UM-2 and UM-4 Certificate of Analysis

Certified Reference Material: Sulphide-Bearing Ultramafic Rocks

UM-2 and UM-4 are from the Werner Lake - Gordon Lake district of northwestern Ontario. These rock samples are intended as reference materials for the determination of ascorbic acid/hydrogen peroxide-soluble copper, nickel, and cobalt in ultramafic rocks to evaluate their ore potential.

GSC Values for Copper, Nickel and Cobalt by Ascorbic Acid/Hydrogen Peroxide Method (wt %)

Sample	Cu	Ni	Co
UM-2	0.095	0.29	0.012
UM-4	0.054	0.19	0.007

Approximate Chemical Composition of UM-2 and UM-4

	wt %	
Constituent	**UM-2**	**UM-4**
SiO2	39.2	39.35
TiO2	0.24	0.35
Al2O3	7.23	8.98
Total Fe as FeO	12.95	12.8
MnO	0.08	0.15
MgO	25.45	22.5
CaO	4.68	6.27
Na2O	0.32	0.45
K2O	0.11	0.18
P2O5	0.02	0.02
H2O	6.27	4.86
CO2	0.1	0.26
S	0.94	0.44
Cr2O3	1.51	2.59
ZnO	0.004	0.008

Details of the mineralogy of UM-2 and UM-4 are given in Geological Survey of Canada Paper 71-35, "Three geochemical standards of sulphide-bearing ultramafic rock: UM-1, UM-2, and UM-4". The following table by E.M. Cameron provides values for the major and minor elements; they are intended for information purposes only. Note: the supply of UM-1 has been exhausted.