United States Geological Survey
Certificate of Analysis

Dunite, DTS-1

DTS-1 is a reference material which can be used to establish analytical accuracy in the analysis of ultramafic rocks composed primarily of the mineral olivine. Material for the stan - dard was collected from the Twin Sisters area of Washington state (Flanagan, 1967, 1972).

Element concentrations were determined by cooperating laboratories using a variety of analytical methods. Certificate values are based primarily on international data compilations (Abbey, 1983, Gladney, et al., 1987, Govindaraju, 1994). USGS reports (Flanagan, 1967, 1972) provide background information on this material.

Recommended values

Oxide	Wt %	±	Oxide	Wt %	±
SiO_2	40.41	0.47	MnO	0.12	0.01
Fe_2O_3	1.03	0.36	MgO	49.59	0.33
FeO	6.97	0.26	CaO	0.17	0.03
Fe_2O_3T	8.68	0.24			

Element	µg/g	±	Element	µg/g	±
C_{tot}	220	80	Ni	2360	170
Ce	0.07	0.02	Sc	3.5	0.3
Co	140	15	Th	0.01	0.001
Cr	3990	300	U	0.0036	0.0004
Li	2.1	0.12			

Oxide	Wt %	Oxide	Wt %
Al_2O_3	0.19	Na_2O	0.01
K_2O	0.001	P_2O_5	0.002
		TiO_2	0.005

Element	µg/g	Element	µg/g
As	0.034	S_{tot}	12
Ba	1.7	Sb	0.5
Cd	0.01	Sn	0.55
Cl	11	Sr	0.32
Cu	7.1	V	11
F	13	Zn	46
Pb	12		

Denver, Colorado
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Glossary

Fe_2O_3T	Total iron concentration expressed as Fe_2O_3
S_{tot}	Total sulfur concentration
Wt %	Percent of total element concentration
µg/g	Total element concentration expressed as micrograms of element per gram of solid sample
±	One standard deviation

Notes

Unless otherwise indicated, total element concentrations are reported for material on an as-received basis.

Ordering Information

This reference material is no longer available.

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