Geo*PT*35 — AN INTERNATIONAL PROFICIENCY TEST FOR ANALYTICAL GEOCHEMISTRY LABORATORIES — REPORT ON ROUND 35 (Tonalite, TLM-1) / August 2014

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Abstract

Results are presented for Geo*PT*35, the subject of round thirty-five of the International Association of Geoanalysts' Proficiency Testing programme for analytical geochemistry laboratories. The test sample distributed in this round was a tonalite, TLM-1, supplied by Dr Stephen Wilson of the U.S. Geological Survey. In this report, the data contributed from 101 laboratories are listed, together with an assessment of consensus values, consequent *z*-scores and charts to show the distribution of contributed results and the overall performance of participating laboratories.

Introduction

This thirty-fifth round of the international proficiency testing programme, Geo*PT*, was conducted in a similar manner to earlier rounds. The programme is designed to be part of the routine quality assurance procedures employed by analytical geochemistry laboratories. The programme is organised by the International Association of Geoanalysts and is conducted in accordance with a published protocol available at (http://www.geoanalyst.org/documents/ GeoPT-protocol.pdf). The overall aim of the programme is to provide participating laboratories with *z*-score information for reported elemental determinations from which the laboratory can decide whether the quality of their data is satisfactory in relation both to their chosen fitness-for-purpose criteria and to the results submitted by other laboratories contributing to the round and can choose to take corrective action if this appears justified.

Steering Committee for Round 35: P.C. Webb (results coordinator), M. Thompson (statistical advisor), P.J. Potts (analytical advisor), S.Wilson (provision of TLM-1).

Timetable for Round 35:

Distribution of sample: March 2014.
Deadline for submission of analytical results: 13th June 2014.
Distribution of report: August 2014

Test Material details

Geo*PT*35: The tonalite test material, TLM-1, was originally produced at the U.S. Geological Survey under the direction of F.J. Flanagan and was supplied by Stephen Wilson. The test material was evaluated for homogeneity by the originator and as a result, the sample was considered suitable for use in this proficiency test.

Submission of results

The results submitted for Geo*PT*35 (TLM-1) by 101 laboratories are listed in Table 1. Submission of data was by a new online system developed by KPMD (IT Solutions) Ltd, Sheffield, England. In Table 1 results designated as data quality 1 are shown in bold: results of data quality 2 are shown underlined. Results from all

laboratories submitting data were used to assess respective assigned values. However, in our Instructions to Analysts participants are instructed that values of '0', i.e. zero, should not be reported, but this was done by a number of laboratories. 25 such values were excluded from consideration.

It was observed that two laboratories, K52 and K96, appeared to have transposed their results for samples Geo*PT*35 and Geo*PT*35A. As a test of proficiency, results have to be processed as submitted, consequently *z*-scores for these laboratories probably do not reflect their analytical capabilities. We apologise if in any way the move to the new system was a contributory factor.

Assigned values

Following procedures described in earlier rounds, a robust statistical procedure was used to derive assigned concentration values [X_a], these being judged to be the best available estimates of the true composition of this sample. Values were assigned on the basis that: (i) sufficient laboratories had contributed data for an element, and (ii) the statistical assessment gave confidence that the results distribution showed a central portion approximating to a normal distribution. Part of this assessment involved examining a bar chart of contributed data for each element to judge the distribution of results.

Table 2 lists assigned and provisional values for 10 major components and 44 trace elements in Geo*PT*35 (TLM-1). Bar charts for the 54 elements/components of Geo*PT*35 that were judged to have satisfactory distributions for consensus values to be given assigned or provisional values are shown in Figure 1. These are: SiO_2, TiO_2, Al_2O_3, Fe_2O_3T, MnO, MgO, CaO, Na_2O, K_2O, P_2O_5, Ba, Be, Bi*, Cd*, Ce, Co, Cs, Cu, Dy, Er, Eu, Ga, Gd, Ge*, Hf*, Ho, In*, La, Li, Lu, Mo*, Nb, Nd, Ni*, Pb, Pr, Rb, Sb*, Sc, Sm, Sn*, Sr, Ta, Tb, Th, Tl, Tm, U, V, W*, Y, Yb, Zn and Zr. Of these, only provisional values were given to the 10 marked '*'. Instances of provisional status were recorded because either i) a relatively small number of measurements contributed to the consensus, or ii) the results were significantly dispersed in relation to the target value or the distribution was in part non-symmetrical.
In 20 cases the robust mean was used to define the consensus value, but in 33 cases the median value was preferred. In 3 cases a mode provided the most satisfactory consensus value, one of which was suitable for the value to be assigned, the others were given provisional status (see Table 2). The procedure used to determine the mode was based on the analysis of mixed populations detailed in Thompson (2006) and used in several rounds of Geo*PT* since round Geo*PT*23.

Bar charts for the 11 elements/components: Fe(II)O, H_2O^+, LOI, Ag, As, C(tot), Cl, Cr, F, S and Se are plotted in Figure 2 for information only, as the data were insufficient or too variable for the reliable determination of a consensus.

***Z*-score analysis**

As in previous rounds, laboratories were invited to choose one of two performance standards against which their analytical results would be judged:
Data quality 1 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. For Geo*PT*35, 1740 results of data quality 1 were submitted.
Data quality 2 for laboratories working to an 'applied geochemistry' standard of performance, where, although precision and accuracy are still important, the main objective is to provide results on large numbers of samples collected, for example, as part of geochemical mapping projects or geochemical exploration programmes. For Geo*PT*35, 1783 results of data quality 2 were submitted.

The target standard deviation (H_a) for each element assessed was calculated from a modified form of the Horwitz function as follows:
$H_a = k.X_a^{0.8495}$

Where X_a is the concentration of the element expressed as a *fraction*; the factor k = 0.01 for pure geochemistry labs and k = 0.02 for applied geochemistry labs. *Z*-scores were calculated for each elemental result submitted by each laboratory from:

$z = [X - X_a] / H_a$

where: X is the contributed result, X_a is the assigned value and H_a is the target standard deviation.

Z-score results for contributors to Geo*PT*35 are listed in Table 3. Participating laboratories are invited to assess their performance using the following criterion:– *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 $-3<z<3$, it would be advisable for the contributing laboratory to examine its procedures, and if necessary, take action to ensure that determinations are not subject to unsuspected analytical bias.

Overall performance

A summary of the overall performance of individual laboratories in this round is plotted in multiple *z*-score charts for Geo*PT*35 in Figure 3. In these charts, the *z*-score performance for each element is distinguished by symbols that make it simple to identify whether the results were satisfactory or gave *z*-scores that exceeded the action limits. This chart is designed to help individual laboratories to judge their overall performance in this proficiency testing round. Participants should always review their *z*-scores in accord 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 the Geo*PT*36 round, the test sample for which will be distributed during September 2014.

Reminder to participants

Participants are instructed (in our **Instructions to Analysts**) that '0', i.e. zero, should not be reported as a result. For Geo*PT*35, 25 zeros were reported and were disregarded. It is recommended that participants do not report zeros in future.

Acknowledgements

The authors thank Liz Lomas for much-valued assistance in distributing this sample. Thanks also to Mick Daniels and Ben Solway of KPMD (IT Solutions) Ltd for developing an efficient system for producing this report.

Reference

Thompson, M. (2006). Using mixture models for bump-hunting in the results of proficiency tests. Accred. Qual. Assur., 10, 501-505.

Appendix 1

Publication status of proficiency testing reports. Previous reports are available for download from the IAG website (http://www.geoanalyst.org/).

Geo*PT*1
Thompson M., Potts P.J., Kane J.S. and Webb P.C. (1996)
Geo*PT*1. International proficiency test for analytical geochemistry laboratories - Report on round 1. Geostandards Newsletter: The Journal of Geostandards and Geoanalysis, 20, 295-325.

Geo*PT*2
Thompson M., Potts P.J., Kane J.S., Webb P.C. and Watson, J.S. (1998)
Geo*PT*2. International proficiency test for analytical geochemistry laboratories - Report on round 2. Geostandards Newsletter: The Journal of Geostandards and Geoanalysis, 22 127-156.

Geo*PT*3
Thompson M., Potts P.J., Kane J.S. and Chappell B.W. (1999a)
Geo*PT*3. International proficiency test for analytical geochemistry laboratories - Report on round 3. Geostandards Newsletter: The Journal of Geostandards and Geoanalysis, 23, 87-121.

Geo*PT*4
Thompson M., Potts P.J., Kane J.S., Webb P.C. and Watson J.S. (1999b)
Geo*PT*4. International proficiency test for analytical geochemistry laboratories - Report on round 4. Published in the electronic version of Geostandards Newsletter: The Journal of Geostandards and Geoanalysis (Summer 2000).

Geo*PT*5
Thompson M., Potts P.J., Kane J.S., and Wilson S. (1999c)
Geo*PT*5. International proficiency test for analytical geochemistry laboratories - Report on round 5. Published in the electronic version of Geostandards Newsletter: The Journal of Geostandards and Geoanalysis (Summer 2000).

Geo*PT*6
Potts P.J., Thompson M., Kane J.S., Webb P.C. and Carignan J. (2000)
GEO*PT*6 - an international proficiency test for analytical geochemistry laboratories - report on round 6 (OU-3: Nanhoron microgranite) and 6A (CAL-S: CRPG limestone). International Association of Geoanalysts: Unpublished report.

Geo*PT*7
Potts P.J., Thompson M., Kane J.S., and Petrov L.L. (2000)
GEO*PT*7 - an international proficiency test for analytical geochemistry laboratories - report on round 7 (GBPG-1 Garnet-biotite plagiogneiss). International Association of Geoanalysts: Unpublished report.

Geo*PT*8
Potts P.J., Thompson M., Kane J.S., Webb, P.C. and Watson J.S. (2000)
GEO*PT*8 - an international proficiency test for analytical geochemistry laboratories - report on round 8 / February 2001 (OU-4 Penmaenmawr microdiorite). International Association of Geoanalysts: Unpublished report.

Geo*PT*9
Potts P.J., Thompson M., Webb, P.C. and Watson J.S. (2001)
GEO*PT*9 - an international proficiency test for analytical geochemistry laboratories - report on round 9 / July 2001 (OU-6 Penrhyn slate). International Association of Geoanalysts: Unpublished report.

Geo*PT*10
Potts P.J., Thompson M., Webb, P.C., Watson J.S. and Wang Yimin (2001)
GEO*PT*10 - an international proficiency test for analytical geochemistry laboratories - report on round 10 / December 2001 (CH-1 Marine sediment). International Association of Geoanalysts: Unpublished report.

Geo*PT*11
Potts P.J., Thompson M., Chenery S.R., Webb, P.C. and Watson J.S. (2002)
GEO*PT*11 - an international proficiency test for analytical geochemistry laboratories - report on round 11 / July 2002 (OU-5 Leaton dolerite). International Association of Geoanalysts: Unpublished report.

Geo*PT*12
Potts P.J., Thompson M., Chenery S.R., Webb, P.C. and Batjargal B. (2003)
GEO*PT*12 - an international proficiency test for analytical geochemistry laboratories - report on round 12 / January 2003 (GAS Serpentinite). International Association of Geoanalysts: Unpublished report.

Geo*PT*13
Potts P.J., Thompson M., Chenery S.R., Webb, P.C. and Kaspar H.U. (2003)
GEO*PT*13 - an international proficiency test for analytical geochemistry laboratories - report on round 13 / July 2003 (Köln Loess). International Association of Geoanalysts: Unpublished report.

Geo*PT*14
Potts P.J., Thompson M., Chenery S.R., Webb, P.C. and B. Batjargal (2004)
Geo*PT*14 - an international proficiency test for analytical geochemistry laboratories - report on round 14 / January 2004 (OShBO - alkaline granite). International Association of Geoanalysts: Unpublished report.

Geo*PT*15
Potts P.J., Thompson M., Chenery S.R., Webb, P.C. and WANG Yimin (2004)
Geo*PT*15 - an international proficiency test for analytical geochemistry laboratories - report on round 15 / June 2004 (Ocean floor sediment MSAN). International Association of Geoanalysts: Unpublished report.

Geo*PT*16
Potts P.J., Thompson M., Webb, P.C. and S.Wilson (2005)
Geo*PT*16 - an international proficiency test for analytical geochemistry laboratories - report on round 16 / February 2005 (Nevada basalt, BNV-1). International Association of Geoanalysts: Unpublished report.

Geo*PT*17
Potts P.J., Thompson M., Webb, P.C. and J. Nicholas Walsh (2005)
Geo*PT*17 - an international proficiency test for analytical geochemistry laboratories - report on round 17 / July 2005 (Calcareous sandstone, OU-8). International Association of Geoanalysts: Unpublished report.

Geo*PT*18
Webb, P.C., Thompson M., Potts P.J. and L. Paul Bedard (2006)
Geo*PT*18 - an international proficiency test for analytical geochemistry laboratories - report on round 18 / Jan 2006 (Quartz Diorite, KPT-1). International Association of Geoanalysts: Unpublished report.

Geo*PT*19
Webb, P.C., Thompson M., Potts P.J. and B. Batjargal (2006)
Geo*PT*19 - an international proficiency test for analytical geochemistry laboratories - report on round 19 / July 2006 (Gabbro, MGR-N). International Association of Geoanalysts: Unpublished report.

Geo*PT*20
Webb, P.C., Thompson M., Potts P.J. and M. Burnham (2007)Geo*PT*20 - an international proficiency test for analytical geochemistry laboratories - report on round 20 / Jan 2007 (Ultramafic rock, OPY-1). International Association of Geoanalysts: Unpublished report.

Geo*PT*21
Webb, P.C., Thompson M., Potts P.J. and B. Batjargal (2007)
Geo*PT*21 - an international proficiency test for analytical geochemistry laboratories - report on round 21 / July 2007 (Granite, MGT-1). International Association of Geoanalysts: Unpublished report.

Geo*PT*22
Webb, P.C., Thompson, M., Potts, P.J. and Batjargal, B. (2008)
Geo*PT*22 - an international proficiency test for analytical geochemistry laboratories - report on round 22 / January 2008 (Basalt, MBL-1). International Association of Geoanalysts: Unpublished report.

Geo*PT*23
Webb, P.C., Thompson, M., Potts, P.J., Watson, J.S. and Kriete, C. (2008)
Geo*PT*23 - an international proficiency test for analytical geochemistry laboratories - report on round 23 / September 2008 (Separation Lake pegmatite, OU-9) and 23A (Manganese nodule, FeMn-1). International Association of Geoanalysts: Unpublished report.

Geo*PT*24
Webb, P.C., Thompson, M., Potts, P.J. and Watson, J.S. (2009)
Geo*PT*24 - an international proficiency test for analytical geochemistry laboratories - report on round 24 / January 2009 (Longmyndian greywacke, OU-10). International Association of Geoanalysts: Unpublished report.

Geo*PT*25
Webb, P.C., Thompson, M., Potts, P.J. and Enzweiler, J. (2009)
Geo*PT*25 - an international proficiency test for analytical geochemistry laboratories - report on round 25 / July 2009 (Basalt, HTP-1). International Association of Geoanalysts: Unpublished report.

Geo*PT*26
Webb, P.C., Thompson, M., Potts, P.J. and Loubser, M. (2010)
Geo*PT*26 - an international proficiency test for analytical geochemistry laboratories - report on round 26 / January 2010 (Ordinary Portland cement, OPC-1). International Association of Geoanalysts: Unpublished report.

Geo*PT*27
Webb, P.C., Thompson, M., Potts, P.J. and Batjargal, B. (2010)
Geo*PT*27 - an international proficiency test for analytical geochemistry laboratories - report on round 27 / July 2010 (Andesite, MGL-AND). International Association of Geoanalysts: Unpublished report.

Geo*PT*28
Webb, P.C., Thompson, M., Potts, P.J. and Wilson, S. (2011)
Geo*PT*28 - an international proficiency test for analytical geochemistry laboratories - report on round 28 / January 2011 (Shale, SBC-1). International Association of Geoanalysts: Unpublished report.

Geo*PT*29
Webb, P.C., Thompson, M., Potts, P.J. and Wilson, S. (2011)
Geo*PT*29 - an international proficiency test for analytical geochemistry laboratories - report on round 29 / July 2011 (Nephelinite, NKT-1). International Association of Geoanalysts: Unpublished report.

Geo*PT*30
Webb, P.C., Thompson, M., Potts, P.J., Long, D. and Batjargal, B. (2012)
Geo*PT*30 - an international proficiency test for analytical geochemistry laboratories - report on round 30 / January 2012 (Syenite, CG-2) and 30A (Limestone, ML-2). International Association of Geoanalysts: Unpublished report.

Geo*PT*31
Webb, P.C., Thompson, M., Potts, P.J and Wilson, S. (2012)
Geo*PT*31 - an international proficiency test for analytical geochemistry laboratories - report on round 31 / July 2012 (Modified river sediment, SdAR-1). International Association of Geoanalysts: Unpublished report.

Geo*PT*32
Webb, P.C., Thompson, M., Potts, P.J and Webber, E. (2013)
Geo*PT*32 - an international proficiency test for analytical geochemistry laboratories - report on round 32 / January 2013 (Woodstock Basalt, WG-1). International Association of Geoanalysts: Unpublished report.

Geo*PT*33
Webb, P.C., Thompson, M., Potts, P.J., Prusisz, B., and Young, K. (2013)
Geo*PT*33 - an international proficiency test for analytical geochemistry laboratories - report on round 33 / July-August 2013 (Ball Clay, DBC-1). International Association of Geoanalysts: Unpublished report.

Geo*PT*34
Webb, P.C., Thompson, M., Potts, P.J and Wilson, S. (2014)
Geo*PT*31 - an international proficiency test for analytical geochemistry laboratories - report on round 34 / January 2014 (Granite, GRI-1). International Association of Geoanalysts: Unpublished report.

Table 1 - GeoPT35 Contributed data for Tonalite, TLM-1. 13/06/2014

Lab Code		K1	K2	K3	K4	K5	K6	K7	K8	K9	K12	K14	K15	K16
SiO2	g 100g^{-1}	58.45		58.573	58.52		58.71	59.02	55.69		57.8	58.77	59.72	58.89
TiO2	g 100g^{-1}	0.819		0.846	0.81		0.905	0.795	0.788	0.828	0.83	0.8	0.82	0.827
Al2O3	g 100g^{-1}	17.349		17.384	17.92		16.3	17.13	16.57	16.77	17.3	17.36	17.68	17.27
Fe2O3T	g 100g^{-1}	7.548		7.668	7.66		8.83	7.25	7.152	7.702	7.46	7.53	7.02	7.463
Fe(II)O	g 100g^{-1}						2.4							
MnO	g 100g^{-1}	0.114		0.121	0.118		0.111	0.111	0.117	0.113	0.116	0.118	0.11	0.117
MgO	g 100g^{-1}	3.397		3.272	3.35		3.36	3.16	3.179	3.378	3.28	3.28	2.36	3.352
CaO	g 100g^{-1}	6.712		6.757	6.88		6.71	6.636	6.36	6.551	6.59	6.63	6.71	6.733
Na2O	g 100g^{-1}	3.002		2.928	2.99		2.84	3.03	2.72	3.142	2.92	2.96	2.88	2.931
K2O	g 100g^{-1}	1.614		1.658	1.65		1.65	1.544	1.552	1.621	1.62	1.6	1.65	1.651
P2O5	g 100g^{-1}	0.133		0.134	0.126		0.127	0.122	0.124	0.106	0.125	0.131	0.13	0.128
H2O+	g 100g^{-1}													
CO2	g 100g^{-1}													
LOI	g 100g^{-1}	0.68		0.66	0.84		0.8	0.67	0.74		0.55	0.77	0.92	
Ag	mg kg^{-1}						0.191			0.116				0.094
As	mg kg^{-1}						2.692		3.33	1.959			3.24	3.793
B	mg kg^{-1}													
Ba	mg kg^{-1}	751.1	731	826	804.2		661.224	736	645	722.8			800.550	733.7
Be	mg kg^{-1}	1.01	0.92		0.97		0.641			0.92			1.02	0.904
Bi	mg kg^{-1}	0.1	0.08				0.044			0.083				0.083
Br	mg kg^{-1}													
C(org)	mg kg^{-1}													
C(tot)	mg kg^{-1}											232		
Cd	mg kg^{-1}	0.17				0.14	0.12		0.141	0.098				0.163
Ce	mg kg^{-1}	29.56	28.8		29.16	28.8	23.653		27.07	28.46			23.65	32.47
Cl	mg kg^{-1}													
Co	mg kg^{-1}	18.91	19.3	22.9	19.4		16.371		18.58	19.95			18.88	20.6
Cr	mg kg^{-1}	20.56	13.6	33.4	14.26		11.488		18.4	13.3			13.67	17.18
Cs	mg kg^{-1}	2.96	2.79		3.35	2.84	2.49		2.77	2.424			2.59	3.142
Cu	mg kg^{-1}	20.34	19.9	24.5	18.89		20.267		15.35	19.23			21.54	19.99
Dy	mg kg^{-1}	4.35	4.36		4.48	4.42	3.38		4.192	4.413			4.91	4.894
Er	mg kg^{-1}	2.75	2.62		2.65	2.6	2.039		2.472	2.65			2.75	2.932
Eu	mg kg^{-1}	1.01	1.05		1.02	1.01	0.832		1.034	1.005			1.2	1.12
F	mg kg^{-1}													
Ga	mg kg^{-1}	20.79	19.6		18.98	18.6	17.105		18.65	16.77			18.55	21.47
Gd	mg kg^{-1}	4.1	4.36		4.42	4.23	3.539		3.906	4.527			4.43	4.983
Ge	mg kg^{-1}					1.33	1.109						1.04	1.438
Hf	mg kg^{-1}	3.49	3.32		0.75		0.557		3.469	3.39			0.86	0.918
Hg	mg kg^{-1}									0.005				
Ho	mg kg^{-1}	0.97	0.9		0.93	0.9	0.69		0.86	0.898			0.92	0.993
I	mg kg^{-1}													
In	mg kg^{-1}													0.067
La	mg kg^{-1}	13.2	12.7		12.47	13.1	10.1		12.41	12.93			10.32	13.91
Li	mg kg^{-1}	24.77	21.9		26.02		19.34		22.1	24.1			20.46	23.62
Lu	mg kg^{-1}	0.4	0.38		0.36	0.37	0.276		0.356	0.354			0.38	0.383
Mo	mg kg^{-1}	0.76	0.82				0.604			0.64				1.135
Nb	mg kg^{-1}	4.66	5.19	3.9	5.66	4.63	4.745		3.615	4.87			6.75	5.909
Nd	mg kg^{-1}	17.51	16.9		17.34	16.9	13.505		16.96	17.75			17.61	18.85
Ni	mg kg^{-1}	5.41	6.51	2.8	5.77		5.829			6.1			5.78	5.976
Pb	mg kg^{-1}	14.01	14	15.9	13.38		12.031		13.32	15.11			10.87	15.34
Pd	mg kg^{-1}													
Pr	mg kg^{-1}	4.08	3.92		3.98	3.94	3.144		3.802	3.841			4.04	4.154
Rb	mg kg^{-1}	69.1	59.9	64	61.5	58.5	61.879		57.89	57.5			62.27	66.88
S	mg kg^{-1}													
Sb	mg kg^{-1}	1.33				1.36	1.224		2.403	1.692			1.39	1.69
Sc	mg kg^{-1}	18.02	22.3		23	17.4	17.521		21.9				21.79	23.93
Se	mg kg^{-1}						0.458							
Sm	mg kg^{-1}	4.35	4.18		4.29	4.09	3.334		4.107	3.901			4.23	4.491
Sn	mg kg^{-1}	2.32	2.46			3.28	2.018			2.67			2.73	2.682
Sr	mg kg^{-1}	307.4	307	312.1	310.5		259	313	295	294			305.750	298.3
Ta	mg kg^{-1}	0.49	0.41		0.43	0.4	1.145		0.393	0.32			0.97	1.054
Tb	mg kg^{-1}	0.7	0.73		0.73	0.71	0.525		0.673	0.666			0.81	0.775
Te	mg kg^{-1}						0.005							
Th	mg kg^{-1}	4.24	3.84	4.3	3.89	3.76	3.474		3.487	4.56			4.07	4.558
Tl	mg kg^{-1}		0.45			0.39	0.262		0.307	0.202				0.488
Tm	mg kg^{-1}	0.4	0.39			0.38	0.292		0.36	0.373			0.38	0.425
U	mg kg^{-1}	3.43	1.22		1.23	1.43	1.13		1.357	1.639			1.21	1.442
V	mg kg^{-1}	146.6	148	160.3	150.4		123.810	157	154.4	147.8			149.130	161.3
W	mg kg^{-1}	0.29				0.31	0.233			0.293				0.423
Y	mg kg^{-1}	25.6	25.9	26.1	29.75	24.6	17.918		23.45	23.39			27.13	26.02
Yb	mg kg^{-1}	2.55	2.53		2.48	2.47	1.877		2.343	2.613			2.42	2.703
Zn	mg kg^{-1}	94.9	91.2	94.5	91		96.486		84.28	90.5			88.12	104
Zr	mg kg^{-1}	120.9	116.8	130.4	13.7		11.525		122.3	109.6			21.51	15.49

Bold entries are Data Quality 1 - Underlined entries are Data Quality 2

Table 1 - GeoPT35 Contributed data for Tonalite, TLM-1. 13/06/2014

Lab Code		K18	K19	K20	K21	K22	K23	K24	K25	K26	K27	K28	K29	K31
SiO2	g 100g^{-1}	57.77		58.816	58.54	58.48	58.6	58.19	58.3	58.61	56.1	58.54	58.8	58.21
TiO2	g 100g^{-1}	0.8		0.839	0.84	0.86	0.83	0.835	0.86	0.84	0.94	0.814	0.84	0.85
Al2O3	g 100g^{-1}	16.76		17.543	17.27	17.27	17.21	17.34	18.1	17.15	17.3	17.52	17.6	17.71
Fe2O3T	g 100g^{-1}	7.49		7.418	7.45	7.45	7.55	7.661	7.36	7.53	8.97	7.47	7.79	7.56
Fe(II)O	g 100g^{-1}		5.32	5.26									4.46	
MnO	g 100g^{-1}	0.11		0.119	0.11	0.11	0.116	0.126	0.103	0.11	0.125	0.114	0.12	0.11
MgO	g 100g^{-1}	3.24		3.404	3.29	3.39	3.22	3.324	3.37	3.38	3.52	3.39	3.35	3.27
CaO	g 100g^{-1}	6.55		6.683	6.68	6.56	6.73	6.677	6.78	6.77	7.21	6.77	6.16	6.69
Na2O	g 100g^{-1}	2.76		3.015	3.02	2.92	2.82	3.045	2.98	2.87	2.87	2.87	2.67	3.16
K2O	g 100g^{-1}	1.63		1.657	1.66	1.6	1.65	1.645	1.62	1.66	1.65	1.63	1.59	1.64
P2O5	g 100g^{-1}	0.13		0.134	0.12	0.13	0.125	0.134	0.135	0.13	0.182	0.125	0.136	0.12
H2O+	g 100g^{-1}					0.78								
CO2	g 100g^{-1}					0.26								
LOI	g 100g^{-1}	0.63	0.78		0.66	0.76	0.81	0.725	0.97	0.78	0.97	0.782	0.56	0.9
Ag	mg kg^{-1}			0.152										
As	mg kg^{-1}			2.599					4.74			1.2	40	
B	mg kg^{-1}													
Ba	mg kg^{-1}	719	687	735.376	727	720	725		738	738	819	740	788	607
Be	mg kg^{-1}					0.94			0.84					
Bi	mg kg^{-1}			0.081								0.3		
Br	mg kg^{-1}	5												
C(org)	mg kg^{-1}							620						
C(tot)	mg kg^{-1}							796						
Cd	mg kg^{-1}			0.069									0.13	
Ce	mg kg^{-1}	33	27	27.411		28			26.5			31.7	28.4	
Cl	mg kg^{-1}	192		224.5					304		362			
Co	mg kg^{-1}	17		18.877	21	19.9	19		16	18		19.4	30.6	
Cr	mg kg^{-1}	12		4.5	12		21		11.3			16.2	20.5	22
Cs	mg kg^{-1}		3.05	3.014		2.9								
Cu	mg kg^{-1}	23		27.598	16	21			18	19		17.6	24.6	19
Dy	mg kg^{-1}		4.21	4.378		4.1			3.85				2.64	
Er	mg kg^{-1}		1.88	2.472		2.5			2.25				1.88	
Eu	mg kg^{-1}		1.07	0.989		0.99			0.89				0.93	
F	mg kg^{-1}	307		214								720		
Ga	mg kg^{-1}	18		19.766	19	18.5	19.6					18.8		
Gd	mg kg^{-1}	15	4.47	4.039		4.17			3.85				2.69	
Ge	mg kg^{-1}	2		1.524										
Hf	mg kg^{-1}	3	3.04	3.719		3.4								
Hg	mg kg^{-1}													
Ho	mg kg^{-1}		0.71	0.898		0.89			0.72				0.63	
I	mg kg^{-1}													
In	mg kg^{-1}													
La	mg kg^{-1}	18	11	11.93		12.8			18.2			12	16.2	
Li	mg kg^{-1}					24.3			22.8					
Lu	mg kg^{-1}		0.36	0.341		0.35			0.27				0.34	
Mo	mg kg^{-1}		0.57	0.707										
Nb	mg kg^{-1}	5	5.64	5.382		5.3			13.1	5.5		5.1		5
Nd	mg kg^{-1}	24	16.3	16.518		16			15.3			13.5	12.8	
Ni	mg kg^{-1}	11		7		10.5						3.1	17.34	9
Pb	mg kg^{-1}	14	12.3	13.625		13				14		13.1		16
Pd	mg kg^{-1}													
Pr	mg kg^{-1}		3.73	3.616		3.9			3.5				3.42	
Rb	mg kg^{-1}	64	62.4	59.793		61	61		60.7	64	66	60.8		58
S	mg kg^{-1}	70		52.052							79		165	
Sb	mg kg^{-1}			1.706								4.2		
Sc	mg kg^{-1}	21	19	24.5	20	23	23		20.4	24		24.2	21.5	
Se	mg kg^{-1}													
Sm	mg kg^{-1}		4.36	3.834		4			3.66				3.25	
Sn	mg kg^{-1}			2.986								2.8		
Sr	mg kg^{-1}	305	291	264.044	269	300	290		292	297	344	300.9	312	275
Ta	mg kg^{-1}		0.37	0.375		0.49			3.32					
Tb	mg kg^{-1}		0.72	0.681		0.67			0.56				0.44	
Te	mg kg^{-1}													
Th	mg kg^{-1}	1	2.91	3.163		3.93			3.96			3.4		
Tl	mg kg^{-1}					0.36						0.4		
Tm	mg kg^{-1}		0.29			0.35			0.28				0.32	
U	mg kg^{-1}		0.91	1.269		1.1			1.03					
V	mg kg^{-1}	152		144.135	138	140	145		137	149		156.7	124.3	
W	mg kg^{-1}		0.28	0.284								1.3		
Y	mg kg^{-1}	26	22.5	21.541	23	23.2	23		21.95	26	28	25.1	22.4	22
Yb	mg kg^{-1}		2.08	2.344		2.3			2.1				2.09	
Zn	mg kg^{-1}	94		89.785	88	96	92		87	89	98	93.2	88.6	
Zr	mg kg^{-1}	149	129	131.614		132	134		120	129	185	120.9		117

Bold entries are Data Quality 1 - Underlined entries are Data Quality 2

Table 1 - GeoPT35 Contributed data for Tonalite, TLM-1. 13/06/2014

Lab Code		K32	K33	K34	K35	K36	K37	K39	K40	K41	K42	K43	K44	K45
SiO2	g 100g^{-1}	59.7	58.65	59.41	**58.36**	58.81	58.53	73.98	58.19		56.96	58.803	58.81	**58.24**
TiO2	g 100g^{-1}	0.77	0.83	0.69	**0.83**	0.84	0.78	0.82	0.82		0.83	0.821	0.834	**0.829**
Al2O3	g 100g^{-1}	18.34	17.31	15.32	**17.28**	17.47	17.2	5.18	17.24		16.93	17.416	17.9	**17.27**
Fe2O3T	g 100g^{-1}	7.63	7.56	6.71	**7.54**	7.55	7.41	7.81	7.66		7.54	7.521	7.524	**7.99**
Fe(II)O	g 100g^{-1}													
MnO	g 100g^{-1}	0.12	0.12		**0.12**	0.11	0.12	0.11			0.115	0.118	0.117	**0.119**
MgO	g 100g^{-1}	3.46	3.26	3.2	**3.31**	3.3	3.29	0.96	3.05		3.35	3.355	3.318	**3.31**
CaO	g 100g^{-1}	6.89	6.72	6.72	**6.78**	6.6	6.66	7.65	6.61		6.47	6.648	6.543	**6.69**
Na2O	g 100g^{-1}	3.15	2.97	2.63	**2.92**	2.88	2.97	1.77	2.68		2.98	2.974	2.626	**2.95**
K2O	g 100g^{-1}	1.72	1.65	1.43	**1.63**	1.63	1.58	1.48	1.65		1.59	1.675	1.626	**1.66**
P2O5	g 100g^{-1}		0.128	0.13	**0.13**	0.126	0.13	0.15	0.13		0.13	0.125	0.122	**0.129**
H2O+	g 100g^{-1}													
CO2	g 100g^{-1}	0.2												
LOI	g 100g^{-1}		0.63	0.57	**1.26**	0.66	0.74		1.14		0.78	0.583	0.693	**0.7**
Ag	mg kg^{-1}									**0.231**				
As	mg kg^{-1}		3	4.68		3.27		12.91	8	**2.265**		2.605		
B	mg kg^{-1}													
Ba	mg kg^{-1}	751	742	648.630	**723**	720.8	704		707	**691.4**	730	734.352	797	**780.2**
Be	mg kg^{-1}		0.9	0.8	**19**		0.952					0.889		
Bi	mg kg^{-1}	0.1	0.08	0.11						**0.065**		0.071		
Br	mg kg^{-1}											0.100		
C(org)	mg kg^{-1}													
C(tot)	mg kg^{-1}		0.04								310	129.871		
Cd	mg kg^{-1}		0.13	0.15								0.139		
Ce	mg kg^{-1}	28.7	29.5				28.6	99.33		**27.56**		28.238		**29.23**
Cl	mg kg^{-1}													
Co	mg kg^{-1}	16.7	19.5	21.89			19.7	32.53	23	**18.17**	20	19.322		
Cr	mg kg^{-1}		13	15.82	**19**	11.1	19.4	99.22		**12.97**	13	15.643		**20**
Cs	mg kg^{-1}	3.15	2.8	3.03			2.6	18.52		**2.799**		2.912		**2.87**
Cu	mg kg^{-1}	50	21	30.84	**23.5**	21	19.6	20.43	63.5	**17.82**	16	19.636		**21**
Dy	mg kg^{-1}	4.45	4.4				4.26			**4.049**		4.223		**4.79**
Er	mg kg^{-1}	2.55	2.4				2.53			**2.335**		2.524		**2.69**
Eu	mg kg^{-1}	1.03	1.1				1.04			**1.137**		0.975		**1.09**
F	mg kg^{-1}													
Ga	mg kg^{-1}		19.4	21.56	**17**	18.6	19.2	15.53				18.642		**19.4**
Gd	mg kg^{-1}	4.44	4.6				4.16			**3.883**		4.258		**4.47**
Ge	mg kg^{-1}		1	1.68			1.33					1.300		
Hf	mg kg^{-1}	3.78	3.6		**5**		3.41			**0.740**		4.078		**3.79**
Hg	mg kg^{-1}													
Ho	mg kg^{-1}	0.9	0.9				0.878			**0.819**		0.848		**0.99**
I	mg kg^{-1}													
In	mg kg^{-1}		0.06									0.060		
La	mg kg^{-1}	13.11	12.7				12.4	33.21		**12.04**	10	12.208		**12.95**
Li	mg kg^{-1}		22.3	18.98			23.4					21.557		
Lu	mg kg^{-1}	0.39	0.4				0.361			**0.326**		0.350		**0.37**
Mo	mg kg^{-1}		0.7	1.01						**0.615**		0.849		
Nb	mg kg^{-1}	4.83	4	31.22	**6**	5.2	5.12	9.02		**4.7**		4.830		**4.86**
Nd	mg kg^{-1}	16.96	16.8				16.7	59.19		**15.79**		16.812		**17.19**
Ni	mg kg^{-1}		5	78.88	**7.5**	3.9	8.72	27.1		**5.066**	10	6.383		**6**
Pb	mg kg^{-1}	14.69	14	15.16	**15**	13.2	12.9	6.4	34.5	**12.9**		12.827		**13.86**
Pd	mg kg^{-1}													
Pr	mg kg^{-1}	3.9	4.1				3.84			**3.656**		3.858		**3.98**
Rb	mg kg^{-1}	63	60.7	63.06	**62**	60	57.7	50.12		**58.77**		60.836	64	**61.4**
S	mg kg^{-1}	78									60	116.213		
Sb	mg kg^{-1}		1.7	1.78						**1.462**		1.678		
Sc	mg kg^{-1}	19.83	23	27.32	**22**		23	6.77		**19.93**		22.635		**22.6**
Se	mg kg^{-1}								59.7					
Sm	mg kg^{-1}	4.37	3.6				4.13			**3.577**		4.102		**4.35**
Sn	mg kg^{-1}		2.3							**2.083**		3.298		
Sr	mg kg^{-1}	309	293.7	299.2	**304**	298.4	305	275.170	316.3	**288.6**		289.292	290	**310**
Ta	mg kg^{-1}	0.37	0.5				0.391	0.98		**0.496**		0.384		**0.4**
Tb	mg kg^{-1}	0.72	0.7				0.682			**0.657**		0.671		**0.77**
Te	mg kg^{-1}													
Th	mg kg^{-1}	3.81	3.5	6.82	**5**		3.44			**3.644**		3.403		**4.01**
Tl	mg kg^{-1}		0.4	0.53						**0.402**		0.372		
Tm	mg kg^{-1}	0.38	0.4				0.375			**0.332**		0.365		**0.39**
U	mg kg^{-1}	1.26	1.3	1.58			1.16			**1.048**		1.378		**1.52**
V	mg kg^{-1}	143.8	157	168.5	**146**	151.7	146			**142.7**	143	141.194		**147**
W	mg kg^{-1}		1							**0.307**		0.267		
Y	mg kg^{-1}	25	23.5	28.56	**25**	24.9	25.9	25.54	14.3	**21.3**	23	24.396		**25.75**
Yb	mg kg^{-1}	2.45	2.4				2.43			**2.295**		2.307		**2.45**
Zn	mg kg^{-1}	109	90	81.53	**86.5**	89	87.2	41.74	64	**84.89**	95	92.654		**93**
Zr	mg kg^{-1}	134	136		**143**	119.2	130	123.050		**11.75**	110	128.576	139	**140**

Bold entries are Data Quality 1 - Underlined entries are Data Quality 2

Table 1 - GeoPT35 Contributed data for Tonalite, TLM-1. 13/06/2014

Lab Code		K46	K47	K50	K52	K53	K54	K55	K56	K57	K58	K59	K60	K61
SiO2	g 100g-1	58.6	59.12	58.05		58.87		58.22	58.53	58.49	55	58.358	52.9	58.505
TiO2	g 100g-1	0.83	0.867	0.827	0.568	0.86	0.508	0.84	0.841	0.801	0.829	0.81	0.776	0.858
Al2O3	g 100g-1	17.6	16.64	17.03	11.85	17.05	4.881	17.5	17.44	17.18	14.5	17.29	18.1	17.392
Fe2O3T	g 100g-1	7.6	7.95	7.47	6.561	7.63	4.863	7.62	7.58	7.402	7.38	7.355	6.25	7.631
Fe(II)O	g 100g-1	5.06								5.05				
MnO	g 100g-1	0.12	0.119	0.12		0.11	0.055	0.12	0.122	0.12	0.109	0.117	0.108	0.098
MgO	g 100g-1	3.21	3.22	3.32	1.373	3.35	1.943	3.4	3.19	3.244	3.2	3.254		3.394
CaO	g 100g-1	6.7	6.21	6.43	1.375	6.46	1.316	6.59	6.44	6.794	6.6	6.685	6.06	1.678
Na2O	g 100g-1	3.09	2.66	2.79	1.043	2.99	0.458	2.99	3.08	3.009	1.55	2.998		3.035
K2O	g 100g-1	1.64	1.66	1.65	4.05	1.72	1.369	1.72	1.62	1.667	1.64	1.611	1.57	1.678
P2O5	g 100g-1	0.12	0.136	0.13		0.13	0.117	0.13	0.126	0.121	0.120	0.135		0.126
H2O+	g 100g-1									1.262				
CO2	g 100g-1									0.06			4.77	
LOI	g 100g-1	0.73	0.76	0.73		0.77		0.77	0.81	0.795		0.72		0.71
Ag	mg kg-1	0.4					0.08							
As	mg kg-1	25				4	1.64	5.9			2.1			
B	mg kg-1						1.61							
Ba	mg kg-1	730	733			699	688.090	730	737	728.730	837.1	757.4	880	
Be	mg kg-1	0.7	0.9				0.14			1.001				
Bi	mg kg-1	0.23					0.05							
Br	mg kg-1													
C(org)	mg kg-1	0.025								375.3				
C(tot)	mg kg-1	0.03								529.7				420
Cd	mg kg-1	0.24	0.15				0.06			0.25			2.8	
Ce	mg kg-1	31.8	28.5				15		23.79	28.03	36.7		30	
Cl	mg kg-1	250	187											
Co	mg kg-1	17.4	20.7			20	12.64	20	20.85	18.72		14.5		
Cr	mg kg-1	15				29	8	15		13.97	13.5	17.3		
Cs	mg kg-1	2.36	2.92								7.4			
Cu	mg kg-1	28.7	20.1			21	19.44	20		29.64	18.1	20.7	36.2	
Dy	mg kg-1	4.56	4.28				1.03		3.83	4.35				
Er	mg kg-1	2.83	2.54				0.62		2.63	2.6				
Eu	mg kg-1	1.33	0.93				0.42		1.15	0.92				
F	mg kg-1	0.05	909							675				
Ga	mg kg-1	15.3	19.2			19		18		24.08	17.1	18.8	16.6	
Gd	mg kg-1	4.79	3.89				1.4		3.97	3.81				
Ge	mg kg-1	0.2					0.1			2.6				
Hf	mg kg-1	0.64								4.1				
Hg	mg kg-1													
Ho	mg kg-1	1.04	0.87				0.21		0.77	0.85				
I	mg kg-1												1.5	
In	mg kg-1	0.05												
La	mg kg-1	14.7	12.5				8		9.76	13.02	12.1		8.8	
Li	mg kg-1	24	21.9				19.48			23.3				
Lu	mg kg-1	0.56					0.08		0.31	0.35				
Mo	mg kg-1	1.85	0.63			3	0.14							
Nb	mg kg-1	7.3	5.3				0.14				4.3	6	3.1	
Nd	mg kg-1	30.2	16.6				7.12		14.68	17.52			24.1	
Ni	mg kg-1	9.9	5.1				3.87			7.96	6.9	7.4		
Pb	mg kg-1	25.5	14.2				8.59	14		18.87	13.9	11.4	14.2	
Pd	mg kg-1													
Pr	mg kg-1	4.34	3.86				1.65		3.28	3.71				
Rb	mg kg-1	52.6	61.6			81	60	58	53	62.88	56.3	60.2	55.1	
S	mg kg-1	0.005	132											
Sb	mg kg-1	6.31	1.44											
Sc	mg kg-1	17	21.1			25	4.95	23	15.89			24.5		
Se	mg kg-1	1												
Sm	mg kg-1	4.7	4.03				1.51		3.64	4.18				
Sn	mg kg-1	2.3	2.4				0.54				4.5			
Sr	mg kg-1	310	301			266	53	289	286	296.4	271.3	299.4	277	
Ta	mg kg-1	0.3	0.4											
Tb	mg kg-1	0.92	0.65				0.19		0.46	0.75				
Te	mg kg-1	0.025												
Th	mg kg-1	11.8	4			7	3.98			4.21	5.2	6.8		
Tl	mg kg-1	0.42	0.4				0.42							
Tm	mg kg-1	0.61	0.37				0.08		0.33	0.35				
U	mg kg-1	1.18	1.3			3	1.29			1.3		2.1		
V	mg kg-1	158	151			151	80	138	144	136.830	143.5	144.2		
W	mg kg-1	1.3	0.28				0.12							
Y	mg kg-1	23.7	23.9			24	6	24	31	23.75	23.5	26.2	22.1	
Yb	mg kg-1	2.7	2.41				0.55		2.12	2.57				
Zn	mg kg-1	171	96			89	65.22	86	93.73	88.52	83.6	83.8	79.7	
Zr	mg kg-1	17.6	119			119	1.17	120	133	120.210	122.9	133.7	116	

Bold entries are Data Quality 1 - Underlined entries are Data Quality 2

Table 1 - GeoPT35 Contributed data for Tonalite, TLM-1. 13/06/2014

Lab Code		K62	K63	K66	K67	K68	K69	K70	K71	K72	K73	K74	K75	K76
SiO2	g 100g-1	58.49	58	**57.32**	58.57	57.9	58.45	58.71	58.38			57.963	58.67	57.5
TiO2	g 100g-1	0.828	0.84	**0.85**	0.86		0.83	0.83	0.83		**0.824**	0.893	0.905	0.836
Al2O3	g 100g-1	17.36	17.24	**16.96**	17.38		17.36	17.4	17.22			17.842	17.49	18.28
Fe2O3T	g 100g-1	7.44	7.55	**7.93**	7.56		7.55	7.5	7.53			7.702	7.361	7.66
Fe(II)O	g 100g-1				5.25								5.05	
MnO	g 100g-1	0.109	0.12	**0.12**	0.112		0.12	0.114	0.12		**0.115**	0.121	0.114	0.115
MgO	g 100g-1	3.3	3.35	**4.21**	3.34		3.36	3.22	3.36			3.384	3.391	3.38
CaO	g 100g-1	6.7	6.63	**7.03**	6.79		6.73	6.73	6.73			6.635	6.861	6.45
Na2O	g 100g-1	2.95	2.96	**2.96**	2.71		2.9	2.96	2.98			3.064	2.558	3.06
K2O	g 100g-1	1.64	1.61	**1.68**	1.66		1.62	1.63	1.63			1.713	1.769	1.61
P2O5	g 100g-1	0.125	0.12	**0.14**	0.125		0.13	0.134	0.13			0.135	0.121	0.133
H2O+	g 100g-1											1.1		
CO2	g 100g-1													
LOI	g 100g-1	0.853	0.7	**0.7**	0.75	0.75	0.75	0.79	0.85			0.71	0.721	
Ag	mg kg-1						0.078		0.09				0.06	
As	mg kg-1		2.4		3.53		2.65		2.8				1.235	4
B	mg kg-1													
Ba	mg kg-1		695	**780**	725		734		710	**761.7**	**721**	753.8	788	676
Be	mg kg-1			**0.8**	1.03		0.21		0.76		**0.9**	0.9	1.263	
Bi	mg kg-1				0.085		0.05				**0.082**		0.064	
Br	mg kg-1													3
C(org)	mg kg-1													
C(tot)	mg kg-1	396	600									0.23	470	
Cd	mg kg-1						0.08		0.12				0.119	
Ce	mg kg-1		29.5	**30.11**	28.6		20.2		28	**28.295**	**27.8**	28	27.2	
Cl	mg kg-1													
Co	mg kg-1		19	**19**	21.8		15.6		17.9		**19.3**	20.02	19.24	20
Cr	mg kg-1		15	**16**	17		11.9		11		**13.6**	13.7	18.98	
Cs	mg kg-1		2.91	**3.23**	2.76		2.68		2.74	**2.995**	**2.81**	2.65	2.738	
Cu	mg kg-1		22	**18**	25.2		20.2		17.6		**19.3**	19.6	17.84	21
Dy	mg kg-1		4.2	**4.36**	4.3				4.51	**4.263**	**4.3**	4.44	4.187	
Er	mg kg-1		2.46	**2.6**	2.59				2.67	**2.551**	**2.54**	2.61	2.498	
Eu	mg kg-1		1.07	**1.08**	1.51				1.02	**0.97**	**1.05**	1.02	1.177	
F	mg kg-1	876												
Ga	mg kg-1		19.6		21.2		19		19.9		**19.4**	19.75	19.25	18
Gd	mg kg-1		4.16	**4.26**	4.48				4.47	**4.316**	**4.3**	3.71	3.739	
Ge	mg kg-1						1.1						1.052	
Hf	mg kg-1		3.4	**3.68**					4	**5.942**	**3.03**	3.21	3.803	
Hg	mg kg-1													
Ho	mg kg-1		0.84	**0.94**	0.872				0.91	**0.901**	**0.89**	0.9	0.893	
I	mg kg-1													
In	mg kg-1				0.063		0.038		0.057				0.052	
La	mg kg-1		12.7	**13.02**	12.2		8.8		12.2	**12.566**	**12.2**	12.8	12.32	
Li	mg kg-1				23.2		23.8		21.2	**22.841**	**22**		22.11	
Lu	mg kg-1		0.34	**0.37**	0.344				0.37	**0.342**	**0.37**	0.37	0.361	
Mo	mg kg-1			**1**			0.798		0.62	**0.686**	**0.83**		0.753	
Nb	mg kg-1		6.2	**4**	3.8				4.8	**5.646**	**5.17**	4.89	5.39	8
Nd	mg kg-1		17.1	**16.2**	16.5				16.5	**16.802**	**16.6**	17.1	16.61	
Ni	mg kg-1		7	**5**	6.95		5.7		5.1		**5.42**	6.8	5.057	6
Pb	mg kg-1		14	**15**	13.9		9.4		13.5	**13.763**	**13.7**	13.56	14.15	12
Pd	mg kg-1													
Pr	mg kg-1		3.91	**3.91**	4.04		2.45		3.86	**4.066**	**3.81**	3.9	3.832	
Rb	mg kg-1		62.5	**54**	68.3		64.5		60.6		**60**	62.13	61.3	60
S	mg kg-1		50									0.13		
Sb	mg kg-1				1.3		1.075						1.31	
Sc	mg kg-1			**16**	32		11.68		18.6		**22.4**	22.4	20.47	
Se	mg kg-1						0.028						1.338	
Sm	mg kg-1		4.11	**4.21**	4.48				4.2	**4.138**	**4.12**	4.17	3.914	
Sn	mg kg-1		3		2.3		2.28		2.2		**2.48**	2.33	1.984	2
Sr	mg kg-1		311	**291**	331		290		313	**196.920**	**301**	290.710	282.5	278
Ta	mg kg-1		0.4	**0.54**					0.35	**0.441**	**0.41**	0.35	0.405	
Tb	mg kg-1		0.68	**0.7**	0.771				0.73	**0.699**	**0.71**	0.58	0.705	
Te	mg kg-1													
Th	mg kg-1		3.86	**4.1**	3.69		3.98		3.66	**3.956**	**3.47**	3.5	3.49	3
Tl	mg kg-1				0.379		0.35		0.39	**0.481**	**0.44**		0.35	
Tm	mg kg-1		0.35	**0.38**	0.353				0.38	**0.415**	**0.38**	0.39	0.351	
U	mg kg-1		1.21	**1.28**	1.2		1.11		1.32	**1.049**	**1.14**	1.39	1.219	2
V	mg kg-1		149	**145**	179		147		158		**147**	150.4	145	138
W	mg kg-1						0.75						0.286	
Y	mg kg-1		22.6	**22**	25.7		24.5		24.1	**21.69**	**25.5**	23.11	25.03	21
Yb	mg kg-1		2.36	**2.52**	2.35				2.52	**2.324**	**2.46**	2.48	2.086	
Zn	mg kg-1		102	**107**	99.4		91.8		89		**89.3**	89.8	115.4	93
Zr	mg kg-1		117	**133**	121		130		146	**192.782**	**101.5**	109.750	136.8	133

Bold entries are Data Quality 1 - Underlined entries are Data Quality 2

Table 1 - GeoPT35 Contributed data for Tonalite, TLM-1. 13/06/2014

Lab Code		K77	K78	K79	K80	K81	K82	K83	K84	K85	K87	K88	K89	K90
SiO2	g 100g-1		58.7	58.7	58.568	58.58	58.312	58.47	58.42	58.9	57.7	62.186	58.176	
TiO2	g 100g-1	0.84	0.829	0.827	0.889	0.84	0.897	0.841	0.82	0.838	0.826	0.817	0.83	0.886
Al2O3	g 100g-1		17.3	17.48	17.473	17.4	16.834	17.29	17.34	17.541	17.03	17.149	17.496	13.026
Fe2O3T	g 100g-1		7.55	7.55	7.352	7.54	7.62	7.52	7.58	7.572	7.425	7.467	7.507	6.937
Fe(II)O	g 100g-1					4.84								
MnO	g 100g-1	0.13		0.114	0.12	0.12	0.109	0.113	0.113	0.120	0.124	0.116	0.112	0.126
MgO	g 100g-1	3.15	3.35	3.35	3.17	3.5	3.245	3.35	3.32	3.279	3.357	3.327	3.351	3.35
CaO	g 100g-1	6.59	6.66	6.7	6.804	6.61	6.555	6.67	6.76	6.76	6.48	6.821	6.771	6.308
Na2O	g 100g-1	3.02	2.8	2.99	2.956	3.08	2.963	2.93	3.02	3.004	2.84	2.971	3.016	2.841
K2O	g 100g-1	1.54	1.59	1.65	1.7	1.64	1.797	1.65	1.7	1.688	1.628	1.624	1.668	1.508
P2O5	g 100g-1	0.14		0.129	0.134	0.13	0.136	0.125	0.139	0.127	0.109		0.122	
H2O+	g 100g-1					0.75							0.278	
CO2	g 100g-1					0.3								
LOI	g 100g-1		0.73	0.53	0.832	0.87	0.74		0.778	0.65	0.83		0.952	
Ag	mg kg-1					0.16					0.09			
As	mg kg-1			12		2.54				4.626	2.6	2.573	2.5	
B	mg kg-1													
Ba	mg kg-1	727.5		793		765	726			754.858	691	689.5	763.1	747.296
Be	mg kg-1					0.97				1.071	0.9			0.779
Bi	mg kg-1			4		0.07								0.085
Br	mg kg-1													
C(org)	mg kg-1					2300								
C(tot)	mg kg-1				431.543									700
Cd	mg kg-1					0.11					1.47			0.206
Ce	mg kg-1	23.6		34		26.8				16.728	26.5	29.04	26	28.047
Cl	mg kg-1											280.5		
Co	mg kg-1	17.1		19		20.2	20			18.893	19.2	19.51	19.4	18.985
Cr	mg kg-1	11.5	19.137	13		13.7	19			19.889	14.4	13.62	13.1	11.727
Cs	mg kg-1	2.44				3.06						3.01	3.3	
Cu	mg kg-1	16.7	18.541	10		18.8	27			21.307	19		18	23.981
Dy	mg kg-1	3.67				4.02					4.44	5.23		4.386
Er	mg kg-1	2.22				2.4					2.66			2.601
Eu	mg kg-1	0.82				1.07					0.99	1.051		1.056
F	mg kg-1					360	354							
Ga	mg kg-1			18		19.2	25				19	19.4	18.1	20.055
Gd	mg kg-1	3.62				4.59					4.33			3.977
Ge	mg kg-1					1.38					1.4			
Hf	mg kg-1			3		3.88					5	3.574	4.6	
Hg	mg kg-1					0.007				0.276				0.007
Ho	mg kg-1	0.75				0.87					0.91			0.866
I	mg kg-1												0.5	
In	mg kg-1					0.06								
La	mg kg-1	10.6		18		12.2				3.416	16.1	12.23	12	12.114
Li	mg kg-1	20.2				22.2	22				13			21.148
Lu	mg kg-1	0.3				0.39					0.37	0.376		0.382
Mo	mg kg-1					0.61					0.73			0.625
Nb	mg kg-1			5		5.04					5.2		4.2	
Nd	mg kg-1	14.3		19		17.9					17	16.32	19.8	17.49
Ni	mg kg-1	4.93		6		6.2	2			6.22	6		5.5	10.244
Pb	mg kg-1	11.5		15		13.6				13.019	14.2		12.6	13.245
Pd	mg kg-1													
Pr	mg kg-1	3.2				3.97					3.73			4.062
Rb	mg kg-1			63		59.4				61.085	57.9	65.8	58.8	55.547
S	mg kg-1				96.093	50				348				200
Sb	mg kg-1					1.15					1.72	1.44	1.3	
Sc	mg kg-1			22		22.2					20.1	22.19	21.6	
Se	mg kg-1					0.08					2.48			
Sm	mg kg-1	3.43				4.18					4.1	4.146	2.8	4.149
Sn	mg kg-1					2.43					4.2		2.1	
Sr	mg kg-1	270.6	286.554	300	305.3	294	352			301.870	283	344	289.2	331.111
Ta	mg kg-1					0.42					6	0.393		
Tb	mg kg-1	0.56				0.7					0.71	0.654		0.732
Te	mg kg-1					0.02								
Th	mg kg-1			5		3.26					3.92	3.546	2.1	
Tl	mg kg-1					0.46				0.178	0.54			0.333
Tm	mg kg-1	3.22				0.37					0.38			0.388
U	mg kg-1	0.97				1.08				2.017	1.14	0.952	1.4	0.933
V	mg kg-1	132		149		145				137.571	160	154	139	146.995
W	mg kg-1					0.25							1.2	
Y	mg kg-1	20.1		25		24.4	21				22.3		24.7	
Yb	mg kg-1	2		3		2.46					2.48	2.424	2.8	2.56
Zn	mg kg-1	83.3	91.497	90		90.4	58			91.324	87.3	97.89	85.9	86.096
Zr	mg kg-1			126	144.7	134	63				117.6	110	122.5	

Bold entries are Data Quality 1 - Underlined entries are Data Quality 2

Table 1 - GeoPT35 Contributed data for Tonalite, TLM-1. 13/06/2014

Lab Code		K91	K92	K93	K94	K95	K96	K97	K98	K99	K100	K101	K102	K103
SiO2	g 100g-1			58.56	58.66	58.55	65.61	58.138	58.41	58.57	58.21	58.77	53.98	58.792
TiO2	g 100g-1			0.81	0.83	0.84	0.54	0.814	0.79	0.819	0.83	0.831	0.84	0.779
Al2O3	g 100g-1			17.25	17.41	17.35	12.02	17.331	17.11	17.3	17.37	17.23	16.43	17.202
Fe2O3T	g 100g-1			7.42	7.57	7.63	6.24	7.587	7.22	7.643	7.48	7.482	7.22	7.327
Fe(II)O	g 100g-1			5.02	4.93				4.74			5.668		
MnO	g 100g-1			0.12	0.116	0.113	0.523	0.109	0.11	0.115	0.12	0.103	0.12	0.108
MgO	g 100g-1			3.33	3.32	3.3	1.55	3.302	3.14	3.35	3.26	3.352	3.23	3.253
CaO	g 100g-1			6.73	6.74	6.78	1.44	6.704	6.7	6.609	6.41	6.763	7.35	6.467
Na2O	g 100g-1	3.31		2.96	2.95	2.92	0.99	2.945	3	2.948	2.99	2.903	2.54	2.846
K2O	g 100g-1	1.65		1.64	1.64	1.66	4.16	1.651	1.53	1.643	1.61	1.653	1.69	1.655
P2O5	g 100g-1	0.13		0.13	0.13	0.129	0.19	0.149	0.12	0.119	0.11	0.128	0.1	0.119
H2O+	g 100g-1								1.29			1.238		
CO2	g 100g-1								0.17					
LOI	g 100g-1			0.87	0.77	0.53	5.31	0.737		0.69	0.76	0.854		0.789
Ag	mg kg-1												6.7	
As	mg kg-1			9.01	9	6		3		56	4	2.991		
B	mg kg-1	18												
Ba	mg kg-1	776		720	699	735	869	765	671	702	715	725	613	
Be	mg kg-1	0.98	2.37	0.82										
Bi	mg kg-1											0.11		
Br	mg kg-1													
C(org)	mg kg-1													
C(tot)	mg kg-1					900						330		
Cd	mg kg-1													
Ce	mg kg-1	26	143.630	23.8		17	580	17	27		32	29.8		
Cl	mg kg-1					230						192.9		
Co	mg kg-1		4.41	19.7	21	20	74		17	26	19	19.4	19	
Cr	mg kg-1			30.9	18	16	250	11	10		19		12.7	
Cs	mg kg-1			2.84							2	3.2		
Cu	mg kg-1	22		16.8	20	21		17	20	27	14	19.34	22.4	
Dy	mg kg-1	4.49	1.78	3.67								4.76	3	
Er	mg kg-1	2.7	0.74	2.1								2.43	5	
Eu	mg kg-1	1.09	1.28	0.88								1.11	3	
F	mg kg-1					390						422.8		
Ga	mg kg-1			20.4	19	21	25	19	20		18	20.1		
Gd	mg kg-1	4.63	5.31	3.45								4.28		
Ge	mg kg-1											1.5		
Hf	mg kg-1			31.5		3.7					2	3.2		
Hg	mg kg-1											0.009		
Ho	mg kg-1	0.83	0.26	0.74								0.91		
I	mg kg-1					30								
In	mg kg-1													
La	mg kg-1	12.6	74.72	10.4		12	27	12	10		26	13.23	11	
Li	mg kg-1	20		23.8								20.2	31.7	
Lu	mg kg-1	0.38	0.03	0.31								0.42	2	
Mo	mg kg-1			2.25		3						1.15		
Nb	mg kg-1					9	17	6	80		5	5.3	12.8	
Nd	mg kg-1	18.2	45.01	14.1		14			22		13	16.5	21	
Ni	mg kg-1					8	295	4	2	11	4	5.1	5.6	
Pb	mg kg-1			21.5	14	15	23311	15	13	62	21	13.1	16.9	
Pd	mg kg-1			2.63										
Pr	mg kg-1	4.44	14.01	3.37		6						4.196	7	
Rb	mg kg-1	61		69.3	58	56	128	62	50		60	65.1		
S	mg kg-1					80				12				
Sb	mg kg-1			3.49							4	1.72		
Sc	mg kg-1		2.55			15		25	22		21	22	32.5	
Se	mg kg-1													
Sm	mg kg-1	4.42	6.31	3.56		4					3	4.06	1	
Sn	mg kg-1								8			4.09		
Sr	mg kg-1	300		283	308	302	213	304	267	268	293	292.1	253	
Ta	mg kg-1					1								
Tb	mg kg-1	0.9	0.44	0.56								0.75	4	
Te	mg kg-1													
Th	mg kg-1		27.29	2.95	6	4		4	6		4	3.8	5.4	
Tl	mg kg-1		0.92	0.39		0.1						0.41		
Tm	mg kg-1	0.28	0.03	0.3								0.42	1	
U	mg kg-1			1.04		1		2	6		4	1.44		
V	mg kg-1	146	35.34	138	145	144	75	142	145	159	146	148	122	
W	mg kg-1			2.78		5					20			
Y	mg kg-1		7.11	21	25	24	39	26	24		24	22.69		
Yb	mg kg-1	2.44	0.45	2.02								2.472		
Zn	mg kg-1	88		85.4	91	88		86	78	104	86	94	71.6	
Zr	mg kg-1			132	138	126	257	126	149	165	110	115		

Bold entries are Data Quality 1 - Underlined entries are Data Quality 2

Table 1 - GeoPT35 Contributed data for Tonalite, TLM-1. 13/06/2014

Lab Code		K104	K105	K106	K107	K108	K109	K110	K111	K112	K113	-	-	-
SiO2	g 100g^{-1}	58.6		58.6	57.91	58.138	62.42	58.58	58.77	58.6				
TiO2	g 100g^{-1}	0.77		0.853	0.84	0.81	0.87	0.86	0.83	0.85	0.86			
Al2O3	g 100g^{-1}	16.98		17.28	17.2	17.403	16.53	16.93	17.15	17.2				
Fe2O3T	g 100g^{-1}	7.2		7.7	7.68	7.657	7.05	7.72	7.5	7.38	7.79			
Fe(II)O	g 100g^{-1}	4.95												
MnO	g 100g^{-1}	0.113		0.122	0.118	0.119	0.08	0.098	0.12	0.11	0.11			
MgO	g 100g^{-1}	3.15		3.41	3.46	3.282	3.02	3.47	3.35	3.3				
CaO	g 100g^{-1}	6.78		6.86	7.05	6.673	6.39	6.99	6.63	6.75				
Na2O	g 100g^{-1}	2.97		3.01	2.83	2.969	1.56	2.99	3.02	2.98				
K2O	g 100g^{-1}	1.47		1.675	1.64	1.606	0.77	1.68	1.65	1.63				
P2O5	g 100g^{-1}	0.14		0.13	0.142	0.129	0.22	0.114	0.11	0.14	0.13			
H2O+	g 100g^{-1}	1.02												
CO2	g 100g^{-1}													
LOI	g 100g^{-1}	0.77		0.65	0.65		0.93	0.67	0.88	0.86				
Ag	mg kg^{-1}		0.26						0.9		0.06			
As	mg kg^{-1}	3.441	5.24			3.027	171	2.1	2.5					
B	mg kg^{-1}	18												
Ba	mg kg^{-1}	621.9	769.7	740.1	773	708.7	828.810	733.6	681		745			
Be	mg kg^{-1}	0.936		0.9		0.887					0.85			
Bi	mg kg^{-1}		0.03				15.15	0.4	0.2					
Br	mg kg^{-1}													
C(org)	mg kg^{-1}													
C(tot)	mg kg^{-1}	300						929						
Cd	mg kg^{-1}	0.292	0.05					0.5			0.15			
Ce	mg kg^{-1}	28.41	29.76	29.2	26	29.53	17.04	15.6	24.5		29.4			
Cl	mg kg^{-1}	220							80					
Co	mg kg^{-1}	18.11	19.16	19.7	20	20		28.4	16.2		19.8			
Cr	mg kg^{-1}	15.78	16.39	15.6	17	14.9		8.2	12.3		16.4			
Cs	mg kg^{-1}	2.675	2.918	3		3.13					2.93			
Cu	mg kg^{-1}	19.66	20.06	19.1	19	23.83	93	22.7	19.9		19.4			
Dy	mg kg^{-1}	4.411	4.435	4.3		4.3					4.25			
Er	mg kg^{-1}	2.57	2.488	2.5		2.67					2.5			
Eu	mg kg^{-1}	1.037	0.952	1.1		0.887					1.1			
F	mg kg^{-1}	391							843.9					
Ga	mg kg^{-1}	19.72	19.09	18.5	20	19.47		18.5	18		19.2			
Gd	mg kg^{-1}	4.278	4.531	4.3		4.4					4.29			
Ge	mg kg^{-1}	1.423							2.5					
Hf	mg kg^{-1}	4.632	4.062	3.9	4.6	2.037		2.8	6		3.64			
Hg	mg kg^{-1}	0.005												
Ho	mg kg^{-1}	0.962	0.91	0.9		0.927					0.87			
I	mg kg^{-1}							0.5	2.3					
In	mg kg^{-1}	0.076												
La	mg kg^{-1}	13.04	12.93	13.1		13.03		13.7	17.3		13.5			
Li	mg kg^{-1}	20	28.33			23.93					21.4			
Lu	mg kg^{-1}	0.402	0.359	0.4		0.4					0.37			
Mo	mg kg^{-1}	0.878	0.74	0.8		0.8	63	0.6	0.3		0.55			
Nb	mg kg^{-1}	4.433	5.836	5.2	3.2	6.56		4.5	4.5		4.94			
Nd	mg kg^{-1}	17.18	17.406	17.7	15	17.5		11	15.1		16.9			
Ni	mg kg^{-1}	7.099	7.183	7.1	7.6			4.7	4		5.84			
Pb	mg kg^{-1}	14.67	16.609	22.7	13	18.37	62	10.7	13.2		15.9			
Pd	mg kg^{-1}													
Pr	mg kg^{-1}	3.987	3.99	4.1		3.97					4.01			
Rb	mg kg^{-1}	57.99	61.53	62.6	57	63.17	117.4	57.1	55.4		59.9			
S	mg kg^{-1}			1573			300	203	69.8					
Sb	mg kg^{-1}	1.448	1.14			1.63		4.5	0.9		1.49			
Sc	mg kg^{-1}	23.27	21.38	22.4	21	21.83		19.5	20.3		23.7			
Se	mg kg^{-1}		0.46		1.5		47.94		0.1					
Sm	mg kg^{-1}	4.302	4.248	4.2		4.343		2.7	5.7		4.14			
Sn	mg kg^{-1}	3.014	2	2.3			156.1	4.8			2.53			
Sr	mg kg^{-1}	296.2	297.960	299.1	293	316.7	234.030	283.7	279.9		292			
Ta	mg kg^{-1}	0.426	0.612	0.4		0.667		0.1	0.6		0.45			
Tb	mg kg^{-1}	0.679	0.72			0.713					0.71			
Te	mg kg^{-1}							3.1						
Th	mg kg^{-1}	4	3.868	4.1	5.7	3.803		3.4	3.6		3.55			
Tl	mg kg^{-1}		1.55	0.4		0.423			0.5		0.41			
Tm	mg kg^{-1}	0.369	0.379	0.4		0.393					0.39			
U	mg kg^{-1}	2.22	1.375	1.6		1.207		2.8	1		1.08			
V	mg kg^{-1}	132.5	138.720	150.9	139	157	148.1	111.3	137.2		152			
W	mg kg^{-1}	0.319		0.5				1.1	2.3		0.23			
Y	mg kg^{-1}	25.22	27.95	27	23	23.33	18.8	23.2	22.2		23.2			
Yb	mg kg^{-1}	2.485	2.388	2.5	3.6	2.56		3.2	0.5		2.45			
Zn	mg kg^{-1}	88.81	80.18	107.2	87	95.5	96	85.6	80.4		84.6			
Zr	mg kg^{-1}	149	161.520	135.8	123	142.5	65	123.1	118.9		136			

Bold entries are Data Quality 1 - Underlined entries are Data Quality 2

Table 2 - GeoPT35 Assigned values and statistical summary for Tonalite, TLM-1.

	Assigned Value	Uncertainty of assigned value	Horwitz Target Value	Uncertainty/ Target	Number of reported results	Robust Mean of results	Median of results	Status of consensus value	Type of consensus value
	X_a	*sdm*	H_a	*sdm*/H_a	*n*				
	g 100g^{-1}	g 100g^{-1}	g 100g^{-1}			g 100g^{-1}	g 100g^{-1}		
SiO2	58.54	0.03933	0.6346	0.06198	86	58.48	58.54	Assigned	Median
TiO2	0.8307	0.002597	0.01708	0.152	92	0.8307	0.83	Assigned	Robust Mean
Al2O3	17.29	0.02357	0.2252	0.1047	89	17.25	17.29	Assigned	Median
Fe2O3T	7.535	0.01594	0.1112	0.1433	90	7.516	7.535	Assigned	Median
MnO	0.1155	0.0006152	0.003197	0.1925	88	0.1155	0.116	Assigned	Robust Mean
MgO	3.32	0.009429	0.05543	0.1701	89	3.303	3.32	Assigned	Median
CaO	6.688	0.01367	0.1005	0.1361	90	6.661	6.688	Assigned	Median
Na2O	2.96	0.009377	0.05028	0.1865	90	2.926	2.96	Assigned	Median
K2O	1.639	0.004368	0.03043	0.1435	91	1.639	1.64	Assigned	Robust Mean
P2O5	0.1287	0.0008155	0.003503	0.2328	86	0.1287	0.13	Assigned	Robust Mean
	mg kg^{-1}	mg kg^{-1}	mg kg^{-1}			mg kg^{-1}	mg kg^{-1}		
Ba	733	3.971	21.72	0.1828	83	734.2	733	Assigned	Median
Be	0.906	0.0196	0.07355	0.2665	36	0.906	0.9	Assigned	Robust Mean
Bi	0.08285	0.005408	0.00964	0.561	26	0.1017	0.08285	Provisional	Median
Cd	0.1405	0.008723	0.0151	0.5777	26	0.1563	0.1405	Provisional	Median
Ce	28.3	0.2694	1.368	0.1969	65	27.93	28.3	Assigned	Median
Co	19.34	0.1958	0.9904	0.1977	71	19.34	19.4	Assigned	Robust Mean
Cs	2.886	0.03984	0.1968	0.2025	44	2.886	2.905	Assigned	Robust Mean
Cu	20	0.255	1.019	0.2502	76	20.53	20	Assigned	Median
Dy	4.3	0.02942	0.2761	0.1066	48	4.272	4.3	Assigned	Median
Er	2.54	0.02379	0.1766	0.1347	47	2.526	2.54	Assigned	Median
Eu	1.038	0.01482	0.08254	0.1795	48	1.038	1.038	Assigned	Robust Mean
Ga	19.1	0.1452	0.9799	0.1482	62	19.1	19.05	Assigned	Robust Mean
Gd	4.28	0.05212	0.275	0.1895	47	4.222	4.28	Assigned	Median
Ge	1.355	0.08305	0.1035	0.8021	20	1.344	1.355	Provisional	Median
Hf	3.489	0.1569	0.2312	0.6787	45	3.489	3.574	Provisional	Robust Mean
Ho	0.8915	0.006558	0.07255	0.09039	46	0.8726	0.8915	Assigned	Median
In	0.05995	0.002436	0.007324	0.3326	10	0.05865	0.05995	Provisional	Median
La	12.56	0.177	0.6865	0.2578	65	12.56	12.57	Assigned	Robust Mean
Li	22.11	0.4022	1.11	0.3624	37	22.26	22.11	Assigned	Median
Lu	0.37	0.004325	0.03437	0.1258	47	0.3627	0.37	Assigned	Median
Mo	0.753	0.03333	0.06285	0.5303	35	0.7986	0.753	Provisional	Median
Nb	5.145	0.09697	0.3216	0.3015	62	5.265	5.145	Assigned	Median
Nd	16.82	0.238	0.8795	0.2706	60	16.82	16.9	Assigned	Robust Mean
Ni	6	0.1949	0.3665	0.5318	62	6.434	6	Provisional	Median
Pb	14	0.176	0.7527	0.2338	71	14.16	14	Assigned	Median
Pr	3.91	0.03219	0.2547	0.1264	49	3.89	3.91	Assigned	Median
Rb	60.75	0.4212	2.619	0.1608	75	60.75	60.84	Assigned	Robust Mean
Sb	1.49	0.05592	0.1122	0.4982	31	1.596	1.49	Provisional	Median
Sc	21.9	0.2847	1.101	0.2587	61	21.35	21.9	Assigned	Median
Sm	4.13	0.04338	0.2668	0.1626	53	4.042	4.13	Assigned	Median
Sn	2.315	0.081	0.1632	0.4964	35	2.646	2.46	Provisional	Mode
Sr	294.1	1.848	9.999	0.1848	85	294.1	295	Assigned	Robust Mean
Ta	0.4014	0.009297	0.03683	0.2524	40	0.4705	0.415	Assigned	Mode
Tb	0.7	0.006488	0.05908	0.1098	47	0.6894	0.7	Assigned	Median
Th	3.92	0.07098	0.2553	0.2781	63	3.971	3.92	Assigned	Median
Tl	0.4048	0.01364	0.0371	0.3676	34	0.4048	0.4	Assigned	Robust Mean
Tm	0.379	0.004641	0.03508	0.1323	45	0.3688	0.379	Assigned	Median
U	1.274	0.03299	0.09828	0.3356	56	1.325	1.274	Assigned	Median
V	145.7	1.026	5.506	0.1864	76	145.7	146	Assigned	Robust Mean
W	0.291	0.017	0.02803	0.6065	26	0.673	0.3145	Provisional	Mode
Y	23.95	0.2462	1.188	0.2073	78	23.95	24	Assigned	Robust Mean
Yb	2.445	0.02128	0.1709	0.1245	52	2.4	2.445	Assigned	Median
Zn	89.84	0.7467	3.651	0.2045	79	89.84	89.3	Assigned	Robust Mean
Zr	125.5	1.912	4.851	0.3941	75	125.5	126	Assigned	Robust Mean

Table 3 - GeoPT35 Z-scores for Tonalite, TLM-1. 13/06/2014

Lab Code	K1	K2	K3	K4	K5	K6	K7	K8	K9	K12	K14	K15	K16
SiO2	-0.14	*	0.03	-0.03	*	0.13	0.38	-4.49	*	-0.58	0.36	1.86	0.55
TiO2	-0.68	*	0.45	-1.21	*	2.17	-1.04	-2.52	-0.08	-0.02	-1.80	-0.63	-0.24
Al2O3	0.26	*	0.21	2.80	*	-2.20	-0.36	-3.20	-1.15	0.02	0.31	1.73	-0.09
Fe2O3T	0.12	*	0.60	1.12	*	5.82	-1.28	-3.44	0.75	-0.34	-0.04	-4.63	-0.65
MnO	-0.41	*	0.86	0.78	*	-0.70	-0.70	0.47	-0.39	0.08	0.78	-1.72	0.34
MgO	1.39	*	-0.43	0.54	*	0.36	-1.44	-2.54	0.52	-0.36	-0.72	-17.32	0.58
CaO	0.24	*	0.35	1.92	*	0.11	-0.26	-3.26	-0.68	-0.49	-0.57	0.22	0.45
Na2O	0.84	*	-0.32	0.60	*	-1.19	0.70	-4.77	1.81	-0.40	0.00	-1.59	-0.58
K2O	-0.82	*	0.31	0.36	*	0.18	-1.56	-2.86	-0.30	-0.31	-1.28	0.36	0.39
P2O5	1.33	*	0.76	-0.76	*	-0.24	-0.95	-1.33	-3.23	-0.52	0.67	0.38	-0.10
Ba	0.83	-0.09	2.14	3.28	*	-1.65	0.07	-4.05	-0.23	*	*	3.11	0.03
Be	1.41	0.19	*	0.87	*	-1.80	*	*	0.10	*	*	1.55	-0.03
Bi	1.78	-0.30	*	*	*	-2.01	*	*	0.01	*	*	*	-0.02
Cd	1.95	*	*	*	-0.02	-0.68	*	0.03	-1.41	*	*	*	1.49
Ce	0.92	0.37	*	0.63	0.18	-1.70	*	-0.90	0.06	*	*	-3.39	3.05
Co	-0.43	-0.04	1.80	0.06	*	-1.50	*	-0.77	0.31	*	*	-0.46	1.27
Cs	0.37	-0.49	*	2.36	-0.12	-1.01	*	-0.59	-1.17	*	*	-1.51	1.30
Cu	0.33	-0.10	2.21	-1.09	*	0.13	*	-4.56	-0.38	*	*	1.51	-0.01
Dy	0.18	0.22	*	0.65	0.22	-1.67	*	-0.39	0.20	*	*	2.21	2.15
Er	1.19	0.45	*	0.62	0.17	-1.42	*	-0.39	0.31	*	*	1.19	2.22
Eu	-0.34	0.15	*	-0.22	-0.17	-1.25	*	-0.05	-0.20	*	*	1.97	1.00
Ga	1.73	0.51	*	-0.12	-0.25	-1.02	*	-0.46	-1.19	*	*	-0.56	2.42
Gd	-0.65	0.29	*	0.51	-0.09	-1.35	*	-1.36	0.45	*	*	0.55	2.56
Ge	*	*	*	*	-0.12	-1.19	*	*	*	*	*	-3.04	0.80
Hf	0.01	-0.73	*	-11.85	*	-6.34	*	-0.09	-0.21	*	*	-11.37	-11.12
Ho	1.08	0.12	*	0.53	0.06	-1.39	*	-0.43	0.04	*	*	0.39	1.40
In	*	*	*	*	*	*	*	*	*	*	*	*	1.00
La	0.93	0.20	*	-0.13	0.39	-1.79	*	-0.22	0.27	*	*	-3.27	1.96
Li	2.40	-0.19	*	3.52	*	-1.25	*	-0.01	0.90	*	*	-1.49	1.36
Lu	0.87	0.29	*	-0.29	0.00	-1.37	*	-0.41	-0.23	*	*	0.29	0.36
Mo	0.11	1.07	*	*	*	-1.19	*	*	-0.90	*	*	*	6.08
Nb	-1.51	0.14	-1.94	1.60	-0.80	-0.62	*	-4.76	-0.43	*	*	4.99	2.38
Nd	0.79	0.10	*	0.60	0.05	-1.88	*	0.16	0.53	*	*	0.90	2.31
Ni	-1.61	1.39	-4.37	-0.63	*	-0.23	*	*	0.14	*	*	-0.60	-0.07
Pb	0.01	0.00	1.26	-0.82	*	-1.31	*	-0.90	0.74	*	*	-4.16	1.78
Pr	0.67	0.04	*	0.27	0.06	-1.50	*	-0.42	-0.14	*	*	0.51	0.96
Rb	3.19	-0.32	0.62	0.29	-0.43	0.22	*	-1.09	-0.62	*	*	0.58	2.34
Sb	-1.43	*	*	*	-0.58	-1.19	*	8.13	0.90	*	*	-0.89	1.78
Sc	-3.52	0.36	*	1.00	-2.04	-1.99	*	0.00	*	*	*	-0.10	1.84
Sm	0.82	0.19	*	0.60	-0.07	-1.49	*	-0.09	-0.43	*	*	0.37	1.35
Sn	0.03	0.89	*	*	2.96	-0.91	*	*	1.09	*	*	2.54	2.25
Sr	1.33	1.29	0.90	1.64	*	-1.75	0.95	0.09	-0.00	*	*	1.17	0.42
Ta	2.41	0.23	*	0.78	-0.02	10.09	*	-0.23	-1.10	*	*	15.44	17.72
Tb	0.00	0.51	*	0.51	0.08	-1.48	*	-0.46	-0.29	*	*	1.86	1.28
Th	1.25	-0.31	0.74	-0.06	-0.31	-0.87	*	-1.70	1.25	*	*	0.59	2.50
Tl	*	1.22	*	*	-0.20	-1.92	*	-2.64	-2.73	*	*	*	2.24
Tm	0.60	0.31	*	*	0.01	-1.24	*	-0.54	-0.09	*	*	0.03	1.31
U	21.93	-0.55	*	-0.23	0.79	-0.74	*	0.84	1.85	*	*	-0.66	1.70
V	0.16	0.42	1.33	0.85	*	-1.99	1.03	1.58	0.19	*	*	0.62	2.83
W	-0.04	*	*	*	0.34	-1.03	*	*	0.04	*	*	*	4.71
Y	1.39	1.64	0.90	4.88	0.27	-2.54	*	-0.42	-0.24	*	*	2.68	1.74
Yb	0.61	0.50	*	0.20	0.07	-1.66	*	-0.60	0.49	*	*	-0.15	1.51
Zn	1.39	0.37	0.64	0.32	*	0.91	*	-1.52	0.09	*	*	-0.47	3.88
Zr	-0.95	-1.80	0.50	-23.05	*	-11.75	*	-0.66	-1.64	*	*	-21.44	-22.68

Bold entries are Data Quality 1 - Underlined entries are Data Quality 2

Table 3 - GeoPT35 Z-scores for Tonalite, TLM-1. 13/06/2014

Lab Code	K18	K19	K20	K21	K22	K23	K24	K25	K26	K27	K28	K29	K31
SiO2	-1.21	*	0.43	0.00	-0.05	0.09	-0.28	-0.19	0.11	-1.92	0.00	0.41	-0.26
TiO2	-1.80	*	0.49	0.27	0.86	-0.04	0.13	0.86	0.54	3.20	-0.98	0.54	0.56
Al2O3	-2.35	*	1.12	-0.04	-0.04	-0.36	0.11	1.80	-0.62	0.02	1.02	1.38	0.93
Fe2O3T	-0.40	*	-1.05	-0.38	-0.38	0.13	0.57	-0.79	-0.04	6.45	-0.58	2.29	0.11
MnO	-1.72	*	1.09	-0.86	-0.86	0.16	1.63	-1.96	-1.72	1.49	-0.47	1.41	-0.86
MgO	-1.44	*	1.52	-0.27	0.63	-1.80	0.04	0.45	1.08	1.80	1.26	0.54	-0.45
CaO	-1.37	*	-0.04	-0.04	-0.63	0.42	-0.05	0.46	0.82	2.60	0.82	-5.25	0.01
Na2O	-3.98	*	1.09	0.60	-0.40	-2.78	0.85	0.20	-1.79	-0.89	-1.79	-5.77	1.99
K2O	-0.30	*	0.59	0.35	-0.64	0.36	0.10	-0.31	0.69	0.18	-0.30	-1.61	0.02
P2O5	0.38	*	1.53	-1.24	0.19	-1.04	0.73	0.91	0.38	7.61	-1.04	2.10	-1.24
Ba	-0.64	-2.12	0.11	-0.14	-0.30	-0.37	*	0.12	0.23	1.98	0.32	2.53	-2.90
Be	*	*	*	*	0.23	*	*	-0.45	*	*	*	*	*
Bi	*	*	-0.19	*	*	*	*	*	*	*	22.53	*	*
Cd	*	*	-4.74	*	*	*	*	*	*	*	*	-0.70	*
Ce	3.44	-0.95	-0.65	*	-0.11	*	*	-0.66	*	*	2.49	0.08	*
Co	-2.36	*	-0.47	0.84	0.28	-0.17	*	-1.69	-1.35	*	0.06	11.37	*
Cs	*	0.83	0.65	*	0.04	*	*	*	*	*	*	*	*
Cu	2.94	*	7.46	-1.96	0.49	*	*	-0.98	-0.98	*	-2.35	4.51	-0.49
Dy	*	-0.33	0.28	*	-0.72	*	*	-0.81	*	*	*	-6.01	*
Er	*	-3.74	-0.39	*	-0.23	*	*	-0.82	*	*	*	-3.74	*
Eu	*	0.39	-0.59	*	-0.58	*	*	-0.90	*	*	*	-1.31	*
Ga	-1.12	*	0.68	-0.05	-0.61	0.26	*	*	*	*	-0.30	*	*
Gd	38.97	0.69	-0.88	*	-0.40	*	*	-0.78	*	*	*	-5.78	*
Ge	6.23	*	1.63	*	*	*	*	*	*	*	*	*	*
Hf	-2.11	-1.94	1.00	*	-0.38	*	*	*	*	*	*	*	*
Ho	*	-2.50	0.09	*	-0.02	*	*	-1.18	*	*	*	-3.60	*
La	7.92	-2.28	-0.92	*	0.35	*	*	4.11	*	*	-0.82	5.30	*
Li	*	*	*	*	0.99	*	*	0.31	*	*	*	*	*
Lu	*	-0.29	-0.84	*	-0.58	*	*	-1.45	*	*	*	-0.87	*
Mo	*	-2.91	-0.73	*	*	*	*	*	*	*	*	*	*
Nb	-0.45	1.54	0.74	*	0.24	*	*	12.37	1.10	*	-0.14	*	-0.23
Nd	8.17	-0.59	-0.34	*	-0.93	*	*	-0.86	*	*	-3.77	-4.57	*
Ni	13.64	*	2.73	*	6.14	*	*	*	*	*	-7.91	30.94	4.09
Pb	0.00	-2.26	-0.50	*	-0.66	*	*	*	0.00	*	-1.20	*	1.33
Pr	*	-0.71	-1.15	*	-0.04	*	*	-0.80	*	*	*	-1.92	*
Rb	1.24	0.63	-0.36	*	0.05	0.10	*	-0.01	1.24	1.00	0.02	*	-0.52
Sb	*	*	1.92	*	*	*	*	*	*	*	24.15	*	*
Sc	-0.82	-2.63	2.36	-0.86	1.00	0.50	*	-0.68	1.91	*	2.09	-0.36	*
Sm	*	0.86	-1.11	*	-0.49	*	*	-0.88	*	*	*	-3.30	*
Sn	*	*	4.11	*	*	*	*	*	*	*	2.97	*	*
Sr	1.09	-0.31	-3.00	-1.25	0.30	-0.41	*	-0.10	0.29	2.50	0.68	1.79	-0.95
Ta	*	-0.85	-0.72	*	1.20	*	*	39.62	*	*	*	*	*
Tb	*	0.34	-0.32	*	-0.51	*	*	-1.18	*	*	*	-4.40	*
Th	-11.44	-3.96	-2.97	*	0.02	*	*	0.08	*	*	-2.04	*	*
Tl	*	*	*	*	-0.60	*	*	*	*	*	-0.13	*	*
Tm	*	-2.54	*	*	-0.83	*	*	-1.41	*	*	*	-1.68	*
U	*	-3.71	-0.06	*	-0.89	*	*	-1.24	*	*	*	*	*
V	1.14	*	-0.28	-0.70	-0.52	-0.13	*	-0.79	0.60	*	2.00	-3.89	*
W	*	-0.39	-0.25	*	*	*	*	*	*	*	36.00	*	*
Y	1.72	-1.22	-2.03	-0.40	-0.63	-0.40	*	-0.84	1.72	1.70	0.97	-1.31	-0.82
Yb	*	-2.14	-0.59	*	-0.85	*	*	-1.01	*	*	*	-2.08	*
Zn	1.14	*	-0.01	-0.25	0.84	0.59	*	-0.39	-0.23	1.12	0.92	-0.34	*
Zr	4.84	0.72	1.26	*	0.67	1.75	*	-0.57	0.72	6.13	-0.95	*	-0.88

Bold entries are Data Quality 1 - Underlined entries are Data Quality 2

Table 3 - GeoPT35 Z-scores for Tonalite, TLM-1. 13/06/2014

Lab Code	K32	K33	K34	K35	K36	K37	K39	K40	K41	K42	K43	K44	K45
SiO2	0.91	0.09	0.69	**-0.28**	0.21	-0.01	12.17	-0.28	*	-1.24	0.21	0.21	**-0.47**
TiO2	-1.78	-0.02	-4.12	**-0.04**	0.27	-1.48	-0.31	-0.31	*	-0.02	-0.27	0.10	**-0.10**
Al2O3	2.33	0.04	-4.37	**-0.04**	0.40	-0.20	-26.89	-0.11	*	-0.80	0.28	1.35	**-0.09**
Fe2O3T	0.43	0.11	-3.71	**0.04**	0.07	-0.56	1.24	0.56	*	0.02	-0.06	-0.05	**4.09**
MnO	0.70	0.70	*	**1.41**	-0.86	0.70	-0.86	*	*	-0.08	0.35	0.23	**1.09**
MgO	1.26	-0.54	-1.08	**-0.18**	-0.18	-0.27	-21.29	-2.44	*	0.27	0.32	-0.02	**-0.18**
CaO	1.01	0.16	0.16	**0.92**	-0.44	-0.14	4.79	-0.39	*	-1.08	-0.20	-0.72	**0.02**
Na2O	1.89	0.10	-3.28	**-0.80**	-0.80	0.10	-11.83	-2.78	*	0.20	0.14	-3.32	**-0.20**
K2O	1.33	0.18	-3.43	**-0.30**	-0.15	-0.97	-2.61	0.18	*	-0.80	0.60	-0.21	**0.69**
P2O5	*	-0.09	0.19	**0.38**	-0.38	0.19	3.05	0.19	*	0.19	-0.46	-0.95	**0.10**
Ba	0.41	0.21	-1.94	**-0.46**	-0.28	-0.67	*	-0.60	**-1.92**	-0.07	0.03	1.47	**2.17**
Be	*	-0.04	-0.72	**246.02**	*	0.31	*	*	*	*	-0.11	*	*
Bi	0.89	-0.15	1.41	*	*	*	*	*	**-1.90**	*	-0.59	*	*
Cd	*	-0.35	0.31	*	*	*	*	*	*	*	-0.05	*	*
Ce	0.15	0.44	*	*	*	0.11	25.95	*	**-0.54**	*	-0.02	*	**0.68**
Co	-1.33	0.08	1.29	*	*	0.18	6.66	1.85	**-1.18**	0.33	-0.01	*	*
Cs	0.67	-0.22	0.37	*	*	-0.73	39.72	*	**-0.44**	*	0.07	*	**-0.08**
Cu	14.72	0.49	5.32	**3.43**	0.49	-0.20	0.21	21.34	**-2.14**	-1.96	-0.18	*	**0.98**
Dy	0.27	0.18	*	*	*	-0.07	*	*	**-0.91**	*	-0.14	*	**1.77**
Er	0.03	-0.40	*	*	*	-0.03	*	*	**-1.16**	*	-0.04	*	**0.85**
Eu	-0.05	0.38	*	*	*	0.01	*	*	**1.20**	*	-0.38	*	**0.63**
Ga	*	0.15	1.26	**-2.14**	-0.25	0.05	-1.82	*	*	*	-0.23	*	**0.31**
Gd	0.29	0.58	*	*	*	-0.22	*	*	**-1.44**	*	-0.04	*	**0.69**
Ge	*	-1.71	1.57	*	*	-0.12	*	*	*	*	-0.27	*	*
Hf	0.63	0.24	*	**6.54**	*	-0.17	*	*	**-11.89**	*	1.27	*	**1.30**
Ho	0.06	0.06	*	*	*	-0.09	*	*	**-1.00**	*	-0.30	*	**1.36**
In	*	0.00	*	*	*	*	*	*	*	*	-0.00	*	*
La	0.40	0.10	*	*	*	-0.12	15.04	*	**-0.76**	-1.87	-0.26	*	**0.56**
Li	*	0.09	-1.41	*	*	0.58	*	*	*	*	-0.25	*	*
Lu	0.29	0.44	*	*	*	-0.13	*	*	**-1.29**	*	-0.29	*	**0.00**
Mo	*	-0.42	2.04	*	*	*	*	*	**-2.20**	*	0.77	*	*
Nb	-0.49	-1.78	40.54	**2.66**	0.09	-0.04	6.02	*	**-1.38**	*	-0.49	*	**-0.89**
Nd	0.08	-0.01	*	*	*	-0.07	24.09	*	**-1.17**	*	-0.00	*	**0.43**
Ni	*	-1.36	99.43	**4.09**	-2.87	3.71	28.79	*	**-2.55**	5.46	0.52	*	**0.00**
Pb	0.46	0.00	0.77	**1.33**	-0.53	-0.73	-5.05	13.62	**-1.46**	*	-0.78	*	**-0.19**
Pr	-0.02	0.37	*	*	*	-0.14	*	*	**-1.00**	*	-0.10	*	**0.27**
Rb	0.43	-0.01	0.44	**0.48**	-0.14	-0.58	-2.03	*	**-0.76**	*	0.02	0.62	**0.25**
Sb	*	0.94	1.29	*	*	*	*	*	**-0.25**	*	0.84	*	*
Sc	-0.94	0.50	2.46	**0.09**	*	0.50	-6.87	*	**-1.79**	*	0.33	*	**0.64**
Sm	0.45	-0.99	*	*	*	0.00	*	*	**-2.07**	*	-0.05	*	**0.82**
Sn	*	-0.05	*	*	*	*	*	*	**-1.42**	*	3.01	*	*
Sr	0.75	-0.02	0.26	**0.99**	0.22	0.55	-0.94	1.11	**-0.55**	*	-0.24	-0.20	**1.59**
Ta	-0.43	1.34	*	*	*	-0.14	7.85	*	**2.58**	*	-0.24	*	**-0.04**
Tb	0.17	0.00	*	*	*	-0.15	*	*	**-0.73**	*	-0.24	*	**1.18**
Th	-0.22	-0.82	5.68	**4.23**	*	-0.94	*	*	**-1.08**	*	-1.01	*	**0.35**
Tl	*	-0.06	1.69	*	*	*	*	*	**-0.08**	*	-0.44	*	*
Tm	0.01	0.30	*	*	*	-0.06	*	*	**-1.35**	*	-0.21	*	**0.31**
U	-0.07	0.13	1.55	*	*	-0.58	*	*	**-2.30**	*	0.53	*	**2.50**
V	-0.17	1.03	2.07	**0.05**	0.54	0.03	*	*	**-0.55**	-0.25	-0.41	*	**0.24**
W	*	12.65	*	*	*	*	*	*	**0.56**	*	-0.42	*	*
Y	0.44	-0.19	1.94	**0.88**	0.40	0.82	0.67	-4.06	**-2.23**	-0.40	0.19	*	**1.51**
Yb	0.01	-0.13	*	*	*	-0.04	*	*	**-0.88**	*	-0.40	*	**0.03**
Zn	2.62	0.02	-1.14	**-0.91**	-0.11	-0.36	-6.59	-3.54	**-1.35**	0.71	0.39	*	**0.87**
Zr	0.87	1.08	*	**3.60**	-0.65	0.46	-0.25	*	**-23.45**	-1.60	0.31	1.39	**2.98**

Bold entries are Data Quality 1 - Underlined entries are Data Quality 2

Table 3 - GeoPT35 Z-scores for Tonalite, TLM-1. 13/06/2014

Lab Code	K46	K47	K50	K52	K53	K54	K55	K56	K57	K58	K59	K60	K61
SiO2	0.09	0.46	-0.39	*	0.52	*	-0.25	-0.01	-0.08	-5.58	-0.29	-4.44	-0.06
TiO2	-0.04	1.06	-0.11	-15.38	1.71	-9.44	0.27	0.30	-1.74	-0.08	-1.21	-1.60	1.60
Al2O3	1.38	-1.44	-0.58	-24.16	-1.07	-27.55	0.47	0.33	-0.49	-12.39	0.00	1.80	0.45
Fe2O3T	0.58	1.87	-0.29	-8.76	0.85	-12.01	0.38	0.20	-1.20	-1.39	-1.62	-5.78	0.86
MnO	1.41	0.55	0.70	*	-1.72	-9.46	0.70	1.02	1.41	-2.00	0.47	-1.17	-5.47
MgO	-1.98	-0.90	0.00	-35.13	0.54	-12.42	0.72	-1.17	-1.37	-2.16	-1.19	*	1.34
CaO	0.12	-2.38	-1.28	-52.87	-2.26	-26.73	-0.49	-1.23	1.06	-0.87	-0.02	-3.12	-49.85
Na2O	2.59	-2.98	-1.69	-38.13	0.60	-24.88	0.30	1.19	0.97	-28.04	0.76	*	1.49
K2O	0.03	0.35	0.18	79.23	2.66	-4.44	1.33	-0.31	0.92	0.03	-0.92	-1.13	1.28
P2O5	-2.47	1.05	0.19	*	0.38	-1.66	0.19	-0.38	-2.19	-2.36	1.81	*	-0.76
Ba	-0.14	0.00	*	*	-1.57	-1.03	-0.07	0.09	-0.10	4.79	1.12	3.38	*
Be	-2.80	-0.04	*	*	*	-5.21	*	*	0.65	*	*	*	*
Bi	15.26	*	*	*	*	-1.70	*	*	*	*	*	*	*
Cd	6.59	0.31	*	*	*	-2.67	*	*	3.63	*	*	88.07	*
Ce	2.56	0.07	*	*	*	-4.86	*	-1.65	-0.19	6.14	*	0.62	*
Co	-1.96	0.69	*	*	0.67	-3.38	0.33	0.76	-0.31	*	-4.88	*	*
Cs	-2.67	0.09	*	*	*	*	*	*	*	22.93	*	*	*
Cu	8.54	0.05	*	*	0.98	-0.27	0.00	*	4.73	-1.86	0.69	7.95	*
Dy	0.94	-0.04	*	*	*	-5.92	*	-0.85	0.18	*	*	*	*
Er	1.64	0.00	*	*	*	-5.44	*	0.25	0.34	*	*	*	*
Eu	3.54	-0.65	*	*	*	-3.74	*	0.68	-1.43	*	*	*	*
Ga	-3.88	0.05	*	*	-0.10	*	-0.56	*	2.54	-2.04	-0.30	-1.27	*
Gd	1.85	-0.71	*	*	*	-5.24	*	-0.56	-1.71	*	*	*	*
Ge	-11.16	*	*	*	*	-6.06	*	*	6.01	*	*	*	*
Hf	-12.32	*	*	*	*	*	*	*	1.32	*	*	*	*
Ho	2.05	-0.15	*	*	*	-4.70	*	-0.84	-0.57	*	*	*	*
In	-1.36	*	*	*	*	*	*	*	*	*	*	*	*
La	3.11	-0.05	*	*	*	-3.32	*	-2.04	0.67	-0.67	*	-2.74	*
Li	1.70	-0.09	*	*	*	-1.18	*	*	1.07	*	*	*	*
Lu	5.53	*	*	*	*	-4.22	*	-0.87	-0.58	*	*	*	*
Mo	17.45	-0.98	*	*	17.87	-4.88	*	*	*	*	*	*	*
Nb	6.70	0.24	*	*	*	-7.78	*	*	*	-2.63	2.66	-3.18	*
Nd	15.22	-0.12	*	*	*	-5.51	*	-1.21	0.80	*	*	4.14	*
Ni	10.64	-1.23	*	*	*	-2.91	*	*	2.67	2.46	3.82	*	*
Pb	15.28	0.13	*	*	*	-3.59	0.00	*	3.23	-0.13	-3.45	0.13	*
Pr	1.69	-0.10	*	*	*	-4.44	*	-1.24	-0.79	*	*	*	*
Rb	-3.11	0.16	*	*	7.73	-0.14	-0.52	-1.48	0.41	-1.70	-0.21	-1.08	*
Sb	42.95	-0.22	*	*	*	*	*	*	*	*	*	*	*
Sc	-4.45	-0.36	*	*	2.82	-7.70	0.50	-2.73	*	*	2.36	*	*
Sm	2.14	-0.19	*	*	*	-4.91	*	-0.92	0.19	*	*	*	*
Sn	-0.09	0.26	*	*	*	-5.44	*	*	*	13.39	*	*	*
Sr	1.59	0.35	*	*	-2.81	-12.05	-0.25	-0.40	0.23	-2.28	0.53	-0.85	*
Ta	-2.75	-0.02	*	*	*	*	*	*	*	*	*	*	*
Tb	3.72	-0.42	*	*	*	-4.32	*	-2.03	0.85	*	*	*	*
Th	30.87	0.16	*	*	6.03	0.12	*	*	0.57	5.01	11.28	*	*
Tl	0.41	-0.06	*	*	*	0.20	*	*	*	*	*	*	*
Tm	6.59	-0.13	*	*	*	-4.26	*	-0.70	-0.83	*	*	*	*
U	-0.96	0.13	*	*	8.78	0.08	*	*	0.13	*	8.40	*	*
V	2.23	0.48	*	*	0.96	-5.97	-0.70	-0.15	-0.81	-0.40	-0.27	*	*
W	36.00	-0.20	*	*	*	-3.05	*	*	*	*	*	*	*
Y	-0.21	-0.02	*	*	0.02	-7.56	0.02	2.97	-0.17	-0.38	1.89	-0.78	*
Yb	1.49	-0.10	*	*	*	-5.54	*	-0.95	0.73	*	*	*	*
Zn	22.23	0.84	*	*	-0.23	-3.37	-0.53	0.53	-0.18	-1.71	-1.65	-1.39	*
Zr	-22.25	-0.67	*	*	-1.34	-12.82	-0.57	0.77	-0.55	-0.54	1.69	-0.98	*

Bold entries are Data Quality 1 - Underlined entries are Data Quality 2

Table 3 - GeoPT35 Z-scores for Tonalite, TLM-1. 13/06/2014

Lab Code	K62	K63	K66	K67	K68	K69	K70	K71	K72	K73	K74	K75	K76
SiO2	-0.04	-0.43	**-1.92**	0.02	-0.50	-0.07	0.13	-0.13	*	*	-0.45	0.10	-0.82
TiO2	-0.08	0.27	**1.13**	0.86	*	-0.02	-0.02	-0.02	*	**-0.39**	1.82	2.17	0.16
Al2O3	0.16	-0.11	**-1.47**	0.20	*	0.16	0.24	-0.16	*	*	1.23	0.44	2.20
Fe2O3T	-0.43	0.07	**3.55**	0.11	*	0.07	-0.16	-0.02	*	*	0.75	-0.78	0.56
MnO	-1.02	0.70	**1.41**	-0.55	*	0.70	-0.23	0.70	*	**-0.16**	0.86	-0.23	-0.08
MgO	-0.18	0.27	**16.06**	0.18	*	0.36	-0.90	0.36	*	*	0.58	0.64	0.54
CaO	0.06	-0.29	**3.41**	0.51	*	0.21	0.21	0.21	*	*	-0.26	0.86	-1.18
Na2O	-0.10	0.00	**0.00**	-2.49	*	-0.60	0.00	0.20	*	*	1.03	-4.00	0.99
K2O	0.02	-0.48	**1.35**	0.35	*	-0.31	-0.15	-0.15	*	*	1.22	2.14	-0.48
P2O5	-0.52	-1.24	**3.24**	-0.52	*	0.19	0.76	0.19	*	*	0.91	-1.09	0.62
Ba	*	-0.87	**2.16**	-0.18	*	0.02	*	-0.53	**1.32**	**-0.55**	0.48	1.27	-1.31
Be	*	*	**-1.44**	0.84	*	-4.73	*	-0.99	*	**-0.08**	-0.04	2.43	*
Bi	*	*	*	0.11	*	-1.70	*	*	*	**-0.09**	*	-0.98	*
Cd	*	*	*	*	*	-2.00	*	-0.68	*	*	*	-0.71	*
Ce	*	0.44	**1.33**	0.11	*	-2.96	*	-0.11	**0.00**	**-0.36**	-0.11	-0.40	*
Co	*	-0.17	**-0.34**	1.24	*	-1.89	*	-0.73	*	**-0.04**	0.34	-0.05	0.33
Cs	*	0.06	**1.75**	-0.32	*	-0.52	*	-0.37	**0.55**	**-0.39**	-0.60	-0.38	*
Cu	*	0.98	**-1.96**	2.55	*	0.10	*	-1.18	*	**-0.69**	-0.20	-1.06	0.49
Dy	*	-0.18	**0.22**	0.00	*	*	*	0.38	**-0.13**	**0.00**	0.25	-0.20	*
Er	*	-0.23	**0.34**	0.14	*	*	*	0.37	**0.06**	**0.00**	0.20	-0.12	*
Eu	*	0.20	**0.51**	2.86	*	*	*	-0.11	**-0.82**	**0.15**	-0.11	0.84	*
Ga	*	0.26	*	1.07	*	-0.05	*	0.41	*	**0.31**	0.33	0.08	-0.56
Gd	*	-0.22	**-0.07**	0.36	*	*	*	0.35	**0.13**	**0.07**	-1.04	-0.98	*
Ge	*	*	*	*	*	-1.23	*	*	*	*	*	-1.46	*
Hf	*	-0.19	**0.83**	*	*	*	*	1.11	**10.61**	**-1.98**	-0.60	0.68	*
Ho	*	-0.35	**0.67**	-0.13	*	*	*	0.13	**0.13**	**-0.02**	0.06	0.01	*
In	*	*	*	0.21	*	-1.50	*	-0.20	*	*	*	-0.54	*
La	*	0.10	**0.67**	-0.26	*	-2.74	*	-0.26	**0.00**	**-0.53**	0.17	-0.18	*
Li	*	*	*	0.49	*	0.76	*	-0.41	**0.66**	**-0.10**	*	0.00	*
Lu	*	-0.44	**0.00**	-0.38	*	*	*	0.00	**-0.81**	**0.00**	0.00	-0.13	*
Mo	*	*	**3.93**	*	*	0.36	*	-1.06	**-1.07**	**1.23**	*	0.00	*
Nb	*	1.64	**-3.56**	-2.09	*	*	*	-0.54	**1.56**	**0.08**	-0.40	0.38	4.44
Nd	*	0.16	**-0.70**	-0.18	*	*	*	-0.18	**-0.02**	**-0.25**	0.16	-0.12	*
Ni	*	1.36	**-2.73**	1.30	*	-0.41	*	-1.23	*	**-1.58**	1.09	-1.29	0.00
Pb	*	0.00	**1.33**	-0.07	*	-3.06	*	-0.33	**-0.31**	**-0.40**	-0.29	0.10	-1.33
Pr	*	0.00	**0.00**	0.26	*	-2.87	*	-0.10	**0.61**	**-0.39**	-0.02	-0.15	*
Rb	*	0.33	**-2.58**	1.44	*	0.72	*	-0.03	*	**-0.29**	0.26	0.11	-0.14
Sb	*	*	*	-0.85	*	-1.85	*	*	*	*	*	-0.80	*
Sc	*	*	**-5.36**	4.59	*	-4.64	*	-1.50	*	**0.45**	0.23	-0.65	*
Sm	*	-0.04	**0.30**	0.66	*	*	*	0.13	**0.03**	**-0.04**	0.07	-0.40	*
Sn	*	2.10	*	-0.05	*	-0.11	*	-0.35	*	**1.01**	0.05	-1.01	-0.97
Sr	*	0.85	**-0.31**	1.85	*	-0.20	*	0.95	**-9.72**	**0.69**	-0.17	-0.58	-0.80
Ta	*	-0.02	**3.76**	*	*	*	*	-0.70	**1.08**	**0.23**	-0.70	0.05	*
Tb	*	-0.17	**0.00**	0.60	*	*	*	0.25	**-0.02**	**0.17**	-1.02	0.04	*
Th	*	-0.12	**0.71**	-0.45	*	0.12	*	-0.51	**0.14**	**-1.76**	-0.82	-0.84	-1.80
Tl	*	*	*	-0.35	*	-0.74	*	-0.20	**2.05**	**0.95**	*	-0.74	*
Tm	*	-0.41	**0.03**	-0.37	*	*	*	0.01	**1.03**	**0.03**	0.16	-0.40	*
U	*	-0.33	**0.06**	-0.38	*	-0.84	*	0.23	**-2.29**	**-1.37**	0.59	-0.28	3.69
V	*	0.30	**-0.13**	3.02	*	0.12	*	1.12	*	**0.24**	0.43	-0.06	-0.70
W	*	*	*	*	*	8.19	*	*	*	*	*	-0.09	*
Y	*	-0.57	**-1.64**	0.74	*	0.23	*	0.06	**-1.90**	**1.30**	-0.35	0.45	-1.24
Yb	*	-0.25	**0.44**	-0.28	*	*	*	0.22	**-0.71**	**0.09**	0.10	-1.05	*
Zn	*	1.67	**4.70**	1.31	*	0.27	*	-0.11	*	**-0.15**	-0.00	3.50	0.43
Zr	*	-0.88	**1.54**	-0.47	*	0.46	*	2.11	**13.86**	**-4.95**	-1.63	1.16	0.77

Bold entries are Data Quality 1 - Underlined entries are Data Quality 2

Table 3 - GeoPT35 Z-scores for Tonalite, TLM-1. 13/06/2014

Lab Code	K77	K78	K79	K80	K81	K82	K83	K84	K85	K87	K88	K89	K90
SiO2	*	0.13	0.25	0.04	0.06	-0.18	-0.06	-0.09	0.57	-1.32	2.87	-0.29	*
TiO2	0.27	-0.05	-0.22	3.41	0.54	1.94	0.30	-0.31	0.43	-0.28	-0.82	-0.02	3.24
Al2O3	*	0.02	0.84	0.81	0.49	-1.01	0.00	0.11	1.11	-1.15	-0.63	0.46	-18.94
Fe2O3T	*	0.07	0.13	-1.65	0.04	0.38	-0.07	0.20	0.33	-0.99	-0.61	-0.13	-5.38
MnO	2.27	*	-0.47	1.41	1.41	-1.02	-0.39	-0.39	1.38	2.66	0.06	-0.55	3.28
MgO	-1.53	0.27	0.54	-2.71	3.25	-0.68	0.27	0.00	-0.74	0.67	0.13	0.28	0.54
CaO	-0.49	-0.14	0.12	1.16	-0.77	-0.66	-0.09	0.36	0.72	-2.07	1.33	0.42	-3.78
Na2O	0.60	-1.59	0.60	-0.08	2.39	0.03	-0.30	0.60	0.88	-2.39	0.22	0.56	-2.37
K2O	-1.63	-0.80	0.36	2.01	0.03	2.60	0.18	1.00	1.61	-0.36	-0.49	0.48	-4.30
P2O5	1.62	*	0.10	1.53	0.38	1.05	-0.52	1.48	-0.47	-5.61	*	-0.95	*
Ba	-0.13	*	2.76	*	1.47	-0.16	*	*	1.01	-1.93	-2.00	0.69	0.66
Be	*	*	*	*	0.87	*	*	*	2.24	-0.08	*	*	-1.73
Bi	*	*	406.33	*	-1.33	*	*	*	*	*	*	*	0.22
Cd	*	*	*	*	-2.02	*	*	*	-9.31	88.05	*	*	4.34
Ce	-1.72	*	4.17	*	-1.09	*	*	*	-8.45	-0.66	0.54	-0.84	-0.18
Co	-1.13	*	-0.34	*	0.87	0.33	*	*	-0.45	-0.14	0.17	0.03	-0.36
Cs	-1.13	*	*	*	0.88	*	*	*	*	*	0.63	1.05	*
Cu	-1.62	-0.72	-9.81	*	-1.18	3.43	*	*	1.28	-0.49	*	-0.98	3.91
Dy	-1.14	*	*	*	-1.01	*	*	*	*	0.51	3.37	*	0.31
Er	-0.91	*	*	*	-0.79	*	*	*	*	0.68	*	*	0.35
Eu	-1.32	*	*	*	0.39	*	*	*	*	-0.58	0.16	*	0.22
Ga	*	*	-1.12	*	0.10	3.01	*	*	*	-0.05	0.31	-0.51	0.98
Gd	-1.20	*	*	*	1.13	*	*	*	*	0.18	*	*	-1.10
Ge	*	*	*	*	0.24	*	*	*	*	0.22	*	*	*
Hf	*	*	-2.11	*	1.69	*	*	*	*	3.27	0.37	2.40	*
Ho	-0.98	*	*	*	-0.30	*	*	*	*	0.26	*	*	-0.35
In	*	*	*	*	0.01	*	*	*	*	*	*	*	*
La	-1.43	*	7.92	*	-0.53	*	*	*	-13.32	2.58	-0.48	-0.41	-0.65
Li	-0.86	*	*	*	0.08	-0.05	*	*	*	-8.21	*	*	-0.87
Lu	-1.02	*	*	*	0.58	*	*	*	*	0.00	0.17	*	0.35
Mo	*	*	*	*	-2.28	*	*	*	*	-0.37	*	*	-2.04
Nb	*	*	-0.45	*	-0.33	*	*	*	*	0.09	*	-1.47	*
Nd	-1.43	*	2.48	*	1.23	*	*	*	*	0.21	-0.56	1.70	0.77
Ni	-1.46	*	0.00	*	0.55	-5.46	*	*	0.60	0.00	*	-0.68	11.58
Pb	-1.66	*	1.33	*	-0.53	*	*	*	-1.30	0.13	*	-0.93	-1.00
Pr	-1.39	*	*	*	0.24	*	*	*	*	-0.71	*	*	0.60
Rb	*	*	0.86	*	-0.51	*	*	*	0.13	-0.54	1.93	-0.37	-1.99
Sb	*	*	*	*	-3.03	*	*	*	*	2.05	-0.22	-0.85	*
Sc	*	*	0.09	*	0.27	*	*	*	*	-0.82	0.26	-0.14	*
Sm	-1.31	*	*	*	0.19	*	*	*	*	-0.11	0.06	-2.49	0.07
Sn	*	*	*	*	0.70	*	*	*	*	5.78	*	-0.66	*
Sr	-1.17	-0.38	0.59	1.12	-0.01	2.90	*	*	0.78	-0.55	4.99	-0.24	3.71
Ta	*	*	*	*	0.50	*	*	*	*	76.00	-0.23	*	*
Tb	-1.18	*	*	*	0.00	*	*	*	*	0.17	-0.78	*	0.54
Th	*	*	4.23	*	-2.59	*	*	*	*	0.00	-1.47	-3.56	*
Tl	*	*	*	*	1.49	*	*	*	-6.11	3.64	*	*	-1.94
Tm	40.49	*	*	*	-0.26	*	*	*	*	0.03	*	*	0.26
U	-1.55	*	*	*	-1.98	*	*	*	7.55	-1.37	-3.28	0.64	-3.47
V	-1.24	*	0.60	*	-0.13	*	*	*	-1.48	2.60	1.51	-0.61	0.23
W	*	*	*	*	-1.46	*	*	*	*	*	*	16.22	*
Y	-1.62	*	0.88	*	0.38	-1.24	*	*	*	-0.70	*	0.32	*
Yb	-1.30	*	3.25	*	0.09	*	*	*	*	0.20	-0.12	1.04	0.67
Zn	-0.89	0.23	0.05	*	0.15	-4.36	*	*	0.41	-0.35	2.21	-0.54	-1.02
Zr	*	*	0.10	3.95	1.75	-6.44	*	*	*	-0.82	-1.60	-0.31	*

Bold entries are Data Quality 1 - Underlined entries are Data Quality 2

Table 3 - GeoPT35 Z-scores for Tonalite, TLM-1. 13/06/2014

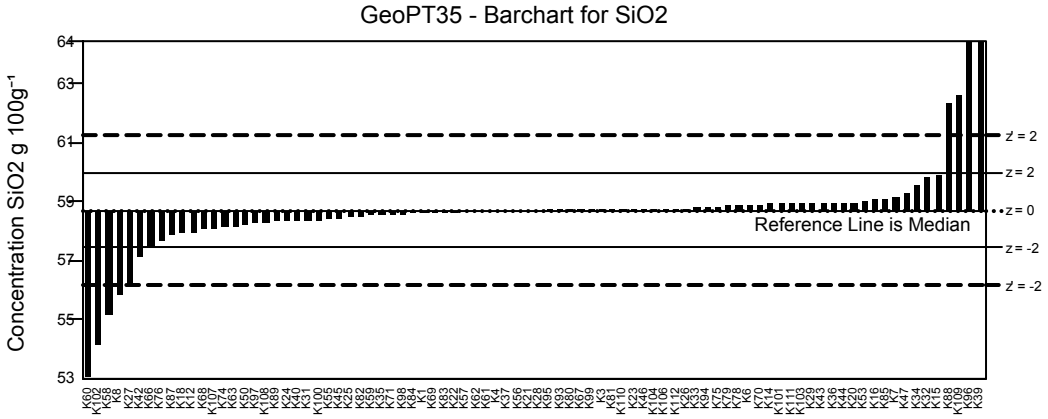
Lab Code	K91	K92	K93	K94	K95	K96	K97	K98	K99	K100	K101	K102	K103
SiO2	*	*	0.03	0.19	0.01	5.57	-0.32	-0.20	0.02	-0.52	0.18	-3.59	0.20
TiO2	*	*	-1.21	-0.04	0.27	-8.51	-0.49	-2.38	-0.34	-0.04	0.01	0.27	-1.51
Al2O3	*	*	-0.18	0.53	0.13	-11.70	0.09	-0.80	0.02	0.36	-0.13	-1.91	-0.20
Fe2O3T	*	*	-1.03	0.31	0.43	-5.82	0.23	-2.83	0.49	-0.49	-0.24	-1.42	-0.94
MnO	*	*	1.41	0.16	-0.39	63.79	-1.02	-1.72	-0.08	1.41	-1.96	0.70	-1.17
MgO	*	*	0.18	0.00	-0.18	-15.97	-0.16	-3.25	0.27	-1.08	0.29	-0.81	-0.60
CaO	*	*	0.42	0.52	0.46	-26.11	0.08	0.12	-0.39	-2.76	0.38	3.30	-1.10
Na2O	3.48	*	0.00	-0.20	-0.40	-19.59	-0.15	0.80	-0.12	0.60	-0.57	-4.18	-1.13
K2O	0.18	*	0.03	0.03	0.35	41.42	0.20	-3.58	0.07	-0.95	0.23	0.84	0.26
P2O5	0.19	*	0.38	0.38	0.05	8.75	2.90	-2.47	-1.38	-5.33	-0.09	-4.09	-1.38
Ba	0.99	*	-0.60	-1.57	0.05	3.13	0.74	-2.85	-0.71	-0.83	-0.18	-5.52	*
Be	0.50	9.95	-1.17	*	*	*	*	*	*	*	*	*	*
Bi	*	*	*	*	*	*	*	*	*	*	1.41	*	*
Cd	*	*	*	*	*	*	*	*	*	*	*	-9.31	*
Ce	-0.84	42.14	-3.28	*	-4.13	201.58	-4.13	-0.95	*	2.71	0.55	-20.68	*
Co	*	-7.54	0.37	1.68	0.33	27.60	*	-2.36	3.36	-0.34	0.03	-0.34	*
Cs	*	*	-0.23	*	*	*	*	*	*	-4.50	0.80	*	*
Cu	0.98	*	-3.14	0.00	0.49	*	-1.47	0.00	3.43	-5.89	-0.32	2.35	*
Dy	0.34	-4.56	-2.28	*	*	*	*	*	*	*	0.83	-4.71	*
Er	0.45	-5.10	-2.49	*	*	*	*	*	*	*	-0.31	13.93	*
Eu	0.32	1.47	-1.91	*	*	*	*	*	*	*	0.44	23.77	*
Ga	*	*	1.33	-0.10	0.97	3.01	-0.05	0.92	*	-1.12	0.51	*	*
Gd	0.64	1.87	-3.02	*	*	*	*	*	*	*	0.00	-15.56	*
Ge	*	*	*	*	*	*	*	*	*	*	0.70	*	*
Hf	*	*	121.15	*	0.46	*	*	*	*	-6.44	-0.62	-7.54	*
Ho	-0.42	-4.35	-2.09	*	*	*	*	*	*	*	0.13	*	*
La	0.03	45.27	-3.15	*	-0.41	10.51	-0.41	-3.73	*	19.57	0.49	-2.28	*
Li	-0.95	*	1.52	*	*	*	*	*	*	*	-0.86	8.64	*
Lu	0.15	-4.95	-1.75	*	*	*	*	*	*	*	0.73	47.42	*
Mo	*	*	23.82	*	17.87	*	*	*	*	*	3.16	-11.98	*
Nb	*	*	*	*	5.99	18.43	1.33	232.75	*	-0.45	0.24	23.80	*
Nd	0.79	16.03	-3.09	*	-1.60	*	*	5.89	*	-4.34	-0.18	4.76	*
Ni	*	*	*	*	2.73	394.30	-2.73	-10.91	6.82	-5.46	-1.23	-1.09	*
Pb	*	*	9.96	0.00	0.66	15475.13	0.66	-1.33	31.88	9.30	-0.60	3.85	*
Pr	1.04	19.83	-2.12	*	4.10	*	*	*	*	*	0.56	12.13	*
Rb	0.05	*	3.27	-1.05	-0.91	12.84	0.24	-4.10	*	-0.29	0.83	*	*
Sb	*	*	17.82	*	*	*	*	*	*	22.36	1.02	-13.28	*
Sc	*	-8.79	*	*	-3.13	*	1.41	0.09	*	-0.82	0.05	9.63	*
Sm	0.54	4.08	-2.14	*	-0.24	*	*	*	*	-4.23	-0.13	-11.73	*
Sn	*	*	*	*	*	*	*	34.84	*	*	5.44	*	*
Sr	0.30	*	-1.11	1.39	0.40	-4.05	0.50	-2.71	-1.30	-0.11	-0.10	-4.11	*
Ta	*	*	*	*	8.13	*	*	*	*	*	*	-10.90	*
Tb	1.69	-2.20	-2.37	*	*	*	*	*	*	*	0.42	55.86	*
Th	*	45.78	-3.80	8.15	0.16	*	0.16	8.15	*	0.31	-0.24	5.80	*
Tl	*	6.94	-0.40	*	-4.11	*	*	*	*	*	0.07	*	*
Tm	-1.41	-4.97	-2.25	*	*	*	*	*	*	*	0.58	17.70	*
U	*	*	-2.39	*	-1.40	*	3.69	48.08	*	27.73	0.84	-12.97	*
V	0.03	-10.02	-1.40	-0.13	-0.15	-6.42	-0.34	-0.13	1.21	0.05	0.21	-4.30	*
W	*	*	88.81	*	84.01	*	*	*	*	703.21	*	*	*
Y	*	-7.09	-2.48	0.88	0.02	6.33	0.86	0.04	*	0.04	-0.53	*	*
Yb	-0.01	-5.84	-2.49	*	*	*	*	*	*	*	0.08	*	*
Zn	-0.25	*	-1.21	0.32	-0.25	*	-0.53	-3.24	1.94	-1.05	0.57	-4.99	*
Zr	*	*	1.33	2.57	0.05	13.55	0.05	4.84	4.07	-3.20	-1.08	*	*

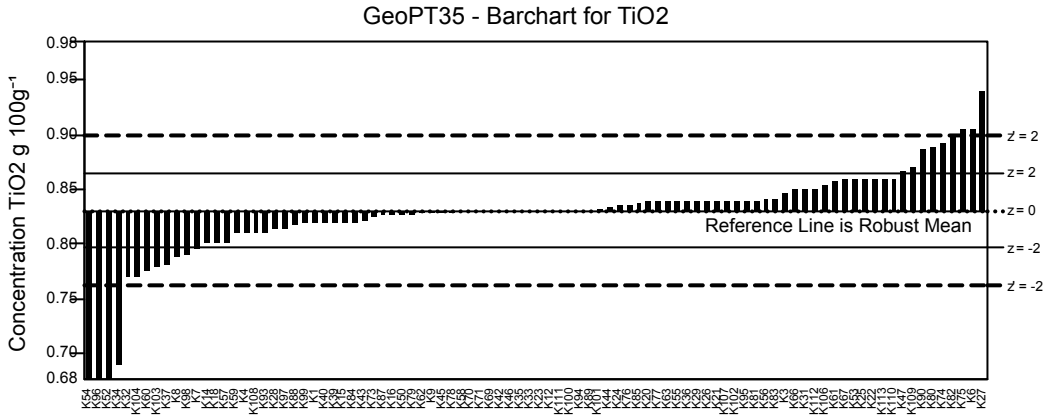
Bold entries are Data Quality 1 - Underlined entries are Data Quality 2

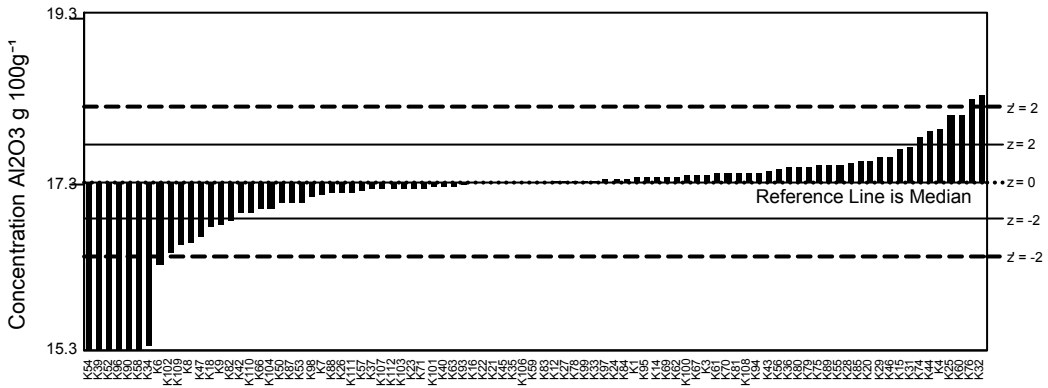
Table 3 - GeoPT35 Z-scores for Tonalite, TLM-1. 13/06/2014

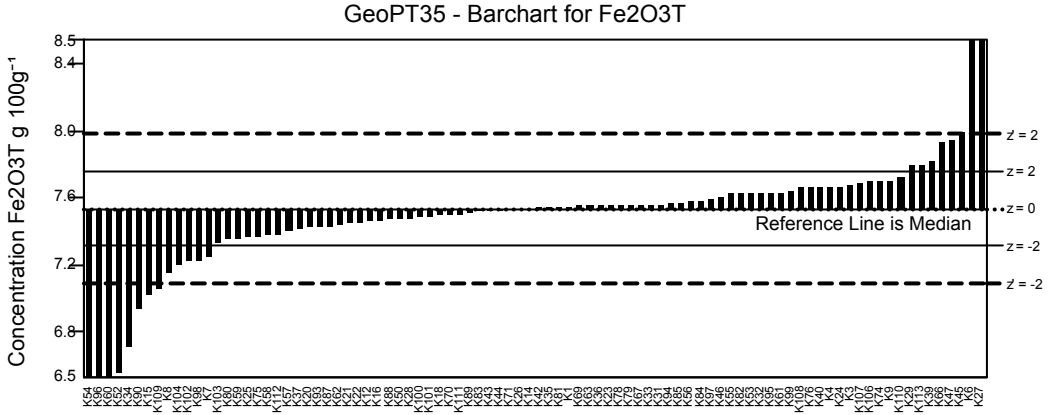
Lab Code	K104	K105	K106	K107	K108	K109	K110	K111	K112	K113
SiO2	0.09	*	0.09	-0.99	-0.63	3.06	0.03	0.36	0.05	*
TiO2	-3.55	*	1.31	0.54	-1.21	1.15	0.86	-0.04	0.56	1.71
Al2O3	-1.38	*	-0.04	-0.40	0.50	-1.69	-0.80	-0.62	-0.20	*
Fe2O3T	-3.01	*	1.48	1.30	1.10	-2.18	0.83	-0.31	-0.70	2.29
MnO	-0.78	*	2.03	0.78	1.09	-5.55	-2.74	1.41	-0.86	-1.72
MgO	-3.07	*	1.62	2.53	-0.69	-2.71	1.35	0.54	-0.18	*
CaO	0.92	*	1.72	3.61	-0.14	-1.48	1.51	-0.57	0.31	*
Na2O	0.20	*	0.99	-2.59	0.18	-13.92	0.30	1.19	0.20	*
K2O	-5.55	*	1.18	0.03	-1.08	-14.28	0.67	0.36	-0.15	*
P2O5	3.24	*	0.38	3.81	0.10	13.04	-2.09	-5.33	1.62	0.38
Ba	-5.11	1.69	0.33	1.84	-1.12	2.21	0.01	-2.39	*	0.55
Be	0.41	*	-0.08	*	-0.26	*	*	*	*	-0.76
Bi	*	-2.74	*	*	*	781.47	16.45	12.15	*	*
Cd	10.03	-3.00	*	*	*	*	11.90	-9.31	*	0.63
Ce	0.08	1.07	0.66	-1.68	0.90	-4.11	-4.64	-2.77	*	0.81
Co	-1.24	-0.18	0.37	0.67	0.67	*	4.58	-3.17	*	0.47
Cs	-1.07	0.16	0.58	*	1.24	*	-7.33	-14.66	*	0.22
Cu	-0.33	0.06	-0.88	-0.98	3.76	35.82	1.32	-0.10	*	-0.59
Dy	0.40	0.49	0.00	*	0.00	*	*	*	*	-0.18
Er	0.17	-0.29	-0.23	*	0.74	*	*	*	*	-0.23
Eu	-0.01	-1.04	0.75	*	-1.83	*	*	*	*	0.75
Ga	0.63	-0.01	-0.61	0.92	0.38	*	-0.31	-1.12	*	0.10
Gd	-0.01	0.91	0.07	*	0.44	*	*	*	*	0.04
Ge	0.66	*	*	*	*	*	-6.54	11.06	*	*
Hf	4.94	2.48	1.78	4.81	-6.28	*	-1.49	10.86	*	0.65
Ho	0.97	0.26	0.12	*	0.49	*	*	*	*	-0.30
In	2.19	*	*	*	*	*	*	*	*	*
La	0.70	0.54	0.78	*	0.68	*	0.83	6.90	*	1.37
Li	-1.90	2.80	*	*	1.64	*	*	*	*	-0.64
Lu	0.93	-0.32	0.87	*	0.87	*	*	*	*	0.00
Mo	1.99	-0.10	0.75	*	0.75	495.17	-1.22	-7.21	*	-3.23
Nb	-2.21	2.15	0.17	-6.05	4.40	*	-1.00	-2.01	*	-0.64
Nd	0.41	0.67	1.01	-2.06	0.78	*	-3.31	-1.95	*	0.10
Ni	3.00	3.23	3.00	4.37	*	*	-1.77	-5.46	*	-0.44
Pb	0.89	3.47	11.56	-1.33	5.81	31.88	-2.19	-1.06	*	2.52
Pr	0.30	0.31	0.75	*	0.24	*	*	*	*	0.39
Rb	-1.05	0.30	0.71	-1.43	0.92	10.82	-0.70	-2.04	*	-0.32
Sb	-0.37	-1.56	*	*	1.25	*	13.41	-5.26	*	0.00
Sc	1.24	-0.47	0.45	-0.82	-0.06	*	-1.09	-1.45	*	1.64
Sm	0.64	0.44	0.26	*	0.80	*	-2.68	5.88	*	0.04
Sn	4.28	-0.97	-0.09	*	*	471.19	7.61	-14.19	*	1.32
Sr	0.21	0.39	0.50	-0.11	2.26	-3.00	-0.52	-1.42	*	-0.21
Ta	0.67	5.72	-0.04	*	7.21	*	-4.09	5.39	*	1.32
Tb	-0.36	0.34	*	*	0.22	*	*	*	*	0.17
Th	0.31	-0.20	0.71	6.97	-0.46	*	-1.02	-1.25	*	-1.45
Tl	*	15.43	-0.13	*	0.49	*	-5.46	2.57	*	0.14
Tm	-0.29	0.00	0.60	*	0.40	*	*	*	*	0.31
U	9.62	1.02	3.31	*	-0.69	*	7.76	-2.79	*	-1.98
V	-2.40	-1.27	0.94	-1.22	2.05	0.22	-3.12	-1.54	*	1.14
W	1.00	*	7.46	*	*	*	14.43	71.68	*	-2.18
Y	1.07	3.37	2.57	-0.80	-0.52	-2.17	-0.32	-1.47	*	-0.63
Yb	0.23	-0.33	0.32	6.76	0.67	*	2.21	-11.38	*	0.03
Zn	-0.28	-2.64	4.76	-0.78	1.55	0.84	-0.58	-2.58	*	-1.43
Zr	4.84	7.42	2.12	-0.52	3.50	-6.24	-0.25	-1.37	*	2.16

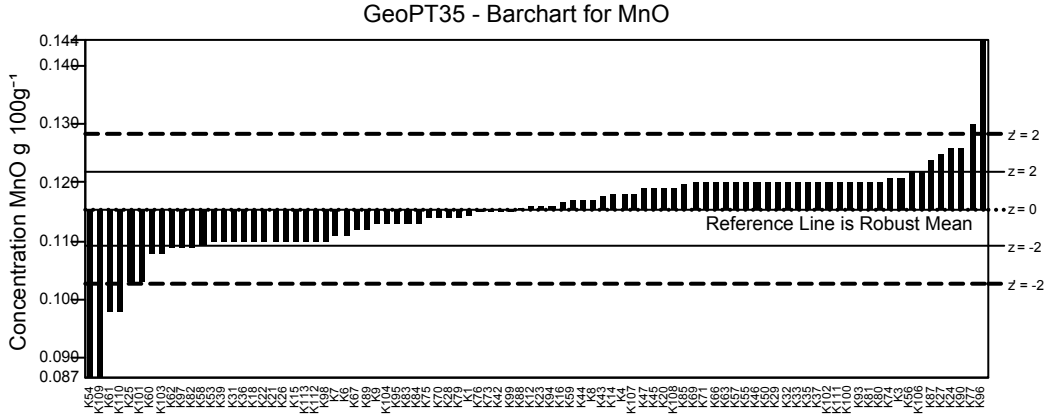
Bold entries are Data Quality 1 - Underlined entries are Data Quality 2

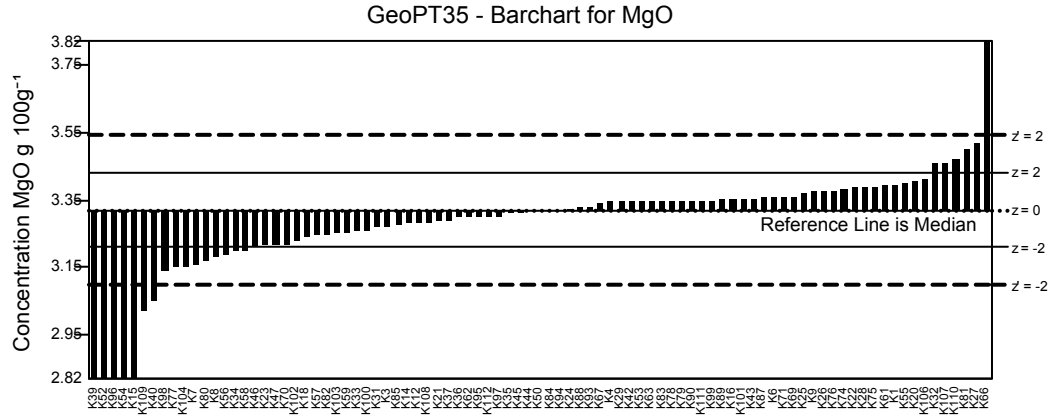

GeoPT35 - Barchart for SiO2
Concentration SiO2 g 100g⁻¹
64
63
61
59
57
55
53
z' = 2
z = 2
z = 0
z = -2
z' = -2
Reference Line is Median


GeoPT35 - Barchart for TiO2
Concentration TiO2 g 100g⁻¹
0.98
0.95
0.90
0.85
0.80
0.75
0.70
0.68
z' = 2
z = 2
z = 0
z = -2
z' = -2
Reference Line is Robust Mean

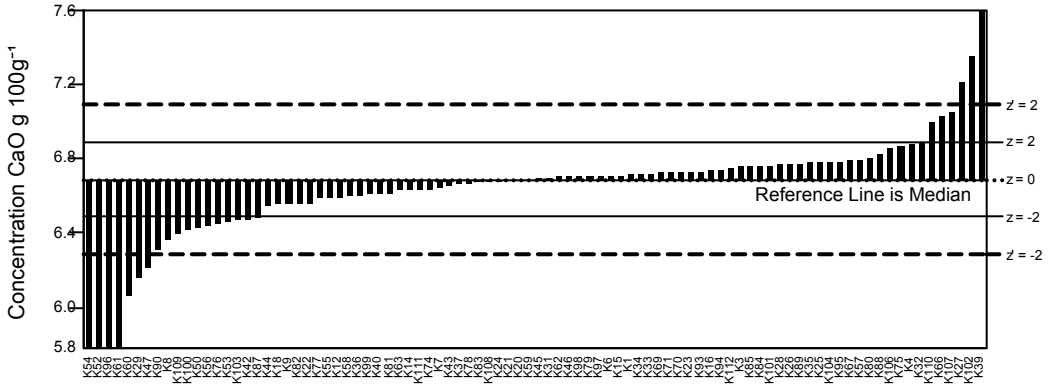

GeoPT35 - Barchart for Al2O3
Concentration Al2O3 g 100g⁻¹
19.3
17.3
15.3
z' = 2
z = 2
z = 0
z = -2
z' = -2
Reference Line is Median


GeoPT35 - Barchart for Fe2O3T
Concentration Fe2O3T g 100g⁻¹
8.5
8.4
8.0
7.6
7.2
6.8
6.5
z' = 2
z = 2
z = 0
z = -2
z' = -2
Reference Line is Median

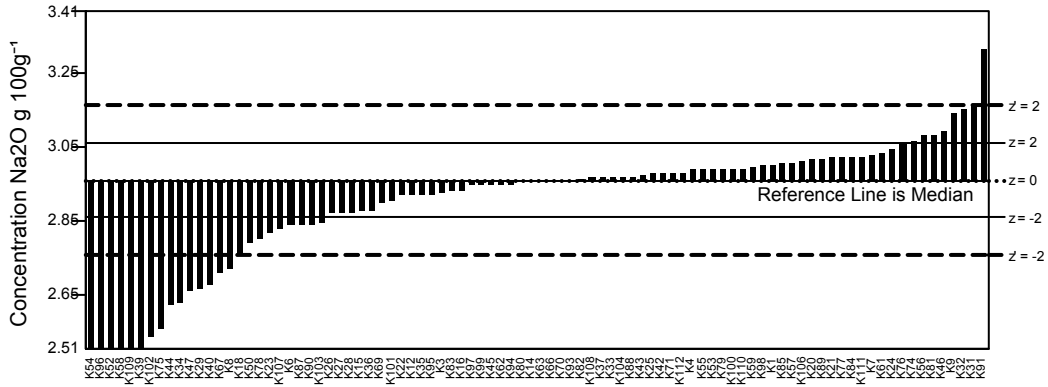

GeoPT35 - Barchart for MnO
Concentration MnO g 100g⁻¹
0.144
0.140
0.130
0.120
0.110
0.100
0.090
0.087
z' = 2
z = 2
z = 0
z = -2
z' = -2
Reference Line is Robust Mean


GeoPT35 - Barchart for MgO
Concentration MgO g 100g⁻¹
3.82
3.75
3.55
3.36
3.15
2.95
2.82
z' = 2
z = 2
z = 0
z = -2
z' = -2
Reference Line is Median

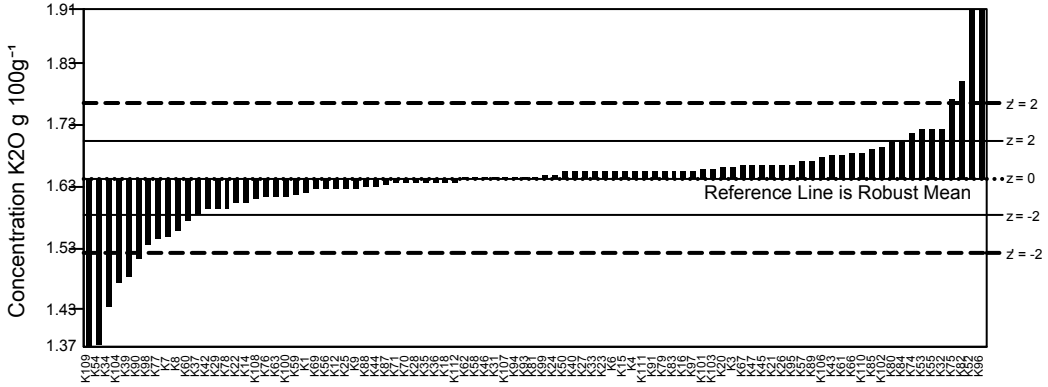
GeoPT35 - Barchart for CaO



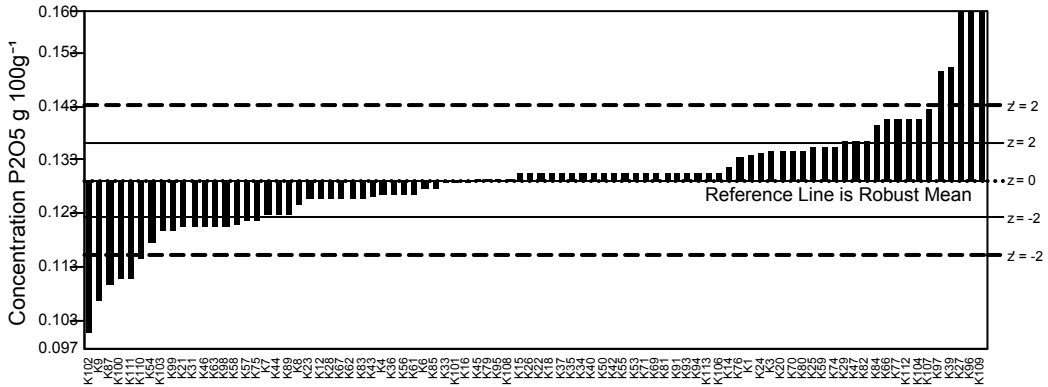
GeoPT35 - Barchart for Na2O



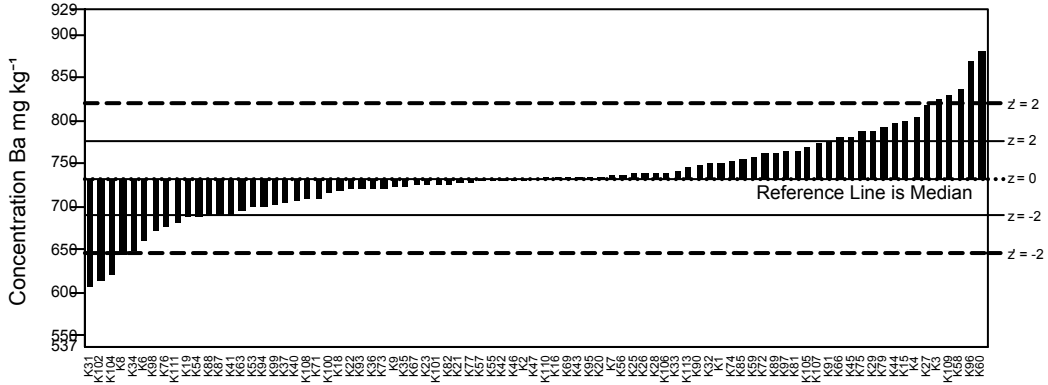
GeoPT35 - Barchart for K2O



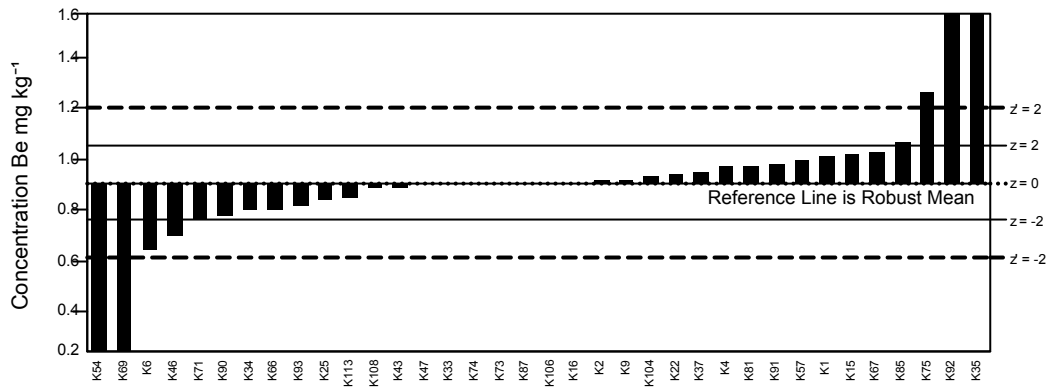
GeoPT35 - Barchart for P2O5



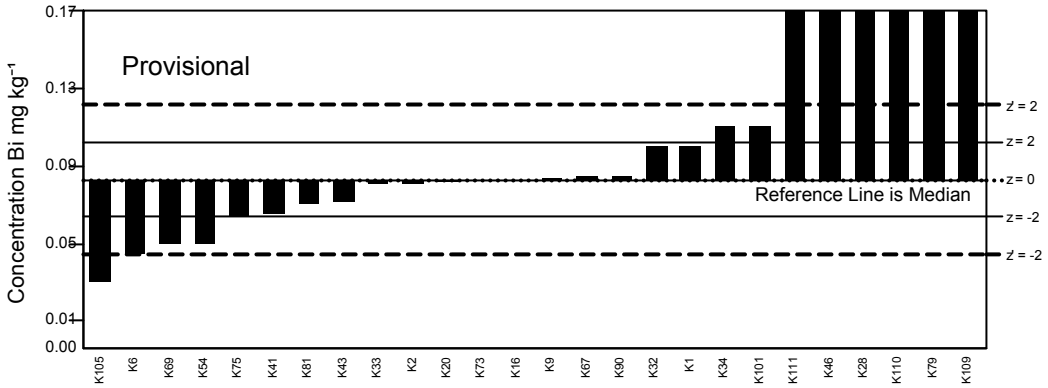
GeoPT35 - Barchart for Ba



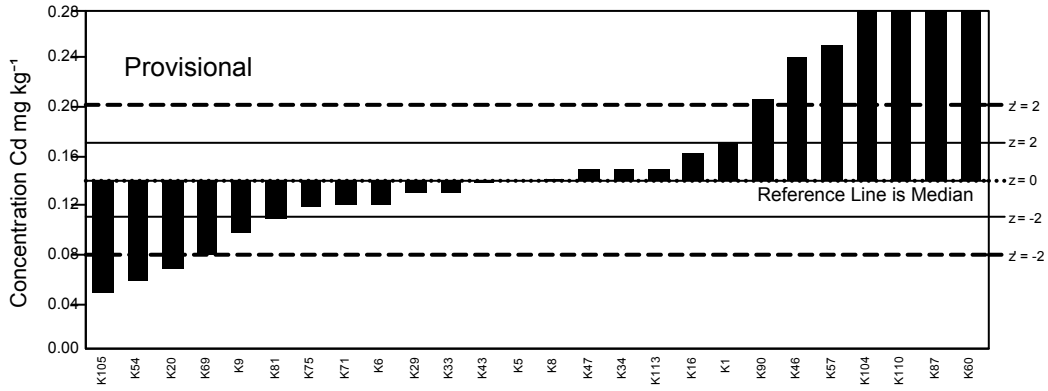
GeoPT35 - Barchart for Be



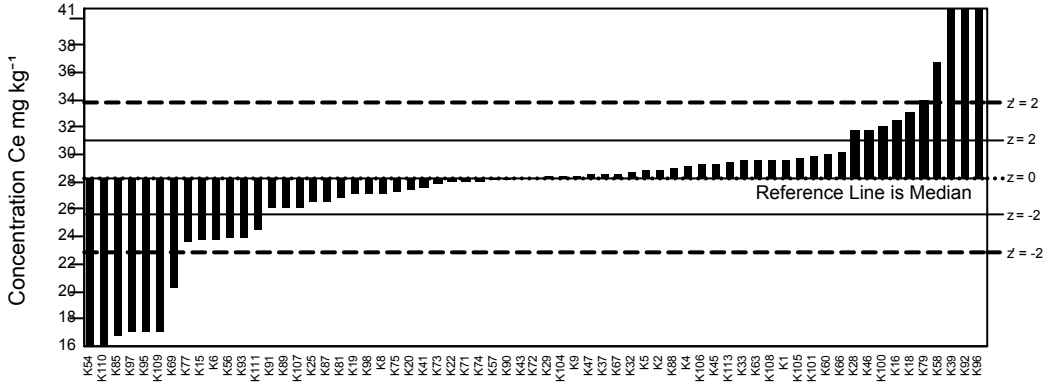
GeoPT35 - Barchart for Bi



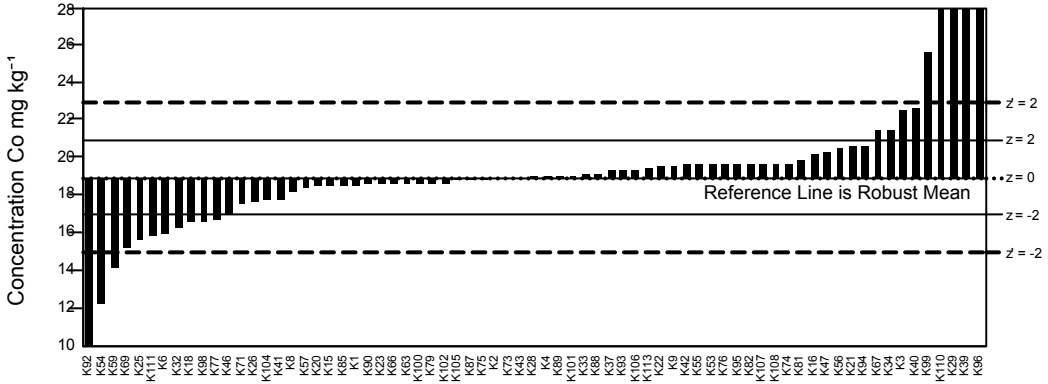
GeoPT35 - Barchart for Cd



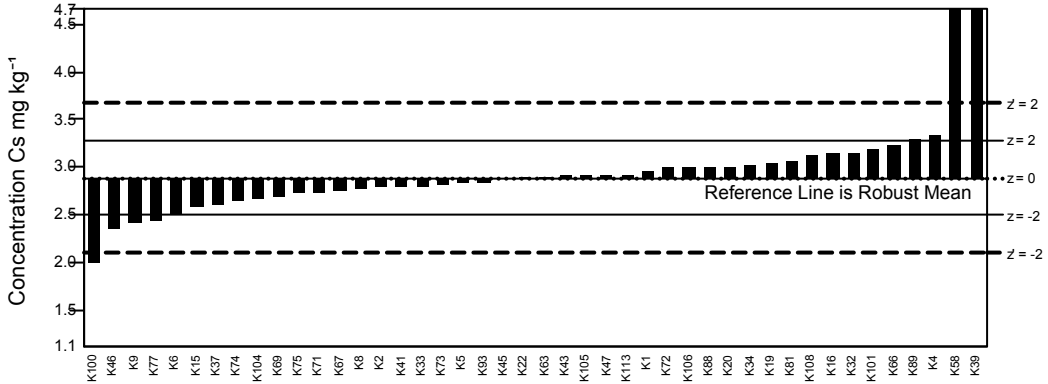
GeoPT35 - Barchart for Ce



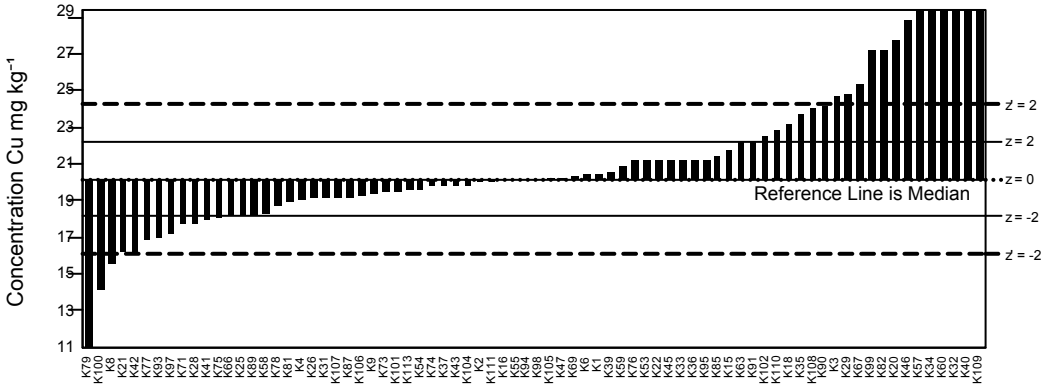
GeoPT35 - Barchart for Co

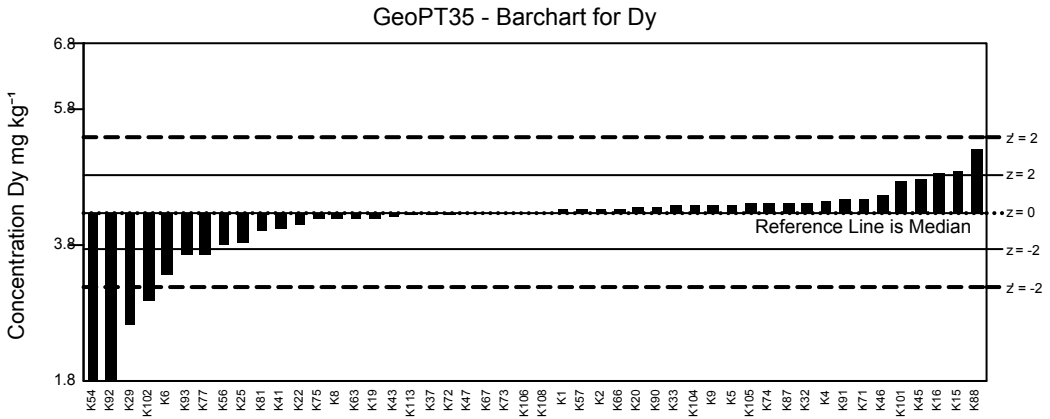


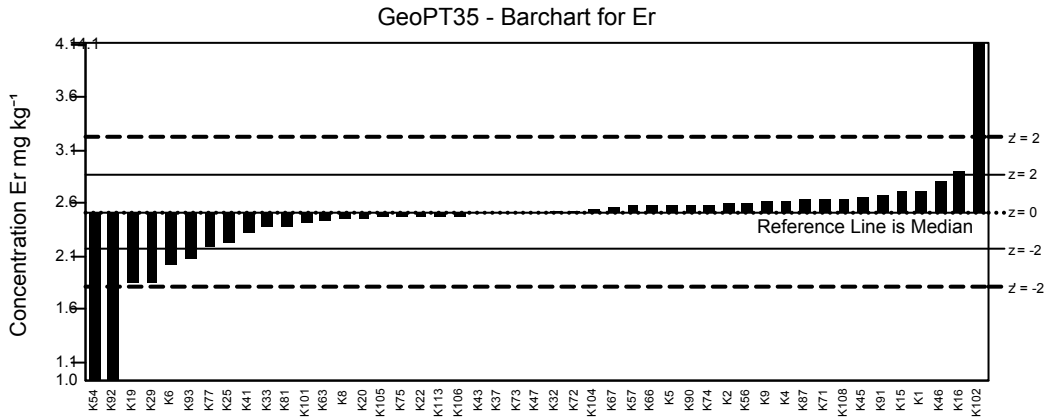
GeoPT35 - Barchart for Cs

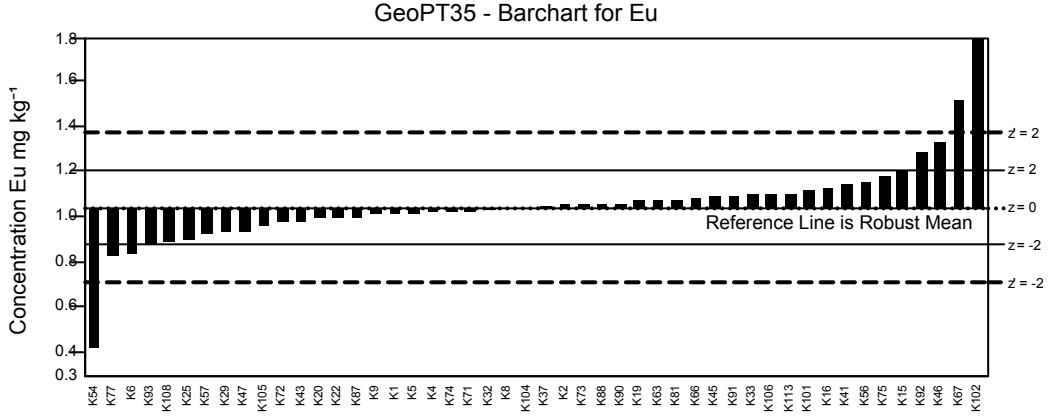


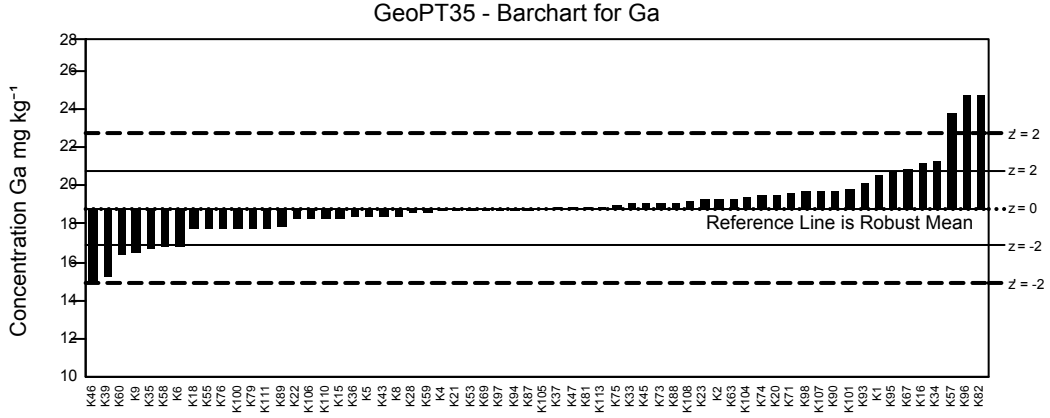
GeoPT35 - Barchart for Cu

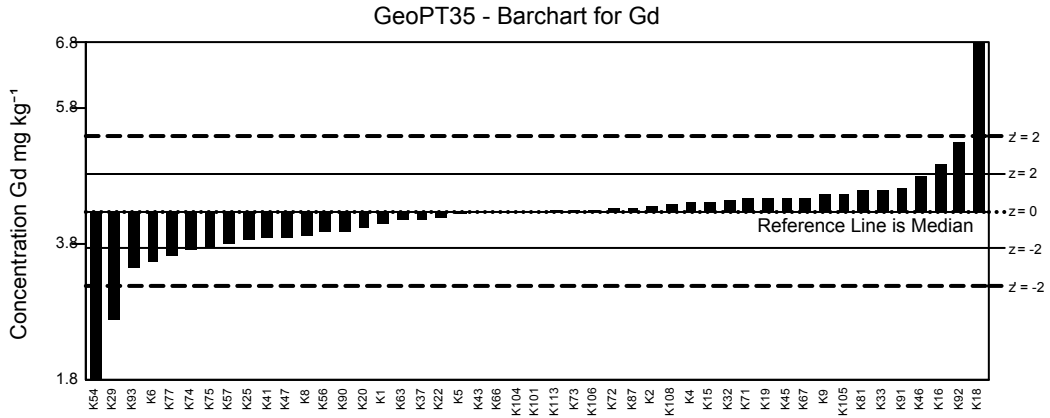


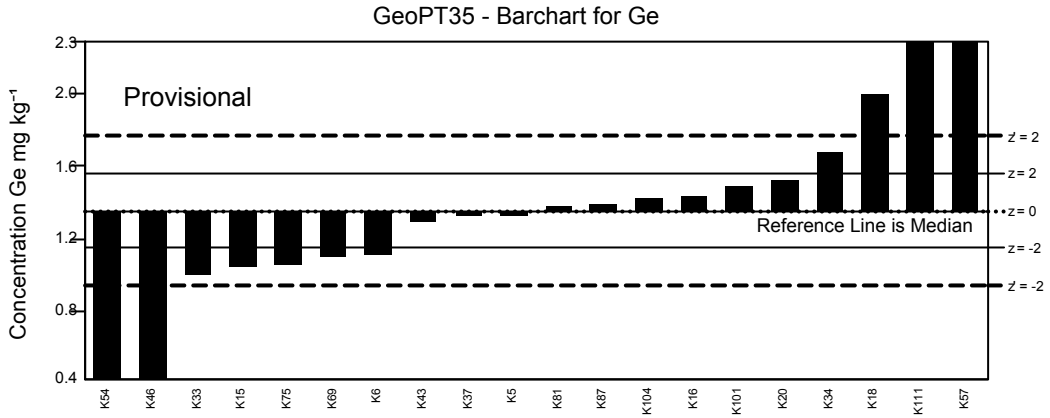

GeoPT35 - Barchart for Dy
Concentration Dy mg kg⁻¹
Reference Line is Median
z' = 2
z = 2
z = 0
z = -2
z' = -2


GeoPT35 - Barchart for Er
Concentration Er mg kg⁻¹
Reference Line is Median
z' = 2
z = 2
z = 0
z = -2
z' = -2

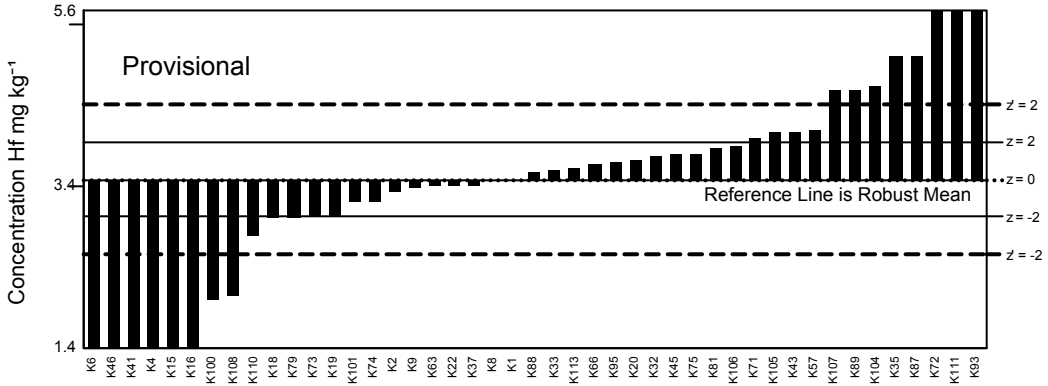

GeoPT35 - Barchart for Eu
Concentration Eu mg kg⁻¹
Reference Line is Robust Mean
z' = 2
z = 2
z = 0
z = -2
z' = -2


GeoPT35 - Barchart for Ga
Concentration Ga mg kg⁻¹
Reference Line is Robust Mean
z' = 2
z = 2
z = 0
z = -2
z' = -2

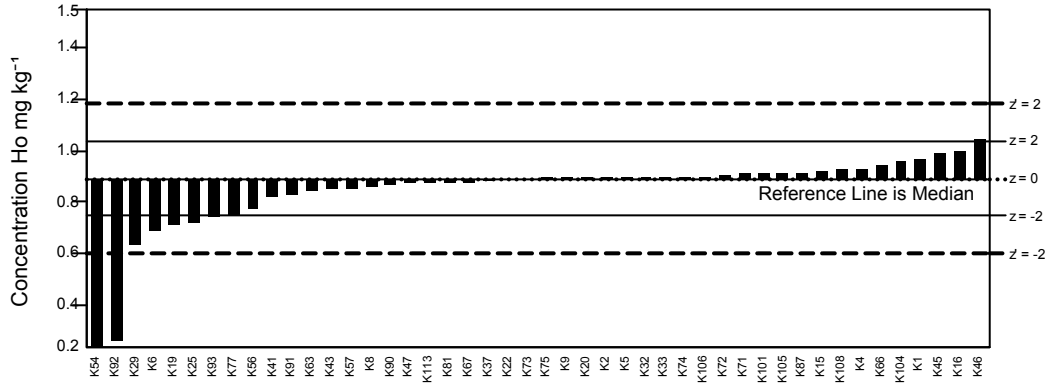

GeoPT35 - Barchart for Gd
Concentration Gd mg kg⁻¹
Reference Line is Median
z' = 2
z = 2
z = 0
z = -2
z' = -2


GeoPT35 - Barchart for Ge
Concentration Ge mg kg⁻¹
Provisional
Reference Line is Median
z' = 2
z = 2
z = 0
z = -2
z' = -2

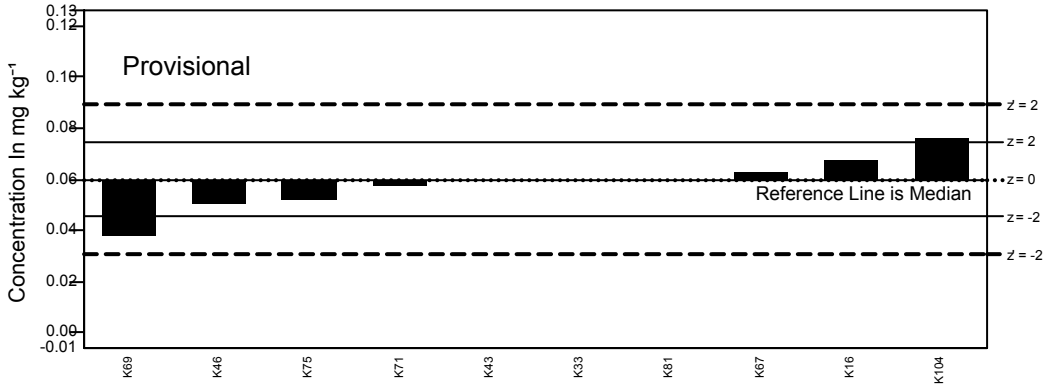
GeoPT35 - Barchart for Hf



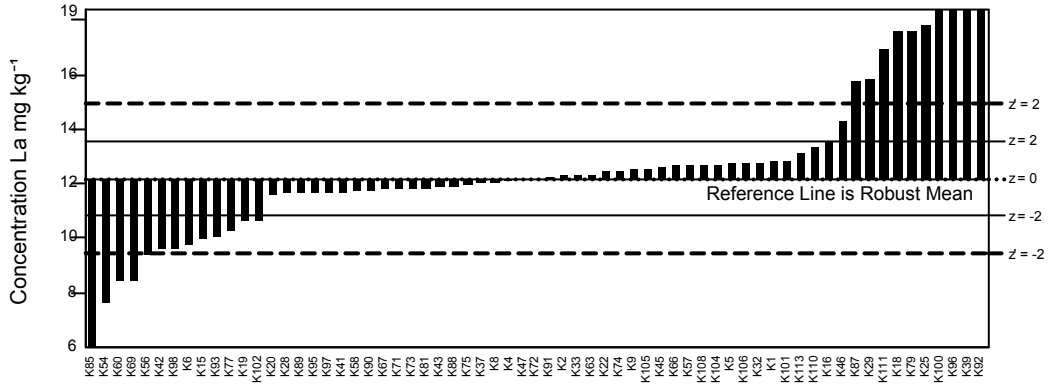
GeoPT35 - Barchart for Ho



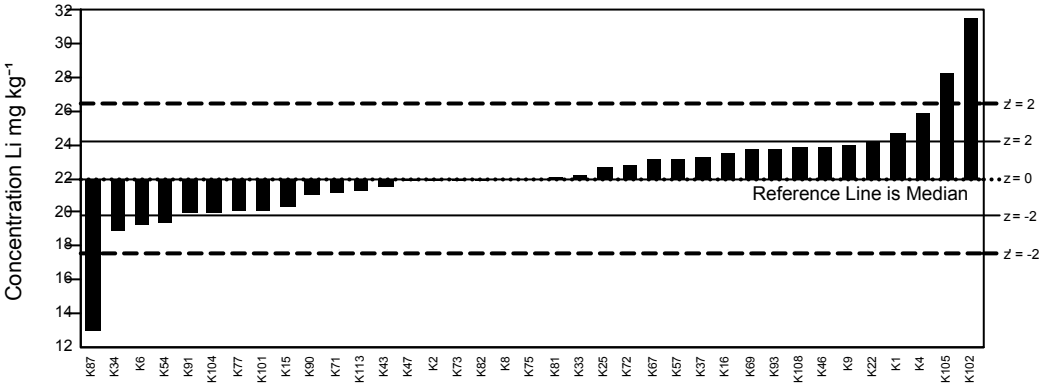
GeoPT35 - Barchart for In



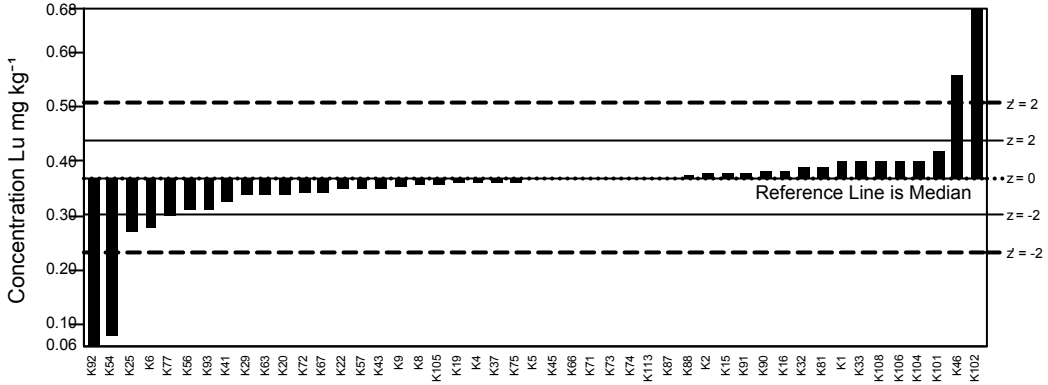
GeoPT35 - Barchart for La



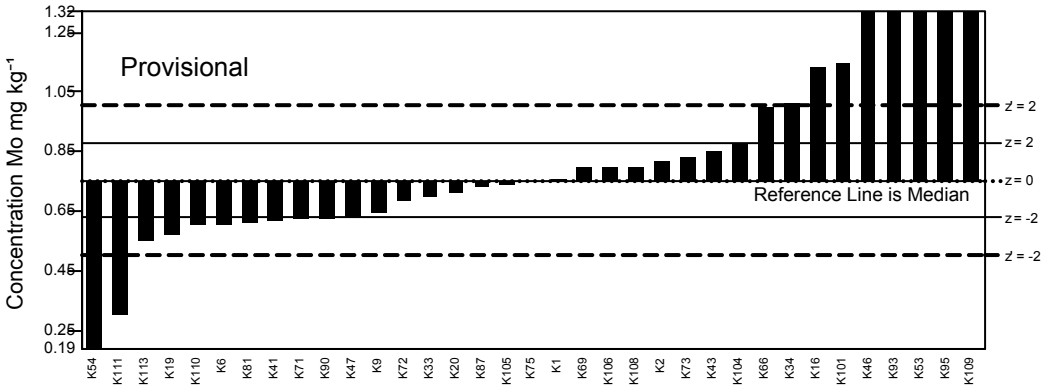
GeoPT35 - Barchart for Li



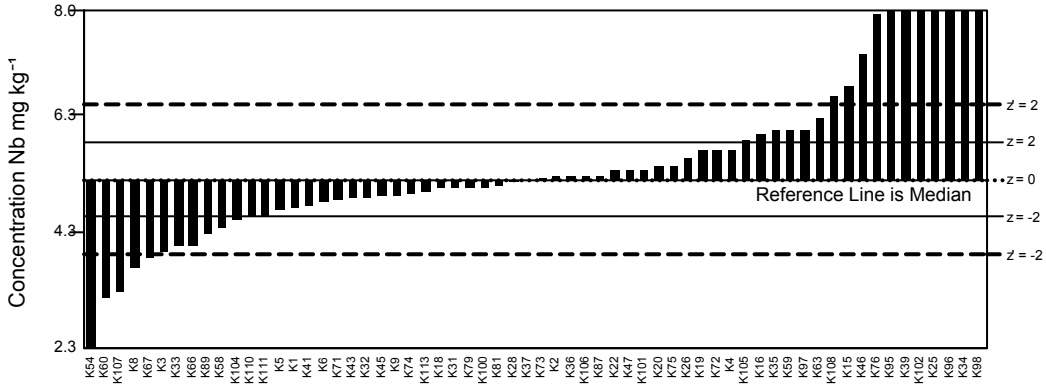
GeoPT35 - Barchart for Lu



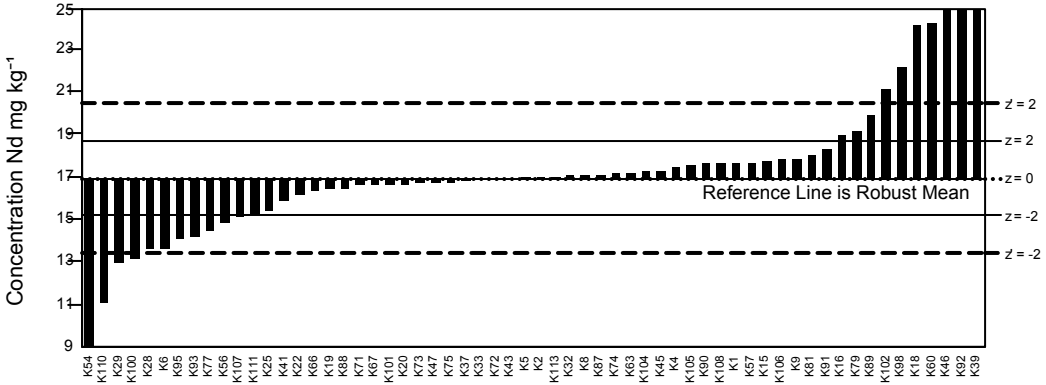
GeoPT35 - Barchart for Mo



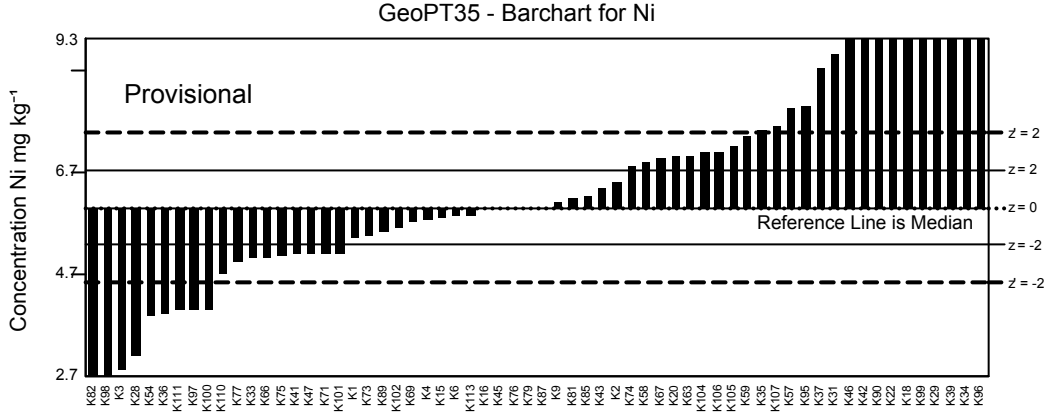
GeoPT35 - Barchart for Nb



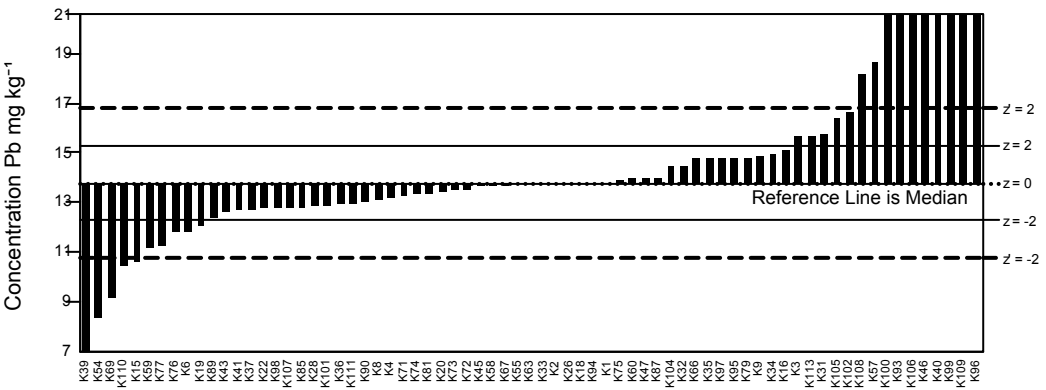
GeoPT35 - Barchart for Nd



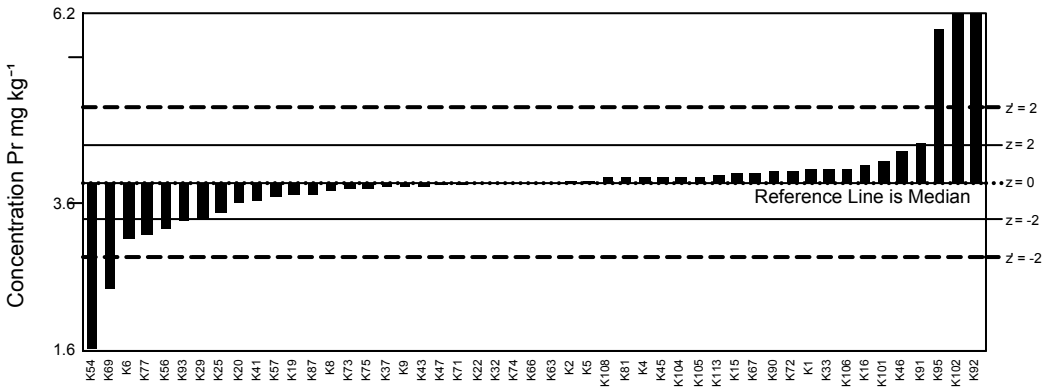
GeoPT35 - Barchart for Ni



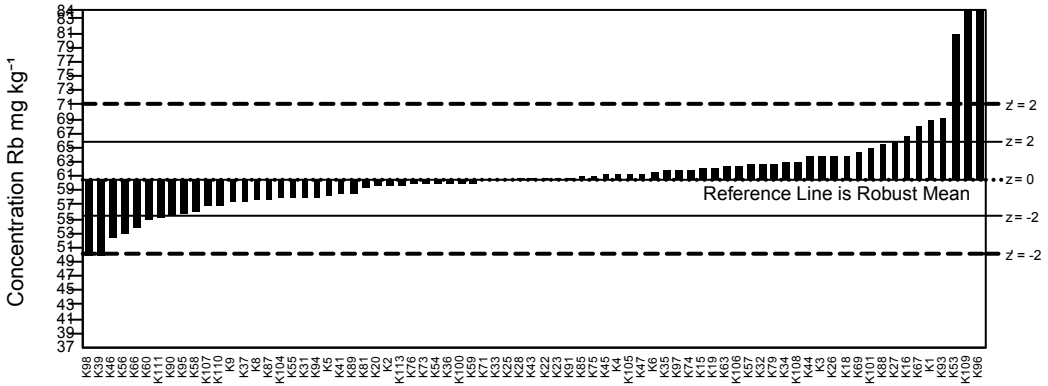
GeoPT35 - Barchart for Pb



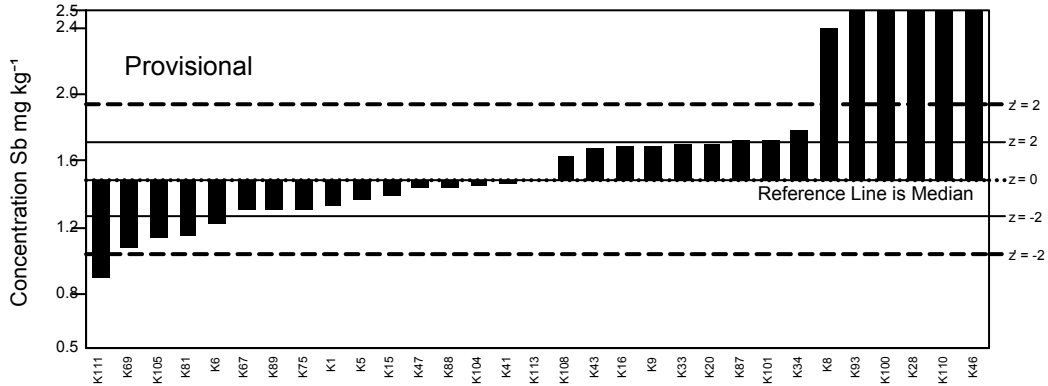
GeoPT35 - Barchart for Pr



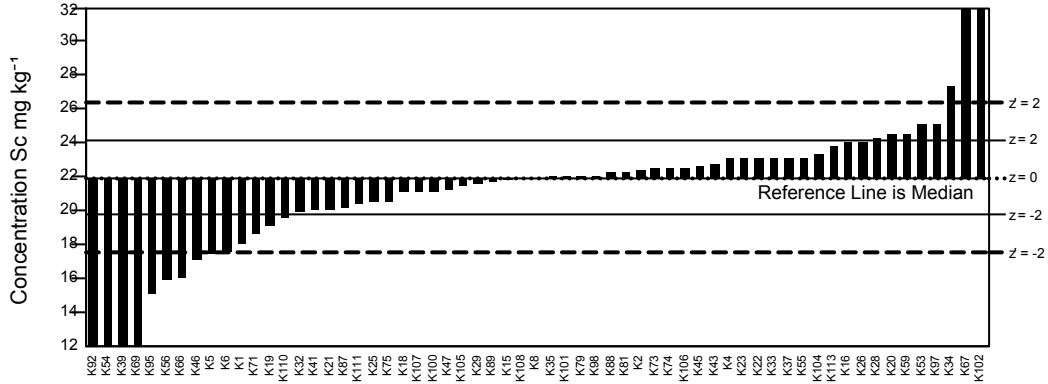
GeoPT35 - Barchart for Rb



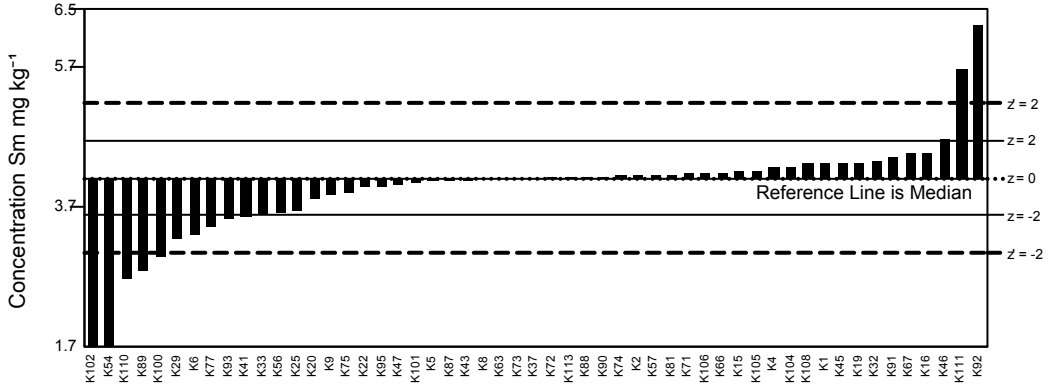
GeoPT35 - Barchart for Sb



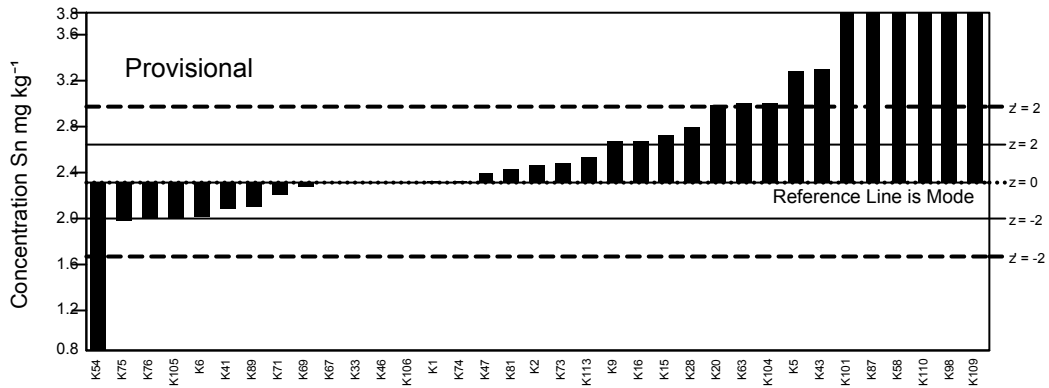
GeoPT35 - Barchart for Sc



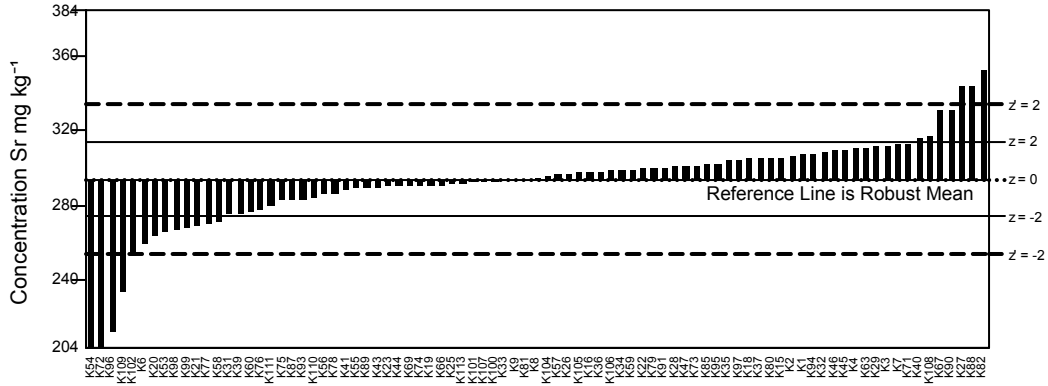
GeoPT35 - Barchart for Sm

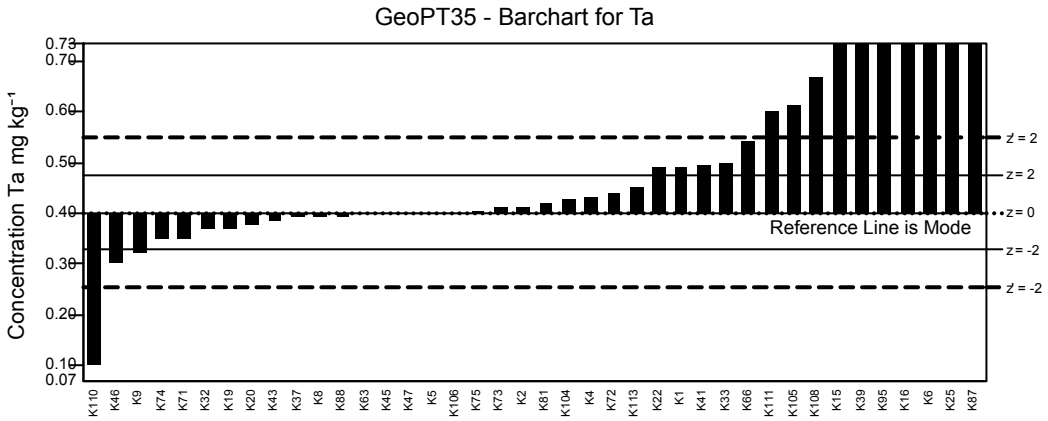


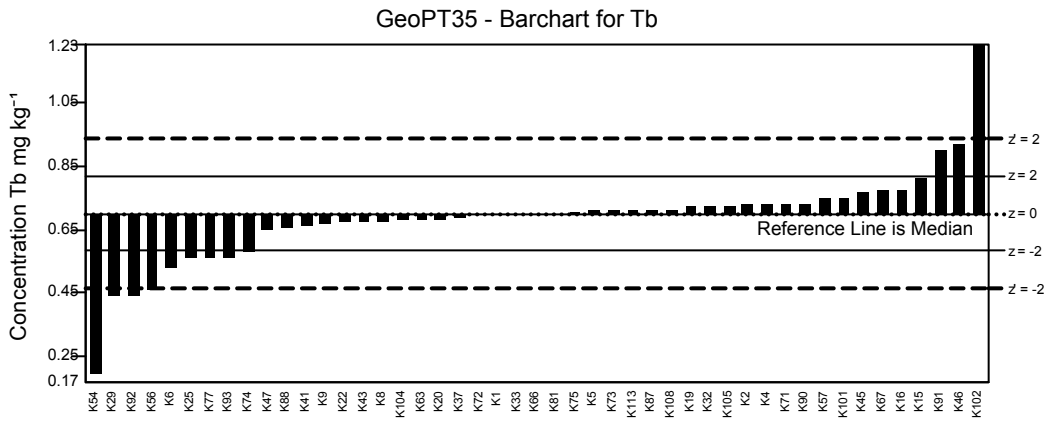
GeoPT35 - Barchart for Sn

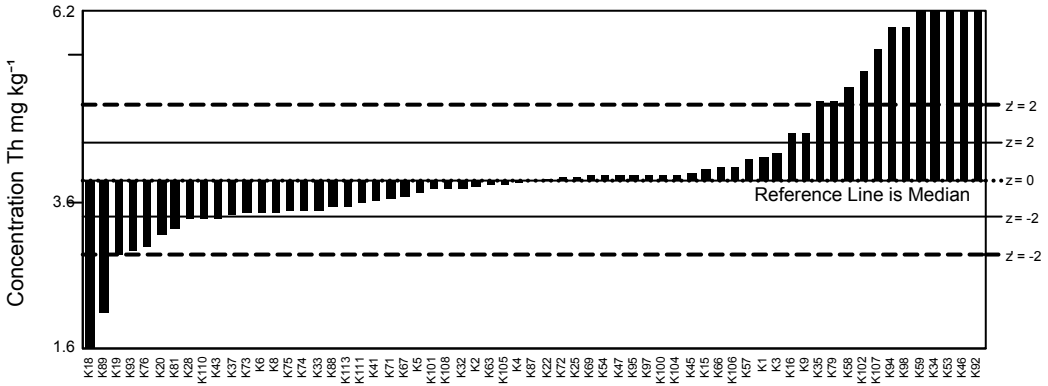


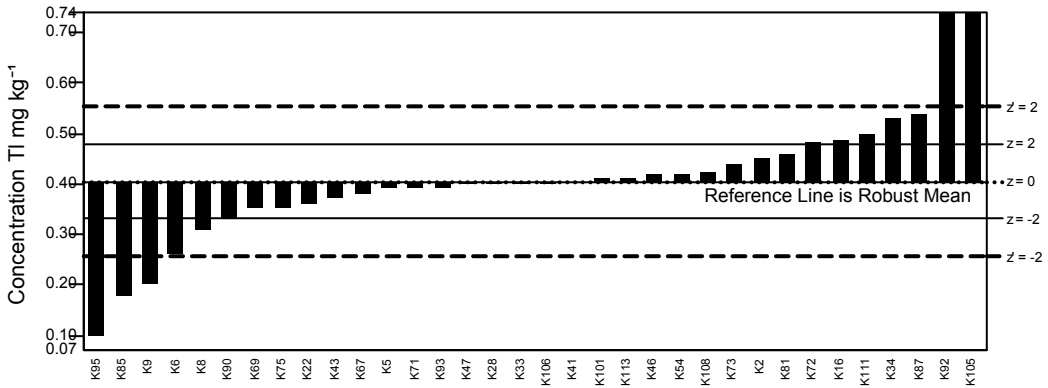
GeoPT35 - Barchart for Sr

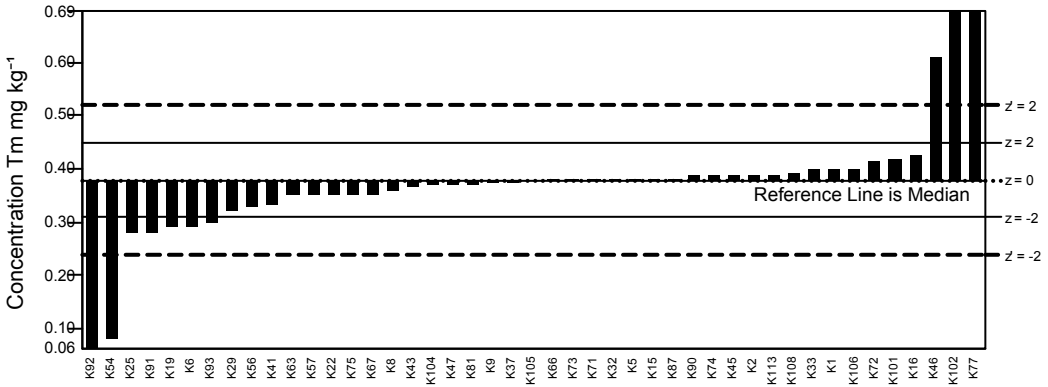


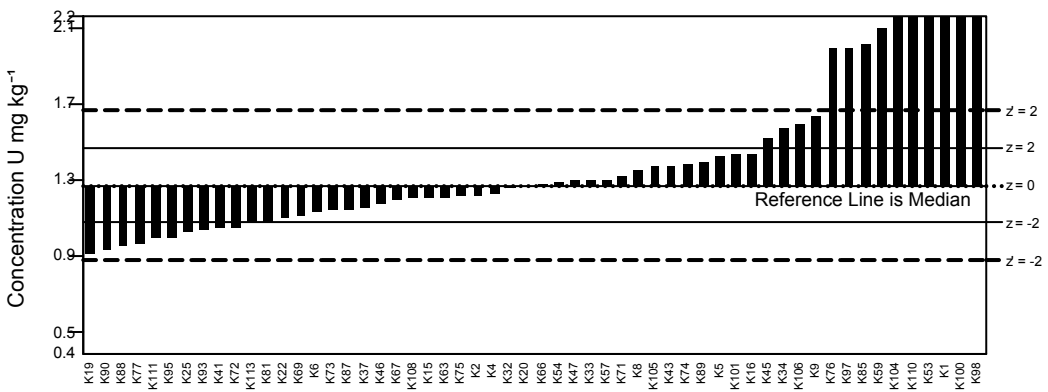

GeoPT35 - Barchart for Ta
Concentration Ta mg kg⁻¹
0.73
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.07
Reference Line is Mode
z' = 2
z = 2
z = 0
z = -2
z' = -2
K110 K46 K9 K74 K71 K32 K19 K20 K43 K37 K8 K88 K63 K45 K47 K5 K106 K75 K73 K2 K81 K104 K4 K72 K113 K22 K1 K41 K33 K66 K111 K105 K108 K15 K39 K95 K16 K6 K25 K87

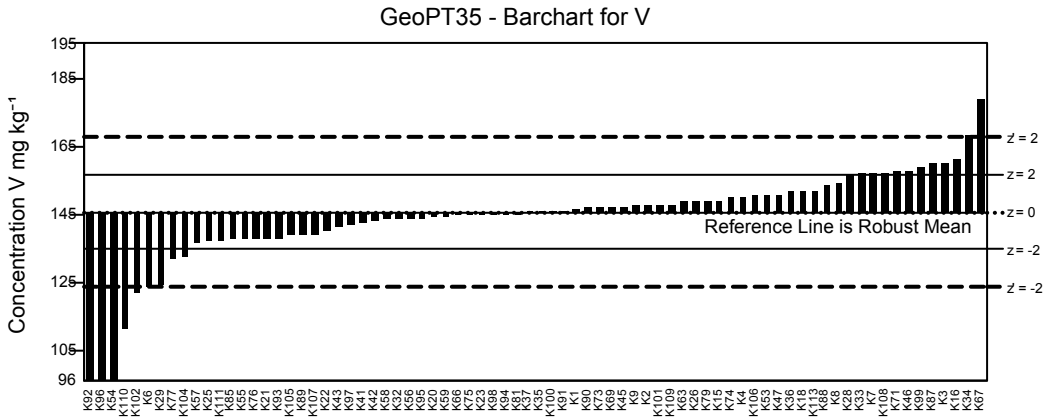

GeoPT35 - Barchart for Tb
Concentration Tb mg kg⁻¹
1.23
1.05
0.85
0.65
0.45
0.25
0.17
Reference Line is Median
z' = 2
z = 2
z = 0
z = -2
z' = -2
K54 K29 K92 K56 K6 K25 K77 K93 K74 K47 K88 K41 K9 K22 K43 K8 K104 K63 K20 K37 K72 K1 K33 K96 K81 K75 K5 K73 K113 K87 K108 K19 K32 K105 K2 K4 K71 K90 K57 K101 K45 K67 K16 K15 K91 K46 K102

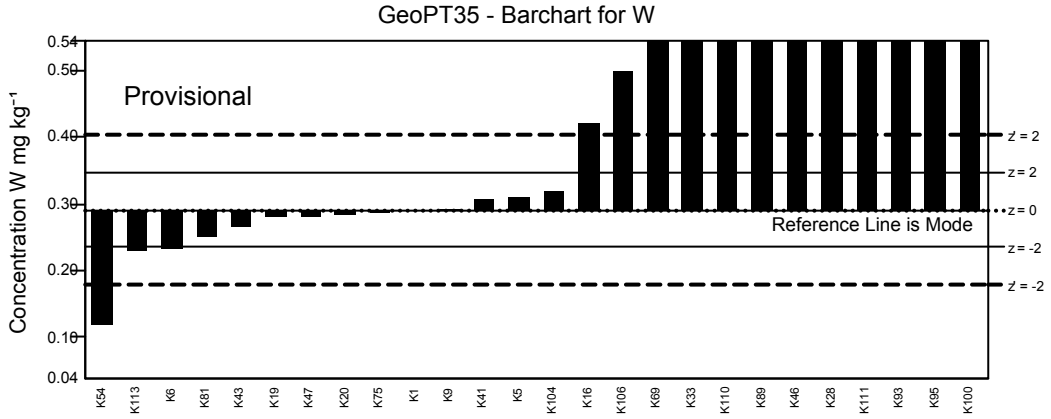

GeoPT35 - Barchart for Th
Concentration Th mg kg⁻¹
6.2
3.6
1.6
Reference Line is Median
z' = 2
z = 2
z = 0
z = -2
z' = -2
K18 K89 K19 K93 K76 K20 K81 K28 K110 K43 K37 K73 K6 K8 K75 K74 K33 K88 K113 K111 K41 K71 K67 K5 K101 K108 K32 K2 K63 K105 K4 K87 K22 K72 K25 K69 K54 K47 K95 K97 K100 K104 K45 K15 K66 K106 K57 K1 K3 K16 K9 K35 K79 K58 K102 K107 K94 K98 K59 K34 K53 K46 K92

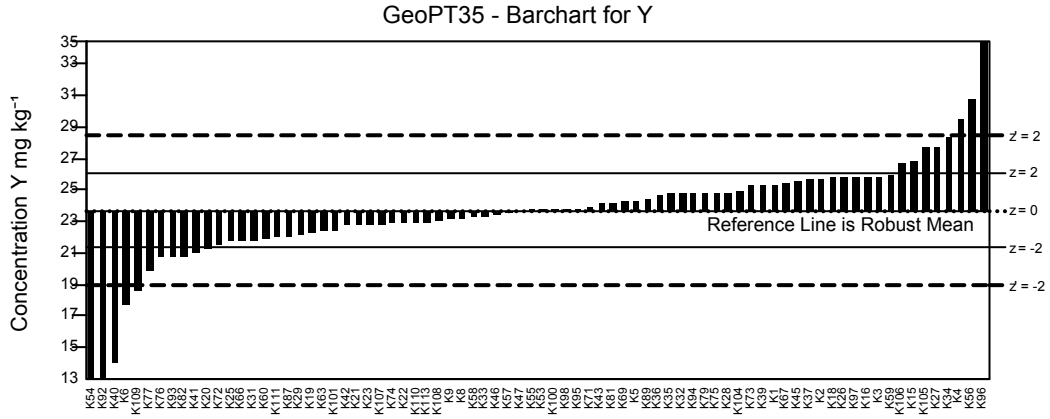

GeoPT35 - Barchart for Tl
Concentration Tl mg kg⁻¹
0.74
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.07
Reference Line is Robust Mean
z' = 2
z = 2
z = 0
z = -2
z' = -2
K95 K85 K9 K6 K8 K90 K69 K75 K22 K43 K67 K5 K71 K93 K47 K28 K33 K106 K41 K101 K113 K46 K54 K108 K73 K2 K81 K72 K16 K111 K34 K87 K92 K105

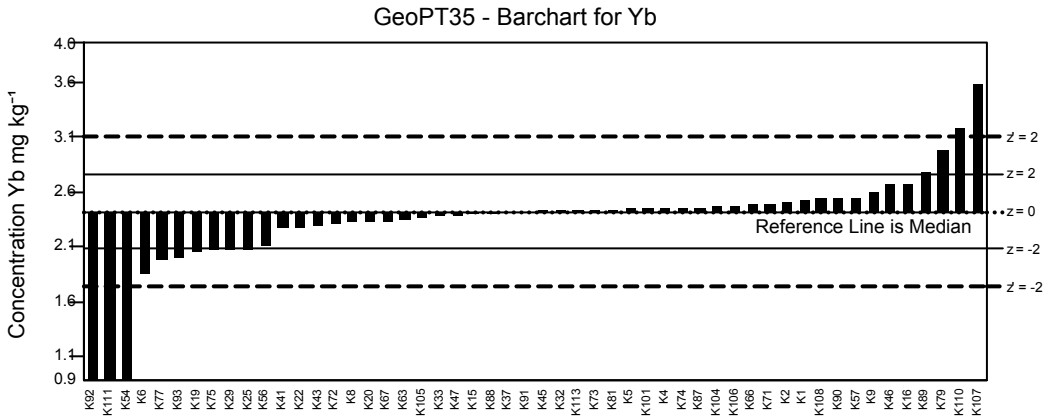

GeoPT35 - Barchart for Tm
Concentration Tm mg kg⁻¹
0.69
0.60
0.50
0.40
0.30
0.20
0.10
0.06
Reference Line is Median
z' = 2
z = 2
z = 0
z = -2
z' = -2
K92 K54 K25 K91 K19 K6 K93 K29 K56 K41 K63 K57 K22 K75 K67 K8 K43 K104 K47 K81 K9 K37 K105 K66 K73 K71 K32 K5 K15 K87 K90 K74 K45 K2 K113 K108 K33 K1 K106 K72 K101 K16 K46 K102 K77

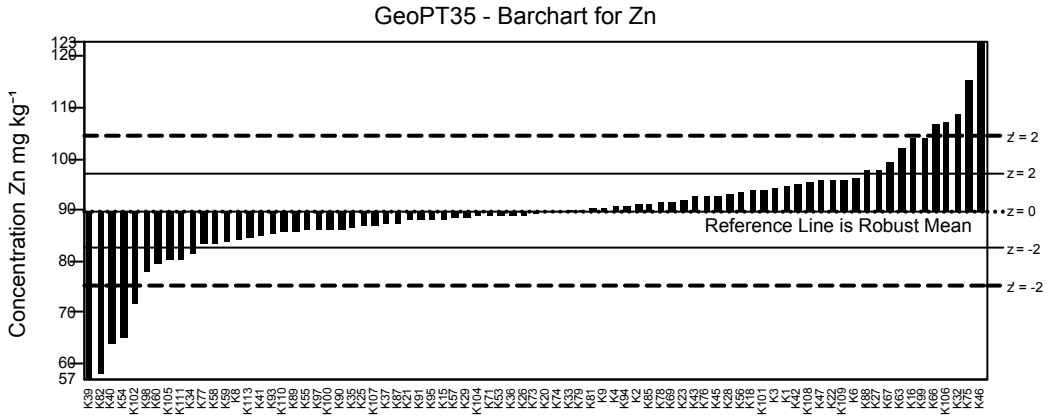

GeoPT35 - Barchart for U
Concentration U mg kg⁻¹
2.2
2.1
1.7
1.3
0.9
0.5
0.4
Reference Line is Median
z' = 2
z = 2
z = 0
z = -2
z' = -2
K19 K90 K88 K77 K111 K95 K25 K93 K41 K72 K113 K81 K22 K69 K6 K73 K87 K37 K46 K67 K108 K15 K63 K75 K2 K4 K32 K20 K66 K54 K47 K33 K57 K71 K8 K105 K43 K74 K89 K5 K101 K16 K45 K34 K106 K9 K76 K97 K85 K59 K104 K110 K53 K1 K100 K98











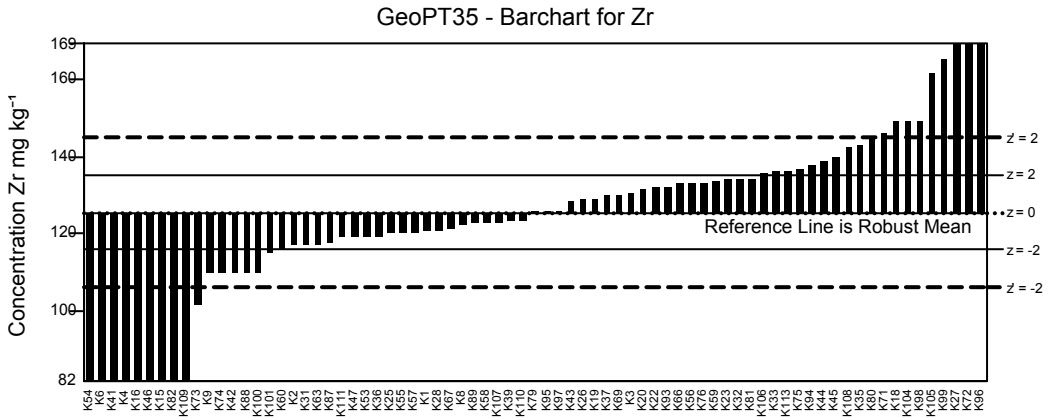
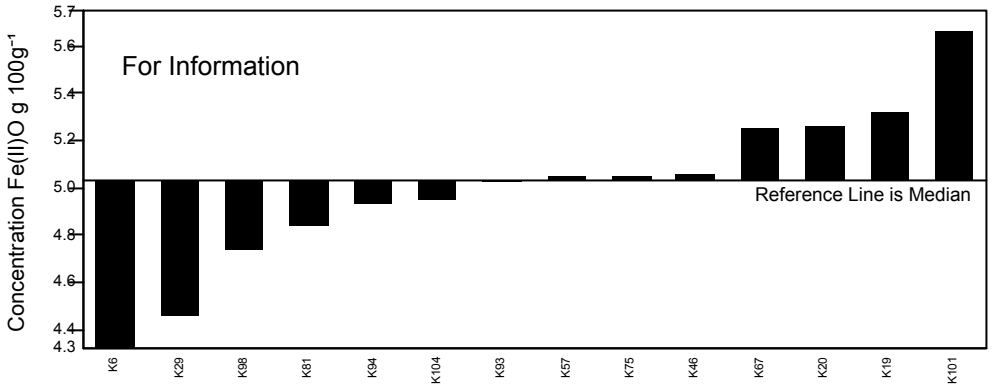
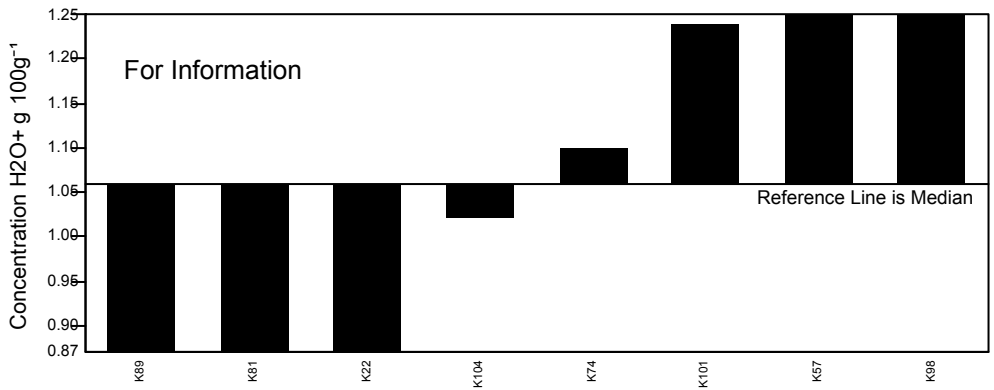


Figure 1: GeoPT35 - Tonalite, TLM-1. Data distribution charts for elements for which values were assigned or provisional values given for guidance. Horizontal lines show the limits for -2<z<2 for pure geochemistry labs (solid lines) and -2<z'<2 for applied geochemistry labs (pecked lines).

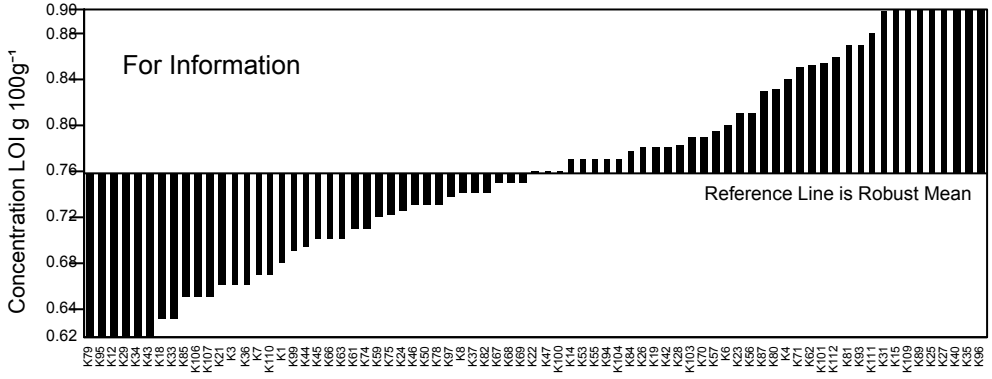
GeoPT35 - Barchart for Fe(II)O



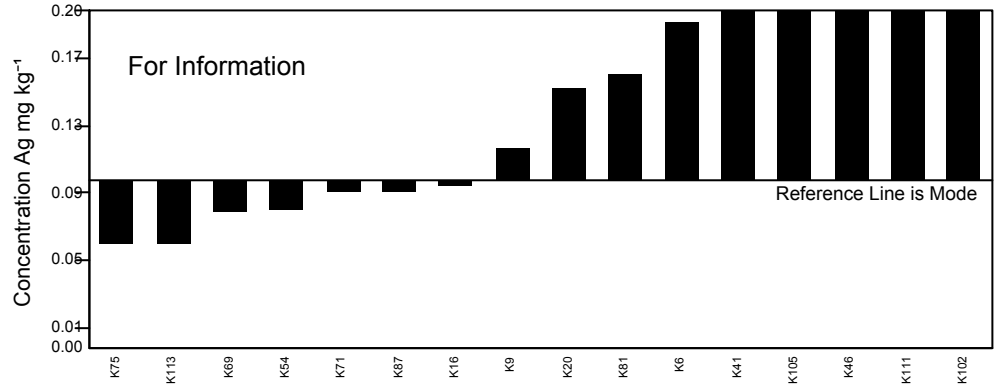
GeoPT35 - Barchart for H2O+



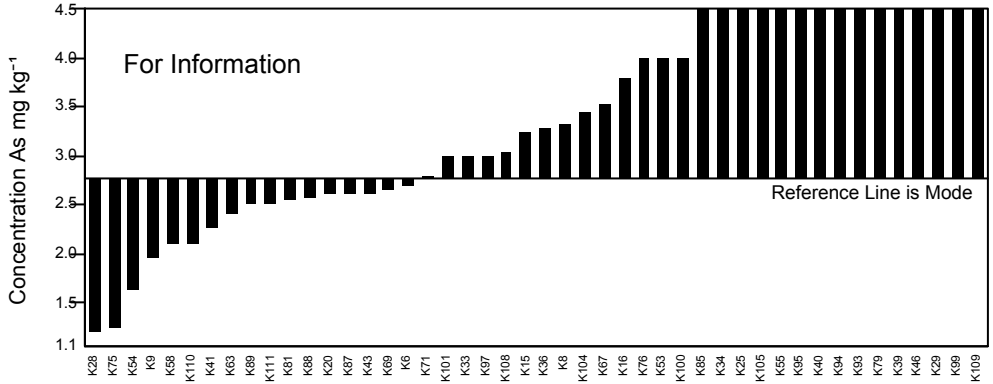
GeoPT35 - Barchart for LOI



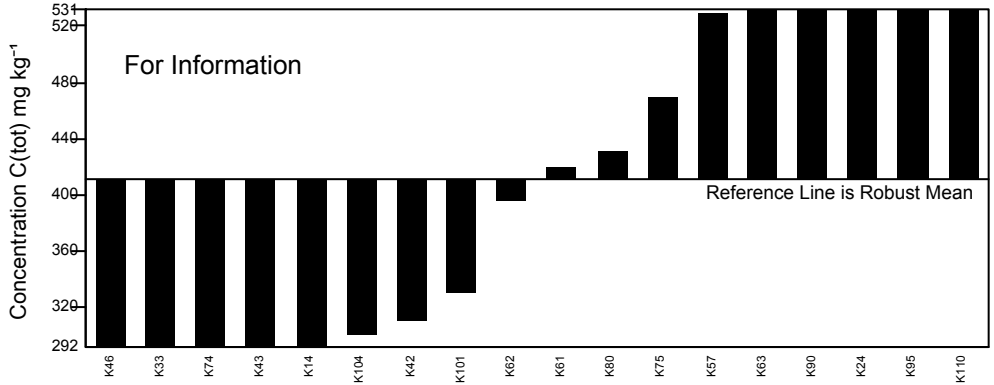
GeoPT35 - Barchart for Ag

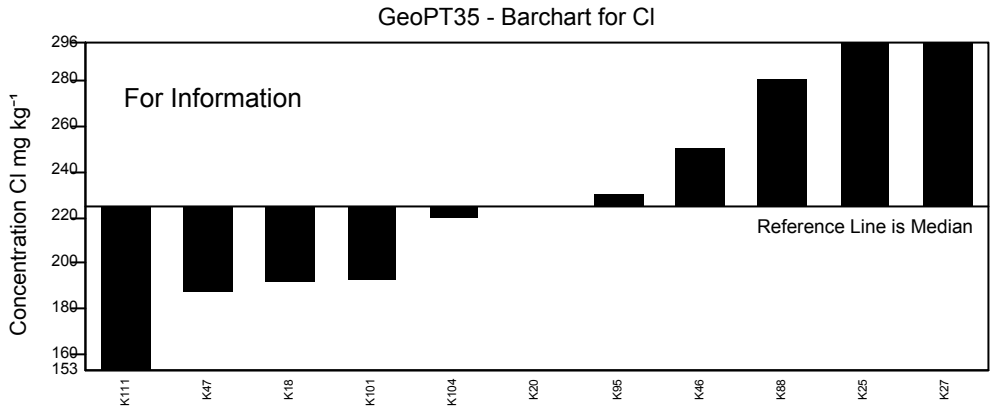


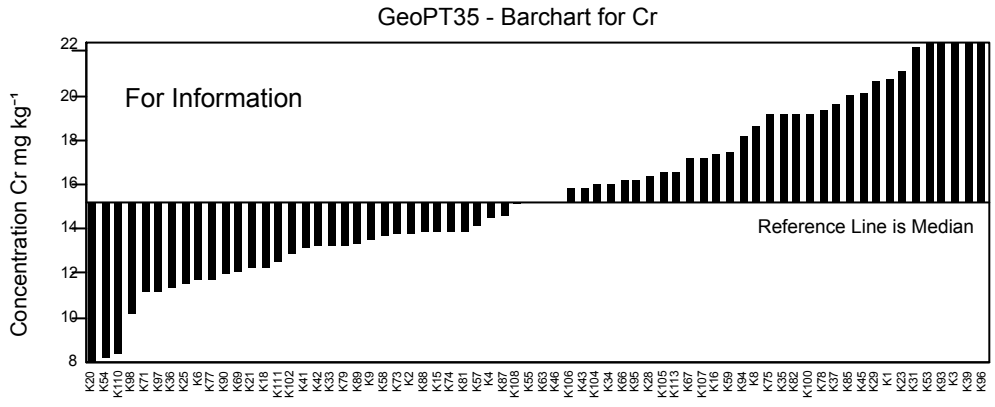
GeoPT35 - Barchart for As

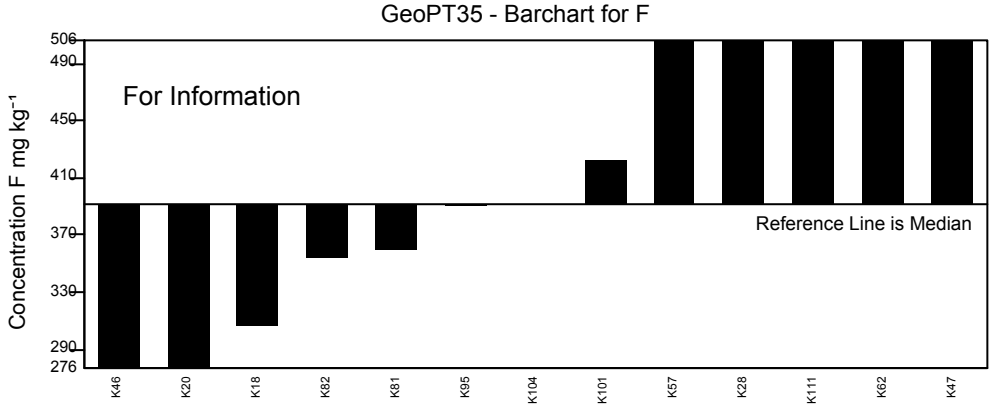


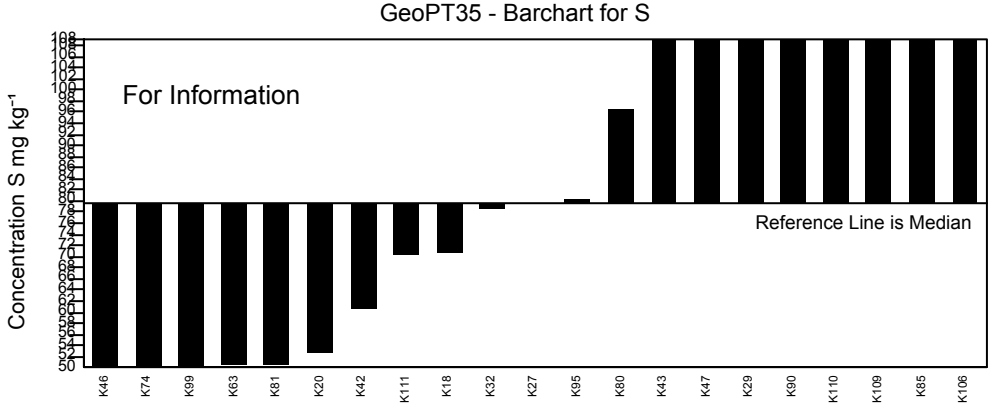
GeoPT35 - Barchart for C(tot)











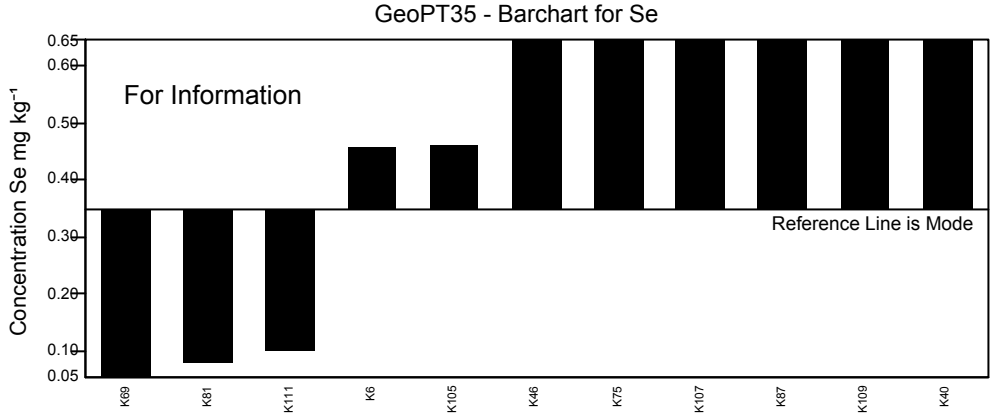


Figure 2: GeoPT35 - Tonalite, TLM-1. Data distribution charts provided for information only for elements for which values could not be assigned.

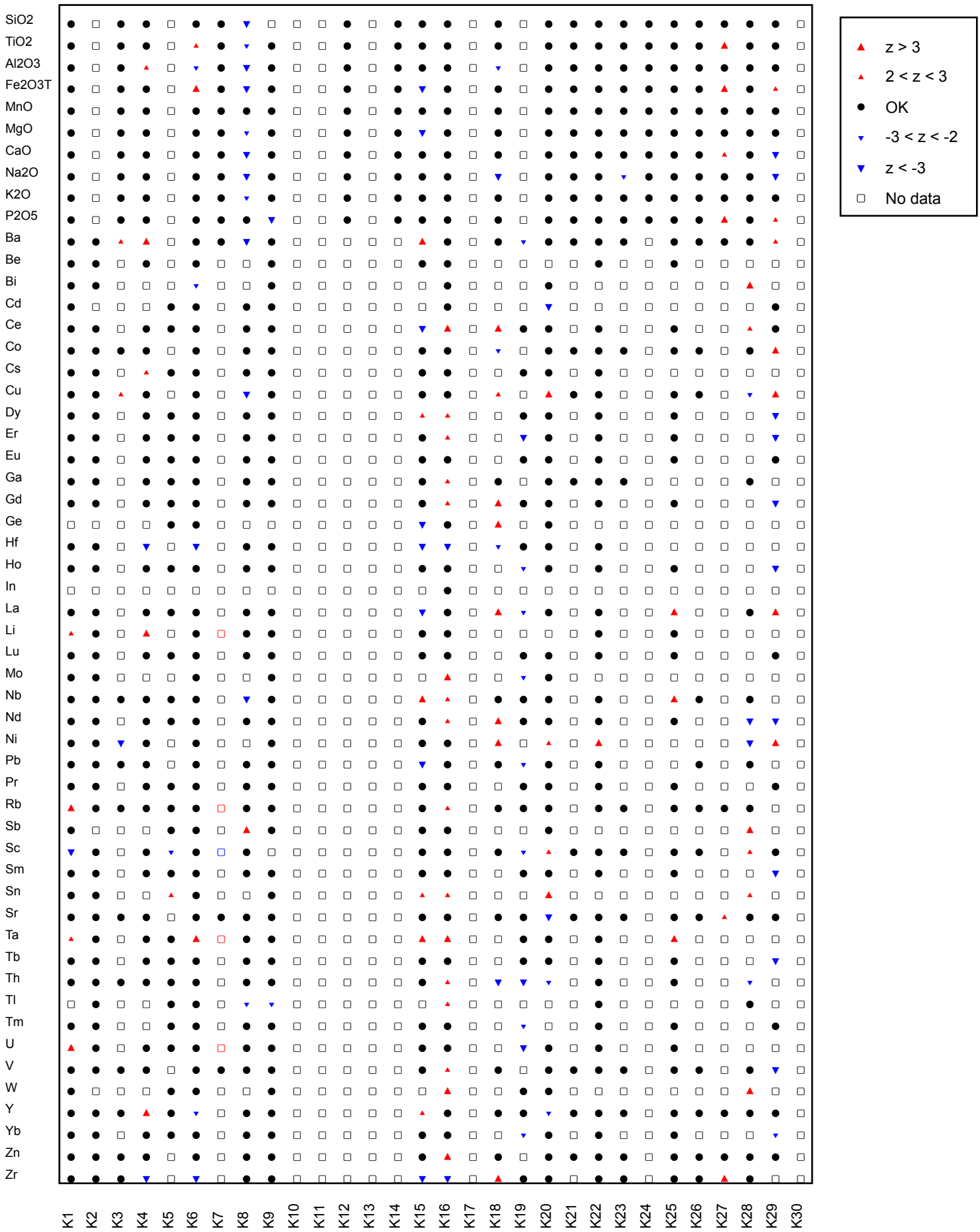


Figure 3: GeoPT35 - Tonalite, TLM-1. Multiple z-score charts for laboratories participating in the GeoPT35 round. Symbols indicate whether or not an elemental result complies with the -2<z<+2 criteria (see key).

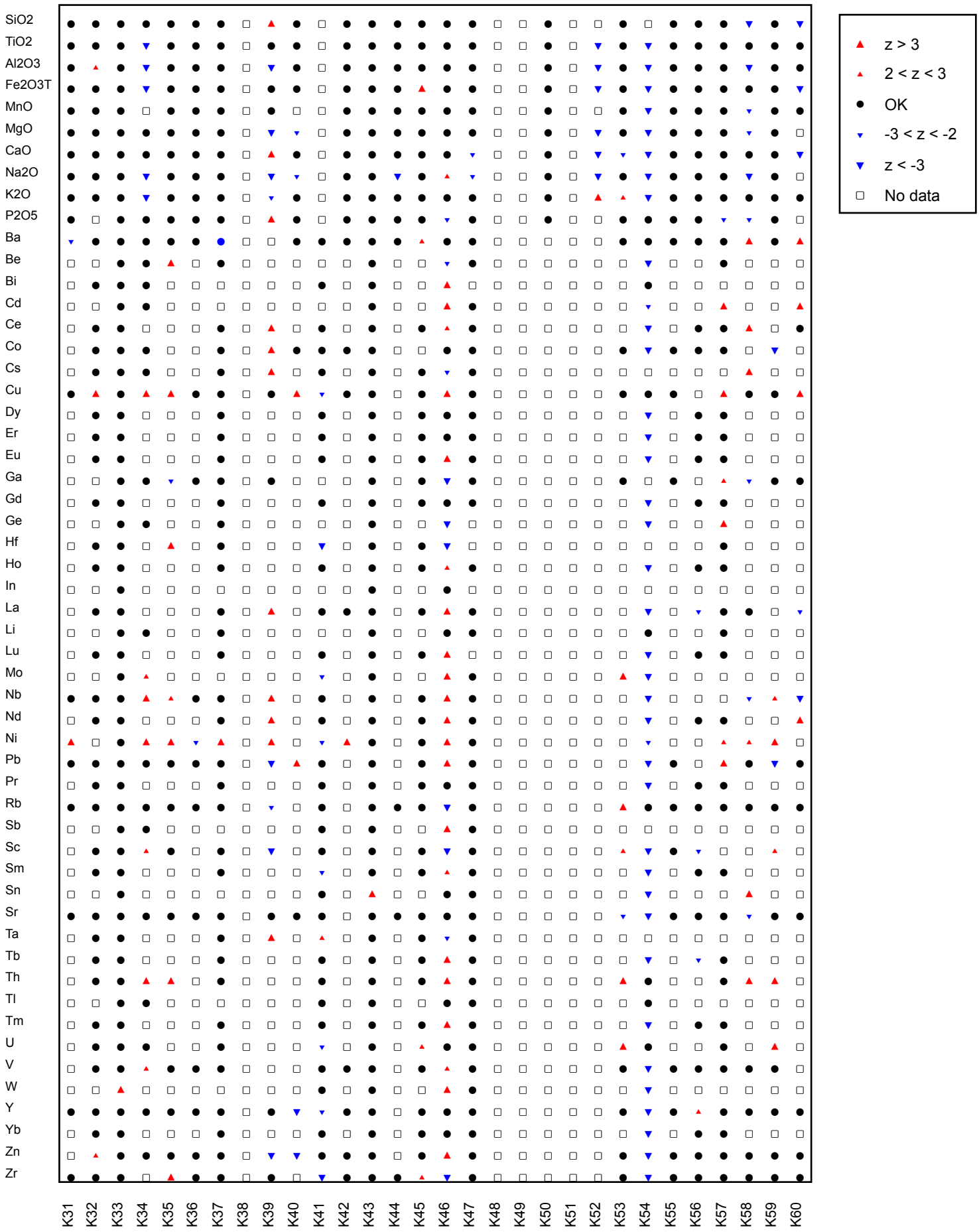


Figure 3: GeoPT35 - Tonalite, TLM-1. Multiple z-score charts for laboratories participating in the GeoPT35 round. Symbols indicate whether or not an elemental result complies with the -2<z<+2 criteria (see key).

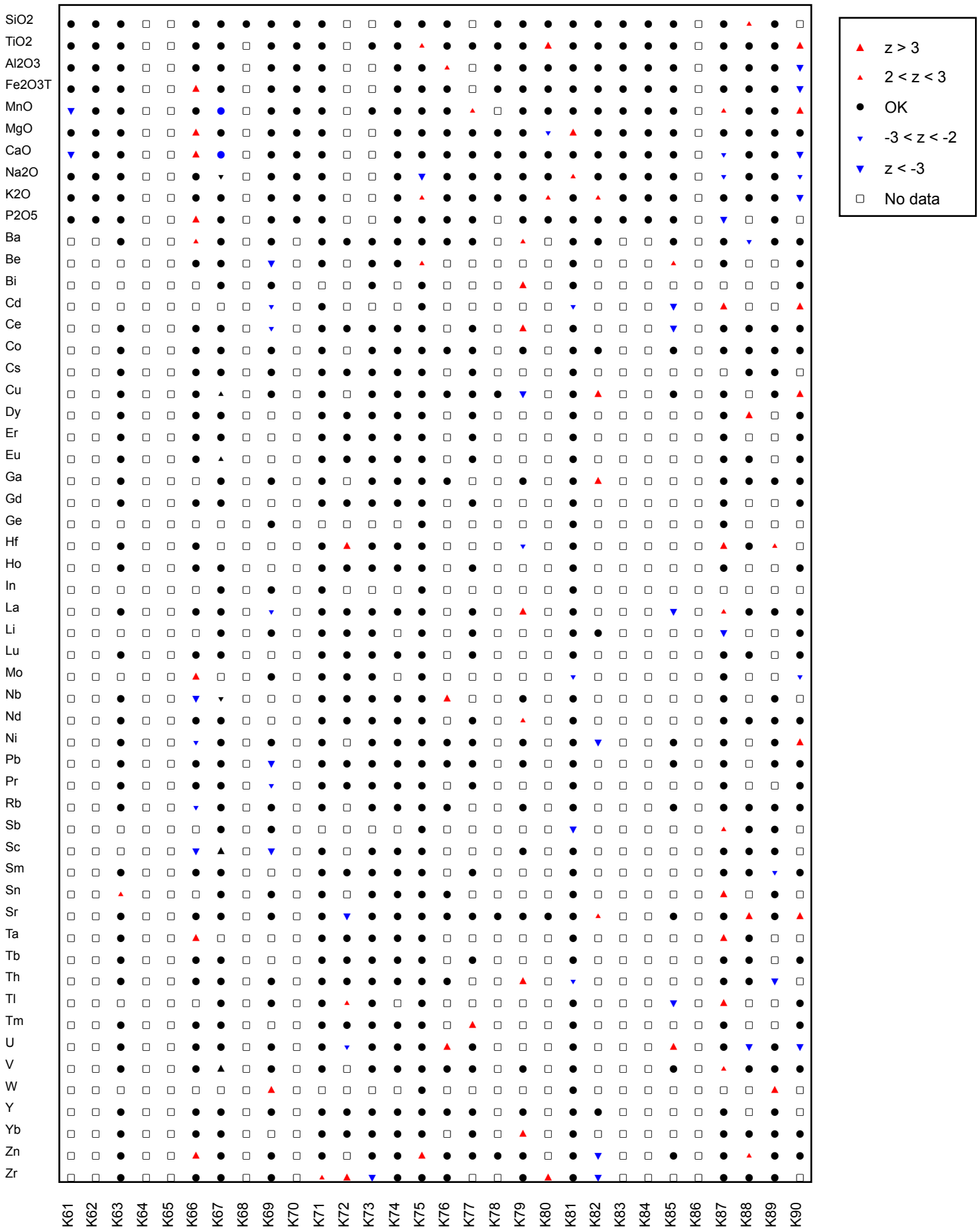


Figure 3: GeoPT35 - Tonalite, TLM-1. Multiple z-score charts for laboratories participating in the GeoPT35 round. Symbols indicate whether or not an elemental result complies with the -2<z<+2 criteria (see key).

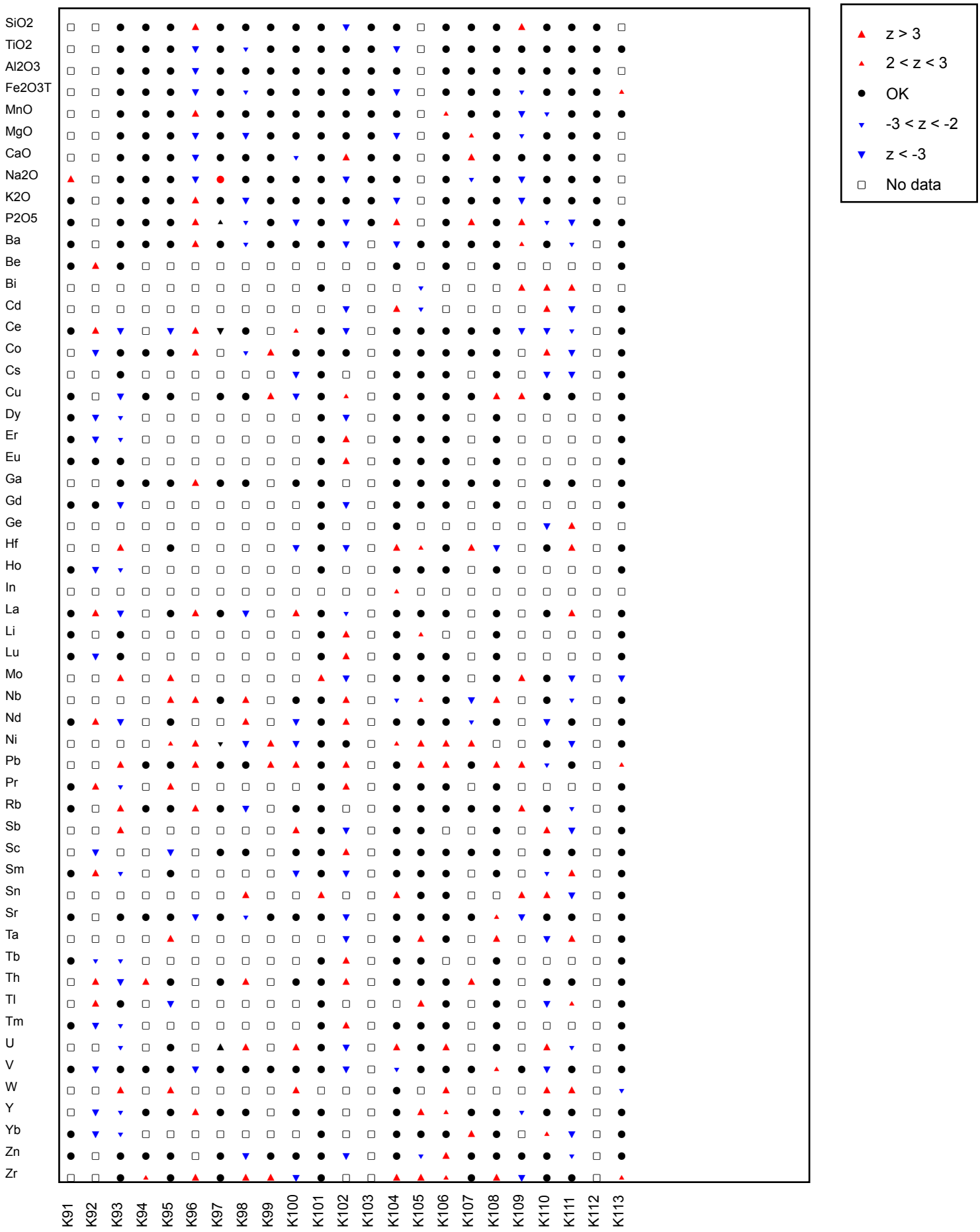


Figure 3: GeoPT35 - Tonalite, TLM-1. Multiple z-score charts for laboratories participating in the GeoPT35 round. Symbols indicate whether or not an elemental result complies with the -2<z<+2 criteria (see key).