



United States Geological Survey

Certificate of Analysis

Syenite, Table Mountain, STM-2

Material used in the preparation of STM-2 was collected in 2004 from a quarry located atop Table Mountain which is approximately 60 km WNW of Eugene, Oregon. This is the same collection site used in the development of STM-1. The material collected for STM-2 is considered a peralkaline nepheline syenite that is holocrystalline and very fine to fine grained in composition. The material is light to medium gray in color, with a glassy luster having a pronounced trachytic texture.

Element concentrations were determined in a round robin study involving 15 international laboratories. Recommended total element concentrations are reported when analytical results provided by three independent laboratories using a minimum of three independent analytical procedures are in statistical agreement. Information values with standard deviations are provided when two or more independent laboratories using at least two independent analytical procedures have provided information. Information values without standard deviations represent information from a single laboratory or analytical procedure.

Recommended values

<u>Element</u>	<u>Wt %</u>	<u>+/-</u>	<u>Oxide</u>	<u>Wt %</u>	<u>+/-</u>
Al	9.72	0.35	Al ₂ O ₃	18.4	0.66
Ca	0.78	0.03	CaO	1.09	0.04
Fe TOT	3.77	0.09	Fe ₂ O ₃ TOT	5.39	0.13
K	3.38	0.17	K ₂ O	4.07	0.20
Mg	0.07	0.009	MgO	0.12	0.015
Na	6.61	0.38	Na ₂ O	8.90	0.51
P	0.073	0.007	P ₂ O ₅	0.17	0.02
Si	28.5	1.38	SiO ₂	60.98	2.95
Ti	0.097	0.01	TiO ₂	0.16	0.02

<u>Element</u>	<u>µg/g</u>	<u>+/-</u>	<u>Element</u>	<u>µg/g</u>	<u>+/-</u>
Ba	639	61	Nd	81	4.8
Be	9.7	0.9	Pb	12	1.6
Ce	256	23	Pr	25	1.8
Cs	1.52	0.06	Rb	114	11
Eu	3.45	0.25	Sm	12.0	0.9
Ga	34	1.4	Sr	782	19
Hf	27	0.8	Ta	16	1.1
La	154	11	Th	27	5
Li	36	4	Tm	0.55	0.09
Lu	0.60	0.04	Y	43	2
Mn	1640	140	Yb	4.2	0.8
Mo	6.2	1.1	Zn	223	19
Nb	267	43	Zr	1280	62

(Over)

Information values

<u>Element</u>	<u>ug/g</u>	<u>+/-</u>
Ag	1.2	
B	5.4	
Cl	570	
Dy	8.01	
Er	4.4	
Gd	8	

<u>Element</u>	<u>ug/g</u>	<u>+/-</u>
Ho	1.55	
Ni	4.8	
Sn	6.6	0.4
Tb	1.38	
U	7.6	
V	5.5	
W	2.2	

FeO % 2.08

Isotope Information

<u>Element</u>	<u>Ratio</u>	<u>$\pm\sigma$</u>	<u>N</u>
⁸⁷ Sr/ ⁸⁶ Sr	0.70375	8	1

Glossary

Wt %	Weight percent
ug/g	micrograms/gram
+/-	one standard deviation
N	number of labs reporting

References

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Dr. Stephen Wilson
U.S. Geological Survey