS11_	811 / 3284	2430 / 7023	1163.5 / 3687.5	10 / 2916	103 / 3137	158 / 3082	373 / 3113			
KG_IS12_	537 / 2019	2272 / 4749	806 / 2354	10 / 1643	62 / 1829	90 / 1801	214 / 1866	4111 / 4017		
KG_IS13_	262 / 173	2106 / 820	453 / 250	6 / 114	36 / 154	46 / 144	96 / 157	3097 / 558	1892 / 319	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	127 / 961									
KG_IS3_	196 / 229	1388 / 212								
KG_IS5_	4 / 47	82 / 110	6 / 69							
KG_IS6_	23 / 96	281 / 167	41 / 134	15 / 6						
KG_IS7_	36 / 83	351 / 97	60 / 115	19 / 2	30 / 19					
KG_IS10_	74 / 96	609 / 31	130 / 120	30 / 0	60 / 10	52 / 18				
KG_IS11_	583 / 658	4322 / 350	986.5 / 838.5	215 / 4	436 / 75	381 / 130	412 / 318			
KG_IS12_	534 / 384	3264 / 192	869 / 481	158 / 4	344 / 34	316 / 62	381 / 159	2532 / 1410		
KG_IS13_	95 / 109	742 / 26	172 / 128	36 / 0	76 / 8	66 / 18	79 / 41	480 / 396	241 / 407	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**4.84**									
KG_IS3_	0.42	**5.37**								
KG_IS5_	**2.28**	0.42	**2.34**							
KG_IS6_	**2.32**	1.10	**2.12**	1.03						
KG_IS7_	1.49	**2.45**	1.25	1.94	0.70					
KG_IS10_	0.55	**4.57**	0.18	**2.54**	**2.44**	1.66				
KG_IS11_	0.39	**8.57**	0.60	**2.81**	**3.07**	**2.14**	0.66			
KG_IS12_	1.01	**8.30**	**2.04**	**2.75**	**3.51**	**2.87**	**2.05**	**2.74**		
KG_IS13_	0.31	**5.10**	0.71	**2.60**	**2.87**	**2.03**	1.25	0.53	1.38	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.06									
KG_IS3_	0.01	0.06								
KG_IS5_	0.11	0.01	0.08							
KG_IS6_	0.10	0.02	0.07	0.10						
KG_IS7_	0.06	0.03	0.04	0.19	0.05					
KG_IS10_	0.02	0.06	0.01	0.20	0.14	0.10				
KG_IS11_	0.00	0.06	0.01	0.04	0.04	0.03	0.01			
KG_IS12_	0.01	0.07	0.03	0.05	0.06	0.05	0.03	0.02		
KG_IS13_	0.01	0.07	0.02	0.17	0.15	0.11	0.06	0.01	0.02	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small-medium	small	small							
KG_IS6_	small	small	small	small-medium						
KG_IS7_	small	small	small	small-medium	small					
KG_IS10_	small	small	small	small-medium	small-medium	small				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small	small	small	small-medium	small-medium	small-medium	small	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**YES**									
KG_IS3_	NO	**YES**								
KG_IS5_	**YES**	NO	**YES**							
KG_IS6_	**YES**	NO	**YES**	NO						
KG_IS7_	NO	**YES**	NO	NO	NO					
KG_IS10_	NO	**YES**	NO	**YES**	**YES**	NO				
KG_IS11_	NO	**YES**	NO	**YES**	**YES**	**YES**	NO			
KG_IS12_	NO	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**		
KG_IS13_	NO	**YES**	NO	**YES**	**YES**	**YES**	NO	NO	NO	

Kougarok Intensive Station Mann Whitney U-Test Results

Barium

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	17 / 64 / 81									
KG_IS3_	17 / 25 / 42	64 / 25 / 89								
KG_IS5_	17 / 3 / 20	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32							
KG_IS7_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	17 / 10 / 27	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	17 / 73 / 90	64 / 73 / 137	25 / 73 / 98	3 / 73 / 76	7 / 73 / 80	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	17 / 54 / 71	64 / 54 / 118	25 / 54 / 79	3 / 54 / 57	7 / 54 / 61	7 / 54 / 61	10 / 54 / 64	73 / 54 / 127		
KG_IS13_	17 / 12 / 29	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	54 / 12 / 66	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	666 / 2655									
KG_IS3_	318 / 585	2674 / 1331								
KG_IS5_	167 / 43	2150 / 128	359 / 47							
KG_IS6_	224 / 76	2343 / 213	443 / 85	22 / 33						
KG_IS7_	231 / 69	2384 / 172	452 / 76	22 / 33	56 / 49					
KG_IS10_	242 / 136	2465 / 310	484 / 146	26 / 65	58 / 95	53 / 100				
KG_IS11_	727 / 3368	4305 / 5148	1440 / 3411	143 / 2783	227 / 3013	181 / 3059	328 / 3158			
KG_IS12_	459 / 2097	3240 / 3781	974 / 2186	90 / 1563	136 / 1755	115 / 1776	202 / 1878	4120 / 4008		
KG_IS13_	251 / 184	2479 / 447	513 / 190	29 / 91	64 / 126	56 / 134	106 / 147	3189 / 466	1933 / 278	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	575 / 513									
KG_IS3_	260 / 165	1006 / 594								
KG_IS5_	37 / 14	122 / 70	41 / 34							
KG_IS6_	48 / 71	185 / 263	57 / 118	5 / 16						
KG_IS7_	41 / 78	144 / 304	48 / 127	5 / 16	21 / 28					
KG_IS10_	81 / 89	255 / 385	91 / 159	10 / 20	40 / 30	45 / 25				
KG_IS11_	667 / 574	2447 / 2225	710 / 1115	82 / 137	312 / 199	358 / 153	457 / 273			
KG_IS12_	612 / 306	2296 / 1160	701 / 649	78 / 84	270 / 108	291 / 87	393 / 147	2523 / 1419		
KG_IS13_	106 / 98	369 / 399	112 / 188	13 / 23	48 / 36	56 / 28	69 / 51	388 / 488	200 / 448	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.36									
KG_IS3_	1.22	1.88								
KG_IS5_	1.22	0.79	0.26							
KG_IS6_	0.73	0.75	1.39	1.25						
KG_IS7_	1.17	1.54	1.80	1.25	0.45					
KG_IS10_	0.20	1.03	1.24	0.85	0.49	0.98				
KG_IS11_	0.48	0.48	1.65	0.73	0.96	1.75	1.29			
KG_IS12_	**2.06**	**3.07**	0.27	0.11	1.83	**2.31**	**2.27**	**2.69**		
KG_IS13_	0.18	0.21	1.23	0.72	0.51	1.18	0.59	0.63	**2.06**	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.00									
KG_IS3_	0.03	0.02								
KG_IS5_	0.06	0.01	0.01							
KG_IS6_	0.03	0.01	0.04	0.13						
KG_IS7_	0.05	0.02	0.06	0.13	0.03					
KG_IS10_	0.01	0.01	0.04	0.07	0.03	0.06				
KG_IS11_	0.01	0.00	0.02	0.01	0.01	0.02	0.02			
KG_IS12_	0.03	0.03	0.00	0.00	0.03	0.04	0.04	0.02		
KG_IS13_	0.01	0.00	0.03	0.05	0.03	0.06	0.03	0.01	0.03	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small	small	small							
KG_IS6_	small	small	small	small-medium						
KG_IS7_	small	small	small	small-medium	small					
KG_IS10_	small	small	small	small	small	small				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small	small	small	small	small	small	small	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	NO									
KG_IS3_	NO	NO								
KG_IS5_	NO	NO	NO							
KG_IS6_	NO	NO	NO	NO						
KG_IS7_	NO	NO	NO	NO	NO					
KG_IS10_	NO	NO	NO	NO	NO	NO				
KG_IS11_	NO	NO	NO	NO	NO	NO	NO			
KG_IS12_	**YES**	**YES**	NO	NO	NO	**YES**	**YES**	**YES**		
KG_IS13_	NO	NO	NO	NO	NO	NO	NO	NO	**YES**	

Kougarok Intensive Station Mann Whitney U-Test Results

Boron

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	17 / 64 / 81									
KG_IS3_	17 / 25 / 42	64 / 25 / 89								
KG_IS5_	17 / 3 / 20	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32							
KG_IS7_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	17 / 10 / 27	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	17 / 73 / 90	64 / 73 / 137	25 / 73 / 98	3 / 73 / 76	7 / 73 / 80	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	17 / 54 / 71	64 / 54 / 118	25 / 54 / 79	3 / 54 / 57	7 / 54 / 61	7 / 54 / 61	10 / 54 / 64	73 / 54 / 127		
KG_IS13_	17 / 12 / 29	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	54 / 12 / 66	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	491.5 / 2829.5									
KG_IS3_	281 / 622	2736 / 1269								
KG_IS5_	187.5 / 22.5	2243.5 / 34.5	385 / 21							
KG_IS6_	233.5 / 66.5	2461.5 / 94.5	465 / 63	16.5 / 38.5						
KG_IS7_	233.5 / 66.5	2461.5 / 94.5	465 / 63	16.5 / 38.5	52.5 / 52.5					
KG_IS10_	205 / 173	2406 / 369	471 / 159	9 / 82	35 / 118	35 / 118				
KG_IS11_	450.5 / 3644.5	3855.5 / 5597.5	1300 / 3551	28.5 / 2897.5	80.5 / 3159.5	80.5 / 3159.5	318 / 3168			
KG_IS12_	404.5 / 2151.5	3399.5 / 3621.5	1043 / 2117	31.5 / 1621.5	87.5 / 1803.5	87.5 / 1803.5	264 / 1816	4571.5 / 3556.5		
KG_IS13_	233.5 / 201.5	2513.5 / 412.5	513 / 190	13.5 / 106.5	45.5 / 144.5	45.5 / 144.5	124 / 129	3270.5 / 384.5	1889.5 / 321.5	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	749.5 / 338.5									
KG_IS3_	297 / 128	944 / 656								
KG_IS5_	16.5 / 34.5	28.5 / 163.5	15 / 60							
KG_IS6_	38.5 / 80.5	66.5 / 381.5	35 / 140	10.5 / 10.5						
KG_IS7_	38.5 / 80.5	66.5 / 381.5	35 / 140	10.5 / 10.5	24.5 / 24.5					
KG_IS10_	118 / 52	314 / 326	104 / 146	27 / 3	63 / 7	63 / 7				
KG_IS11_	943.5 / 297.5	2896.5 / 1775.5	850 / 975	196.5 / 22.5	458.5 / 52.5	458.5 / 52.5	467 / 263			
KG_IS12_	666.5 / 251.5	2136.5 / 1319.5	632 / 718	136.5 / 25.5	318.5 / 59.5	318.5 / 59.5	331 / 209	2071.5 / 1870.5		
KG_IS13_	123.5 / 80.5	334.5 / 433.5	112 / 188	28.5 / 7.5	66.5 / 17.5	66.5 / 17.5	51 / 69	306.5 / 569.5	243.5 / 404.5	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**2.38**									
KG_IS3_	**2.17**	1.31								
KG_IS5_	0.95	**2.05**	1.67							
KG_IS6_	1.33	**3.04**	**2.39**	0.00						
KG_IS7_	1.33	**3.04**	**2.39**	0.00	0.00					
KG_IS10_	1.66	0.09	0.77	**2.03**	**2.73**	**2.73**				
KG_IS11_	**3.33**	**2.42**	0.51	**2.32**	**3.46**	**3.46**	1.43			
KG_IS12_	**2.80**	**2.21**	0.45	**1.98**	**2.93**	**2.93**	1.13	0.49		
KG_IS13_	0.95	0.71	1.23	1.52	**2.07**	**2.07**	0.59	1.66	1.34	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.03									
KG_IS3_	0.05	0.01								
KG_IS5_	0.05	0.03	0.06							
KG_IS6_	0.06	0.04	0.07	0.00						
KG_IS7_	0.06	0.04	0.07	0.00	0.00					
KG_IS10_	0.06	0.00	0.02	0.16	0.16	0.16				
KG_IS11_	0.04	0.02	0.01	0.03	0.04	0.04	0.02			
KG_IS12_	0.04	0.02	0.01	0.03	0.05	0.05	0.02	0.00		
KG_IS13_	0.03	0.01	0.03	0.10	0.11	0.11	0.03	0.02	0.02	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small	small	small							
KG_IS6_	small	small	small	small						
KG_IS7_	small	small	small	small	small					
KG_IS10_	small	small	small	small-medium	small-medium	small-medium				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small	small	small	small-medium	small-medium	small-medium	small	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**YES**									
KG_IS3_	**YES**	NO								
KG_IS5_	NO	**YES**	NO							
KG_IS6_	NO	**YES**	**YES**	NO						
KG_IS7_	NO	**YES**	**YES**	NO	NO					
KG_IS10_	NO	NO	NO	**YES**	**YES**	**YES**				
KG_IS11_	**YES**	**YES**	NO	**YES**	**YES**	**YES**	NO			
KG_IS12_	**YES**	**YES**	NO	**YES**	**YES**	**YES**	NO	NO		
KG_IS13_	NO	NO	NO	NO	**YES**	**YES**	NO	NO	NO	

Kougarok Intensive Station Mann Whitney U-Test Results

Bromide

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	14 / 64 / 78									
KG_IS3_	14 / 25 / 39	64 / 25 / 89								
KG_IS5_	14 / 3 / 17	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	14 / 7 / 21	64 / 7 / 71	25 / 7 / 32							
KG_IS7_	14 / 7 / 21	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	14 / 10 / 24	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	14 / 73 / 87	64 / 73 / 137	25 / 73 / 98	3 / 73 / 76	7 / 73 / 80	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	14 / 55 / 69	64 / 55 / 119	25 / 55 / 80	3 / 55 / 58	7 / 55 / 62	7 / 55 / 62	10 / 55 / 65	73 / 55 / 128		
KG_IS13_	14 / 12 / 26	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	55 / 12 / 67	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	414.5 / 2666.5									
KG_IS3_	285 / 495	3162 / 843								
KG_IS5_	122 / 31	2194 / 84	354.5 / 51.5							
KG_IS6_	154 / 77	2363 / 193	409 / 119	18 / 37						
KG_IS7_	147 / 84	2335.5 / 220.5	396.5 / 131.5	16 / 39	50 / 55					
KG_IS10_	156 / 144	2379 / 396	410 / 220	18 / 73	54 / 99	56 / 97				
KG_IS11_	484 / 3344	4344.5 / 5108.5	954 / 3897	98 / 2828	215.5 / 3024.5	241 / 2999	422 / 3064			
KG_IS12_	461 / 1954	4191 / 2949	933.5 / 2306.5	93.5 / 1617.5	207 / 1746	229.5 / 1723.5	388.5 / 1756.5	5118.5 / 3137.5		
KG_IS13_	194 / 157	2600.5 / 325.5	479.5 / 223.5	28 / 92	73 / 117	78 / 112	135 / 118	3282 / 373	1915.5 / 362.5	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	586.5 / 309.5									
KG_IS3_	170 / 180	518 / 1082								
KG_IS5_	25 / 17	78 / 114	45.5 / 29.5							
KG_IS6_	49 / 49	165 / 283	91 / 84	9 / 12						
KG_IS7_	56 / 42	192.5 / 255.5	103.5 / 71.5	11 / 10	27 / 22					
KG_IS10_	89 / 51	341 / 299	165 / 85	18 / 12	44 / 26	42 / 28				
KG_IS11_	643 / 379	2407.5 / 2264.5	1196 / 629	127 / 92	323.5 / 187.5	298 / 213	363 / 367			
KG_IS12_	414 / 356	1409 / 2111	766.5 / 608.5	77.5 / 87.5	206 / 179	183.5 / 201.5	216.5 / 333.5	1597.5 / 2417.5		
KG_IS13_	79 / 89	247.5 / 520.5	145.5 / 154.5	14 / 22	39 / 45	34 / 50	40 / 80	295 / 581	284.5 / 375.5	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	1.80									
KG_IS3_	0.15	**2.57**								
KG_IS5_	0.50	0.55	0.59							
KG_IS6_	0.00	1.14	0.16	0.34						
KG_IS7_	0.52	0.61	0.73	0.11	0.32					
KG_IS10_	1.11	0.33	1.46	0.51	0.88	0.68				
KG_IS11_	1.52	0.31	**2.31**	0.47	1.16	0.72	0.03			
KG_IS12_	0.43	1.87	0.82	0.18	0.30	0.20	1.06	**1.97**		
KG_IS13_	0.26	1.94	0.15	0.58	0.25	0.68	1.32	1.80	0.74	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.02									
KG_IS3_	0.00	0.03								
KG_IS5_	0.03	0.01	0.02							
KG_IS6_	0.00	0.02	0.00	0.03						
KG_IS7_	0.02	0.01	0.02	0.01	0.02					
KG_IS10_	0.05	0.00	0.04	0.04	0.05	0.04				
KG_IS11_	0.02	0.00	0.02	0.01	0.01	0.01	0.00			
KG_IS12_	0.01	0.02	0.01	0.00	0.00	0.00	0.02	0.02		
KG_IS13_	0.01	0.03	0.00	0.04	0.01	0.04	0.06	0.02	0.01	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small	small	small							
KG_IS6_	small	small	small	small						
KG_IS7_	small	small	small	small	small					
KG_IS10_	small	small	small	small	small	small				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small	small	small	small	small	small	small	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	NO									
KG_IS3_	NO	**YES**								
KG_IS5_	NO	NO	NO							
KG_IS6_	NO	NO	NO	NO						
KG_IS7_	NO	NO	NO	NO	NO					
KG_IS10_	NO	NO	NO	NO	NO	NO				
KG_IS11_	NO	NO	**YES**	NO	NO	NO	NO			
KG_IS12_	NO	NO	NO	NO	NO	NO	NO	**YES**		
KG_IS13_	NO	NO	NO	NO	NO	NO	NO	NO	NO	

Kougarok Intensive Station Mann Whitney U-Test Results

Calcium

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	17 / 64 / 81									
KG_IS3_	17 / 25 / 42	64 / 25 / 89								
KG_IS5_	17 / 3 / 20	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32							
KG_IS7_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	17 / 10 / 27	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	17 / 73 / 90	64 / 73 / 137	25 / 73 / 98	3 / 73 / 76	7 / 73 / 80	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	17 / 54 / 71	64 / 54 / 118	25 / 54 / 79	3 / 54 / 57	7 / 54 / 61	7 / 54 / 61	10 / 54 / 64	73 / 54 / 127		
KG_IS13_	17 / 12 / 29	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	54 / 12 / 66	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	293 / 3028									
KG_IS3_	490 / 413	3610 / 395								
KG_IS5_	166 / 44	2234 / 44	334 / 72							
KG_IS6_	203 / 97	2425 / 131	365 / 163	18 / 37						
KG_IS7_	203 / 97	2475 / 81	363 / 165	18 / 37	51 / 54					
KG_IS10_	244 / 134	2644 / 131	373 / 257	29 / 62	68 / 85	69 / 84				
KG_IS11_	1043 / 3052	6674 / 2779	821 / 4030	208 / 2718	393 / 2847	415 / 2825	550 / 2936			
KG_IS12_	892 / 1664	5477 / 1544	967 / 2193	162 / 1491	332 / 1559	341 / 1550	492 / 1588	5434 / 2694		
KG_IS13_	346 / 89	2848 / 78	459 / 244	42 / 78	100 / 90	100 / 90	175 / 78	3532 / 123	1866 / 345	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	948 / 140									
KG_IS3_	88 / 337	70 / 1530								
KG_IS5_	38 / 13	38 / 154	66 / 9							
KG_IS6_	69 / 50	103 / 345	135 / 40	9 / 12						
KG_IS7_	69 / 50	53 / 395	137 / 38	9 / 12	26 / 23					
KG_IS10_	79 / 91	76 / 564	202 / 48	7 / 23	30 / 40	29 / 41				
KG_IS11_	351 / 890	78 / 4594	1329 / 496	17 / 202	146 / 365	124 / 387	235 / 495			
KG_IS12_	179 / 739	59 / 3397	708 / 642	6 / 156	74 / 304	65 / 313	103 / 437	1209 / 2733		
KG_IS13_	11 / 193	0 / 768	166 / 134	0 / 36	12 / 72	12 / 72	0 / 120	45 / 831	267 / 381	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**4.69**									
KG_IS3_	**3.19**	**6.66**								
KG_IS5_	1.32	1.76	**2.12**							
KG_IS6_	0.60	**2.33**	**2.17**	0.34						
KG_IS7_	0.60	**3.30**	**2.26**	0.34	0.19					
KG_IS10_	0.30	**3.86**	**2.81**	1.35	0.49	0.59				
KG_IS11_	**2.78**	**9.74**	**3.39**	**2.47**	1.86	**2.24**	1.82			
KG_IS12_	**3.77**	**9.02**	0.35	**2.68**	**2.60**	**2.81**	**3.09**	**3.72**		
KG_IS13_	**4.03**	**5.47**	0.52	**2.60**	**2.54**	**2.54**	**3.96**	**4.96**	0.95	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.06									
KG_IS3_	0.08	0.07								
KG_IS5_	0.07	0.03	0.08							
KG_IS6_	0.03	0.03	0.07	0.03						
KG_IS7_	0.03	0.05	0.07	0.03	0.01					
KG_IS10_	0.01	0.05	0.08	0.10	0.03	0.03				
KG_IS11_	0.03	0.07	0.03	0.03	0.02	0.03	0.02			
KG_IS12_	0.05	0.08	0.00	0.05	0.04	0.05	0.05	0.03		
KG_IS13_	0.14	0.07	0.01	0.17	0.13	0.13	0.18	0.06	0.01	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small	small	small							
KG_IS6_	small	small	small	small						
KG_IS7_	small	small	small	small	small					
KG_IS10_	small	small	small	small-medium	small	small				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small-medium	small	small	small-medium	small-medium	small-medium	small-medium	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**YES**									
KG_IS3_	**YES**	**YES**								
KG_IS5_	NO	NO	**YES**							
KG_IS6_	NO	**YES**	**YES**	NO						
KG_IS7_	NO	**YES**	**YES**	NO	NO					
KG_IS10_	NO	**YES**	**YES**	NO	NO	NO				
KG_IS11_	**YES**	**YES**	**YES**	**YES**	NO	**YES**	NO			
KG_IS12_	**YES**	**YES**	NO	**YES**	**YES**	**YES**	**YES**	**YES**		
KG_IS13_	**YES**	**YES**	NO	**YES**	**YES**	**YES**	**YES**	**YES**	NO	

Kougarok Intensive Station Mann Whitney U-Test Results

Chloride

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	14 / 64 / 78									
KG_IS3_	14 / 25 / 39	64 / 25 / 89								
KG_IS5_	14 / 3 / 17	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	14 / 7 / 21	64 / 7 / 71	25 / 7 / 32							
KG_IS7_	14 / 7 / 21	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	14 / 10 / 24	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	14 / 72 / 86	64 / 72 / 136	25 / 72 / 97	3 / 72 / 75	7 / 72 / 79	7 / 72 / 79	10 / 72 / 82			
KG_IS12_	14 / 55 / 69	64 / 55 / 119	25 / 55 / 80	3 / 55 / 58	7 / 55 / 62	7 / 55 / 62	10 / 55 / 65	72 / 55 / 127		
KG_IS13_	14 / 12 / 26	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	72 / 12 / 84	55 / 12 / 67	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	429 / 2652									
KG_IS3_	193 / 587	2581.5 / 1423.5								
KG_IS5_	116 / 37	2141 / 137	349 / 57							
KG_IS6_	150.5 / 80.5	2351.5 / 204.5	447 / 81	22 / 33						
KG_IS7_	145 / 86	2367 / 189	434 / 94	18 / 37	49 / 56					
KG_IS10_	175 / 125	2554 / 221	520 / 110	29 / 62	65 / 88	72 / 81				
KG_IS11_	431 / 3310	4219 / 5097	1430.5 / 3322.5	143 / 2707	209 / 2951	187 / 2973	218 / 3185			
KG_IS12_	267 / 2148	2995.5 / 4144.5	982.5 / 2257.5	100 / 1611	121.5 / 1831.5	118 / 1835	142 / 2003	3955.5 / 4172.5		
KG_IS13_	175 / 176	2497 / 429	554 / 149	34 / 86	70 / 120	70 / 120	102 / 151	3151 / 419	2067 / 211	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	572 / 324									
KG_IS3_	262 / 88	1098.5 / 501.5								
KG_IS5_	31 / 11	131 / 61	51 / 24							
KG_IS6_	52.5 / 45.5	176.5 / 271.5	53 / 122	5 / 16						
KG_IS7_	58 / 40	161 / 287	66 / 109	9 / 12	28 / 21					
KG_IS10_	70 / 70	166 / 474	55 / 195	7 / 23	33 / 37	26 / 44				
KG_IS11_	682 / 326	2469 / 2139	694.5 / 1105.5	79 / 137	323 / 181	345 / 159	557 / 163			
KG_IS12_	608 / 162	2604.5 / 915.5	717.5 / 657.5	71 / 94	291.5 / 93.5	295 / 90	463 / 87	2632.5 / 1327.5		
KG_IS13_	98 / 70	351 / 417	71 / 229	8 / 28	42 / 42	42 / 42	73 / 47	341 / 523	133 / 527	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	1.61									
KG_IS3_	**2.55**	**2.72**								
KG_IS5_	1.26	1.06	1.00							
KG_IS6_	0.26	0.92	1.57	1.25						
KG_IS7_	0.67	1.22	0.98	0.34	0.45					
KG_IS10_	0.00	**2.43**	**2.56**	1.35	0.20	0.88				
KG_IS11_	**2.08**	0.72	1.69	0.78	1.22	1.60	**2.79**			
KG_IS12_	**3.33**	**4.50**	0.31	0.40	**2.20**	**2.28**	**3.42**	**3.17**		
KG_IS13_	0.72	0.47	**2.56**	1.44	0.00	0.00	0.86	1.16	**3.22**	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.02									
KG_IS3_	0.07	0.03								
KG_IS5_	0.07	0.02	0.04							
KG_IS6_	0.01	0.01	0.05	0.13						
KG_IS7_	0.03	0.02	0.03	0.03	0.03					
KG_IS10_	0.00	0.03	0.07	0.10	0.01	0.05				
KG_IS11_	0.02	0.01	0.02	0.01	0.02	0.02	0.03			
KG_IS12_	0.05	0.04	0.00	0.01	0.04	0.04	0.05	0.02		
KG_IS13_	0.03	0.01	0.07	0.10	0.00	0.00	0.04	0.01	0.05	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small	small	small							
KG_IS6_	small	small	small	small-medium						
KG_IS7_	small	small	small	small	small					
KG_IS10_	small	small	small	small-medium	small	small				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small	small	small	small	small	small	small	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	NO									
KG_IS3_	**YES**	**YES**								
KG_IS5_	NO	NO	NO							
KG_IS6_	NO	NO	NO	NO						
KG_IS7_	NO	NO	NO	NO	NO					
KG_IS10_	NO	**YES**	**YES**	NO	NO	NO				
KG_IS11_	**YES**	NO	NO	NO	NO	NO	**YES**			
KG_IS12_	**YES**	**YES**	NO	NO	**YES**	**YES**	**YES**	**YES**		
KG_IS13_	NO	NO	**YES**	NO	NO	NO	NO	NO	**YES**	

Kougarok Intensive Station Mann Whitney U-Test Results

Chromium

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	17 / 64 / 81									
KG_IS3_	17 / 25 / 42	64 / 25 / 89								
KG_IS5_	17 / 3 / 20	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32							
KG_IS7_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	17 / 10 / 27	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	17 / 73 / 90	64 / 73 / 137	25 / 73 / 98	3 / 73 / 76	7 / 73 / 80	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	17 / 54 / 71	64 / 54 / 118	25 / 54 / 79	3 / 54 / 57	7 / 54 / 61	7 / 54 / 61	10 / 54 / 64	73 / 54 / 127		
KG_IS13_	17 / 12 / 29	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	54 / 12 / 66	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	1070.5 / 2250.5									
KG_IS3_	439.5 / 463.5	2645.5 / 1359.5								
KG_IS5_	201 / 9	2221 / 57	381 / 25							
KG_IS6_	218.5 / 81.5	2230.5 / 325.5	398.5 / 129.5	10 / 45						
KG_IS7_	239.5 / 60.5	2235.5 / 320.5	420.5 / 107.5	10 / 45	56.5 / 48.5					
KG_IS10_	268 / 110	2214 / 561	436 / 194	7 / 84	64 / 89	59 / 94				
KG_IS11_	1171 / 2924	3757 / 5696	1394 / 3457	32 / 2894	333 / 2907	338 / 2902	576 / 2910			
KG_IS12_	813.5 / 1742.5	3134.5 / 3886.5	1009.5 / 2150.5	26 / 1627	235.5 / 1655.5	217.5 / 1673.5	371 / 1709	4259 / 3869		
KG_IS13_	322.5 / 112.5	2387.5 / 538.5	508.5 / 194.5	13 / 107	79.5 / 110.5	81.5 / 108.5	145 / 108	3160 / 495	1892.5 / 318.5	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	170.5 / 917.5									
KG_IS3_	138.5 / 286.5	1034.5 / 565.5								
KG_IS5_	3 / 48	51 / 141	19 / 56							
KG_IS6_	53.5 / 65.5	297.5 / 150.5	101.5 / 73.5	17 / 4						
KG_IS7_	32.5 / 86.5	292.5 / 155.5	79.5 / 95.5	17 / 4	20.5 / 28.5					
KG_IS10_	55 / 115	506 / 134	139 / 111	29 / 1	34 / 36	39 / 31				
KG_IS11_	223 / 1018	2995 / 1677	756 / 1069	193 / 26	206 / 305	201 / 310	209 / 521			
KG_IS12_	257.5 / 660.5	2401.5 / 1054.5	665.5 / 684.5	142 / 20	170.5 / 207.5	188.5 / 189.5	224 / 316	2384 / 1558		
KG_IS13_	34.5 / 169.5	460.5 / 307.5	116.5 / 183.5	29 / 7	32.5 / 51.5	30.5 / 53.5	30 / 90	417 / 459	240.5 / 407.5	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**4.33**									
KG_IS3_	1.90	**2.14**								
KG_IS5_	**2.38**	1.36	1.37							
KG_IS6_	0.38	1.42	0.64	1.48						
KG_IS7_	1.71	1.32	0.36	1.48	0.51					
KG_IS10_	1.51	**2.94**	0.51	**2.37**	0.10	0.39				
KG_IS11_	**4.10**	**2.84**	1.28	**2.23**	0.84	0.93	**2.18**			
KG_IS12_	**2.72**	**3.64**	0.10	**2.18**	0.42	0.01	0.85	**2.01**		
KG_IS13_	**2.99**	1.09	1.09	1.59	0.80	0.97	**1.98**	0.27	1.39	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.05									
KG_IS3_	0.05	0.02								
KG_IS5_	0.12	0.02	0.05							
KG_IS6_	0.02	0.02	0.02	0.15						
KG_IS7_	0.07	0.02	0.01	0.15	0.04					
KG_IS10_	0.06	0.04	0.01	0.18	0.01	0.02				
KG_IS11_	0.05	0.02	0.01	0.03	0.01	0.01	0.03			
KG_IS12_	0.04	0.03	0.00	0.04	0.01	0.00	0.01	0.02		
KG_IS13_	0.10	0.01	0.03	0.11	0.04	0.05	0.09	0.00	0.02	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small-medium	small	small							
KG_IS6_	small	small	small	small-medium						
KG_IS7_	small	small	small	small-medium	small					
KG_IS10_	small	small	small	small-medium	small	small				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small-medium	small	small	small-medium	small	small	small	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**YES**									
KG_IS3_	NO	**YES**								
KG_IS5_	**YES**	NO	NO							
KG_IS6_	NO	NO	NO	NO						
KG_IS7_	NO	NO	NO	NO	NO					
KG_IS10_	NO	**YES**	NO	**YES**	NO	NO				
KG_IS11_	**YES**	**YES**	NO	**YES**	NO	NO	**YES**			
KG_IS12_	**YES**	**YES**	NO	**YES**	NO	NO	NO	**YES**		
KG_IS13_	**YES**	NO	NO	NO	NO	NO	**YES**	NO	NO	

Kougarok Intensive Station Mann Whitney U-Test Results

Fluoride

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	14 / 64 / 78									
KG_IS3_	14 / 25 / 39	64 / 25 / 89								
KG_IS5_	14 / 3 / 17	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	14 / 7 / 21	64 / 7 / 71	25 / 7 / 32							
KG_IS7_	14 / 7 / 21	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	14 / 10 / 24	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	14 / 73 / 87	64 / 73 / 137	25 / 73 / 98	3 / 73 / 76	7 / 73 / 80	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	14 / 55 / 69	64 / 55 / 119	25 / 55 / 80	3 / 55 / 58	7 / 55 / 62	7 / 55 / 62	10 / 55 / 65	73 / 55 / 128		
KG_IS13_	14 / 12 / 26	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	55 / 12 / 67	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	325 / 2756									
KG_IS3_	233 / 547	3010 / 995								
KG_IS5_	138 / 15	2264.5 / 13.5	388 / 18							
KG_IS6_	182 / 49	2510.5 / 45.5	472 / 56	16.5 / 38.5						
KG_IS7_	182 / 49	2510.5 / 45.5	472 / 56	16.5 / 38.5	52.5 / 52.5					
KG_IS10_	140 / 160	2420 / 355	430 / 200	6 / 85	28 / 125	28 / 125				
KG_IS11_	476 / 3352	5123 / 4330	1264.5 / 3586.5	18 / 2908	56 / 3184	56 / 3184	525 / 2961			
KG_IS12_	361 / 2054	4147 / 2993	985.5 / 2254.5	12 / 1699	42 / 1911	42 / 1911	371 / 1774	4550.5 / 3705.5		
KG_IS13_	178 / 173	2632 / 294	493.5 / 209.5	6 / 114	28 / 162	28 / 162	139 / 114	3207.5 / 447.5	1938.5 / 339.5	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	676 / 220									
KG_IS3_	222 / 128	670 / 930								
KG_IS5_	9 / 33	7.5 / 184.5	12 / 63							
KG_IS6_	21 / 77	17.5 / 430.5	28 / 147	10.5 / 10.5						
KG_IS7_	21 / 77	17.5 / 430.5	28 / 147	10.5 / 10.5	24.5 / 24.5					
KG_IS10_	105 / 35	300 / 340	145 / 105	30 / 0	70 / 0	70 / 0				
KG_IS11_	651 / 371	1629 / 3043	885.5 / 939.5	207 / 12	483 / 28	483 / 28	260 / 470			
KG_IS12_	514 / 256	1453 / 2067	714.5 / 660.5	159 / 6	371 / 14	371 / 14	234 / 316	2165.5 / 1849.5		
KG_IS13_	95 / 73	216 / 552	131.5 / 168.5	36 / 0	84 / 0	84 / 0	36 / 84	369.5 / 506.5	261.5 / 398.5	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**2.97**									
KG_IS3_	1.38	1.19								
KG_IS5_	1.51	**2.68**	1.89							
KG_IS6_	**2.09**	**3.98**	**2.71**	0.00						
KG_IS7_	**2.09**	**3.98**	**2.71**	0.00	0.00					
KG_IS10_	**2.05**	0.32	0.73	**2.54**	**3.42**	**3.42**				
KG_IS11_	1.62	**3.05**	0.22	**2.60**	**3.87**	**3.87**	1.47			
KG_IS12_	1.92	1.64	0.28	**2.69**	**3.97**	**3.97**	0.75	0.76		
KG_IS13_	0.57	**2.39**	0.60	**2.60**	**3.55**	**3.55**	1.58	0.86	1.12	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.04									
KG_IS3_	0.04	0.01								
KG_IS5_	0.09	0.04	0.07							
KG_IS6_	0.10	0.06	0.08	0.00						
KG_IS7_	0.10	0.06	0.08	0.00	0.00					
KG_IS10_	0.09	0.00	0.02	0.20	0.20	0.20				
KG_IS11_	0.02	0.02	0.00	0.03	0.05	0.05	0.02			
KG_IS12_	0.03	0.01	0.00	0.05	0.06	0.06	0.01	0.01		
KG_IS13_	0.02	0.03	0.02	0.17	0.19	0.19	0.07	0.01	0.02	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small	small	small							
KG_IS6_	small	small	small	small						
KG_IS7_	small	small	small	small	small					
KG_IS10_	small	small	small	small-medium	small-medium	small-medium				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small	small	small	small-medium	small-medium	small-medium	small	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**YES**									
KG_IS3_	NO	NO								
KG_IS5_	NO	**YES**	NO							
KG_IS6_	**YES**	**YES**	**YES**	NO						
KG_IS7_	**YES**	**YES**	**YES**	NO	NO					
KG_IS10_	**YES**	NO	NO	**YES**	**YES**	**YES**				
KG_IS11_	NO	**YES**	NO	**YES**	**YES**	**YES**	NO			
KG_IS12_	NO	NO	NO	**YES**	**YES**	**YES**	NO	NO		
KG_IS13_	NO	**YES**	NO	**YES**	**YES**	**YES**	NO	NO	NO	

Kougarok Intensive Station Mann Whitney U-Test Results

Iron

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	17 / 64 / 81									
KG_IS3_	17 / 25 / 42	64 / 25 / 89								
KG_IS5_	17 / 3 / 20	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32							
KG_IS7_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	17 / 10 / 27	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	17 / 73 / 90	64 / 73 / 137	25 / 73 / 98	3 / 73 / 76	7 / 73 / 80	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	17 / 54 / 71	64 / 54 / 118	25 / 54 / 79	3 / 54 / 57	7 / 54 / 61	7 / 54 / 61	10 / 54 / 64	73 / 54 / 127		
KG_IS13_	17 / 12 / 29	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	54 / 12 / 66	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	622 / 2699									
KG_IS3_	491 / 412	3362 / 643								
KG_IS5_	204 / 6	2267 / 11	397 / 9							
KG_IS6_	222 / 78	2395 / 161	354 / 174	6 / 49						
KG_IS7_	217 / 83	2407 / 149	337 / 191	6 / 49	46 / 59					
KG_IS10_	245 / 133	2517 / 258	352 / 278	6 / 85	60 / 93	53 / 100				
KG_IS11_	870 / 3225	5534 / 3919	545 / 4306	8 / 2918	255 / 2985	314 / 2926	549 / 2937			
KG_IS12_	749 / 1807	4626 / 2395	682 / 2478	6 / 1647	253 / 1638	296 / 1595	458 / 1622	5223 / 2905		
KG_IS13_	278 / 157	2655 / 271	384 / 319	6 / 114	74 / 116	97 / 93	139 / 114	3296 / 359	1791 / 420	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	619 / 469									
KG_IS3_	87 / 338	318 / 1282								
KG_IS5_	0 / 51	5 / 187	3 / 72							
KG_IS6_	50 / 69	133 / 315	146 / 29	21 / 0						
KG_IS7_	55 / 64	121 / 327	163 / 12	21 / 0	31 / 18					
KG_IS10_	78 / 92	203 / 437	223 / 27	30 / 0	38 / 32	45 / 25				
KG_IS11_	524 / 717	1218 / 3454	1605 / 220	217 / 2	284 / 227	225 / 286	236 / 494			
KG_IS12_	322 / 596	910 / 2546	993 / 357	162 / 0	153 / 225	110 / 268	137 / 403	1420 / 2522		
KG_IS13_	79 / 125	193 / 575	241 / 59	36 / 0	38 / 46	15 / 69	36 / 84	281 / 595	342 / 306	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.87									
KG_IS3_	**3.22**	**4.40**								
KG_IS5_	**2.70**	**2.76**	**2.56**							
KG_IS6_	0.60	1.76	**2.67**	**2.39**						
KG_IS7_	0.29	**1.99**	**3.44**	**2.39**	0.83					
KG_IS10_	0.35	1.85	**3.58**	**2.54**	0.29	0.98				
KG_IS11_	0.99	**4.82**	**5.64**	**2.87**	0.49	0.52	1.80			
KG_IS12_	1.85	**4.42**	**3.35**	**2.89**	0.81	1.79	**2.46**	**2.69**		
KG_IS13_	1.02	**2.72**	**2.95**	**2.60**	0.34	**2.28**	1.58	**1.98**	0.30	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.01									
KG_IS3_	0.08	0.05								
KG_IS5_	0.13	0.04	0.09							
KG_IS6_	0.03	0.02	0.08	0.24						
KG_IS7_	0.01	0.03	0.11	0.24	0.06					
KG_IS10_	0.01	0.02	0.10	0.20	0.02	0.06				
KG_IS11_	0.01	0.04	0.06	0.04	0.01	0.01	0.02			
KG_IS12_	0.03	0.04	0.04	0.05	0.01	0.03	0.04	0.02		
KG_IS13_	0.04	0.04	0.08	0.17	0.02	0.12	0.07	0.02	0.00	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small-medium	small	small							
KG_IS6_	small	small	small	small-medium						
KG_IS7_	small	small	small-medium	small-medium	small					
KG_IS10_	small	small	small-medium	small-medium	small	small				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small	small	small	small-medium	small	small-medium	small	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	NO									
KG_IS3_	**YES**	**YES**								
KG_IS5_	**YES**	**YES**	**YES**							
KG_IS6_	NO	NO	**YES**	**YES**						
KG_IS7_	NO	**YES**	**YES**	**YES**	NO					
KG_IS10_	NO	NO	**YES**	**YES**	NO	NO				
KG_IS11_	NO	**YES**	**YES**	**YES**	NO	NO	NO			
KG_IS12_	NO	**YES**	**YES**	**YES**	NO	NO	**YES**	**YES**		
KG_IS13_	NO	**YES**	**YES**	**YES**	NO	**YES**	NO	**YES**	NO	

Kougarok Intensive Station Mann Whitney U-Test Results

Lithium

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	17 / 64 / 81									
KG_IS3_	17 / 25 / 42	64 / 25 / 89								
KG_IS5_	17 / 3 / 20	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32							
KG_IS7_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	17 / 10 / 27	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	17 / 73 / 90	64 / 73 / 137	25 / 73 / 98	3 / 73 / 76	7 / 73 / 80	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	17 / 54 / 71	64 / 54 / 118	25 / 54 / 79	3 / 54 / 57	7 / 54 / 61	7 / 54 / 61	10 / 54 / 64	73 / 54 / 127		
KG_IS13_	17 / 12 / 29	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	54 / 12 / 66	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	913.5 / 2407.5									
KG_IS3_	462 / 441	2938 / 1067								
KG_IS5_	190 / 20	2170 / 108	355 / 51							
KG_IS6_	246.5 / 53.5	2335.5 / 220.5	419 / 109	18 / 37						
KG_IS7_	236 / 64	2299 / 257	404 / 124	17 / 38	48 / 57					
KG_IS10_	250 / 128	2313 / 462	410 / 220	16 / 75	47 / 106	54 / 99				
KG_IS11_	1168 / 2927	4988 / 4465	1386 / 3465	168 / 2758	325 / 2915	373 / 2867	593 / 2893			
KG_IS12_	735.5 / 1820.5	3555.5 / 3465.5	855 / 2305	78 / 1575	160.5 / 1730.5	197 / 1694	355 / 1725	3952 / 4176		
KG_IS13_	343 / 92	2630 / 296	525 / 178	38 / 82	85 / 105	93 / 97	157 / 96	3188 / 467	1993 / 218	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	327.5 / 760.5									
KG_IS3_	116 / 309	742 / 858								
KG_IS5_	14 / 37	102 / 90	45 / 30							
KG_IS6_	25.5 / 93.5	192.5 / 255.5	81 / 94	9 / 12						
KG_IS7_	36 / 83	229 / 219	96 / 79	10 / 11	29 / 20					
KG_IS10_	73 / 97	407 / 233	165 / 85	20 / 10	51 / 19	44 / 26				
KG_IS11_	226 / 1015	1764 / 2908	764 / 1061	57 / 162	214 / 297	166 / 345	192 / 538			
KG_IS12_	335.5 / 582.5	1980.5 / 1475.5	820 / 530	90 / 72	245.5 / 132.5	209 / 169	240 / 300	2691 / 1251		
KG_IS13_	14 / 190	218 / 550	100 / 200	4 / 32	27 / 57	19 / 65	18 / 102	389 / 487	140 / 508	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**2.51**									
KG_IS3_	**2.47**	0.53								
KG_IS5_	1.22	0.18	0.56							
KG_IS6_	**2.16**	0.61	0.30	0.34						
KG_IS7_	1.49	0.10	0.39	0.11	0.57					
KG_IS10_	0.60	1.38	1.46	0.85	1.56	0.88				
KG_IS11_	**4.07**	**2.47**	1.21	1.40	0.71	1.52	**2.42**			
KG_IS12_	1.66	1.36	1.53	0.32	1.28	0.45	0.55	**3.51**		
KG_IS13_	**3.90**	**2.36**	1.62	**2.02**	1.27	1.94	**2.77**	0.62	**3.06**	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.03									
KG_IS3_	0.06	0.01								
KG_IS5_	0.06	0.00	0.02							
KG_IS6_	0.09	0.01	0.01	0.03						
KG_IS7_	0.06	0.00	0.01	0.01	0.04					
KG_IS10_	0.02	0.02	0.04	0.07	0.09	0.05				
KG_IS11_	0.05	0.02	0.01	0.02	0.01	0.02	0.03			
KG_IS12_	0.02	0.01	0.02	0.01	0.02	0.01	0.01	0.03		
KG_IS13_	0.13	0.03	0.04	0.13	0.07	0.10	0.13	0.01	0.05	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small	small	small							
KG_IS6_	small	small	small	small						
KG_IS7_	small	small	small	small	small					
KG_IS10_	small	small	small	small	small	small				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small-medium	small	small	small-medium	small	small-medium	small-medium	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**YES**									
KG_IS3_	**YES**	NO								
KG_IS5_	NO	NO	NO							
KG_IS6_	**YES**	NO	NO	NO						
KG_IS7_	NO	NO	NO	NO	NO					
KG_IS10_	NO	NO	NO	NO	NO	NO				
KG_IS11_	**YES**	**YES**	NO	NO	NO	NO	**YES**			
KG_IS12_	NO	NO	NO	NO	NO	NO	NO	**YES**		
KG_IS13_	**YES**	**YES**	NO	**YES**	NO	NO	**YES**	NO	**YES**	

Kougarok Intensive Station Mann Whitney U-Test Results

Magnesium

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	17 / 64 / 81									
KG_IS3_	17 / 25 / 42	64 / 25 / 89								
KG_IS5_	17 / 3 / 20	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32							
KG_IS7_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	17 / 10 / 27	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	17 / 73 / 90	64 / 73 / 137	25 / 73 / 98	3 / 73 / 76	7 / 73 / 80	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	17 / 54 / 71	64 / 54 / 118	25 / 54 / 79	3 / 54 / 57	7 / 54 / 61	7 / 54 / 61	10 / 54 / 64	73 / 54 / 127		
KG_IS13_	17 / 12 / 29	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	54 / 12 / 66	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	875 / 2446									
KG_IS3_	478 / 425	3298 / 707								
KG_IS5_	186 / 24	2156 / 122	339 / 67							
KG_IS6_	223 / 77	2274 / 282	365 / 163	18 / 37						
KG_IS7_	232 / 68	2286 / 270	373 / 155	18 / 37	54 / 51					
KG_IS10_	269 / 109	2416 / 359	389 / 241	25 / 66	70 / 83	65 / 88				
KG_IS11_	1225 / 2870	6461 / 2992	1100 / 3751	224 / 2702	463 / 2777	464 / 2776	719 / 2767			
KG_IS12_	910 / 1646	4996 / 2025	973 / 2187	152 / 1501	337 / 1554	333 / 1558	500 / 1580	4599 / 3529		
KG_IS13_	333 / 102	2848 / 78	488 / 215	42 / 78	102 / 88	102 / 88	174 / 79	3449 / 206	1952 / 259	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	366 / 722									
KG_IS3_	100 / 325	382 / 1218								
KG_IS5_	18 / 33	116 / 76	61 / 14							
KG_IS6_	49 / 70	254 / 194	135 / 40	9 / 12						
KG_IS7_	40 / 79	242 / 206	127 / 48	9 / 12	23 / 26					
KG_IS10_	54 / 116	304 / 336	186 / 64	11 / 19	28 / 42	33 / 37				
KG_IS11_	169 / 1072	291 / 4381	1050 / 775	1 / 218	76 / 435	75 / 436	66 / 664			
KG_IS12_	161 / 757	540 / 2916	702 / 648	16 / 146	69 / 309	73 / 305	95 / 445	2044 / 1898		
KG_IS13_	24 / 180	0 / 768	137 / 163	0 / 36	10 / 74	10 / 74	1 / 119	128 / 748	181 / 467	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**2.06**									
KG_IS3_	**2.88**	**3.82**								
KG_IS5_	0.79	0.61	1.75							
KG_IS6_	0.67	0.58	**2.17**	0.34						
KG_IS7_	1.24	0.35	1.80	0.34	0.19					
KG_IS10_	1.56	0.25	**2.23**	0.68	0.68	0.20				
KG_IS11_	**4.65**	**8.82**	1.12	**2.89**	**3.06**	**3.07**	**4.18**			
KG_IS12_	**4.02**	**6.42**	0.28	**2.32**	**2.72**	**2.62**	**3.24**	0.36		
KG_IS13_	**3.45**	**5.47**	0.42	**2.60**	**2.70**	**2.70**	**3.89**	**3.91**	**2.38**	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.03									
KG_IS3_	0.07	0.04								
KG_IS5_	0.04	0.01	0.06							
KG_IS6_	0.03	0.01	0.07	0.03						
KG_IS7_	0.05	0.00	0.06	0.03	0.01					
KG_IS10_	0.06	0.00	0.06	0.05	0.04	0.01				
KG_IS11_	0.05	0.06	0.01	0.04	0.04	0.04	0.05			
KG_IS12_	0.06	0.05	0.00	0.04	0.04	0.04	0.05	0.00		
KG_IS13_	0.12	0.07	0.01	0.17	0.14	0.14	0.18	0.05	0.04	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small	small	small							
KG_IS6_	small	small	small	small						
KG_IS7_	small	small	small	small	small					
KG_IS10_	small	small	small	small	small	small				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small-medium	small	small	small-medium	small-medium	small-medium	small-medium	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**YES**									
KG_IS3_	**YES**	**YES**								
KG_IS5_	NO	NO	NO							
KG_IS6_	NO	NO	**YES**	NO						
KG_IS7_	NO	NO	NO	NO	NO					
KG_IS10_	NO	NO	**YES**	NO	NO	NO				
KG_IS11_	**YES**	**YES**	NO	**YES**	**YES**	**YES**	**YES**			
KG_IS12_	**YES**	**YES**	NO	**YES**	**YES**	**YES**	**YES**	NO		
KG_IS13_	**YES**	**YES**	NO	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	

Kougarok Intensive Station Mann Whitney U-Test Results

Manganese

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	17 / 64 / 81									
KG_IS3_	17 / 25 / 42	64 / 25 / 89								
KG_IS5_	17 / 3 / 20	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32							
KG_IS7_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	17 / 10 / 27	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	17 / 73 / 90	64 / 73 / 137	25 / 73 / 98	3 / 73 / 76	7 / 73 / 80	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	17 / 54 / 71	64 / 54 / 118	25 / 54 / 79	3 / 54 / 57	7 / 54 / 61	7 / 54 / 61	10 / 54 / 64	73 / 54 / 127		
KG_IS13_	17 / 12 / 29	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	54 / 12 / 66	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	611 / 2710									
KG_IS3_	481 / 422	3385 / 620								
KG_IS5_	201 / 9	2258 / 20	388 / 18							
KG_IS6_	207 / 93	2337 / 219	346 / 182	6 / 49						
KG_IS7_	212 / 88	2358 / 198	372 / 156	8 / 47	56 / 49					
KG_IS10_	244 / 134	2491 / 284	383 / 247	7 / 84	72 / 81	66 / 87				
KG_IS11_	1206 / 2889	6113 / 3340	1662 / 3189	73 / 2853	510 / 2730	461 / 2779	699 / 2787			
KG_IS12_	906 / 1650	5025 / 1996	1203 / 1957	44 / 1609	378 / 1513	328 / 1563	519 / 1561	4129 / 3999		
KG_IS13_	332 / 103	2759.5 / 166.5	537 / 166	17 / 103	108 / 82	103 / 87	162 / 91	3187 / 468	1904 / 307	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	630 / 458									
KG_IS3_	97 / 328	295 / 1305								
KG_IS5_	3 / 48	14 / 178	12 / 63							
KG_IS6_	65 / 54	191 / 257	154 / 21	21 / 0						
KG_IS7_	60 / 59	170 / 278	128 / 47	19 / 2	21 / 28					
KG_IS10_	79 / 91	229 / 411	192 / 58	29 / 1	26 / 44	32 / 38				
KG_IS11_	188 / 1053	639 / 4033	488 / 1337	152 / 67	29 / 482	78 / 433	86 / 644			
KG_IS12_	165 / 753	511 / 2945	472 / 878	124 / 38	28 / 350	78 / 300	76 / 464	2514 / 1428		
KG_IS13_	25 / 179	88.5 / 679.5	88 / 212	25 / 11	4 / 80	9 / 75	13 / 107	390 / 486	229 / 419	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	1.00									
KG_IS3_	**2.96**	**4.61**								
KG_IS5_	**2.38**	**2.49**	1.89							
KG_IS6_	0.35	0.64	**3.03**	**2.39**						
KG_IS7_	0.03	1.04	1.85	1.94	0.45					
KG_IS10_	0.30	1.44	**2.45**	**2.37**	0.88	0.29				
KG_IS11_	**4.46**	**7.32**	**3.46**	1.13	**3.86**	**3.02**	**3.90**			
KG_IS12_	**3.96**	**6.57**	**2.14**	1.54	**3.64**	**2.51**	**3.59**	**2.65**		
KG_IS13_	**3.41**	**4.21**	**2.01**	1.01	**3.21**	**2.79**	**3.10**	0.61	1.58	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.01									
KG_IS3_	0.07	0.05								
KG_IS5_	0.12	0.04	0.07							
KG_IS6_	0.01	0.01	0.09	0.24						
KG_IS7_	0.00	0.01	0.06	0.19	0.03					
KG_IS10_	0.01	0.02	0.07	0.18	0.05	0.02				
KG_IS11_	0.05	0.05	0.04	0.01	0.05	0.04	0.05			
KG_IS12_	0.06	0.06	0.03	0.03	0.06	0.04	0.06	0.02		
KG_IS13_	0.12	0.06	0.05	0.07	0.17	0.15	0.14	0.01	0.02	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small-medium	small	small							
KG_IS6_	small	small	small	small-medium						
KG_IS7_	small	small	small	small-medium	small					
KG_IS10_	small	small	small	small-medium	small	small				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small-medium	small	small	small	small-medium	small-medium	small-medium	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	NO									
KG_IS3_	**YES**	**YES**								
KG_IS5_	**YES**	**YES**	NO							
KG_IS6_	NO	NO	**YES**	**YES**						
KG_IS7_	NO	NO	NO	NO	NO					
KG_IS10_	NO	NO	**YES**	**YES**	NO	NO				
KG_IS11_	**YES**	**YES**	**YES**	NO	**YES**	**YES**	**YES**			
KG_IS12_	**YES**	**YES**	**YES**	NO	**YES**	**YES**	**YES**	**YES**		
KG_IS13_	**YES**	**YES**	**YES**	NO	**YES**	**YES**	**YES**	NO	NO	

Kougarok Intensive Station Mann Whitney U-Test Results

Nitrate

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	14 / 64 / 78									
KG_IS3_	14 / 25 / 39	64 / 25 / 89								
KG_IS5_	14 / 3 / 17	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	14 / 7 / 21	64 / 7 / 71	25 / 7 / 32							
KG_IS7_	14 / 7 / 21	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	14 / 10 / 24	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	14 / 73 / 87	64 / 73 / 137	25 / 73 / 98	3 / 73 / 76	7 / 73 / 80	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	14 / 55 / 69	64 / 55 / 119	25 / 55 / 80	3 / 55 / 58	7 / 55 / 62	7 / 55 / 62	10 / 55 / 65	73 / 55 / 128		
KG_IS13_	14 / 12 / 26	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	55 / 12 / 67	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	411.5 / 2669.5									
KG_IS3_	118.5 / 661.5	2244.5 / 1760.5								
KG_IS5_	105 / 48	2080 / 198	329 / 77							
KG_IS6_	144 / 87	2317.5 / 238.5	493 / 35	27 / 28						
KG_IS7_	159 / 72	2391.5 / 164.5	495 / 33	27 / 28	61 / 44					
KG_IS10_	165.5 / 134.5	2415.5 / 359.5	518.5 / 111.5	30 / 61	62 / 91	53 / 100				
KG_IS11_	342 / 3486	3700.5 / 5752.5	1876 / 2975	225 / 2701	189 / 3051	116 / 3124	342.5 / 3143.5			
KG_IS12_	151 / 2264	2478 / 4662	1131 / 2109	160 / 1551	52 / 1901	34 / 1919	195 / 1950	3478.5 / 4777.5		
KG_IS13_	164 / 187	2415 / 511	609 / 94	42 / 78	62 / 128	50 / 140	111 / 142	3189 / 466	2121 / 157	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	589.5 / 306.5									
KG_IS3_	336.5 / 13.5	1435.5 / 164.5								
KG_IS5_	42 / 0	192 / 0	71 / 4							
KG_IS6_	59 / 39	210.5 / 237.5	7 / 168	0 / 21						
KG_IS7_	44 / 54	136.5 / 311.5	5 / 170	0 / 21	16 / 33					
KG_IS10_	79.5 / 60.5	304.5 / 335.5	56.5 / 193.5	6 / 24	36 / 34	45 / 25				
KG_IS11_	785 / 237	3051.5 / 1620.5	274 / 1551	0 / 219	350 / 161	423 / 88	442.5 / 287.5			
KG_IS12_	724 / 46	3122 / 398	569 / 806	11 / 154	361 / 24	379 / 6	410 / 140	3237.5 / 777.5		
KG_IS13_	109 / 59	433 / 335	16 / 284	0 / 36	50 / 34	62 / 22	64 / 56	388 / 488	79 / 581	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	1.84									
KG_IS3_	**4.73**	**5.80**								
KG_IS5_	**2.65**	**2.91**	**2.49**							
KG_IS6_	0.75	0.26	**3.67**	**2.39**						
KG_IS7_	0.37	1.69	**3.76**	**2.39**	1.09					
KG_IS10_	0.56	0.25	**2.50**	1.52	0.10	0.98				
KG_IS11_	**3.17**	**3.09**	**5.20**	**2.92**	1.61	**2.85**	1.08			
KG_IS12_	**5.06**	**7.26**	1.23	**2.51**	**3.75**	**4.15**	**2.45**	**5.92**		
KG_IS13_	1.29	0.70	**4.35**	**2.60**	0.68	1.69	0.26	0.63	**4.10**	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.02									
KG_IS3_	0.12	0.07								
KG_IS5_	0.16	0.04	0.09							
KG_IS6_	0.04	0.00	0.11	0.24						
KG_IS7_	0.02	0.02	0.12	0.24	0.08					
KG_IS10_	0.02	0.00	0.07	0.12	0.01	0.06				
KG_IS11_	0.04	0.02	0.05	0.04	0.02	0.04	0.01			
KG_IS12_	0.07	0.06	0.02	0.04	0.06	0.07	0.04	0.05		
KG_IS13_	0.05	0.01	0.12	0.17	0.04	0.09	0.01	0.01	0.06	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small-medium	small								
KG_IS5_	small-medium	small	small							
KG_IS6_	small	small	small-medium	small-medium						
KG_IS7_	small	small	small-medium	small-medium	small					
KG_IS10_	small	small	small	small-medium	small	small				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small	small	small-medium	small-medium	small	small	small	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	NO									
KG_IS3_	**YES**	**YES**								
KG_IS5_	**YES**	**YES**	**YES**							
KG_IS6_	NO	NO	**YES**	**YES**						
KG_IS7_	NO	NO	**YES**	**YES**	NO					
KG_IS10_	NO	NO	**YES**	NO	NO	NO				
KG_IS11_	**YES**	**YES**	**YES**	**YES**	NO	**YES**	NO			
KG_IS12_	**YES**	**YES**	NO	**YES**	**YES**	**YES**	**YES**	**YES**		
KG_IS13_	NO	NO	**YES**	**YES**	NO	NO	NO	NO	**YES**	

Kougarok Intensive Station Mann Whitney U-Test Results

Nitrite

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	14 / 64 / 78									
KG_IS3_	14 / 25 / 39	64 / 25 / 89								
KG_IS5_	14 / 3 / 17	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	14 / 6 / 20	64 / 6 / 70	25 / 6 / 31							
KG_IS7_	14 / 7 / 21	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	6 / 7 / 13					
KG_IS10_	14 / 10 / 24	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	6 / 10 / 16	7 / 10 / 17				
KG_IS11_	14 / 73 / 87	64 / 73 / 137	25 / 73 / 98	3 / 73 / 76	6 / 73 / 79	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	14 / 55 / 69	64 / 55 / 119	25 / 55 / 80	3 / 55 / 58	6 / 55 / 61	7 / 55 / 62	10 / 55 / 65	73 / 55 / 128		
KG_IS13_	14 / 12 / 26	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	6 / 12 / 18	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	55 / 12 / 67	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	399 / 2682									
KG_IS3_	215 / 565	2848.5 / 1156.5								
KG_IS5_	109 / 44	2131.5 / 146.5	345 / 61							
KG_IS6_	156 / 54	2368 / 117	439 / 57	24 / 21						
KG_IS7_	164.5 / 66.5	2416 / 140	458 / 70	27 / 28	42 / 49					
KG_IS10_	163 / 137	2472 / 303	487 / 143	32 / 59	39 / 97	49 / 104				
KG_IS11_	262.5 / 3565.5	3685.5 / 5767.5	1011 / 3840	133 / 2793	66 / 3094	80.5 / 3159.5	185 / 3301			
KG_IS12_	299.5 / 2115.5	3553 / 3587	940 / 2300	113 / 1598	84 / 1807	101.5 / 1851.5	219 / 1926	4980 / 3276		
KG_IS13_	129 / 222	2337.5 / 588.5	438 / 265	27 / 93	27 / 144	35 / 155	74 / 179	3139 / 516	1816.5 / 461.5	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	602 / 294									
KG_IS3_	240 / 110	831.5 / 768.5								
KG_IS5_	38 / 4	140.5 / 51.5	55 / 20							
KG_IS6_	33 / 51	96 / 288	36 / 114	0 / 18						
KG_IS7_	38.5 / 59.5	112 / 336	42 / 133	0 / 21	21 / 21					
KG_IS10_	82 / 58	248 / 392	88 / 162	4 / 26	42 / 18	49 / 21				
KG_IS11_	864.5 / 157.5	3066.5 / 1605.5	1139 / 686	92 / 127	393 / 45	458.5 / 52.5	600 / 130			
KG_IS12_	575.5 / 194.5	2047 / 1473	760 / 615	58 / 107	267 / 63	311.5 / 73.5	386 / 164	1736 / 2279		
KG_IS13_	144 / 24	510.5 / 257.5	187 / 113	15 / 21	66 / 6	77 / 7	101 / 19	438 / 438	383.5 / 276.5	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**2.01**									
KG_IS3_	1.90	0.29								
KG_IS5_	**2.14**	1.35	1.30							
KG_IS6_	0.74	**2.01**	1.95	**2.32**						
KG_IS7_	0.78	**2.16**	**2.07**	**2.39**	0.00					
KG_IS10_	0.70	1.14	1.35	1.86	1.30	1.37				
KG_IS11_	**4.08**	**3.15**	1.85	0.47	**3.22**	**3.46**	**3.29**			
KG_IS12_	**2.84**	1.53	0.75	0.86	**2.47**	**2.65**	**2.02**	1.31		
KG_IS13_	**3.09**	1.80	1.20	0.43	**2.81**	**2.96**	**2.70**	0.00	0.87	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.03									
KG_IS3_	0.05	0.00								
KG_IS5_	0.13	0.02	0.05							
KG_IS6_	0.04	0.03	0.06	0.26						
KG_IS7_	0.04	0.03	0.06	0.24	0.00					
KG_IS10_	0.03	0.02	0.04	0.14	0.08	0.08				
KG_IS11_	0.05	0.02	0.02	0.01	0.04	0.04	0.04			
KG_IS12_	0.04	0.01	0.01	0.01	0.04	0.04	0.03	0.01		
KG_IS13_	0.12	0.02	0.03	0.03	0.16	0.16	0.12	0.00	0.01	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small-medium	small	small							
KG_IS6_	small	small	small	medium						
KG_IS7_	small	small	small	small-medium	small					
KG_IS10_	small	small	small	small-medium	small	small				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small-medium	small	small	small	small-medium	small-medium	small-medium	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**YES**									
KG_IS3_	NO	NO								
KG_IS5_	**YES**	NO	NO							
KG_IS6_	NO	**YES**	NO	**YES**						
KG_IS7_	NO	**YES**	**YES**	**YES**	NO					
KG_IS10_	NO	NO	NO	NO	NO	NO				
KG_IS11_	**YES**	**YES**	NO	NO	**YES**	**YES**	**YES**			
KG_IS12_	**YES**	NO	NO	NO	**YES**	**YES**	**YES**	NO		
KG_IS13_	**YES**	NO	NO	NO	**YES**	**YES**	**YES**	NO	NO	

Kougarok Intensive Station Mann Whitney U-Test Results

Oxalate

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	14 / 64 / 78									
KG_IS3_	14 / 24 / 38	64 / 24 / 88								
KG_IS5_	14 / 3 / 17	64 / 3 / 67	24 / 3 / 27							
KG_IS6_	14 / 7 / 21	64 / 7 / 71	24 / 7 / 31							
KG_IS7_	14 / 7 / 21	64 / 7 / 71	24 / 7 / 31	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	14 / 10 / 24	64 / 10 / 74	24 / 10 / 34	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	14 / 73 / 87	64 / 73 / 137	24 / 73 / 97	3 / 73 / 76	7 / 73 / 80	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	14 / 55 / 69	64 / 55 / 119	24 / 55 / 79	3 / 55 / 58	7 / 55 / 62	7 / 55 / 62	10 / 55 / 65	73 / 55 / 128		
KG_IS13_	14 / 12 / 26	64 / 12 / 76	24 / 12 / 36	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	55 / 12 / 67	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	803 / 2278									
KG_IS3_	263 / 478	2413.5 / 1502.5								
KG_IS5_	144 / 9	2263 / 15	369 / 9							
KG_IS6_	172 / 59	2323 / 233	417.5 / 78.5	10.5 / 44.5						
KG_IS7_	152 / 79	2198 / 358	382 / 114	6 / 49	43 / 62					
KG_IS10_	199 / 101	2291 / 484	467 / 128	9 / 82	56 / 97	73 / 80				
KG_IS11_	479 / 3349	2571.5 / 6881.5	961 / 3792	10.5 / 2915.5	148.5 / 3091.5	243.5 / 2996.5	192.5 / 3293.5			
KG_IS12_	389 / 2026	2481.5 / 4658.5	801 / 2359	10.5 / 1700.5	121.5 / 1831.5	187 / 1766	161 / 1984	4694 / 3562		
KG_IS13_	176 / 175	2135 / 791	421 / 245	6 / 114	46 / 144	66 / 124	79 / 174	3218 / 437	1925 / 353	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	198 / 698									
KG_IS3_	178 / 158	1202.5 / 333.5								
KG_IS5_	3 / 39	9 / 183	3 / 69							
KG_IS6_	31 / 67	205 / 243	50.5 / 117.5	16.5 / 4.5						
KG_IS7_	51 / 47	330 / 118	86 / 82	21 / 0	34 / 15					
KG_IS10_	46 / 94	429 / 211	73 / 167	27 / 3	42 / 28	25 / 45				
KG_IS11_	648 / 374	4180.5 / 491.5	1091 / 661	214.5 / 4.5	390.5 / 120.5	295.5 / 215.5	592.5 / 137.5			
KG_IS12_	486 / 284	3118.5 / 401.5	819 / 501	160.5 / 4.5	291.5 / 93.5	226 / 159	444 / 106	2022 / 1993		
KG_IS13_	97 / 71	713 / 55	167 / 121	36 / 0	66 / 18	46 / 38	96 / 24	359 / 517	275 / 385	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**3.26**									
KG_IS3_	0.30	**4.07**								
KG_IS5_	**2.27**	**2.64**	**2.55**							
KG_IS6_	1.34	0.37	1.58	1.37						
KG_IS7_	0.15	**2.04**	0.09	**2.39**	1.21					
KG_IS10_	1.41	1.72	1.78	**2.03**	0.68	0.98				
KG_IS11_	1.58	**7.96**	1.80	**2.80**	**2.30**	0.68	**3.18**			
KG_IS12_	1.51	**7.24**	1.69	**2.74**	**2.20**	0.75	**3.07**	0.07		
KG_IS13_	0.67	**4.69**	0.77	**2.60**	**2.03**	0.34	**2.37**	1.00	0.90	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.04									
KG_IS3_	0.01	0.05								
KG_IS5_	0.13	0.04	0.09							
KG_IS6_	0.06	0.01	0.05	0.14						
KG_IS7_	0.01	0.03	0.00	0.24	0.09					
KG_IS10_	0.06	0.02	0.05	0.16	0.04	0.06				
KG_IS11_	0.02	0.06	0.02	0.04	0.03	0.01	0.04			
KG_IS12_	0.02	0.06	0.02	0.05	0.04	0.01	0.05	0.00		
KG_IS13_	0.03	0.06	0.02	0.17	0.11	0.02	0.11	0.01	0.01	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small-medium	small	small							
KG_IS6_	small	small	small	small-medium						
KG_IS7_	small	small	small	small-medium	small					
KG_IS10_	small	small	small	small-medium	small	small				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small	small	small	small-medium	small-medium	small	small-medium	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**YES**									
KG_IS3_	NO	**YES**								
KG_IS5_	**YES**	**YES**	**YES**							
KG_IS6_	NO	NO	NO	NO						
KG_IS7_	NO	**YES**	NO	**YES**	NO					
KG_IS10_	NO	NO	NO	**YES**	NO	NO				
KG_IS11_	NO	**YES**	NO	**YES**	**YES**	NO	**YES**			
KG_IS12_	NO	**YES**	NO	**YES**	**YES**	NO	**YES**	NO		
KG_IS13_	NO	**YES**	NO	**YES**	**YES**	NO	**YES**	NO	NO	

Kougarok Intensive Station Mann Whitney U-Test Results

Phosphate

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	14 / 64 / 78									
KG_IS3_	14 / 24 / 38	64 / 24 / 88								
KG_IS5_	14 / 3 / 17	64 / 3 / 67	24 / 3 / 27							
KG_IS6_	14 / 6 / 20	64 / 6 / 70	24 / 6 / 30							
KG_IS7_	14 / 7 / 21	64 / 7 / 71	24 / 7 / 31	3 / 7 / 10	6 / 7 / 13					
KG_IS10_	14 / 10 / 24	64 / 10 / 74	24 / 10 / 34	3 / 10 / 13	6 / 10 / 16	7 / 10 / 17				
KG_IS11_	14 / 73 / 87	64 / 73 / 137	24 / 73 / 97	3 / 73 / 76	6 / 73 / 79	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	14 / 55 / 69	64 / 55 / 119	24 / 55 / 79	3 / 55 / 58	6 / 55 / 61	7 / 55 / 62	10 / 55 / 65	73 / 55 / 128		
KG_IS13_	14 / 12 / 26	64 / 12 / 76	24 / 12 / 36	3 / 12 / 15	6 / 12 / 18	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	55 / 12 / 67	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	577.5 / 2503.5									
KG_IS3_	225 / 516	2602 / 1314								
KG_IS5_	120 / 33	2146 / 132	339 / 39							
KG_IS6_	150 / 60	2275 / 210	396 / 69	18 / 27						
KG_IS7_	150 / 81	2276 / 280	403 / 93	18 / 37	39 / 52					
KG_IS10_	180 / 120	2405 / 370	460 / 135	26 / 65	51 / 85	68 / 85				
KG_IS11_	577.5 / 3250.5	4133 / 5320	1363 / 3390	134.5 / 2791.5	210 / 2950	285 / 2955	370 / 3116			
KG_IS12_	420 / 1995	3448.5 / 3691.5	1024.5 / 2135.5	91 / 1620	147 / 1744	199 / 1754	265 / 1880	4479.5 / 3776.5		
KG_IS13_	187.5 / 163.5	2438 / 488	482 / 184	28 / 92	54 / 117	72 / 118	110 / 143	3162 / 493	1923.5 / 354.5	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	423.5 / 472.5									
KG_IS3_	216 / 120	1014 / 522								
KG_IS5_	27 / 15	126 / 66	33 / 39							
KG_IS6_	39 / 45	189 / 195	48 / 96	6 / 12						
KG_IS7_	53 / 45	252 / 196	65 / 103	9 / 12	24 / 18					
KG_IS10_	65 / 75	315 / 325	80 / 160	10 / 20	30 / 30	30 / 40				
KG_IS11_	549.5 / 472.5	2619 / 2053	689 / 1063	90.5 / 128.5	249 / 189	254 / 257	415 / 315			
KG_IS12_	455 / 315	2151.5 / 1368.5	595.5 / 724.5	80 / 85	204 / 126	214 / 171	340 / 210	2236.5 / 1778.5		
KG_IS13_	85.5 / 82.5	410 / 358	106 / 182	14 / 22	39 / 33	40 / 44	65 / 55	415 / 461	276.5 / 383.5	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.32									
KG_IS3_	1.45	**2.30**								
KG_IS5_	0.76	0.91	0.23							
KG_IS6_	0.25	0.06	1.24	0.77						
KG_IS7_	0.30	0.54	0.90	0.34	0.43					
KG_IS10_	0.29	0.08	1.51	0.85	0.00	0.49				
KG_IS11_	0.44	1.22	1.56	0.51	0.56	0.03	0.70			
KG_IS12_	1.04	**2.09**	0.69	0.09	0.94	0.48	1.18	1.10		
KG_IS13_	0.08	0.37	1.28	0.58	0.28	0.17	0.33	0.29	0.87	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.00									
KG_IS3_	0.04	0.03								
KG_IS5_	0.04	0.01	0.01							
KG_IS6_	0.01	0.00	0.04	0.09						
KG_IS7_	0.01	0.01	0.03	0.03	0.03					
KG_IS10_	0.01	0.00	0.04	0.07	0.00	0.03				
KG_IS11_	0.01	0.01	0.02	0.01	0.01	0.00	0.01			
KG_IS12_	0.02	0.02	0.01	0.00	0.02	0.01	0.02	0.01		
KG_IS13_	0.00	0.00	0.04	0.04	0.02	0.01	0.01	0.00	0.01	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small	small	small							
KG_IS6_	small	small	small	small						
KG_IS7_	small	small	small	small	small					
KG_IS10_	small	small	small	small	small	small				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small	small	small	small	small	small	small	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	NO									
KG_IS3_	NO	**YES**								
KG_IS5_	NO	NO	NO							
KG_IS6_	NO	NO	NO	NO						
KG_IS7_	NO	NO	NO	NO	NO					
KG_IS10_	NO	NO	NO	NO	NO	NO				
KG_IS11_	NO	NO	NO	NO	NO	NO	NO			
KG_IS12_	NO	**YES**	NO	NO	NO	NO	NO	NO		
KG_IS13_	NO	NO	NO	NO	NO	NO	NO	NO	NO	

Kougarok Intensive Station Mann Whitney U-Test Results

Potassium

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	17 / 64 / 81									
KG_IS3_	17 / 25 / 42	64 / 25 / 89								
KG_IS5_	17 / 3 / 20	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32							
KG_IS7_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	17 / 10 / 27	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	17 / 73 / 90	64 / 73 / 137	25 / 73 / 98	3 / 73 / 76	7 / 73 / 80	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	17 / 54 / 71	64 / 54 / 118	25 / 54 / 79	3 / 54 / 57	7 / 54 / 61	7 / 54 / 61	10 / 54 / 64	73 / 54 / 127		
KG_IS13_	17 / 12 / 29	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	54 / 12 / 66	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	498 / 2823									
KG_IS3_	370 / 533	3220 / 785								
KG_IS5_	195 / 15	2263 / 15	385 / 21							
KG_IS6_	241 / 59	2465 / 91	449 / 79	15 / 40						
KG_IS7_	241 / 59	2482 / 74	450 / 78	15 / 40	53 / 52					
KG_IS10_	201 / 177	2466 / 309	405 / 225	6 / 85	36 / 117	36 / 117				
KG_IS11_	645 / 3450	5349 / 4104	1041 / 3810	6 / 2920	91 / 3149	91 / 3149	516 / 2970			
KG_IS12_	540 / 2016	4584 / 2437	885 / 2275	15 / 1638	95 / 1796	94 / 1797	396 / 1684	4723 / 3405		
KG_IS13_	267 / 168	2747 / 179	488 / 215	7.5 / 112.5	43 / 147	43 / 147	162 / 91	3359 / 296	1951 / 260	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	743 / 345									
KG_IS3_	208 / 217	460 / 1140								
KG_IS5_	9 / 42	9 / 183	15 / 60							
KG_IS6_	31 / 88	63 / 385	51 / 124	12 / 9						
KG_IS7_	31 / 88	46 / 402	50 / 125	12 / 9	24 / 25					
KG_IS10_	122 / 48	254 / 386	170 / 80	30 / 0	62 / 8	62 / 8				
KG_IS11_	749 / 492	1403 / 3269	1109 / 716	219 / 0	448 / 63	448 / 63	269 / 461			
KG_IS12_	531 / 387	952 / 2504	790 / 560	153 / 9	311 / 67	312 / 66	199 / 341	1920 / 2022		
KG_IS13_	90 / 114	101 / 667	137 / 163	34.5 / 1.5	69 / 15	69 / 15	13 / 107	218 / 658	182 / 466	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**2.31**									
KG_IS3_	0.12	**3.10**								
KG_IS5_	1.75	**2.64**	1.67							
KG_IS6_	1.81	**3.11**	1.66	0.34						
KG_IS7_	1.81	**3.43**	1.71	0.34	0.06					
KG_IS10_	1.86	1.04	1.64	**2.54**	**2.63**	**2.63**				
KG_IS11_	1.32	**4.03**	1.60	**2.92**	**3.28**	**3.28**	1.34			
KG_IS12_	0.97	**4.19**	1.21	**2.57**	**2.76**	**2.78**	1.31	0.25		
KG_IS13_	0.53	**4.03**	0.42	**2.38**	**2.28**	**2.28**	**3.10**	**2.78**	**2.36**	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.03									
KG_IS3_	0.00	0.03								
KG_IS5_	0.09	0.04	0.06							
KG_IS6_	0.08	0.04	0.05	0.03						
KG_IS7_	0.08	0.05	0.05	0.03	0.00					
KG_IS10_	0.07	0.01	0.05	0.20	0.15	0.15				
KG_IS11_	0.01	0.03	0.02	0.04	0.04	0.04	0.02			
KG_IS12_	0.01	0.04	0.02	0.05	0.05	0.05	0.02	0.00		
KG_IS13_	0.02	0.05	0.01	0.16	0.12	0.12	0.14	0.03	0.04	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small	small	small							
KG_IS6_	small	small	small	small						
KG_IS7_	small	small	small	small	small					
KG_IS10_	small	small	small	small-medium	small-medium	small-medium				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small	small	small	small-medium	small-medium	small-medium	small-medium	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**YES**									
KG_IS3_	NO	**YES**								
KG_IS5_	NO	**YES**	NO							
KG_IS6_	NO	**YES**	NO	NO						
KG_IS7_	NO	**YES**	NO	NO	NO					
KG_IS10_	NO	NO	NO	**YES**	**YES**	**YES**				
KG_IS11_	NO	**YES**	NO	**YES**	**YES**	**YES**	NO			
KG_IS12_	NO	**YES**	NO	**YES**	**YES**	**YES**	NO	NO		
KG_IS13_	NO	**YES**	NO	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	

Kougarok Intensive Station Mann Whitney U-Test Results

Silica

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	17 / 64 / 81									
KG_IS3_	17 / 25 / 42	64 / 25 / 89								
KG_IS5_	17 / 3 / 20	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32							
KG_IS7_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	17 / 10 / 27	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	17 / 73 / 90	64 / 73 / 137	25 / 73 / 98	3 / 73 / 76	7 / 73 / 80	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	17 / 54 / 71	64 / 54 / 118	25 / 54 / 79	3 / 54 / 57	7 / 54 / 61	7 / 54 / 61	10 / 54 / 64	73 / 54 / 127		
KG_IS13_	17 / 12 / 29	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	54 / 12 / 66	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	821 / 2500									
KG_IS3_	439 / 464	3319 / 686								
KG_IS5_	195 / 15	2266 / 12	394 / 12							
KG_IS6_	248 / 52	2495 / 61	471 / 57	15 / 40						
KG_IS7_	248 / 52	2487 / 69	468 / 60	15 / 40	52 / 53					
KG_IS10_	229 / 149	2207 / 568	339 / 291	6 / 85	29 / 124	29 / 124				
KG_IS11_	926 / 3169	5030 / 4423	1011 / 3840	6 / 2920	68 / 3172	70 / 3170	689 / 2797			
KG_IS12_	662 / 1894	4066 / 2955	796 / 2364	6 / 1647	55 / 1836	58 / 1833	480 / 1600	4456 / 3672		
KG_IS13_	285 / 150	2647 / 279	456 / 247	6 / 114	34 / 156	39 / 151	168 / 85	3216 / 439	1889 / 322	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	420 / 668									
KG_IS3_	139 / 286	361 / 1239								
KG_IS5_	9 / 42	6 / 186	6 / 69							
KG_IS6_	24 / 95	33 / 415	29 / 146	12 / 9						
KG_IS7_	24 / 95	41 / 407	32 / 143	12 / 9	25 / 24					
KG_IS10_	94 / 76	513 / 127	236 / 14	30 / 0	69 / 1	69 / 1				
KG_IS11_	468 / 773	1722 / 2950	1139 / 686	219 / 0	471 / 40	469 / 42	96 / 634			
KG_IS12_	409 / 509	1470 / 1986	879 / 471	162 / 0	351 / 27	348 / 30	115 / 425	2187 / 1755		
KG_IS13_	72 / 132	201 / 567	169 / 131	36 / 0	78 / 6	73 / 11	7 / 113	361 / 515	244 / 404	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	1.44									
KG_IS3_	1.88	**4.01**								
KG_IS5_	1.75	**2.73**	**2.34**							
KG_IS6_	**2.25**	**3.68**	**2.67**	0.34						
KG_IS7_	**2.25**	**3.53**	**2.53**	0.34	0.06					
KG_IS10_	0.45	**3.05**	**4.05**	**2.54**	**3.32**	**3.32**				
KG_IS11_	1.57	**2.65**	1.85	**2.92**	**3.67**	**3.64**	**3.76**			
KG_IS12_	0.67	1.39	**2.15**	**2.89**	**3.67**	**3.60**	**2.87**	1.05		
KG_IS13_	1.33	**2.61**	0.62	**2.60**	**3.04**	**2.62**	**3.49**	0.97	1.33	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.02									
KG_IS3_	0.04	0.05								
KG_IS5_	0.09	0.04	0.08							
KG_IS6_	0.09	0.05	0.08	0.03						
KG_IS7_	0.09	0.05	0.08	0.03	0.00					
KG_IS10_	0.02	0.04	0.12	0.20	0.20	0.20				
KG_IS11_	0.02	0.02	0.02	0.04	0.05	0.05	0.05			
KG_IS12_	0.01	0.01	0.03	0.05	0.06	0.06	0.04	0.01		
KG_IS13_	0.05	0.03	0.02	0.17	0.16	0.14	0.16	0.01	0.02	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small	small	small							
KG_IS6_	small	small	small	small						
KG_IS7_	small	small	small	small	small					
KG_IS10_	small	small	small-medium	small-medium	small-medium	small-medium				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small	small	small	small-medium	small-medium	small-medium	small-medium	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	NO									
KG_IS3_	NO	**YES**								
KG_IS5_	NO	**YES**	**YES**							
KG_IS6_	**YES**	**YES**	**YES**	NO						
KG_IS7_	**YES**	**YES**	**YES**	NO	NO					
KG_IS10_	NO	**YES**	**YES**	**YES**	**YES**	**YES**				
KG_IS11_	NO	**YES**	NO	**YES**	**YES**	**YES**	**YES**			
KG_IS12_	NO	NO	**YES**	**YES**	**YES**	**YES**	**YES**	NO		
KG_IS13_	NO	**YES**	NO	**YES**	**YES**	**YES**	**YES**	NO	NO	

Kougarok Intensive Station Mann Whitney U-Test Results

Sodium

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	17 / 64 / 81									
KG_IS3_	17 / 25 / 42	64 / 25 / 89								
KG_IS5_	17 / 3 / 20	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32							
KG_IS7_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	17 / 10 / 27	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	17 / 73 / 90	64 / 73 / 137	25 / 73 / 98	3 / 73 / 76	7 / 73 / 80	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	17 / 54 / 71	64 / 54 / 118	25 / 54 / 79	3 / 54 / 57	7 / 54 / 61	7 / 54 / 61	10 / 54 / 64	73 / 54 / 127		
KG_IS13_	17 / 12 / 29	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	54 / 12 / 66	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	660 / 2661									
KG_IS3_	324 / 579	2646 / 1359								
KG_IS5_	195 / 15	2266 / 12	394 / 12							
KG_IS6_	248 / 52	2512 / 44	484 / 44	15 / 40						
KG_IS7_	248 / 52	2512 / 44	484 / 44	15 / 40	53 / 52					
KG_IS10_	216 / 162	2271 / 504	460 / 170	6 / 85	28 / 125	28 / 125				
KG_IS11_	728 / 3367	4570 / 4883	1530 / 3321	6 / 2920	29 / 3211	28 / 3212	595 / 2891			
KG_IS12_	421 / 2135	2771 / 4250	795 / 2365	6 / 1647	29 / 1862	28 / 1863	212 / 1868	3405 / 4723		
KG_IS13_	264 / 171	2660 / 266	550 / 153	6 / 114	31 / 159	28 / 162	161 / 92	3378 / 277	2080 / 131	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	581 / 507									
KG_IS3_	254 / 171	1034 / 566								
KG_IS5_	9 / 42	6 / 186	6 / 69							
KG_IS6_	24 / 95	16 / 432	16 / 159	12 / 9						
KG_IS7_	24 / 95	16 / 432	16 / 159	12 / 9	24 / 25					
KG_IS10_	107 / 63	449 / 191	115 / 135	30 / 0	70 / 0	70 / 0				
KG_IS11_	666 / 575	2182 / 2490	620 / 1205	219 / 0	510 / 1	511 / 0	190 / 540			
KG_IS12_	650 / 268	2765 / 691	880 / 470	162 / 0	377 / 1	378 / 0	383 / 157	3238 / 704		
KG_IS13_	93 / 111	188 / 580	75 / 225	36 / 0	81 / 3	84 / 0	14 / 106	199 / 677	53 / 595	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.43									
KG_IS3_	1.06	**2.14**								
KG_IS5_	1.75	**2.73**	**2.34**							
KG_IS6_	**2.25**	**4.01**	**3.26**	0.34						
KG_IS7_	**2.25**	**4.01**	**3.26**	0.34	0.06					
KG_IS10_	1.10	**2.04**	0.37	**2.54**	**3.42**	**3.42**				
KG_IS11_	0.47	0.66	**2.38**	**2.92**	**4.33**	**4.35**	**2.45**			
KG_IS12_	**2.57**	**5.60**	**2.16**	**2.89**	**4.25**	**4.28**	**2.09**	**6.18**		
KG_IS13_	0.40	**2.79**	**2.43**	**2.60**	**3.30**	**3.55**	**3.03**	**3.02**	**4.51**	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.01									
KG_IS3_	0.03	0.02								
KG_IS5_	0.09	0.04	0.08							
KG_IS6_	0.09	0.06	0.10	0.03						
KG_IS7_	0.09	0.06	0.10	0.03	0.00					
KG_IS10_	0.04	0.03	0.01	0.20	0.20	0.20				
KG_IS11_	0.01	0.00	0.02	0.04	0.05	0.05	0.03			
KG_IS12_	0.04	0.05	0.03	0.05	0.07	0.07	0.03	0.05		
KG_IS13_	0.01	0.04	0.07	0.17	0.17	0.19	0.14	0.04	0.07	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small	small	small							
KG_IS6_	small	small	small-medium	small						
KG_IS7_	small	small	small-medium	small	small					
KG_IS10_	small	small	small	small-medium	small-medium	small-medium				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small	small	small	small-medium	small-medium	small-medium	small-medium	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	NO									
KG_IS3_	NO	**YES**								
KG_IS5_	NO	**YES**	**YES**							
KG_IS6_	**YES**	**YES**	**YES**	NO						
KG_IS7_	**YES**	**YES**	**YES**	NO	NO					
KG_IS10_	NO	**YES**	NO	**YES**	**YES**	**YES**				
KG_IS11_	NO	NO	**YES**	**YES**	**YES**	**YES**	**YES**			
KG_IS12_	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**		
KG_IS13_	NO	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	

Kougarok Intensive Station Mann Whitney U-Test Results

Strontium

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	17 / 64 / 81									
KG_IS3_	17 / 25 / 42	64 / 25 / 89								
KG_IS5_	17 / 3 / 20	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32							
KG_IS7_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	17 / 10 / 27	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	17 / 73 / 90	64 / 73 / 137	25 / 73 / 98	3 / 73 / 76	7 / 73 / 80	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	17 / 54 / 71	64 / 54 / 118	25 / 54 / 79	3 / 54 / 57	7 / 54 / 61	7 / 54 / 61	10 / 54 / 64	73 / 54 / 127		
KG_IS13_	17 / 12 / 29	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	54 / 12 / 66	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	484 / 2837									
KG_IS3_	442 / 461	3519 / 486								
KG_IS5_	182 / 28	2259 / 19	356 / 50							
KG_IS6_	234 / 66	2450 / 106	418 / 110	21 / 34						
KG_IS7_	233 / 67	2395 / 161	412.5 / 115.5	21 / 34	58 / 47					
KG_IS10_	217 / 161	2552 / 223	363 / 267	10 / 81	38 / 115	48 / 105				
KG_IS11_	711 / 3384	6120 / 3333	705 / 4146	61 / 2865	101 / 3139	174 / 3066	523 / 2963			
KG_IS12_	613 / 1943	4908 / 2113	730 / 2430	56 / 1597	108 / 1783	146 / 1745	428 / 1652	4990 / 3138		
KG_IS13_	270 / 165	2786 / 140	432 / 271	19 / 101	40 / 150	52 / 138	167 / 86	3451 / 204	1870 / 341	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	757 / 331									
KG_IS3_	136 / 289	161 / 1439								
KG_IS5_	22 / 29	13 / 179	44 / 31							
KG_IS6_	38 / 81	78 / 370	82 / 93	6 / 15						
KG_IS7_	39 / 80	133 / 315	87.5 / 87.5	6 / 15	19 / 30					
KG_IS10_	106 / 64	168 / 472	212 / 38	26 / 4	60 / 10	50 / 20				
KG_IS11_	683 / 558	632 / 4040	1445 / 380	164 / 55	438 / 73	365 / 146	262 / 468			
KG_IS12_	458 / 460	628 / 2828	945 / 405	112 / 50	298 / 80	260 / 118	167 / 373	1653 / 2289		
KG_IS13_	87 / 117	62 / 706	193 / 107	23 / 13	72 / 12	60 / 24	8 / 112	126 / 750	263 / 385	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**2.47**									
KG_IS3_	**1.96**	**5.83**								
KG_IS5_	0.37	**2.52**	0.48							
KG_IS6_	1.37	**2.82**	0.25	1.03						
KG_IS7_	1.30	1.76	0.00	1.03	0.70					
KG_IS10_	1.05	**2.40**	**3.18**	1.86	**2.44**	1.46				
KG_IS11_	0.64	**7.35**	**4.34**	1.45	**3.11**	1.86	1.44			
KG_IS12_	0.01	**5.94**	**2.85**	1.11	**2.47**	1.61	1.90	1.55		
KG_IS13_	0.66	**4.59**	1.40	0.72	**2.54**	1.52	**3.43**	**3.94**	1.01	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.03									
KG_IS3_	0.05	0.07								
KG_IS5_	0.02	0.04	0.02							
KG_IS6_	0.06	0.04	0.01	0.10						
KG_IS7_	0.05	0.02	0.00	0.10	0.05					
KG_IS10_	0.04	0.03	0.09	0.14	0.14	0.09				
KG_IS11_	0.01	0.05	0.04	0.02	0.04	0.02	0.02			
KG_IS12_	0.00	0.05	0.04	0.02	0.04	0.03	0.03	0.01		
KG_IS13_	0.02	0.06	0.04	0.05	0.13	0.08	0.16	0.05	0.02	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small	small	small							
KG_IS6_	small	small	small	small-medium						
KG_IS7_	small	small	small	small-medium	small					
KG_IS10_	small	small	small	small-medium	small-medium	small				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small	small	small	small	small-medium	small	small-medium	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**YES**									
KG_IS3_	**YES**	**YES**								
KG_IS5_	NO	**YES**	NO							
KG_IS6_	NO	**YES**	NO	NO						
KG_IS7_	NO	NO	NO	NO	NO					
KG_IS10_	NO	**YES**	**YES**	NO	**YES**	NO				
KG_IS11_	NO	**YES**	**YES**	NO	**YES**	NO	NO			
KG_IS12_	NO	**YES**	**YES**	NO	**YES**	NO	NO	NO		
KG_IS13_	NO	**YES**	NO	NO	**YES**	NO	**YES**	**YES**	NO	

Kougarok Intensive Station Mann Whitney U-Test Results

Sulfate

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	14 / 64 / 78									
KG_IS3_	14 / 25 / 39	64 / 25 / 89								
KG_IS5_	14 / 3 / 17	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	14 / 7 / 21	64 / 7 / 71	25 / 7 / 32							
KG_IS7_	14 / 7 / 21	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	14 / 10 / 24	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	14 / 73 / 87	64 / 73 / 137	25 / 73 / 98	3 / 73 / 76	7 / 73 / 80	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	14 / 55 / 69	64 / 55 / 119	25 / 55 / 80	3 / 55 / 58	7 / 55 / 62	7 / 55 / 62	10 / 55 / 65	73 / 55 / 128		
KG_IS13_	14 / 12 / 26	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	55 / 12 / 67	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	295.5 / 2785.5									
KG_IS3_	250.5 / 529.5	3315.5 / 689.5								
KG_IS5_	106 / 47	2121 / 157	328 / 78							
KG_IS6_	142.5 / 88.5	2389 / 167	407.5 / 120.5	25 / 30						
KG_IS7_	140 / 91	2405 / 151	403 / 125	26 / 29	53 / 52					
KG_IS10_	147 / 153	2459 / 316	425 / 205	33 / 58	56 / 97	60 / 93				
KG_IS11_	404 / 3424	5165.5 / 4287.5	945 / 3906	210 / 2716	226 / 3014	242.5 / 2997.5	426 / 3060			
KG_IS12_	424 / 1991	4786.5 / 2353.5	1008.5 / 2231.5	171 / 1540	232 / 1721	239.5 / 1713.5	410 / 1735	5328 / 2928		
KG_IS13_	156.5 / 194.5	2561 / 365	418 / 285	42 / 78	61 / 129	61 / 129	123 / 130	3111.5 / 543.5	1769 / 509	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	705.5 / 190.5									
KG_IS3_	204.5 / 145.5	364.5 / 1235.5								
KG_IS5_	41 / 1	151 / 41	72 / 3							
KG_IS6_	60.5 / 37.5	139 / 309	92.5 / 82.5	2 / 19						
KG_IS7_	63 / 35	123 / 325	97 / 78	1 / 20	24 / 25					
KG_IS10_	98 / 42	261 / 379	150 / 100	3 / 27	42 / 28	38 / 32				
KG_IS11_	723 / 299	1586.5 / 3085.5	1205 / 620	15 / 204	313 / 198	296.5 / 214.5	359 / 371			
KG_IS12_	451 / 319	813.5 / 2706.5	691.5 / 683.5	0 / 165	181 / 204	173.5 / 211.5	195 / 355	1388 / 2627		
KG_IS13_	116.5 / 51.5	287 / 481	207 / 93	0 / 36	51 / 33	51 / 33	52 / 68	465.5 / 410.5	431 / 229	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**3.35**									
KG_IS3_	0.86	**3.98**								
KG_IS5_	**2.52**	1.67	**2.56**							
KG_IS6_	0.86	1.64	0.23	1.94						
KG_IS7_	1.04	1.95	0.43	**2.17**	0.06					
KG_IS10_	1.64	0.93	0.91	**2.03**	0.68	0.29				
KG_IS11_	**2.45**	**3.23**	**2.38**	**2.52**	0.98	0.70	0.08			
KG_IS12_	0.98	**5.04**	0.04	**2.90**	0.26	0.42	1.45	**2.98**		
KG_IS13_	1.67	1.38	1.85	**2.60**	0.76	0.76	0.53	0.35	1.65	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.04									
KG_IS3_	0.02	0.04								
KG_IS5_	0.15	0.02	0.09							
KG_IS6_	0.04	0.02	0.01	0.19						
KG_IS7_	0.05	0.03	0.01	0.22	0.00					
KG_IS10_	0.07	0.01	0.03	0.16	0.04	0.02				
KG_IS11_	0.03	0.02	0.02	0.03	0.01	0.01	0.00			
KG_IS12_	0.01	0.04	0.00	0.05	0.00	0.01	0.02	0.02		
KG_IS13_	0.06	0.02	0.05	0.17	0.04	0.04	0.02	0.00	0.02	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small-medium	small	small							
KG_IS6_	small	small	small	small-medium						
KG_IS7_	small	small	small	small-medium	small					
KG_IS10_	small	small	small	small-medium	small	small				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small	small	small	small-medium	small	small	small	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**YES**									
KG_IS3_	NO	**YES**								
KG_IS5_	**YES**	NO	**YES**							
KG_IS6_	NO	NO	NO	NO						
KG_IS7_	NO	NO	NO	**YES**	NO					
KG_IS10_	NO	NO	NO	**YES**	NO	NO				
KG_IS11_	**YES**	**YES**	**YES**	**YES**	NO	NO	NO			
KG_IS12_	NO	**YES**	NO	**YES**	NO	NO	NO	**YES**		
KG_IS13_	NO	NO	NO	**YES**	NO	NO	NO	NO	NO	

Kougarok Intensive Station Mann Whitney U-Test Results

Titanium

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	17 / 64 / 81									
KG_IS3_	17 / 25 / 42	64 / 25 / 89								
KG_IS5_	17 / 3 / 20	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32							
KG_IS7_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	17 / 10 / 27	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	17 / 73 / 90	64 / 73 / 137	25 / 73 / 98	3 / 73 / 76	7 / 73 / 80	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	17 / 54 / 71	64 / 54 / 118	25 / 54 / 79	3 / 54 / 57	7 / 54 / 61	7 / 54 / 61	10 / 54 / 64	73 / 54 / 127		
KG_IS13_	17 / 12 / 29	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	54 / 12 / 66	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	1053.5 / 2267.5									
KG_IS3_	413.5 / 489.5	2603.5 / 1401.5								
KG_IS5_	201.5 / 8.5	2190.5 / 87.5	382.5 / 23.5							
KG_IS6_	254.5 / 45.5	2238.5 / 317.5	436.5 / 91.5	10.5 / 44.5						
KG_IS7_	241.5 / 58.5	2200.5 / 355.5	418.5 / 109.5	8.5 / 46.5	42.5 / 62.5					
KG_IS10_	260 / 118	2183 / 592	438 / 192	6 / 85	41 / 112	52 / 101				
KG_IS11_	742 / 3353	2867 / 6586	999 / 3852	18 / 2908	120 / 3120	170 / 3070	326 / 3160			
KG_IS12_	424 / 2132	2489 / 4532	649 / 2511	12 / 1641	66 / 1825	87 / 1804	172 / 1908	4015 / 4113		
KG_IS13_	187 / 248	2137 / 789	374 / 329	6 / 114	29 / 161	30 / 160	62 / 191	2910 / 745	1787 / 424	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	187.5 / 900.5									
KG_IS3_	164.5 / 260.5	1076.5 / 523.5								
KG_IS5_	2.5 / 48.5	81.5 / 110.5	17.5 / 57.5							
KG_IS6_	17.5 / 101.5	289.5 / 158.5	63.5 / 111.5	16.5 / 4.5						
KG_IS7_	30.5 / 88.5	327.5 / 120.5	81.5 / 93.5	18.5 / 2.5	34.5 / 14.5					
KG_IS10_	63 / 107	537 / 103	137 / 113	30 / 0	57 / 13	46 / 24				
KG_IS11_	652 / 589	3885 / 787	1151 / 674	207 / 12	419 / 92	369 / 142	459 / 271			
KG_IS12_	647 / 271	3047 / 409	1026 / 324	156 / 6	340 / 38	319 / 59	423 / 117	2628 / 1314		
KG_IS13_	170 / 34	711 / 57	251 / 49	36 / 0	83 / 1	82 / 2	113 / 7	667 / 209	346 / 302	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**4.13**									
KG_IS3_	1.23	**2.52**								
KG_IS5_	**2.43**	0.44	1.49							
KG_IS6_	**2.67**	1.26	1.09	1.37						
KG_IS7_	1.84	**2.00**	0.27	1.82	1.28					
KG_IS10_	1.10	**3.43**	0.44	**2.54**	**2.15**	1.07				
KG_IS11_	0.32	**6.68**	1.94	**2.60**	**2.78**	1.93	1.31			
KG_IS12_	**2.53**	**7.12**	**3.70**	**2.68**	**3.42**	**2.94**	**2.83**	**3.20**		
KG_IS13_	**3.01**	**4.66**	**3.28**	**2.60**	**3.47**	**3.38**	**3.49**	**2.89**	0.37	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.05									
KG_IS3_	0.03	0.03								
KG_IS5_	0.12	0.01	0.05							
KG_IS6_	0.11	0.02	0.03	0.14						
KG_IS7_	0.08	0.03	0.01	0.18	0.09					
KG_IS10_	0.04	0.05	0.01	0.20	0.13	0.06				
KG_IS11_	0.00	0.05	0.02	0.03	0.03	0.02	0.02			
KG_IS12_	0.04	0.06	0.05	0.05	0.06	0.05	0.04	0.03		
KG_IS13_	0.10	0.06	0.09	0.17	0.18	0.18	0.16	0.03	0.01	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small-medium	small	small							
KG_IS6_	small-medium	small	small	small-medium						
KG_IS7_	small	small	small	small-medium	small					
KG_IS10_	small	small	small	small-medium	small-medium	small				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small-medium	small	small	small-medium	small-medium	small-medium	small-medium	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	**YES**									
KG_IS3_	NO	**YES**								
KG_IS5_	**YES**	NO	NO							
KG_IS6_	**YES**	NO	NO	NO						
KG_IS7_	NO	**YES**	NO	NO	NO					
KG_IS10_	NO	**YES**	NO	**YES**	**YES**	NO				
KG_IS11_	NO	**YES**	NO	**YES**	**YES**	NO	NO			
KG_IS12_	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**		
KG_IS13_	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	NO	

Kougarok Intensive Station Mann Whitney U-Test Results

Zinc

n= (top / left / total)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	17 / 64 / 81									
KG_IS3_	17 / 25 / 42	64 / 25 / 89								
KG_IS5_	17 / 3 / 20	64 / 3 / 67	25 / 3 / 28							
KG_IS6_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32							
KG_IS7_	17 / 7 / 24	64 / 7 / 71	25 / 7 / 32	3 / 7 / 10	7 / 7 / 14					
KG_IS10_	17 / 10 / 27	64 / 10 / 74	25 / 10 / 35	3 / 10 / 13	7 / 10 / 17	7 / 10 / 17				
KG_IS11_	17 / 73 / 90	64 / 73 / 137	25 / 73 / 98	3 / 73 / 76	7 / 73 / 80	7 / 73 / 80	10 / 73 / 83			
KG_IS12_	17 / 54 / 71	64 / 54 / 118	25 / 54 / 79	3 / 54 / 57	7 / 54 / 61	7 / 54 / 61	10 / 54 / 64	73 / 54 / 127		
KG_IS13_	17 / 12 / 29	64 / 12 / 76	25 / 12 / 37	3 / 12 / 15	7 / 12 / 19	7 / 12 / 19	10 / 12 / 22	73 / 12 / 85	54 / 12 / 66	

Σ[Rank] (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	769 / 2552									
KG_IS3_	306 / 597	2599.5 / 1405.5								
KG_IS5_	184 / 26	2185 / 93	379 / 27							
KG_IS6_	231 / 69	2341 / 215	454 / 74	16 / 39						
KG_IS7_	245 / 55	2380 / 176	464 / 64	21 / 34	59 / 46					
KG_IS10_	190 / 188	2223 / 552	446 / 184	9 / 82	33 / 120	30 / 123				
KG_IS11_	580 / 3515	3537 / 5916	1313 / 3538	43 / 2883	115 / 3125	94 / 3146	489 / 2997			
KG_IS12_	366 / 2190	2789 / 4232	910 / 2250	22 / 1631	59 / 1832	52 / 1839	288 / 1792	4063 / 4065		
KG_IS13_	204 / 231	2249 / 677	471 / 232	8 / 112	33 / 157	32 / 158	113 / 140	3036 / 619	1847 / 364	

U (top / left)	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	472 / 616									
KG_IS3_	272 / 153	1080.5 / 519.5								
KG_IS5_	20 / 31	87 / 105	21 / 54							
KG_IS6_	41 / 78	187 / 261	46 / 129	11 / 10						
KG_IS7_	27 / 92	148 / 300	36 / 139	6 / 15	18 / 31					
KG_IS10_	133 / 37	497 / 143	129 / 121	27 / 3	65 / 5	68 / 2				
KG_IS11_	814 / 427	3215 / 1457	837 / 988	182 / 37	424 / 87	445 / 66	296 / 434			
KG_IS12_	705 / 213	2747 / 709	765 / 585	146 / 16	347 / 31	354 / 24	307 / 233	2580 / 1362		
KG_IS13_	153 / 51	599 / 169	154 / 146	34 / 2	79 / 5	80 / 4	62 / 58	541 / 335	286 / 362	

|z|	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.84									
KG_IS3_	1.52	**2.56**								
KG_IS5_	0.58	0.27	1.23							
KG_IS6_	1.17	0.71	1.89	0.11						
KG_IS7_	**2.06**	1.47	**2.35**	1.03	0.83					
KG_IS10_	**2.41**	**2.80**	0.15	**2.03**	**2.93**	**3.22**				
KG_IS11_	**1.99**	**3.79**	0.62	1.93	**2.87**	**3.23**	0.97			
KG_IS12_	**3.31**	**5.50**	0.95	**2.32**	**3.58**	**3.73**	0.68	**2.97**		
KG_IS13_	**2.26**	**3.06**	0.13	**2.31**	**3.13**	**3.21**	0.13	1.30	0.63	

ES	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	0.01									
KG_IS3_	0.04	0.03								
KG_IS5_	0.03	0.00	0.04							
KG_IS6_	0.05	0.01	0.06	0.01						
KG_IS7_	0.09	0.02	0.07	0.10	0.06					
KG_IS10_	0.09	0.04	0.00	0.16	0.17	0.19				
KG_IS11_	0.02	0.03	0.01	0.03	0.04	0.04	0.01			
KG_IS12_	0.05	0.05	0.01	0.04	0.06	0.06	0.01	0.02		
KG_IS13_	0.08	0.04	0.00	0.15	0.16	0.17	0.01	0.02	0.01	

Degree of Association	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	small									
KG_IS3_	small	small								
KG_IS5_	small	small	small							
KG_IS6_	small	small	small	small						
KG_IS7_	small	small	small	small-medium	small					
KG_IS10_	small	small	small	small-medium	small-medium	small-medium				
KG_IS11_	small	small	small	small	small	small	small			
KG_IS12_	small	small	small	small	small	small	small	small		
KG_IS13_	small	small	small	small-medium	small-medium	small-medium	small	small	small	

Significantly Different	KG_IS1_	KG_IS2_	KG_IS3_	KG_IS5_	KG_IS6_	KG_IS7_	KG_IS10_	KG_IS11_	KG_IS12_	KG_IS13_
KG_IS1_										
KG_IS2_	NO									
KG_IS3_	NO	**YES**								
KG_IS5_	NO	NO	NO							
KG_IS6_	NO	NO	NO	NO						
KG_IS7_	**YES**	NO	**YES**	NO	NO					
KG_IS10_	**YES**	**YES**	NO	**YES**	**YES**	**YES**				
KG_IS11_	**YES**	**YES**	NO	NO	**YES**	**YES**	NO			
KG_IS12_	**YES**	**YES**	NO	**YES**	**YES**	**YES**	NO	**YES**		
KG_IS13_	**YES**	**YES**	NO	**YES**	**YES**	**YES**	NO	NO	NO	