Table C.2
Matrix of Variances and Hartley's Fmax Tests
Metals Concentrations in All Metals and All Soils
Camp Stanley Storage Activity

Matrix of Variances

	Soil Type							
Metal	BrE	Cb	TaC	Kr	LvB	BtE	Tf	TaE
Cr	0.518	0.457	0.259	0.359	0.327	0.206	0.226	0.368
Cu	0.375	0.113	0.359	0.137	0.154	0.188	0.255	0.21
Pb	0.451	0.594	0.465	0.387	0.149	0.707	0.997	0.273
Ni	0.56	0.266	0.354	0.359	0.363	0.467	0.201	0.35
Zi	0.439	0.252	0.28	0.385	0.24	0.214	0.478	0.293

Note: Variance of Pb/Tf combination if sample ss57=212.59mg/kg not included:

$s^2 = 0.446$

Fmax test using this variance:

	s^2_{max}	s^2_{min}	F_{stat}	p value
Pb	0.707	0.149	4.7449664	0.01<p<0.05

Conclusion: Among soiltype variances marginally heterogeneous.

F_{max} test

Critical values for $F_{crit(p,n-1)}$ with a=0.01 and a=0.05 respectively;$F_{0.99\ (8,9)}$=5.47; $F_{0.95\ (8,9)}$=3.23

	s^2_{max}	s^2_{min}	F_{stat}	p value
Cr	0.518	0.206	2.51	0.05<p<0.1
Cu	0.375	0.113	3.32	0.05<p<0.1
Pb	0.997	0.149	6.69	0.005<p<0.01
Ni	0.56	0.201	2.79	0.05<p<0.1
Zi	0.478	0.214	2.23	0.05<p<0.1

Notes:
p=# of variances to choose from which in this case is 8, one for each soil type.
n=# of samples for each soiltype/metal combination which in this sample is 10.

Conclusion:
Homogeneity of variance assumption verified for Ni, Zn, Cr, Cu, but not for Pb