

ANNEX VIII: APPENDIX A

STATISTICAL ANALYSIS OF GEOCHEMICAL DATASET

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Figure A-1 Box and Whisker Plot – Kimberlite Sulphur

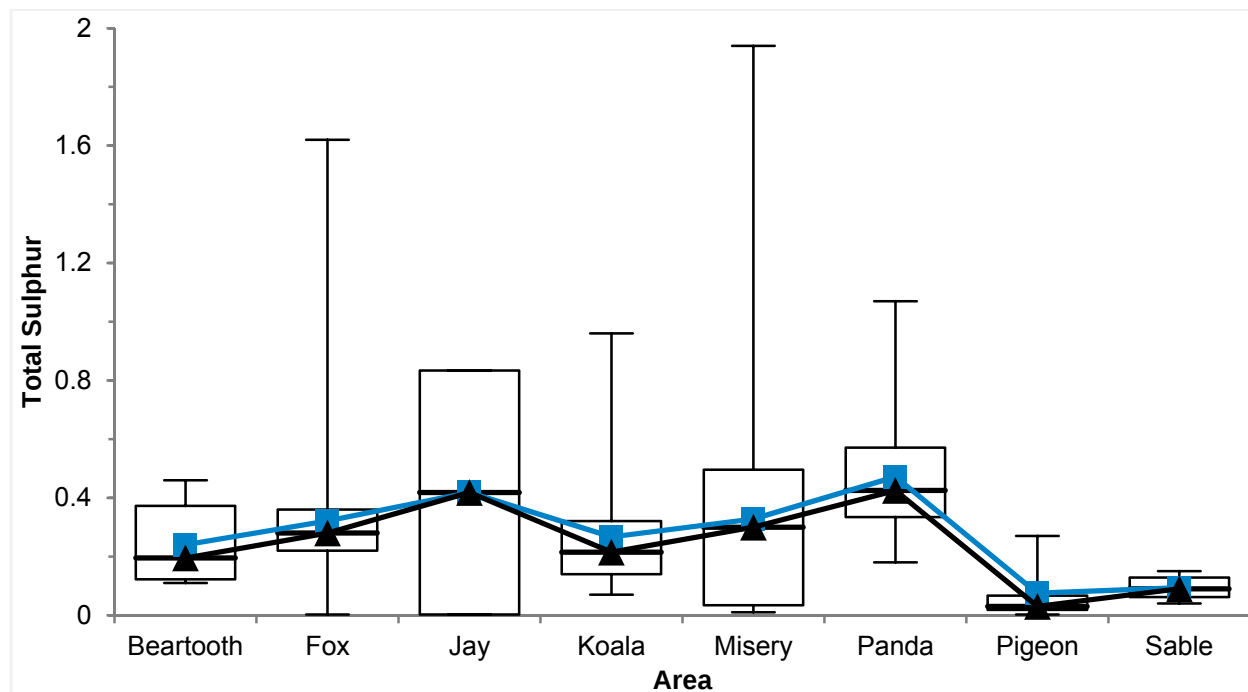


Table A-1 Box and Whisker Statistics – Kimberlite Sulphur

Total Sulphur by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	0.1100	0.12250	0.19500	0.37250	0.4600	0.25000
Fox	0.0025	0.22000	0.28000	0.36000	1.6200	0.14000
Jay	0.0025	0.00250	0.41825	0.83400	0.8340	0.83150
Koala	0.0700	0.14000	0.21500	0.32083	0.9600	0.18083
Misery	0.0100	0.03417	0.30000	0.49583	1.9400	0.46167
Panda	0.1800	0.33417	0.42500	0.57083	1.0700	0.23667
Pigeon	0.0025	0.01854	0.03000	0.06667	0.2700	0.04813
Sable	0.0400	0.06167	0.09000	0.12833	0.1500	0.06667

Table A-2 Kruskal-Wallis Test – Kimberlite Sulphur

Total Sulphur by Area	No.	Rank Sum	Mean Rank
Beartooth	4	3,510.6	877.64
Fox	168	51,520.0	306.67
Jay	2	60.5	30.25
Koala	58	22,367.6	385.65
Misery	76	4,380.6	57.64
Panda	24	165,087.1	6,878.63
Pigeon	14	220,754.6	15,768.18
Sable	11	160,567.4	14,597.03

H statistic	59.01
X² approximation	59.01
DF	7
p-value	<0.0001 ⁽¹⁾

Notes:

1) Reject the null hypothesis in favour of the alternative hypothesis at the 0.1% significance level.

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i,j (The median of the populations are not all equal).

DF = degrees of freedom; No. = number of samples; < = less than.

Table A-3 Tukey Kramer Comparison – Kimberlite Sulphur

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Fox	-0.08132	-0.43854 to 0.27589		0.9971 ¹
Beartooth - Jay	-0.17825	-0.78973 to 0.43323		0.9869 ¹
Beartooth - Koala	-0.02690	-0.39191 to 0.33811		1.0000 ¹
Beartooth - Misery	-0.08813	-0.45034 to 0.27408		0.9956 ¹
Beartooth - Panda	-0.23167	-0.61299 to 0.14966		0.5845 ¹
Beartooth - Pigeon	0.16518	-0.23513 to 0.56549		0.9133 ¹
Beartooth - Sable	0.14636	-0.26590 to 0.55862		0.9601 ¹
Fox - Jay	-0.09693	-0.59916 to 0.40531		0.9990 ¹
Fox - Koala	0.05443	-0.05310 to 0.16196		0.7832 ¹
Fox - Misery	-0.00681	-0.10442 to 0.09080		1.0000 ¹
Fox - Panda	-0.15034	-0.30442 to 0.00374		0.0616 ¹
Fox - Pigeon	0.24650	0.05009 to 0.44292		0.0038 ²
Fox - Sable	0.22769	0.00794 to 0.44744		0.0362 ²
Jay - Koala	0.15135	-0.35645 to 0.65916		0.9851 ¹
Jay - Misery	0.09012	-0.41568 to 0.59592		0.9994 ¹
Jay - Panda	-0.05342	-0.57307 to 0.46624		1.0000 ¹
Jay - Pigeon	0.34343	-0.19031 to 0.87717		0.5092 ¹
Jay - Sable	0.32461	-0.21815 to 0.86738		0.6043 ¹
Koala - Misery	-0.06124	-0.18434 to 0.06187		0.7981 ¹
Koala - Panda	-0.20477	-0.37614 to -0.03340		0.0074 ²
Koala - Pigeon	0.19208	-0.01818 to 0.40233		0.1019 ¹
Koala - Sable	0.17326	-0.05894 to 0.40546		0.3102 ¹
Misery - Panda	-0.14354	-0.30886 to 0.02179		0.1428 ¹
Misery - Pigeon	0.25331	0.04796 to 0.45866		0.0048 ²
Misery - Sable	0.23450	0.00672 to 0.46227		0.0384 ²
Panda - Pigeon	0.39685	0.15939 to 0.63430		<0.0001 ²
Panda - Sable	0.37803	0.12094 to 0.63512		0.0003 ²
Pigeon - Sable	-0.01881	-0.30330 to 0.26567		1.0000 ¹

Notes:

1) Do not reject the null hypothesis at the 5% significance level.

2) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent; < = less than.

Figure A-2 Box and Whisker Plot – Granite Sulphur

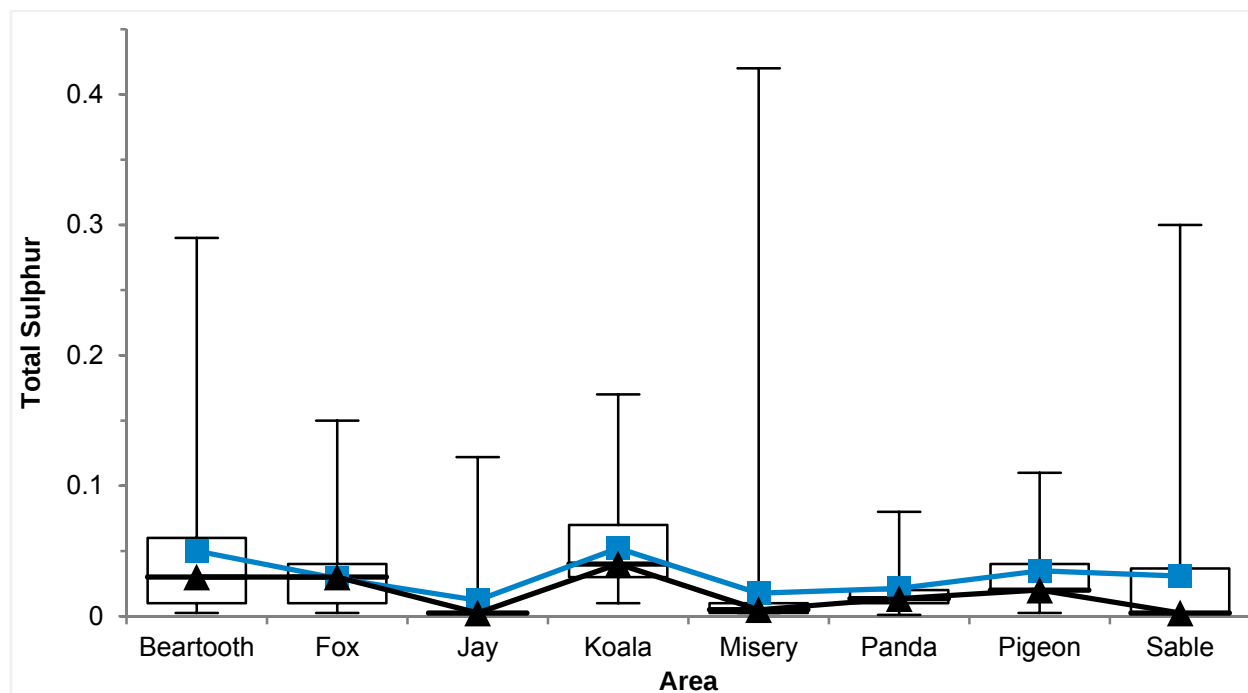


Table A-4 Box and Whisker Statistics – Granite Sulphur

Total Sulphur by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	0.0025	0.01000	0.03000	0.06000	0.2900	0.05000
Fox	0.0025	0.01000	0.03000	0.04000	0.1500	0.03000
Jay	0.0025	0.00250	0.00250	0.00271	0.1220	0.00021
Koala	0.0100	0.03000	0.04000	0.07000	0.1700	0.04000
Misery	0.0025	0.00250	0.00500	0.01000	0.4200	0.00750
Panda	0.0010	0.01000	0.01350	0.02000	0.0800	0.01000
Pigeon	0.0025	0.02000	0.02000	0.04000	0.1100	0.02000
Sable	0.0025	0.00250	0.00250	0.03667	0.3000	0.03417

Table A-5 Kruskal-Wallis Test – Granite Sulphur

Total Sulphur by Area	No.	Rank Sum	Mean Rank
Beartooth	86	1,898,870.2	22,079.89
Fox	153	1,201,611.0	7,853.67
Jay	30	1,237,894.5	41,263.15
Koala	68	3,506,242.4	51,562.39
Misery	352	3,569,170.5	10,139.69
Panda	28	64,080.7	2,288.60
Pigeon	11	146,396.5	13,308.77
Sable	41	197,901.3	4,826.86

H statistic	244.99
X² approximation	244.99
DF	7
p-value	<0.0001 ⁽¹⁾

Notes:

1) Reject the null hypothesis in favour of the alternative hypothesis at the 0.1% significance level.

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i,j (The median of the populations are not all equal).

DF = degrees of freedom; No. = number of samples; < = less than.

Table A-6 Tukey Kramer Comparison – Granite Sulphur

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Fox	0.02104	0.00513 to 0.03695		0.0016 ¹
Beartooth - Jay	0.03778	0.01275 to 0.06281		0.0001 ¹
Beartooth - Koala	-0.00206	-0.02121 to 0.01710		1.0000 ²
Beartooth - Misery	0.03244	0.01824 to 0.04663		<0.0001 ¹
Beartooth - Panda	0.02871	0.00303 to 0.05440		0.0163 ¹
Beartooth - Pigeon	0.01523	-0.02257 to 0.05302		0.9246 ²
Beartooth - Sable	0.01927	-0.00313 to 0.04167		0.1523 ²
Fox - Jay	0.01674	-0.00682 to 0.04031		0.3779 ²
Fox - Koala	-0.02310	-0.04030 to -0.00589		0.0013 ¹
Fox - Misery	0.01140	-0.00003 to 0.02283		0.0513 ²
Fox - Panda	0.00768	-0.01659 to 0.03194		0.9795 ²
Fox - Pigeon	-0.00581	-0.04266 to 0.03103		0.9997 ²
Fox - Sable	-0.00177	-0.02253 to 0.01899		1.0000 ²
Jay - Koala	-0.03984	-0.06571 to -0.01397		<0.0001 ¹
Jay - Misery	-0.00535	-0.02780 to 0.01710		0.9963 ²
Jay - Panda	-0.00907	-0.04009 to 0.02195		0.9871 ²
Jay - Pigeon	-0.02256	-0.06416 to 0.01905		0.7209 ²
Jay - Sable	-0.01852	-0.04687 to 0.00984		0.4932 ²
Koala - Misery	0.03449	0.01886 to 0.05013		<0.0001 ¹
Koala - Panda	0.03077	0.00427 to 0.05728		0.0104 ¹
Koala - Pigeon	0.01729	-0.02107 to 0.05565		0.8709 ²
Koala - Sable	0.02133	-0.00201 to 0.04467		0.1022 ²
Misery - Panda	-0.00372	-0.02690 to 0.01946		0.9997 ²
Misery - Pigeon	-0.01721	-0.05335 to 0.01893		0.8348 ²
Misery - Sable	-0.01317	-0.03265 to 0.00631		0.4456 ²
Panda - Pigeon	-0.01349	-0.05549 to 0.02852		0.9777 ²
Panda - Sable	-0.00945	-0.03838 to 0.01949		0.9755 ²
Pigeon - Sable	0.00404	-0.03604 to 0.04412		1.0000 ²

Notes:

1) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

2) Do not reject the null hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent; < = less than.

Figure A-3 Box and Whisker Plot – Metasediment Sulphur

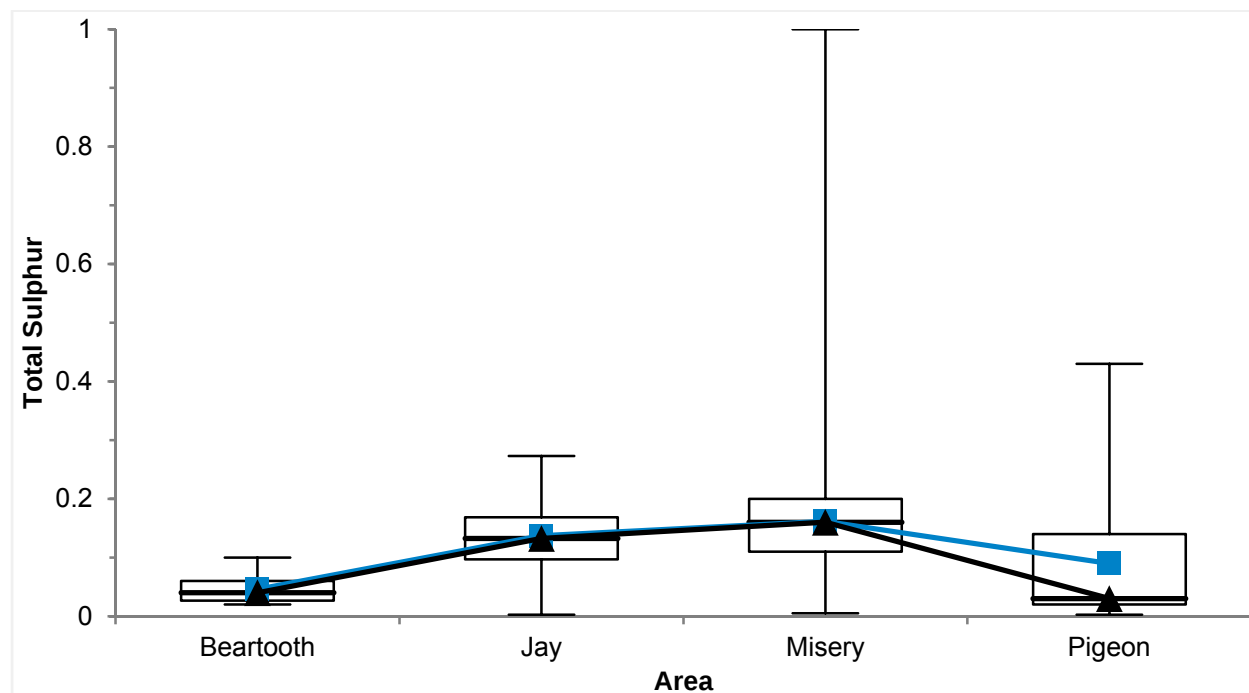


Table A-7 Box and Whisker Statistics – Metasediment Sulphur

Total Sulphur by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	0.0200	0.02667	0.04000	0.06000	0.1000	0.03333
Jay	0.0025	0.09683	0.13250	0.16858	0.2730	0.07175
Misery	0.0050	0.11000	0.16000	0.20000	1.0000	0.09000
Pigeon	0.0025	0.02000	0.03000	0.14000	0.4300	0.12000

Table A-8 Kruskal-Wallis Test – Metasediment Sulphur

Total Sulphur by Area	No.	Rank Sum	Mean Rank
Beartooth	5	169,464.1	33,892.81
Jay	24	26,103.0	1,087.63
Misery	426	51,612.0	121.15
Pigeon	28	316,518.9	11,304.25

H statistic	28.99
X² approximation	28.99
DF	3
p-value	<0.0001

Note:

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i,j (The median of the populations are not all equal).

DF = degrees of freedom; No. = number of samples; < = less than.

Table A-9 Tukey Kramer Comparison – Metasediment Sulphur

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Jay	-0.09119	-0.20969 to 0.02731		0.1955 ¹
Beartooth - Misery	-0.11550	-0.22393 to -0.00707		0.0317 ²
Beartooth - Pigeon	-0.04391	-0.16094 to 0.07312		0.7681 ¹
Jay - Misery	-0.02431	-0.07489 to 0.02626		0.6020 ¹
Jay - Pigeon	0.04728	-0.01978 to 0.11433		0.2662 ¹
Misery - Pigeon	0.07159	0.02456 to 0.11862		0.0006 ²

Note:

1) Do not reject the null hypothesis at the 5% significance level.

2) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent; < = less than.

Figure A-4 Box and Whisker Plot – Diabase Sulphur

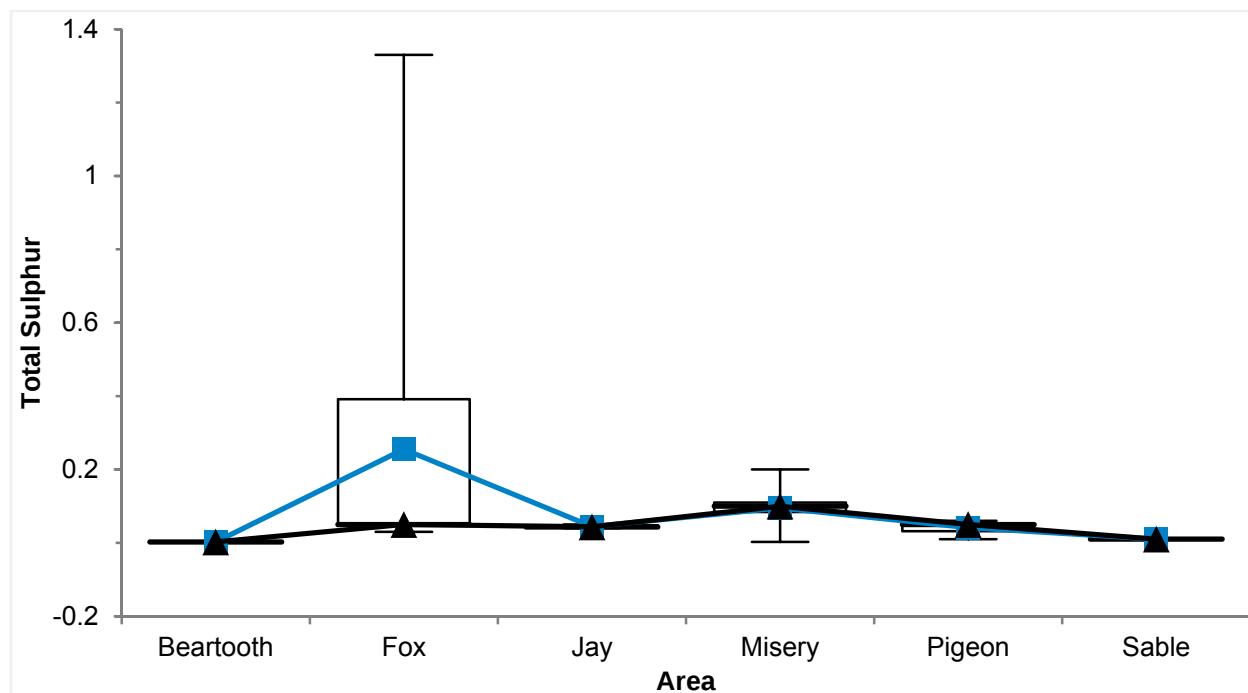


Table A-10 Box and Whisker Statistics – Diabase Sulphur

Total Sulphur by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	0.0025	0.00250	0.00250	0.00250	0.0025	0.00000
Fox	0.0300	0.05000	0.05000	0.39167	1.3300	0.34167
Jay	0.0400	0.04083	0.04350	0.04792	0.0500	0.00708
Misery	0.0025	0.08417	0.10000	0.11000	0.2000	0.02583
Pigeon	0.0100	0.03167	0.05000	0.05000	0.0600	0.01833
Sable	0.0100	0.01000	0.01000	0.01000	0.0100	0.00000

Table A-11 Kruskal-Wallis Test – Diabase Sulphur

Total Sulphur by Area	No.	Rank Sum	Mean Rank
Beartooth	2	3,960.5	1,980.25
Fox	23	2.1	0.09
Jay	4	2,626.6	656.64
Misery	56	3,157.5	56.38
Pigeon	7	4,654.3	664.90
Sable	1	1,722.3	1,722.25
H statistic	22.34		
X² approximation	22.34		
DF	5		
p-value	0.0005 ^(a)		

Notes:

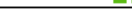
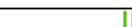
H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i, j (The median of the populations are not all equal).

a) Reject the null hypothesis in favour of the alternative hypothesis at the 0.1% significance level.

DF = degrees of freedom; No. = number of samples.

Table A-12 Tukey-Kramer Comparisons – Diabase Sulphur

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Fox	-0.25241	-0.65783 to 0.15300		0.4621 ¹
Beartooth - Jay	-0.04175	-0.51800 to 0.43450		0.9998 ¹
Beartooth - Misery	-0.09259	-0.48833 to 0.30315		0.9835 ¹
Beartooth - Pigeon	-0.03893	-0.47985 to 0.40200		0.9998 ¹
Beartooth - Sable	-0.00750	-0.68103 to 0.66603		1.0000 ¹
Fox - Jay	0.21066	-0.08725 to 0.50858		0.3176 ¹
Fox - Misery	0.15982	0.02363 to 0.29602		0.0119 ²
Fox - Pigeon	0.21348	-0.02390 to 0.45087		0.1032 ¹
Fox - Sable	0.24491	-0.31685 to 0.80667		0.8001 ¹
Jay - Misery	-0.05084	-0.33546 to 0.23378		0.9952 ¹
Jay - Pigeon	0.00282	-0.34187 to 0.34751		1.0000 ¹
Jay - Sable	0.03425	-0.58059 to 0.64909		1.0000 ¹
Misery - Pigeon	0.05366	-0.16680 to 0.27412		0.9804 ¹
Misery - Sable	0.08509	-0.46973 to 0.63991		0.9977 ¹
Pigeon - Sable	0.03143	-0.55647 to 0.61933		1.0000 ¹

Notes:

1) Do not reject the null hypothesis at the 5% significance level.

2) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent .

Figure A-5 Box and Whisker Plot – Mine Waste Rock Sulphur

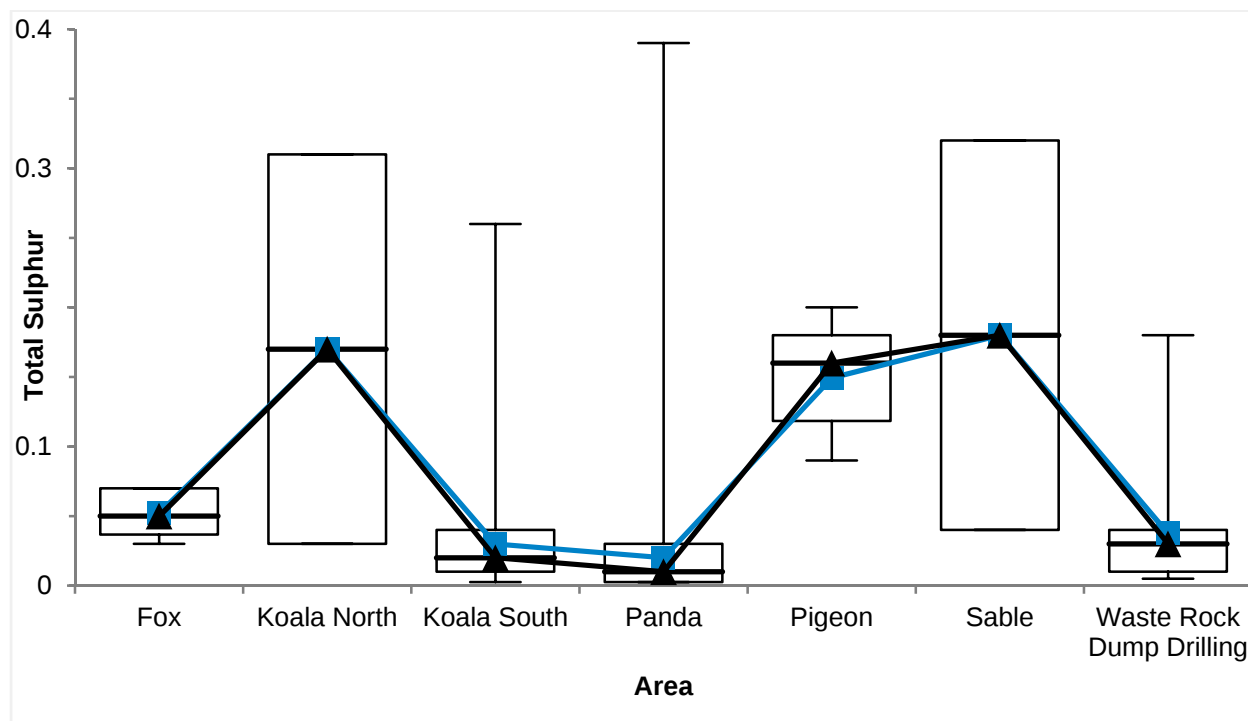


Table A-13 Box and Whisker Statistics – Mine Waste Rock Sulphur

Total Sulphur by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Fox	0.0300	0.03667	0.05000	0.07000	0.0700	0.03333
Koala North	0.0300	0.03000	0.17000	0.31000	0.3100	0.28000
Koala South	0.0025	0.01000	0.02000	0.04000	0.2600	0.03000
Panda	0.0025	0.00250	0.01000	0.03000	0.3900	0.02750
Pigeon	0.0900	0.11833	0.16000	0.18000	0.2000	0.06167
Sable	0.0400	0.04000	0.18000	0.32000	0.3200	0.28000
Waste Rock Dump Drilling	0.0050	0.01000	0.03000	0.04000	0.1800	0.03000

Table A-14 Kruskal-Wallis Test – Mine Waste Rock Sulphur

Total Sulphur by Area	No.	Rank Sum	Mean Rank
Fox	5	274,248.2	54,849.64
Koala North	2	118,828.1	59,414.06
Koala South	228	315,731.3	1,384.79
Panda	391	1,061,949.2	2,715.98
Pigeon	16	1,724,625.6	10,7789.10
Sable	2	153,181.1	76,590.56
Waste Rock Dump Drilling	53	369,863.3	6,978.55
H statistic	102.65		
X² approximation	102.65		
DF	6		
p-value	<0.0001		

Notes:

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i,j (The median of the populations are not all equal).

DF = degrees of freedom; No. = number of samples; < = less than.

Table A-15 Tukey-Kramer Comparisons – Mine Waste Rock Sulphur

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Fox - Koala North	-0.11800	-0.20235 to -0.03365		0.0008 ¹
Fox - Koala South	0.02203	-0.02355 to 0.06761		0.7858 ²
Fox - Panda	0.03198	-0.01339 to 0.07736		0.3632 ²
Fox - Pigeon	-0.09738	-0.14903 to -0.04572		<0.0001 ¹
Fox - Sable	-0.12800	-0.21235 to -0.04365		0.0002 ¹
Fox - Waste Rock Dump Drilling	0.01455	-0.03262 to 0.06171		0.9707 ²
Koala North - Koala South	0.14003	0.06843 to 0.21163		<0.0001 ¹
Koala North - Panda	0.14998	0.07851 to 0.22145		<0.0001 ¹
Koala North - Pigeon	0.02063	-0.05499 to 0.09624		0.9843 ²
Koala North - Sable	-0.01000	-0.11082 to 0.09082		0.9999 ²
Koala North - Waste Rock Dump Drilling	0.13255	0.05992 to 0.20517		<0.0001 ¹
Koala South - Panda	0.00995	0.00155 to 0.01835		0.0089 ¹
Koala South - Pigeon	-0.11941	-0.14548 to -0.09333		<0.0001 ¹
Koala South - Sable	-0.15003	-0.22163 to -0.07843		<0.0001 ¹
Koala South - Waste Rock Dump Drilling	-0.00749	-0.02286 to 0.00789		0.7800 ²
Panda - Pigeon	-0.12936	-0.15507 to -0.10364		<0.0001 ¹
Panda - Sable	-0.15998	-0.23145 to -0.08851		<0.0001 ¹
Panda - Waste Rock Dump Drilling	-0.01743	-0.03219 to -0.00268		0.0091 ¹
Pigeon - Sable	-0.03063	-0.10624 to 0.04499		0.8951 ²
Pigeon - Waste Rock Dump Drilling	0.11192	0.08316 to 0.14068		<0.0001 ¹
Sable - Waste Rock Dump Drilling	0.14255	0.06992 to 0.21517		<0.0001 ¹

Notes:

1) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

2) Do not reject the null hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent; < = less than.

Figure A-6 Box and Whisker Plot – Kimberlite Aluminium

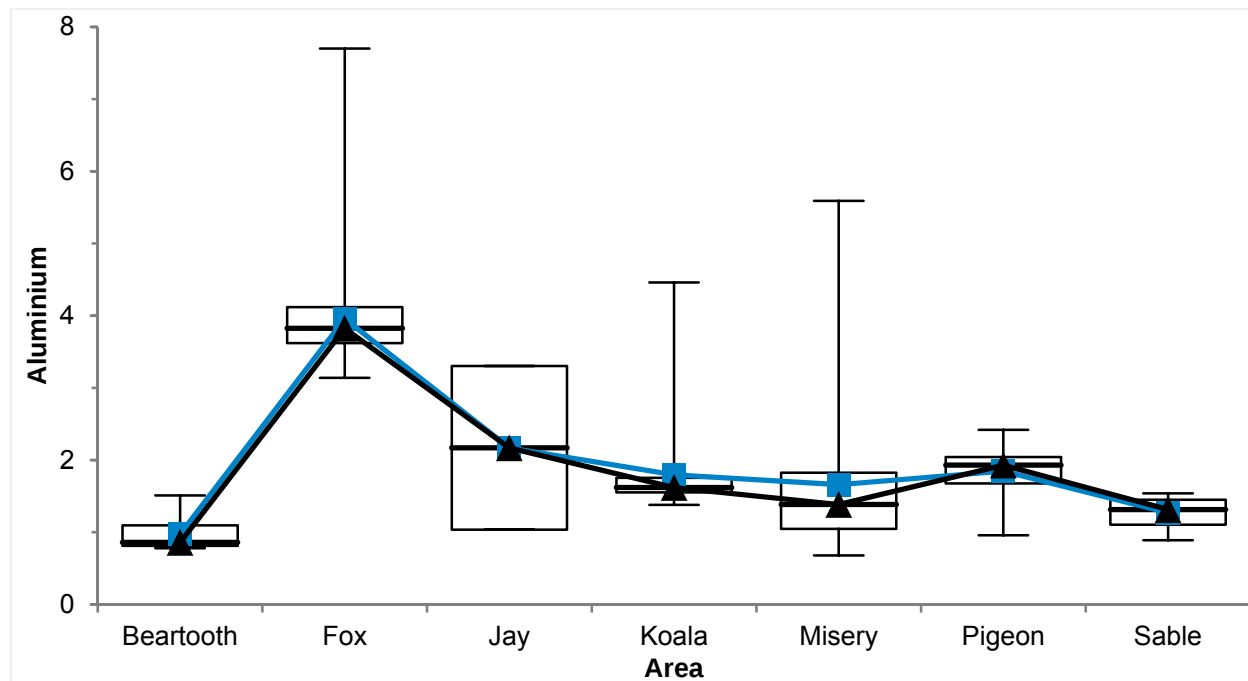


Table A-16 Box and Whisker Statistics – Kimberlite Aluminium

Aluminium by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	0.78000000	0.81333333	0.86000000	1.09666667	1.51000000	0.28333333
Fox	3.14000000	3.62000000	3.82500000	4.12000000	7.70000000	0.50000000
Jay	1.03733139	1.03733139	2.16992791	3.30252441	3.30252444	2.26519304
Koala	1.38000000	1.55250000	1.62000000	1.75500000	4.46000000	0.20250000
Misery	0.68000000	1.04833333	1.38500000	1.82500000	5.59000000	0.77666667
Pigeon	0.96000000	1.67666667	1.93000000	2.04166667	2.42000000	0.36500000
Sable	0.89000000	1.10416667	1.31500000	1.45166667	1.54000000	0.34750000

Table A-17 Kruskal-Wallis Test – Kimberlite Aluminium

Aluminium by Area	No.	Rank Sum	Mean Rank
Beartooth	5	54,288.2	10,857.64
Fox	150	208,917.4	1,392.78
Jay	2	9,112.5	4,556.25
Koala	20	71,760.2	3,588.01
Misery	26	130,640.3	5,024.63
Pigeon	14	46,864.3	3,347.45
Sable	12	99,190.1	8,265.84
H statistic	141.45		
X² approximation	141.45		
DF	6		
p-value	<0.0001		

Notes:

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i,j (The median of the populations are not all equal).

DF = degrees of freedom; No. = number of samples; < = less than.

Table A-18 Tukey-Kramer Comparisons – Kimberlite Aluminium

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Fox	-2.983666667	-3.845814594 to -2.121518740		<0.0001 ¹
Beartooth - Jay	-1.195927918	-2.782630728 to 0.390774893		0.2772 ²
Beartooth - Koala	-0.823000000	-1.771236297 to 0.125236297		0.1364 ²
Beartooth - Misery	-0.685615385	-1.611710816 to 0.240480047		0.2982 ²
Beartooth - Pigeon	-0.873142857	-1.861182458 to 0.114896743		0.1222 ²
Beartooth - Sable	-0.297666667	-1.307141291 to 0.711807958		0.9756 ²
Fox - Jay	1.787738749	0.437819663 to 3.137657835		0.0021 ¹
Fox - Koala	2.160666667	1.709215890 to 2.612117443		<0.0001 ¹
Fox - Misery	2.298051282	1.895176020 to 2.700926544		<0.0001 ¹
Fox - Pigeon	2.110523810	1.580544582 to 2.640503037		<0.0001 ¹
Fox - Sable	2.686000000	2.117058222 to 3.254941778		<0.0001 ¹
Jay - Koala	0.372927918	-1.033533800 to 1.779389636		0.9858 ²
Jay - Misery	0.510312533	-0.881317891 to 1.901942957		0.9302 ²
Jay - Pigeon	0.322785061	-1.110813468 to 1.756383589		0.9941 ²
Jay - Sable	0.898261251	-0.550193618 to 2.346716120		0.5190 ²
Koala - Misery	0.137384615	-0.426673452 to 0.701442683		0.9910 ²
Koala - Pigeon	-0.050142857	-0.710999126 to 0.610713411		1.0000 ²
Koala - Sable	0.525333333	-0.167160546 to 1.217827213		0.2697 ²
Misery - Pigeon	-0.187527473	-0.816202016 to 0.441147071		0.9741 ²
Misery - Sable	0.387948718	-0.273903567 to 1.049801002		0.5871 ²
Pigeon - Sable	0.575476190	-0.170592138 to 1.321544519		0.2510 ²

Notes:

1) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

2) Do not reject the null hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent; < = less than.

Figure A-7 Box and Whisker Plot – Granite Aluminium

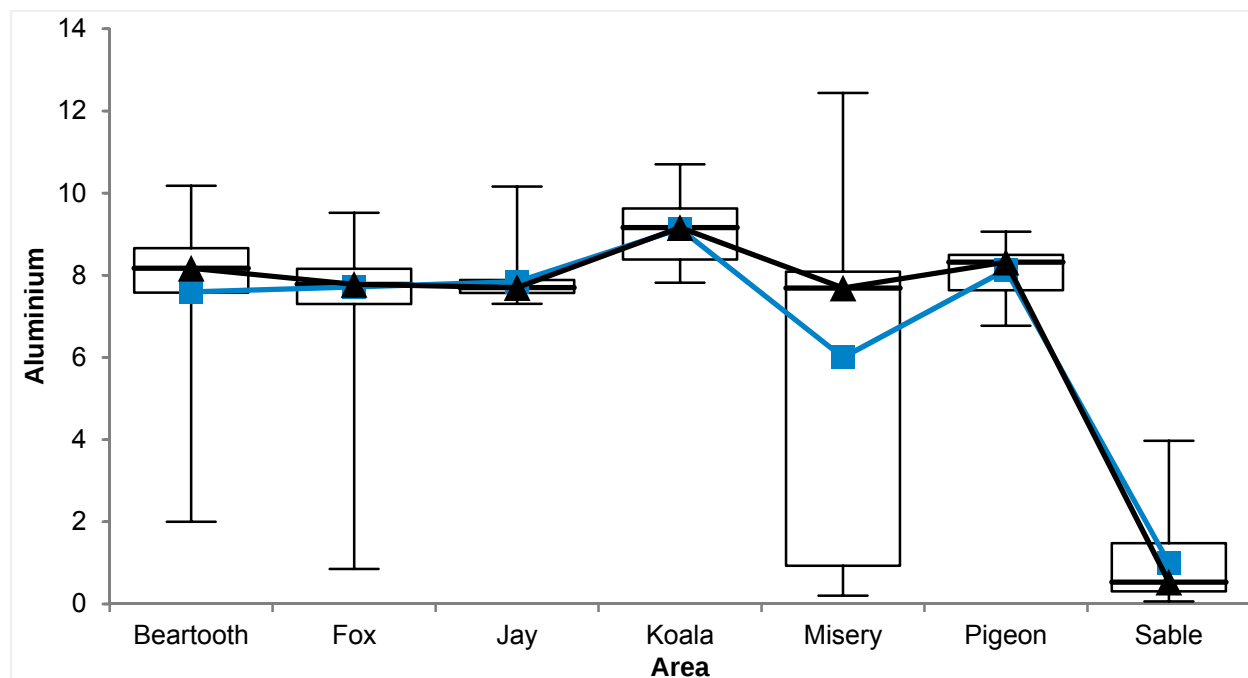


Table A-19 Box and Whisker Statistics – Granite Aluminium

Aluminum by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	2.00000000	7.57666667	8.17000000	8.66000000	10.18000000	1.083333333
Fox	0.85000000	7.30000000	7.78000000	8.16000000	9.52000000	0.860000000
Jay	7.30365982	7.568285176	7.700597854	7.885835603	10.16161366	0.317550427
Koala	7.82000000	8.383333333	9.16000000	9.62666667	10.70000000	1.243333333
Misery	0.20000000	0.93000000	7.69000000	8.09000000	12.44000000	7.160000000
Pigeon	6.77000000	7.63666667	8.32000000	8.498333333	9.06000000	0.861666667
Sable	0.06000000	0.30666667	0.53000000	1.47666667	3.97000000	1.170000000

Table A-20 Kruskal-Wallis Test – Granite Aluminium

Aluminium by Area	No.	Rank Sum	Mean Rank
Beartooth	68	194,419.1	2,859.10
Fox	117	26,989.1	230.68
Jay	30	1,888.1	62.94
Koala	13	274,776.9	21,136.69
Misery	109	32,253.4	295.90
Pigeon	11	51,204.6	4,654.96
Sable	41	1,004,182.3	24,492.25

H statistic	125.43
X² approximation	125.43
DF	6
p-value	<0.0001

Notes:

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i,j (The median of the populations are not all equal).

DF = degrees of freedom; No. = number of samples; < = less than.

Table A-21 Tukey-Kramer All Pairs Comparisons – Granite Aluminium

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Fox	-0.121773504	-1.076825527 to 0.833278518		0.9998 ¹
Beartooth - Jay	-0.250995547	-1.623729911 to 1.121738818		0.9982 ¹
Beartooth - Koala	-1.539807692	-3.435661864 to 0.356046479		0.1982 ¹
Beartooth - Misery	1.593142202	0.625293483 to 2.560990920		<0.0001 ²
Beartooth - Pigeon	-0.539318182	-2.574725343 to 1.496088980		0.9863 ¹
Beartooth - Sable	6.595914634	5.357530396 to 7.834298872		<0.0001 ²
Fox - Jay	-0.129222042	-1.410943517 to 1.152499432		0.9999 ¹
Fox - Koala	-1.418034188	-3.249064866 to 0.412996490		0.2488 ¹
Fox - Misery	1.714915706	0.881164277 to 2.548667135		<0.0001 ²
Fox - Pigeon	-0.417544678	-2.392713687 to 1.557624332		0.9959 ¹
Fox - Sable	6.717688138	5.581023797 to 7.854352480		<0.0001 ²
Jay - Koala	-1.288812146	-3.368463225 to 0.790838934		0.5239 ¹
Jay - Misery	1.844137748	0.552852840 to 3.135422657		0.0006 ²
Jay - Pigeon	-0.288322635	-2.495938518 to 1.919293247		0.9997 ¹
Jay - Sable	6.846910181	5.342157346 to 8.351663016		<0.0001 ²
Koala - Misery	3.132949894	1.295212122 to 4.970687666		<0.0001 ²
Koala - Pigeon	1.000489510	-1.565330298 to 3.566309319		0.9100 ¹
Koala - Sable	8.135722326	6.142196681 to 10.129247972		<0.0001 ²
Misery - Pigeon	-2.132460384	-4.113848633 to -0.151072135		0.0256 ²
Misery - Sable	5.002772432	3.855335026 to 6.150209839		<0.0001 ²
Pigeon - Sable	7.135232816	5.008553768 to 9.261911864		<0.0001 ²

Notes:

1) Do not reject the null hypothesis at the 5% significance level.

2) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent; < = less than.

Figure A-8 Box and Whisker Plot – Metasediment Aluminium

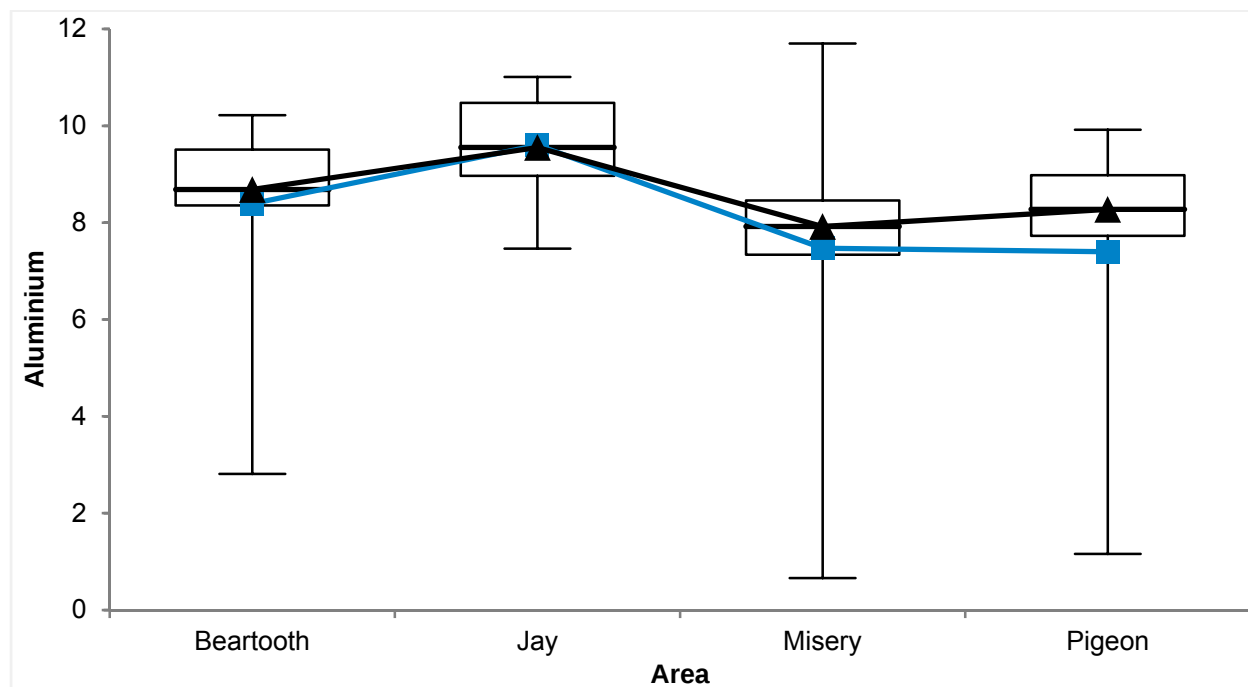


Table A-22 Box and Whisker Statistics – Metasediment Aluminium

Aluminium by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	2.81000000	8.35666667	8.68500000	9.51000000	10.22000000	1.15333333
Jay	7.46243503	8.96638914	9.55297534	10.47475367	11.00841480	1.50836452
Misery	0.66000000	7.33833333	7.92000000	8.46000000	11.70000000	1.12166667
Pigeon	1.16000000	7.72916667	8.27500000	8.98083333	9.92000000	1.25166667

Table A-23 Kruskal-Wallis Test – Metasediment Aluminium

Aluminium by Area	No.	Rank Sum	Mean Rank
Beartooth	10	91,202.5	9,120.25
Jay	24	514,508.2	21,437.84
Misery	352	79,635.6	226.24
Pigeon	28	24,337.5	869.20
H statistic	49.57		
X² approximation	49.57		
DF	3		
p-value	<0.0001		

Notes:

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i,j (The median of the populations are not all equal).

DF = degrees of freedom; No. = number of samples; < = less than.

Table A-24 Tukey-Kramer Comparisons – Metasediment Aluminium

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Jay	-1.204079571	-3.063401320 to 0.655242178		0.3407 ¹
Beartooth - Misery	0.922659091	-0.661517769 to 2.506835951		0.4370 ¹
Beartooth - Pigeon	0.995142857	-0.824698348 to 2.814984063		0.4934 ¹
Jay - Misery	2.126738662	1.084570788 to 3.168906536		<0.0001 ²
Jay - Pigeon	2.199222428	0.825061022 to 3.573383834		0.0003 ²
Misery - Pigeon	0.072483766	-0.897494855 to 1.042462388		0.9975 ¹

Notes:

1) Do not reject the null hypothesis at the 5% significance level.

2) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent; < = less than.

Figure A-9 Box and Whisker Plot – Diabase Aluminium

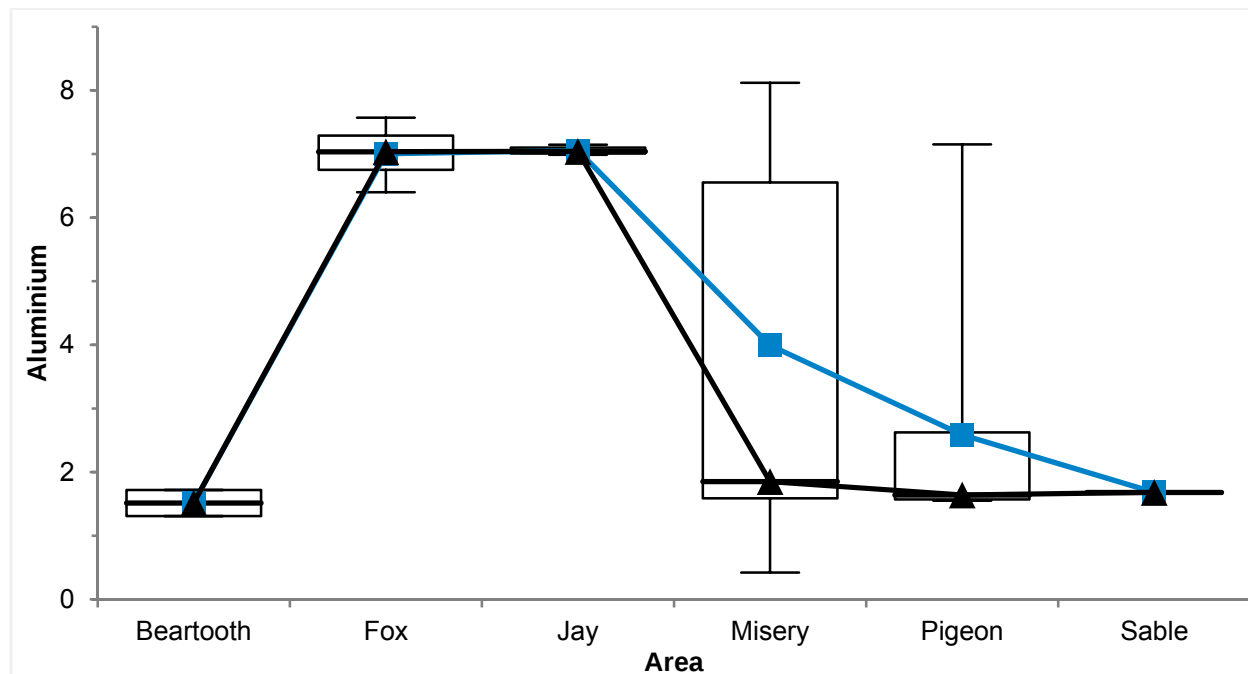


Table A-25 Box and Whisker Statistics – Diabase Aluminium

Aluminium by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	1.31000000	1.31000000	1.51500000	1.72000000	1.72000000	0.41000000
Fox	6.40000000	6.75000000	7.03500000	7.28833333	7.57000000	0.53833333
Jay	6.98610939	7.008161507	7.039034465	7.100780381	7.14488461	0.092618875
Misery	0.42000000	1.58750000	1.85000000	6.55166667	8.12000000	4.96416667
Pigeon	1.55000000	1.57166667	1.64000000	2.62333333	7.15000000	1.05166667
Sable	1.68000000	1.68000000	1.68000000	1.68000000	1.68000000	0.00000000

Table A-26 Kruskal-Wallis Test – Diabase Aluminium

Aluminium by Area	No.	Rank Sum	Mean Rank
Beartooth	2	800.0	400.00
Fox	12	4,961.3	413.44
Jay	4	1,936.0	484.00
Misery	42	1,157.6	27.56
Pigeon	7	540.3	77.19
Sable	1	100.0	100.00

H statistic	24.30
X² approximation	24.30
DF	5
p-value	0.0002

Notes:

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i,j (The median of the populations are not all equal).

DF = degrees of freedom; No. = number of samples.

Table A-27 Tukey-Kramer Comparison – Diabase Aluminium

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Fox	-5.488333333	-10.550767856 to -0.425898811		0.0261 ¹
Beartooth - Jay	-5.537265733	-11.277526922 to 0.202995457		0.0648 ²
Beartooth - Misery	-2.477380952	-7.274579763 to 2.319817858		0.6538 ²
Beartooth - Pigeon	-1.072142857	-6.386592044 to 4.242306330		0.9911 ²
Beartooth - Sable	-0.165000000	-8.282955226 to 7.952955226		1.0000 ²
Fox - Jay	-0.048932399	-3.875773192 to 3.777908394		1.0000 ²
Fox - Misery	3.010952381	0.841337586 to 5.180567176		0.0017 ¹
Fox - Pigeon	4.416190476	1.263813263 to 7.568567689		0.0015 ¹
Fox - Sable	5.323333333	-1.575602018 to 12.22268684		0.2224 ²
Jay - Misery	3.059884780	-0.408484229 to 6.528253790		0.1140 ²
Jay - Pigeon	4.465122875	0.310626839 to 8.619618912		0.0281 ¹
Jay - Sable	5.372265733	-2.038379597 to 12.782911062		0.2849 ²
Misery - Pigeon	1.405238095	-1.300746980 to 4.111223170		0.6484 ²
Misery - Sable	2.312380952	-4.394345679 to 9.019107584		0.9116 ²
Pigeon - Sable	0.907142857	-6.178789392 to 7.993075107		0.9990 ²

Notes:

1) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

2) Do not reject the null hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent.

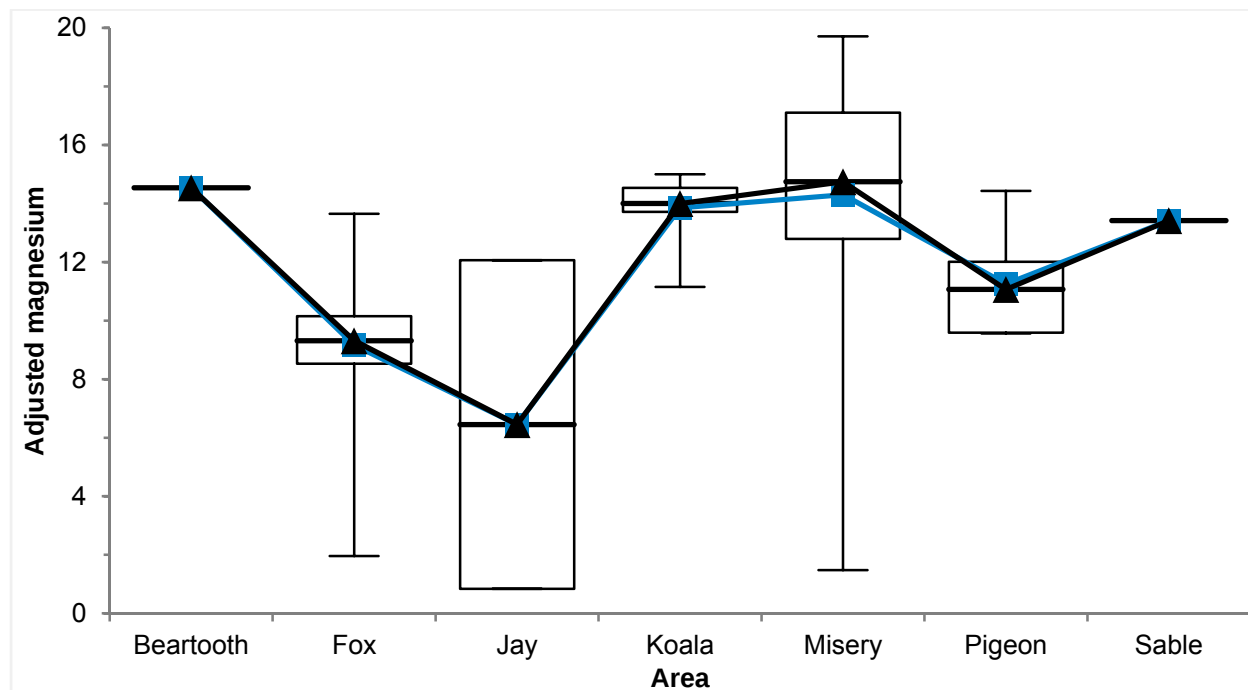
Figure A-10 Box and Whisker Plot – Kimberlite Adjusted Magnesium


Table A-28 Box and Whisker Statistics – Kimberlite Adjusted Magnesium

Adjusted Magnesium by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	14.54000000	14.54000000	14.54000000	14.54000000	14.54000000	0.00000000
Fox	1.96000000	8.529166667	9.315000000	10.15000000	13.65000000	1.620833333
Jay	0.83831571	0.838315712	6.450206145	12.062096578	12.06209658	11.223780866
Koala	11.15000000	13.716666667	14.00000000	14.533333333	15.00000000	0.816666667
Misery	1.48000000	12.789166667	14.74500000	17.101666667	19.71000000	4.312500000
Pigeon	9.56000000	9.587500000	11.06500000	12.01000000	14.43000000	2.422500000
Sable	13.42000000	13.42000000	13.42000000	13.42000000	13.42000000	0.00000000

Table A-29 Kruskal-Wallis Test – Kimberlite Adjusted Magnesium

Adjusted Magnesium by Area	No.	Rank Sum	Mean Rank
Beartooth	1	6,889.0	6,889.00
Fox	150	58,964.5	393.10
Jay	2	684.5	342.25
Koala	13	74,481.2	5,729.33
Misery	26	105,156.2	4,044.47
Pigeon	6	8,177.0	1,362.84
Sable	1	4,761.0	4,761.00
H statistic	78.13		
X² approximation	78.13		
DF	6		
p-value	<0.0001		

Notes:

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i, j (The median of the populations are not all equal).

DF = degrees of freedom; No. = number of samples; < = less than.

Table A-30 Tukey-Kramer Comparison – Kimberlite Adjusted Magnesium

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Fox	5.380133333	-0.988843897 to 11.749110563		0.1590 ¹
Beartooth - Jay	8.089793855	0.315293609 to 15.864294101		0.0355 ²
Beartooth - Koala	0.685384615	-5.902093627 to 7.272862857		0.9999 ¹
Beartooth - Misery	0.238461538	-6.230313679 to 6.707236756		1.0000 ¹
Beartooth - Pigeon	3.290000000	-3.566464739 to 10.146464739		0.7850 ¹
Beartooth - Sable	1.120000000	-7.857219619 to 10.097219619		0.9998 ¹
Fox - Jay	2.709660522	-1.808774266 to 7.228095309		0.5585 ¹
Fox - Koala	-4.694748718	-6.530033014 to -2.859464421		<0.0001 ²
Fox - Misery	-5.141671795	-6.490171583 to -3.793172007		<0.0001 ²
Fox - Pigeon	-2.090133333	-4.732955231 to 0.552688564		0.2231 ¹
Fox - Sable	-4.260133333	-10.629110563 to 2.108843897		0.4224 ¹
Jay - Koala	-7.404409239	-12.225949612 to -2.582868867		0.0002 ²
Jay - Misery	-7.851332316	-12.509382852 to -3.193281780		<0.0001 ²
Jay - Pigeon	-4.799793855	-9.982794019 to 0.383206309		0.0896 ¹
Jay - Sable	-6.969793855	-14.744294101 to 0.804706391		0.1113 ¹
Koala - Misery	-0.446923077	-2.603181483 to 1.709335329		0.9962 ¹
Koala - Pigeon	2.604615385	-0.528355445 to 5.737586214		0.1735 ¹
Koala - Sable	0.434615385	-6.152862857 to 7.022093627		1.0000 ¹
Misery - Pigeon	3.051538462	0.176527254 to 5.926549669		0.0295 ²
Misery - Sable	0.881538462	-5.587236756 to 7.350313679		0.9996 ¹
Pigeon - Sable	-2.170000000	-9.026464739 to 4.686464739		0.9650 ¹

Notes:

1) Do not reject the null hypothesis at the 5% significance level.

2) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent; < = less than.

Figure A-11 Box and Whisker Plot – Granite Adjusted Magnesium

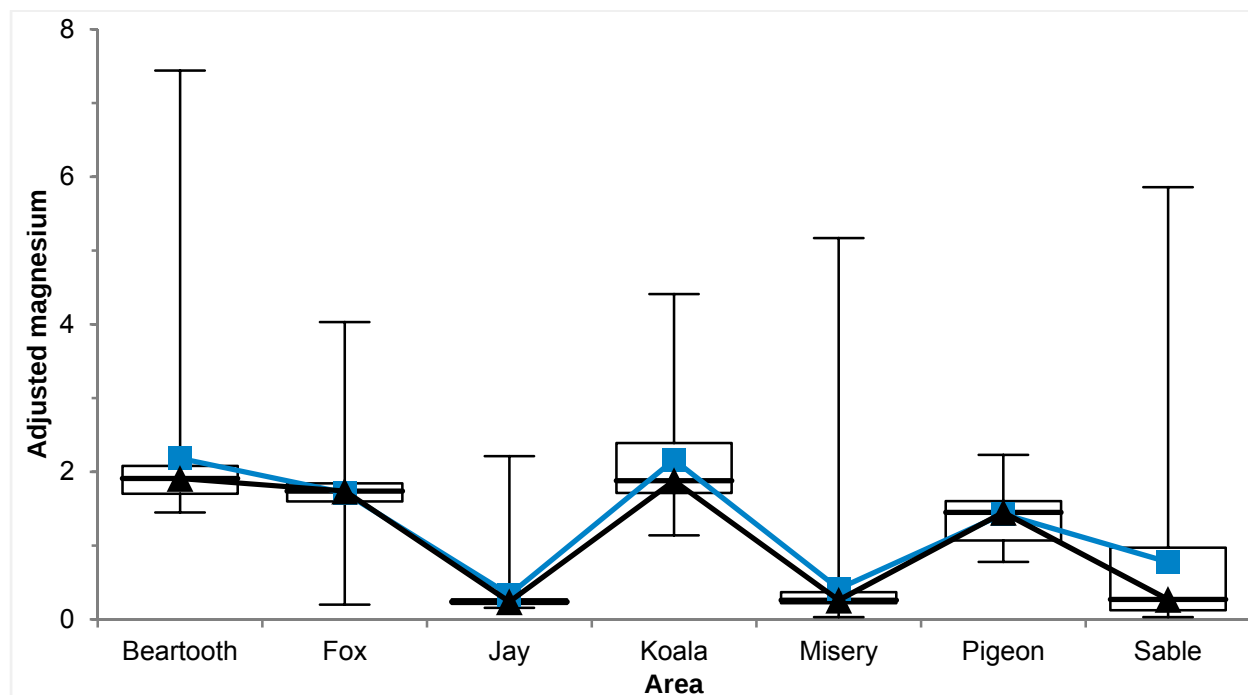


Table A-31 Box and Whisker Statistics – Granite Adjusted Magnesium

Adjusted Magnesium by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	1.45000000	1.70416667	1.91000000	2.08000000	7.44000000	0.37583333
Fox	0.20000000	1.60000000	1.74000000	1.84333333	4.03000000	0.24333333
Jay	0.15680726	0.21108669	0.23822640	0.27240234	2.21339472	0.06131568
Koala	1.14000000	1.71333333	1.88000000	2.39000000	4.41000000	0.67666667
Misery	0.03000000	0.22000000	0.26000000	0.37000000	5.17000000	0.15000000
Pigeon	0.78000000	1.07000000	1.45000000	1.60333333	2.23000000	0.53333333
Sable	0.03000000	0.12333333	0.27000000	0.97333333	5.86000000	0.85000000

Table A-32 Kruskal-Wallis Test – Granite Adjusted Magnesium

Adjusted Magnesium by Area	No.	Rank Sum	Mean Rank
Beartooth	68	807,145.2	11,869.78
Fox	117	502,745.6	4,296.97
Jay	30	362,560.1	12,085.34
Koala	13	147,555.8	11,350.44
Misery	109	940,417.4	8,627.68
Pigeon	11	3,709.5	337.22
Sable	41	256,434.3	6,254.50
H statistic	238.95		
X² approximation	238.95		
DF	6		
p-value	<0.0001		

Notes:

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i,j (The median of the populations are not all equal).

DF = degrees of freedom; No. = number of samples; < = less than.

Table A-33 Tukey-Kramer Comparison – Granite Adjusted Magnesium

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Fox	0.466910508	0.138456379 to 0.795364637		0.0006 ¹
Beartooth - Jay	1.848311079	1.376210859 to 2.320411299		<0.0001 ¹
Beartooth - Koala	0.019389140	-0.632618411 to 0.671396692		1.0000 ²
Beartooth - Misery	1.766262817	1.433407747 to 2.099117887		<0.0001 ¹
Beartooth - Pigeon	0.755962567	0.055961027 to 1.455964107		0.0248 ¹
Beartooth - Sable	1.406649928	0.980754368 to 1.832545489		<0.0001 ¹
Fox - Jay	1.381400571	0.940600803 to 1.822200340		<0.0001 ¹
Fox - Koala	-0.447521368	-1.077235323 to 0.182192588		0.3509 ²
Fox - Misery	1.299352309	1.012614945 to 1.586089673		<0.0001 ¹
Fox - Pigeon	0.289052059	-0.390232840 to 0.968336958		0.8691 ²
Fox - Sable	0.939739420	0.548826583 to 1.330652258		<0.0001 ¹
Jay - Koala	-1.828921939	-2.544139506 to -1.113704372		<0.0001 ¹
Jay - Misery	-0.082048262	-0.526137013 to 0.362040489		0.9981 ²
Jay - Pigeon	-1.092348512	-1.851574748 to -0.333122277		0.0005 ¹
Jay - Sable	-0.441661151	-0.959164146 to 0.075841844		0.1516 ²
Koala - Misery	1.746873677	1.114853069 to 2.378894284		<0.0001 ¹
Koala - Pigeon	0.736573427	-0.145843542 to 1.618990395		0.1717 ²
Koala - Sable	1.387260788	0.701662816 to 2.072858760		<0.0001 ¹
Misery - Pigeon	-1.010300250	-1.691724022 to -0.328876478		0.0003 ¹
Misery - Sable	-0.359612889	-0.754230716 to 0.035004938		0.1007 ²
Pigeon - Sable	0.650687361	-0.080703702 to 1.382078425		0.1179 ²

Notes:

1) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

2) Do not reject the null hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent; < = less than.

Figure A-12 Box and Whisker Plot – Metasediment Adjusted Magnesium

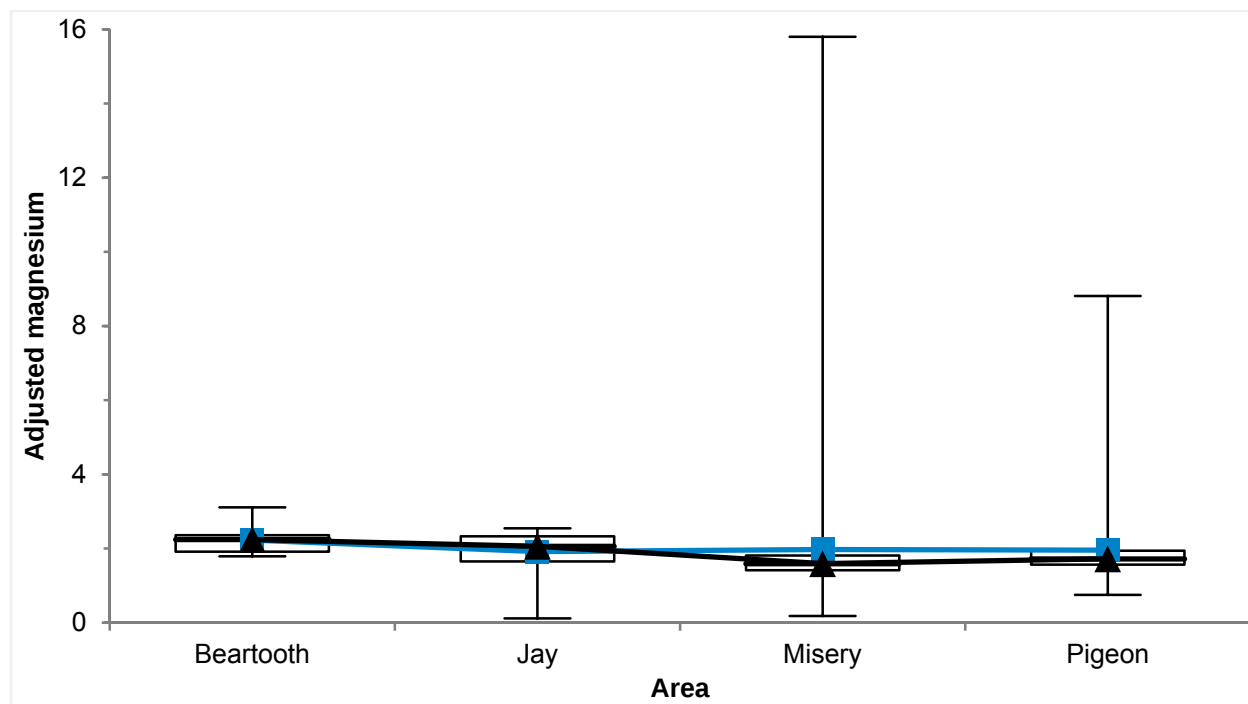


Table A-34 Box and Whisker Statistics – Metasediment Adjusted Magnesium

Adjusted Magnesium by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	1.79000000	1.91583333	2.24000000	2.36083333	3.11000000	0.44500000
Jay	0.11458992	1.65150206	2.05960299	2.32898981	2.54510238	0.67748775
Misery	0.18000000	1.41416667	1.59000000	1.81000000	15.80000000	0.39583333
Pigeon	0.75000000	1.56416667	1.72000000	1.94166667	8.81000000	0.37750000

Table A-35 Kruskal-Wallis Test – Metasediment Adjusted Magnesium

Adjusted Magnesium by Area	No.	Rank Sum	Mean Rank
Beartooth	10	198,105.6	19,810.56
Jay	24	132,016.7	5,500.69
Misery	352	44,797.8	127.27
Pigeon	28	21,924.0	783.00
H statistic	27.72		
X² approximation	27.72		
DF	3		
p-value	<0.0001		

Notes:

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i, j (The median of the populations are not all equal).

DF = ; p-value = ; No. = number of samples; < = less than.

Table A-36 Tukey-Kramer Comparison – Metasediment Adjusted Magnesium

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Jay	0.309388287	-1.530447256 to 2.149223830		0.9726 ¹
Beartooth - Misery	0.253522727	-1.314051521 to 1.821096976		0.9755 ¹
Beartooth - Pigeon	0.269285714	-1.531483053 to 2.070054481		0.9805 ¹
Jay - Misery	-0.055865560	-1.087111227 to 0.975380107		0.9990 ¹
Jay - Pigeon	-0.040102573	-1.399862387 to 1.319657242		0.9998 ¹
Misery - Pigeon	0.015762987	-0.944049991 to 0.975575965		1.0000 ¹

Notes:

1) Do not reject the null hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent; < = less than.

Figure A-13 Box and Whisker Plot – Diabase Adjusted Magnesium

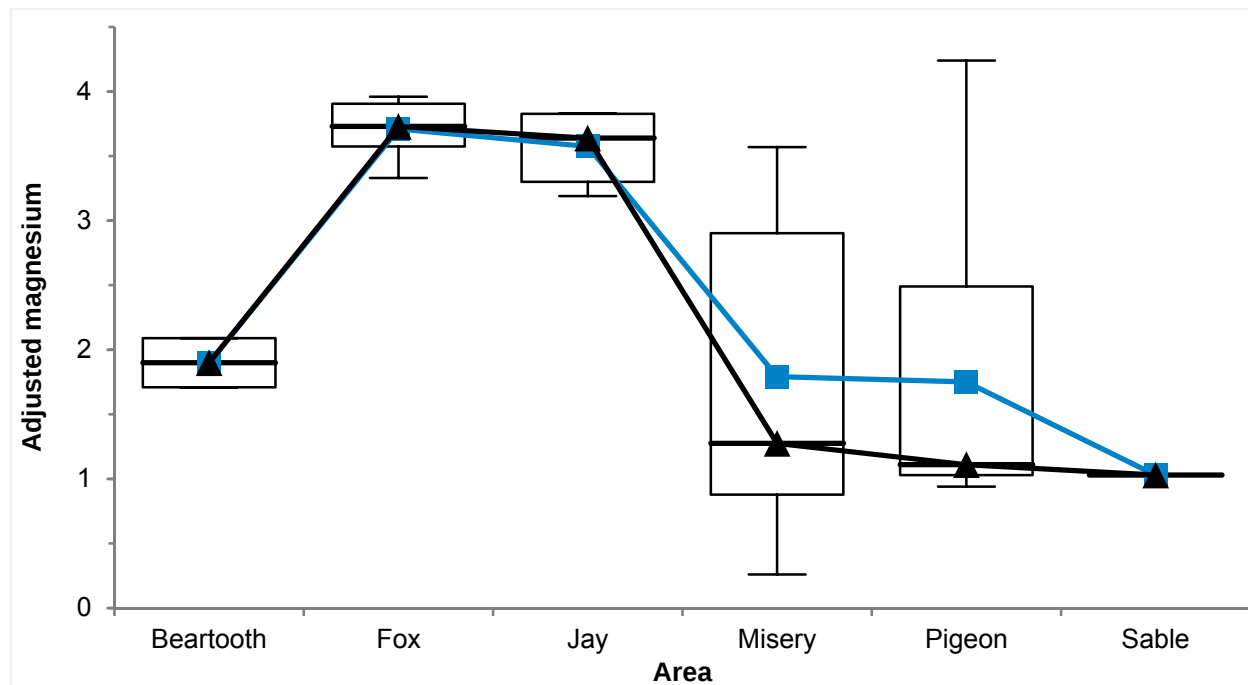


Table A-37 Box and Whisker Statistics – Diabase Adjusted Magnesium

Adjusted Magnesium by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	1.71000000	1.71000000	1.90000000	2.09000000	2.09000000	0.38000000
Fox	3.33000000	3.57416667	3.73000000	3.90583333	3.96000000	0.33166667
Jay	3.19042454	3.30093764	3.63973764	3.82720272	3.82971566	0.52620893
Misery	0.26000000	0.87833333	1.27500000	2.90333333	3.57000000	2.02500000
Pigeon	0.94000000	1.03000000	1.11000000	2.49000000	4.24000000	1.46000000
Sable	1.03000000	1.03000000	1.03000000	1.03000000	1.03000000	0.00000000

Table A-38 Kruskal-Wallis Test – Diabase Adjusted Magnesium

Adjusted Magnesium by Area	No.	Rank Sum	Mean Rank
Beartooth	2	28.1	14.06
Fox	12	7676.0	639.67
Jay	4	1936.0	484.00
Misery	42	2825.7	67.28
Pigeon	7	92.9	13.27
Sable	1	196.0	196.00

H statistic	32.63
X² approximation	32.63
DF	5
p-value	<0.0001

Notes:

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i,j (The median of the populations are not all equal).

DF = ; p-value = ; No. = number of samples; < = less than.

Table A-39 Tukey-Kramer Comparison – Diabase Adjusted Magnesium

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Fox	-1.810000000	-3.954460546 to 0.334460546		0.1454 ¹
Beartooth - Jay	-1.674903873	-4.106493574 to 0.756685827		0.3400 ¹
Beartooth - Misery	0.108809524	-1.923296479 to 2.140915526		1.0000 ¹
Beartooth - Pigeon	0.150000000	-2.101214619 to 2.401214619		1.0000 ¹
Beartooth - Sable	0.870000000	-2.568787133 to 4.308787133		0.9755 ¹
Fox - Jay	0.135096127	-1.485963674 to 1.756155927		0.9999 ¹
Fox - Misery	1.918809524	0.999755004 to 2.837864044		<0.0001 ²
Fox - Pigeon	1.960000000	0.624644742 to 3.295355258		0.0008 ²
Fox - Sable	2.680000000	-0.242407115 to 5.602407115		0.0904 ¹
Jay - Misery	1.783713397	0.314503185 to 3.252923610		0.0087 ²
Jay - Pigeon	1.824903873	0.065048452 to 3.584759295		0.0378 ²
Jay - Sable	2.544903873	-0.594264932 to 5.684072678		0.1779 ¹
Misery - Pigeon	0.041190476	-1.105071901 to 1.187452854		1.0000 ¹
Misery - Sable	0.761190476	-2.079796521 to 3.602177474		0.9686 ¹
Pigeon - Sable	0.720000000	-2.281619492 to 3.721619492		0.9806 ¹

Notes:

1) Do not reject the null hypothesis at the 5% significance level.

2) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent; < = less than.

Figure A-14 Box and Whisker Plot – Kimberlite Nickel

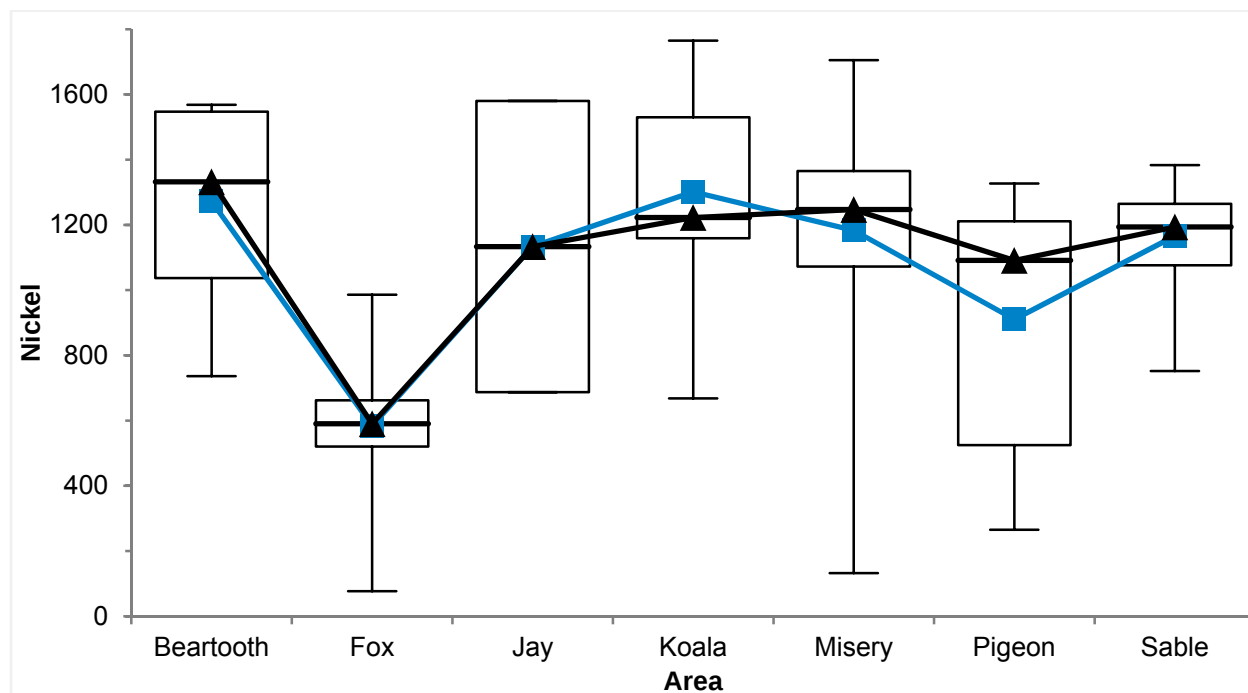


Table A-40 Box and Whisker Statistics – Kimberlite Nickel

Nickel by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	736.0	1,036.67	1,332.00	1,547.33	1,568.0	510.67
Fox	77.0	520.42	590.00	662.08	986.0	141.67
Jay	687.0	687.00	1,133.50	1,580.00	1,580.0	893.00
Koala	668.0	1,159.17	1,222.50	1,530.00	1,765.0	370.83
Misery	132.3	1,072.17	1,246.90	1,365.02	1,705.1	292.85
Pigeon	265.0	524.92	1,091.00	1,211.17	1,327.0	686.25
Sable	752.0	1,075.92	1,193.50	1,264.42	1,383.0	188.50

Table A-41 Kruskal-Wallis Test – Kimberlite Nickel

Nickel by Area	No.	Rank Sum	Mean Rank
Beartooth	5	32,967.2	6,593.44
Fox	150	166,900.1	1,112.67
Jay	2	8,712.0	4,356.00
Koala	20	128,400.3	6,420.02
Misery	26	115,244.7	4,432.49
Pigeon	14	5,362.6	383.04
Sable	12	61,347.0	5,112.25
H statistic	118.23		
X² approximation	118.23		
DF	6		
p-value	<0.0001		

Notes:

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i,j (The median of the populations are not all equal).

DF = degrees of freedom; No. = number of samples; < = less than.

Table A-42 Tukey-Kramer All Pairs Comparisons – Kimberlite Nickel

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Fox	688.39	408.20 to 968.57		<0.0001 ¹
Beartooth - Jay	138.50	-377.15 to 654.15		0.9849 ²
Beartooth - Koala	-29.40	-337.56 to 278.76		1.0000 ²
Beartooth - Misery	89.03	-211.94 to 389.99		0.9752 ²
Beartooth - Pigeon	361.71	40.62 to 682.81		0.0162 ¹
Beartooth - Sable	105.92	-222.14 to 433.98		0.9617 ²
Fox - Jay	-549.89	-988.59 to -111.19		0.0045 ¹
Fox - Koala	-717.79	-864.50 to -571.07		<0.0001 ¹
Fox - Misery	-599.36	-730.29 to -468.43		<0.0001 ¹
Fox - Pigeon	-326.67	-498.91 to -154.44		<0.0001 ¹
Fox - Sable	-582.47	-767.37 to -397.57		<0.0001 ¹
Jay - Koala	-167.90	-624.98 to 289.18		0.9297 ²
Jay - Misery	-49.47	-501.73 to 402.78		0.9999 ²
Jay - Pigeon	223.21	-242.68 to 689.11		0.7875 ²
Jay - Sable	-32.58	-503.31 to 438.14		1.0000 ²
Koala - Misery	118.43	-64.88 to 301.74		0.4677 ²
Koala - Pigeon	391.11	176.35 to 605.88		<0.0001 ¹
Koala - Sable	135.32	-89.73 to 360.37		0.5568 ²
Misery - Pigeon	272.69	68.38 to 477.00		0.0018 ¹
Misery - Sable	16.89	-198.20 to 231.98		1.0000 ²
Pigeon - Sable	-255.80	-498.26 to -13.34		0.0312 ¹

Notes:

1) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

2) Do not reject the null hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent; < = less than.

Figure A-15 Box and Whisker Plot – Granite Nickel

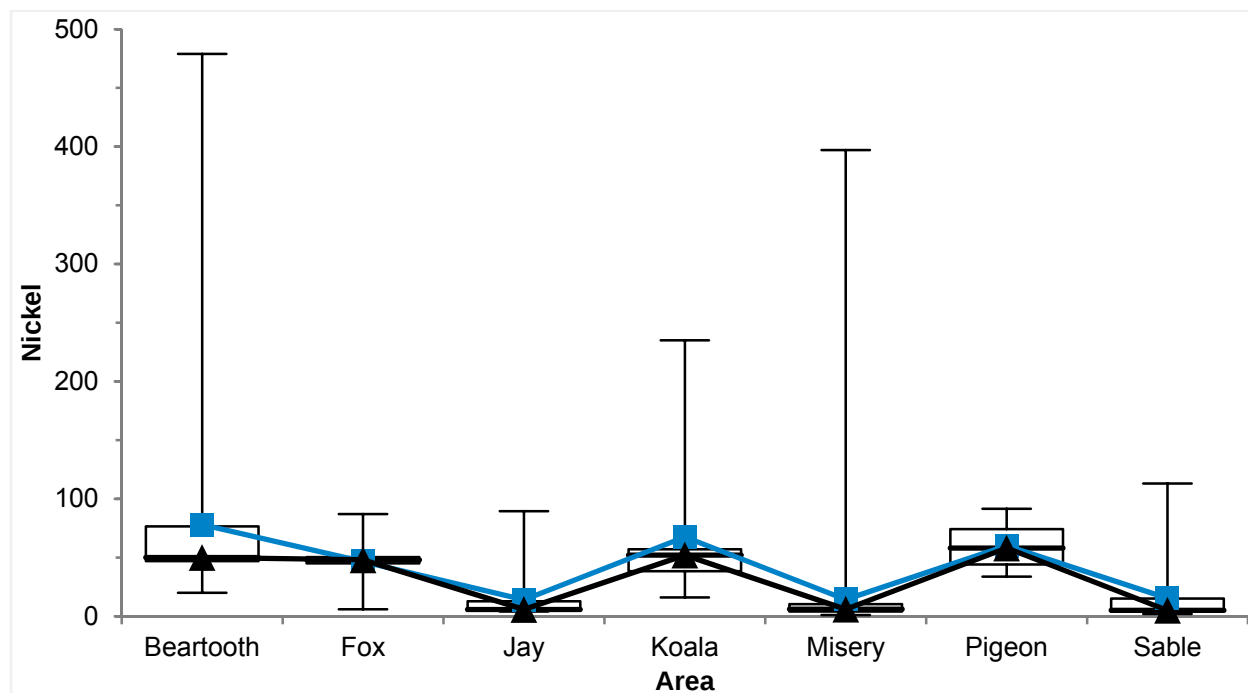


Table A-43 Box and Whisker Statistics – Granite Nickel

Nickel by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	20.0	47.00	50.00	76.50	479.0	29.50
Fox	6.0	45.00	48.00	50.33	87.0	5.33
Jay	4.0	4.88	5.75	12.74	89.5	7.87
Koala	16.0	38.33	52.00	57.00	235.0	18.67
Misery	1.0	4.00	6.00	10.33	397.0	6.33
Pigeon	33.8	44.03	58.10	74.27	91.5	30.23
Sable	2.0	4.00	5.00	15.00	113.0	11.00

Table A-44 Kruskal-Wallis Test – Granite Nickel

Nickel by Area	No.	Rank Sum	Mean Rank
Beartooth	68	711,148.8	10,458.07
Fox	117	462,359.2	3,951.79
Jay	30	170,856.5	5,695.22
Koala	13	99,094.2	7,622.63
Misery	109	1,063,463.5	9,756.55
Pigeon	11	121,380.0	11,034.55
Sable	41	310,677.1	7,577.49

H statistic	232.65
X² approximation	232.65
DF	6
p-value	<0.0001

Notes:

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i,j (The median of the populations are not all equal).

DF = degrees of freedom; No. = number of samples; < = less than.

Table A-45 Tukey-Kramer Comparisons – Granite Nickel

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Fox	31.42	12.05 to 50.78		<0.0001 ¹
Beartooth - Jay	64.00	36.17 to 91.84		<0.0001 ¹
Beartooth - Koala	10.55	-27.88 to 48.99		0.9835 ²
Beartooth - Misery	63.72	44.10 to 83.34		<0.0001 ¹
Beartooth - Pigeon	17.98	-23.29 to 59.24		0.8557 ²
Beartooth - Sable	62.62	37.52 to 87.73		<0.0001 ¹
Fox - Jay	32.59	6.60 to 58.57		0.0043 ¹
Fox - Koala	-20.86	-57.99 to 16.26		0.6393 ²
Fox - Misery	32.30	15.40 to 49.21		<0.0001 ¹
Fox - Pigeon	-13.44	-53.48 to 26.61		0.9550 ²
Fox - Sable	31.21	8.16 to 54.25		0.0014 ¹
Jay - Koala	-53.45	-95.61 to -11.29		0.0037 ¹
Jay - Misery	-0.29	-26.47 to 25.89		1.0000 ²
Jay - Pigeon	-46.03	-90.78 to -1.27		0.0393 ¹
Jay - Sable	-1.38	-31.89 to 29.13		1.0000 ²
Koala - Misery	53.17	15.91 to 90.42		0.0006 ¹
Koala - Pigeon	7.43	-44.59 to 59.44		0.9996 ²
Koala - Sable	52.07	11.65 to 92.49		0.0030 ¹
Misery - Pigeon	-45.74	-85.91 to -5.57		0.0142 ¹
Misery - Sable	-1.09	-24.36 to 22.17		1.0000 ²
Pigeon - Sable	44.65	1.53 to 87.76		0.0369 ¹

Notes:

1) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

2) Do not reject the null hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent; < = less than.

Figure A-16 Box and Whisker Plot – Metasediment Nickel

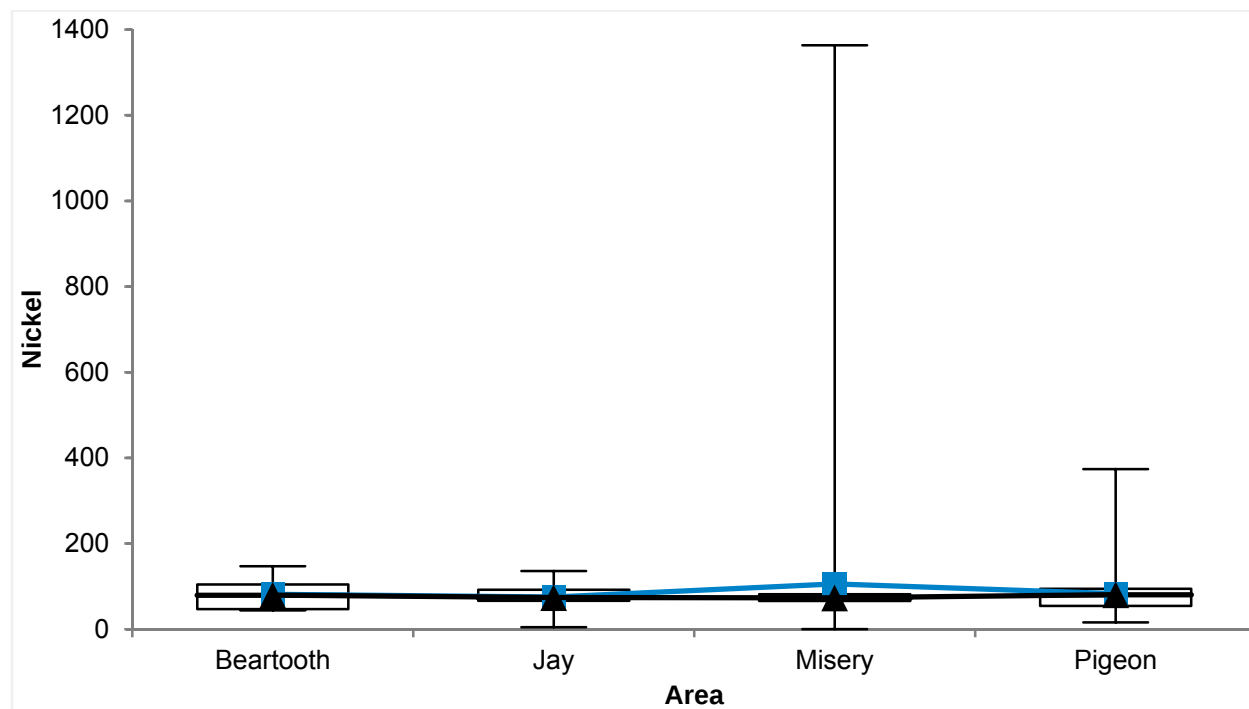


Table A-46 Box and Whisker Statistics – Metasediment Nickel

Nickel by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	44.0	46.83	79.50	104.42	147.0	57.58
Jay	4.9	66.43	73.80	92.11	136.0	25.68
Misery	0.5	65.88	73.00	81.75	1363.4	15.87
Pigeon	16.0	54.31	80.50	94.47	374.0	40.16

Table A-47 Kruskal-Wallis Test – Metasediment Nickel

Nickel by Area	No.	Rank Sum	Mean Rank
Beartooth	10	1,904.4	190.44
Jay	24	3,540.5	147.52
Misery	352	2,790.0	7.93
Pigeon	28	11,260.1	402.15
H statistic	1.36		
X² approximation	1.36		
DF	3		
p-value	0.7144		

Notes:

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i,j (The median of the populations are not all equal).

DF = degrees of freedom; No. = number of samples.

Table A-48 Tukey-Kramer All Pairs Comparisons – Metasediment Nickel

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Jay	6.46	-143.80 to 156.73		0.9995 ¹
Beartooth - Misery	-24.03	-152.06 to 104.00		0.9626 ¹
Beartooth - Pigeon	-1.31	-148.39 to 145.77		1.0000 ¹
Jay - Misery	-30.49	-114.72 to 53.74		0.7867 ¹
Jay - Pigeon	-7.77	-118.83 to 103.28		0.9979 ¹
Misery - Pigeon	22.72	-55.68 to 101.11		0.8777 ¹

Notes:

¹) Do not reject the null hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent.

Figure A-17 Box and Whisker Plot – Diabase Nickel

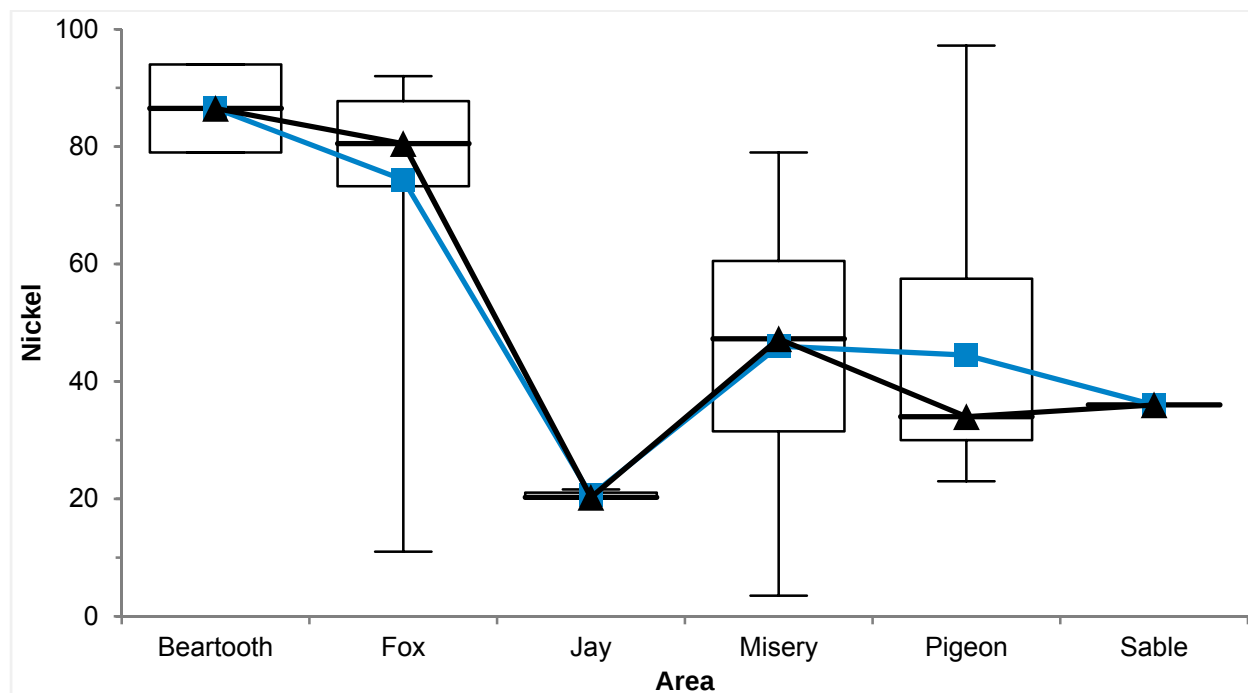


Table A-49 Box and Whisker Statistics – Diabase Nickel

Nickel by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	79.0	79.00	86.50	94.00	94.0	15.00
Fox	11.0	73.25	80.50	87.75	92.0	14.50
Jay	20.2	20.20	20.25	21.06	21.6	0.86
Misery	3.5	31.49	47.25	60.53	79.0	29.03
Pigeon	23.0	30.00	34.00	57.50	97.2	27.50
Sable	36.0	36.00	36.00	36.00	36.0	0.00

Table A-50 Kruskal-Wallis Test – Diabase Nickel

Nickel by Area	No.	Rank Sum	Mean Rank
Beartooth	2	1,596.1	798.06
Fox	12	4,427.5	368.96
Jay	4	3,364.0	841.00
Misery	42	378.0	9.00
Pigeon	7	222.9	31.84
Sable	1	30.3	30.25

H statistic	25.63
X² approximation	25.63
DF	5
p-value	0.0001

Notes:

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i,j (The median of the populations are not all equal).

DF = degrees of freedom; No. = number of samples.

Table A-51 Tukey-Kramer Comparison – Diabase Nickel

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Fox	12.17	-31.32 to 55.65		0.9622 ¹
Beartooth - Jay	65.93	16.62 to 115.23		0.0028 ²
Beartooth - Misery	40.49	-0.72 to 81.70		0.0568 ¹
Beartooth - Pigeon	42.04	-3.61 to 87.69		0.0880 ¹
Beartooth - Sable	50.50	-19.23 to 120.23		0.2860 ¹
Fox - Jay	53.76	20.89 to 86.63		0.0001 ²
Fox - Misery	28.33	9.69 to 46.96		0.0005 ²
Fox - Pigeon	29.88	2.80 to 56.96		0.0223 ²
Fox - Sable	38.33	-20.93 to 97.60		0.4106 ¹
Jay - Misery	-25.43	-55.23 to 4.36		0.1370 ¹
Jay - Pigeon	-23.88	-59.57 to 11.81		0.3722 ¹
Jay - Sable	-15.43	-79.08 to 48.23		0.9797 ¹
Misery - Pigeon	1.55	-21.69 to 24.79		1.0000 ¹
Misery - Sable	10.01	-47.60 to 67.62		0.9956 ¹
Pigeon - Sable	8.46	-52.41 to 69.33		0.9985 ¹

Notes:

1) Do not reject the null hypothesis at the 5% significance level.

2) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent.

Figure A-18 Box and Whisker Plot – Kimberlite Molybdenum

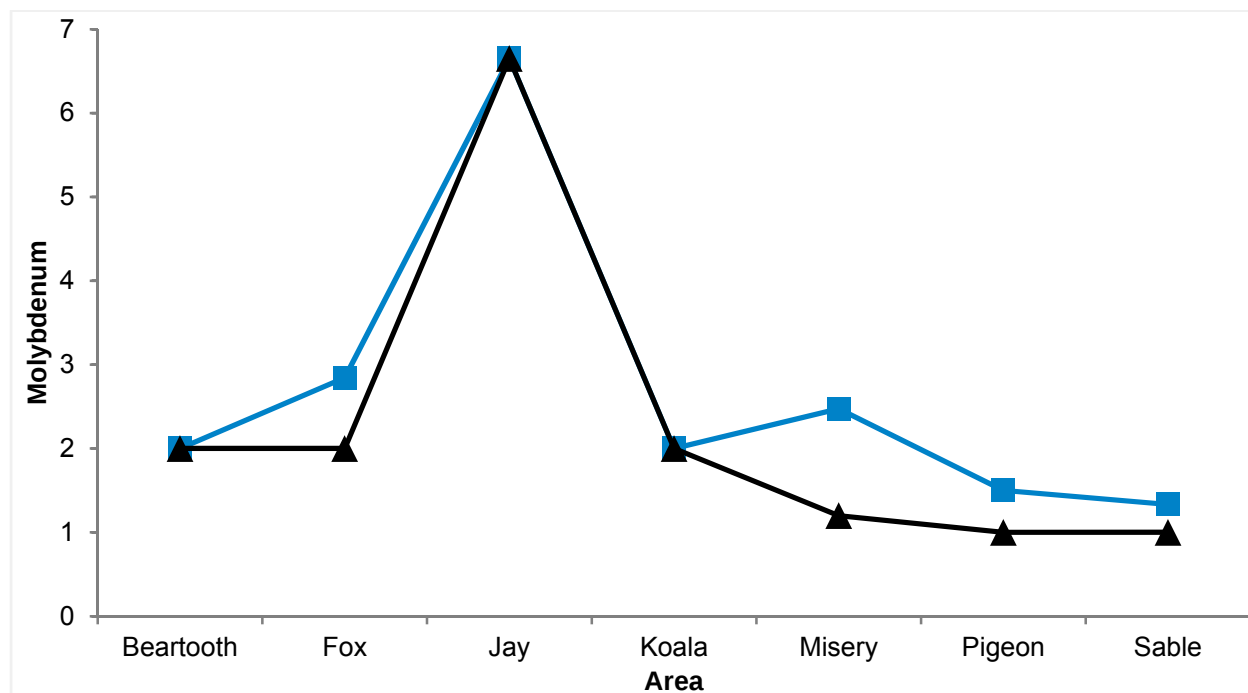


Table A-52 Box and Whisker Statistics – Kimberlite Molybdenum

Molybdenum by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	2.00	2.000	2.000	2.000	2.00	0.000
Fox	0.50	1.000	2.000	4.000	15.00	3.000
Jay	6.32	6.320	6.650	6.980	6.98	0.660
Koala	0.50	1.000	2.000	3.000	5.00	2.000
Misery	0.20	0.492	1.200	2.008	21.80	1.517
Pigeon	1.00	1.000	1.000	1.083	6.00	0.083
Sable	1.00	1.000	1.000	2.000	2.00	1.000

Table A-53 Kruskal-Wallis Test – Kimberlite Molybdenum

Molybdenum by Area	No.	Rank Sum	Mean Rank
Beartooth	5	661.3	132.25
Fox	150	17,056.0	113.71
Jay	2	19,800.5	9,900.25
Koala	20	605.0	30.25
Misery	26	30,739.8	1,182.30
Pigeon	14	15,778.6	1,127.04
Sable	12	12,160.3	1,013.36
H statistic	22.89		
X² approximation	22.89		
DF	6		
p-value	0.0008		

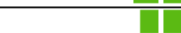
Notes:

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i,j (The median of the populations are not all equal).

DF = degrees of freedom; No. = number of samples.

Table A-54 Tukey-Kramer Comparison – Kimberlite Molybdenum

Contrast	Mean difference	Simultaneous 95% CI	0	p-value
Beartooth - Fox	-0.843	-4.279 to 2.593		0.9906 ¹
Beartooth - Jay	-4.650	-10.974 to 1.674		0.3062 ¹
Beartooth - Koala	0.000	-3.779 to 3.779		1.0000 ¹
Beartooth - Misery	-0.473	-4.164 to 3.218		0.9998 ¹
Beartooth - Pigeon	0.500	-3.438 to 4.438		0.9998 ¹
Beartooth - Sable	0.667	-3.357 to 4.690		0.9989 ¹
Fox - Jay	-3.807	-9.187 to 1.573		0.3531 ¹
Fox - Koala	0.843	-0.956 to 2.643		0.8043 ¹
Fox - Misery	0.370	-1.235 to 1.976		0.9933 ¹
Fox - Pigeon	1.343	-0.769 to 3.456		0.4875 ¹
Fox - Sable	1.510	-0.758 to 3.778		0.4294 ¹
Jay - Koala	4.650	-0.955 to 10.255		0.1760 ¹
Jay - Misery	4.177	-1.369 to 9.723		0.2781 ¹
Jay - Pigeon	5.150	-0.564 to 10.864		0.1077 ¹
Jay - Sable	5.317	-0.456 to 11.089		0.0932 ¹
Koala - Misery	-0.473	-2.721 to 1.775		0.9959 ¹
Koala - Pigeon	0.500	-2.134 to 3.134		0.9977 ¹
Koala - Sable	0.667	-2.093 to 3.427		0.9914 ¹
Misery - Pigeon	0.973	-1.532 to 3.479		0.9097 ¹
Misery - Sable	1.140	-1.498 to 3.778		0.8579 ¹
Pigeon - Sable	0.167	-2.807 to 3.140		1.0000 ¹

Notes:

1) Do not reject the null hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent.

Figure A-19 Box and Whisker Plot – Granite Molybdenum

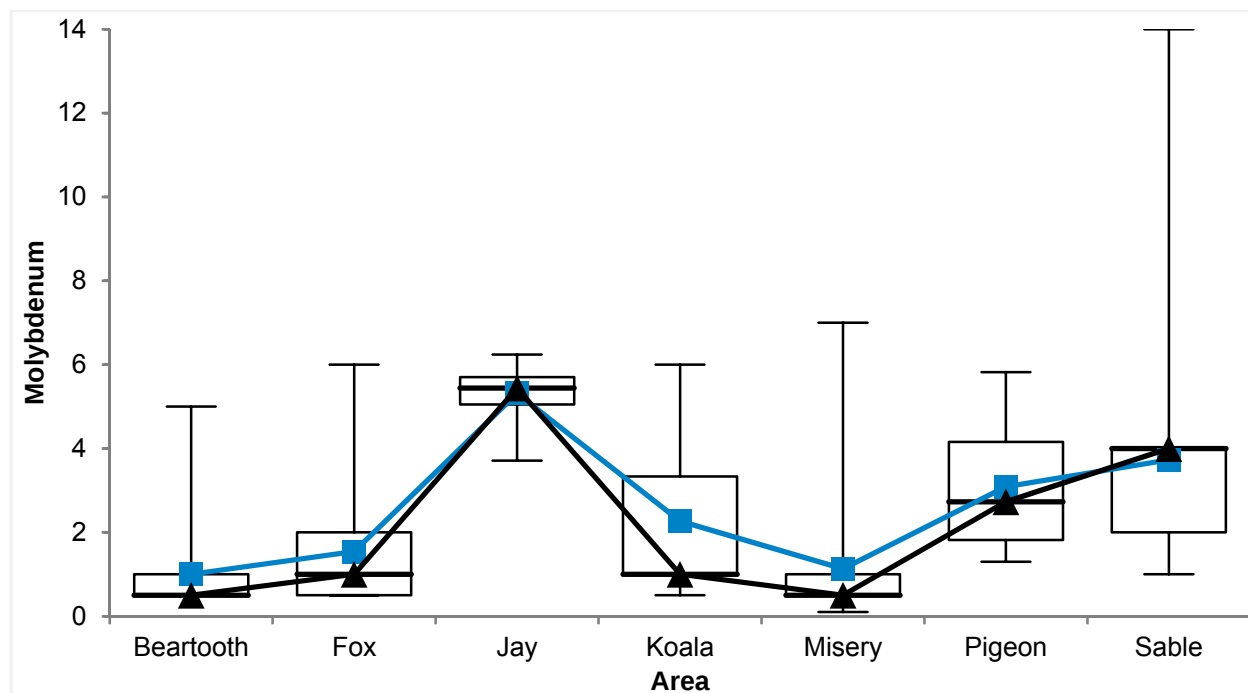


Table A-55 Box and Whisker Statistics – Granite Molybdenum

Molybdenum by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	0.50	0.500	0.500	1.000	5.00	0.500
Fox	0.50	0.500	1.000	2.000	6.00	1.500
Jay	3.71	5.050	5.440	5.702	6.24	0.652
Koala	0.50	1.000	1.000	3.333	6.00	2.333
Misery	0.10	0.500	0.500	1.000	7.00	0.500
Pigeon	1.30	1.817	2.730	4.158	5.82	2.342
Sable	1.00	2.000	4.000	4.000	14.00	2.000

Table A-56 Kruskal-Wallis Test – Granite Molybdenum

Molybdenum by Area	No.	Rank Sum	Mean Rank
Beartooth	68	208,237.8	3,062.32
Fox	117	2,543.3	21.74
Jay	30	853,790.7	28,459.69
Koala	13	21,607.7	1,662.13
Misery	109	420,671.7	3,859.37
Pigeon	11	95,697.8	8,699.80
Sable	41	485,813.9	11,849.12

H statistic	171.38
X² approximation	171.38
DF	6
p-value	<0.0001

Notes:

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i, j (The median of the populations are not all equal).

DF = degrees of freedom; No. = number of samples; < = less than.

Table A-57 Tukey-Kramer Comparison – Granite Molybdenum

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Fox	-0.543	-1.144 to 0.058		0.1070 ¹
Beartooth - Jay	-4.312	-5.175 to -3.448		<0.0001 ²
Beartooth - Koala	-1.269	-2.462 to -0.076		0.0287 ²
Beartooth - Misery	-0.131	-0.740 to 0.478		0.9954 ¹
Beartooth - Pigeon	-2.090	-3.371 to -0.809		<0.0001 ²
Beartooth - Sable	-2.732	-3.511 to -1.952		<0.0001 ²
Fox - Jay	-3.769	-4.575 to -2.962		<0.0001 ²
Fox - Koala	-0.726	-1.879 to 0.426		0.5023 ¹
Fox - Misery	0.411	-0.113 to 0.936		0.2352 ¹
Fox - Pigeon	-1.547	-2.790 to -0.304		0.0048 ²
Fox - Sable	-2.189	-2.904 to -1.474		<0.0001 ²
Jay - Koala	3.042	1.734 to 4.351		<0.0001 ²
Jay - Misery	4.180	3.368 to 4.993		<0.0001 ²
Jay - Pigeon	2.222	0.832 to 3.611		<0.0001 ²
Jay - Sable	1.580	0.633 to 2.527		<0.0001 ²
Koala - Misery	1.138	-0.019 to 2.294		0.0571 ¹
Koala - Pigeon	-0.821	-2.435 to 0.794		0.7407 ¹
Koala - Sable	-1.462	-2.717 to -0.208		0.0108 ²
Misery - Pigeon	-1.959	-3.205 to -0.712		<0.0001 ²
Misery - Sable	-2.600	-3.322 to -1.878		<0.0001 ²
Pigeon - Sable	-0.642	-1.980 to 0.697		0.7901 ¹

Notes:

1) Do not reject the null hypothesis at the 5% significance level.

2) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent; < = less than.

Figure A-20 Box and Whisker Plot – Metasediment Molybdenum

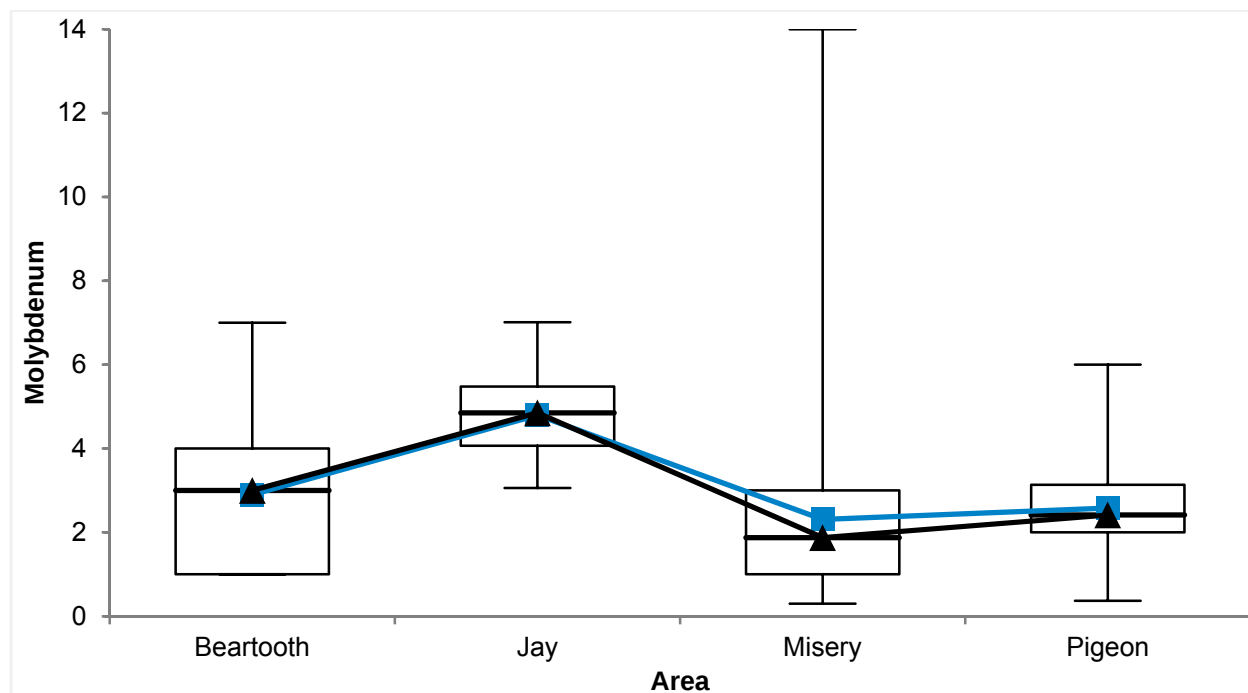


Table A-58 Box and Whisker Statistics – Metasediment Molybdenum

Molybdenum by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	1.00	1.000	3.000	4.000	7.00	3.000
Jay	3.06	4.068	4.850	5.476	7.01	1.408
Misery	0.30	1.000	1.875	3.000	14.00	2.000
Pigeon	0.37	2.000	2.415	3.136	6.00	1.136

Table A-59 Analysis of Variance – Metasediment Molybdenum

Effect	SS	DF	MS	F	p-value
Model	140.884	3	46.961	11.67	<0.0001
Error	1,650.335	410	4.025	n/a	n/a
Total	1,791.219	413	4.337	n/a	n/a

Notes:

H0: $\mu_1 = \mu_2 = \mu$ (The mean of the populations are all equal).

H1: $\mu_i \neq \mu_j$ for at least one i,j (The mean of the populations are not all equal).

SS = sums of squares; DF = degrees of freedom; MS = mean sum of squares; F = value of the F-statistic; < = less than; n/a = values cannot be calculated due to very small p-value.

Table A-60 Tukey-Kramer Comparison – Metasediment Molybdenum

Contrast	Mean difference	Simultaneous 95% CI	0	p-value
Beartooth - Jay	-1.893	-3.841 to 0.055		0.0603 ¹
Beartooth - Misery	0.592	-1.067 to 2.252		0.7937 ¹
Beartooth - Pigeon	0.322	-1.585 to 2.228		0.9723 ¹
Jay - Misery	2.485	1.394 to 3.577		<0.0001 ²
Jay - Pigeon	2.215	0.775 to 3.654		0.0005 ²
Misery - Pigeon	-0.271	-1.287 to 0.746		0.9020 ¹

Notes:

1) Do not reject the null hypothesis at the 5% significance level.

2) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent; < = less than.

Figure A-21 Box and Whisker Plot – Diabase Molybdenum

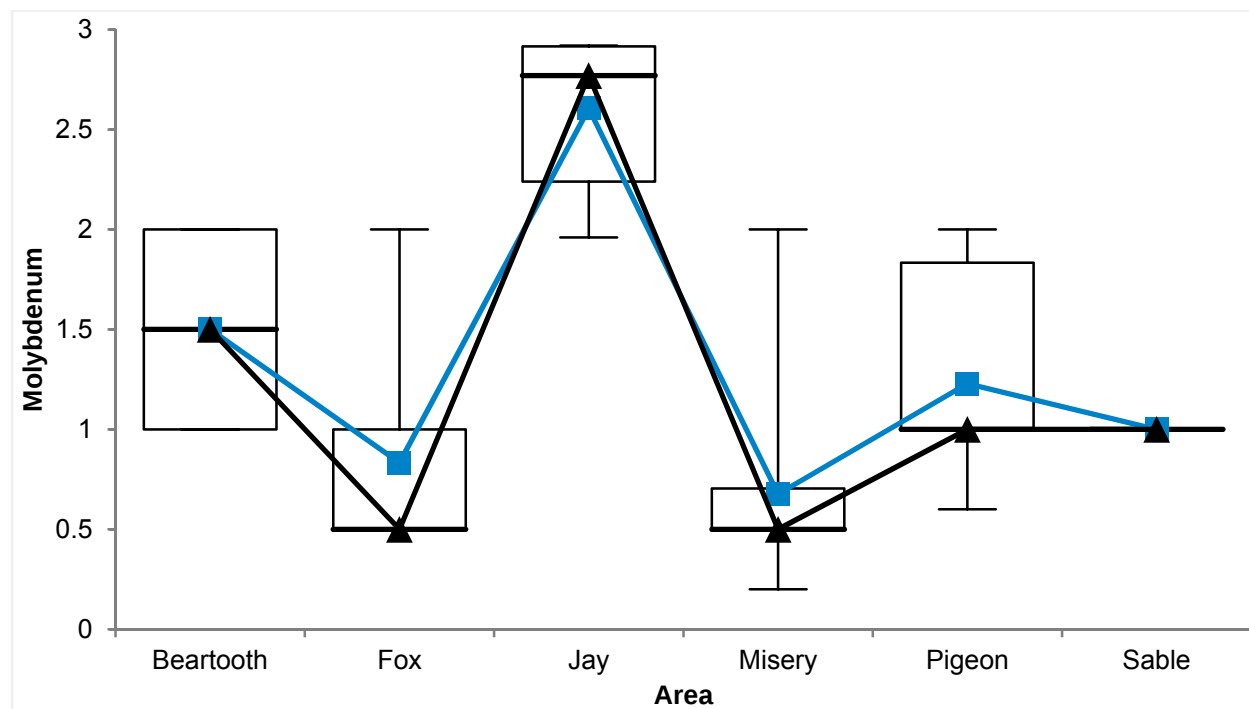


Table A-61 Box and Whisker Statistics – Diabase Molybdenum

Molybdenum by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	1.00	1.000	1.500	2.000	2.00	1.000
Fox	0.50	0.500	0.500	1.000	2.00	0.500
Jay	1.96	2.239	2.770	2.916	2.92	0.677
Misery	0.20	0.500	0.500	0.704	2.00	0.204
Pigeon	0.60	1.000	1.000	1.833	2.00	0.833
Sable	1.00	1.000	1.000	1.000	1.00	0.000

Table A-62 Analysis of Variance – Diabase Molybdenum

Effect	SS	DF	MS	F	p-value
Model	15.275	5	3.055	15.56	<0.0001
Error	12.172	62	0.196	n/a	n/a
Total	27.447	67	0.410	n/a	n/a

Notes:

H0: $\mu_1 = \mu_2 = \mu$ (The mean of the populations are all equal).

H1: $\mu_i \neq \mu_j$ for at least one i,j (The mean of the populations are not all equal).

SS = sums of squares; DF = degrees of freedom; MS = mean sum of squares; F= value of the F-statistic; < = less than; n/a = values cannot be calculated due to very small p-value.

Table A-63 Tukey-Kramer Comparison – Diabase Molybdenum

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Fox	0.667	-0.328 to 1.662		0.3710 ¹
Beartooth - Jay	-1.105	-2.233 to 0.023		0.0583 ¹
Beartooth - Misery	0.824	-0.119 to 1.767		0.1204 ¹
Beartooth - Pigeon	0.271	-0.773 to 1.316		0.9725 ¹
Beartooth - Sable	0.500	-1.096 to 2.096		0.9395 ¹
Fox - Jay	-1.772	-2.524 to -1.019		<0.0001 ²
Fox - Misery	0.157	-0.269 to 0.584		0.8855 ¹
Fox - Pigeon	-0.395	-1.015 to 0.224		0.4266 ¹
Fox - Sable	-0.167	-1.523 to 1.190		0.9992 ¹
Jay - Misery	1.929	1.247 to 2.611		<0.0001 ²
Jay - Pigeon	1.376	0.560 to 2.193		<0.0001 ²
Jay - Sable	1.605	0.148 to 3.062		0.0226 ²
Misery - Pigeon	-0.553	-1.085 to -0.021		0.0372 ²
Misery - Sable	-0.324	-1.642 to 0.994		0.9784 ¹
Pigeon - Sable	0.229	-1.164 to 1.622		0.9966 ¹

Notes:

1) Do not reject the null hypothesis at the 5% significance level.

2) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent; < = less than.

Figure A-22 Box and Whisker Plot – Kimberlite Potassium

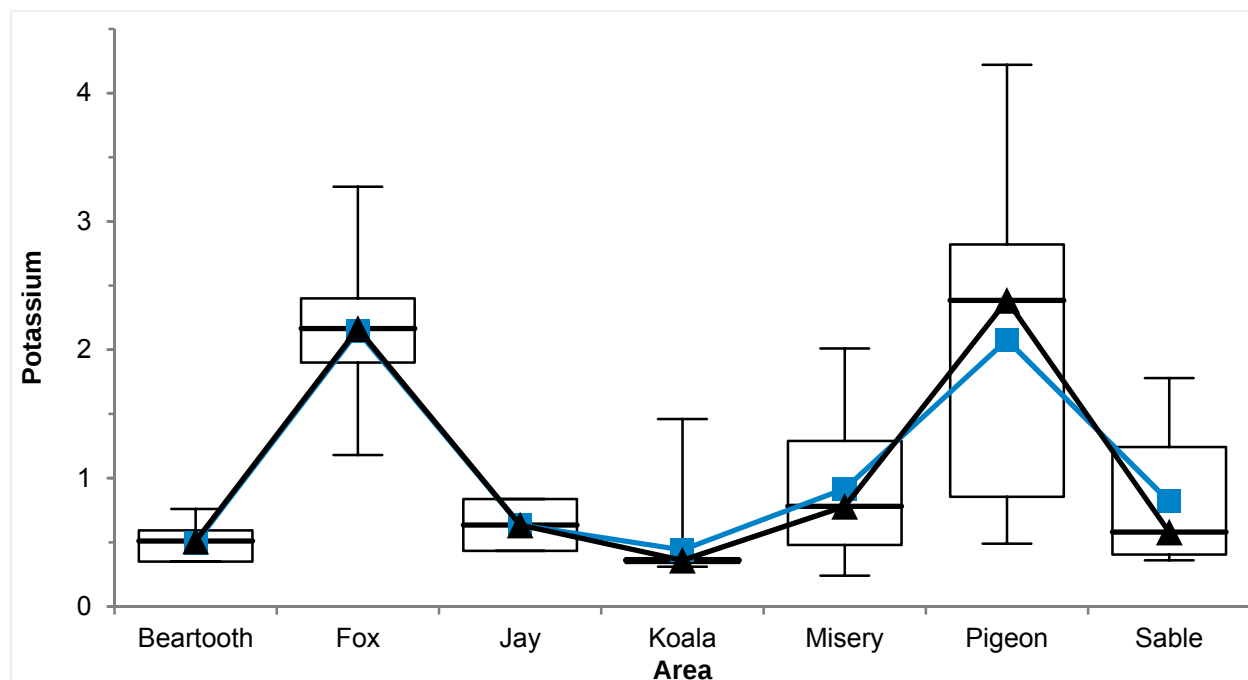


Table A-64 Box and Whisker Statistics – Kimberlite Potassium

Potassium by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	0.35000000	0.35000000	0.51000000	0.59333333	0.76000000	0.24333333
Fox	1.18000000	1.90000000	2.16500000	2.40083333	3.27000000	0.50083333
Jay	0.43287866	0.43287866	0.63512524	0.83737182	0.83737183	0.40449317
Koala	0.31000000	0.34000000	0.36000000	0.37583333	1.46000000	0.03583333
Misery	0.24000000	0.48000000	0.78000000	1.29000000	2.01000000	0.81000000
Pigeon	0.49000000	0.85500000	2.38500000	2.82083333	4.22000000	1.96583333
Sable	0.36000000	0.40416667	0.58000000	1.24250000	1.78000000	0.83833333

Table A-65 Kruskal-Wallis Test – Kimberlite Potassium

Potassium by Area	No.	Rank Sum	Mean Rank
Beartooth	5	36,894.1	7,378.81
Fox	150	138,867.3	925.78
Jay	2	11,250.0	5,625.00
Koala	20	184,512.1	9,225.60
Misery	26	112,597.0	4,330.65
Pigeon	14	14,240.2	1,017.15
Sable	12	53,200.1	4,433.34
H statistic	125.68		
X² approximation	125.68		
DF	6		
p-value	<0.0001		

Notes:

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i,j (The median of the populations are not all equal).

DF = degrees of freedom; No. = number of samples; < = less than.

Table A-66 Tukey-Kramer Comparison – Kimberlite Potassium

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Fox	-1.650600000	-2.311218310 to -0.989981690		<0.0001 ¹
Beartooth - Jay	-0.139125242	-1.354931598 to 1.076681114		0.9999 ²
Beartooth - Koala	0.055000000	-0.671583270 to 0.781583270		1.0000 ²
Beartooth - Misery	-0.420538462	-1.130156359 to 0.289079436		0.5742 ²
Beartooth - Pigeon	-1.580428571	-2.337511006 to -0.823346137		<0.0001 ¹
Beartooth - Sable	-0.321500000	-1.095006958 to 0.452006958		0.8790 ²
Fox - Jay	1.511474758	0.477103234 to 2.545846282		0.0004 ¹
Fox - Koala	1.705600000	1.359677172 to 2.051522828		<0.0001 ¹
Fox - Misery	1.230061538	0.921359555 to 1.538763522		<0.0001 ¹
Fox - Pigeon	0.070171429	-0.335923594 to 0.476266451		0.9986 ²
Fox - Sable	1.329100000	0.893150038 to 1.765049962		<0.0001 ¹
Jay - Koala	0.194125242	-0.883571908 to 1.271822391		0.9983 ²
Jay - Misery	-0.281413220	-1.347745934 to 0.784919495		0.9862 ²
Jay - Pigeon	-1.441303330	-2.539793981 to -0.342812679		0.0024 ¹
Jay - Sable	-0.182374758	-1.292249036 to 0.927499520		0.9990 ²
Koala - Misery	-0.475538462	-0.907746295 to -0.043330629		0.0207 ¹
Koala - Pigeon	-1.635428571	-2.141807741 to -1.129049402		<0.0001 ¹
Koala - Sable	-0.376500000	-0.907121396 to 0.154121396		0.3496 ²
Misery - Pigeon	-1.159890110	-1.641610127 to -0.678170093		<0.0001 ¹
Misery - Sable	0.099038462	-0.408103902 to 0.606180826		0.9973 ²
Pigeon - Sable	1.258928571	0.687255912 to 1.830601231		<0.0001 ¹

Notes:

1) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

2) Do not reject the null hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent; < = less than.

Figure A-23 Box and Whisker Plot – Granite Potassium

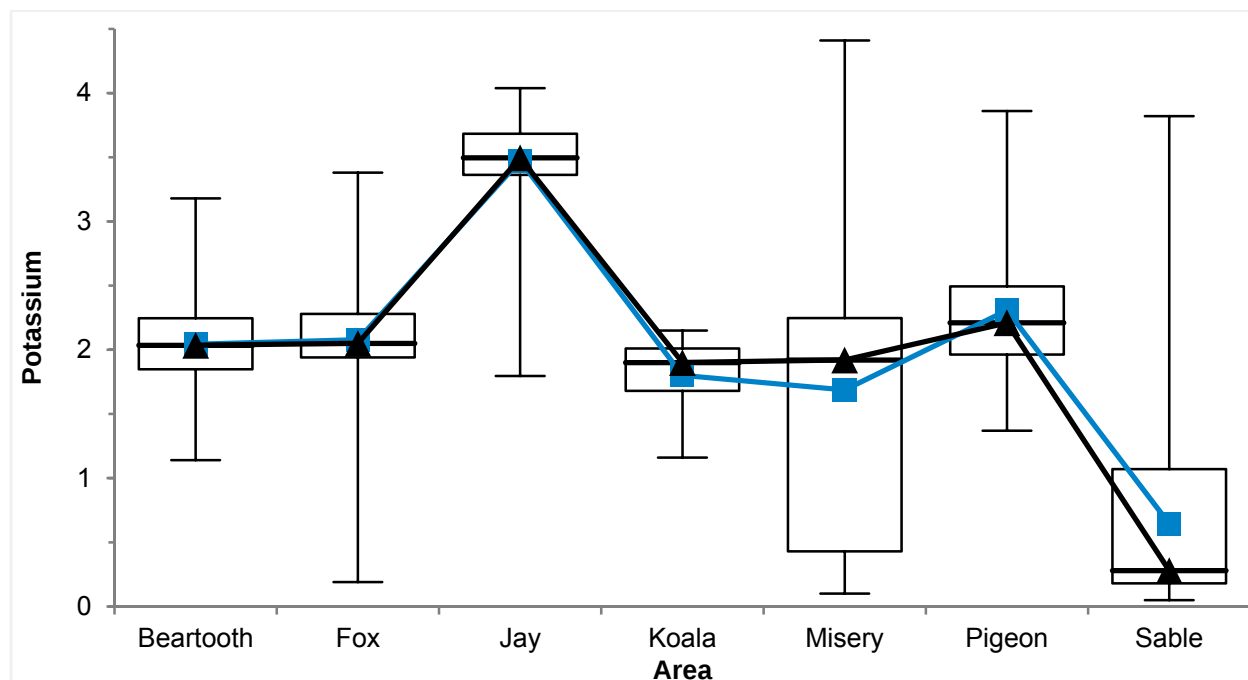


Table A-67 Box and Whisker Statistics – Granite Potassium

Potassium by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	1.14000000	1.84833333	2.03500000	2.24583333	3.18000000	0.39750000
Fox	0.19000000	1.94000000	2.05000000	2.28000000	3.38000000	0.34000000
Jay	1.79538197	3.36249732	3.49496292	3.68360813	4.03783534	0.32111080
Koala	1.16000000	1.68000000	1.90000000	2.01000000	2.15000000	0.33000000
Misery	0.10000000	0.43000000	1.92000000	2.24666667	4.41000000	1.81666667
Pigeon	1.37000000	1.96333333	2.21000000	2.49333333	3.86000000	0.53000000
Sable	0.05000000	0.18000000	0.28000000	1.07000000	3.82000000	0.89000000

Table A-68 Kruskal-Wallis Test – Granite Potassium

Potassium by Area	No.	Rank Sum	Mean Rank
Beartooth	68	6,571.9	96.65
Fox	117	70,180.3	599.83
Jay	30	819,722.7	27,324.09
Koala	13	27,554.0	2,119.54
Misery	109	68,676.1	630.06
Pigeon	11	31,324.5	2,847.68
Sable	41	805,140.7	19,637.58

H statistic	144.70
X² approximation	144.70
DF	6
p-value	<0.0001

Notes:

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i, j (The median of the populations are not all equal).

DF = degrees of freedom; No. = number of samples; < = less than.

Table A-69 Tukey-Kramer Comparison – Kimberlite Potassium

Contrast	Mean difference	Simultaneous 95% CI	0	p-value
Beartooth - Fox	-0.035595777	-0.334036184 to 0.262844631		0.9998 ¹
Beartooth - Jay	-1.430847776	-1.859808077 to -1.001887475		<0.0001 ²
Beartooth - Koala	0.241583710	-0.350844219 to 0.834011640		0.8906 ¹
Beartooth - Misery	0.354554776	0.052115580 to 0.656993972		0.0102 ²
Beartooth - Pigeon	-0.264010695	-0.900046983 to 0.372025593		0.8820 ¹
Beartooth - Sable	1.396987088	1.010009323 to 1.783964852		<0.0001 ²
Fox - Jay	-1.395251999	-1.795772045 to -0.994731954		<0.0001 ²
Fox - Koala	0.277179487	-0.294992006 to 0.849350981		0.7820 ¹
Fox - Misery	0.390150553	0.129614885 to 0.650686221		0.0002 ²
Fox - Pigeon	-0.228414918	-0.845627626 to 0.388797789		0.9288 ¹
Fox - Sable	1.432582864	1.077391145 to 1.787774583		<0.0001 ²
Jay - Koala	1.672431486	1.022569593 to 2.322293380		<0.0001 ²
Jay - Misery	1.785402552	1.381894067 to 2.188911037		<0.0001 ²
Jay - Pigeon	1.166837081	0.476987974 to 1.856686187		<0.0001 ²
Jay - Sable	2.827834864	2.357620635 to 3.298049092		<0.0001 ²
Koala - Misery	0.112971066	-0.461296301 to 0.687238432		0.9973 ¹
Koala - Pigeon	-0.505594406	-1.307377232 to 0.296188421		0.5022 ¹
Koala - Sable	1.155403377	0.532454478 to 1.778352277		<0.0001 ²
Misery - Pigeon	-0.618565471	-1.237721604 to 0.000590662		0.0504 ¹
Misery - Sable	1.042432311	0.683874160 to 1.400990463		<0.0001 ²
Pigeon - Sable	1.660997783	0.996440306 to 2.325555259		<0.0001 ²

Notes:

1) Do not reject the null hypothesis at the 5% significance level.

2) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent; < = less than.

Figure A-24 Box and Whisker Plot – Metasediment Potassium

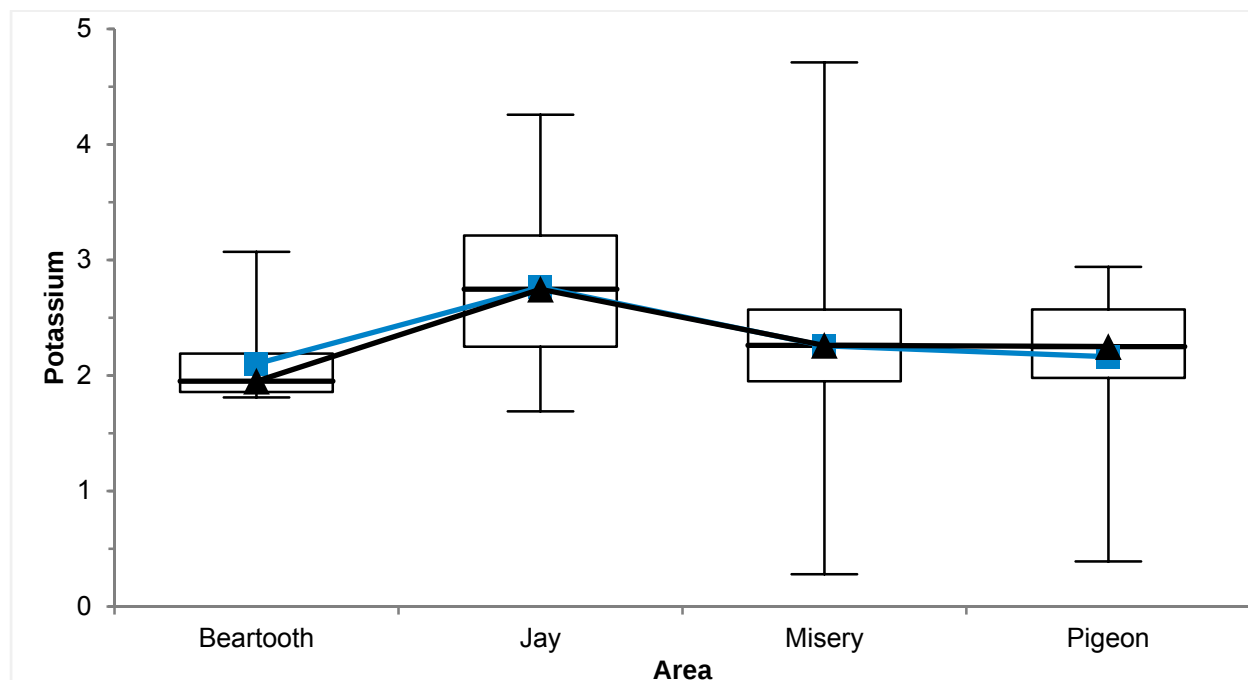


Table A-70 Box and Whisker Statistics – Metasediment Potassium

Potassium by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	1.81000000	1.85750000	1.95000000	2.18916667	3.07000000	0.33166667
Jay	1.68893640	2.24895838	2.74629573	3.21169943	4.25782285	0.96274106
Misery	0.28000000	1.95000000	2.26000000	2.57000000	4.71000000	0.62000000
Pigeon	0.39000000	1.97833333	2.25000000	2.57166667	2.94000000	0.59333333

Table A-71 Kruskal-Wallis Test – Metasediment Potassium

Potassium by Area	No.	Rank Sum	Mean Rank
Beartooth	10	39,627.0	3,962.70
Jay	24	188,328.2	7,847.01
Misery	352	4,815.9	13.68
Pigeon	28	1,351.1	48.25
H statistic	16.35		
X² approximation	16.35		
DF	3		
p-value	0.0010		

Notes:

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i,j (The median of the populations are not all equal).

DF = degrees of freedom; No. = number of samples.

Table A-72 Tukey-Kramer Comparison – Metasediment Potassium

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Jay	-0.661262574	-1.219519955 to -0.103005193		0.0127 ¹
Beartooth - Misery	-0.154397727	-0.630043443 to 0.321247989		0.8366 ²
Beartooth - Pigeon	-0.060071429	-0.606474861 to 0.486332004		0.9920 ²
Jay - Misery	0.506864847	0.193956170 to 0.819773523		0.0002 ¹
Jay - Pigeon	0.601191146	0.188602121 to 1.013780170		0.0011 ¹
Misery - Pigeon	0.094326299	-0.196907709 to 0.385560307		0.8375 ²

Notes:

1) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

2) Do not reject the null hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent.

Figure A-25 Box and Whisker Plot – Diabase Potassium

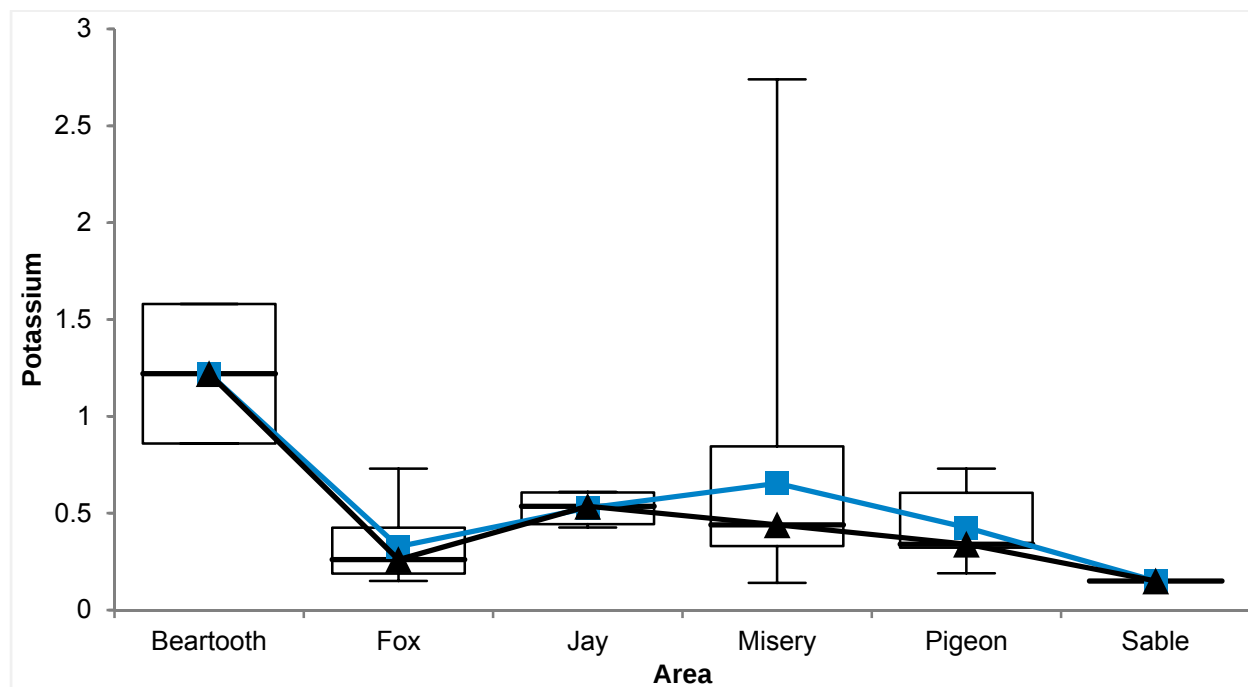


Table A-73 Box and Whisker Statistics – Diabase Potassium

Potassium by Area	Minimum	1st Quartile	Median	3rd Quartile	Maximum	Inter-quartile Range
Beartooth	0.86000000	0.86000000	1.22000000	1.58000000	1.58000000	0.72000000
Fox	0.15000000	0.18833333	0.26000000	0.42500000	0.73000000	0.23666667
Jay	0.42578229	0.44352321	0.53577604	0.60733112	0.61028794	0.16380797
Misery	0.14000000	0.33000000	0.44000000	0.84500000	2.74000000	0.51500000
Pigeon	0.19000000	0.32166667	0.34000000	0.60500000	0.73000000	0.28333333
Sable	0.15000000	0.15000000	0.15000000	0.15000000	0.15000000	0.00000000

Table A-74 Kruskal-Wallis Test – Diabase Potassium

Potassium by Area	No.	Rank Sum	Mean Rank
Beartooth	2	1,458.0	729.00
Fox	12	2,992.5	249.38
Jay	4	100.0	25.00
Misery	42	859.5	20.46
Pigeon	7	264.1	37.73
Sable	1	992.3	992.25
H statistic	17.07		
X² approximation	17.07		
DF	5		
p-value	0.0044		

Notes:

H0: $\theta_1 = \theta_2 = \theta$ (The median of the populations are all equal).

H1: $\theta_i \neq \theta_j$ for at least one i, j (The median of the populations are not all equal).

DF = degrees of freedom; No. = number of samples; < = less than.

Table A-75 Tukey-Kramer Comparison – Diabase Potassium

Contrast	Mean Difference	Simultaneous 95% CI	0	p-value
Beartooth - Fox	0.892500000	0.000258851 to 1.784741149		0.0499 ¹
Beartooth - Jay	0.693094422	-0.318611945 to 1.704800789		0.3461 ²
Beartooth - Misery	0.565952381	-0.279541652 to 1.411446414		0.3719 ²
Beartooth - Pigeon	0.794285714	-0.142372376 to 1.730943804		0.1418 ²
Beartooth - Sable	1.070000000	-0.360768866 to 2.500768866		0.2530 ²
Fox - Jay	-0.199405578	-0.873876489 to 0.475065334		0.9524 ²
Fox - Misery	-0.326547619	-0.708936683 to 0.055841445		0.1366 ²
Fox - Pigeon	-0.098214286	-0.653812715 to 0.457384143		0.9952 ²
Fox - Sable	0.177500000	-1.038419728 to 1.393419728		0.9981 ²
Jay - Misery	-0.127142041	-0.738433217 to 0.484149134		0.9898 ²
Jay - Pigeon	0.101191292	-0.631028019 to 0.833410603		0.9985 ²
Jay - Sable	0.376905578	-0.929201726 to 1.683012882		0.9569 ²
Misery - Pigeon	0.228333333	-0.248589622 to 0.705256289		0.7221 ²
Misery - Sable	0.504047619	-0.677995813 to 1.686091051		0.8083 ²
Pigeon - Sable	0.275714286	-0.973163167 to 1.524591739		0.9866 ²

Notes:

1) Reject the null hypothesis in favour of the alternative hypothesis at the 5% significance level.

2) Do not reject the null hypothesis at the 5% significance level.

H0: $\theta = 0$ (The difference between the means of the populations is equal to 0).

H1: $\theta \neq 0$ (The difference between the means of the populations is not equal to 0).

CI = confidence interval; % = percent.

Table A-76 Summary Statistics

Kimberlite	Total Sulphur	Aluminium	Magnesium	Molybdenum	Nickel	Potassium
Beartooth	0.987	0.277	0.035	0.306	0.985	1.000
Fox	0.999	0.002	0.558	0.353	0.004	0.000
Koala	0.985	0.986	0.000	0.176	0.930	0.998
Misery	0.999	0.930	0.000	0.278	1.000	0.986
Panda	1.000	—	—	—	—	—
Pigeon	0.509	0.994	0.090	0.108	0.787	0.002
Sable	0.604	0.519	0.111	0.093	1.000	0.999

Granite	Total Sulphur	Aluminium	Magnesium	Molybdenum	Nickel	Potassium
Beartooth	0.000	0.998	0.000	0.000	0.000	0.0000
Fox	0.378	1.000	0.000	0.000	0.004	0.0000
Koala	0.000	0.524	0.000	0.000	0.004	0.0000
Misery	0.996	0.001	0.998	0.000	1.000	0.0000
Panda	0.987	—	—	—	—	—
Pigeon	0.721	1.000	0.001	0.000	0.039	0.0000
Sable	0.493	0.000	0.152	0.000	1.000	0.0000

Metasediment	Total Sulphur	Aluminium	Magnesium	Molybdenum	Nickel	Potassium
Beartooth	0.195	0.341	0.973	0.060	1.000	0.013
Fox	—	—	—	—	—	—
Koala	—	—	—	—	—	—
Misery	0.602	0.000	0.999	0.000	0.787	0.000
Panda	—	—	—	—	—	—
Pigeon	0.266	0.000	1.000	0.000	0.998	0.001
Sable	—	—	—	—	—	—

Diabase	Total Sulphur	Aluminium	Magnesium	Molybdenum	Nickel	Potassium
Beartooth	1.000	0.065	0.340	0.058	0.003	0.346
Fox	0.318	1.000	1.000	0.000	0.000	0.952
Koala	—	—	—	—	—	—
Misery	0.995	0.114	0.009	0.000	0.137	0.990
Panda	—	—	—	—	—	—
Pigeon	1.000	0.028	0.038	0.000	0.372	0.999
Sable	1.000	0.285	0.178	0.023	0.980	0.957

Note: Values are shown as probabilities. Probabilities less than 0.05 are shown in red, and indicate a statistically significant difference.

— = no data available.