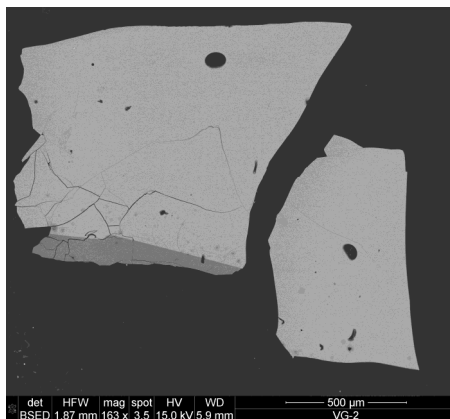




Glass, Basalt NMNH 111240-52 (VG-2)

* preferred values			
SiO ₂ :	50.81	SiO ₂ :	50.81
Al ₂ O ₃ :	14.06	Al ₂ O ₃ :	14.06
Fe ₂ O ₃ :	2.23	Fe ₂ O ₃ :	2.23
FeO:	9.83	FeO:	9.83
MgO:	6.71	MgO:	6.95
CaO:	11.12	CaO:	11.12
Na ₂ O:	2.62	Na ₂ O:	2.62
K ₂ O:	0.19	K ₂ O:	0.19
TiO ₂ :	1.85	TiO ₂ :	1.85
P ₂ O ₅ :	0.20	P ₂ O ₅ :	0.20
MnO:	0.22	MnO:	0.22
H ₂ O:	0.02	H ₂ O:	0.02
Total	99.86		100.10



Analyst: E. Jarosewich
(Jarosewich et. al., 1980)
Source: Juan de Fuca Ridge

Size fractions available:
1.0 mm - 2.0 mm
> 0.350 mm

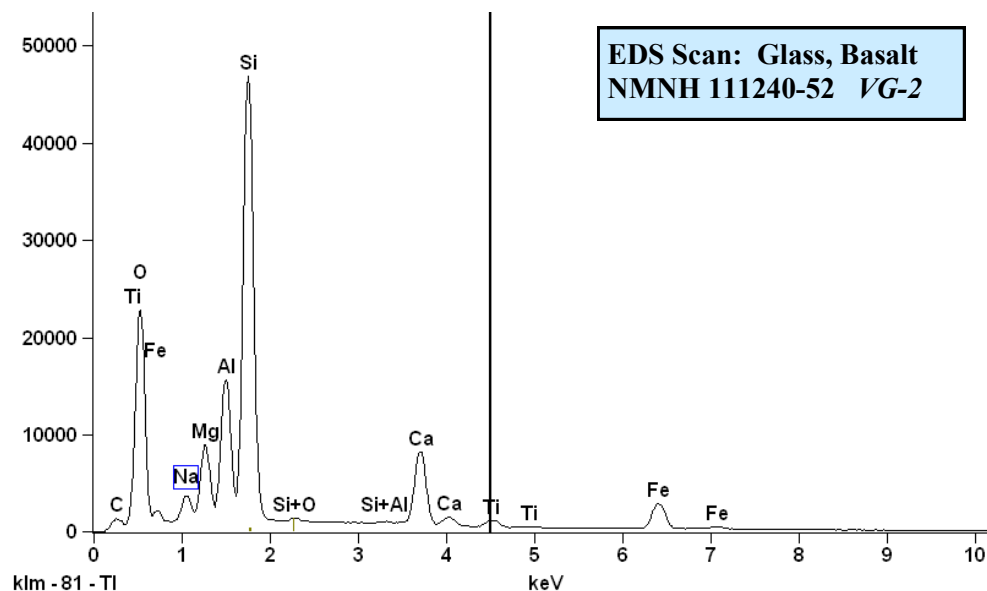
Standard Specifics:

***NOTE:** It is widely known that the published MgO value for VG-2 is low. We suggest 6.95 wt.% is a better working value based on hundreds of analyses of numerous grains from the original material. See Helz et al (2014).

Trace elements: see Jenner and O'Neill (2012) for a large suite of trace element analyses by LA-ICP-MS.

Sulfur and Cl content: see the next page for information about the S and Cl content.

Impurities: tiny olivine crystals; common
plagioclase; large crystal (on one grain)



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Helz, R.T., Clague, D.A., Mastin, L.G., and Rose, T.R., 2014, Electron microprobe analyses of glasses from Kilauea Tephra Units, Kilauea Volcano, Hawaii: U.S. Geological Survey Open-File Report 2014-1090, 24 p., plus 2 appendixes in separate files, <http://dx.doi.org/10.3133/ofr20141090>.

Sulfur and chlorine in VG-2 wt %

Reference	S	Cl
Dixon et al. (1991)	0.1340	
Wallace and Carmichael (1992)	0.1320	
Thordarson (1996)	0.1348	
Thordarson (1996)	0.1365	
Metrich et al. (1998)	0.1430	
Dixon and Clague (2001)	0.127 ± .008	0.031
De Hoog (2001)	0.1416	
Wallace (2002)	0.1370	
Thornber et al. (2002)	0.1305	
Mike Davis (pers. Comm. ~2002) 2 sigma	0.1497 ± .0026	0.0315 ± .0025
Wallace and Roberge (2004)	0.147	
Sun et al. (2007)		0.029 ± .007
Self et al (2008) (MgO = 6.92)	0.141	
Bell et al. (2009)	0.1300	
Kamensky et al (2010)	0.140	
Jego and Dasgupta (2014)	0.161	
Marion LeVoyer (pers, comm, 2014) n = >300, 2SD, IONPROBE	0.1486 ± .0056	
Frances Jenner (2014, pers. comm. to E. Bull-ock) epma at ANU	0.1415 ± .0068	

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Wallace, P., and Carmichael, I.S.E., 1992. Sulfur in basaltic magmas. *Geochim. Cosmochim. Acta*, 56:1863–1874.

Dixon, J.E., and Clague, D.A., 2001. Volatiles in basaltic glasses from Loihi Seamount, Hawaii: evidence for a relatively dry plume component. *J. Petrol.*, 42:627–654.

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Jego and Dasgupta (2014) The Fate of Sulfur During Fluid-Present Melting of Subducting Basaltic Crust at Variable Oxygen Fugacity. *Journal of Petrology*, Vol. 55, No. 6, 1019-1050.

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