G-Probe 29 — an International Proficiency Test for Microanalytical Laboratories — Report on Round 29 (Tholeiitic Basalt glass, KBMO-1G) / November 2024

Dieter Garbe-Schönberg[1]*, Peter Webb[2], Jay M. Thompson[3], Philip Potts[2]

[1]CAU Kiel University, Institute of Geosciences, Ludewig-Meyn-Strasse 10, 24098 Kiel, Germany.
[2] Retired from the Faculty of Science, Technology, Engineering and Mathematics, The Open University, Walton Hall, Milton Keynes, MK7 6AA, UK.
[3] U.S. Geological Survey, Geology, Geophysics & Geochemistry Science Center, Denver Federal Centre, Denver, CO 80225, USA
*Corresponding author, Dieter Garbe-Schönberg: e-mail dieter.garbe-schoenberg@ifg.uni-kiel.de

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Abstract

Results are presented for Round 29 of the G-Probe Proficiency Testing programme for microanalytical laboratories, organised by the International Association of Geoanalysts (IAG). The test material distributed in this round of G-Probe was the Tholeiitic Basalt glass, KBMO-1G, produced at the United States Geological Survey (USGS) by Jay M. Thompson and Mike Pribil from material provided by the IAG. The starting material for the glass was the pulverized Tholeiitic Basalt known as BNA-1 that was collected from a basaltic lava flow in Iceland, believed to be the source of USGS reference material BIR-1. In this report, the data contributed by 34 laboratories are listed, together with an assessment of consensus values as best estimates of the true value, consequent *z*-scores and a series of charts that show the distribution of contributed values thus revealing the overall performance of participating laboratories. Assigned values were conferred for 37 elements, and provisional values for a further 10, out of 64 elements reported, but 17 were either reported in insufficient numbers or the results were too variable to be assessed in any way.

Introduction

This twenty-ninth round of G-Probe, the international proficiency testing programme for microanalytical laboratories, was conducted in a similar manner to recent rounds. The programme is organised by the IAG and conforms with the published G-Probe Protocol (IAG, 2020).

The overall aim of the programme is to provide participating laboratories with *z*-score information for their reported measurement results so that each laboratory can decide whether the quality of their data is satisfactory in relation both to the G-Probe fitness-for-purpose criterion and to the results submitted by other laboratories contributing to the round. In circumstances where *z*-scores are unsatisfactory, a participating laboratory is encouraged to investigate its procedures for unsuspected analytical bias and to take corrective action if it appears justified. The programme is designed to be part of the routine quality assurance procedures employed by microanalytical geochemistry laboratories.

G-Probe Steering Committee:

D. Garbe-Schönberg (principal organiser), P.C. Webb (results coordinator and website administrator), P.J. Potts (results reviewer), M. Thompson (statistical advisor), C.J.B. Gowing (distribution coordinator), J. M Thompson, L. Danyushevsky, R. Mertz-Kraus and A. Kronz (analytical advisors).

Timetable for Round 29 of G-Probe:

Distribution of test material: September 2024
Results submission deadline: 18th December 2024
Release of report: February 2025

G-Probe 29 Test Material details

The MORB-type tholeiitic basalt starting material was originally collected by Michael Wiedenbeck (GFZ Potsdam) and Olgeir Sigmarsson (CNRS) from the same quarry believed to be the source of USGS Reference Material BIR-1. The collected material was processed at BGS under the direction of Charles Gowing and is currently in the process of certification as Certified Reference Material "IAG BNA-1 Iceland Tholeiitic Basalt" (IAG 2025). The conversion into a glass was done at the USGS in Denver by Jay Thompson and Mike Pribil by fusion of ~152 grams in a platinum bowl in air at 1430°C for 70 minutes with no stirring. The melt was then poured into a platinum bowl and submerged in a water bath for rapid quenching and fragmentation of the glass. Some heterogeneities of PGE and volatile elements should be expected as a consequence of this glass-making method. Glass fragments were collected for supplying either as loose chips or mounted as chips "A" and "B" into 12.5 mm (½") epoxy plugs, with final polishing at University of Göttingen (A. Kronz). These items were provided as the test material KBMO-1G for G-Probe Round 29.

The IAG G-Probe Protocol (IAG, 2020) requires assessment of homogeneity of the glass test material following ISO Guide 35:2017. Twelve randomly selected fragments of the glass were initially evaluated for homogeneity at the USGS (Jay M. Thompson analyst) with 4-5 single-spot analyses per fragment (a total of 57 spots) and analysed using LA-ICP-MS. Another subset of 20 chips was analysed by EPMA at University of Göttingen (A. Kronz analyst) with 10 lines per chip, to assess within- and between-chip heterogeneity of major elements. After careful assessment of all homogeneity data, the tholeiitic basalt glass fragments were considered suitable for use in this proficiency test.

Submission of results

For G-Probe 29, participants were instructed to apply their routine measurement procedures to provide a measurement result for each glass fragment representative of its average composition (Result A and Result B).

A total of 2069 measurement results submitted by 34 laboratories are listed in Table 1. Where results A and B were provided, the average was used for the subsequent data assessment. Of the resultant 1168 values reported for individual measurands, 1042 values were by LA-ICP-MS from 23 laboratories, 82 by EPMA from nine laboratories, 37 by SEM from five laboratories, and 7 by µ-XRF from one laboratory.

Target values and results summary

Robust statistical procedures were used to derive a consensus value from the contributed data for each elemental component in the test material. These procedures included the evaluation for each dataset of the Huber robust mean, the median or a mode derived from a kernel density distribution as detailed by Thompson (2017). Evaluations of consensus values involved a critical assessment of distributions of results from ordered sequential charts for each measurand.

Consensus values (Table 2, Figure 1) were credited with assigned status on the basis that:

(i) sufficient laboratories had contributed data for estimating a measurand (usually a minimum of 15);
(ii) visual assessment gave confidence that a substantial proportion of the results distribution was symmetrically disposed about the consensus;
(iii) the ratio of the uncertainty in the location estimate to the target precision (H_a, as defined below) was an acceptably small value; and
(iv) where possible, an evaluation of measurement results by procedure was judged to provide no clear evidence of procedural bias among the measurement results from which the consensus was derived.

Where these criteria were nearly, but not fully met, measurands were credited with 'provisional' rather than 'assigned' status. Instances of provisional status were identified because either:

(i) a smaller number of results (less than 15 but usually at least 8) contributed to the consensus, or
(ii) the results were unduly dispersed in relation to the target precision (H_a, see below), or
(iii) the distribution of results was significantly skewed (but not severely enough to preclude the recognition of a clear consensus), or
(iv) procedural bias was identified but a target value could nevertheless be recognised based on the most

coherent part of the overall data distribution conforming approximately to a random sample from a normal distribution.

Where data were either insufficient in number, or the distribution was too variable or too highly skewed for the confident estimation of a consensus to provide *z*-scores, data distributions are presented 'for information' only.

The resulting consensus values were those judged to be the best available estimates of the true composition of the test material and therefore suitable for use as target values for proficiency testing. It should be noted, however, that in many cases, these estimates are derived from a single analytical method.

Data distributions for those measurands given 'assigned' or 'provisional' status are presented in Figure 1, and those for which no status could be conferred are shown 'for information' in Figure 2. Measurement results in the Figure 1 and 2 data distribution plots are presented in order of increasing magnitude and identified according to laboratory code. Data symbols are coded by colour and shape according to the method of measurement. For major elements, results were obtained by EPMA, LA-ICP-MS, SEM, and µ-XRF. Electron beam results for major elements are broadly in agreement with LA-ICP-MS results, although the LA-ICP-MS results are often more variable. Consensus values were generally reasonably well defined for most major elements, but less so for TiO_2 and K_2O being credited only with provisional status. While only a limited number of values were contributed for K_2O as a consequence of the very low mass fractions in this basalt glass, data for TiO_2 appear to be biased

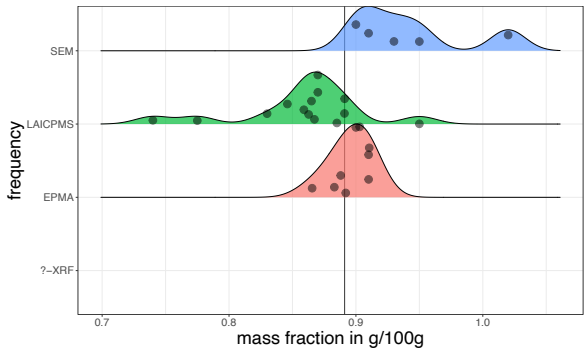

Figure 4: Ridgeline plot of TiO_2 data suggests method bias between LA-ICP-MS, EPMA, and SEM results

with LA-ICP-MS clustering on the low end of the distribution while results from SEM are on the high end (Figure 4). Similarly, results from LA-ICP-QMS for MgO appear to be systematically low. While results from EPMA showed narrow data distributions for Fe_2O_3 and Na_2O, a number of discordant results were reported from other techniques, with LA-ICP-MS on the high side for Fe_2O_3, and large variation in data from SEM and LA-ICP-MS for Na_2O. But sufficient numbers were in accord to warrant assigned status for these elements. Data for P_2O_5 were too limited by number and did not show a clear point of inflection in the data distribution - a plot of the contributed results is shown in Figure 2 for information. No statistically significant differences between fragments A and B could be observed for major elements.

For most trace elements there is no option other than to make assessments based on LA-ICP-MS data. Concerns, therefore, about the possibility of single method bias, noted above, must be in principle kept in mind and the outcomes should be regarded with caution in the reflection of true values. Nevertheless, the derived consensus values represent the best that currently can be obtained and therefore are considered appropriate for the purposes of this proficiency test.

For the majority of trace elements, the agreement among the results submitted is very good and 28 elements were credited 'assigned' status defined by robust means or medians, with very clear consensus values for Ba, Co, Cr, In, Nb, Rb, Ta, V, Zr, and most REE. Indium having a very consistent data distribution was given 'assigned' status despite the limited number of results. The elements Be, Ge, Mn, Mo, Th, U, W, and Zn were considered to be of provisional status in part because of less well-defined data distributions and in part because there were only marginally a sufficient number of values contributing to the consensus. Assigning a provisional status to Be and W with consistent data distributions but a low number of reported analyses provides the user with z-score statistics and may help to evaluate their performance for elements that are rarely analysed in depleted oceanic basalts. Three labs detected gross or significant difference of Pb between chips "A" and "B". Differences were also found for Ag, As, B, Bi, Cd, Se, U, and W by

individual laboratories but this could be related to the very low mass fractions close to limits of detection.

Few laboratories in this round required pre-notification of a major element oxide for internal standardisation of LA-ICP-MS data. Values of 47.5 g/100g for SiO_2 and/or 12.90 g/100g for CaO in the bulk starting material BNA-1 (IAG, 2025) were provided for laboratories coded K7, K17, K20, K31, K41 and K45. These values compare well with G-Probe 29 consensus values of 47.28 g/100g (SiO2) and 12.88 g/100g (CaO). When assessing data distributions for major elements, notice was taken of the usually more coherent sets of data derived by EPMA, with the exception of K_2O where EPMA showed large variation of reported values possibly as a consequence of a very low mass fraction of K_2O. For trace elements a tendency was noted for results derived from calibrations involving USGS reference materials to be relatively more consistent. That consideration was taken into account in the choice of an appropriate consensus value.

Table 2 lists assigned and provisional values for 8 major components and 39 trace elements in G-Probe 29, KBMO-1G glass. Data distribution charts for the 47 measurands that were judged to have satisfactory distributions for consensus values to be conferred with assigned or provisional status are shown in Figure 1. These are: SiO_2, TiO_2*, Al_2O_3, Fe_2O_3T, MgO, CaO, Na_2O, K_2O*, Ba, Be*, Ce, Co, Cr, Cu, Dy, Er, Eu, Ga, Gd, Ge*, Hf, Ho, In, La, Li, Lu, Mn*, Mo*, Nb, Nd, Ni, Pr, Rb, Sc, Sm, Sr, Ta, Tb, Th*, Tm, U*, V, W*, Y, Yb, Zn* and Zr. Of these, values of the 10 analytes marked '*' were credited with provisional status for reasons given above.

Data distribution plots for the 10 analytes: P_2O_5, Ag, As, B, Bi, Cd, Cs, Pb, Sb, and Sn are plotted in Figure 2 for information only, as the data were either insufficient in number, or the data distribution was too highly dispersed (Cd, Pb) or too highly skewed (P_2O_5) for the estimation of a consensus to provide *z*-scores.

Observations

The form of data distribution plots for most elements provides sufficient, and in many cases solid justification for conferring assigned values. Some data distributions of major elements exhibited notably high and low tails: high tails were observed in LA-ICP-MS data for SiO_2, Al_2O_3, Fe_2O_3T, Na_2O, in EPMA data for P_2O_5, K_2O and in SEM data for TiO_2, CaO while pronounced low tails are significant in LA-ICP-MS data for TiO_2, MgO, CaO. Low extreme values were, in individual cases, reported by SEM for SiO_2, CaO, and by EPMA for Al_2O_3. It is clear that EPMA laboratories still produce the most consistent results for major elements but are not immune to outliers.

The remarkable consistency of data for most trace elements (though provided almost entirely by LA-ICP-MS) is apparent, as only a few trace elements, including U, Pb, Sn and P_2O_5 exhibit notable high tails, and likewise there are small low tails for Ge, Ta, W, and HREE.

For some trace elements data distributions are highly skewed (Pb, U) suggesting heterogeneous contamination from the glass making process. This was confirmed by different results obtained by a few laboratories for Pb in A and B chips (see above) and had previously been observed in homogeneity testing data.

Z-score analysis

Assessment of submitted results followed the strategy adopted in recent rounds of G-Probe (Garbe-Schönberg et al. 2021) and detailed in the G-Probe protocol (IAG, 2020). Based on an assessment of the variation of measurement results in earlier rounds, and in order to provide sufficient discrimination for the proficiency test to be helpful to participating laboratories, the fitness for purpose criterion applied throughout was provided by a modified form of the Horwitz function:

$$H_a = k \cdot X_a^{0.8495}$$

Where-H_a is the standard deviation for proficiency, also referred to as the target precision, calculated for each measurand; and X_a is the best estimate of the true composition, also known as the 'target value' (and may be credited with assigned or provisional status). The values of H_a and X_a are represented in *units of mass fraction*. The factor k = 0.01, is regarded as appropriate for laboratories working to a 'pure geochemistry' standard of performance, where analytical results are designed for geochemical research and where care is taken to provide data of high precision and accuracy,

sometimes at the expense of a reduced sample throughput rate.

Z-scores were calculated for the average measurement result submitted by each laboratory from:

$$z = [X - X_a] / H_a$$

where X is the (average) measurement result submitted, X_a is the target value (assigned and provisional) and H_a is the target precision (all as mass fractions).

Z-score values for results submitted to G-Probe 29 are listed in Table 3. *Z*-scores derived from provisional values of measurands are shown in italics.

Participating laboratories are invited to assess their performance using the following criteria:

> *Z*-score results in the range $-2<z<2$ are considered to be 'satisfactory' (in the sense that no action is called for by the participant). If the *z*-score for any element falls outside this range, especially if it is outside the range $-3<z<3$, laboratories are advised to examine their procedures and, if necessary, take action to ensure that their determinations are not subject to unsuspected analytical bias.

Should a participating laboratory decide that this performance standard is not appropriate for assessment of their measurement results, they are invited to recalculate their *z*-scores by substituting the appropriate value of the standard deviation for proficiency testing, H_a, into the equation for the calculation of *z*-scores (i.e., $z = [X - X_a] / H_a$). Adoption of such an approach should include a justification as to why an amended value of H_a is more appropriate for assessment of their data.

Overall performance

A summary of the overall performance of individual laboratories for this round is plotted in multiple *z*-score charts in Figure 3. In these charts, the *z*-score performance for each element is distinguished by symbols that make it easy to identify whether the measurements results were satisfactory or gave *z*-scores that exceeded the action limits. This chart is designed to help individual laboratories judge their overall performance in this proficiency test. Note, however, that participants should always review their *z*-scores in accordance with their own fitness-for-purpose criteria.

Participation in future rounds

The benefit from proficiency testing arises from regular participation and laboratories are invited to contribute to Round 31 of G-Probe, the test samples for which will be distributed in spring 2025.

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Table 1 - G-Probe 29 Contributed data for MORB-type Basalt, KBMO-1G Glass. 18/12/2024

Lab Code		K3A	K3B	K4A	K4B	K7A	K7B	K10A	K10B	K11A	K11B	K12A	K12B
SiO2	g 100g⁻¹	47.036		47.4	46.4			47.79	47.69	46		47.207	
TiO2	g 100g⁻¹	0.903		0.9	0.87			0.8894	0.8928	0.95		0.846	
Al2O3	g 100g⁻¹	15.463		15.1	15.3			15.03	15.08	15.79		14.831	
Fe2O3T	g 100g⁻¹	11.427		12	12.3			11.6	11.54	11.32		11.758	
MgO	g 100g⁻¹	10.481		10.7	11.2			10.7	10.73	11		10.586	
CaO	g 100g⁻¹	12.987		12.7	12.8			12.93	13	13.35		12.9	
Na2O	g 100g⁻¹	1.713		1.89	1.9			1.8	1.8	1.57		1.698	
K2O	g 100g⁻¹							0.0216	0.0216	0.019		0.019	
P2O5	g 100g⁻¹							0.0188	0.019	0.019			
Ag	mg kg⁻¹									0.231			
As	mg kg⁻¹							0.1525	0.1535	0.089			
Au	mg kg⁻¹									5.99			
B	mg kg⁻¹							0.7044	0.958				
Ba	mg kg⁻¹			5.85	6.18	5.86	6.1	5.772	5.884			5.6	
Be	mg kg⁻¹					0.09	0.1	0.0896	0.0874				
Bi	mg kg⁻¹							0.00318	0.00665	0.007			
Cd	mg kg⁻¹							0.10617	0.13181	0.099			
Ce	mg kg⁻¹			1.69	1.76	1.8	1.9	1.732	1.738	1.787		1.7	
Cl	mg kg⁻¹												
Co	mg kg⁻¹			55.9	56.2	56.4	60.9	58.88	58.55	50.72		57.81	
Cr	mg kg⁻¹			576	581	555	548	530.4	543.3	533.25		564.55	
Cs	mg kg⁻¹							0.0028	0.0049				
Cu	mg kg⁻¹			118	115	120	134	119.1	111.5	95.03		116.63	
Dy	mg kg⁻¹			2.37	2.4	2.32	2.55	2.345	2.349	2.47		2.3	
Er	mg kg⁻¹			1.6	1.63	1.55	1.72	1.576	1.588	1.668		1.6	
Eu	mg kg⁻¹			0.45	0.47	0.49	0.51	0.4854	0.4877	0.538		0.48	
F	mg kg⁻¹												
Ga	mg kg⁻¹			15.9	15.5			15.53	15.58	12.9		15.06	
Gd	mg kg⁻¹			1.54	1.81	1.62	1.69	1.736	1.734	1.722		1.74	
Ge	mg kg⁻¹							1.712	1.722	1.283			
Hf	mg kg⁻¹			0.5	0.52	0.51	0.55	0.5145	0.5199	0.624		0.51	
Ho	mg kg⁻¹			0.51	0.55	0.53	0.61	0.5097	0.5155	0.571		0.5	
In	mg kg⁻¹							0.0553	0.0534	0.052			
La	mg kg⁻¹			0.53	0.58	0.55	0.6	0.5531	0.5487	0.58		0.54	
Li	mg kg⁻¹					3.36	3.67	2.876	2.883			2.9	
Lu	mg kg⁻¹			0.23	0.24	0.22	0.25	0.2266	0.2246	0.26		0.23	
Mn	mg kg⁻¹	1249.3		1339	1360	1460	1502	1360	1358	1262.7		1364.72	
Mo	mg kg⁻¹					0.17	0.16	0.1628	0.1636	0.229		0.15	
Nb	mg kg⁻¹			0.49	0.54	0.45	0.45	0.4795	0.4796	0.506		0.46	
Nd	mg kg⁻¹			2.43	2.18	2.16	2.32	2.215	2.221	2.228		2.16	
Ni	mg kg⁻¹			257	252	248	289	250.5	247.3	213.7		240.4	
Pb	mg kg⁻¹					0.15	0.19	0.1413	0.4376	0.158		0.15	
Pr	mg kg⁻¹			0.36	0.34	0.35	0.4	0.3372	0.3386	0.375		0.33	
Rb	mg kg⁻¹			0.5	0.4	0.17	0.19	0.1731	0.177	0.179		0.16	
Re	mg kg⁻¹							0.00054	0.00068				
S	mg kg⁻¹												
Sb	mg kg⁻¹												
Sc	mg kg⁻¹			41.3	41.5	40.5	40.3	42.4	42.54	44.31		42.6	
Se	mg kg⁻¹												
Sm	mg kg⁻¹			1.1	0.99	1.02	1.09	1.02	1.027	0.992		1.03	
Sn	mg kg⁻¹					0.28	0.32			0.223			
Sr	mg kg⁻¹			104	106	109	117	107.6	108.2	109.09		103.71	
Ta	mg kg⁻¹					0.03	0.04	0.0312	0.0314	0.039			
Tb	mg kg⁻¹			0.32	0.32	0.32	0.36	0.3209	0.3219	0.356		0.31	
Te	mg kg⁻¹												
Th	mg kg⁻¹					0.02	0.02	0.0238	0.0238	0.028		0.02	
Tl	mg kg⁻¹												
Tm	mg kg⁻¹			0.22	0.23	0.22	0.24	0.222	0.2226	0.259		0.22	
U	mg kg⁻¹					0.01	0.01	0.0077	0.0108	0.018		0.01	
V	mg kg⁻¹			297	297	304	304	303.7	304.6	288.89		315.83	
W	mg kg⁻¹							0.2198	0.2205	0.226			
Y	mg kg⁻¹			14.3	14.3	14	15.4	13.88	14	15.29		13.62	
Yb	mg kg⁻¹			1.54	1.56	1.48	1.6	1.527	1.532	1.612		1.5	
Zn	mg kg⁻¹			76.8	77.1	68	72.1	66.45	66	64.02		82.4	
Zr	mg kg⁻¹			13.1	13.9	12.5	13.6	13.02	13.1	15.47		13.08	

Table 1 - G-Probe 29 Contributed data for MORB-type Basalt, KBMO-1G Glass. 18/12/2024

Lab Code		K14A	K14B	K15A	K15B	K16A	K16B	K17A	K17B	K20A	K20B	K21A	K21B
SiO2	g 100g^{-1}	47.22	47.24	47.49	47.49	47.72	47.81					47.324	47.166
TiO2	g 100g^{-1}	0.93	0.93	0.74	0.74	0.91	0.91	0.83	0.83			0.867	0.864
Al2O3	g 100g^{-1}	15.45	15.38	12.71	12.64	15.45	15.47	15.82	15.49			14.947	14.959
Fe2O3T	g 100g^{-1}	11.09	11.1	11.61	11.72	11.37	11.27	11.47	11.32			11.027	11.034
MgO	g 100g^{-1}	10.43	10.52	7.31	7.21	10.68	10.74	9.54	9.44			10.556	10.618
CaO	g 100g^{-1}	13.05	13.04	11.39	11.46	12.95	12.95	12.42	12.37			12.6	12.585
Na2O	g 100g^{-1}	1.63	1.61	1.69	1.7	1.72	1.72	1.69	1.68			1.694	1.702
K2O	g 100g^{-1}					0.019	0.02	0.02	0.02			0.024	0.021
P2O5	g 100g^{-1}			0.022	0.02	0.051	0.046	0.019	0.019			0.026	0.026
Ag	mg kg^{-1}												
As	mg kg^{-1}					0.162	0.2						
Au	mg kg^{-1}												
B	mg kg^{-1}												
Ba	mg kg^{-1}			4.94	4.96	6.017	6.035	5.77	5.72	6.1			
Be	mg kg^{-1}												
Bi	mg kg^{-1}					0.002	0.006						
Cd	mg kg^{-1}					0.101	0.12						
Ce	mg kg^{-1}			1.42	1.52	1.765	1.769	1.66	1.59	1.72			
Cl	mg kg^{-1}											10	10
Co	mg kg^{-1}			60.7	60.24	59.927	59.892	57.1	56.5				
Cr	mg kg^{-1}			480	475	547.4	551	527	514				
Cs	mg kg^{-1}					0.006	0.006						
Cu	mg kg^{-1}			108	118	125.7	128.3	108	113				
Dy	mg kg^{-1}			2.03	1.97	2.433	2.411	2.21	2.1	2.64			
Er	mg kg^{-1}			1.36	1.37	1.606	1.624	1.48	1.4	1.78			
Eu	mg kg^{-1}			0.42	0.44	0.5	0.5	0.47	0.44	0.54			
F	mg kg^{-1}											550	670
Ga	mg kg^{-1}			14.5	14.7	15.7	15.8	14.6	14.3				
Gd	mg kg^{-1}			1.42	1.4	1.72	1.735	1.58	1.51	1.84			
Ge	mg kg^{-1}					1.343	1.364	2.32	2.11				
Hf	mg kg^{-1}			0.44	0.44	0.53	0.527			0.61			
Ho	mg kg^{-1}			0.44	0.44	0.529	0.532	0.49	0.46	0.58			
In	mg kg^{-1}			0.05	0.06	0.056	0.059			0.05			
La	mg kg^{-1}			0.44	0.46	0.542	0.551	0.52	0.5	0.57			
Li	mg kg^{-1}					2.962	2.991	2.91	2.92				
Lu	mg kg^{-1}			0.19	0.2	0.227	0.227	0.21	0.2	0.26			
Mn	mg kg^{-1}	1883	1414	1178	1178	1317	1316	1322	1312			1193	1146
Mo	mg kg^{-1}					0.163	0.177	0.12	0.12	0.17			
Nb	mg kg^{-1}			0.44	0.49	0.502	0.506	0.45	0.44	0.52			
Nd	mg kg^{-1}			1.79	1.92	2.248	2.273	2.07	1.99	2.32			
Ni	mg kg^{-1}			250	253	266.3	266.4	236	233				
Pb	mg kg^{-1}			0.17	0.23	0.174	0.251	0.2	0.21				
Pr	mg kg^{-1}			0.27	0.29	0.345	0.344	0.31	0.31	0.33			
Rb	mg kg^{-1}					0.179	0.171	0.18	0.15				
Re	mg kg^{-1}												
S	mg kg^{-1}							473	428			20	20
Sb	mg kg^{-1}					0.009	0.021						
Sc	mg kg^{-1}			41.34	40.48	42.791	42.735	59.6	57.8				
Se	mg kg^{-1}					0.212	0.224						
Sm	mg kg^{-1}			0.76	0.85	1.026	1.051	0.97	0.9	1.04			
Sn	mg kg^{-1}					0.257	0.293						
Sr	mg kg^{-1}			91.97	92.65	107.1	107.7	102	98.4				
Ta	mg kg^{-1}					0.034	0.032						
Tb	mg kg^{-1}			0.26	0.28	0.331	0.33	0.3	0.28	0.35			
Te	mg kg^{-1}					0.041	0.034						
Th	mg kg^{-1}			0.02	0.02	0.024	0.023	0.02	0.02				
Tl	mg kg^{-1}					0.003	0.011						
Tm	mg kg^{-1}			0.18	0.19	0.232	0.232	0.21	0.2	0.26			
U	mg kg^{-1}					0.01	0.014	0.02	0.01				
V	mg kg^{-1}			274	277	302.7	301.9	300	301				
W	mg kg^{-1}			0.2	0.15	0.208	0.208						
Y	mg kg^{-1}			11.84	11.82	14.4	14.4	12.96	12.2	15.35			
Yb	mg kg^{-1}			1.31	1.34	1.531	1.545	1.4	1.37	1.75			
Zn	mg kg^{-1}			70.5	70.24	68.7	68.3	77.93	77.6				
Zr	mg kg^{-1}			11.11	11.12	13.5	13.5	12.45	11.7	15.21			

Table 1 - G-Probe 29 Contributed data for MORB-type Basalt, KBMO-1G Glass. 18/12/2024

Lab Code		K28A	K28B	K30A	K30B	K31A	K31B	K34A	K34B	K35A	K35B	K36A	K36B
SiO2	g 100g^{-1}	44.14	43.71	47.4	47.59			47.22		48.273		48.8	48.7
TiO2	g 100g^{-1}	0.78	0.77	0.91	0.91			0.92		0.859		0.87	0.87
Al2O3	g 100g^{-1}	13.66	13.5	15.59	15.2	15.9	16.1	15.31		15.357		15.3	15.3
Fe2O3T	g 100g^{-1}			11.31	11.46			13.3		11.014		11.87	11.84
MgO	g 100g^{-1}	9.7	9.57	10.31	10.49	8.39	8.63	11.03		9.723			
CaO	g 100g^{-1}	11.6	11.48	12.93	13.04			12.14		12.797			
Na2O	g 100g^{-1}	1.66	1.69	1.77	1.7	2.12	1.95	1.2		1.664			
K2O	g 100g^{-1}			0.03	0.04			0.022		0.02			
P2O5	g 100g^{-1}			0.04	0.03			0.027		0.019		0.03	0.03
Ag	mg kg^{-1}					3.47	0.41						
As	mg kg^{-1}							0.098					
Au	mg kg^{-1}												
B	mg kg^{-1}			2.44	1.61	3.71	0.69	0.919					
Ba	mg kg^{-1}	5.25	5.36	5.8	5.79	8.78	7.04	6.26		5.955		6.06	6.12
Be	mg kg^{-1}			0.08	0.09					0.075			
Bi	mg kg^{-1}												
Cd	mg kg^{-1}	0.076	0.072	0.15	0.11	0.47	0.4						
Ce	mg kg^{-1}	1.54	1.55	1.63	1.61	1.62	1.68	2.075		1.769		1.756	1.749
Cl	mg kg^{-1}												
Co	mg kg^{-1}	53.32	52.69	55.97	56.09			59.86		55.95		57.3	56.8
Cr	mg kg^{-1}	496.2	496.9	515	511	476	541	549		535.2		568	555
Cs	mg kg^{-1}			0.01	0.01								
Cu	mg kg^{-1}	108.4	108.2	107	115	239	105	105.1		113.4		122	124
Dy	mg kg^{-1}	2.07	2.06	2.06	2.07			1.82		2.162		2.34	2.35
Er	mg kg^{-1}	1.41	1.4	1.34	1.33			1.17		1.461		1.52	1.49
Eu	mg kg^{-1}	0.431	0.429	0.46	0.46			0.42		0.478		0.494	0.493
F	mg kg^{-1}												
Ga	mg kg^{-1}	14.24	14.2	15.3	15.2	14	14.3	13.13		14.93		15	15
Gd	mg kg^{-1}	1.51	1.48	1.52	1.5			1.32		1.553		1.69	1.66
Ge	mg kg^{-1}	1.21	1.28	1.68	1.66			1.44		1.613			
Hf	mg kg^{-1}	0.463	0.456	0.48	0.47			0.384		0.491		0.53	0.52
Ho	mg kg^{-1}	0.453	0.456	0.48	0.47			0.474		0.475		0.531	0.531
In	mg kg^{-1}	0.045	0.045										
La	mg kg^{-1}	0.487	0.478	0.53	0.52	0.52	0.48	0.359		0.538		0.54	0.543
Li	mg kg^{-1}	2.63	2.64	3.13	2.87	5.61	3.05	2.92		2.814		3.03	3.09
Lu	mg kg^{-1}	0.2	0.197	0.21	0.2			0.174		0.214		0.229	0.226
Mn	mg kg^{-1}	1226	1218			1252	1202	1315		1302		1400	1389
Mo	mg kg^{-1}	0.171	0.17	0.21	0.2								
Nb	mg kg^{-1}	0.429	0.432	0.41	0.41			0.388		0.462		0.48	0.49
Nd	mg kg^{-1}	1.97	1.92	2.05	1.98	2.09	2.07	2.17		2.038		2.19	2.21
Ni	mg kg^{-1}	221	218.3	233	239	245	233	234		230.5		251	249
Pb	mg kg^{-1}	0.139	0.164	0.33	0.18	1.61	0.28	0.148		0.462		0.16	0.22
Pr	mg kg^{-1}	0.295	0.295	0.31	0.3	0.33	0.31	0.4		0.327		0.338	0.339
Rb	mg kg^{-1}	0.15	0.152	0.13	0.17			0.132		0.176		0.179	0.179
Re	mg kg^{-1}												
S	mg kg^{-1}												
Sb	mg kg^{-1}			0.05	0.03								
Sc	mg kg^{-1}	38.72	38.77	38.1	38			43.1		40.05		41.4	41.3
Se	mg kg^{-1}												
Sm	mg kg^{-1}	0.884	0.901	0.94	0.91			1.07		0.947		0.99	1
Sn	mg kg^{-1}			0.51	0.43	2.64	2.38	0.991					
Sr	mg kg^{-1}	93.96	93.95	104	103	103	105	102		106.7		107	106
Ta	mg kg^{-1}	0.027	0.026	0.03	0.03			0.014		0.03		0.031	0.034
Tb	mg kg^{-1}	0.281	0.28	0.3	0.29			0.291		0.294		0.337	0.333
Te	mg kg^{-1}												
Th	mg kg^{-1}	0.019	0.019	0.02	0.02	0.02	0.02	0.022		0.023		0.024	0.026
Tl	mg kg^{-1}												
Tm	mg kg^{-1}	0.194	0.195	0.2	0.2			0.157		0.205		0.232	0.232
U	mg kg^{-1}	0.006	0.008	0.01	0.01	0.04	0.02	0.009		0.017		0.013	0.013
V	mg kg^{-1}	279.9	276.3	297	296			313		311.5		296	295
W	mg kg^{-1}	0.202	0.194	0.23	0.21							0.24	0.23
Y	mg kg^{-1}	12.28	12.25	12.3	12.2	10.8	10.7	11.9		12.3		14	14
Yb	mg kg^{-1}	1.35	1.35	1.37	1.34			1.23		1.401		1.49	1.47
Zn	mg kg^{-1}	67.42	67.89	77.4	77.5	120	97.8	95.8		64.11		72.6	72.4
Zr	mg kg^{-1}	11.74	11.71	12.3	12.2			11.2		11.77		12.5	12.4

Table 1 - G-Probe 29 Contributed data for MORB-type Basalt, KBMO-1G Glass. 18/12/2024

Lab Code		K37A	K37B	K38A	K38B	K41A	K41B	K45A	K45B	K46A	K46B	K48A	K48B
SiO2	g 100g^{-1}	49.7	49.9	48.05	48.15	51.262	50.902	47.5		46.809	46.994		
TiO2	g 100g^{-1}	0.9	0.9	0.864	0.902	0.868	0.8575	0.871	0.869	0.889	0.893		
Al2O3	g 100g^{-1}	14.7	14.7	15.25	15.31	16.396	16.406	15.19	15.26	15.764	15.673		
Fe2O3T	g 100g^{-1}	11	10.8	11.4	11.3	10.083	9.93	11.47	11.51	11.98	11.874		
MgO	g 100g^{-1}	10.4	10.6	10.71	10.64	9.203	9.33	10.64	10.6	10.598	10.557		
CaO	g 100g^{-1}	12.7	12.6	12.96	12.93	12.89	12.84	12.9	12.85	12.726	12.737		
Na2O	g 100g^{-1}	1.6	1.6	1.75	1.77	1.81	1.794	1.77	1.82	1.48	1.482		
K2O	g 100g^{-1}					0.0216	0.0214	0.019	0.019	0.019	0.017		
P2O5	g 100g^{-1}					0.0363	0.0381	0.04	0.04	0.015	0.016		
Ag	mg kg^{-1}					0.3918	0.439			0.216	0.683		
As	mg kg^{-1}									0.08	0.116		
Au	mg kg^{-1}												
B	mg kg^{-1}					1.268	1.854						
Ba	mg kg^{-1}					5.798	5.885	6.01	6.05	6.103	5.984	6.27	6.41
Be	mg kg^{-1}					0.1135	0.1429	0.09	0.09	0.108	0.123	0.146	0.158
Bi	mg kg^{-1}									0.003	0.004		
Cd	mg kg^{-1}					0.1485	0.1847			0.136	0.257		
Ce	mg kg^{-1}					1.661	1.693	1.76	1.77	1.708	1.697	1.917	1.908
Cl	mg kg^{-1}												
Co	mg kg^{-1}					59.311	60.246	57.42	57.4	56.932	55.933	55.4	55.1
Cr	mg kg^{-1}					556.63	550.09	589.03	567.96	536.397	542.845	518	517
Cs	mg kg^{-1}									0.001	0.005		
Cu	mg kg^{-1}					116.459	115.34	119.12	135.31	111.242	101.836	109	107
Dy	mg kg^{-1}					2.167	2.188	2.4	2.43	2.456	2.452	2.616	2.516
Er	mg kg^{-1}					1.448	1.474	1.58	1.6	1.619	1.63	1.88	1.85
Eu	mg kg^{-1}					0.4545	0.4643	0.49	0.5	0.486	0.482	0.564	0.556
F	mg kg^{-1}												
Ga	mg kg^{-1}					15.441	15.516	15.77	15.84	13.741	13.348	15.49	15.28
Gd	mg kg^{-1}					1.573	1.564	1.74	1.79	1.747	1.833	1.823	1.81
Ge	mg kg^{-1}					1.719	1.415	0.99	0.88	1.488	1.386	1.925	1.969
Hf	mg kg^{-1}					0.4953	0.4895	0.52	0.53	0.535	0.586	0.672	0.644
Ho	mg kg^{-1}					0.4757	0.487	0.52	0.52	0.532	0.529	0.627	0.606
In	mg kg^{-1}					0.0519	0.0532	0.05	0.05	0.063	0.053	0.0548	0.0568
La	mg kg^{-1}					0.521	0.5309	0.55	0.56	0.578	0.556	0.6485	0.6392
Li	mg kg^{-1}					3.066	3.008	3.32	3.61			3.184	3.222
Lu	mg kg^{-1}					0.2012	0.206	0.23	0.23	0.221	0.0247	0.2767	0.2687
Mn	mg kg^{-1}					1367	1372.4	1344.67	1339.16	1219.47	1224.748		
Mo	mg kg^{-1}					0.1417	0.1406	0.18	0.19	0.207	0.239	0.1211	0.1205
Nb	mg kg^{-1}					0.458	0.4626	0.52	0.51	0.476	0.486	0.519	0.521
Nd	mg kg^{-1}					2.061	2.086	2.22	2.28	2.276	2.22	2.518	2.51
Ni	mg kg^{-1}					250.589	251.587	236.43	238.11	231.824	227.609	233	232
Pb	mg kg^{-1}					0.2006	0.1949	0.37	0.27	0.265	0.382	0.394	0.326
Pr	mg kg^{-1}					0.3124	0.3229	0.34	0.35	0.353	0.343	0.3708	0.3579
Rb	mg kg^{-1}					0.1792	0.1764	0.18	0.2	0.171	0.153	0.2128	0.2117
Re	mg kg^{-1}												
S	mg kg^{-1}									464.995	472.389		
Sb	mg kg^{-1}									0.018	0.024		
Sc	mg kg^{-1}					43.625	44.231	41.46	41.73	44.037	44.285	56.4	55.9
Se	mg kg^{-1}									0.347	0.089		
Sm	mg kg^{-1}					0.9222	0.9443	1	1.01	1.01	1.049	1.159	1.164
Sn	mg kg^{-1}					0.2927	0.2935	0.76	0.71	0.268	0.312		
Sr	mg kg^{-1}					103.583	105.873	100.39	101.13	106.844	106.286	113	113
Ta	mg kg^{-1}					0.029	0.029			0.031	0.031	0.038	0.038
Tb	mg kg^{-1}					0.2916	0.3057	0.32	0.33	0.335	0.321	0.3748	0.3646
Te	mg kg^{-1}									0.021	0.026		
Th	mg kg^{-1}					0.0172	0.017	0.026	0.025	0.023	0.026	0.0311	0.0289
Tl	mg kg^{-1}									0.009	0.01		
Tm	mg kg^{-1}					0.2027	0.207	0.225	0.23	0.223	0.227	0.276	0.256
U	mg kg^{-1}					0.00624	0.00625	0.009	0.012	0.009	0.012	0.0096	0.0101
V	mg kg^{-1}					313.771	311.465	289.98	288.19	319.8	319.152	295	298
W	mg kg^{-1}					0.2151	0.2105			0.235	0.0215		
Y	mg kg^{-1}					12.687	12.831	14.21	14.42	13.831	13.595	14.1	14.5
Yb	mg kg^{-1}					1.4	1.45	1.51	1.56	1.543	1.524	1.868	1.841
Zn	mg kg^{-1}					82.683	82.46	65.8	64.33	75.272	72.28	76.3	75.9
Zr	mg kg^{-1}					12.157	12.327	13.35	13.75	13.874	13.854	13.599	13.406

Table 1 - G-Probe 29 Contributed data for MORB-type Basalt, KBMO-1G Glass. 18/12/2024

Lab Code		K50A	K50B	K51A	K51B	K53A	K53B	K55A	K55B	K56A	K56B	K57A	K57B
SiO2	g 100g^{-1}	48.14	48.14	47.084		46.97	46.93	48.3399	48.82123909	47.26	47.22	47.24	47.22
TiO2	g 100g^{-1}	0.87	0.86	0.888		0.91	0.91	0.866419242	0.8682454	0.98	0.92	0.89	0.894
Al2O3	g 100g^{-1}	15.11	15.15	15.246		15.07	15.02	15.0601795	15.3413	15.33	15.29	15.52	15.55
Fe2O3T	g 100g^{-1}	11.37	11.43	11.185		11.14	11.07	11.89667718	11.91232842	11.27	11.36	11.14	10.96
MgO	g 100g^{-1}	10.55	10.64	10.706		12.69	12.68	10.84272703	10.91699997	10.69	10.69	10.14	10.24
CaO	g 100g^{-1}	12.59	12.59	12.898		0.17	0.18			13.08	13.06	12.66	12.7
Na2O	g 100g^{-1}	1.82	1.82	1.724		1.69	1.69	1.698782091	1.7314	1.84	1.89	1.748	1.713
K2O	g 100g^{-1}	0.02	0.02	0.015		0.03	0.03	0.002	0.00209			0.0211	0.0214
P2O5	g 100g^{-1}			0.02									
Ag	mg kg^{-1}												
As	mg kg^{-1}							0.0746	0.175930984				
Au	mg kg^{-1}												
B	mg kg^{-1}							2.809505718	3.976904586				
Ba	mg kg^{-1}	5.58	5.62	5.65				5.645237174	5.701030461			5.684	5.764
Be	mg kg^{-1}												
Bi	mg kg^{-1}												
Cd	mg kg^{-1}							0.113388882	0.126011349				
Ce	mg kg^{-1}	1.68	1.68	1.696				1.71576017	1.721567636			1.662	1.665
Cl	mg kg^{-1}												
Co	mg kg^{-1}	56.04	56.04					58.42812104	58.42177927			57.9	58.2
Cr	mg kg^{-1}	535.16	535.18	525				534.90836	521.319667			534	545
Cs	mg kg^{-1}												
Cu	mg kg^{-1}	116.42	117.2	101.8				113.550348	116.3641036			131.9	121
Dy	mg kg^{-1}	2.34	2.32	2.43				2.283008245	2.300333724			2.188	2.182
Er	mg kg^{-1}	1.58	1.57	1.67				1.565563265	1.597978192			1.515	1.523
Eu	mg kg^{-1}	0.48	0.48	0.475				0.481701347	0.477396166			0.461	0.451
F	mg kg^{-1}												
Ga	mg kg^{-1}	15.3	15.32					15.02143595	15.21982852				
Gd	mg kg^{-1}	1.69	1.67	1.76				1.696002623	1.698834024			1.616	1.705
Ge	mg kg^{-1}							1.307221366	1.339611999				
Hf	mg kg^{-1}	0.49	0.51	0.591				0.481779783	0.488126511			0.474	0.488
Ho	mg kg^{-1}	0.5	0.51	0.536				0.501527201	0.503216663			0.491	0.499
In	mg kg^{-1}							0.0476	0.0481				
La	mg kg^{-1}	0.51	0.52	0.54				0.534900378	0.54775549			0.525	0.532
Li	mg kg^{-1}	2.84	2.85	8				3.002087373	2.934978616				
Lu	mg kg^{-1}	0.23	0.23	0.231				0.219365801	0.220216878			0.209	0.212
Mn	mg kg^{-1}	1362.04	1359.07	0.125				1315.840656	1328.511624			1353	1332
Mo	mg kg^{-1}			0.116				0.138942025	0.143116482				
Nb	mg kg^{-1}	0.48	0.49	0.478				0.468905381	0.468845092			0.455	0.45
Nd	mg kg^{-1}	2.07	2.1	2.07				2.152579378	2.176857552			2.083	2.154
Ni	mg kg^{-1}	235.78	236.65	225				242.8963531	239.6942123			237.8	236.3
Pb	mg kg^{-1}			0.331				0.160117652	0.182527833			0.914	0.141
Pr	mg kg^{-1}	0.34	0.34	0.323				0.321932098	0.327931306			0.317	0.317
Rb	mg kg^{-1}			0.181				0.166974045	0.170410328			0.204	0.173
Re	mg kg^{-1}												
S	mg kg^{-1}												
Sb	mg kg^{-1}							0.0174	0.0276				
Sc	mg kg^{-1}	41.17	41.16	41.6				42.88980731	43.10088049			40.7	41.5
Se	mg kg^{-1}												
Sm	mg kg^{-1}	0.99	1.01	0.98				0.988491142	1.001137293			0.992	0.917
Sn	mg kg^{-1}							0.233732789	0.259477876				
Sr	mg kg^{-1}	102.82	103.57	101.5				103.9588443	104.6559829			103	102
Ta	mg kg^{-1}			0.0322				0.0254	0.0276			0.029	0.028
Tb	mg kg^{-1}	0.32	0.32	0.331				0.306325064	0.30826797			0.301	0.304
Te	mg kg^{-1}												
Th	mg kg^{-1}			0.0268								0.018	0.022
Tl	mg kg^{-1}												
Tm	mg kg^{-1}	0.22	0.22	0.237				0.20787441	0.212436008			0.207	0.21
U	mg kg^{-1}			0.03				0.00528	0.00673			0.038	0.008
V	mg kg^{-1}	292.51	292.64	312.4				323.122027	322.3305661			313	311
W	mg kg^{-1}							0.210218072	0.219403522			0.248	0.22
Y	mg kg^{-1}	13.66	13.7	13.8				13.55458003	13.72034655			13.12	13.25
Yb	mg kg^{-1}	1.53	1.52	1.55				1.470513421	1.483406585			1.41	1.474
Zn	mg kg^{-1}	72.27	72.33					80.95717554	82.34173784			77.7	79.2
Zr	mg kg^{-1}	12.8	12.65	13.2				12.72652978	12.98301349			12.44	12.6

Table 1 - G-Probe 29 Contributed data for MORB-type Basalt, KBMO-1G Glass. 18/12/2024

Lab Code		K58A	K58B	K59A	K59B	K61A	K61B	K62A	K62B	-	-	-	-
SiO2	g 100g⁻¹	47.345	47.314	47	46.93	43.51		47.52	47.26				
TiO2	g 100g⁻¹	0.911	0.91	0.9	0.9	1.02							
Al2O3	g 100g⁻¹	11.154	11.201	15.08	15.18	16.84		15.226	15.575				
Fe2O3T	g 100g⁻¹	11.154	11.2	11.19	11.24	12.45		10.39	10.33				
MgO	g 100g⁻¹	10.737	10.773	10.51	10.51	11.03		10.5395	10.4799				
CaO	g 100g⁻¹	12.951	19.984	12.81	12.77	14.62		13.142	13.183				
Na2O	g 100g⁻¹	1.694	1.685	1.75	1.76	1.79		1.791	1.801				
K2O	g 100g⁻¹	0.027	0.02	0.02	0.02								
P2O5	g 100g⁻¹	0.026	0.019	0.02	0.02								
Ag	mg kg⁻¹												
As	mg kg⁻¹												
Au	mg kg⁻¹												
B	mg kg⁻¹												
Ba	mg kg⁻¹	6.1	6.1					5.875	5.715				
Be	mg kg⁻¹												
Bi	mg kg⁻¹												
Cd	mg kg⁻¹												
Ce	mg kg⁻¹	1.74	1.73					1.742	1.726				
Cl	mg kg⁻¹												
Co	mg kg⁻¹	60.4	60.2					56.35	56.02				
Cr	mg kg⁻¹	532.9	531					546.4	544.2				
Cs	mg kg⁻¹												
Cu	mg kg⁻¹	112	98					111.6	112.1				
Dy	mg kg⁻¹	2.3	2.3					2.424	2.437				
Er	mg kg⁻¹	1.4	1.5					1.597	1.677				
Eu	mg kg⁻¹	0.5	0.5					0.487	0.452				
F	mg kg⁻¹												
Ga	mg kg⁻¹	13.4	13.3					14.84	14.87				
Gd	mg kg⁻¹	1.6	1.7					1.686	1.733				
Ge	mg kg⁻¹												
Hf	mg kg⁻¹	0.6	0.6					0.518	0.556				
Ho	mg kg⁻¹	0.5	0.5					0.518	0.549				
In	mg kg⁻¹												
La	mg kg⁻¹	0.56	0.56					0.554	0.563				
Li	mg kg⁻¹	3.1	3										
Lu	mg kg⁻¹	0.2	0.2					0.236	0.248				
Mn	mg kg⁻¹	1454.6	1475.8	0.13	0.13			1474.15	1462.04				
Mo	mg kg⁻¹												
Nb	mg kg⁻¹	0.49	0.49					0.5105	0.498				
Nd	mg kg⁻¹	2.1	2.3					2.313	2.338				
Ni	mg kg⁻¹	236.3	230.8					237.3	236.3				
Pb	mg kg⁻¹	0.26	0.3										
Pr	mg kg⁻¹	0.35	0.35					0.348	0.371				
Rb	mg kg⁻¹	0.18	0.18										
Re	mg kg⁻¹												
S	mg kg⁻¹												
Sb	mg kg⁻¹												
Sc	mg kg⁻¹	42	42.8					40.94	42.56				
Se	mg kg⁻¹												
Sm	mg kg⁻¹	1	1.1					0.996	0.965				
Sn	mg kg⁻¹												
Sr	mg kg⁻¹	111.2	111.6					112.3	111.8				
Ta	mg kg⁻¹	0.04	0.04										
Tb	mg kg⁻¹	0.3	0.3					0.331	0.345				
Te	mg kg⁻¹												
Th	mg kg⁻¹	0.03	0.03										
Tl	mg kg⁻¹												
Tm	mg kg⁻¹	0.2	0.2					0.2199	0.2321				
U	mg kg⁻¹	0.01	0.01										
V	mg kg⁻¹	346.6	345.7					309.5	305.1				
W	mg kg⁻¹												
Y	mg kg⁻¹	12.9	12.8					13.19	13.88				
Yb	mg kg⁻¹	1.6	1.6					1.527	1.493				
Zn	mg kg⁻¹	89.9	88.8					81.8	80.4				
Zr	mg kg⁻¹	11.9	12					13.04	13.46				

Table 2 - G-Probe 29 Designated values and statistical summary for MORB-type Basalt, KBMO-1G Glass.

	Designated Value	Uncertainty of designated value	Horwitz Quality	Horwitz Target Precision	Uncertainty/ Target Precision	Number of reported results	Robust Mean of results	Robust SD of results	Median of results	Status of designated value	Type of designated value
	X_{pt}	$u(x_{pt})$	*k x 0.01*	σ_{pt}	$u(x_{pt}) / \sigma_{pt}$	*n*					
	g 100g^{-1}	g 100g^{-1}		g 100g^{-1}			g 100g^{-1}	g 100g^{-1}	g 100g^{-1}		
SiO2	47.28	0.1261	1	0.5293	0.2382	28	47.44	0.7515	47.28	Assigned	Median
TiO2	0.8911	0.007392	1	0.01813	0.4076	28	0.8893	0.03488	0.8911	Provisional	Median
Al2O3	15.3	0.06999	1	0.203	0.3448	30	15.3	0.3833	15.3	Assigned	Robust Mean
Fe2O3T	11.21	0.105	1	0.1559	0.6735	28	11.41	0.4179	11.37	Assigned	Mode
MgO	10.59	0.05831	1	0.1484	0.3929	29	10.5	0.4804	10.59	Assigned	Median
CaO	12.88	0.06079	1	0.1753	0.3468	27	12.83	0.349	12.88	Assigned	Median
Na2O	1.725	0.01693	1	0.03178	0.5327	29	1.725	0.09117	1.72	Assigned	Robust Mean
K2O	0.02	0.0006022	1	0.0007207	0.8356	18	0.02031	0.002371	0.02	Provisional	Median
	mg kg^{-1}	mg kg^{-1}		mg kg^{-1}			mg kg^{-1}	mg kg^{-1}	mg kg^{-1}		
Ba	5.893	0.05496	1	0.3609	0.1523	24	5.893	0.2692	5.898	Assigned	Robust Mean
Be	0.0885	0.00749	1	0.0102	0.7346	8	0.1018	0.02381	0.0925	Provisional	Mode
Ce	1.716	0.01439	1	0.1266	0.1137	25	1.716	0.07197	1.72	Assigned	Robust Mean
Co	56.8	0.922	1	2.474	0.3727	22	57.44	2.095	57.23	Assigned	Mode
Cr	536	5.433	1	16.65	0.3263	24	536.9	21.62	536	Assigned	Median
Cu	113.4	2.85	1	4.45	0.6404	24	114.6	9.312	114.2	Assigned	Mode
Dy	2.385	0.06	1	0.1674	0.3585	24	2.308	0.1808	2.338	Assigned	Mode
Er	1.55	0.02625	1	0.1161	0.2262	24	1.55	0.1286	1.582	Assigned	Robust Mean
Eu	0.4784	0.005838	1	0.04276	0.1365	24	0.4784	0.0286	0.4798	Assigned	Robust Mean
Ga	15	0.223	1	0.7982	0.2794	21	14.79	0.8766	15	Assigned	Median
Gd	1.71	0.027	1	0.1261	0.2141	24	1.664	0.1187	1.678	Assigned	Mode
Ge	1.44	0.08916	1	0.109	0.8178	13	1.508	0.2842	1.44	Provisional	Median
Hf	0.51	0.015	1	0.04514	0.3323	23	0.5228	0.05924	0.5172	Assigned	Mode
Ho	0.5088	0.009843	1	0.04505	0.2185	24	0.5126	0.04086	0.5088	Assigned	Median
In	0.05268	0.001248	1	0.006562	0.1901	11	0.05268	0.004138	0.05259	Assigned	Robust Mean
La	0.5413	0.006382	1	0.04749	0.1344	25	0.5396	0.03026	0.5413	Assigned	Median
Li	2.948	0.0575	1	0.2004	0.2869	18	3.064	0.288	2.988	Assigned	Mode
Lu	0.221	0.004667	1	0.02218	0.2104	24	0.221	0.02286	0.2263	Assigned	Robust Mean
Mn	1321	20.86	1	35.84	0.5821	25	1321	104.3	1322	Provisional	Robust Mean
Mo	0.1636	0.009403	1	0.01718	0.5472	15	0.1636	0.03642	0.165	Provisional	Robust Mean
Nb	0.4764	0.00661	1	0.0426	0.1552	24	0.4764	0.03238	0.4788	Assigned	Robust Mean
Nd	2.164	0.02497	1	0.1541	0.162	25	2.164	0.1249	2.17	Assigned	Robust Mean
Ni	236	1.59	1	8.294	0.1917	24	239	11.43	236.9	Assigned	Mode
Pr	0.336	0.004992	1	0.03167	0.1577	25	0.336	0.02496	0.3379	Assigned	Robust Mean
Rb	0.1769	0.004115	1	0.01836	0.2241	20	0.1743	0.01576	0.1769	Assigned	Median
Sc	41.75	0.3925	1	1.904	0.2061	23	42.11	1.747	41.75	Assigned	Median
Sm	0.9971	0.01157	1	0.07978	0.145	24	0.9971	0.05669	0.9975	Assigned	Robust Mean
Sr	104.5	1.024	1	4.152	0.2466	24	105.2	4.614	104.5	Assigned	Median
Ta	0.03115	0.001115	1	0.004199	0.2655	16	0.03159	0.004769	0.03115	Assigned	Median
Tb	0.3165	0.005179	1	0.0301	0.1721	24	0.3165	0.02537	0.32	Assigned	Robust Mean
Th	0.02157	0.000635	1	0.003073	0.2066	20	0.02276	0.003817	0.0225	Provisional	Mode
Tm	0.2212	0.005405	1	0.0222	0.2435	24	0.2187	0.02036	0.2212	Assigned	Median
U	0.01	0.001	1	0.0016	0.6252	20	0.01208	0.004885	0.01025	Provisional	Mode
V	303.7	2.743	1	10.28	0.2669	23	303.7	13.15	304	Assigned	Robust Mean
W	0.2174	0.00539	1	0.02188	0.2464	11	0.2123	0.0194	0.2148	Provisional	Mode
Y	13.8	0.244	1	0.7436	0.3281	25	13.43	1.134	13.64	Assigned	Mode
Yb	1.518	0.02201	1	0.114	0.1931	24	1.492	0.1063	1.518	Assigned	Median
Zn	75.38	1.793	1	3.146	0.5698	23	75.38	8.597	76.1	Provisional	Robust Mean
Zr	12.81	0.1859	1	0.6978	0.2664	24	12.81	0.9107	12.95	Assigned	Robust Mean

Table 3 - G-Probe 29 Z-scores for MORB-type Basalt, KBMO-1G Glass. 18/12/2024

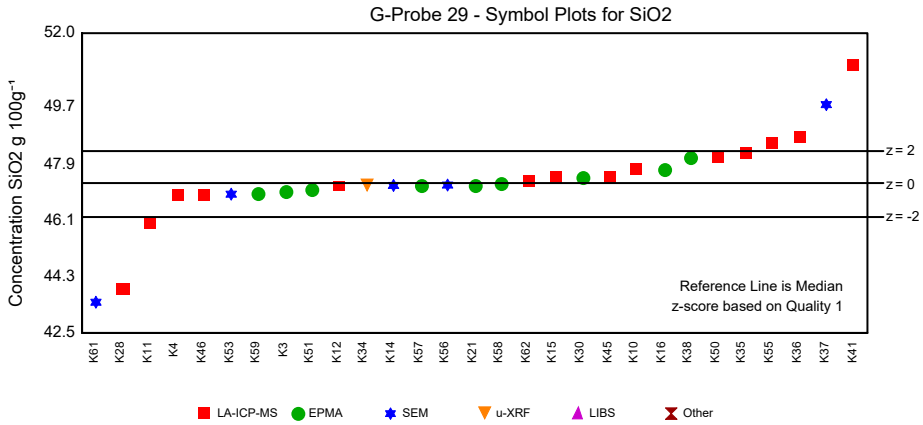
Lab Code	K3	K4	K7	K10	K11	K12	K14	K15	K16	K17	K20	K21	K28
SiO2: 1	-0.47	-0.73	*	0.86	-2.43	-0.15	-0.10	0.39	0.91	*	*	-0.08	-6.35
TiO2: 1	*0.66*	*-0.33*	*	*0.00*	*3.25*	*-2.48*	*2.15*	*-8.33*	*1.05*	*-3.37*	*	*-1.41*	*-6.40*
Al2O3: 1	0.81	-0.49	*	-1.20	2.42	-2.31	0.57	-12.93	0.79	1.75	*	-1.70	-8.47
Fe2O3T: 1	1.36	6.00	*	2.28	0.67	3.48	-0.77	2.89	0.67	1.15	*	-1.18	*
MgO: 1	-0.71	2.45	*	0.87	2.79	0.00	-0.75	-22.41	0.84	-7.38	*	0.01	-6.41
CaO: 1	0.64	-0.71	*	0.51	2.71	0.14	0.97	-8.27	0.43	-2.74	*	-1.61	-7.62
Na2O: 1	-0.37	5.35	*	2.36	-4.87	-0.85	-3.30	-0.94	-0.15	-1.25	*	-0.85	-1.57
K2O: 1	*	*	*	*2.22*	*-1.39*	*-1.39*	*	*	*-0.69*	*0.00*	*	*3.47*	*
Ba: 1	*	0.34	0.24	-0.18	*	-0.81	*	-2.61	0.37	-0.41	0.57	*	-1.63
Be: 1	*	*	*0.64*	*0.00*	*	*	*	*	*	*	*	*	*
Ce: 1	*	0.07	1.06	0.15	0.56	-0.13	*	-1.95	0.40	-0.72	0.03	*	-1.35
Co: 1	*	-0.30	0.75	0.77	-2.46	0.41	*	1.48	1.26	0.00	*	*	-1.53
Cr: 1	*	2.55	0.93	0.05	-0.17	1.71	*	-3.51	0.79	-0.93	*	*	-2.37
Cu: 1	*	0.70	3.06	0.43	-4.13	0.73	*	-0.09	3.06	-0.65	*	*	-1.15
Dy: 1	*	0.00	0.30	-0.23	0.51	-0.51	*	-2.30	0.22	-1.37	1.52	*	-1.91
Er: 1	*	0.56	0.73	0.28	1.02	0.43	*	-1.59	0.56	-0.95	1.98	*	-1.25
Eu: 1	*	-0.43	0.50	0.19	1.39	0.04	*	-1.13	0.50	-0.55	1.44	*	-1.13
Ga: 1	*	0.88	*	0.70	-2.63	0.08	*	-0.50	0.94	-0.69	*	*	-0.98
Gd: 1	*	-0.27	-0.43	0.20	0.10	0.24	*	-2.37	0.14	-1.30	1.03	*	-1.70
Ge: 1	*	*	*	*2.54*	*-1.44*	*	*	*	*-0.79*	*7.11*	*	*	*-1.79*
Hf: 1	*	0.00	0.44	0.16	2.53	0.00	*	-1.55	0.41	*	2.22	*	-1.12
Ho: 1	*	0.47	1.36	0.08	1.38	-0.20	*	-1.53	0.48	-0.75	1.58	*	-1.21
In: 1	*	*	*	0.25	-0.10	*	*	0.35	0.73	*	-0.41	*	-1.17
La: 1	*	0.29	0.71	0.20	0.81	-0.03	*	-1.92	0.11	-0.66	0.60	*	-1.24
Li: 1	*	*	2.83	-0.34	*	-0.24	*	*	0.14	-0.17	*	*	-1.56
Lu: 1	*	0.63	0.63	0.21	1.76	0.41	*	-1.17	0.27	-0.72	1.76	*	-1.01
Mn: 1	*-2.01*	*0.78*	*4.45*	*1.05*	*-1.64*	*1.21*	*9.13*	*-4.00*	*-0.14*	*-0.12*	*	*-4.24*	*-2.77*
Mo: 1	*	*	*0.08*	*-0.02*	*3.81*	*-0.79*	*	*	*0.37*	*-2.54*	*0.37*	*	*0.40*
Nb: 1	*	0.91	-0.62	0.07	0.70	-0.38	*	-0.27	0.65	-0.74	1.02	*	-1.08
Nd: 1	*	0.91	0.49	0.35	0.41	-0.03	*	-2.01	0.62	-0.87	1.01	*	-1.42
Ni: 1	*	2.23	3.92	1.56	-2.69	0.53	*	1.87	3.66	-0.18	*	*	-1.97
Pr: 1	*	0.44	1.23	0.06	1.23	-0.19	*	-1.77	0.27	-0.82	-0.19	*	-1.29
Rb: 1	*	14.87	0.17	-0.10	0.11	-0.92	*	*	-0.10	-0.65	*	*	-1.41
Sc: 1	*	-0.18	-0.71	0.38	1.34	0.45	*	-0.44	0.53	8.90	*	*	-1.58
Sm: 1	*	0.60	0.73	0.33	-0.06	0.41	*	-2.41	0.52	-0.78	0.54	*	-1.31
Sr: 1	*	0.12	2.04	0.81	1.10	-0.19	*	-2.94	0.69	-1.04	*	*	-2.54
Ta: 1	*	*	0.92	0.04	1.87	*	*	*	0.44	*	*	*	-1.11
Tb: 1	*	0.12	0.78	0.16	1.31	-0.22	*	-1.54	0.47	-0.88	1.11	*	-1.20
Th: 1	*	*	*-0.51*	*0.73*	*2.09*	*-0.51*	*	*-0.51*	*0.63*	*-0.51*	*	*	*-0.84*
Tm: 1	*	0.17	0.40	0.05	1.71	-0.05	*	-1.63	0.49	-0.73	1.75	*	-1.20
U: 1	*	*	*0.00*	*-0.47*	*5.00*	*0.00*	*	*	*1.25*	*3.13*	*	*	*-1.88*
V: 1	*	-0.65	0.03	0.04	-1.44	1.18	*	-2.74	-0.14	-0.31	*	*	-2.49
W: 1	*	*	*	*0.13*	*0.39*	*	*	*-1.94*	*-0.43*	*	*	*	*-0.89*
Y: 1	*	0.67	1.21	0.19	2.00	-0.24	*	-2.65	0.81	-1.64	2.08	*	-2.06
Yb: 1	*	0.29	0.20	0.11	0.83	-0.15	*	-1.69	0.18	-1.16	2.04	*	-1.47
Zn: 1	*	*0.50*	*-1.70*	*-2.91*	*-3.61*	*2.23*	*	*-1.59*	*-2.19*	*0.76*	*	*	*-2.46*
Zr: 1	*	0.99	0.35	0.36	3.82	0.39	*	-2.42	0.99	-1.05	3.45	*	-1.55

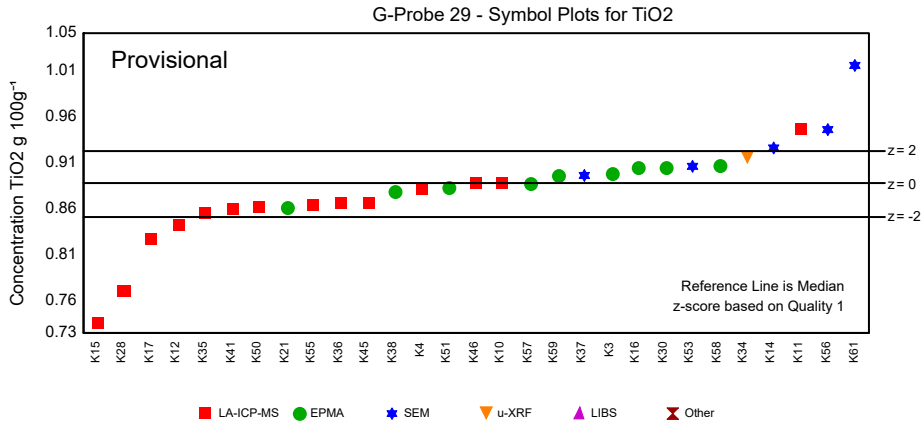
Table 3 - G-Probe 29 Z-scores for MORB-type Basalt, KBMO-1G Glass. 18/12/2024

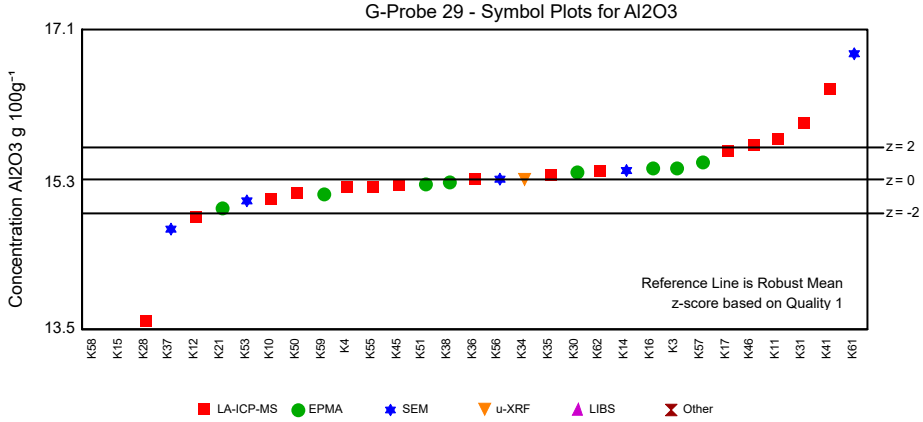
Lab Code	K30	K31	K34	K35	K36	K37	K38	K41	K45	K46	K48	K50	K51
SiO2: 1	0.40	*	-0.12	1.87	2.77	4.75	1.54	7.17	0.41	-0.72	*	1.62	-0.38
TiO2: 1	*1.05*	*	*1.60*	*-1.77*	*-1.16*	*0.49*	*-0.44*	*-1.56*	*-1.16*	*-0.00*	*	*-1.44*	*-0.17*
Al2O3: 1	0.47	3.45	0.05	0.29	0.00	-2.95	-0.09	5.43	-0.36	2.07	*	-0.83	-0.26
Fe2O3T: 1	1.09	*	13.37	-1.29	4.11	-2.02	0.87	-7.75	1.76	4.57	*	1.19	-0.19
MgO: 1	-1.25	-13.99	2.99	-5.81	*	-0.58	0.60	-8.89	0.23	-0.06	*	0.06	0.81
CaO: 1	0.63	*	-4.19	-0.44	*	-1.28	0.40	-0.06	0.00	-0.82	*	-1.63	0.13
Na2O: 1	0.32	9.76	-16.52	-1.92	*	-3.93	1.11	2.43	2.21	-7.67	*	2.99	-0.03
K2O: 1	*20.81*	*	*2.78*	*0.00*	*	*	*	*2.08*	*-1.39*	*-2.78*	*	*0.00*	*-6.94*
Ba: 1	-0.27	5.59	1.02	0.17	0.55	*	*	-0.14	0.38	0.42	1.24	-0.81	-0.67
Be: 1	*-0.34*	*	*	*-1.32*	*	*	*	*3.89*	*0.15*	*2.65*	*6.23*	*	*
Ce: 1	-0.76	-0.52	2.83	0.42	0.28	*	*	-0.31	0.38	-0.11	1.55	-0.29	-0.16
Co: 1	-0.31	*	1.24	-0.34	0.10	*	*	1.20	0.25	-0.15	-0.63	-0.31	*
Cr: 1	-1.38	-1.65	0.78	-0.05	1.53	*	*	1.04	2.55	0.22	-1.11	-0.05	-0.66
Cu: 1	-0.54	13.17	-1.87	0.00	2.16	*	*	0.56	3.10	-1.54	-1.21	0.77	-2.61
Dy: 1	-1.91	*	-3.38	-1.33	-0.24	*	*	-1.24	0.18	0.41	1.08	-0.33	0.27
Er: 1	-1.85	*	-3.27	-0.77	-0.39	*	*	-0.77	0.34	0.64	2.71	0.22	1.03
Eu: 1	-0.43	*	-1.37	-0.01	0.35	*	*	-0.44	0.39	0.13	1.91	0.04	-0.08
Ga: 1	0.31	-1.06	-2.34	-0.09	0.00	*	*	0.60	1.01	-1.82	0.48	0.39	*
Gd: 1	-1.58	*	-3.09	-1.24	-0.27	*	*	-1.12	0.44	0.64	0.85	-0.23	0.40
Ge: 1	*2.11*	*	*0.00*	*1.59*	*	*	*	*1.16*	*-4.63*	*-0.03*	*4.65*	*	*
Hf: 1	-0.78	*	-2.79	-0.42	0.33	*	*	-0.39	0.33	1.12	3.28	-0.22	1.79
Ho: 1	-0.75	*	-0.77	-0.75	0.49	*	*	-0.61	0.25	0.48	2.39	-0.08	0.60
In: 1	*	*	*	*	*	*	*	-0.01	-0.41	0.81	0.47	*	*
La: 1	-0.34	-0.87	-3.84	-0.07	0.00	*	*	-0.32	0.29	0.54	2.16	-0.55	-0.03
Li: 1	0.26	6.89	-0.14	-0.67	0.56	*	*	0.44	2.58	*	1.27	-0.52	25.21
Lu: 1	-0.72	*	-2.12	-0.32	0.29	*	*	-0.78	0.41	-4.42	2.33	0.41	0.45
Mn: 1	*	*-2.63*	*-0.18*	*-0.54*	*2.04*	*	*	*1.35*	*0.57*	*-2.77*	*	*1.09*	*-36.87*
Mo: 1	*2.41*	*	*	*	*	*	*	*-1.31*	*1.24*	*3.46*	*-2.49*	*	*-2.77*
Nb: 1	-1.56	*	-2.07	-0.34	0.20	*	*	-0.38	0.91	0.11	1.02	0.20	0.04
Nd: 1	-0.97	-0.55	0.04	-0.82	0.23	*	*	-0.59	0.56	0.54	2.27	-0.51	-0.61
Ni: 1	0.00	0.36	-0.24	-0.66	1.69	*	*	1.82	0.15	-0.76	-0.42	0.03	-1.33
Pr: 1	-0.98	-0.50	2.02	-0.28	0.08	*	*	-0.58	0.28	0.38	0.90	0.13	-0.41
Rb: 1	-1.46	*	-2.45	-0.05	0.11	*	*	0.05	0.71	-0.81	1.93	*	0.22
Sc: 1	-1.94	*	0.71	-0.89	-0.21	*	*	1.14	-0.08	1.27	7.56	-0.31	-0.08
Sm: 1	-0.90	*	0.91	-0.63	-0.03	*	*	-0.80	0.10	0.41	2.06	0.04	-0.21
Sr: 1	-0.25	-0.12	-0.61	0.53	0.48	*	*	0.05	-0.90	0.49	2.04	-0.32	-0.73
Ta: 1	-0.27	*	-4.08	-0.27	0.32	*	*	-0.51	*	-0.04	1.63	*	0.25
Tb: 1	-0.71	*	-0.85	-0.75	0.62	*	*	-0.59	0.28	0.38	1.77	0.12	0.48
Th: 1	*-0.51*	*-0.51*	*0.14*	*0.47*	*1.12*	*	*	*-1.45*	*1.28*	*0.95*	*2.74*	*	*1.70*
Tm: 1	-0.95	*	-2.89	-0.73	0.49	*	*	-0.73	0.29	0.17	2.02	-0.05	0.71
U: 1	*0.00*	*12.50*	*-0.63*	*4.38*	*1.88*	*	*	*-2.35*	*0.31*	*0.31*	*-0.09*	*	*12.50*
V: 1	-0.70	*	0.90	0.76	-0.80	*	*	0.87	-1.42	1.53	-0.70	-1.08	0.85
W: 1	*0.12*	*	*	*	*0.80*	*	*	*-0.21*	*	*-4.07*	*	*	*
Y: 1	-2.08	-4.10	-2.56	-2.02	0.27	*	*	-1.40	0.69	-0.12	0.67	-0.16	0.00
Yb: 1	-1.43	*	-2.52	-1.02	-0.33	*	*	-0.81	0.15	0.14	2.96	0.07	0.29
Zn: 1	*0.66*	*10.65*	*6.49*	*-3.58*	*-0.92*	*	*	*2.28*	*-3.28*	*-0.51*	*0.23*	*-0.98*	*
Zr: 1	-0.80	*	-2.30	-1.48	-0.51	*	*	-0.81	1.07	1.52	1.00	-0.12	0.56

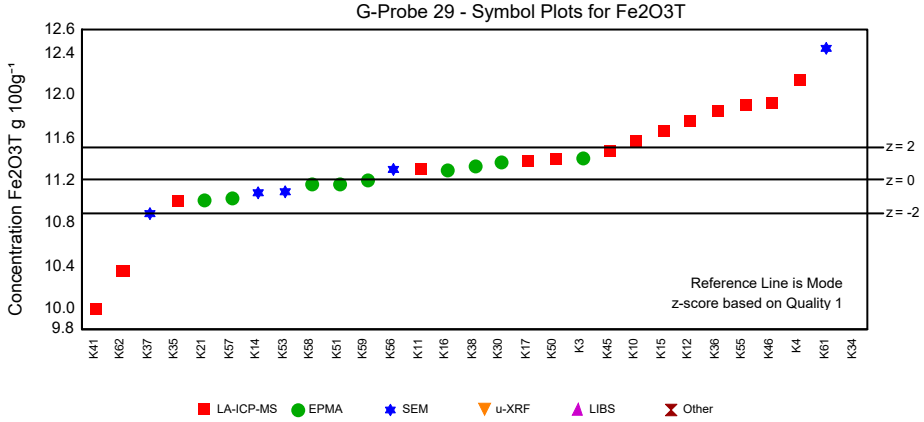
Table 3 - G-Probe 29 Z-scores for MORB-type Basalt, KBMO-1G Glass. 18/12/2024

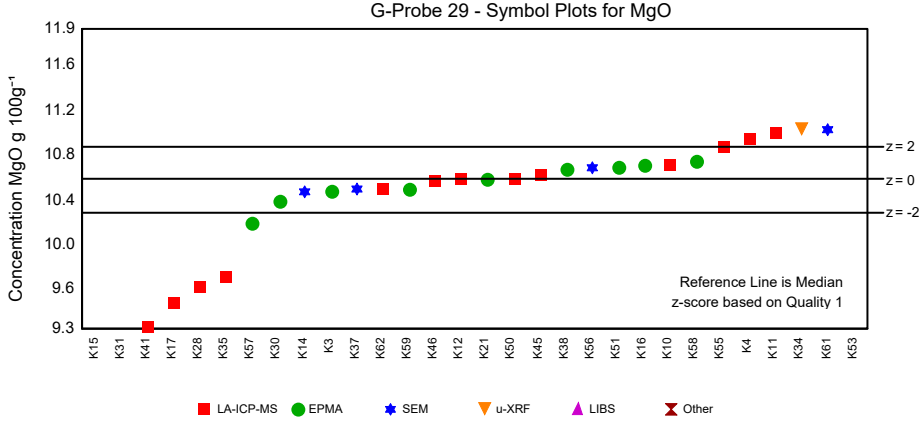
Lab Code	K53	K55	K56	K57	K58	K59	K61	K62
SiO2: 1	-0.63	2.45	-0.08	-0.10	0.08	-0.60	-7.13	0.20
TiO2: 1	*1.05*	*-1.31*	*3.25*	*0.05*	*1.07*	*0.49*	*7.11*	*
Al2O3: 1	-1.25	-0.48	0.05	1.16	-20.31	-0.83	7.59	0.50
Fe2O3T: 1	-0.71	4.42	0.64	-1.06	-0.24	0.00	7.92	-5.48
MgO: 1	14.14	1.98	0.70	-2.67	1.14	-0.51	2.99	-0.51
CaO: 1	-72.45	*	1.11	-1.11	20.49	-0.48	9.95	1.64
Na2O: 1	-1.10	-0.31	4.41	0.18	-1.11	0.95	2.05	2.24
K2O: 1	*13.88*	*-24.92*	*	*1.73*	*4.86*	*0.00*	*	*
Ba: 1	*	-0.61	*	-0.47	0.57	*	*	-0.27
Be: 1	*	*	*	*	*	*	*	*
Ce: 1	*	0.02	*	-0.42	0.15	*	*	0.14
Co: 1	*	0.66	*	0.51	1.41	*	*	-0.25
Cr: 1	*	-0.48	*	0.21	-0.24	*	*	0.56
Cu: 1	*	0.35	*	2.93	-1.89	*	*	-0.35
Dy: 1	*	-0.56	*	-1.19	-0.51	*	*	0.27
Er: 1	*	0.27	*	-0.27	-0.86	*	*	0.75
Eu: 1	*	0.03	*	-0.52	0.50	*	*	-0.21
Ga: 1	*	0.15	*	*	-2.07	*	*	-0.18
Gd: 1	*	-0.10	*	-0.39	-0.47	*	*	0.00
Ge: 1	*	*-1.07*	*	*	*	*	*	*
Hf: 1	*	-0.55	*	-0.64	1.99	*	*	0.60
Ho: 1	*	-0.14	*	-0.31	-0.20	*	*	0.55
In: 1	*	-0.74	*	*	*	*	*	*
La: 1	*	0.00	*	-0.27	0.39	*	*	0.36
Li: 1	*	0.10	*	*	0.51	*	*	*
Lu: 1	*	-0.05	*	-0.47	-0.95	*	*	0.95
Mn: 1	*	*0.02*	*	*0.59*	*4.01*	*-36.87*	*	*4.09*
Mo: 1	*	*-1.31*	*	*	*	*	*	*
Nb: 1	*	-0.18	*	-0.56	0.32	*	*	0.65
Nd: 1	*	0.00	*	-0.30	0.23	*	*	1.05
Ni: 1	*	0.64	*	0.13	-0.30	*	*	0.10
Pr: 1	*	-0.35	*	-0.60	0.44	*	*	0.74
Rb: 1	*	-0.45	*	0.63	0.17	*	*	*
Sc: 1	*	0.65	*	-0.34	0.34	*	*	0.00
Sm: 1	*	-0.03	*	-0.53	0.66	*	*	-0.21
Sr: 1	*	-0.05	*	-0.49	1.66	*	*	1.81
Ta: 1	*	-1.11	*	-0.63	2.11	*	*	*
Tb: 1	*	-0.30	*	-0.46	-0.55	*	*	0.72
Th: 1	*	*	*	*-0.51*	*2.74*	*	*	*
Tm: 1	*	-0.50	*	-0.57	-0.95	*	*	0.22
U: 1	*	*-2.50*	*	*8.13*	*0.00*	*	*	*
V: 1	*	1.85	*	0.81	4.13	*	*	0.35
W: 1	*	*-0.12*	*	*0.76*	*	*	*	*
Y: 1	*	-0.22	*	-0.83	-1.28	*	*	-0.36
Yb: 1	*	-0.36	*	-0.66	0.72	*	*	-0.07
Zn: 1	*	*1.99*	*	*0.97*	*4.44*	*	*	*1.82*
Zr: 1	*	0.07	*	-0.41	-1.23	*	*	0.64

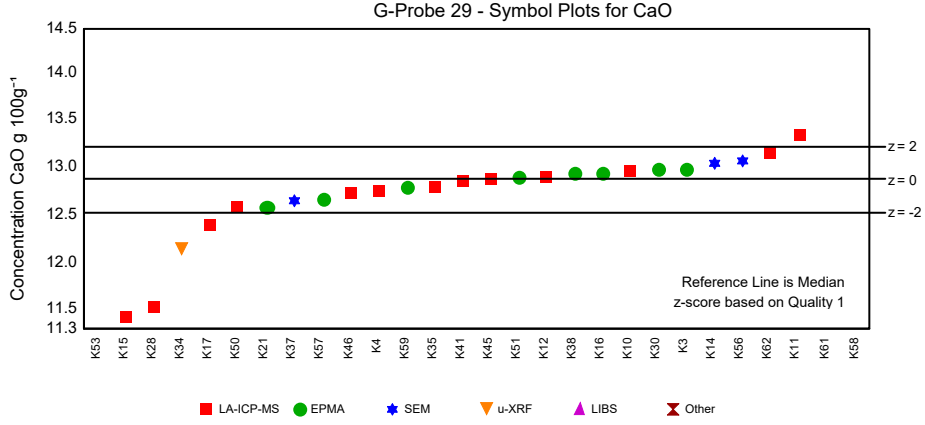

G-Probe 29 - Symbol Plots for SiO2
Concentration SiO2 g 100g⁻¹
52.0
49.7
47.9
46.1
44.3
42.5
z = 2
z = 0
z = -2
Reference Line is Median
z-score based on Quality 1
K61 K28 K11 K4 K46 K53 K59 K3 K51 K12 K34 K14 K57 K56 K21 K58 K62 K15 K30 K45 K10 K16 K38 K50 K35 K55 K36 K37 K41
LA-ICP-MS EPMA SEM u-XRF LIBS Other

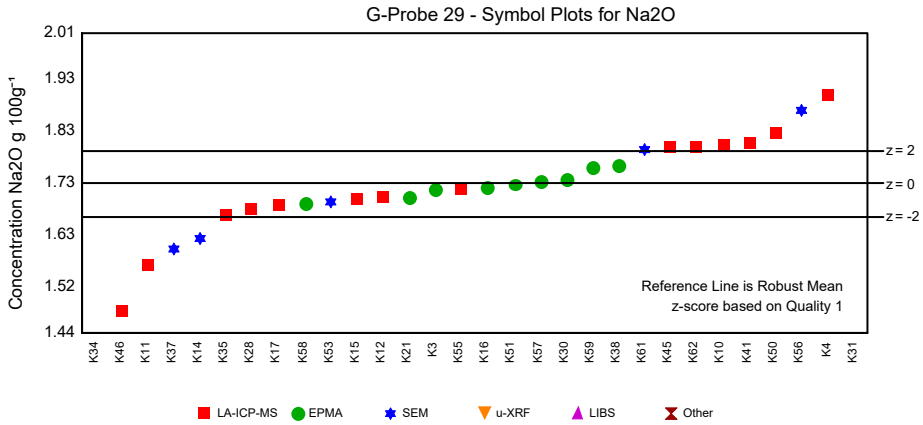

G-Probe 29 - Symbol Plots for TiO2
Provisional
Concentration TiO2 g 100g⁻¹
1.05
1.01
0.96
0.91
0.86
0.81
0.76
0.73
z = 2
z = 0
z = -2
Reference Line is Median
z-score based on Quality 1
K15 K28 K17 K12 K35 K41 K50 K21 K55 K36 K45 K38 K4 K51 K46 K10 K57 K59 K37 K3 K16 K30 K53 K58 K34 K14 K11 K56 K61
LA-ICP-MS EPMA SEM u-XRF LIBS Other

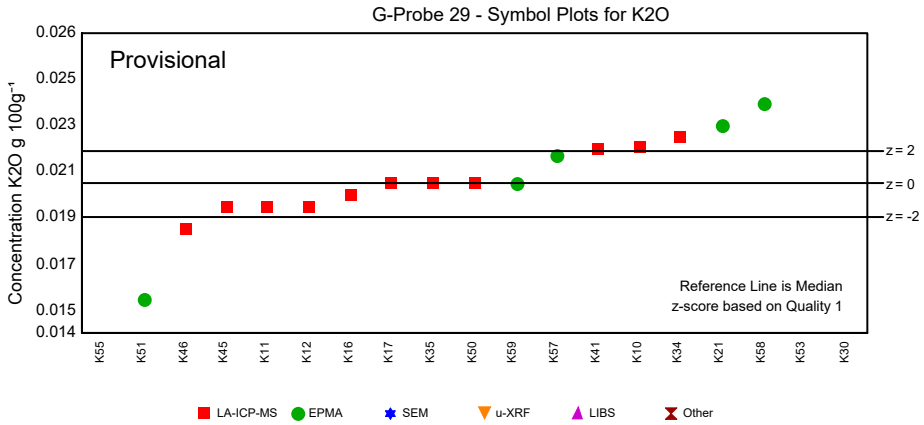

G-Probe 29 - Symbol Plots for Al2O3
Concentration Al2O3 g 100g⁻¹
17.1
15.3
13.5
z = 2
z = 0
z = -2
Reference Line is Robust Mean
z-score based on Quality 1
K58 K15 K28 K37 K12 K21 K53 K10 K50 K59 K4 K55 K45 K51 K38 K36 K56 K34 K35 K30 K62 K14 K16 K3 K57 K17 K46 K11 K31 K41 K61
LA-ICP-MS EPMA SEM u-XRF LIBS Other

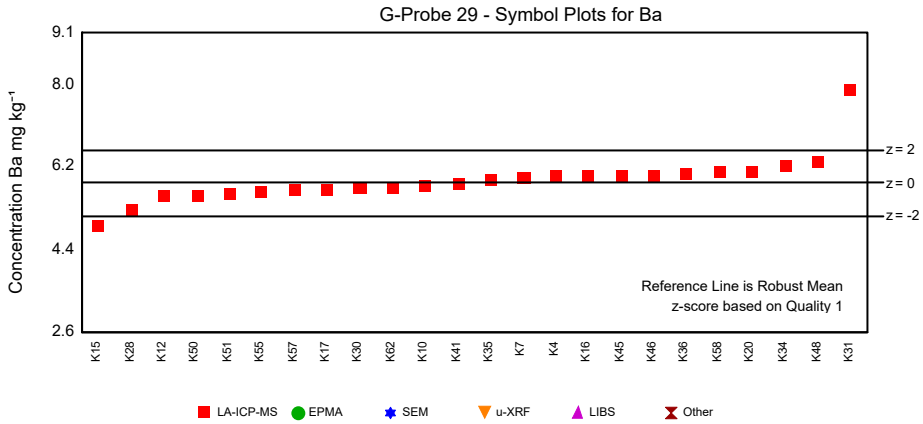

G-Probe 29 - Symbol Plots for Fe2O3T
Concentration Fe2O3T g 100g⁻¹
12.6
12.4
12.0
11.6
11.2
10.8
10.4
10.0
9.8
z = 2
z = 0
z = -2
Reference Line is Mode
z-score based on Quality 1
K41 K62 K37 K35 K21 K57 K14 K53 K58 K51 K59 K56 K11 K16 K38 K30 K17 K50 K3 K45 K10 K15 K12 K36 K55 K46 K4 K61 K34
LA-ICP-MS EPMA SEM u-XRF LIBS Other

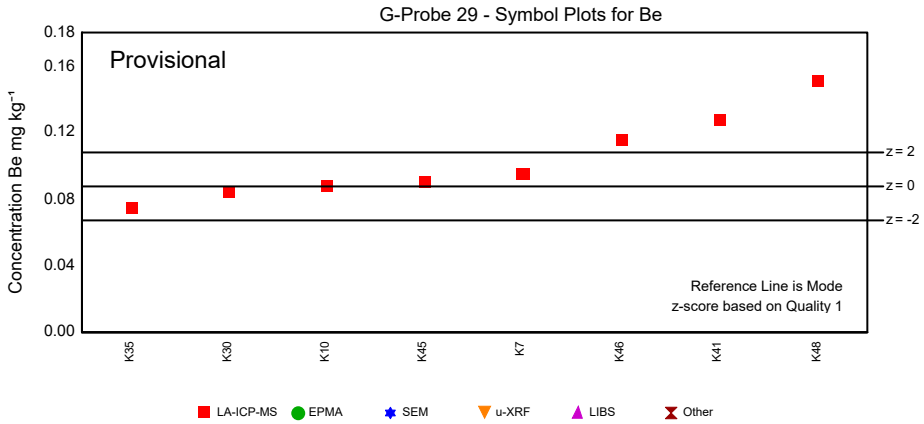

G-Probe 29 - Symbol Plots for MgO
Concentration MgO g 100g⁻¹
11.9
11.6
11.2
10.8
10.4
10.0
9.6
9.3
z = 2
z = 0
z = -2
Reference Line is Median
z-score based on Quality 1
K15 K31 K41 K17 K28 K35 K57 K30 K14 K3 K37 K62 K59 K46 K12 K21 K50 K45 K38 K56 K51 K16 K10 K58 K55 K4 K11 K34 K61 K53
LA-ICP-MS EPMA SEM u-XRF LIBS Other

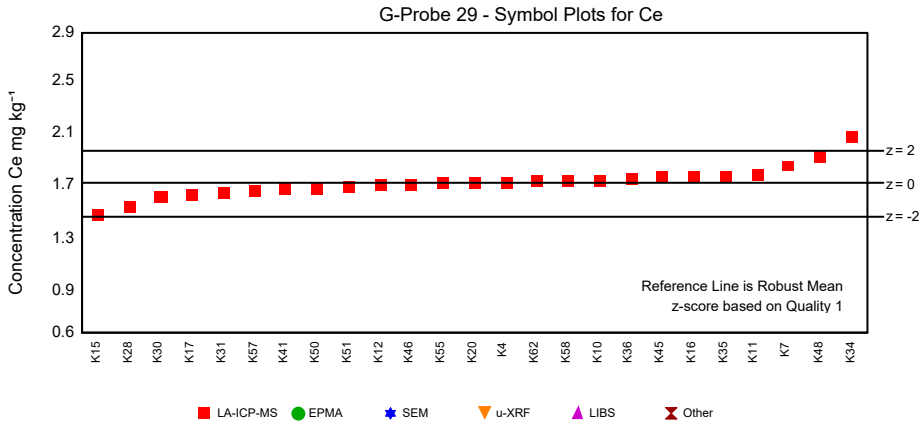

G-Probe 29 - Symbol Plots for CaO
Concentration CaO g 100g⁻¹
14.5
14.0
13.5
13.0
12.5
12.0
11.5
11.3
z = 2
z = 0
z = -2
Reference Line is Median
z-score based on Quality 1
K53 K15 K28 K34 K17 K50 K21 K37 K57 K46 K4 K59 K35 K41 K45 K51 K12 K38 K16 K10 K30 K3 K14 K56 K62 K11 K61 K58
LA-ICP-MS EPMA SEM u-XRF LIBS Other

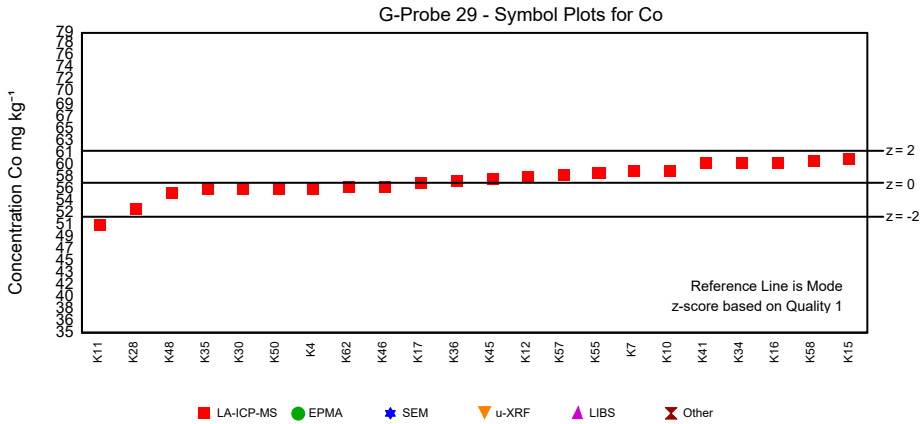

G-Probe 29 - Symbol Plots for Na2O
Concentration Na2O g 100g⁻¹
2.01
1.93
1.83
1.73
1.63
1.52
1.44
z = 2
z = 0
z = -2
Reference Line is Robust Mean
z-score based on Quality 1
K34 K46 K11 K37 K14 K35 K28 K17 K58 K53 K15 K12 K21 K3 K55 K16 K51 K57 K30 K59 K38 K61 K45 K62 K10 K41 K50 K56 K4 K31
LA-ICP-MS EPMA SEM u-XRF LIBS Other

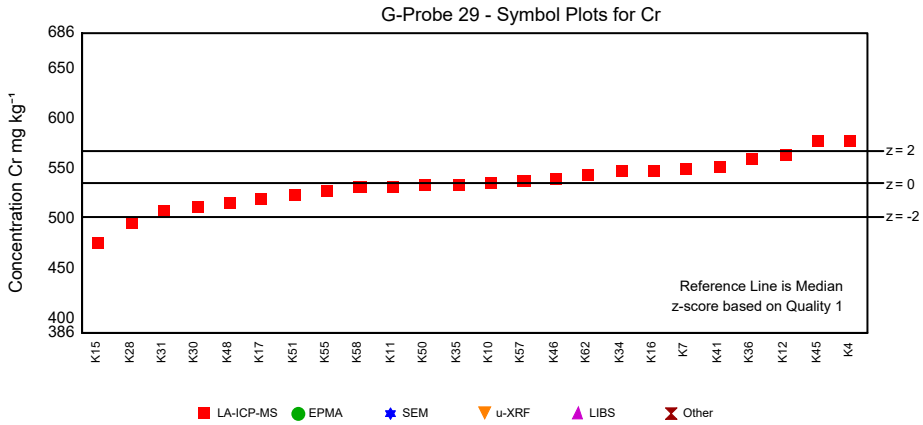

G-Probe 29 - Symbol Plots for K2O
Provisional
Concentration K2O g 100g⁻¹
0.026
0.025
0.023
0.021
0.019
0.017
0.015
0.014
z = 2
z = 0
z = -2
Reference Line is Median
z-score based on Quality 1
K55 K51 K46 K45 K11 K12 K16 K17 K35 K50 K59 K57 K41 K10 K34 K21 K58 K53 K30
LA-ICP-MS EPMA SEM u-XRF LIBS Other

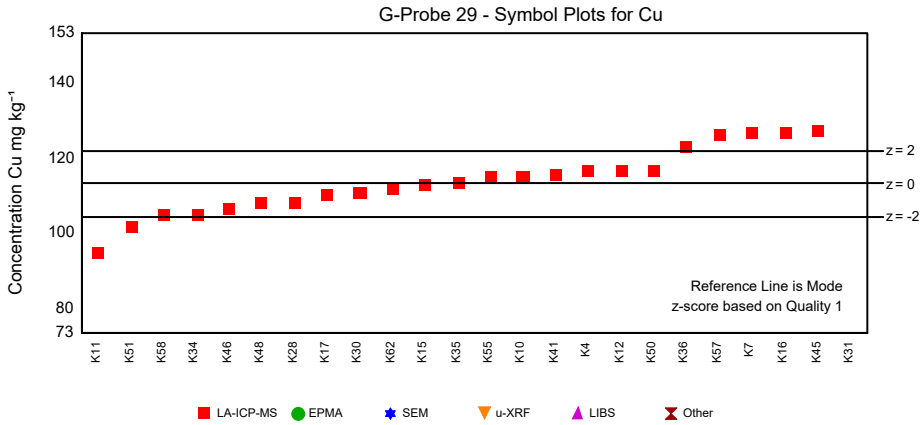

G-Probe 29 - Symbol Plots for Ba
Concentration Ba mg kg⁻¹
9.1
8.0
6.2
4.4
2.6
z = 2
z = 0
z = -2
Reference Line is Robust Mean
z-score based on Quality 1
K15 K28 K12 K50 K51 K55 K57 K17 K30 K62 K10 K41 K35 K7 K4 K16 K45 K46 K36 K58 K20 K34 K48 K31
LA-ICP-MS EPMA SEM u-XRF LIBS Other

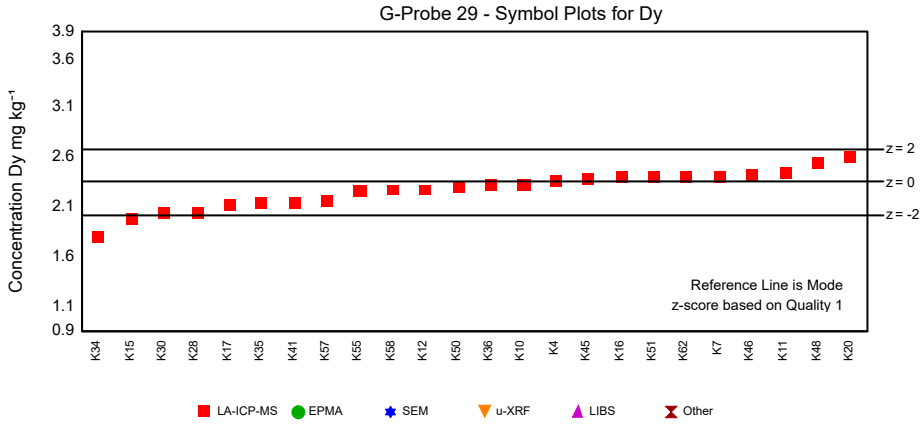

G-Probe 29 - Symbol Plots for Be
Provisional
Concentration Be mg kg⁻¹
0.18
0.16
0.12
0.08
0.04
0.00
z = 2
z = 0
z = -2
Reference Line is Mode
z-score based on Quality 1
K35 K30 K10 K45 K7 K46 K41 K48
LA-ICP-MS EPMA SEM u-XRF LIBS Other

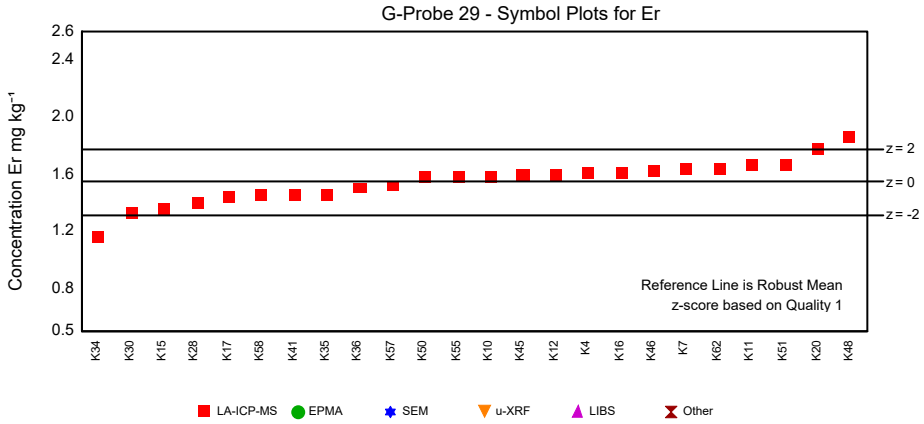

G-Probe 29 - Symbol Plots for Ce
Concentration Ce mg kg⁻¹
2.9
2.5
2.1
1.7
1.3
0.9
0.6
z = 2
z = 0
z = -2
Reference Line is Robust Mean
z-score based on Quality 1
K15 K28 K30 K17 K31 K57 K41 K50 K51 K12 K46 K55 K20 K4 K62 K58 K10 K36 K45 K16 K35 K11 K7 K48 K34
LA-ICP-MS EPMA SEM u-XRF LIBS Other

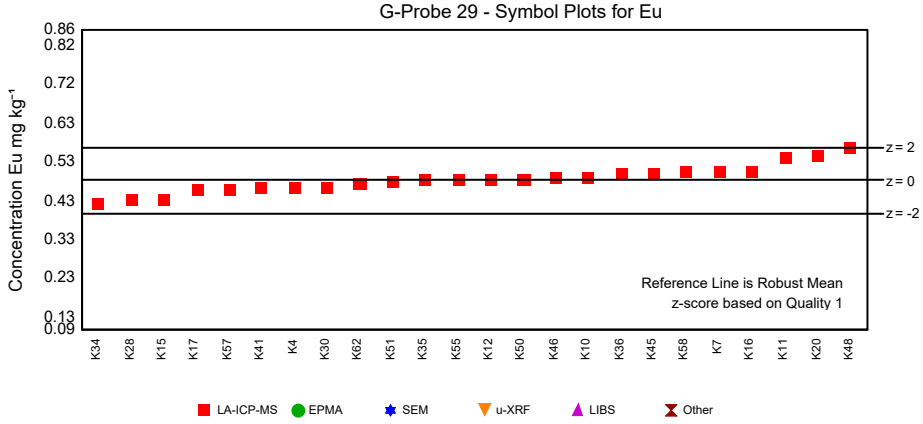

G-Probe 29 - Symbol Plots for Co
Concentration Co mg kg⁻¹
z = 2
z = 0
z = -2
Reference Line is Mode
z-score based on Quality 1
K11 K28 K48 K35 K30 K50 K4 K62 K46 K17 K36 K45 K12 K57 K55 K7 K10 K41 K34 K16 K58 K15
LA-ICP-MS EPMA SEM u-XRF LIBS Other

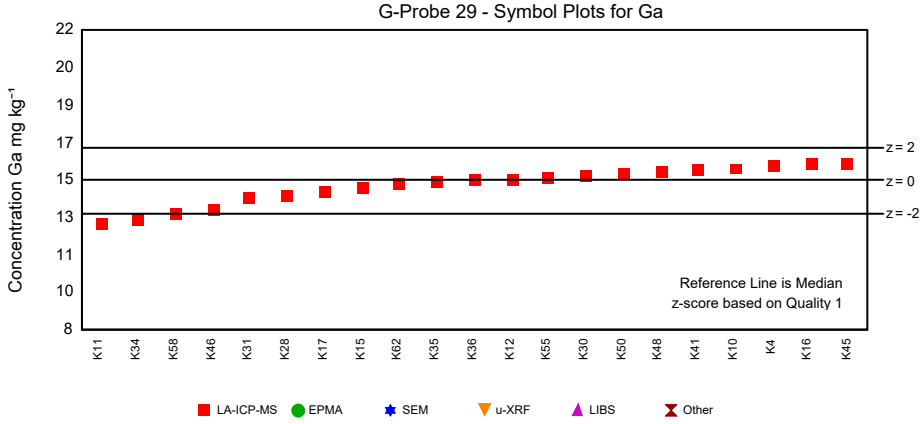

G-Probe 29 - Symbol Plots for Cr
Concentration Cr mg kg⁻¹
686
650
600
550
500
450
400
386
z = 2
z = 0
z = -2
Reference Line is Median
z-score based on Quality 1
K15 K28 K31 K30 K48 K17 K51 K55 K58 K11 K50 K35 K10 K57 K46 K62 K34 K16 K7 K41 K36 K12 K45 K4
LA-ICP-MS EPMA SEM u-XRF LIBS Other

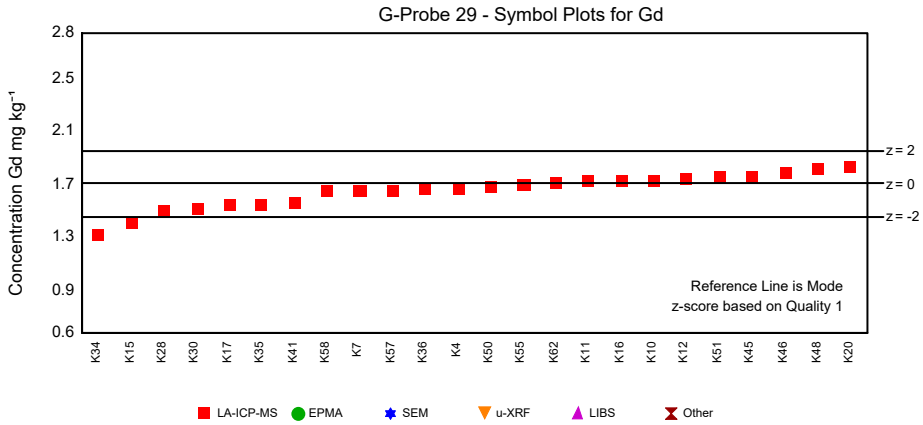

G-Probe 29 - Symbol Plots for Cu
Concentration Cu mg kg⁻¹
153
140
120
100
80
73
z = 2
z = 0
z = -2
Reference Line is Mode
z-score based on Quality 1
K11 K51 K58 K34 K46 K48 K28 K17 K30 K62 K15 K35 K55 K10 K41 K4 K12 K50 K36 K57 K7 K16 K45 K31
LA-ICP-MS EPMA SEM u-XRF LIBS Other

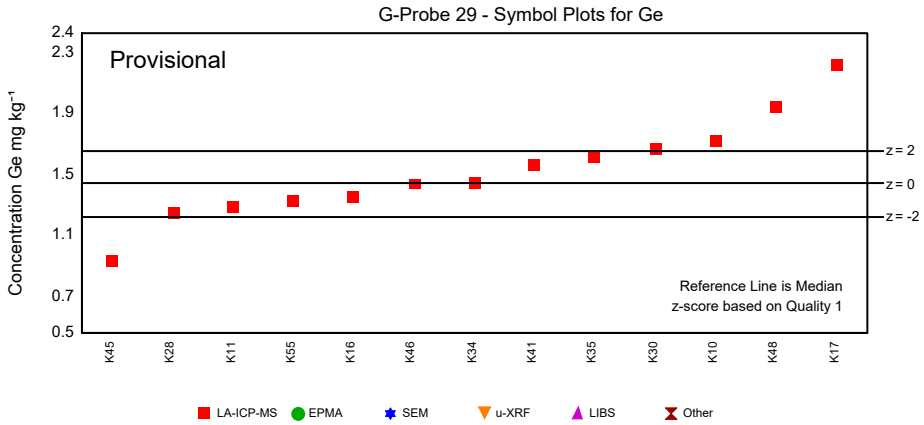

G-Probe 29 - Symbol Plots for Dy
Concentration Dy mg kg⁻¹
3.9
3.6
3.1
2.6
2.1
1.6
1.1
0.9
z = 2
z = 0
z = -2
Reference Line is Mode
z-score based on Quality 1
K34 K15 K30 K28 K17 K35 K41 K57 K55 K58 K12 K50 K36 K10 K4 K45 K16 K51 K62 K7 K46 K11 K48 K20
LA-ICP-MS EPMA SEM u-XRF LIBS Other

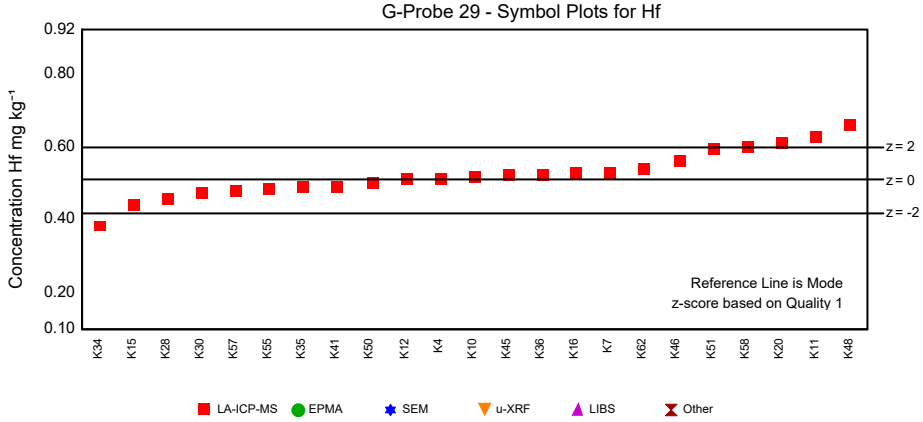

G-Probe 29 - Symbol Plots for Er
Concentration Er mg kg⁻¹
2.6
2.4
2.0
1.6
1.2
0.8
0.5
z = 2
z = 0
z = -2
Reference Line is Robust Mean
z-score based on Quality 1
K34 K30 K15 K28 K17 K58 K41 K35 K36 K57 K50 K55 K10 K45 K12 K4 K16 K46 K7 K62 K11 K51 K20 K48
LA-ICP-MS EPMA SEM u-XRF LIBS Other

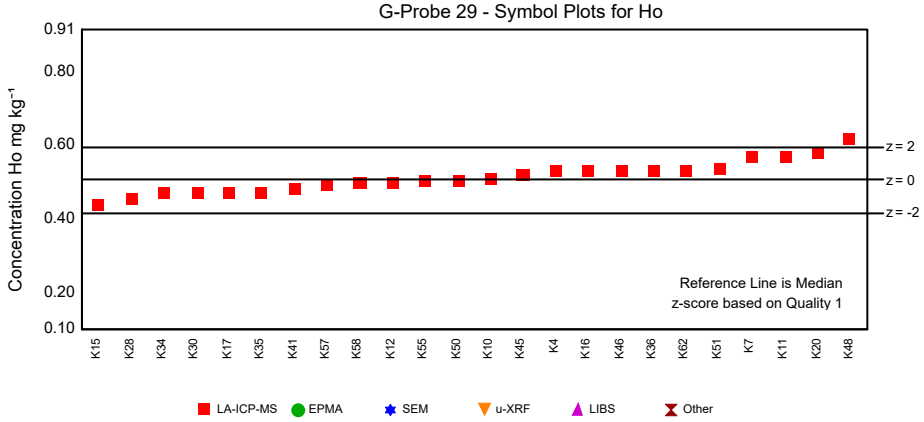

G-Probe 29 - Symbol Plots for Eu
Concentration Eu mg kg⁻¹
0.86
0.82
0.72
0.63
0.53
0.43
0.33
0.23
0.13
0.09
z = 2
z = 0
z = -2
Reference Line is Robust Mean
z-score based on Quality 1
K34 K28 K15 K17 K57 K41 K4 K30 K62 K51 K35 K55 K12 K50 K46 K10 K36 K45 K58 K7 K16 K11 K20 K48
LA-ICP-MS EPMA SEM u-XRF LIBS Other

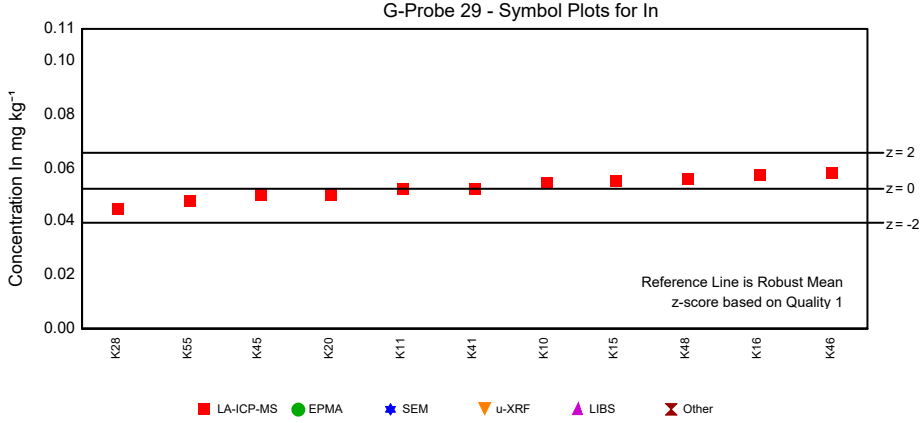

G-Probe 29 - Symbol Plots for Ga
Concentration Ga mg kg⁻¹
22
20
19
17
15
13
11
10
8
z = 2
z = 0
z = -2
Reference Line is Median
z-score based on Quality 1
K11 K34 K58 K46 K31 K28 K17 K15 K62 K35 K36 K12 K55 K30 K50 K48 K41 K10 K4 K16 K45
LA-ICP-MS EPMA SEM u-XRF LIBS Other

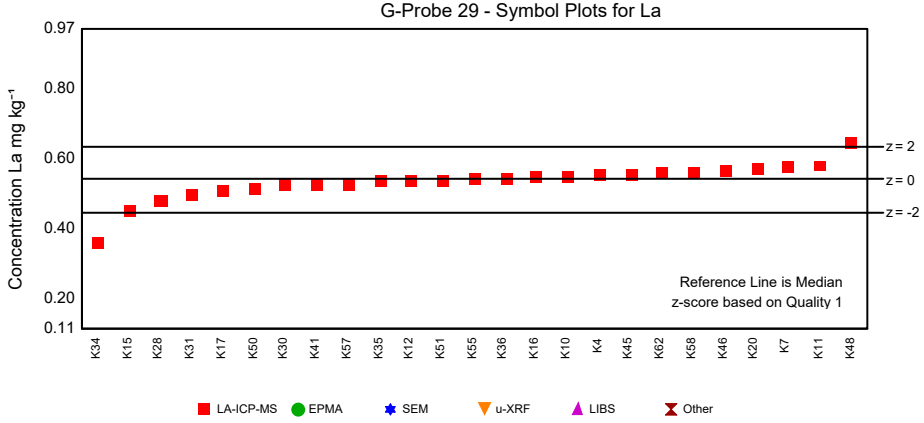

G-Probe 29 - Symbol Plots for Gd
Concentration Gd mg kg⁻¹
2.8
2.5
2.1
1.7
1.3
0.9
0.6
z = 2
z = 0
z = -2
Reference Line is Mode
z-score based on Quality 1
K34 K15 K28 K30 K17 K35 K41 K58 K7 K57 K36 K4 K50 K55 K62 K11 K16 K10 K12 K51 K45 K46 K48 K20
LA-ICP-MS EPMA SEM u-XRF LIBS Other

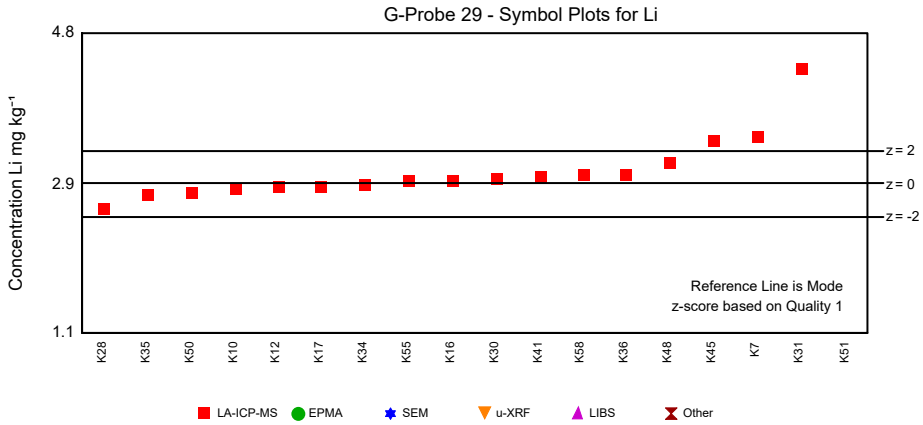

G-Probe 29 - Symbol Plots for Ge
Provisional
Concentration Ge mg kg⁻¹
2.4
2.3
1.9
1.5
1.1
0.7
0.5
z = 2
z = 0
z = -2
Reference Line is Median
z-score based on Quality 1
K45 K28 K11 K55 K16 K46 K34 K41 K35 K30 K10 K48 K17
LA-ICP-MS EPMA SEM u-XRF LIBS Other

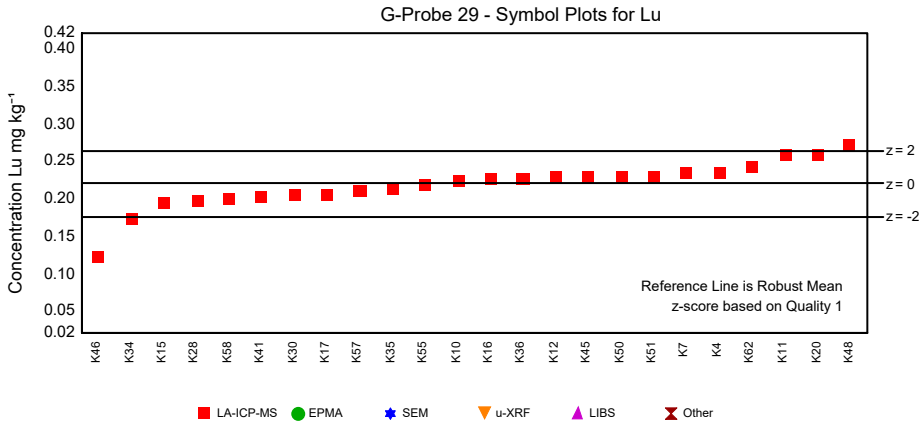

G-Probe 29 - Symbol Plots for Hf
Concentration Hf mg kg⁻¹
0.92
0.80
0.60
0.40
0.20
0.10
z = 2
z = 0
z = -2
Reference Line is Mode
z-score based on Quality 1
K34 K15 K28 K30 K57 K55 K35 K41 K50 K12 K4 K10 K45 K36 K16 K7 K62 K46 K51 K58 K20 K11 K48
LA-ICP-MS EPMA SEM u-XRF LIBS Other

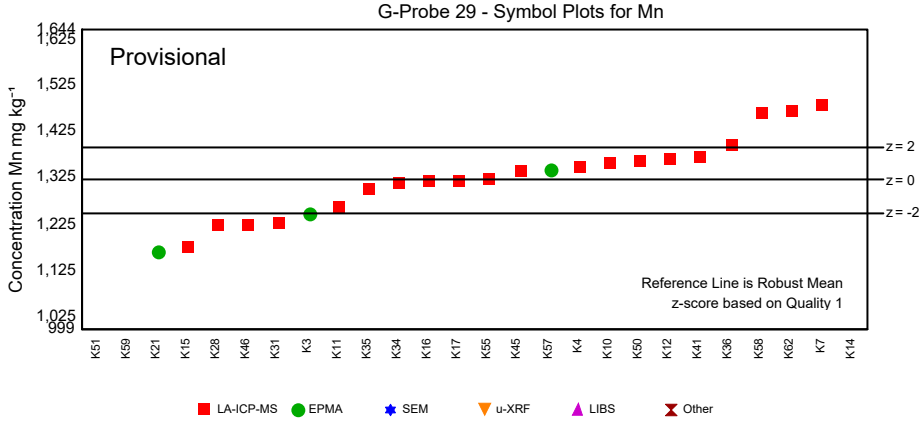

G-Probe 29 - Symbol Plots for Ho
Concentration Ho mg kg⁻¹
0.91
0.80
0.60
0.40
0.20
0.10
z = 2
z = 0
z = -2
Reference Line is Median
z-score based on Quality 1
K15 K28 K34 K30 K17 K35 K41 K57 K58 K12 K55 K50 K10 K45 K4 K16 K46 K36 K62 K51 K7 K11 K20 K48
LA-ICP-MS EPMA SEM u-XRF LIBS Other

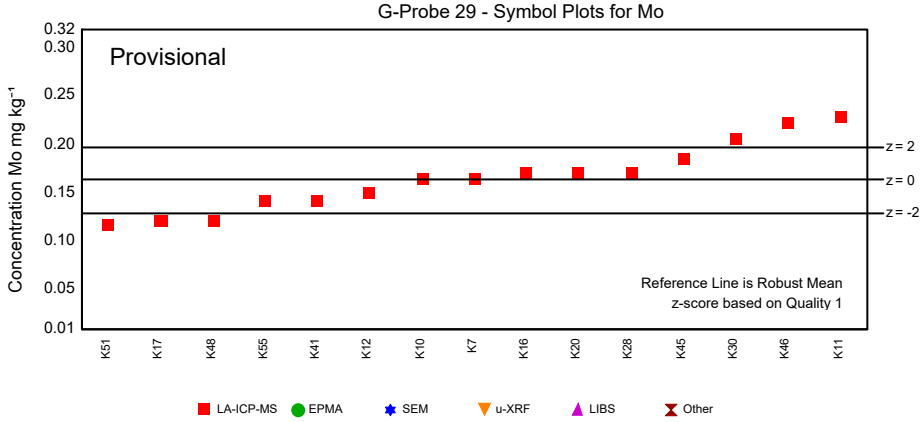

G-Probe 29 - Symbol Plots for In
Concentration In mg kg⁻¹
0.11
0.10
0.08
0.06
0.04
0.02
0.00
z = 2
z = 0
z = -2
Reference Line is Robust Mean
z-score based on Quality 1
K28 K55 K45 K20 K11 K41 K10 K15 K48 K16 K46
LA-ICP-MS EPMA SEM u-XRF LIBS Other

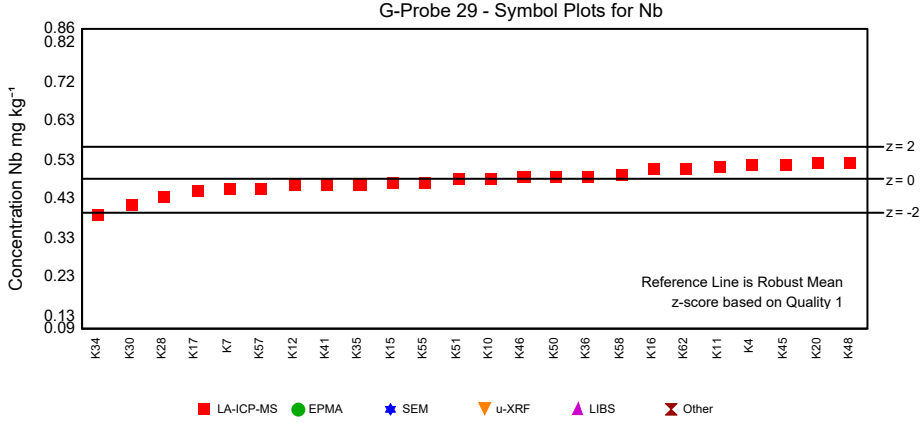

G-Probe 29 - Symbol Plots for La
Concentration La mg kg⁻¹
0.97
0.80
0.60
0.40
0.20
0.11
z = 2
z = 0
z = -2
Reference Line is Median
z-score based on Quality 1
K34 K15 K28 K31 K17 K50 K30 K41 K57 K35 K12 K51 K55 K36 K16 K10 K4 K45 K62 K58 K46 K20 K7 K11 K48
LA-ICP-MS EPMA SEM u-XRF LIBS Other

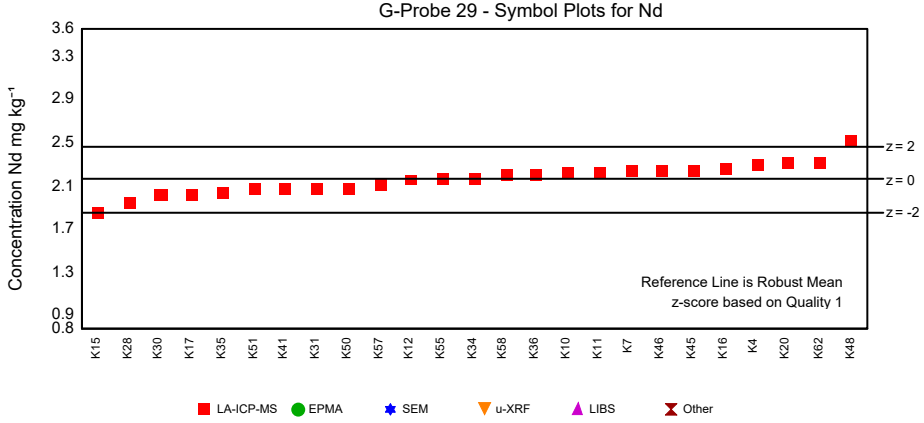

G-Probe 29 - Symbol Plots for Li
Concentration Li mg kg⁻¹
4.8
2.9
1.1
z = 2
z = 0
z = -2
Reference Line is Mode
z-score based on Quality 1
K28 K35 K50 K10 K12 K17 K34 K55 K16 K30 K41 K58 K36 K48 K45 K7 K31 K51
LA-ICP-MS EPMA SEM u-XRF LIBS Other

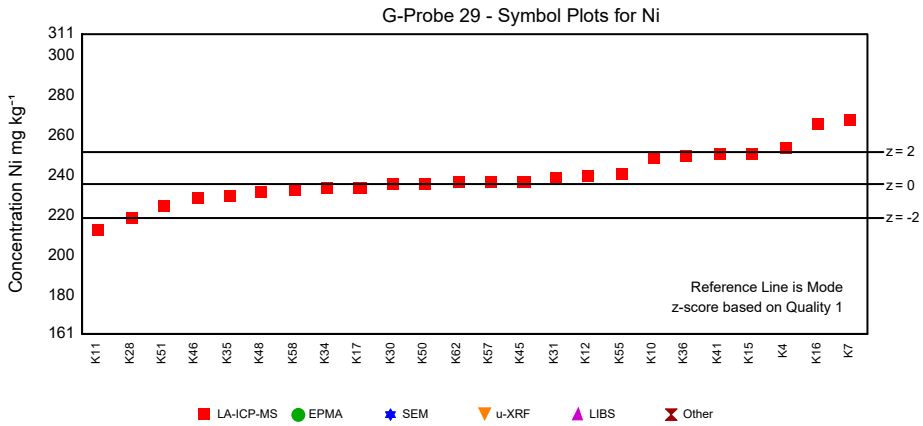

G-Probe 29 - Symbol Plots for Lu
Concentration Lu mg kg⁻¹
0.42
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.02
z = 2
z = 0
z = -2
Reference Line is Robust Mean
z-score based on Quality 1
K46 K34 K15 K28 K58 K41 K30 K17 K57 K35 K55 K10 K16 K36 K12 K45 K50 K51 K7 K4 K62 K11 K20 K48
LA-ICP-MS EPMA SEM u-XRF LIBS Other

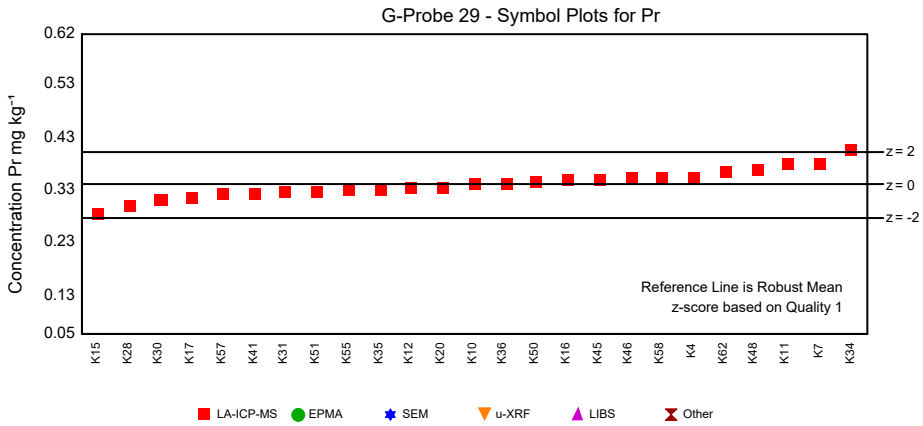

G-Probe 29 - Symbol Plots for Mn
Provisional
Concentration Mn mg kg⁻¹
1,644
1,625
1,525
1,425
1,325
1,225
1,125
1,025
999
z = 2
z = 0
z = -2
Reference Line is Robust Mean
z-score based on Quality 1
K51 K59 K21 K15 K28 K46 K31 K3 K11 K35 K34 K16 K17 K55 K45 K57 K4 K10 K50 K12 K41 K36 K58 K62 K7 K14
LA-ICP-MS EPMA SEM u-XRF LIBS Other

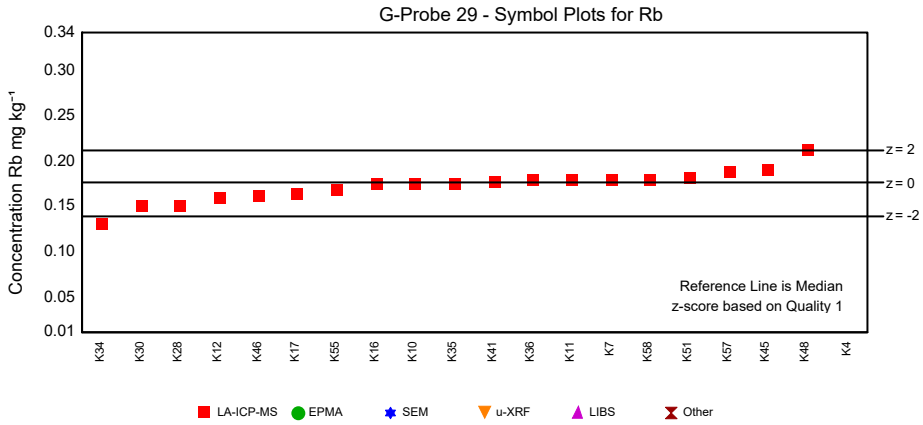

G-Probe 29 - Symbol Plots for Mo
Provisional
Concentration Mo mg kg⁻¹
0.32
0.30
0.25
0.20
0.15
0.10
0.05
0.01
z = 2
z = 0
z = -2
Reference Line is Robust Mean
z-score based on Quality 1
K51 K17 K48 K55 K41 K12 K10 K7 K16 K20 K28 K45 K30 K46 K11
LA-ICP-MS EPMA SEM u-XRF LIBS Other

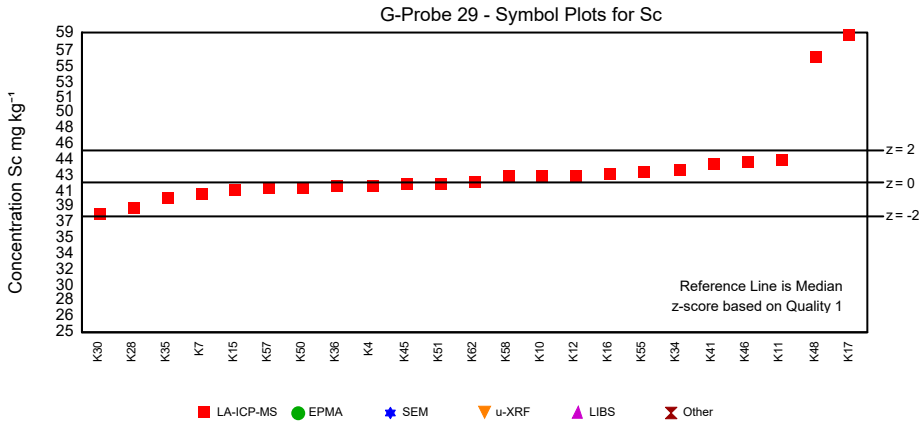

G-Probe 29 - Symbol Plots for Nb
Concentration Nb mg kg⁻¹
0.86
0.82
0.72
0.63
0.53
0.43
0.33
0.23
0.13
0.09
z = 2
z = 0
z = -2
Reference Line is Robust Mean
z-score based on Quality 1
K34 K30 K28 K17 K7 K57 K12 K41 K35 K15 K55 K51 K10 K46 K50 K36 K58 K16 K62 K11 K4 K45 K20 K48
LA-ICP-MS EPMA SEM u-XRF LIBS Other

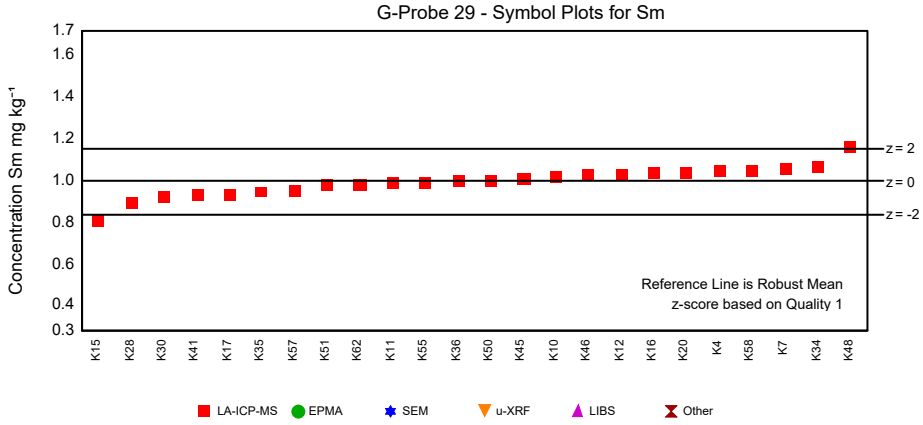

G-Probe 29 - Symbol Plots for Nd
Concentration Nd mg kg⁻¹
3.6
3.3
2.9
2.5
2.1
1.7
1.3
0.9
0.8
z = 2
z = 0
z = -2
Reference Line is Robust Mean
z-score based on Quality 1
K15 K28 K30 K17 K35 K51 K41 K31 K50 K57 K12 K55 K34 K58 K36 K10 K11 K7 K46 K45 K16 K4 K20 K62 K48
LA-ICP-MS EPMA SEM u-XRF LIBS Other

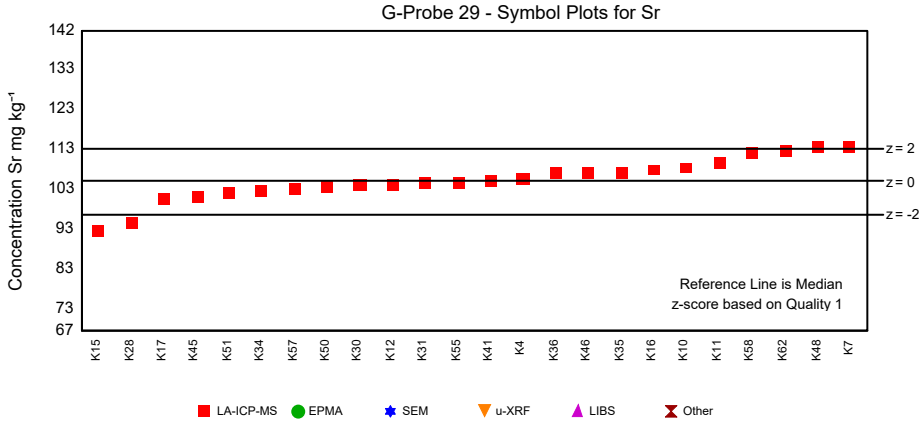

G-Probe 29 - Symbol Plots for Ni
Concentration Ni mg kg⁻¹
311
300
280
260
240
220
200
180
161
z = 2
z = 0
z = -2
Reference Line is Mode
z-score based on Quality 1
K11 K28 K51 K46 K35 K48 K58 K34 K17 K30 K50 K62 K57 K45 K31 K12 K55 K10 K36 K41 K15 K4 K16 K7
LA-ICP-MS EPMA SEM u-XRF LIBS Other

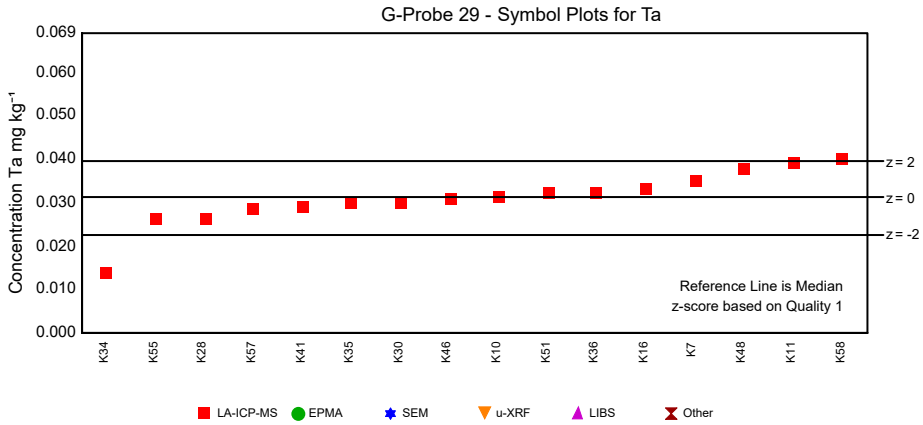

G-Probe 29 - Symbol Plots for Pr
Concentration Pr mg kg⁻¹
0.62
0.53
0.43
0.33
0.23
0.13
0.05
z = 2
z = 0
z = -2
Reference Line is Robust Mean
z-score based on Quality 1
K15 K28 K30 K17 K57 K41 K31 K51 K55 K35 K12 K20 K10 K36 K50 K16 K45 K46 K58 K4 K62 K48 K11 K7 K34
LA-ICP-MS EPMA SEM u-XRF LIBS Other

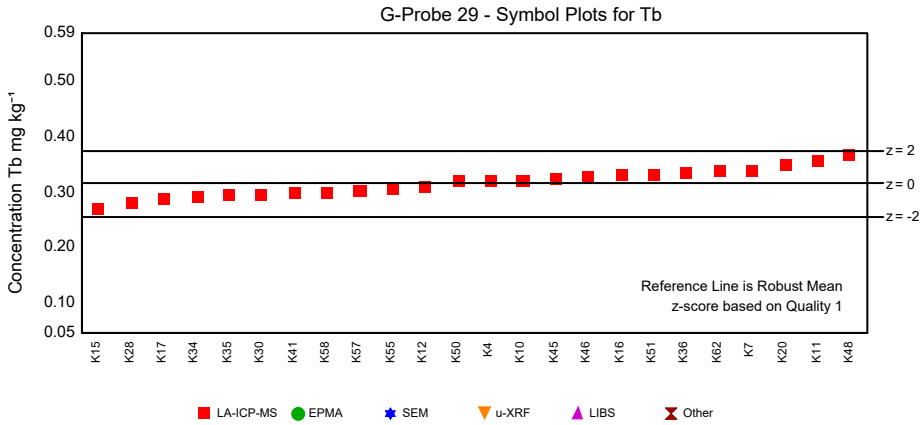

G-Probe 29 - Symbol Plots for Rb
Concentration Rb mg kg⁻¹
0.34
0.30
0.25
0.20
0.15
0.10
0.05
0.01
z = 2
z = 0
z = -2
Reference Line is Median
z-score based on Quality 1
K34 K30 K28 K12 K46 K17 K55 K16 K10 K35 K41 K36 K11 K7 K58 K51 K57 K45 K48 K4
LA-ICP-MS EPMA SEM u-XRF LIBS Other

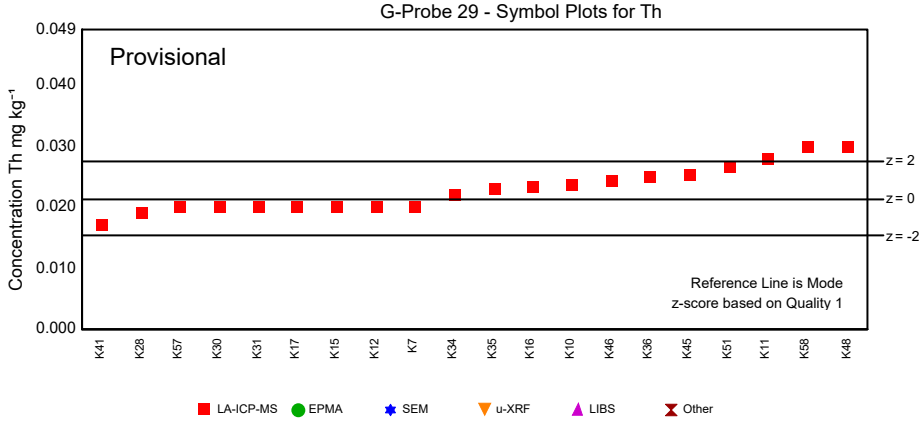

G-Probe 29 - Symbol Plots for Sc
Concentration Sc mg kg⁻¹
59
57
55
53
51
50
48
46
44
43
41
39
37
35
34
32
30
28
26
25
z = 2
z = 0
z = -2
Reference Line is Median
z-score based on Quality 1
K30 K28 K35 K7 K15 K57 K50 K36 K4 K45 K51 K62 K58 K10 K12 K16 K55 K34 K41 K46 K11 K48 K17
LA-ICP-MS EPMA SEM u-XRF LIBS Other

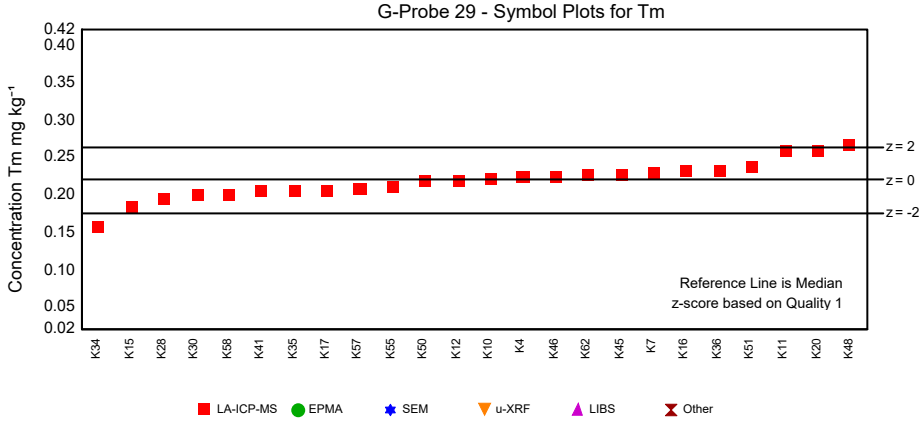

G-Probe 29 - Symbol Plots for Sm
Concentration Sm mg kg⁻¹
1.7
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.3
z = 2
z = 0
z = -2
Reference Line is Robust Mean
z-score based on Quality 1
K15 K28 K30 K41 K17 K35 K57 K51 K62 K11 K55 K36 K50 K45 K10 K46 K12 K16 K20 K4 K58 K7 K34 K48
LA-ICP-MS EPMA SEM u-XRF LIBS Other

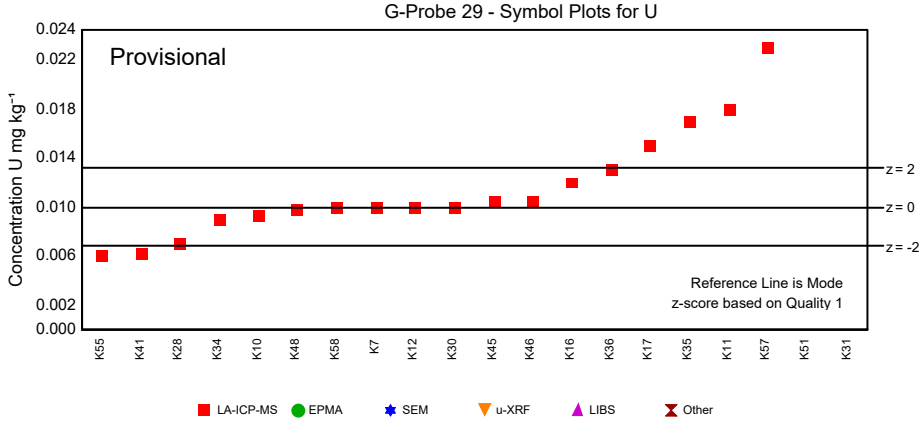

G-Probe 29 - Symbol Plots for Sr
Concentration Sr mg kg⁻¹
142
133
123
113
103
93
83
73
67
z = 2
z = 0
z = -2
Reference Line is Median
z-score based on Quality 1
K15 K28 K17 K45 K51 K34 K57 K50 K30 K12 K31 K55 K41 K4 K36 K46 K35 K16 K10 K11 K58 K62 K48 K7
LA-ICP-MS EPMA SEM u-XRF LIBS Other

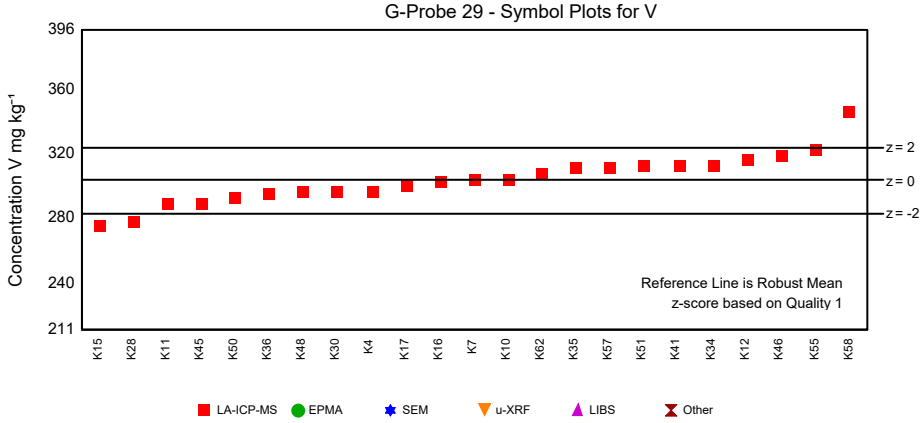

G-Probe 29 - Symbol Plots for Ta
Concentration Ta mg kg⁻¹
0.069
0.060
0.050
0.040
0.030
0.020
0.010
0.000
K34 K55 K28 K57 K41 K35 K30 K46 K10 K51 K36 K16 K7 K48 K11 K58
z = 2
z = 0
z = -2
Reference Line is Median
z-score based on Quality 1
LA-ICP-MS EPMA SEM u-XRF LIBS Other

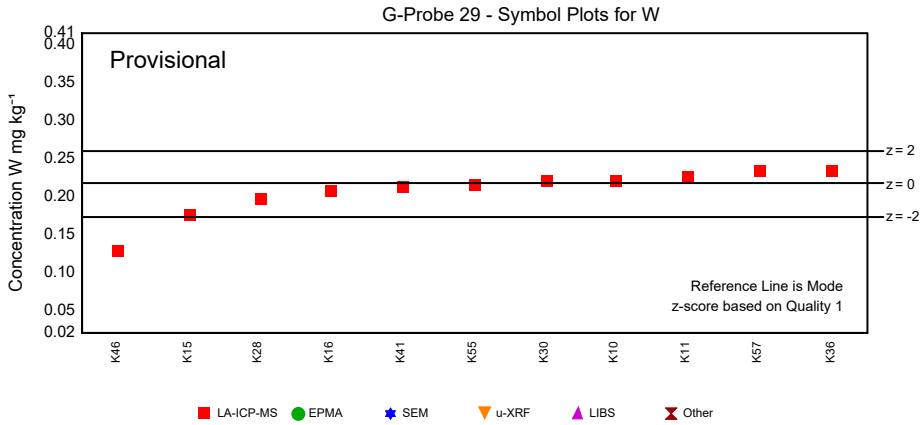

G-Probe 29 - Symbol Plots for Tb
Concentration Tb mg kg⁻¹
0.59
0.50
0.40
0.30
0.20
0.10
0.05
K15 K28 K17 K34 K35 K30 K41 K58 K57 K55 K12 K50 K4 K10 K45 K46 K16 K51 K36 K62 K7 K20 K11 K48
z = 2
z = 0
z = -2
Reference Line is Robust Mean
z-score based on Quality 1
LA-ICP-MS EPMA SEM u-XRF LIBS Other

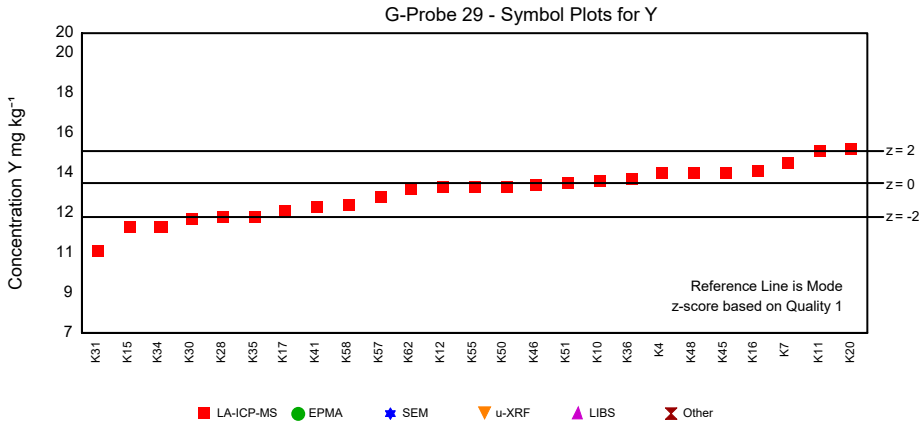

G-Probe 29 - Symbol Plots for Th
Provisional
Concentration Th mg kg⁻¹
0.049
0.040
0.030
0.020
0.010
0.000
K41 K28 K57 K30 K31 K17 K15 K12 K7 K34 K35 K16 K10 K46 K36 K45 K51 K11 K58 K48
z = 2
z = 0
z = -2
Reference Line is Mode
z-score based on Quality 1
LA-ICP-MS EPMA SEM u-XRF LIBS Other

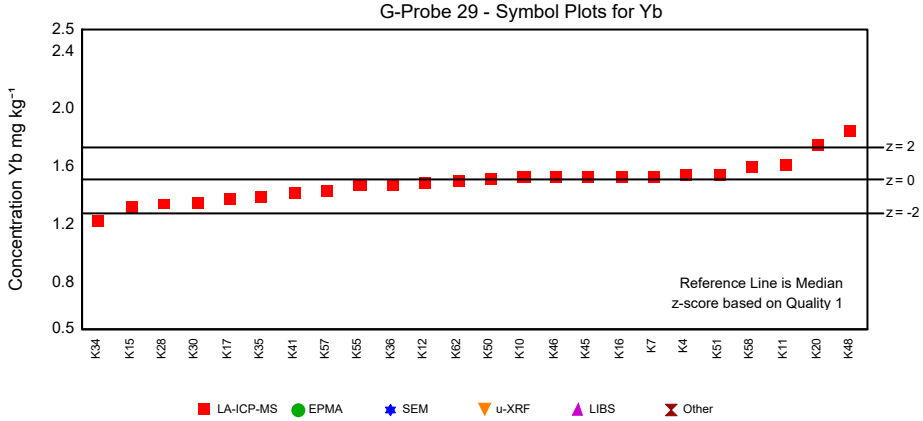

G-Probe 29 - Symbol Plots for Tm
Concentration Tm mg kg⁻¹
0.42
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.02
K34 K15 K28 K30 K58 K41 K35 K17 K57 K55 K50 K12 K10 K4 K46 K62 K45 K7 K16 K36 K51 K11 K20 K48
z = 2
z = 0
z = -2
Reference Line is Median
z-score based on Quality 1
LA-ICP-MS EPMA SEM u-XRF LIBS Other

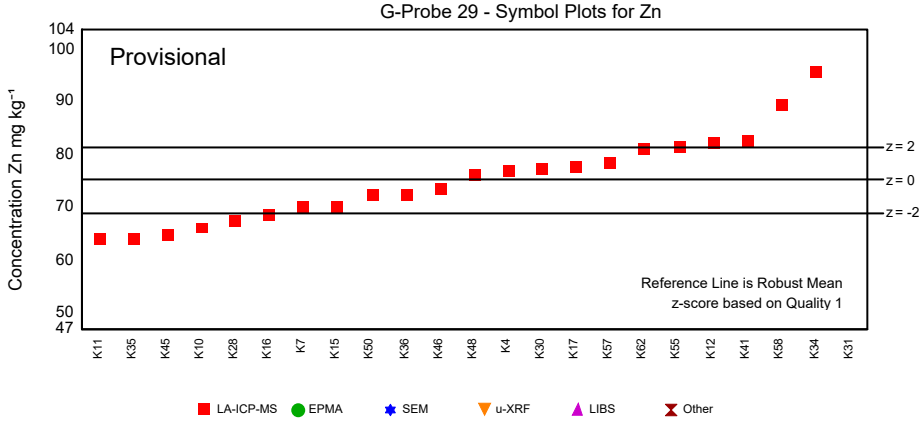

G-Probe 29 - Symbol Plots for U
Provisional
Concentration U mg kg⁻¹
0.024
0.022
0.018
0.014
0.010
0.006
0.002
0.000
K55 K41 K28 K34 K10 K48 K58 K7 K12 K30 K45 K46 K16 K36 K17 K35 K11 K57 K51 K31
z = 2
z = 0
z = -2
Reference Line is Mode
z-score based on Quality 1
LA-ICP-MS EPMA SEM u-XRF LIBS Other


G-Probe 29 - Symbol Plots for V
Concentration V mg kg⁻¹
396
360
320
280
240
211
K15 K28 K11 K45 K50 K36 K48 K30 K4 K17 K16 K7 K10 K62 K35 K57 K51 K41 K34 K12 K46 K55 K58
z = 2
z = 0
z = -2
Reference Line is Robust Mean
z-score based on Quality 1
LA-ICP-MS EPMA SEM u-XRF LIBS Other









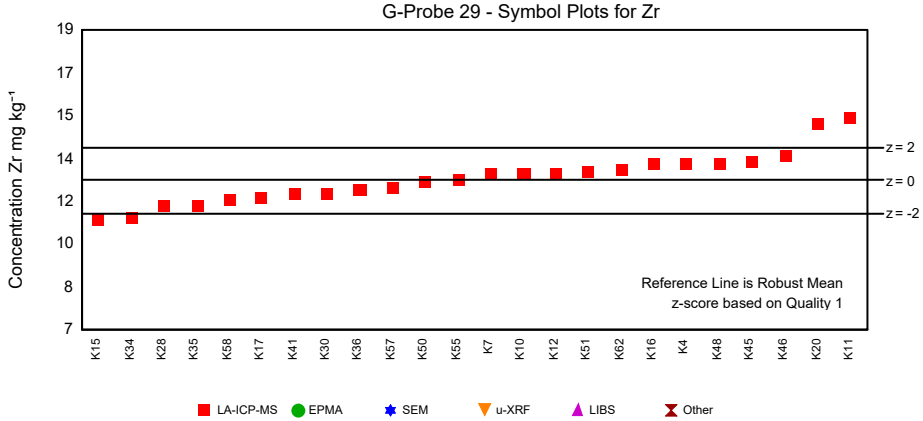
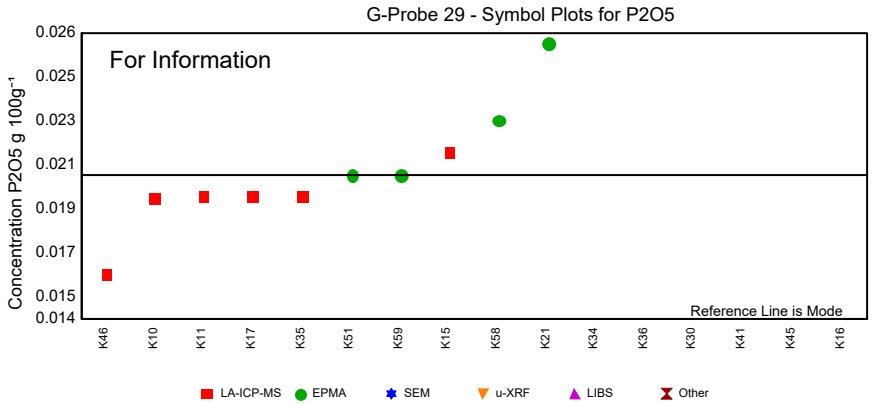
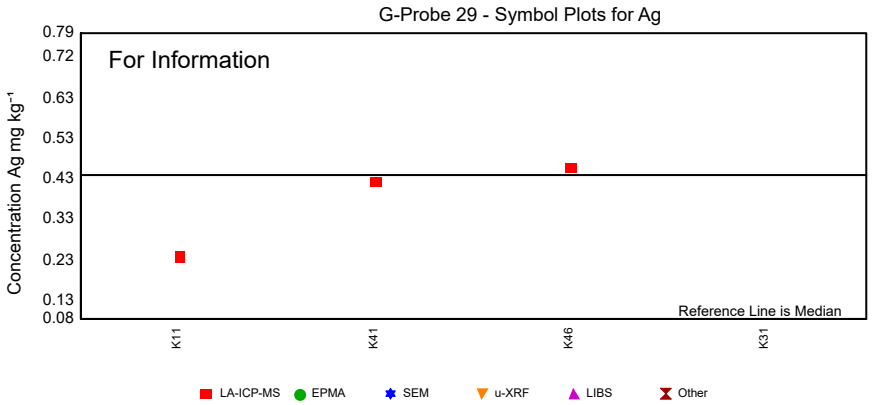
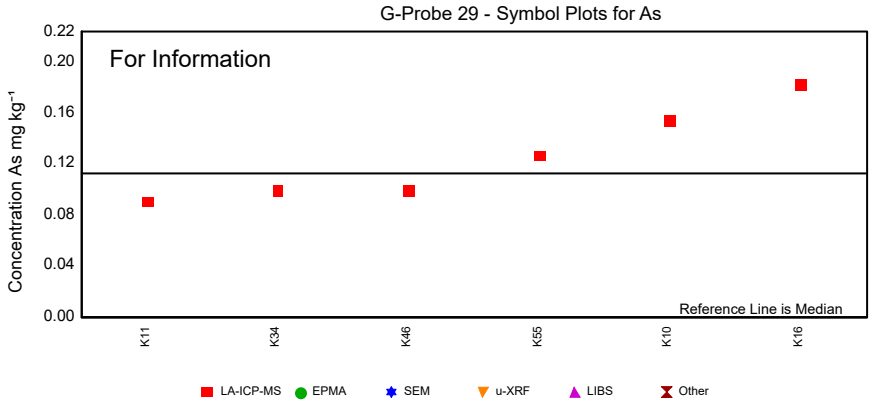
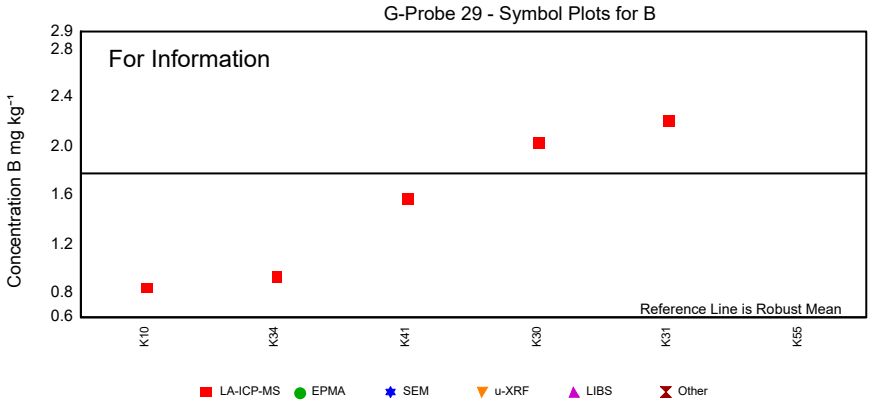


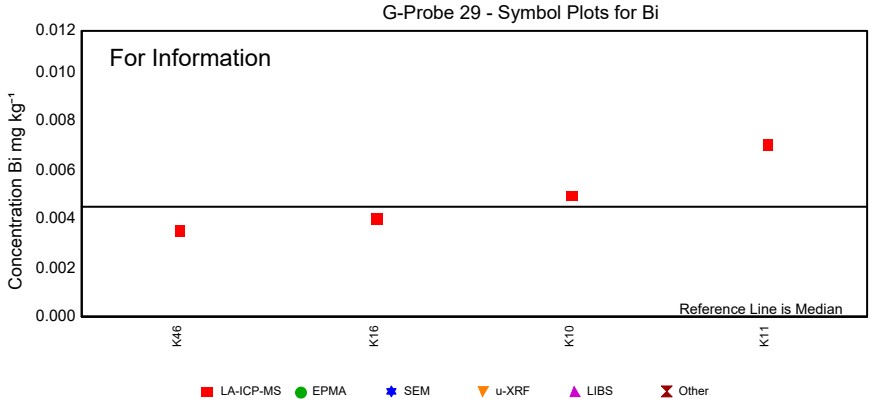
Figure 1: G-Probe 29 - MORB-type Basalt, KBMO-1G Glass. Data distribution charts for elements for which values were assigned or provisional values given for guidance. Horizontal lines show the limits for -2<z<2 where the z-score is derived according to the Quality specified.

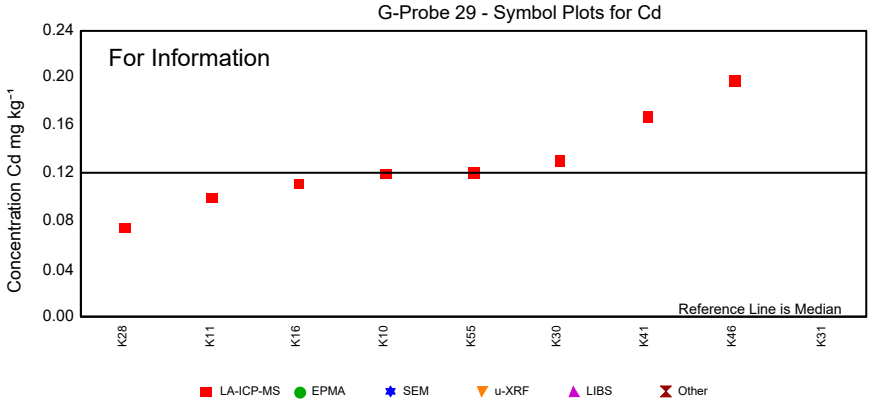

G-Probe 29 - Symbol Plots for P2O5
For Information
Concentration P2O5 g 100g⁻¹
0.026
0.025
0.023
0.021
0.019
0.017
0.015
0.014
Reference Line is Mode
K46 K10 K11 K17 K35 K51 K59 K15 K58 K21 K34 K36 K30 K41 K45 K16
LA-ICP-MS EPMA SEM u-XRF LIBS Other

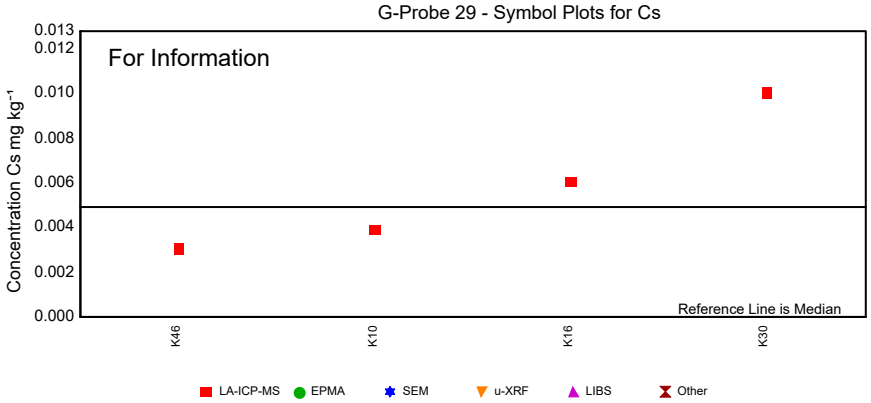

G-Probe 29 - Symbol Plots for Ag
For Information
Concentration Ag mg kg⁻¹
0.79
0.72
0.63
0.53
0.43
0.33
0.23
0.13
0.08
Reference Line is Median
K11 K41 K46 K31
LA-ICP-MS EPMA SEM u-XRF LIBS Other

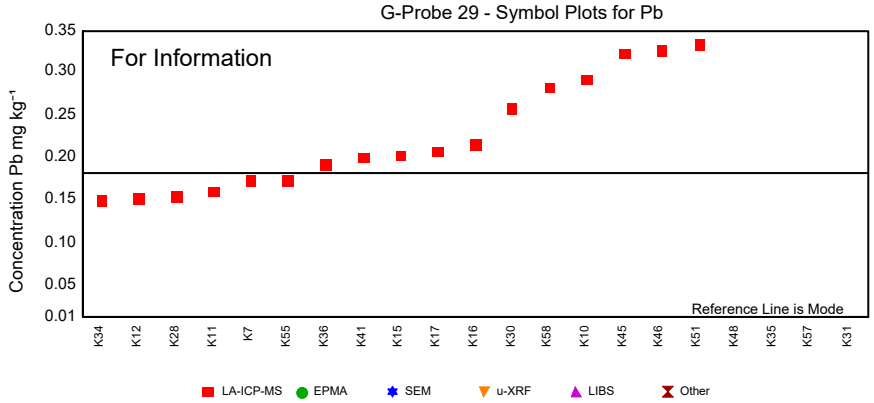

G-Probe 29 - Symbol Plots for As
For Information
Concentration As mg kg⁻¹
0.22
0.20
0.16
0.12
0.08
0.04
0.00
Reference Line is Median
K11 K34 K46 K55 K10 K16
LA-ICP-MS EPMA SEM u-XRF LIBS Other

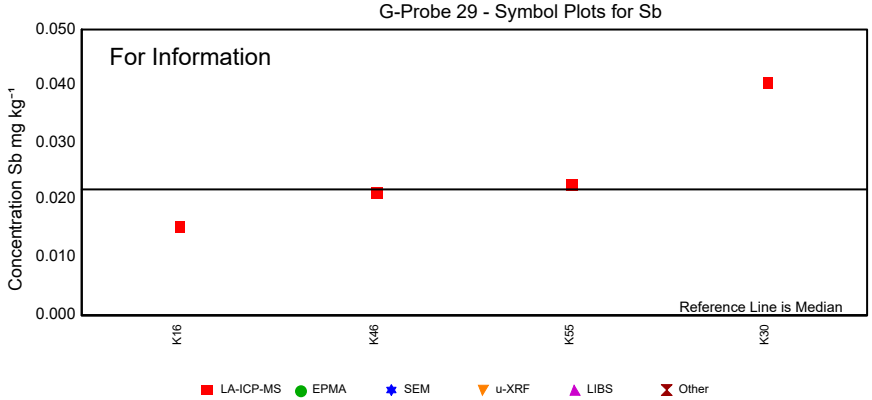

G-Probe 29 - Symbol Plots for B
For Information
Concentration B mg kg⁻¹
2.9
2.8
2.4
2.0
1.6
1.2
0.8
0.6
Reference Line is Robust Mean
K10 K34 K41 K30 K31 K55
LA-ICP-MS EPMA SEM u-XRF LIBS Other


G-Probe 29 - Symbol Plots for Bi
For Information
Concentration Bi mg kg⁻¹
0.012
0.010
0.008
0.006
0.004
0.002
0.000
Reference Line is Median
K46 K16 K10 K11
LA-ICP-MS EPMA SEM u-XRF LIBS Other


G-Probe 29 - Symbol Plots for Cd
For Information
Concentration Cd mg kg⁻¹
0.24
0.20
0.16
0.12
0.08
0.04
0.00
Reference Line is Median
K28 K11 K16 K10 K55 K30 K41 K46 K31
LA-ICP-MS EPMA SEM u-XRF LIBS Other







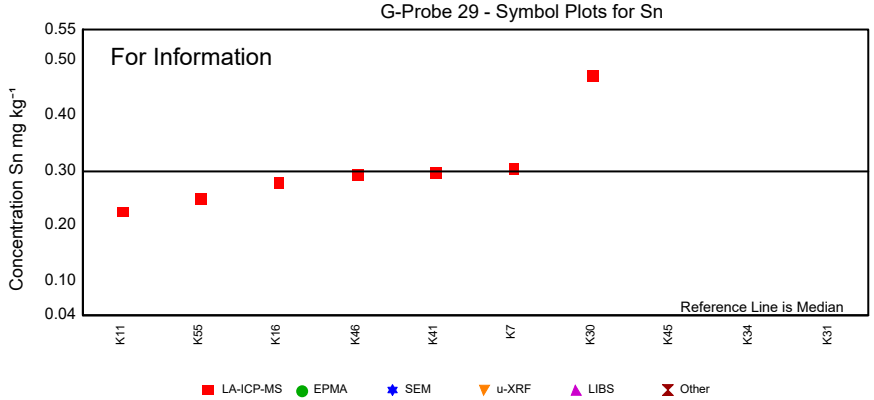
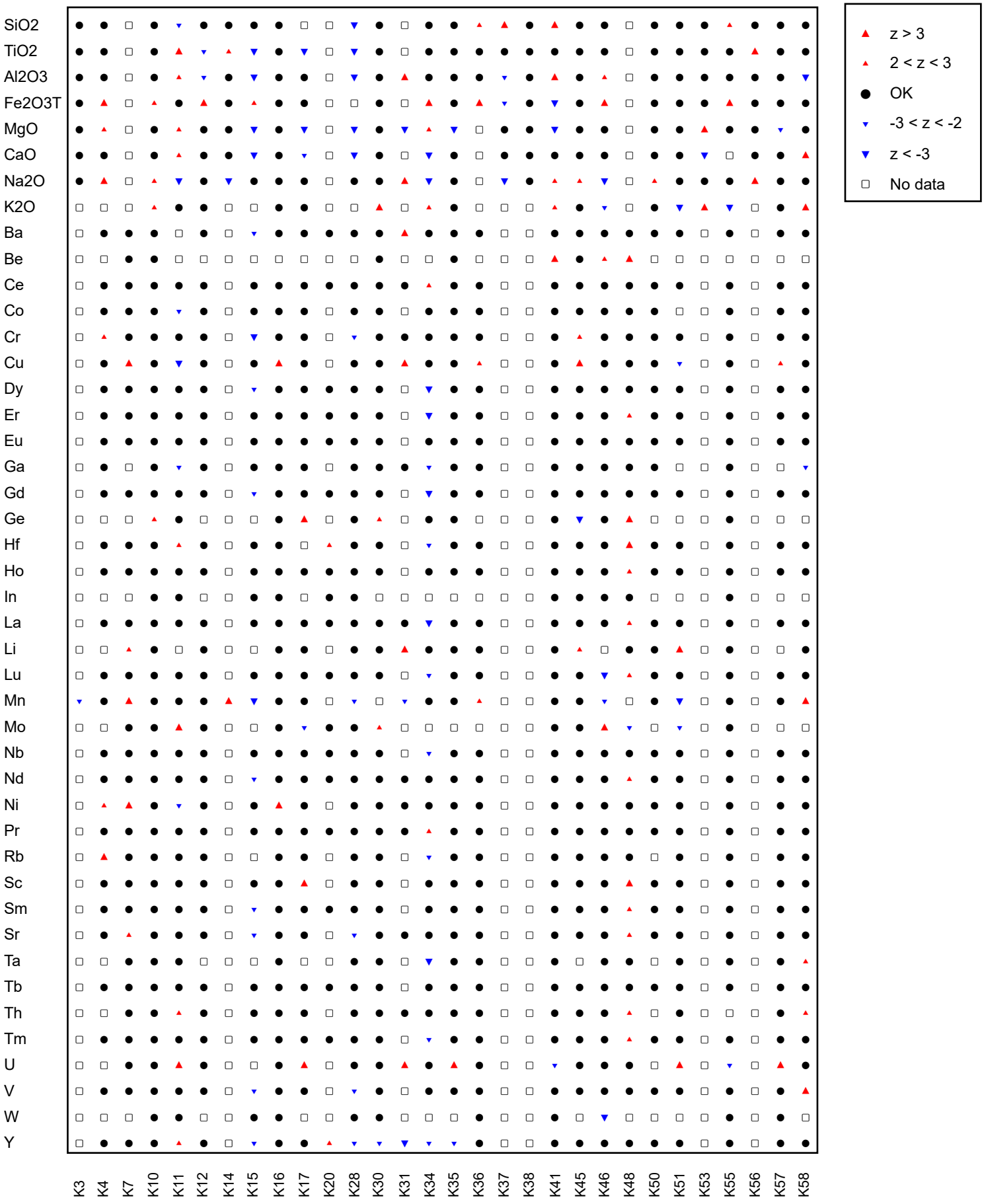


Figure 2: G-Probe 29 - MORB-type Basalt, KBMO-1G Glass. Data distribution charts provided for information only for elements for which values could not be credited with assigned or provisional status.

Multiple Z-Score Chart for G-Probe 29



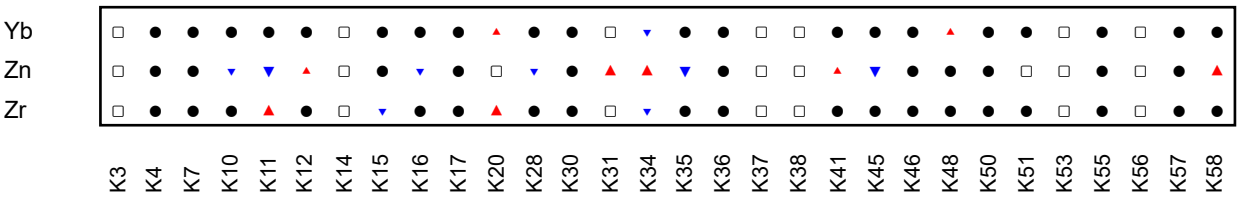
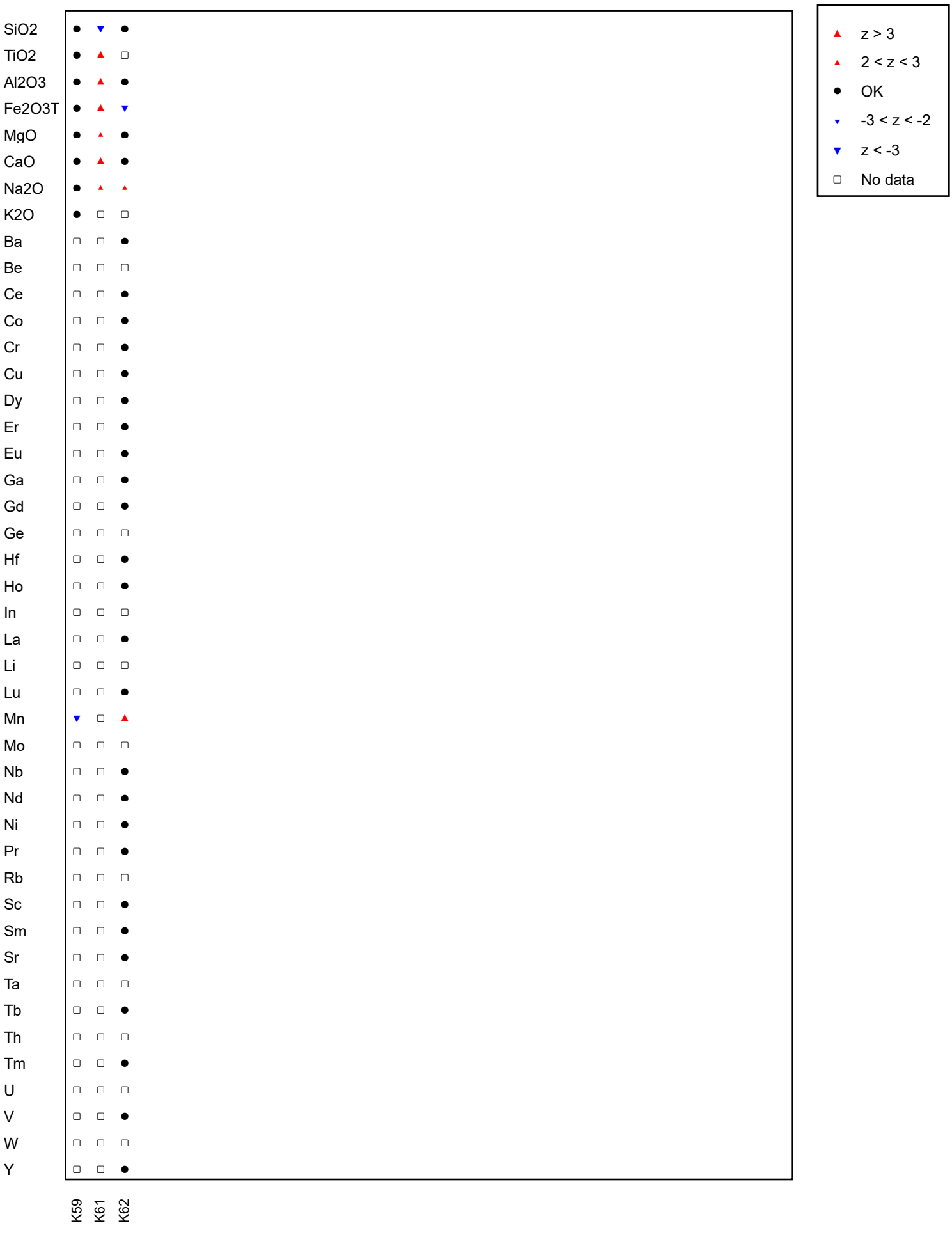


Figure 3: G-Probe 29 - MORB-type Basalt, KBMO-1G Glass. Multiple z-score charts for laboratories participating in the G-Probe 29 round. Symbols indicate whether or not an elemental result complies with the -2<z<+2 criteria (see key).

Multiple Z-Score Chart for G-Probe 29



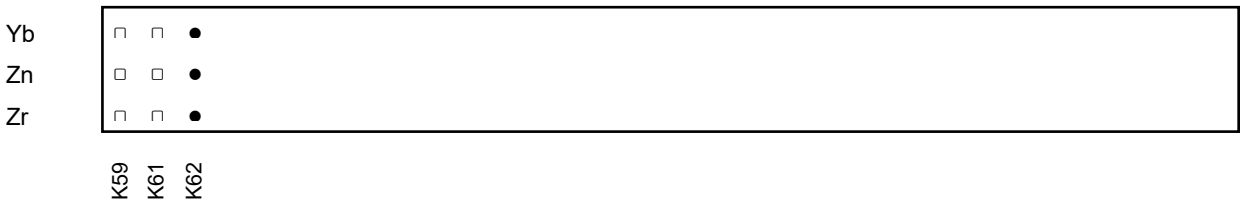


Figure 3: G-Probe 29 - MORB-type Basalt, KBMO-1G Glass. Multiple z-score charts for laboratories participating in the G-Probe 29 round. Symbols indicate whether or not an elemental result complies with the -2<z<+2 criteria (see key).