

GeoPT48 — AN INTERNATIONAL PROFICIENCY TEST FOR ANALYTICAL GEOCHEMISTRY LABORATORIES — REPORT ON ROUND 48 (Monzonite, MzBP-1) / April 2021

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Abstract

Results are presented for Round 48 of the International Association of Geoanalysts' Proficiency Testing programme for analytical geochemistry laboratories. The test material distributed in this round of GeoPT was the Monzonite, MzBP-1, collected by Drs Michael Wiedenbeck and Johannes Glodny of Deutsches GeoForschungsZentrum, GFZ, Potsdam and packaged under the direction of Dr Charles Gowing of the British Geological Survey, Keyworth. In this report, the data contributed by 87 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 forty-eighth round of the international proficiency testing programme, GeoPT, was conducted in a similar manner to earlier rounds. However, exceptional circumstances associated with the coronavirus pandemic affected scheduling (see **Timetable** section below). The programme is designed to be part of the routine quality assurance procedures employed by analytical geochemistry laboratories. It is organised by the International Association of Geoanalysts and is conducted in accordance with a published protocol, recently revised (IAG, 2020). The overall aim of the programme is to provide participating laboratories with information on performance in the form of *z*-scores for each of their

reported measurement results so that each 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. In circumstances where *z*-scores are unsatisfactory, a participating laboratory is encouraged to investigate for unsuspected analytical bias and to take corrective action if this appears justified.

Steering Committee for Round 48: P.C. Webb (administrator and results assessor), P.J. Potts (results reviewer), M. Thompson (statistical advisor), C.J.B. Gowing (distribution manager), J. Glodny and M. Wiedenbeck (suppliers of MzBP-1).

Timetable for Round 48: The coronavirus pandemic caused postponement of Round 48, but the test portion was distributed with those for Round 47 so that the interval between rounds could be reduced from 6 to 3 months.

Distribution of sample: August 2020

Results accepted from: 25th January 2021

Results submission deadline: 24th March 2021

Release of report: April 2021

Test Material details

GeoPT48: The Monzonite test material, MzBP-1, was collected by Drs Michael Wiedenbeck and Johannes Glodny from a 'larvikite' locality close to the town of

Larvik in southern Norway and processed both at the Deutsches GeoForschungsZentrum GFZ, Potsdam by Dr Glodny, and at the British Geological Survey, Keyworth, where it was divided and packeted under the direction of Dr Charles Gowing. The test material was evaluated for homogeneity, and an assessment of the results showed that the material was suitable for use in this proficiency test.

Submission of results

For GeoPT48 (MzBP-1), a total of 3245 results are listed in Table 1 as submitted by 87 laboratories. Of these, 1808 measurement results were designated by their originators as data quality 1 (see **Z-score analysis section** below for explanation) and are shown in **bold**, whereas 1437 results were specified as data quality 2 and are shown underlined. Results from all laboratories submitting data were used to assess consensus values for each measurand.

It is gratifying that no more than a single value of '0' (i.e. zero) was reported in this round. However, it is apparent that several laboratories reported results for C(tot), Cl, F and S in units of g/100g instead of mg/kg. Consequently, we must remind analysts in the **strongest terms** that measurement results of ***all trace constituents should be reported in mg/kg***. Analysts should be aware that suspected ***invalid results cannot be altered or removed*** once they have been submitted and that their corresponding ***z-scores will be adversely affected***.

Assigned values and results summary

Following procedures described in earlier rounds, and detailed fully in the GeoPT protocol (IAG, 2020), robust statistical procedures were used to derive consensus values for measurands in this test material: these consensus values being judged to be the best available estimates of the true composition of the test material. Values were assigned on the basis that: i) sufficient laboratories (15 or more) had contributed data for estimating the consensus, ii) visual assessment gave confidence that a substantial proportion of the results distribution was symmetrically disposed about the consensus value, iii) the ratio of the uncertainty in the location estimate to the target precision was an acceptably small value, and iv) an evaluation of measurement results by procedure – including both methods of analysis and sample preparation – indicated that no significant procedural bias was discernible amongst measurement

results from which the consensus was derived. Where these criteria were largely, but not fully met, or where obvious anomalies in the dataset could be accommodated by judicious selection of the consensus, values were credited with 'provisional' rather than 'assigned' status.

These assessments involve examining the distribution of results from barcharts of data contributed for each measurand (as presented in Figures 1 and 2). In addition, when appropriate, a variety of plots permitting discrimination of data by method of analysis and by sample preparation procedure, as developed by Thomas Meisel using the Shiny App (<https://www.shinyapps.io>) and linked to the statistical package 'R', were also examined. This enabled us, when necessary, to refine the selection of consensus values by taking account of data distributions according to analytical procedure.

Consensus values derived from contributed data were provided in 11 instances by the Huber robust mean. Although outliers can be accommodated by this procedure, frequently, as when a dataset is skewed, it does not provide a satisfactory estimation of the consensus. In such circumstances, the median is often a more appropriate robust estimator and was employed in 23 cases. For more severely skewed and strongly tailed datasets, the median may not provide a satisfactory estimator and a mode can often be a more effective means of estimating the location of the consensus. In this round the use of modes as consensus location estimators was preferred in 17 cases, and in 10 of these, distributions were compatible with the conditions outlined above to justify their designation as assigned values. The procedure used to determine modes was mostly that described by Thompson (2017) involving the estimation of the mass fraction corresponding to the maximum value of the kernel density distribution for the dataset. Such modes derived by bootstrapping provide robust estimates of consensus locations that represent the most coherent part of data distributions often where data are symmetrically disposed, although the dataset as a whole may be asymmetric.

Table 2 lists assigned and provisional values for 10 major components and 41 trace elements in GeoPT48 (MzBP-1). Barcharts that were judged to have satisfactory distributions for consensus values to be designated as assigned or provisional values, enabling z-scores to be calculated, are shown in Figure 1. These 51 measurands of

GeoPT48 listed in Table 2 are for the analytes: SiO₂, TiO₂, Al₂O₃, Fe₂O₃T, MnO, MgO, CaO, Na₂O, K₂O, P₂O₅, Ba, Be, Ce, Co, Cr, Cs, Cu*, Dy, Er, Eu, Ga, Gd*, Hf, Ho, 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, the measurands of the 8 analytes marked '*' were credited with provisional status. Such instances of provisional status were identified because either: i) a relatively small number of results (less than 15, but usually more than 9) contributed to the consensus, or ii) the results were unduly dispersed in relation to the target value, or iii) the distribution of results was significantly skewed, or iv) the dataset was affected by bias in one method but the remaining data defined a viable consensus.

Bar charts for the 15 analytes: Fe(II)O, CO₂, LOI, Ag, As, Bi, C(org), C(tot), Cd, Cl, F, Ge, In, S and Se are plotted in Figure 2 for information only, as the data were either insufficient in number, or the distribution was too highly skewed or too variable for the reliable determination of a consensus for the estimation of *z*-scores.

A majority of datasets in this round were symmetrically disposed, with relatively little dispersion of the data. Asymmetry of distributions was notable, however, for Co, Cs, Cu, Gd, Nb, Ni, Sb, Sc, Sn, V, W, Zn and Zr, which were most effectively estimated using median values and modes. For most of these elements the asymmetry was due to high tails, which in many cases, especially Cs, Ni, V and W, reflect XRF data presented at relatively low mass fractions where results have exceedingly poor precision and are below appropriate limits of quantification. Such observations have been made often in previous rounds and emphasise the need for laboratories to be vigilant and avoid reporting data below realistic levels of quantification which may vary from sample to sample depending on specific analytical influences such as signal interferences and matrix effects. The occurrence of high tails is not confined to XRF determinations, however. In some cases, ICP-MS and ICP-AES/OES data form much of the high tail, as has been observed for Co, Cu, Gd, Nb and Sc.

Some low tails are also observed, particularly for Nb, V, Zn and Zr. The situation for Zn is a very distinct bimodal distribution, with a well-developed data plateau, which is evident from the Zn barchart (Figure 1). This feature is illustrated more clearly in Figure 0.1 which demonstrates that it is caused by XRF determinations on powder pellets (PP). One possibility is that Zn is hosted by a denser than average mineral phase and the matrix correction accounting for attenuation of Zn x-rays is significantly underestimated in the powder pellets. Data by XRF on fusion discs (FD), by ICP-MS and ICP-AES/OES using both acid digestion (AD) and fusion along with acid digestion (FM_AD and AD_FM) are all in good agreement (Figure 0.2) and define a second mode which is

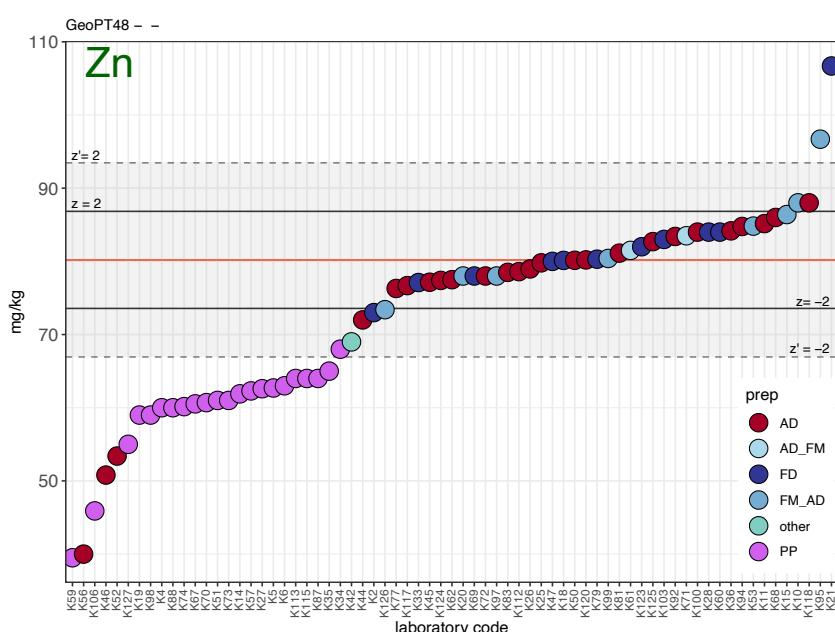


Figure 0.1 Sequential plot of sorted Zn results for MzBP-1 represented according to means of sample preparation codes explained in the text. XRF powder pellet data (PP) clearly contrast with data produced by other methods.

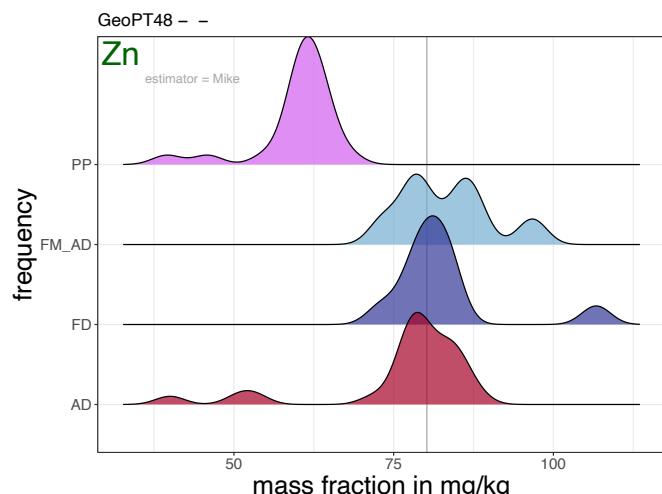


Figure 0.2 Distribution of Zn data contributed for MzBP-1 according to sample preparation procedure.

considered to be the more reliable and it is this preferred mode that is credited with provisional status. A similar situation, though less strongly developed, is observed for Nb. In view of the apparent bias in XRF powder pellet data a consensus was selected where XRF fusion and ICP-MS data are more abundant, but the value is credited only with provisional status. A very much less distinct, but comparable situation, is observed for V, but here the preferred consensus is dominated by both ICP-MS and ICP-AES/OES results and the value is therefore credited with assigned status.

For Zr there is also a low tailed distribution. Frequently in previous rounds this has been attributed to incomplete digestion of zircons as described by Potts et al. (2015), but in this case that effect is apparent for relatively few results: most of the low values at < 400 mg/kg Zr are ICP-MS data but several of them were prepared by fusion. Most of the low plateau region of the barchart corresponds to XRF powder pellet data, with the suspicion that the attenuation correction of Zr in zircon is underestimated in powder pellets, leading to these low values. The consensus value has been chosen in the part of the data distribution that is populated by more XRF data from fusion discs along with some ICP-MS and ICP-AES/OES data, but there is more than usual uncertainty and therefore the value has been credited with only provisional status.

As is often the case, some sets of results, such as those of TiO₂, MnO, MgO, P₂O₅, Mo, Ni, Rb, U, V and Y feature stepped distributions caused by rounding of some of the contributed data. Our recommendation is that all measurands should be quoted for proficiency testing purposes to at least one extra decimal place than would be routine in order for the statistical procedures to more effectively define the consensus. This logic is especially relevant to components reported at low mass fractions.

For Fe(II)O and In, it is noteworthy that much of the reported data exhibits a relatively high degree of coherence and consistency, but there are insufficient data to satisfy our criteria for conferring values that would permit *z*-scores to be quoted. In such cases information values may be recognised, as, for example, 2.95 g/100g for Fe(II)O and 0.032 mg/kg for In.

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.

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.

The standard deviation for proficiency (σ_{pt}) – also referred to as the target precision – for each measurand assessed was calculated from a modified form of the Horwitz function as follows:

$$\sigma_{pt} = k \cdot x_{pt}^{0.8495}$$

Where x_{pt} is the mass fraction of the element; the factor $k = 0.01$ for pure geochemistry laboratories and $k = 0.02$ for applied geochemistry laboratories.

Z-scores were calculated for each elemental measurement submitted by each laboratory from:

$$z = [x_i - x_{pt}] / \sigma_{pt}$$

Where x_i is the contributed measurement result, x_{pt} is the assigned value and σ_{pt} is the target standard deviation (all as mass fractions). *Z*-scores for results contributed to GeoPT48 are listed in Table 3. Results designated as data **quality 1** are shown in **bold**: results of data quality 2 are shown underlined. *Z*-scores derived from *provisional values* of measurands are shown in *italics*.

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

Z-score results in the range $-2 < z < 2$ are considered to be 'satisfactory' (in the sense that no action is called for by the participating laboratory). If the *z*-score for an element falls outside this range, more especially if it is outside the range $-3 < z < 3$, laboratories are advised to examine their procedures, and if necessary, take appropriate action to

ensure that their determinations are not subject to unsuspected analytical bias.

Overall performance

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

Participation in future rounds

The benefit from proficiency testing arises from regular participation and laboratories are invited to contribute to Round 49, the test material for which will be distributed during April 2021. This spring round of 2021 will run on a very slightly delayed schedule compared to that of earlier years.

Acknowledgements

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References

IAG (2020) Protocol for the operation of the GeoPT Proficiency testing scheme. International Association of Geoanalysts (Keyworth, UK), 18pp.
<http://www.geoanalyst.org/wp-content/uploads/2020/07/GeoPT-revised-protocol-2020.pdf>.

Potts P.J., Webb P.C. and Thompson M. (2015) Bias in the determination of Zr, Y and rare earth element concentrations in selected silicate rocks by ICP-MS when using some routine acid dissolution procedures: Evidence from the GeoPT proficiency testing programme. *Geostandards and Geoanalytical Research*, 39, 403–416.

Thompson, M. (2017) On the role of the mode as a location parameter for the results of proficiency tests in chemical measurement. *Anal. Methods*, 9, p.5534-5540.

ADDENDUM

— IMPORTANT NOTICES TO ANALYSTS

Change in uncertainty estimation

A change was made to the algorithm for the estimation of the uncertainty of median values and implemented for the first time in Round 47/47A. As described in the revised GeoPT protocol (IAG, 2020), median uncertainties are increased by a factor of 1.2533 compared to those from past rounds. Uncertainty values previously reported for values estimated as medians should be increased by this factor.

Explicit advice to analysts for reporting of procedures involving ignition and fusion

Note that some laboratories are still listing their procedure for determining LOI as the same as that employed for major elements, rather than providing separate, specific details. We must remind analysts that it is important to provide information that is appropriate for every analyte. Indeed, analysts reporting measurement results for procedures involving fusion, sintering or ignition, and in particular, LOI determinations, should specify the correct method used and give details both of the temperature used and where appropriate, the end-point criterion, e.g., the duration of ignition. This information should be supplied in the description of the relevant **Procedure**, as **Additional Details**.

We recommend that details of gravimetric procedures are included under **Analytical Technique details** rather than under **Sample Preparation details**. For gravimetric analysis, other than drying, which should in any case be carried out according to our instructions, there is no other sample preparation involved.

References of more general relevance

Potts P.J., Webb, P.C. and Thompson M. (2019) The GeoPT proficiency testing programme as a scheme for the certification of geological reference materials. *Geostandards and Geoanalytical Research*, 43, 409–418.

Webb, P.C., Potts P.J., Thompson M., Wilson, S.A. and Gowing, C.J.B. (2019) The long-term robustness and stability of consensus values as composition location estimators for a typical geochemical test material in the GeoPT proficiency testing programme. *Geostandards and Geoanalytical Research*, **43**, 397–408.

Appendix 1

Publication status of proficiency testing reports.

Previous reports are available for download from the IAG website (<http://www.geoanalyst.org/>).

GeoPT1

Thompson M., Potts P.J., Kane J.S. and Webb P.C. (1996) GeoPT1. International proficiency test for analytical geochemistry laboratories - Report on round 1. *Geostandards Newsletter: The Journal of Geostandards and Geoanalysis*, **20**, 295-325.

GeoPT2

Thompson M., Potts P.J., Kane J.S., Webb P.C. and Watson, J.S. (1998) GeoPT2. International proficiency test for analytical geochemistry laboratories - Report on round 2. *Geostandards Newsletter: The Journal of Geostandards and Geoanalysis*, **22** 127-156.

GeoPT3

Thompson M., Potts P.J., Kane J.S. and Chappell B.W. (1999a) GeoPT3. International proficiency test for analytical geochemistry laboratories - Report on round 3. *Geostandards Newsletter: The Journal of Geostandards and Geoanalysis*, **23**, 87-121.

GeoPT4

Thompson M., Potts P.J., Kane J.S., Webb P.C. and Watson J.S. (1999b) GeoPT4. 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).

GeoPT5

Thompson M., Potts P.J., Kane J.S., and Wilson S. (1999c) GeoPT5. 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).

GeoPT6

Potts P.J., Thompson M., Kane J.S., Webb P.C. and Carignan J. (2000) GEOPT6 - 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.

GeoPT7

Potts P.J., Thompson M., Kane J.S., and Petrov L.L. (2000) GEOPT7 - an international proficiency test for analytical geochemistry laboratories - report on round 7 (GBPG-1 Garnet-biotite plagiogneiss). International Association of Geoanalysts: Unpublished report.

GeoPT8

Potts P.J., Thompson M., Kane J.S., Webb, P.C. and Watson J.S. (2000) GEOPT8 - an international proficiency test for analytical geochemistry laboratories - report on round 8 / February 2001 (OU-4 Penmaenmawr microdiorite). International Association of Geoanalysts: Unpublished report.

Potts P.J. and Webb, P.C (2019) An Evaluation of Methods for Assessing the Competence of Laboratories Based on Performance in the GeoPT Proficiency Testing Scheme. *Geostandards and Geoanalytical Research*, **43**, 217–22.

GeoPT9

Potts P.J., Thompson M., Webb, P.C. and Watson J.S. (2001) GEOPT9 - an international proficiency test for analytical geochemistry laboratories - report on round 9 / July 2001 (OU-6 Penrhyn slate). International Association of Geoanalysts: Unpublished report.

GeoPT10

Potts P.J., Thompson M., Webb, P.C., Watson J.S. and Wang Yimin (2001) GEOPT10 - an international proficiency test for analytical geochemistry laboratories - report on round 10 / December 2001 (CH-1 Marine sediment). International Association of Geoanalysts: Unpublished report.

GeoPT11

Potts P.J., Thompson M., Chenery S.R., Webb, P.C. and Watson J.S. (2002) GEOPT11 - an international proficiency test for analytical geochemistry laboratories - report on round 11 / July 2002 (OU-5 Leaton dolerite). International Association of Geoanalysts: Unpublished report.

GeoPT12

Potts P.J., Thompson M., Chenery S.R., Webb, P.C. and Batjargal B. (2003) GEOPT12 - an international proficiency test for analytical geochemistry laboratories - report on round 12 / January 2003 (GAS Serpentinite). International Association of Geoanalysts: Unpublished report.

GeoPT13

Potts P.J., Thompson M., Chenery S.R., Webb, P.C. and Kaspar H.U. (2003) GEOPT13 - an international proficiency test for analytical geochemistry laboratories - report on round 13 / July 2003 (Köln Loess). International Association of Geoanalysts: Unpublished report.

GeoPT14

Potts P.J., Thompson M., Chenery S.R., Webb, P.C. and B. Batjargal (2004) GEOPT14 - an international proficiency test for analytical geochemistry laboratories - report on round 14 / January 2004 (OShBO - alkaline granite). International Association of Geoanalysts: Unpublished report.

GeoPT15

Potts P.J., Thompson M., Chenery S.R., Webb, P.C. and Wang Yimin (2004) GEOPT15 - an international proficiency test for analytical geochemistry laboratories - report on round 15 / June 2004 (Ocean floor sediment MSAN). International Association of Geoanalysts: Unpublished report.

GeoPT16

Potts P.J., Thompson M., Webb, P.C. and S. Wilson (2005) GEOPT16 - an international proficiency test for analytical geochemistry laboratories - report on round 16 / February 2005 (Nevada basalt, BNV-1). International Association of Geoanalysts: Unpublished report.

Appendix 1 (Cont'd)

GeoPT17

Webb, P.C., Thompson, M., Webb, P.C. and J. Nicholas Walsh (2005) GeoPT17 - an international proficiency test for analytical geochemistry laboratories - report on round 17 / July 2005 (Calcareous sandstone, OU-8). International Association of Geoanalysts: Unpublished report.

GeoPT18

Webb, P.C., Thompson, M., Potts, P.J. and L. Paul Bedard (2006) GeoPT18 - an international proficiency test for analytical geochemistry laboratories - report on round 18 / Jan 2006 (Quartz Diorite, KPT-1). International Association of Geoanalysts: Unpublished report.

GeoPT19

Webb, P.C., Thompson, M., Potts, P.J. and B. Batjargal (2006) GeoPT19 - an international proficiency test for analytical geochemistry laboratories - report on round 19 / July 2006 (Gabbro, MGR-N). International Association of Geoanalysts: Unpublished report.

GeoPT20

Webb, P.C., Thompson, M., Potts, P.J. and M. Burnham (2007) GeoPT20 - an international proficiency test for analytical geochemistry laboratories - report on round 20 / Jan 2007 (Ultramafic rock, OPY-1). International Association of Geoanalysts: Unpublished report.

GeoPT21

Webb, P.C., Thompson, M., Potts, P.J. and B. Batjargal (2007) GeoPT21 - an international proficiency test for analytical geochemistry laboratories - report on round 21 / July 2007 (Granite, MGT-1). International Association of Geoanalysts: Unpublished report.

GeoPT22

Webb, P.C., Thompson, M., Potts, P.J. and Batjargal, B. (2008) GeoPT22 - an international proficiency test for analytical geochemistry laboratories - report on round 22 / January 2008 (Basalt, MBL-1). International Association of Geoanalysts: Unpublished report.

GeoPT23

Webb, P.C., Thompson, M., Potts, P.J., Watson, J.S. and Kriete, C. (2008) GeoPT23 - 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.

GeoPT24

Webb, P.C., Thompson, M., Potts, P.J. and Watson, J.S. (2009) GeoPT24 - an international proficiency test for analytical geochemistry laboratories - report on round 24 / January 2009 (Longmyndian greywacke, OU-10). International Association of Geoanalysts: Unpublished report.

GeoPT25

Webb, P.C., Thompson, M., Potts, P.J. and Enzweiler, J. (2009) GeoPT25 - an international proficiency test for analytical geochemistry laboratories - report on round 25 / July 2009 (Basalt, HTP-1). International Association of Geoanalysts: Unpublished report.

GeoPT26

Webb, P.C., Thompson, M., Potts, P.J. and Loubser, M. (2010) GeoPT26 - 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.

GeoPT27

Webb, P.C., Thompson, M., Potts, P.J. and Batjargal, B. (2010) GeoPT27 - an international proficiency test for analytical geochemistry laboratories - report on round 27 / July 2010 (Andesite, MGL-AND). International Association of Geoanalysts: Unpublished report.

GeoPT28

Webb, P.C., Thompson, M., Potts, P.J. and Wilson, S. (2011) GeoPT28 - an international proficiency test for analytical geochemistry laboratories - report on round 28 / January 2011 (Shale, SBC-1). International Association of Geoanalysts: Unpublished report.

GeoPT29

Webb, P.C., Thompson, M., Potts, P.J. and Wilson, S. (2011) GeoPT29 - an international proficiency test for analytical geochemistry laboratories - report on round 29 / July 2011 (Nepheline, NKT-1). International Association of Geoanalysts: Unpublished report.

GeoPT30

Webb, P.C., Thompson, M., Potts, P.J., Long, D. and Batjargal, B. (2012) GeoPT30 - 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.

GeoPT31

Webb, P.C., Thompson, M., Potts, P.J. and Wilson, S. (2012) GeoPT31 - 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.

GeoPT32

Webb, P.C., Thompson, M., Potts, P.J. and Webber, E. (2013) GeoPT32 - an international proficiency test for analytical geochemistry laboratories - report on round 32 / January 2013 (Woodstock Basalt, WG-1). International Association of Geoanalysts: Unpublished report.

GeoPT33

Webb, P.C., Thompson, M., Potts, P.J., Prusisz, B., and Young, K. (2013) GeoPT33 - 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.

GeoPT34

Webb, P.C., Thompson, M., Potts, P.J. and Wilson, S. (2014) GeoPT34 - an international proficiency test for analytical geochemistry laboratories - report on round 34 (Granite, GRI-1) / January 2014. International Association of Geoanalysts: Unpublished report.

GeoPT35

Webb, P.C., Thompson, M., Potts, P.J. and Wilson, S. (2014) GeoPT35 - an international proficiency test for analytical geochemistry laboratories - report on round 35 (Tonalite, TLM-1) / August 2014. International Association of Geoanalysts: Unpublished report.

GeoPT35A

Webb, P.C., Thompson, M., Potts, P.J. and Wilson, S. (2014) GeoPT35A - an international proficiency test for analytical geochemistry laboratories - report on round 35A (Metalliferous sediment, SdAR-H1) / August 2014. International Association of Geoanalysts: Unpublished report.

GeoPT36

Webb, P.C., Thompson, M., Potts, P.J. and Wilson, S. (2015) GeoPT36 - an international proficiency test for analytical geochemistry laboratories - report on round 36 (Gabbro, GSM-1) / January 2015. International Association of Geoanalysts: Unpublished report.

GeoPT36A

Webb, P.C., Thompson, M., Potts, P.J. and Wilson, S. (2015) GeoPT36A - an international proficiency test for analytical geochemistry laboratories - report on round 36A (Metal-rich sediment, SdAR-M2) / January 2015. International Association of Geoanalysts: Unpublished report.

Appendix 1 (Cont'd)

GeoPT37

Webb, P.C., Thompson, M., Potts, P.J, Gowing, C.J.B. and Burnham, M. (2015)
GeoPT37 - an international proficiency test for analytical geochemistry laboratories - report on round 37 (Rhyolite, ORPT-1) / July 2015. International Association of Geoanalysts: Unpublished report.

GeoPT37A

Webb, P.C., Thompson, M., Potts, P.J, Gowing, C.J.B. and Wilson, S. (2015)
GeoPT37A - an international proficiency test for analytical geochemistry laboratories - report on round 37A (Blended sediment, SdAR-L2) / July 2015. International Association of Geoanalysts: Unpublished report.

GeoPT38

Webb, P.C., Thompson, M., Potts, P.J, Gowing, C.J.B. and Wilson, S.A. (2016)
GeoPT38 - an international proficiency test for analytical geochemistry laboratories - report on round 38 (Gabbro, OU-7) / January 2016. International Association of Geoanalysts: Unpublished report.

GeoPT38A

Webb, P.C., Thompson, M., Potts, P.J, Gowing, C.J.B. and Meisel, T. (2016)
GeoPT38A - an international proficiency test for analytical geochemistry laboratories - special report on round 38A (Modified harzburgite, HARZ01) / June 2016. International Association of Geoanalysts: Unpublished report.

GeoPT39

Webb, P.C., Thompson, M., Potts, P.J, Gowing, C.J.B. and Wilson, S.A. (2016)
GeoPT39 - an international proficiency test for analytical geochemistry laboratories - report on round 39 (Syenite, SyMP-1) / July 2016. International Association of Geoanalysts: Unpublished report.

GeoPT39A

Webb, P.C., Thompson, M., Potts, P.J, and Gowing, C.J.B. (2016)
GeoPT39A - an international proficiency test for analytical geochemistry laboratories - report on round 39A (Nepheline syenite, MNS-1) / July 2016. International Association of Geoanalysts: Unpublished report.

GeoPT40

Webb, P.C., Thompson, M., Potts, P.J, Gowing, C.J.B. and Wilson, S.A. (2017)
GeoPT40 - an international proficiency test for analytical geochemistry laboratories - report on round 40 (Silty marine shale, ShWYO-1) / January 2017. International Association of Geoanalysts: Unpublished report.

GeoPT40A

Webb, P.C., Thompson, M., Potts, P.J, Gowing, C.J.B. and Wilson, S.A. (2017)
GeoPT40A - an international proficiency test for analytical geochemistry laboratories - report on round 40A (Calcareous organic-rich shale, ShTX-1) / January 2017. International Association of Geoanalysts: Unpublished report.

GeoPT41

Webb, P.C., Thompson, M., Potts, P.J, Gowing, C.J.B. and Wilson, S.A. (2017)
GeoPT41 - an international proficiency test for analytical geochemistry laboratories - report on round 41 (Andesite, ORA-1) / July 2017. International Association of Geoanalysts: Unpublished report.

GeoPT41A

Webb, P.C., Thompson, M., Potts, P.J, Gowing, C.J.B. and Wilson, S.A. (2017)
GeoPT41A - an international proficiency test for analytical geochemistry laboratories - report on round 41A (Mineralized stream sediment, SSCO-1) / July 2017. International Association of Geoanalysts: Unpublished report.

GeoPT42

Webb, P.C., Thompson, M., Potts, P.J, Gowing, C.J.B. and Burnham, M. (2018)
GeoPT42 – an international proficiency test for analytical geochemistry laboratories – report on round 42 (Queenston shale, QS-1) / January 2018. International Association of Geoanalysts: Unpublished report.

GeoPT43

Webb, P.C., Potts, P.J, Thompson, M. and Gowing, C.J.B. (2018)
GeoPT43 – an international proficiency test for analytical geochemistry laboratories – report on round 43 (Dolerite, ADS-1) / July 2018. International Association of Geoanalysts: Unpublished report.

GeoPT44

Webb, P.C., Potts, P.J, Thompson, M., Gowing, C.J.B. (2019)
GeoPT44 – an international proficiency test for analytical geochemistry laboratories – report on round 44 (Calcareous shale, ShCX-1) / January 2019. International Association of Geoanalysts: Unpublished report.

GeoPT44A

Webb, P.C., Potts, P.J, Thompson, M. Gowing, C.J.B. and Wilson, S.A. (2019)
GeoPT44A – an international proficiency test for analytical geochemistry laboratories – report on round 44A (Calcareous mudrock, CM-1) / January 2019. International Association of Geoanalysts: Unpublished report.

GeoPT45

Webb, P.C., Potts, P.J, Thompson, M. Gowing, C.J.B. and Wilson, S.A. (2019)
GeoPT45 – an international proficiency test for analytical geochemistry laboratories – report on round 45 (Silicified siltstone, GONV-1) / July 2019. International Association of Geoanalysts: Unpublished report.

GeoPT46

Webb, P.C., Potts, P.J, Thompson, M. and Gowing, C.J.B. (2020)
GeoPT46 – an international proficiency test for analytical geochemistry laboratories – report on round 46 (Granodiorite, HG-1) / January 2020. International Association of Geoanalysts: Unpublished report.

GeoPT46A

Webb, P.C., Potts, P.J, Thompson, M. Gowing, C.J.B. and Wilson, S.A. (2020)
GeoPT46A – an international proficiency test for analytical geochemistry laboratories – report on round 46A (Phosphate rock, POLC-1) / January 2020. International Association of Geoanalysts: Unpublished report.

GeoPT47

Webb, P.C., Potts, P.J, Thompson, M. and Gowing, C.J.B. (2020)
GeoPT47 – an international proficiency test for analytical geochemistry laboratories – report on round 47 (Silty Soil BIM-1) / December 2020. International Association of Geoanalysts: Unpublished report.

GeoPT47A

Webb, P.C., Potts, P.J, Thompson, M. and Gowing, C.J.B. (2020)
GeoPT47A – an international proficiency test for analytical geochemistry laboratories – report on round 47A (Silty Soil, NES-1) / December 2020. International Association of Geoanalysts: Unpublished report.

Table 1 - GeoPT48 Contributed data for Monzonite, MzBP-1. 24/03/2021

Lab Code	K1	K2	K4	K5	K6	K8	K10	K11	K13	K14	K15	K16	K17
SiO ₂	g 100g ⁻¹	57.2	<u>57.51</u>	<u>58.34</u>	57.87	57.85	<u>57.87</u>	<u>57.65</u>		58.33	<u>57.81</u>	57.26	<u>57.47</u>
TiO ₂	g 100g ⁻¹	1.1	<u>1.07</u>	<u>1.08</u>	<u>1.11</u>	<u>1.08</u>	<u>1.11</u>	<u>1.068</u>	<u>1.082</u>	<u>1.07</u>	<u>1.084</u>	<u>1.06</u>	<u>1.104</u>
Al ₂ O ₃	g 100g ⁻¹	19.6	<u>19.34</u>	<u>18.98</u>	<u>19.49</u>	<u>19.68</u>	<u>19.67</u>	<u>19.49</u>	<u>17.38</u>	<u>19.89</u>	<u>19.58</u>	<u>19.37</u>	<u>19.83</u>
Fe ₂ O ₃ T	g 100g ⁻¹	4.63	<u>4.51</u>	<u>4.15</u>	<u>4.75</u>	<u>4.76</u>	<u>4.78</u>	<u>4.695</u>	<u>4.446</u>	<u>4.71</u>	<u>4.702</u>	<u>4.83</u>	<u>4.67</u>
Fe(II)O	g 100g ⁻¹				<u>2.95</u>			<u>3.7</u>					<u>2.973</u>
MnO	g 100g ⁻¹	0.139	<u>0.15</u>	<u>0.11</u>	<u>0.135</u>	<u>0.14</u>	<u>0.21</u>	<u>0.144</u>	<u>0.135</u>	<u>0.13</u>	<u>0.137</u>	<u>0.13</u>	<u>0.138</u>
MgO	g 100g ⁻¹	1.11	<u>1.07</u>	<u>0.83</u>	<u>1.14</u>	<u>1.12</u>	<u>1.15</u>	<u>1.134</u>	<u>1.098</u>	<u>1.13</u>	<u>1.1</u>	<u>1.12</u>	<u>1.05</u>
CaO	g 100g ⁻¹	3.74	<u>3.58</u>	<u>3.47</u>	<u>3.74</u>	<u>3.75</u>	<u>3.72</u>	<u>3.764</u>	<u>4.035</u>	<u>3.67</u>	<u>3.728</u>	<u>3.76</u>	<u>3.72</u>
Na ₂ O	g 100g ⁻¹	6.66		<u>7.1</u>	<u>6.72</u>	<u>6.84</u>	<u>6.79</u>	<u>6.761</u>	<u>6.609</u>	<u>6.72</u>	<u>6.845</u>	<u>6.67</u>	<u>6.94</u>
K ₂ O	g 100g ⁻¹	3.83	<u>3.81</u>	<u>3.72</u>	<u>3.74</u>	<u>3.87</u>	<u>3.84</u>	<u>3.765</u>	<u>3.77</u>	<u>3.71</u>	<u>3.829</u>	<u>3.75</u>	<u>3.72</u>
P ₂ O ₅	g 100g ⁻¹	0.597		<u>0.61</u>	<u>0.57</u>	<u>0.6</u>	<u>0.623</u>	<u>0.596</u>	<u>0.618</u>	<u>0.56</u>	<u>0.61</u>	<u>0.61</u>	<u>0.603</u>
H ₂ O+	g 100g ⁻¹							<u>0.6</u>					<u>0.526</u>
CO ₂	g 100g ⁻¹							<u>0.14</u>					<u>0.027</u>
LOI	g 100g ⁻¹	0.435		<u>0.41</u>			<u>0.12</u>	<u>0.39</u>	<u>0.62</u>		<u>0.3</u>	<u>0.238</u>	<u>0.46</u>
Ag	mg kg ⁻¹						<u>1.5</u>		<u>0.835</u>	<u>0.069</u>			<u>2.45</u>
As	mg kg ⁻¹		<u>8</u>						<u>0.842</u>				<u>1.01</u>
B	mg kg ⁻¹												<u>8.253</u>
Ba	mg kg ⁻¹		<u>1355</u>	<u>1448</u>	<u>1286</u>		<u>1328</u>	<u>1237</u>	<u>1440</u>	<u>1331</u>	<u>1273</u>	<u>1373</u>	
Be	mg kg ⁻¹		<u>3.94</u>		<u>3.6</u>			<u>3.338</u>	<u>3.519</u>			<u>3.64</u>	<u>4.14</u>
Bi	mg kg ⁻¹								<u>0.002</u>				
Br	mg kg ⁻¹												
C(org)	mg kg ⁻¹												<u>138</u>
C(tot)	mg kg ⁻¹								<u>452</u>				
Cd	mg kg ⁻¹			<u>0.57</u>					<u>0.032</u>				<u>0.07</u>
Ce	mg kg ⁻¹			<u>178</u>	<u>179</u>			<u>171.3</u>	<u>188.2</u>			<u>181</u>	<u>169</u>
Cl	mg kg ⁻¹									<u>250</u>	<u>185.195</u>		<u>257.350</u>
Co	mg kg ⁻¹	4.79	<u>5</u>	<u>6</u>	<u>5</u>		<u>5.37</u>	<u>5.371</u>			<u>5.22</u>	<u>7</u>	
Cr	mg kg ⁻¹	133	<u>121</u>	<u>119</u>	<u>122</u>		<u>122</u>	<u>126.7</u>			<u>112.8</u>	<u>126</u>	<u>152</u>
Cs	mg kg ⁻¹	2.56			<u>2</u>		<u>0.7</u>	<u>0.622</u>			<u>0.62</u>	<u>0.73</u>	
Cu	mg kg ⁻¹	8.09	<u>5</u>		<u>7</u>		<u>8.875</u>	<u>6.146</u>			<u>8.5</u>	<u>16.72</u>	
Dy	mg kg ⁻¹	4.98			<u>7.61</u>			<u>4.845</u>	<u>5.576</u>			<u>5.98</u>	<u>5.96</u>
Er	mg kg ⁻¹	2.54		<u>4.11</u>				<u>2.62</u>	<u>3.206</u>			<u>3</u>	<u>3.14</u>
Eu	mg kg ⁻¹	2.97		<u>5.55</u>				<u>4.045</u>	<u>4.512</u>			<u>4.77</u>	<u>5.06</u>
F	mg kg ⁻¹		<u>876</u>								<u>310</u>	<u>790</u>	
Ga	mg kg ⁻¹		<u>24.18</u>	<u>24</u>	<u>24.6</u>	<u>23</u>		<u>24.79</u>	<u>20.98</u>		<u>25.3</u>	<u>26.6</u>	
Gd	mg kg ⁻¹		<u>7.53</u>		<u>11.9</u>			<u>6.52</u>	<u>7.346</u>			<u>7.56</u>	<u>7.75</u>
Ge	mg kg ⁻¹				<u>2</u>			<u>1.36</u>					<u>1.78</u>
Hf	mg kg ⁻¹					<u>10</u>		<u>9.92</u>	<u>8.747</u>				<u>11.6</u>
Hg	mg kg ⁻¹												<u>0.001</u>
Ho	mg kg ⁻¹				<u>1.22</u>			<u>0.895</u>	<u>1.04</u>			<u>1.15</u>	<u>1.12</u>
I	mg kg ⁻¹					<u>1.5</u>							
In	mg kg ⁻¹												<u>0.04</u>
Ir	mg kg ⁻¹												
La	mg kg ⁻¹		42.46		<u>115</u>	<u>101</u>		<u>86.2</u>	<u>103</u>			<u>94.9</u>	<u>119</u>
Li	mg kg ⁻¹		14.71		<u>17.9</u>			<u>17.55</u>	<u>17.27</u>			<u>16.775</u>	<u>20.4</u>
Lu	mg kg ⁻¹		0.44		<u>0.49</u>			<u>0.46</u>	<u>0.400</u>			<u>0.443</u>	<u>0.42</u>
Mo	mg kg ⁻¹			<u>8</u>		<u>3</u>		<u>4.945</u>	<u>5.667</u>			<u>4.85</u>	<u>6.09</u>
Nb	mg kg ⁻¹	98	<u>107</u>	<u>114</u>	<u>97</u>		<u>112.460</u>	<u>106.5</u>			<u>103.6</u>	<u>99.7</u>	<u>95</u>
Nd	mg kg ⁻¹	36.21		<u>75</u>	<u>66</u>		<u>61.95</u>	<u>69.16</u>			<u>68.5</u>	<u>70.2</u>	
Ni	mg kg ⁻¹	5.15	<u>7</u>		<u>2</u>		<u>3.2</u>	<u>2.746</u>			<u>3.1</u>	<u>3.3</u>	
Pb	mg kg ⁻¹			<u>7</u>			<u>6.67</u>	<u>5.862</u>			<u>6.1</u>	<u>6.84</u>	
Pd	mg kg ⁻¹												
Pr	mg kg ⁻¹		11.07		<u>22.1</u>			<u>18.055</u>	<u>19.49</u>			<u>19.6</u>	<u>20.4</u>
Pt	mg kg ⁻¹												
Rb	mg kg ⁻¹		65	<u>62</u>	<u>67</u>	<u>67</u>		<u>71.1</u>	<u>66.28</u>		<u>67.5</u>	<u>66.1</u>	<u>73.5</u>
Re	mg kg ⁻¹												
Rh	mg kg ⁻¹												
Ru	mg kg ⁻¹												
S	mg kg ⁻¹		<u>233</u>					<u>152</u>		<u>150</u>	<u>159</u>		
Sb	mg kg ⁻¹		4.7	<u>8</u>		<u>7</u>		<u>6</u>			<u>0.4</u>	<u>0.29</u>	
Sc	mg kg ⁻¹										<u>6.53</u>	<u>6.2</u>	
Se	mg kg ⁻¹							<u>0.037</u>					
Sm	mg kg ⁻¹		7.31		<u>12.4</u>	<u>9</u>		<u>9.09</u>	<u>10.42</u>			<u>10.6</u>	<u>10.73</u>
Sn	mg kg ⁻¹			<u>2</u>		<u>1.4</u>		<u>2.75</u>	<u>2.147</u>			<u>2.55</u>	<u>2.6</u>
Sr	mg kg ⁻¹		965	<u>1059</u>	<u>1092</u>	<u>1088</u>		<u>1126</u>	<u>1041</u>	<u>1080</u>	<u>1092</u>	<u>1087</u>	<u>991</u>
Ta	mg kg ⁻¹					<u>5</u>		<u>5.9</u>	<u>6.027</u>				<u>6.85</u>
Tb	mg kg ⁻¹		0.98		<u>1.53</u>			<u>0.91</u>	<u>1.001</u>			<u>1.05</u>	<u>1.06</u>
Te	mg kg ⁻¹												
Th	mg kg ⁻¹		7.82	<u>15</u>		<u>14</u>		<u>9.995</u>	<u>11.67</u>			<u>12.2</u>	<u>11.59</u>
Tl	mg kg ⁻¹							<u>0.019</u>					
Tm	mg kg ⁻¹		0.38		<u>0.48</u>			<u>0.38</u>	<u>0.467</u>			<u>0.445</u>	<u>0.42</u>
U	mg kg ⁻¹		3.95	<u>9</u>		<u>4</u>		<u>2.975</u>	<u>3.23</u>			<u>3.25</u>	<u>3.56</u>
V	mg kg ⁻¹		33.57	<u>29</u>	<u>27.9</u>	<u>27</u>		<u>23.25</u>	<u>26.8</u>			<u>26</u>	<u>35</u>
W	mg kg ⁻¹			<u>7</u>		<u>4</u>		<u>2.77</u>	<u>2.655</u>				<u>2.66</u>
Y	mg kg ⁻¹		20.81	<u>27</u>	<u>30.2</u>	<u>28</u>		<u>29.2</u>	<u>28.8</u>		<u>27.6</u>	<u>29.4</u>	<u>30</u>
Yb	mg kg ⁻¹		2.43		<u>3.33</u>	<u>2</u>		<u>2.475</u>	<u>2.766</u>			<u>2.96</u>	<u>2.82</u>
Zn	mg kg ⁻¹		73	<u>60</u>	<u>62.7</u>	<u>63</u>		<u>88</u>	<u>85.16</u>		<u>61.9</u>	<u>86.4</u>	
Zr	mg kg ⁻¹		496	<u>473</u>	<u>484</u>	<u>486</u>		<u>392</u>	<u>316</u>	<u>520</u>	<u>475.4</u>	<u>544</u>	<u>491</u>

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

Table 1 - GeoPT48 Contributed data for Monzonite, MzBP-1. 24/03/2021

Lab Code	K18	K19	K20	K21	K25	K26	K27	K28	K29	K31	K32	K33	K34
SiO ₂	g 100g ⁻¹	56.961	56.96	<u>55.442</u>	57.46	<u>58</u>	58.27	57.416	58.11	<u>57.68</u>	<u>56.43</u>	56.8	<u>57.82</u>
TiO ₂	g 100g ⁻¹	1.072	<u>1.11</u>	<u>1.059</u>	1.087	<u>1.093</u>	1.052	1.101	<u>1.062</u>	<u>1.11</u>	<u>1.06</u>	<u>1.07</u>	<u>1.07</u>
Al ₂ O ₃	g 100g ⁻¹	19.269	19.26	<u>19.533</u>	19.567	<u>19.62</u>	19.67	19.297	19.57	<u>19.5</u>	<u>19.27</u>	19.35	<u>19.4</u>
Fe ₂ O ₃ T	g 100g ⁻¹	4.675	5.09	<u>5.508</u>	4.825	<u>5.01</u>	4.8	4.824	4.81	<u>4.708</u>	<u>4.78</u>	4.59	<u>4.68</u>
Fe(II)O	g 100g ⁻¹												
MnO	g 100g ⁻¹	0.136	0.149	<u>0.132</u>	0.141	<u>0.14</u>	0.143	0.138	0.14	<u>0.135</u>	<u>0.15</u>	0.15	<u>0.14</u>
MgO	g 100g ⁻¹	1.099	1.15	<u>1.038</u>	1.105	<u>1.14</u>	1.17	1.159	1.13	<u>1.156</u>	<u>1.12</u>	1.05	<u>1.13</u>
CaO	g 100g ⁻¹	3.691	3.83	<u>3.717</u>	3.751	<u>3.69</u>	3.808	3.744	3.74	<u>3.734</u>	<u>3.65</u>	3.75	<u>3.89</u>
Na ₂ O	g 100g ⁻¹	6.586	6.74	<u>5.255</u>	6.673	<u>6.52</u>	6.81	6.519	6.7	<u>6.651</u>	<u>6.37</u>	6.46	<u>6.85</u>
K ₂ O	g 100g ⁻¹	3.787	3.85	<u>3.953</u>	3.828	<u>3.84</u>	3.79	3.728	3.79	<u>3.815</u>	<u>3.76</u>	3.73	<u>3.74</u>
P ₂ O ₅	g 100g ⁻¹	0.593	0.613	<u>0.646</u>	0.588	<u>0.562</u>	0.605	0.55	0.594		<u>0.6</u>	0.58	<u>0.59</u>
H ₂ O+	g 100g ⁻¹												
CO ₂	g 100g ⁻¹					<u>0.21</u>							<u>0.19</u>
LOI	g 100g ⁻¹	1.74	<u>0.4</u>	<u>0.405</u>	0.31	<u>0.35</u>	0.32	0.2	0.36	<u>0.376</u>	<u>0.3</u>	0.43	<u>0.6</u>
Ag	mg kg ⁻¹					<u>0.065</u>							
As	mg kg ⁻¹					<u>1.156</u>	<u>2.63</u>	1.075					
B	mg kg ⁻¹												
Ba	mg kg ⁻¹	1302.470	1375	<u>1361</u>	1320.700	<u>1232</u>	1381.300	1196	1310			1257	<u>1311.410</u>
Be	mg kg ⁻¹					<u>3.26</u>	4.513						
Bi	mg kg ⁻¹					<u>0.01</u>		<u>0.001</u>					
Br	mg kg ⁻¹					<u>0.53</u>							
C(org)	mg kg ⁻¹					<u>383</u>							
C(tot)	mg kg ⁻¹					<u>955</u>							<u>524.7</u>
Cd	mg kg ⁻¹					<u>0.065</u>	<u>0.06</u>	0.008					
Ce	mg kg ⁻¹		179	<u>655</u>	183.640	<u>197</u>	174.7	173.9	185.990			<u>146</u>	185.750
Cl	mg kg ⁻¹					<u>0.016</u>		<u>164</u>					<u>172</u>
Co	mg kg ⁻¹					<u>12</u>	<u>5.42</u>	5.308	5.298			<u>5.29</u>	<u>11</u>
Cr	mg kg ⁻¹	193.930	114	<u>132</u>	130.3	<u>107</u>	112.4	125.8	130			122	<u>119.960</u>
Cs	mg kg ⁻¹					<u>0.637</u>		<u>0.607</u>	<u>0.579</u>	0.61			<u>1</u>
Cu	mg kg ⁻¹		7.6	<u>15</u>	7.27	<u>7.72</u>	6.3	6.162	8				<u>7.19</u>
Dy	mg kg ⁻¹			<u>1</u>	5.697	<u>6.24</u>	7.514	5.427	6.61				<u>5.97</u>
Er	mg kg ⁻¹					<u>2.989</u>	<u>3.44</u>	3.14	2.954	3.21			<u>3.06</u>
Eu	mg kg ⁻¹					<u>4.716</u>	<u>4.94</u>	4.95	4.225	5.15			<u>4.57</u>
F	mg kg ⁻¹					<u>724</u>	<u>0.46</u>	<u>625</u>	<u>930</u>				
Ga	mg kg ⁻¹	26.433	25	<u>26</u>	24.75	<u>29.4</u>	25.22	24.59	24			<u>24.68</u>	<u>26</u>
Gd	mg kg ⁻¹					<u>11</u>	7.639	<u>8.58</u>	7.47	7.246	7.79		<u>7.11</u>
Ge	mg kg ⁻¹					<u>1.791</u>	<u>7.65</u>						
Hf	mg kg ⁻¹			<u>13</u>	<u>14</u>	11.633	<u>13.4</u>	11.01	9.009	11.98			<u>11.48</u>
Hg	mg kg ⁻¹												
Ho	mg kg ⁻¹					<u>1.064</u>	<u>1.2</u>	1.13	1.062	1.23			<u>1.07</u>
I	mg kg ⁻¹												
In	mg kg ⁻¹					<u>0.03</u>							
Ir	mg kg ⁻¹												
La	mg kg ⁻¹		<u>98</u>	<u>65</u>	95.941	<u>102</u>	91.86	89.73	100.340			<u>95</u>	<u>97.33</u>
Li	mg kg ⁻¹					<u>18</u>	<u>18.9</u>	16.03	16.28				
Lu	mg kg ⁻¹					<u>0.414</u>	<u>0.47</u>	0.438	450	0.45			<u>0.41</u>
Mo	mg kg ⁻¹		<u>4.5</u>	<u>5</u>	5.026	<u>5.3</u>	5.32						<u>4.9</u>
Nb	mg kg ⁻¹	<u>95</u>	<u>77</u>	105.420	<u>111</u>			117.8	105.260			104	<u>106.330</u>
Nd	mg kg ⁻¹	67	<u>112</u>	68.229	<u>73.6</u>	109.120	63.79	70.52				<u>67.43</u>	<u>62</u>
Ni	mg kg ⁻¹			<u>22</u>	5.064	<u>5.44</u>	2.686	2.478	7				<u>8.68</u>
Pb	mg kg ⁻¹			<u>4</u>	5.934	<u>6.22</u>	6.05	6.8	6.24				<u>11</u>
Pd	mg kg ⁻¹												
Pr	mg kg ⁻¹			<u>24</u>	19.686	<u>20.9</u>	19.95	18.37	20.45				<u>19.83</u>
Pt	mg kg ⁻¹												
Rb	mg kg ⁻¹	75.167	66		64.83	<u>64.8</u>	70.55	64.49	63.9		64	66.11	66
Re	mg kg ⁻¹												
Rh	mg kg ⁻¹												
Ru	mg kg ⁻¹												
S	mg kg ⁻¹	189.580				<u>180</u>							<u>141.7</u>
Sb	mg kg ⁻¹					<u>3.275</u>	<u>0.23</u>	0.225					<u>0.99</u>
Sc	mg kg ⁻¹					<u>6.596</u>	<u>6.06</u>	6.232	8.608	6.2			<u>6.44</u>
Se	mg kg ⁻¹						<u>1.57</u>						
Sm	mg kg ⁻¹		<u>8.7</u>	<u>37</u>	10.453	<u>11.2</u>	10.933	9.846	11.07				<u>10.54</u>
Sn	mg kg ⁻¹		<u>3.6</u>		2.804	<u>2.92</u>	2.017						<u>2</u>
Sr	mg kg ⁻¹	1070.730	1065	<u>1099</u>	1105.500	<u>983</u>	1107.600	1025	1115		1035	1088.580	1140
Ta	mg kg ⁻¹					<u>6.063</u>	<u>6.69</u>	5.98	5.656	6.16			<u>5.45</u>
Tb	mg kg ⁻¹						<u>1.103</u>	<u>1.17</u>	1.105	0.895	1.18		<u>1.01</u>
Te	mg kg ⁻¹												
Th	mg kg ⁻¹		<u>14</u>		11.579	<u>13.8</u>	11.61	10.22	12.11			<u>11.72</u>	<u>11</u>
Tl	mg kg ⁻¹					<u>0.022</u>	<u>0.02</u>	0.012					
Tm	mg kg ⁻¹					<u>0.446</u>	<u>0.49</u>	0.467	0.43	0.46			<u>0.41</u>
U	mg kg ⁻¹					<u>3.047</u>	<u>3.73</u>	3.207	2.911	3.17			<u>3.06</u>
V	mg kg ⁻¹		<u>28</u>	<u>52</u>	28.51	<u>26.4</u>	26.493	31.61	32			<u>28.01</u>	<u>68</u>
W	mg kg ⁻¹					<u>2.77</u>	2.711						
Y	mg kg ⁻¹		<u>29</u>	<u>52</u>	29.532	<u>29.4</u>	29.28	27.77	30.5			<u>28</u>	<u>28.79</u>
Yb	mg kg ⁻¹					<u>2.84</u>	<u>3.07</u>	2.88	3.125	2.94			<u>2.73</u>
Zn	mg kg ⁻¹	80.133	59	<u>78</u>	106.7	<u>79.8</u>	78.97	62.6	84			<u>77.11</u>	<u>68</u>
Zr	mg kg ⁻¹	511.670	479	<u>640</u>	534.7	<u>517</u>	518.520	357.4	526			488	<u>477.750</u>

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

Table 1 - GeoPT48 Contributed data for Monzonite, MzBP-1. 24/03/2021

Lab Code	K35	K36	K38	K40	K42	K43	K44	K45	K46	K47	K49	K50	K51
SiO ₂	g 100g ⁻¹	57.6	58.66	56.9	57.7	57.77	57.61	57.62	56.814		57.19	57.53	57.83
TiO ₂	g 100g ⁻¹	1.08	1.102	1.15	1.06	1.09	1.08	1.09	0.997		1.08	1.1	1.06
Al ₂ O ₃	g 100g ⁻¹	19.59	19.78	19.3	20.1	19.39	19.39	19.36	19.225		19.47	19.6	19.5
Fe ₂ O ₃ T	g 100g ⁻¹	4.81	4.81	4.82	4.74	4.87	4.71	4.73	4.715		4.77	4.77	4.75
Fe(II)O	g 100g ⁻¹												
MnO	g 100g ⁻¹	0.143	0.138	0.15	0.137	0.083	0.13	0.14	0.16		0.14	0.13	0.136
MgO	g 100g ⁻¹	1.13	1.137			1.14	1.12	1.12	1.09	1.177		1.12	1.05
CaO	g 100g ⁻¹	3.73	3.904			3.72	3.76	3.68	3.73	3.721		3.71	3.67
Na ₂ O	g 100g ⁻¹	6.74	6.803	7.53	6.67	5.53	6.72	6.64	6.659		6.63	6.91	6.81
K ₂ O	g 100g ⁻¹	3.77	3.806	2.8	3.73	3.63	3.81	3.84	3.619		3.78	3.78	3.84
P ₂ O ₅	g 100g ⁻¹	0.59	0.584			0.588	0.6	0.61	0.59	0.626		0.59	0.54
H ₂ O+	g 100g ⁻¹												
CO ₂	g 100g ⁻¹												
LOI	g 100g ⁻¹	0.41		0.51	0.32	0.3	0.36	0.33	0.26		1.2	0.31	0.35
Ag	mg kg ⁻¹		0.098							0.15	0.16		
As	mg kg ⁻¹		1.963			0.8				0.92	3.44		1
B	mg kg ⁻¹												
Ba	mg kg ⁻¹	1383	1364					1276	1263.260	1294	1276	1353	1340
Be	mg kg ⁻¹		4.65			2.8			3.44	3.12			
Bi	mg kg ⁻¹								0.002	0.02			
Br	mg kg ⁻¹												
C(org)	mg kg ⁻¹	628				660							
C(tot)	mg kg ⁻¹	390				1095							
Cd	mg kg ⁻¹		0.058			2.4				0.014	0.14		0.333
Ce	mg kg ⁻¹	164	187.9	192					183.5	137	174		188.5
Cl	mg kg ⁻¹					187							
Co	mg kg ⁻¹		5.15			8.1				4.83	4.19		5.35
Cr	mg kg ⁻¹	128	136.6			105		108	115	94	119		128.4
Cs	mg kg ⁻¹		0.629						0.59	0.62			0.638
Cu	mg kg ⁻¹		5.041			10.1			5.87	7.87	6		20
Dy	mg kg ⁻¹		5.964	6.15						5.61	5.45		5.96
Er	mg kg ⁻¹		2.945	3.11						3.06	2.92		3.09
Eu	mg kg ⁻¹		4.77	5.18					4.49	4.36			4.65
F	mg kg ⁻¹					492							
Ga	mg kg ⁻¹	27	26.87					23	23.76	26.5	24		25.87
Gd	mg kg ⁻¹		8.404	8.76					8.87	7.5			8.95
Ge	mg kg ⁻¹		1.958							5.68			
Hf	mg kg ⁻¹	12	11.76							11.1	13		12.32
Hg	mg kg ⁻¹					0.000							
Ho	mg kg ⁻¹		1.046	1.11					1.05	1.02			1.14
I	mg kg ⁻¹												
In	mg kg ⁻¹												
Ir	mg kg ⁻¹												
La	mg kg ⁻¹	102	102.1	101.2				85	96.68	82.1	95		99.85
Li	mg kg ⁻¹		15.97						15.67	14.69			18.7
Lu	mg kg ⁻¹		0.434	0.515					0.41	0.41			0.46
Mo	mg kg ⁻¹		5.278						5.16	5.81	4		5.13
Nb	mg kg ⁻¹	100	101						105.030	60	107		117.4
Nd	mg kg ⁻¹	59	69.07	71.5					66.13	107	62		71.42
Ni	mg kg ⁻¹		2.924			6.5			2.56	2.99			3.63
Pb	mg kg ⁻¹		6.273			6.4			5.38	4.57	3		7.07
Pd	mg kg ⁻¹												
Pr	mg kg ⁻¹	15	20.7	19.3					20.12	17.4	20		21.03
Pt	mg kg ⁻¹												
Rb	mg kg ⁻¹	55	68.72						60.64	47.7	66		65.32
Re	mg kg ⁻¹												
Rh	mg kg ⁻¹												
Ru	mg kg ⁻¹												
S	mg kg ⁻¹					300	201		168.730				
Sb	mg kg ⁻¹		0.213			3.9			0.19	0.34			
Sc	mg kg ⁻¹		9.733					5	5.94	7.49	7		6.58
Se	mg kg ⁻¹		2.414			3.4			0.016	3.13			8
Sm	mg kg ⁻¹	11	10.44	10.4					10.12	9.59			10.84
Sn	mg kg ⁻¹		2.078							2.21			
Sr	mg kg ⁻¹	1131	1094			1300		969	1012.470	954	1115	1099	1103
Ta	mg kg ⁻¹		6.351							6.6			6.29
Tb	mg kg ⁻¹		1.103	1.38					1.1	1			1.26
Te	mg kg ⁻¹					66							
Th	mg kg ⁻¹		12.09	13.15					11.24	9.74	10		13.08
Tl	mg kg ⁻¹					0.3			0.016	0.05			12
Tm	mg kg ⁻¹		0.427	0.51					0.42	0.41			0.482
U	mg kg ⁻¹		3.054	3.85					2.84	2.49	3		3.5
V	mg kg ⁻¹	20	28.84		22		28	26.68	25.8	32		27.19	21
W	mg kg ⁻¹		2.778							4			
Y	mg kg ⁻¹	30	29.18	28.7					28.4	25.4	30		31.42
Yb	mg kg ⁻¹		2.95	2.97					2.77	2.72			3.15
Zn	mg kg ⁻¹	65	84.17		69		72	77.15	50.8	80		80.15	61
Zr	mg kg ⁻¹	512	450.8					499	411.540	511	506		593

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

Table 1 - GeoPT48 Contributed data for Monzonite, MzBP-1. 24/03/2021

Lab Code	K52	K53	K56	K57	K59	K60	K61	K62	K67	K68	K69	K70	K71	
SiO ₂	g 100g ⁻¹	58.23	56.66	58.98	53.1	59.79	57.59		57.27		58.18	57.3	57.33	
TiO ₂	g 100g ⁻¹	1.07	1.103	<u>1</u>	<u>1</u>	1.06	1.03	0.93	<u>1.068</u>		<u>1.1</u>	1.07	1.09	
Al ₂ O ₃	g 100g ⁻¹	19.58	18.99	<u>19.85</u>	<u>22</u>	19.65	19.3		<u>19.62</u>		<u>19.66</u>	19.36	19.78	
Fe ₂ O ₃ T	g 100g ⁻¹	4.77	5.206	3.85	<u>4.23</u>	4.78	4.81		<u>4.671</u>		<u>4.83</u>	4.76	4.77	
Fe(II)O	g 100g ⁻¹			<u>1.48</u>							<u>2.97</u>			
MnO	g 100g ⁻¹	0.13	0.144	<u>0.116</u>	<u>0.12</u>	0.14	0.14	0.12	<u>0.144</u>	0.116	<u>0.14</u>	0.137	0.14	
MgO	g 100g ⁻¹	1.13	1.072	<u>1.08</u>		1.15	1.16		<u>1.119</u>		<u>1.16</u>	1.09	1.18	
CaO	g 100g ⁻¹	3.69	3.519	3.56	<u>3.67</u>	3.75	3.65		<u>3.68</u>		<u>3.73</u>	3.68	3.57	
Na ₂ O	g 100g ⁻¹	6.69	6.38	<u>6.63</u>		6.7	6.72		<u>6.745</u>		<u>6.86</u>	6.69	7.04	
K ₂ O	g 100g ⁻¹	3.84	4.135	<u>3.7</u>	<u>3.86</u>	3.79	3.78		<u>3.776</u>		<u>3.86</u>	3.75	3.74	
P ₂ O ₅	g 100g ⁻¹	0.63	0.635	<u>0.64</u>		0.61	0.58		<u>0.605</u>		<u>0.62</u>	0.59	0.56	
H ₂ O+	g 100g ⁻¹	1.67												
CO ₂	g 100g ⁻¹	0.09												
LOI	g 100g ⁻¹	0.36		<u>0.46</u>			0.26		<u>0.49</u>		<u>0.67</u>	0.44	0.37	
Ag	mg kg ⁻¹	0.04		<u>0.72</u>		0.7					<u>0.03</u>	<u>0.6</u>	0.07	
As	mg kg ⁻¹	6.5		<u>1.55</u>		7.1		0.52	<u>1.32</u>		<u>1.1</u>	1.28	1.59	
B	mg kg ⁻¹			<u>2.3</u>								<u>5.5</u>		
Ba	mg kg ⁻¹	1250	1474	<u>1100</u>	<u>1375.500</u>	<u>18312.600</u>	1331	1168	<u>1353</u>	<u>1319.300</u>	<u>1255</u>	1292	1333	
Be	mg kg ⁻¹	3		<u>1.45</u>					<u>3.27</u>	<u>4.43</u>	<u>3.35</u>	3.5	4.44	
Bi	mg kg ⁻¹										<u>0.01</u>	<u>0.004</u>	0.128	
Br	mg kg ⁻¹				<u>3.3</u>									
C(org)	mg kg ⁻¹	370									<u>400</u>			
C(tot)	mg kg ⁻¹	560									<u>600</u>			
Cd	mg kg ⁻¹	0.05		<u>0.08</u>		2.8		0.5			<u>0.02</u>	<u>0.06</u>	0.02	
Ce	mg kg ⁻¹	179		<u>120</u>	<u>180.7</u>	178.5	184	169	<u>187</u>	<u>175.5</u>	<u>174</u>	162	179.5	
Cl	mg kg ⁻¹	67				<u>65.4</u>	203			<u>162</u>				
Co	mg kg ⁻¹	5.63		<u>4</u>			6	4.94	<u>5.09</u>	<u>5.02</u>	<u>5.2</u>	4.8	5.6	
Cr	mg kg ⁻¹	122		<u>103</u>	<u>136.5</u>	126.2	137	111	<u>134</u>		<u>100</u>	126	113.8	
Cs	mg kg ⁻¹	0.74		<u>0.47</u>		7.2		0.51	<u>0.58</u>		<u>0.66</u>	<u>0.56</u>	2.6	
Cu	mg kg ⁻¹	7.75		<u>7</u>	<u>13.2</u>	12.3			<u>7.35</u>		<u>6.6</u>	6.2	5.1	
Dy	mg kg ⁻¹	6.39		<u>4.4</u>					<u>5.35</u>	<u>6.08</u>	<u>5.8</u>	3.75	5.82	
Er	mg kg ⁻¹	3.3		<u>2.3</u>					<u>2.98</u>	<u>2.99</u>	<u>2.96</u>	2.14	7.24	
Eu	mg kg ⁻¹	5.1		<u>3.2</u>					<u>4.67</u>	<u>4.82</u>	<u>4.66</u>	2.8	4.48	
F	mg kg ⁻¹	109				<u>1561.400</u>	751			<u>655</u>				
Ga	mg kg ⁻¹	27.2		<u>23</u>	<u>26.1</u>	18.8	25	23.8	<u>36.4</u>	<u>25.59</u>	<u>25.5</u>	23.6	22.7	
Gd	mg kg ⁻¹	8.54		<u>5.5</u>			9	9.02	<u>8.1</u>		<u>7.22</u>	5.32	9.09	
Ge	mg kg ⁻¹			<u>1.4</u>					<u>1.6</u>		<u>0.2</u>	<u>1.05</u>		
Hf	mg kg ⁻¹	13.2		<u>11.8</u>			12	10.85	<u>11.7</u>		<u>10.8</u>		1.9	
Hg	mg kg ⁻¹	0.021		<u>0.04</u>										
Ho	mg kg ⁻¹	1.17		<u>0.83</u>					<u>1.02</u>	<u>1.11</u>	<u>1.11</u>	0.72	1.079	
I	mg kg ⁻¹													
In	mg kg ⁻¹	0.048									<u>0.03</u>		0.09	
Ir	mg kg ⁻¹			<u>0.016</u>										
La	mg kg ⁻¹	113		<u>60</u>	<u>90.4</u>	80.1	90	90.1	<u>101</u>	<u>106.3</u>	<u>89.5</u>	48.52	135	
Li	mg kg ⁻¹	18.4		<u>8.8</u>				<u>17.2</u>	<u>18</u>		<u>16.9</u>	16		
Lu	mg kg ⁻¹	0.404		<u>0.3</u>				0.4	<u>0.44</u>		<u>0.44</u>	<u>0.34</u>	0.51	
Mo	mg kg ⁻¹	5.78		<u>9.3</u>		4.4		5.09	<u>6.04</u>	<u>4.95</u>	<u>5.08</u>	<u>5.6</u>	3.9	
Nb	mg kg ⁻¹	132		<u>138</u>	<u>110.4</u>	100	113	121	<u>115</u>	<u>101.340</u>	<u>115</u>	134	97.9	
Nd	mg kg ⁻¹	75		<u>42.5</u>	<u>80.3</u>	63.7	65	62.8	<u>67</u>		<u>69.3</u>	<u>35.59</u>	64	
Ni	mg kg ⁻¹	2.66		<u>2.7</u>		1.7	11		<u>2.95</u>	<u>3.2</u>	<u>2.7</u>	2.5	5.28	
Pb	mg kg ⁻¹	5.4		<u>3.75</u>	<u>10</u>	3.2	4	6.16	<u>6.23</u>	<u>9.04</u>	<u>6.1</u>	5.1	23.3	
Pd	mg kg ⁻¹			<u>9</u>										
Pr	mg kg ⁻¹	22.8		<u>12.3</u>					<u>18.7</u>	<u>20.3</u>	<u>19.25</u>	9.7	20.67	
Pt	mg kg ⁻¹			<u>0.07</u>										
Rb	mg kg ⁻¹	68.9		<u>38</u>	<u>71.3</u>	62.5	66	58.7	<u>65.2</u>	<u>68.76</u>	<u>64.9</u>	64	70	
Re	mg kg ⁻¹					<u>0.016</u>					<u>0.002</u>			
Rh	mg kg ⁻¹					<u>0.014</u>								
Ru	mg kg ⁻¹					<u>0.004</u>								
S	mg kg ⁻¹	156		<u>0.016</u>			88				<u>0.02</u>		158	
Sb	mg kg ⁻¹	0.236		<u>0.17</u>		2.7		0.23			<u>0.25</u>	<u>0.25</u>	1.31	
Sc	mg kg ⁻¹	6.04		<u>6.8</u>		6.2	6	9.29	<u>9.88</u>		<u>5.7</u>	<u>5.7</u>	7.5	
Se	mg kg ⁻¹	0.053		<u>0.6</u>							<u>1</u>		1.21	
Sm	mg kg ⁻¹	11.4		<u>7.3</u>		7.4		9.53	<u>11.1</u>		<u>10.4</u>	6	11.2	
Sn	mg kg ⁻¹	2.74		<u>1.9</u>		10.8		4.81	<u>2.62</u>		<u>2.2</u>	<u>2.7</u>		
Sr	mg kg ⁻¹	1180	1164	<u>1100</u>	<u>1144.600</u>	1019.500	1052	1008	<u>1099</u>	<u>1088.600</u>	<u>1050</u>	1054	1093	1034
Ta	mg kg ⁻¹	6.42		<u>7.5</u>		7.7		6.41	<u>6.08</u>		<u>5.8</u>	7		
Tb	mg kg ⁻¹	1.86		<u>0.68</u>					<u>1.11</u>	<u>1.14</u>		<u>1.03</u>	0.79	
Te	mg kg ⁻¹			<u>0.016</u>							<u>0.05</u>		0.024	
Th	mg kg ⁻¹			<u>7</u>		15	10	11	<u>11.9</u>	<u>11.42</u>	<u>12.45</u>	7.5	7.2	
Tl	mg kg ⁻¹	0.02		<u>0.01</u>							<u>0.02</u>	<u>0.02</u>	0.024	
Tm	mg kg ⁻¹	0.47		<u>0.33</u>							<u>0.48</u>	<u>0.31</u>	0.44	
U	mg kg ⁻¹	3.58		<u>2.1</u>		3.6		2.96	<u>3.32</u>	<u>4</u>	<u>3.1</u>	3	6.1	
V	mg kg ⁻¹	15.9		<u>22</u>		21.7	19	25.9	<u>22.9</u>	<u>21.45</u>	<u>24</u>	28	28.3	
W	mg kg ⁻¹	2.84		<u>6.3</u>		4.5			<u>2.45</u>		<u>2.6</u>	<u>3</u>	11	
Y	mg kg ⁻¹	45		<u>20</u>	<u>23.1</u>	27.6	31	26.4	<u>30.4</u>	<u>28.39</u>	<u>27.9</u>	23	29.4	
Yb	mg kg ⁻¹	3.55		<u>2.15</u>					<u>2.68</u>	<u>2.99</u>		<u>2.97</u>	2.1	
Zn	mg kg ⁻¹	53.4	84.82	<u>40</u>	<u>62.3</u>	39.5	84	81.5	<u>77.5</u>	<u>60.53</u>	<u>86</u>	78	60.7	
Zr	mg kg ⁻¹	355	531.6	<u>625</u>	<u>445.8</u>	459.7	465	484	<u>525</u>	<u>480.840</u>	<u>560</u>	497	484	
													554	

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

Table 1 - GeoPT48 Contributed data for Monzonite, MzBP-1. 24/03/2021

Lab Code	K72	K73	K74	K77	K78	K79	K81	K83	K84	K87	K88	K92	K94	
SiO ₂	g 100g ⁻¹	55	56.49	<u>57.39</u>	57.7	57.95	<u>57.241</u>	57.818	57.1	<u>57.88</u>	57.89	<u>57.77</u>	57.28	<u>58.73</u>
TiO ₂	g 100g ⁻¹	1.06	<u>1.07</u>	<u>1.073</u>	<u>1.07</u>	<u>1.088</u>	<u>1.073</u>	1.087	<u>1.07</u>	<u>1.08</u>	<u>1.1</u>	<u>1.06</u>	<u>1.05</u>	<u>1.083</u>
Al ₂ O ₃	g 100g ⁻¹	18.19	<u>19.08</u>	<u>19.34</u>	18.87	<u>19.65</u>	<u>19.465</u>	19.471	19.7	<u>19.63</u>	<u>19.52</u>	<u>19.3</u>	<u>19.72</u>	<u>19.56</u>
Fe ₂ O ₃ T	g 100g ⁻¹	4.96	4.76	<u>4.721</u>	4.91	<u>4.705</u>	<u>4.697</u>	4.734	4.67	<u>4.82</u>	<u>4.74</u>	<u>5.09</u>	<u>4.79</u>	<u>4.697</u>
Fe(II)O	g 100g ⁻¹		<u>3.05</u>											
MnO	g 100g ⁻¹	0.15	<u>0.14</u>	<u>0.137</u>	<u>0.144</u>	<u>0.135</u>	<u>0.136</u>	0.135	<u>0.142</u>	<u>0.139</u>	<u>0.14</u>	<u>0.127</u>	<u>0.139</u>	<u>0.106</u>
MgO	g 100g ⁻¹	1.15	<u>1.08</u>	<u>1.136</u>	<u>1.04</u>	<u>1.096</u>	<u>1.168</u>	1.165	<u>1.21</u>	<u>1.08</u>	<u>1.1</u>	<u>1.1</u>	<u>1.15</u>	<u>1.187</u>
CaO	g 100g ⁻¹	4.56	<u>3.68</u>	<u>3.705</u>	<u>3.7</u>	<u>3.777</u>	<u>3.661</u>	3.698	<u>3.71</u>	<u>3.88</u>	<u>3.77</u>	<u>3.7</u>	<u>3.84</u>	<u>3.69</u>
Na ₂ O	g 100g ⁻¹	6.63	<u>6.33</u>	<u>6.946</u>	<u>6.85</u>	<u>6.701</u>	<u>6.711</u>	6.736	<u>6.91</u>	<u>6.63</u>	<u>6.82</u>	<u>5.95</u>	<u>6.7</u>	<u>5.797</u>
K ₂ O	g 100g ⁻¹	3.78	<u>3.73</u>	<u>3.725</u>	<u>3.83</u>	<u>3.98</u>	<u>3.859</u>	3.783	<u>3.84</u>	<u>3.78</u>	<u>3.81</u>	<u>3.86</u>	<u>3.83</u>	<u>3.73</u>
P ₂ O ₅	g 100g ⁻¹	0.55	<u>0.58</u>	<u>0.588</u>	<u>0.587</u>	<u>0.595</u>	<u>0.622</u>	0.584	<u>0.581</u>	<u>0.605</u>	<u>0.6</u>	<u>0.6</u>	<u>0.61</u>	<u>0.581</u>
H ₂ O+	g 100g ⁻¹		<u>0.51</u>											
CO ₂	g 100g ⁻¹		<u>0.26</u>											
LOI	g 100g ⁻¹	3.58		<u>0.26</u>	<u>0.402</u>	<u>0.355</u>	<u>0.33</u>	<u>0.392</u>	<u>0.47</u>	<u>0.341</u>	<u>0.47</u>	<u>0.35</u>	<u>0.37</u>	
Ag	mg kg ⁻¹													
As	mg kg ⁻¹													
B	mg kg ⁻¹							<u>17.673</u>						
Ba	mg kg ⁻¹	1603	<u>1320</u>	<u>1294</u>	<u>1335</u>	<u>1302</u>	<u>1397</u>	<u>1309.277</u>	<u>1313</u>	<u>1363</u>	<u>1184</u>	<u>1260</u>	<u>1354.020</u>	<u>1249</u>
Be	mg kg ⁻¹	3.65			<u>3.72</u>			<u>3.890</u>	<u>3.76</u>	<u>3.87</u>	<u>4.3</u>	<u>3.525</u>	<u>3.639</u>	
Bi	mg kg ⁻¹							<u>0.003</u>						
Br	mg kg ⁻¹													
C(org)	mg kg ⁻¹													
C(tot)	mg kg ⁻¹													
Cd	mg kg ⁻¹							<u>0.212</u>					<u>0.313</u>	
Ce	mg kg ⁻¹	223	<u>172</u>	<u>174.7</u>	<u>207.3</u>	<u>185</u>		<u>184.227</u>	<u>180</u>	<u>185</u>	<u>184</u>	<u>179</u>	<u>184.533</u>	<u>200</u>
Cl	mg kg ⁻¹							<u>323</u>						
Co	mg kg ⁻¹	5.92	<u>7</u>	<u>5.33</u>				<u>5.413</u>	<u>5.3</u>		<u>5.3</u>	<u>5.41</u>	<u>5.741</u>	
Cr	mg kg ⁻¹	130	<u>118</u>	<u>112.1</u>	<u>122</u>		<u>109.5</u>	<u>119.446</u>	<u>126</u>		<u>107</u>	<u>122</u>	<u>66.128</u>	<u>170.1</u>
Cs	mg kg ⁻¹	0.65	<u>4</u>		<u>0.69</u>	<u>0.66</u>		<u>0.620</u>	<u>0.625</u>			<u>0.64</u>	<u>0.621</u>	<u>0.684</u>
Cu	mg kg ⁻¹	12.3	<u>14</u>		<u>6.07</u>			<u>8.099</u>	<u>7.42</u>		<u>16</u>	<u>7.4</u>	<u>6.718</u>	<u>15.06</u>
Dy	mg kg ⁻¹	5.99			<u>5.88</u>	<u>5.88</u>		<u>6.050</u>	<u>5.85</u>	<u>5.86</u>		<u>5.97</u>	<u>6.228</u>	<u>5.704</u>
Er	mg kg ⁻¹	3.32			<u>3.06</u>	<u>3.18</u>		<u>3.004</u>	<u>3.02</u>	<u>3.08</u>		<u>3.12</u>	<u>3.229</u>	<u>3.545</u>
Eu	mg kg ⁻¹	5.08			<u>4.65</u>	<u>4.52</u>		<u>4.787</u>	<u>4.65</u>	<u>4.51</u>		<u>4.71</u>	<u>4.789</u>	<u>4.793</u>
F	mg kg ⁻¹													
Ga	mg kg ⁻¹	27.3	<u>19</u>	<u>23.65</u>	<u>24.39</u>	<u>25.9</u>		<u>26.012</u>	<u>23</u>		<u>27</u>	<u>25</u>		<u>26.35</u>
Gd	mg kg ⁻¹	10.3			<u>7.88</u>	<u>8.46</u>		<u>7.502</u>	<u>7.54</u>	<u>7.29</u>		<u>8.37</u>	<u>7.827</u>	<u>10.18</u>
Ge	mg kg ⁻¹													
Hf	mg kg ⁻¹	23.4	<u>12</u>	<u>10.06</u>	<u>11.6</u>	<u>11.8</u>		<u>11.722</u>	<u>11.6</u>	<u>10.54</u>		<u>11.6</u>	<u>11.81</u>	<u>9.144</u>
Hg	mg kg ⁻¹												<u>0.005</u>	
Ho	mg kg ⁻¹	1.14			<u>1.12</u>	<u>1.07</u>		<u>1.126</u>	<u>1.13</u>	<u>1.07</u>		<u>1.1</u>	<u>1.187</u>	<u>1.017</u>
I	mg kg ⁻¹													
In	mg kg ⁻¹													<u>0.033</u>
Ir	mg kg ⁻¹													
La	mg kg ⁻¹	104	<u>104</u>	<u>98.06</u>	<u>99.6</u>	<u>100</u>		<u>101.448</u>	<u>95.1</u>	<u>100.1</u>	<u>107</u>	<u>97.6</u>	<u>92.296</u>	<u>101.4</u>
Li	mg kg ⁻¹					<u>18.41</u>		<u>16.891</u>	<u>17.3</u>			<u>19</u>	<u>17.26</u>	<u>17.72</u>
Lu	mg kg ⁻¹	0.48			<u>0.44</u>	<u>0.44</u>		<u>0.442</u>	<u>0.435</u>	<u>0.433</u>		<u>0.45</u>	<u>0.475</u>	<u>0.442</u>
Mo	mg kg ⁻¹		2	<u>5.339</u>	<u>4.86</u>			<u>5.310</u>	<u>5.2</u>			<u>5.2</u>		
Nb	mg kg ⁻¹	112	<u>105</u>	<u>98.89</u>	<u>112.3</u>	<u>104</u>	<u>90.9</u>	<u>119.593</u>	<u>116</u>	<u>105</u>	<u>93</u>	<u>108</u>	<u>116.277</u>	<u>96.2</u>
Nd	mg kg ⁻¹	76.4	<u>74</u>	<u>52.07</u>	<u>69.1</u>	<u>71</u>		<u>69.878</u>	<u>68.7</u>			<u>68.6</u>	<u>70.235</u>	<u>67.8</u>
Ni	mg kg ⁻¹	7.27	<u>14</u>	<u>6.231</u>	<u>2.7</u>			<u>3.352</u>	<u>2.99</u>		<u>20</u>	<u>3.3</u>	<u>2.798</u>	<u>6.561</u>
Pb	mg kg ⁻¹	6.07	<u>7</u>	<u>7.032</u>	<u>6.32</u>			<u>6.382</u>	<u>5.97</u>			<u>6.4</u>	<u>6.352</u>	<u>6.379</u>
Pd	mg kg ⁻¹													
Pr	mg kg ⁻¹	22.1			<u>20.2</u>	<u>20.5</u>		<u>20.022</u>	<u>20</u>	<u>20.11</u>		<u>20</u>	<u>19.762</u>	<u>21.71</u>
Pt	mg kg ⁻¹													
Rb	mg kg ⁻¹	68.9	<u>54</u>	<u>63.18</u>	<u>69.8</u>	<u>67.2</u>	<u>65.1</u>	<u>67.552</u>	<u>63.6</u>	<u>67.16</u>	<u>63</u>	<u>63</u>	<u>65.463</u>	<u>69.82</u>
Re	mg kg ⁻¹													
Rh	mg kg ⁻¹													
Ru	mg kg ⁻¹													
S	mg kg ⁻¹						<u>220</u>							
Sb	mg kg ⁻¹							<u>0.215</u>				<u>0.26</u>	<u>0.188</u>	
Sc	mg kg ⁻¹	9.1	<u>9</u>	<u>8.052</u>	<u>6.75</u>			<u>6.086</u>	<u>11.1</u>	<u>6.34</u>	<u>4</u>	<u>6.3</u>	<u>7.681</u>	<u>8.996</u>
Se	mg kg ⁻¹													
Sm	mg kg ⁻¹	11.2			<u>10.51</u>	<u>10.8</u>		<u>10.840</u>	<u>10.6</u>	<u>10.91</u>		<u>10.5</u>	<u>10.817</u>	<u>11.51</u>
Sn	mg kg ⁻¹		2					<u>2.175</u>	<u>2.54</u>	<u>2.29</u>		<u>2.24</u>	<u>2.067</u>	
Sr	mg kg ⁻¹	1147	<u>1040</u>	<u>1056</u>	<u>1101</u>	<u>1135</u>	<u>1090</u>	<u>1106.209</u>	<u>1067</u>	<u>1139</u>	<u>1075</u>	<u>1040</u>	<u>1009.610</u>	<u>1024</u>
Ta	mg kg ⁻¹	6.19	<u>1</u>		<u>5.73</u>	<u>5.9</u>		<u>6.184</u>	<u>6.16</u>	<u>6.53</u>		<u>6.2</u>	<u>6.227</u>	
Tb	mg kg ⁻¹	1.3			<u>1.09</u>	<u>1.11</u>		<u>1.102</u>	<u>1.06</u>	<u>1.08</u>		<u>1.12</u>	<u>1.108</u>	<u>1.025</u>
Te	mg kg ⁻¹													
Th	mg kg ⁻¹	12	<u>11</u>	<u>8.77</u>	<u>12.39</u>	<u>12</u>		<u>12.086</u>	<u>11.9</u>	<u>12.26</u>		<u>11.7</u>	<u>12.77</u>	<u>12.41</u>
Tl	mg kg ⁻¹								<u>0.018</u>				<u>0.024</u>	<u>0.023</u>
Tm	mg kg ⁻¹	0.51					<u>0.45</u>		<u>0.458</u>	<u>0.451</u>	<u>0.443</u>		<u>0.45</u>	<u>0.469</u>
U	mg kg ⁻¹	2.98	<u>2</u>			<u>3.27</u>			<u>3.282</u>	<u>3.39</u>	<u>3.424</u>		<u>3.01</u>	<u>3.468</u>
V	mg kg ⁻¹	27.2	<u>29</u>	<u>28.09</u>	<u>27.85</u>			<u>28.172</u>	<u>26.6</u>	<u>32.07</u>	<u>41</u>	<u>27</u>		<u>10.03</u>
W	mg kg ⁻¹			<u>1</u>					<u>2.429</u>	<u>2.41</u>			<u>2.6</u>	
Y	mg kg ⁻¹	31.3	<u>30</u>	<u>28.62</u>	<u>30.1</u>	<u>28.9</u>	<u>28.9</u>	<u>30.836</u>	<u>28.2</u>	<u>24.24</u>	<u>28</u>	<u>28.5</u>	<u>31.389</u>	<u>23.35</u>
Yb	mg kg ⁻¹	3.05				<u>2.95</u>	<u>2.9</u>		<u>2.945</u>	<u>2.89</u>	<u>2.85</u>		<u>2.93</u>	<u>3.141</u>
Zn	mg kg ⁻¹	78	<u>61</u>	<u>60.15</u>	<u>76.3</u>		<u>80.3</u>	<u>81.128</u>	<u>78.5</u>		<u>64</u>	<u>60</u>	<u>83.40</u>	

Table 1 - GeoPT48 Contributed data for Monzonite, MzBP-1. 24/03/2021

Lab Code	K95	K96	K97	K98	K99	K100	K101	K103	K106	K110	K112	K113	K115
SiO ₂	g 100g ⁻¹	58.36	57.3	57.7	57.59	58.36	57.9	58.88	58.05	58.39	59.21	56.9	57.44
TiO ₂	g 100g ⁻¹	1.05	<u>1.02</u>	<u>1.08</u>	<u>1.09</u>	<u>1.13</u>	<u>1.09</u>	<u>1.06</u>	<u>1.092</u>	<u>0.97</u>	<u>1.079</u>	<u>1.06</u>	<u>1.028</u>
Al ₂ O ₃	g 100g ⁻¹	19.5	<u>19.4</u>	<u>19.5</u>	19.65	19.68	19.55	<u>20</u>	<u>19.66</u>	16.37	<u>20.17</u>	<u>19.13</u>	<u>19.77</u>
Fe ₂ O ₃ T	g 100g ⁻¹	4.78	<u>4.7</u>	<u>4.78</u>	<u>4.83</u>	<u>4.87</u>	<u>4.73</u>	<u>4.98</u>	<u>4.67</u>	<u>3.49</u>	<u>4.87</u>	<u>4.75</u>	<u>4.981</u>
Fe(II)O	g 100g ⁻¹			<u>3.28</u>									<u>4.856</u>
MnO	g 100g ⁻¹	<u>0.14</u>	<u>0.13</u>	<u>0.14</u>	<u>0.12</u>	<u>0.15</u>	<u>0.14</u>	<u>0.16</u>	<u>0.144</u>	<u>0.1</u>	<u>0.146</u>	<u>0.147</u>	<u>0.142</u>
MgO	g 100g ⁻¹	<u>1.19</u>	<u>1.15</u>	<u>1.12</u>	<u>1.19</u>	<u>1.1</u>	<u>1.13</u>	<u>1.08</u>	<u>1.15</u>	<u>0.75</u>	<u>1.01</u>	<u>1.089</u>	<u>1.204</u>
CaO	g 100g ⁻¹	<u>3.72</u>	<u>3.67</u>	<u>3.66</u>	<u>3.88</u>	<u>3.85</u>	<u>3.75</u>	<u>3.8</u>	<u>3.653</u>	<u>3.33</u>	<u>3.73</u>	<u>3.64</u>	<u>3.72</u>
Na ₂ O	g 100g ⁻¹	<u>6.56</u>	<u>6.85</u>	<u>6.64</u>	<u>7.02</u>	<u>6.69</u>	<u>6.7</u>	<u>6.5</u>	<u>6.38</u>	<u>3.87</u>	<u>6.86</u>	<u>6.17</u>	<u>7.169</u>
K ₂ O	g 100g ⁻¹	<u>3.72</u>	<u>3.74</u>	<u>3.76</u>	<u>3.83</u>	<u>3.71</u>	<u>3.79</u>	<u>3.9</u>	<u>3.64</u>	<u>3.47</u>	<u>4.19</u>	<u>3.742</u>	<u>3.76</u>
P ₂ O ₅	g 100g ⁻¹	<u>0.6</u>	<u>0.6</u>	<u>0.6</u>	<u>0.636</u>	<u>0.62</u>	<u>0.607</u>	<u>0.57</u>	<u>0.597</u>	<u>0.58</u>	<u>0.61</u>	<u>0.588</u>	<u>0.597</u>
H ₂ O+	g 100g ⁻¹												
CO ₂	g 100g ⁻¹			<u>0.08</u>									
LOI	g 100g ⁻¹	<u>0.47</u>		<u>0.34</u>	<u>0.28</u>	<u>0.51</u>	<u>0.23</u>	<u>0.88</u>	<u>0.45</u>	<u>0.2</u>	<u>0.32</u>	<u>0.35</u>	<u>0.48</u>
Ag	mg kg ⁻¹									<u>0.78</u>			<u>0.13</u>
As	mg kg ⁻¹				<u>4.3</u>								<u>1.71</u>
B	mg kg ⁻¹												<u>7</u>
Ba	mg kg ⁻¹	<u>1359</u>		<u>1330</u>	<u>1321.500</u>	<u>1278</u>	<u>1365</u>	<u>1303</u>	<u>1334</u>	<u>1103</u>		<u>1323</u>	<u>1321</u>
Be	mg kg ⁻¹	<u>4.1</u>				<u>3.8</u>	<u>3.9</u>						<u>3.73</u>
Bi	mg kg ⁻¹					<u>1.2</u>							
Br	mg kg ⁻¹												
C(org)	mg kg ⁻¹												
C(tot)	mg kg ⁻¹			<u>600</u>	<u>614.5</u>		<u>400</u>						
Cd	mg kg ⁻¹					<u>1.2</u>	<u>0.18</u>						
Ce	mg kg ⁻¹	<u>183.1</u>		<u>180</u>	<u>170.2</u>	<u>187.710</u>	<u>196.2</u>	<u>203</u>	<u>186</u>	<u>198</u>		<u>192</u>	<u>170</u>
Cl	mg kg ⁻¹												
Co	mg kg ⁻¹	<u>5.7</u>		<u>5.8</u>	<u>4.6</u>	<u>5.39</u>	<u>5.7</u>			<u>14.5</u>		<u>5.17</u>	<u>7</u>
Cr	mg kg ⁻¹	<u>123.2</u>			<u>105.4</u>	<u>123.3</u>	<u>129</u>	<u>108</u>	<u>120</u>	<u>91.5</u>		<u>132</u>	<u>140</u>
Cs	mg kg ⁻¹	<u>1.8</u>		<u>0.6</u>			<u>0.6</u>			<u>0.82</u>			<u>6</u>
Cu	mg kg ⁻¹	<u>12.6</u>			<u>6.6</u>		<u>5</u>		<u>8.5</u>	<u>5.7</u>		<u>6.4</u>	<u>8</u>
Dy	mg kg ⁻¹	<u>5.7</u>		<u>5.73</u>		<u>5.84</u>	<u>6.2</u>			<u>8.66</u>		<u>6.14</u>	
Er	mg kg ⁻¹	<u>3.1</u>		<u>2.88</u>		<u>3.04</u>	<u>3.2</u>			<u>4.75</u>		<u>3.3</u>	
Eu	mg kg ⁻¹	<u>4.8</u>		<u>4.36</u>		<u>4.91</u>	<u>5</u>			<u>5.52</u>		<u>5.12</u>	
F	mg kg ⁻¹												<u>886</u>
Ga	mg kg ⁻¹	<u>24.5</u>		<u>26</u>	<u>24.1</u>	<u>26.69</u>	<u>24.3</u>		<u>25.5</u>	<u>50.2</u>		<u>24.6</u>	<u>25</u>
Gd	mg kg ⁻¹	<u>8.9</u>		<u>8.34</u>		<u>7.64</u>	<u>7.93</u>			<u>10.35</u>		<u>8.29</u>	
Ge	mg kg ⁻¹			<u>2</u>			<u>1.4</u>			<u>3.54</u>		<u>1.03</u>	
Hf	mg kg ⁻¹	<u>11.8</u>		<u>9</u>	<u>7.9</u>	<u>11.21</u>	<u>12.5</u>			<u>27.4</u>		<u>14</u>	
Hg	mg kg ⁻¹				<u>97</u>								
Ho	mg kg ⁻¹	<u>1.1</u>		<u>1.05</u>		<u>1.07</u>	<u>1.1</u>			<u>1.69</u>		<u>1.15</u>	
I	mg kg ⁻¹					<u>2</u>						<u>5.36</u>	
In	mg kg ⁻¹						<u>0.07</u>						
Ir	mg kg ⁻¹												
La	mg kg ⁻¹	<u>99.1</u>		<u>93.7</u>	<u>88.2</u>	<u>100.170</u>	<u>105.1</u>	<u>117</u>	<u>99.4</u>	<u>112</u>		<u>104</u>	<u>93</u>
Li	mg kg ⁻¹			<u>17</u>			<u>17.1</u>						
Lu	mg kg ⁻¹	<u>0.4</u>		<u>0.4</u>		<u>0.43</u>	<u>0.4</u>			<u>0.68</u>		<u>0.49</u>	
Mo	mg kg ⁻¹	<u>5.3</u>		<u>5</u>	<u>6.4</u>	<u>5.37</u>	<u>5.3</u>					<u>5.12</u>	<u>6</u>
Nb	mg kg ⁻¹	<u>108.2</u>		<u>104</u>	<u>99.5</u>	<u>97.93</u>	<u>109.7</u>		<u>98.5</u>	<u>84.6</u>		<u>104</u>	<u>95</u>
Nd	mg kg ⁻¹			<u>67.6</u>	<u>62.9</u>	<u>68.07</u>	<u>74.3</u>		<u>69.9</u>	<u>77.25</u>		<u>72.8</u>	<u>63</u>
Ni	mg kg ⁻¹	<u>1.7</u>				<u>1.4</u>		<u>4</u>			<u>3.2</u>		<u>3.73</u>
Pb	mg kg ⁻¹	<u>6.1</u>			<u>3.6</u>	<u>6.59</u>	<u>7</u>			<u>4.8</u>		<u>6.31</u>	
Pd	mg kg ⁻¹												
Pr	mg kg ⁻¹	<u>20.2</u>		<u>20</u>		<u>19.52</u>	<u>21.5</u>		<u>18.8</u>	<u>22.41</u>		<u>19.8</u>	
Pt	mg kg ⁻¹												
Rb	mg kg ⁻¹	<u>57.4</u>		<u>63.4</u>	<u>68.2</u>	<u>65.11</u>	<u>64.8</u>		<u>54.5</u>	<u>57</u>		<u>63.6</u>	<u>67</u>
Re	mg kg ⁻¹												
Rh	mg kg ⁻¹												
Ru	mg kg ⁻¹												
S	mg kg ⁻¹	<u>7985</u>			<u>188.6</u>		<u>100</u>	<u>320</u>					
Sb	mg kg ⁻¹				<u>1.1</u>		<u>0.2</u>					<u>0.16</u>	
Sc	mg kg ⁻¹	<u>5.9</u>		<u>2</u>	<u>14.9</u>	<u>6.1</u>	<u>6</u>			<u>1.2</u>		<u>6.63</u>	
Se	mg kg ⁻¹				<u>2.6</u>							<u>3.11</u>	
Sm	mg kg ⁻¹	<u>10.4</u>		<u>10.1</u>	<u>19.8</u>	<u>10.29</u>	<u>11.3</u>		<u>12.4</u>	<u>11.88</u>		<u>11.6</u>	
Sn	mg kg ⁻¹	<u>2.8</u>		<u>2</u>	<u>6.4</u>	<u>2.12</u>	<u>2.2</u>		<u>1.6</u>			<u>2.27</u>	
Sr	mg kg ⁻¹	<u>1022.200</u>		<u>1098</u>	<u>1079.100</u>	<u>1047.900</u>	<u>1130.400</u>		<u>997</u>	<u>1186</u>		<u>1066</u>	<u>1033</u>
Ta	mg kg ⁻¹	<u>6.6</u>			<u>3.4</u>	<u>5.52</u>	<u>6.5</u>			<u>5.41</u>		<u>6.04</u>	
Tb	mg kg ⁻¹	<u>1.1</u>		<u>1.06</u>		<u>1.15</u>	<u>1.1</u>			<u>1.51</u>		<u>1.19</u>	
Te	mg kg ⁻¹												
Th	mg kg ⁻¹	<u>12.2</u>		<u>11.6</u>	<u>15.9</u>	<u>11.12</u>	<u>12.04</u>		<u>16.8</u>	<u>12.12</u>		<u>13.4</u>	<u>11</u>
Tl	mg kg ⁻¹						<u>0.02</u>						
Tm	mg kg ⁻¹	<u>0.4</u>		<u>0.42</u>		<u>0.46</u>	<u>0.5</u>			<u>0.68</u>		<u>0.48</u>	
U	mg kg ⁻¹	<u>3.2</u>		<u>3.19</u>	<u>6.4</u>	<u>2.98</u>	<u>3.28</u>			<u>3.76</u>		<u>3.61</u>	
V	mg kg ⁻¹	<u>30.9</u>		<u>29</u>	<u>23.6</u>	<u>27.8</u>	<u>27</u>	<u>80</u>	<u>20</u>	<u>37.1</u>		<u>28.8</u>	<u>23</u>
W	mg kg ⁻¹	<u>2.7</u>		<u>2</u>	<u>1.5</u>	<u>3.99</u>	<u>3</u>			<u>3.2</u>			
Y	mg kg ⁻¹	<u>30.7</u>		<u>28.7</u>	<u>29.6</u>	<u>28.7</u>	<u>30.1</u>			<u>30.5</u>	<u>21.5</u>	<u>29.3</u>	<u>27</u>
Yb	mg kg ⁻¹	<u>2.9</u>		<u>2.7</u>		<u>2.84</u>	<u>3.09</u>			<u>4.36</u>		<u>3.22</u>	
Zn	mg kg ⁻¹	<u>96.7</u>		<u>78</u>	<u>59</u>	<u>80.4</u>	<u>84</u>		<u>83</u>	<u>45.9</u>		<u>78.6</u>	<u>64</u>
Zr	mg kg ⁻¹	<u>520.5</u>		<u>348.4</u>	<u>457.4</u>	<u>480.170</u>	<u>541</u>		<u>492</u>	<u>459</u>		<u>465</u>	<u>472</u>

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

Table 1 - GeoPT48 Contributed data for Monzonite, MzBP-1. 24/03/2021

Lab Code	K116	K117	K118	K120	K123	K124	K125	K126	K127	-	-	-	-
SiO ₂	g 100g ⁻¹	55.77	58.056	58.2		57.8	57.984	59.4	58.41	58			
TiO ₂	g 100g ⁻¹	1.61	1.088	1.05	1.09	1.08	1.050	1.1	1.09	1.09			
Al ₂ O ₃	g 100g ⁻¹	15.57	19.693	19.74	19.48	19.7	19.988	18	18.21	19.61			
Fe ₂ O ₃ T	g 100g ⁻¹	5.5	4.767	4.24	4.76	4.82	4.809	4	4.72	4.83			
Fe(II)O	g 100g ⁻¹		2.9			2.89	2.913		2.82				
MnO	g 100g ⁻¹	0.14	0.146	0.11	0.14	0.138	0.141	0.14	0.138	0.14			
MgO	g 100g ⁻¹	0.63	1.126	1.13	1.12	1.12	1.162	0.9	1.01	1.07			
CaO	g 100g ⁻¹	5.53	3.736	3.65	3.58	3.79	3.755	3.6	3.5	3.64			
Na ₂ O	g 100g ⁻¹		7.111	6.74	6.74	6.84	6.745	7.2	5.68	6.68			
K ₂ O	g 100g ⁻¹	5.54	3.775	3.77	3.79	3.85	3.806	3.9	3.62	3.9			
P ₂ O ₅	g 100g ⁻¹	0.98	0.572	0.61	0.63	0.6	0.617	0.81	0.65	0.58			
H ₂ O+	g 100g ⁻¹						0.643		0.41				
CO ₂	g 100g ⁻¹												
LOI	g 100g ⁻¹	7.77	0.507			0.36	0.228	0.35	0.45	0.41			
Ag	mg kg ⁻¹		0.32				0.053						
As	mg kg ⁻¹		3.03			3	0.69		2.46				
B	mg kg ⁻¹								20.2				
Ba	mg kg ⁻¹		1187.680	1314	1317	1300	1339.970	1350	1296.400	1353			
Be	mg kg ⁻¹	2.99		3.38			3.748	4.7	2.2				
Bi	mg kg ⁻¹		0.08						1.03				
Br	mg kg ⁻¹												
C(org)	mg kg ⁻¹		300										
C(tot)	mg kg ⁻¹		0.037				521						
Cd	mg kg ⁻¹		0.043				0.021	0.5	0.27				
Ce	mg kg ⁻¹		212.922	176	189	140	181.088	195					
Cl	mg kg ⁻¹							300					
Co	mg kg ⁻¹	15.81		4.8	0.2	5.037	5.5	10.43					
Cr	mg kg ⁻¹	69.54	141	121	160	127.530	138	124.650	115				
Cs	mg kg ⁻¹	0.57		0.54			0.631						
Cu	mg kg ⁻¹	7.21	12	6.98	6.9	6.59	7	1.45					
Dy	mg kg ⁻¹	6.786	5.5	5.75			5.729	5.9					
Er	mg kg ⁻¹	3.551	4.6	3.18			3.099	3.1					
Eu	mg kg ⁻¹	4.672	4.9	4.92			4.652	4.9					
F	mg kg ⁻¹	0.095					650						
Ga	mg kg ⁻¹	25.45	23	23.2	25	25.554	26.7		21				
Gd	mg kg ⁻¹	7.704	15	8.48			7.366	9.5					
Ge	mg kg ⁻¹	0.37		1.66									
Hf	mg kg ⁻¹		7.868		15.8		11.58			15			
Hg	mg kg ⁻¹												
Ho	mg kg ⁻¹		1.262	1.5	1.14		1.077	1.1					
I	mg kg ⁻¹												
In	mg kg ⁻¹		0.032				0.034						
Ir	mg kg ⁻¹												
La	mg kg ⁻¹		117.232	98	101	110	96.882	103	85.5				
Li	mg kg ⁻¹		22.96	15	16.8		17.01	17.1	18.8				
Lu	mg kg ⁻¹		0.632	0.6	0.3		0.430	0.44					
Mo	mg kg ⁻¹	6.44		4.96			5.045	5.4	4.53				
Nb	mg kg ⁻¹		118.890	101	135	100	108.650	122		102			
Nd	mg kg ⁻¹		65.051	65	72.1	50	69.846	71.8					
Ni	mg kg ⁻¹		3			25	2.57	3.4	2.86				
Pb	mg kg ⁻¹		8.16		5.63	5.5	5.98	6.2	2.61				
Pd	mg kg ⁻¹												
Pr	mg kg ⁻¹		18.139	16	20.5		19.91	20.6					
Pt	mg kg ⁻¹												
Rb	mg kg ⁻¹		43.76	63	61.4	60	61.153	70		67			
Re	mg kg ⁻¹												
Rh	mg kg ⁻¹												
Ru	mg kg ⁻¹												
S	mg kg ⁻¹		190				115	190					
Sb	mg kg ⁻¹		0.31		0.36		0.205	0.27	1.57				
Sc	mg kg ⁻¹		5.47	6	8.94		6.32	6.7	5.6				
Se	mg kg ⁻¹		6.4				0.472						
Sm	mg kg ⁻¹		11.743	11	11		10.355	10.9					
Sn	mg kg ⁻¹		2.7		2.04		1.89	2.3	2.07				
Sr	mg kg ⁻¹		921.850	1126	1088	1100	1054.310	1100	1056	1086			
Ta	mg kg ⁻¹		8.35		4.25		5.855						
Tb	mg kg ⁻¹		1.386	1.3	1.13		1.038	1.2					
Te	mg kg ⁻¹		0.24										
Th	mg kg ⁻¹		10.32	10	12.1	9.5	12.312		19				
Tl	mg kg ⁻¹		0.037				0.020						
Tm	mg kg ⁻¹		0.504	0.7	0.44		0.428	0.45					
U	mg kg ⁻¹		2.95	3	3.17	2.1	3.223	3.9					
V	mg kg ⁻¹		28.26	28	30.1	21	28.25	30.3	31.02	26			
W	mg kg ⁻¹		3.15		2.11		2.52		1.91				
Y	mg kg ⁻¹		28.204	30	30.1	30	29.359	28	30.6	29			
Yb	mg kg ⁻¹		2.857	2.9	3.05		2.906	3					
Zn	mg kg ⁻¹		76.69	88	80.2	82	77.4	82.7	73.4	55			
Zr	mg kg ⁻¹		252.620	441		540	545.8	535	346	489			

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

Table 2 - GeoPT48 Consensus values and statistical summary for Monzonite, MzBP-1.

	Consensus Value	Uncertainty of consensus value	Horwitz Target Precision	Uncertainty/Target Precision	Number of reported results	Robust Mean of results	Robust SD of results	Median of results	Status of consensus value	Type of consensus value
	x_{pt}	$u(x_{pt})$	σ_{pt}	$u(x_{pt}) / \sigma_{pt}$	n					
	$\text{g } 100\text{g}^{-1}$	$\text{g } 100\text{g}^{-1}$	$\text{g } 100\text{g}^{-1}$			$\text{g } 100\text{g}^{-1}$	$\text{g } 100\text{g}^{-1}$	$\text{g } 100\text{g}^{-1}$		
SiO₂	57.7	0.0831	0.6268	0.1326	80	57.67	0.6122	57.7	Assigned	Median
TiO₂	1.076	0.002626	0.02129	0.1233	85	1.076	0.02421	1.08	Assigned	Robust Mean
Al₂O₃	19.58	0.03	0.2503	0.1199	84	19.5	0.2595	19.51	Assigned	Mode
Fe₂O₃T	4.757	0.01091	0.07524	0.1449	83	4.757	0.09935	4.76	Assigned	Robust Mean
MnO	0.14	0.0008215	0.003764	0.2182	86	0.1382	0.008729	0.14	Assigned	Median
MgO	1.13	0.0105	0.02219	0.4732	82	1.118	0.047	1.12	Assigned	Mode
CaO	3.719	0.008741	0.06105	0.1432	83	3.719	0.07964	3.72	Assigned	Robust Mean
Na₂O	6.715	0.0225	0.1008	0.2231	80	6.7	0.1978	6.7	Assigned	Mode
K₂O	3.789	0.009833	0.06201	0.1586	84	3.79	0.06748	3.789	Assigned	Median
P₂O₅	0.5986	0.002346	0.01293	0.1814	80	0.5986	0.02098	0.6	Assigned	Robust Mean
	mg kg^{-1}	mg kg^{-1}	mg kg^{-1}			mg kg^{-1}	mg kg^{-1}	mg kg^{-1}		
Ba	1320	7.399	35.8	0.2066	73	1318	55.24	1320	Assigned	Median
Be	3.645	0.09136	0.24	0.3807	36	3.666	0.5375	3.645	Assigned	Median
Ce	181.9	1.403	6.649	0.211	65	181.9	11.31	181	Assigned	Robust Mean
Co	5.37	0.09627	0.3335	0.2887	51	5.483	0.6771	5.37	Assigned	Median
Cr	121.7	1.592	4.726	0.3367	69	121.7	13.22	122	Assigned	Robust Mean
Cs	0.621	0.00182	0.05336	0.03411	40	0.6738	0.1243	0.6341	Assigned	Mode
Cu	7	0.285	0.4178	0.6822	53	7.858	2.364	7.35	Provisional	Mode
Dy	5.88	0.0554	0.3602	0.1538	45	5.866	0.3954	5.88	Assigned	Median
Er	3.099	0.03095	0.2091	0.148	44	3.119	0.215	3.099	Assigned	Median
Eu	4.743	0.05659	0.3001	0.1885	44	4.734	0.3124	4.743	Assigned	Median
Ga	25	0.2336	1.232	0.1896	64	24.93	1.658	25	Assigned	Median
Gd	7.704	0.224	0.4532	0.4943	46	8.19	1.006	8.015	Provisional	Mode
Hf	11.71	0.133	0.6468	0.2056	47	11.49	1.818	11.63	Assigned	Mode
Ho	1.104	0.01066	0.08701	0.1225	43	1.104	0.06992	1.1	Assigned	Robust Mean
La	100	0.597	3.999	0.1493	68	97.94	8.664	99.25	Assigned	Mode
Li	17.15	0.2741	0.8943	0.3064	34	17.21	1.364	17.15	Assigned	Median
Lu	0.44	0.008404	0.03982	0.211	44	0.4413	0.04104	0.44	Assigned	Median
Mo	5.13	0.0749	0.3208	0.2335	44	5.218	0.5886	5.18	Assigned	Mode
Nb	106.1	1.249	4.206	0.297	66	106.1	10.15	105	Provisional	Robust Mean
Nd	69.08	0.99	2.921	0.3389	58	68.32	5.742	68.65	Assigned	Mode
Ni	2.889	0.121	0.197	0.6143	50	4.013	2.06	3.2	Provisional	Mode
Pb	6.22	0.1582	0.3779	0.4188	53	6.085	1.117	6.22	Assigned	Median
Pr	20	0.1703	1.019	0.1671	48	19.89	1.391	20	Assigned	Median
Rb	65.11	0.479	2.778	0.1724	67	65.05	4.088	65.11	Assigned	Median
Sb	0.225	0.0127	0.02253	0.5638	29	0.3466	0.211	0.25	Provisional	Mode
Sc	6.2	0.15	0.3768	0.3981	53	6.817	1.404	6.44	Assigned	Mode
Sm	10.66	0.1198	0.5974	0.2006	52	10.64	0.8674	10.66	Assigned	Median
Sn	2.099	0.07	0.1502	0.4662	38	2.352	0.4369	2.225	Provisional	Mode
Sr	1087	7.08	30.36	0.2332	75	1076	50.52	1087	Assigned	Median
Ta	6.16	0.1055	0.3748	0.2815	38	6.126	0.5797	6.16	Assigned	Median
Tb	1.103	0.01849	0.08693	0.2127	44	1.113	0.1188	1.103	Assigned	Median
Th	11.9	0.2013	0.6557	0.307	58	11.73	1.506	11.9	Assigned	Median
Tl	0.02	0.001279	0.002882	0.4437	19	0.02063	0.005152	0.02	Assigned	Median
Tm	0.4483	0.006293	0.04046	0.1555	43	0.4483	0.04127	0.45	Assigned	Robust Mean
U	3.23	0.06381	0.2166	0.2947	53	3.308	0.4411	3.23	Assigned	Median
V	27.9	0.4609	1.352	0.3409	65	27.3	4.324	27.9	Assigned	Median
W	2.66	0.0622	0.1836	0.3387	30	2.911	0.8726	2.74	Assigned	Mode
Y	29.06	0.204	1.4	0.1457	69	29.06	1.694	29.18	Assigned	Robust Mean
Yb	2.911	0.02808	0.1983	0.1416	45	2.911	0.1883	2.906	Assigned	Robust Mean
Zn	80.2	0.373	3.316	0.1125	69	73.46	12.2	77.5	Provisional	Mode
Zr	507.6	10.5	15.9	0.6604	72	494.5	43.63	490	Provisional	Mode

Table 3 - GeoPT48 Z-scores for Monzonite, MzBP-1. 24/03/2021

Lab Code	K1	K2	K4	K5	K6	K8	K10	K11	K13	K14	K15	K16	K17
SiO ₂	-0.40	-0.15	0.51	0.14	0.24	0.14	-0.04	*	1.01	0.09	-0.70	-0.18	0.04
TiO ₂	0.56	-0.15	0.09	0.79	0.18	0.79	-0.19	0.14	-0.29	0.18	-0.76	0.65	1.50
Al ₂ O ₃	0.04	-0.48	-1.20	-0.18	0.40	0.18	-0.18	-4.40	1.24	0.00	-0.84	0.50	-2.62
Fe ₂ O _{3T}	-0.85	-1.64	-4.04	-0.05	0.03	0.15	-0.42	-2.07	-0.63	-0.37	0.96	-0.58	-0.71
MnO	-0.13	1.33	-3.98	-0.66	0.00	9.30	0.53	-0.66	-2.66	-0.40	-2.66	-0.27	-3.98
MgO	-0.45	-1.35	-6.76	0.23	-0.45	0.45	0.09	-0.72	0.00	-0.68	-0.45	-1.80	0.23
CaO	0.17	-1.14	-2.04	0.17	0.50	0.00	0.36	2.58	-0.81	0.07	0.66	0.00	4.59
Na ₂ O	-0.27	*	1.91	0.02	1.24	0.37	0.23	-0.53	0.05	0.64	-0.45	1.12	0.42
K ₂ O	0.33	0.17	-0.55	-0.39	1.31	0.42	-0.19	-0.15	-1.27	0.33	-0.62	-0.55	0.33
P ₂ O ₅	-0.06	*	0.44	-1.11	0.11	0.94	-0.10	0.75	-2.99	0.44	0.88	0.17	-0.33
Ba	*	*	0.49	1.79	-0.95	*	0.11	-1.16	3.35	0.15	-1.31	0.74	*
Be	*	0.61	*	-0.09	*	*	-0.64	-0.26	*	*	-0.02	1.03	*
Ce	*	*	*	-0.29	-0.44	*	-0.80	0.47	*	*	-0.14	-0.97	*
Co	*	-0.87	-0.55	0.94	-1.11	*	0.00	0.00	*	*	-0.45	2.44	*
Cr	*	1.19	-0.08	-0.29	0.06	*	0.03	0.53	*	-0.94	0.90	3.20	*
Cs	*	18.17	*	*	25.84	*	0.74	0.01	*	*	-0.02	1.02	*
Cu	*	1.30	-2.39	*	-0.00	*	2.24	-1.02	*	*	3.59	11.63	*
Dy	*	-1.25	*	2.40	*	*	-1.44	-0.42	*	*	0.28	0.11	*
Er	*	-1.34	*	2.42	*	*	-1.15	0.26	*	*	-0.48	0.10	*
Eu	*	-2.95	*	1.34	*	*	-1.16	-0.38	*	*	0.09	0.53	*
Ga	*	-0.33	-0.41	-0.16	-1.62	*	-0.09	-1.63	*	0.12	1.30	*	*
Gd	*	-0.19	*	4.63	*	*	-1.31	-0.39	*	*	-0.32	0.05	*
Hf	*	*	*	*	-2.65	*	-1.38	-2.29	*	*	-0.17	*	*
Ho	*	*	*	0.67	*	*	-1.20	-0.37	*	*	0.53	0.09	*
La	*	-7.19	*	1.88	0.25	*	-1.72	0.38	*	*	-1.27	2.38	*
Li	*	-1.36	*	0.42	*	*	0.22	0.07	*	*	-0.42	1.82	*
Lu	*	0.00	*	0.63	*	*	0.25	-0.50	*	*	0.08	-0.25	*
Mo	*	*	4.47	*	-6.64	*	-0.29	0.84	*	*	-0.87	1.50	*
Nb	*	-0.96	0.11	0.94	-2.17	*	0.75	0.05	*	-0.30	-1.52	-1.32	*
Nd	*	-5.63	*	1.01	-1.05	*	-1.22	0.01	*	*	-0.20	0.19	*
Ni	*	5.74	10.44	*	-4.51	*	0.79	-0.36	*	*	1.07	1.04	*
Pb	*	*	1.03	*	2.06	*	0.60	-0.47	*	*	-0.32	0.82	*
Pr	*	-4.38	*	1.03	*	*	-0.95	-0.25	*	*	-0.39	0.20	*
Rb	*	-0.02	-0.56	0.34	0.68	*	1.08	0.21	*	0.43	0.36	1.51	*
Sb	*	*	*	*	*	*	*	-0.15	*	*	7.77	1.44	*
Sc	*	-1.99	2.39	*	2.12	*	-0.27	*	*	*	0.88	0.00	*
Sm	*	-2.81	*	1.45	-2.79	*	-1.32	-0.21	*	*	-0.11	0.05	*
Sn	*	*	-0.33	*	-4.66	*	2.17	0.16	*	*	3.00	1.67	*
Sr	*	-2.01	-0.46	0.08	0.03	*	0.64	-0.76	-0.23	0.08	0.00	-1.58	*
Ta	*	*	*	*	-3.10	*	-0.35	-0.18	*	*	1.84	*	*
Tb	*	-0.71	*	2.46	*	*	-1.11	-0.59	*	*	-0.61	-0.25	*
Th	*	-3.11	2.36	*	3.20	*	-1.45	-0.18	*	*	0.46	-0.24	*
Tl	*	*	*	*	*	*	*	-0.26	*	*	*	*	*
Tm	*	-0.84	*	0.39	*	*	-0.84	0.23	*	*	-0.08	-0.35	*
U	*	1.66	13.32	*	3.56	*	-0.59	0.00	*	*	0.09	0.76	*
V	*	2.10	0.41	0.00	-0.67	*	-1.72	-0.41	*	*	-1.41	2.63	*
W	*	*	11.82	*	7.30	*	0.30	-0.01	*	*	0.00	*	*
Y	*	-2.95	-0.74	0.41	-0.76	*	0.05	-0.09	*	-0.52	0.24	0.34	*
Yb	*	-1.21	*	1.06	-4.60	*	-1.10	-0.37	*	*	0.25	-0.23	*
Zn	*	-1.09	-3.05	-2.64	-5.19	*	1.18	0.75	*	-2.76	1.87	*	*
Zr	*	-0.36	-1.09	-0.74	-1.36	*	-3.64	-6.03	0.78	-1.01	2.29	-0.52	*

Bold entries are Data Quality 1 - Underlined entries are Data Quality 2 - Entries in italics are derived from Provisional Values.

Table 3 - GeoPT48 Z-scores for Monzonite, MzBP-1. 24/03/2021

Lab Code	K18	K19	K20	K21	K25	K26	K27	K28	K29	K31	K32	K33	K34
SiO ₂	-1.18	-1.18	-1.80	-0.38	0.24	0.91	-0.45	0.65	-0.02	-1.01	-1.44	0.10	-0.35
TiO ₂	-0.21	1.59	<u>-0.40</u>	0.48	<u>0.39</u>	-1.14	1.16	-0.67	<u>0.79</u>	<u>-0.38</u>	-0.29	<u>-0.15</u>	<u>-1.01</u>
Al ₂ O ₃	-1.24	-1.28	<u>-0.09</u>	<u>-0.05</u>	<u>0.08</u>	0.36	-1.13	-0.04	<u>-0.16</u>	<u>-0.62</u>	-0.92	<u>-0.36</u>	<u>-0.36</u>
Fe ₂ O ₃ T	-1.10	4.42	<u>4.99</u>	0.90	<u>1.68</u>	0.57	0.88	0.70	<u>-0.33</u>	<u>0.15</u>	-2.23	<u>-0.51</u>	<u>0.12</u>
MnO	-1.14	2.39	<u>-1.06</u>	0.29	<u>0.00</u>	0.80	-0.53	0.00	<u>-0.66</u>	<u>1.33</u>	2.66	<u>0.00</u>	<u>1.99</u>
MgO	-1.41	0.90	<u>-2.07</u>	<u>-1.13</u>	<u>0.23</u>	1.80	1.31	0.00	<u>0.59</u>	<u>-0.23</u>	-3.61	<u>0.00</u>	<u>-2.41</u>
CaO	-0.47	1.81	<u>-0.02</u>	0.52	<u>-0.24</u>	1.45	0.40	0.34	<u>0.12</u>	<u>-0.57</u>	0.50	<u>1.40</u>	<u>-0.77</u>
Na ₂ O	-1.28	0.25	<u>-7.24</u>	<u>-0.42</u>	<u>-0.97</u>	0.94	-1.94	-0.15	<u>-0.32</u>	<u>-1.71</u>	-2.53	<u>0.67</u>	<u>-1.54</u>
K ₂ O	-0.02	0.99	<u>1.33</u>	0.64	<u>0.42</u>	0.02	-0.98	0.02	<u>0.21</u>	<u>-0.23</u>	-0.94	<u>-0.39</u>	<u>0.10</u>
P ₂ O ₅	-0.41	1.11	<u>1.83</u>	<u>-0.85</u>	<u>-1.42</u>	0.49	-3.76	-0.36	*	<u>0.05</u>	-1.44	<u>-0.33</u>	<u>-0.57</u>
Ba	-0.49	1.54	<u>0.57</u>	0.02	<u>-1.23</u>	1.71	-3.46	-0.28	*	*	-1.76	<u>-0.12</u>	<u>0.00</u>
Be	*	*	*	*	<u>-0.80</u>	3.62	*	*	*	*	*	*	*
Ce	*	-0.44	<u>35.58</u>	0.26	<u>1.13</u>	-1.08	-1.21	0.61	*	*	-2.70	<u>0.29</u>	<u>-0.75</u>
Co	*	*	<u>9.94</u>	*	<u>0.07</u>	-0.19	-0.22	*	*	*	*	<u>-0.12</u>	<u>8.44</u>
Cr	15.28	-1.63	<u>1.09</u>	1.81	<u>-1.56</u>	-1.97	0.86	1.75	*	*	0.06	<u>-0.19</u>	<u>-3.36</u>
Cs	*	*	*	0.30	*	-0.26	-0.79	-0.21	*	*	*	<u>3.55</u>	*
Cu	*	1.44	<u>9.57</u>	0.65	<u>0.86</u>	-1.68	-2.01	2.39	*	*	*	<u>0.23</u>	*
Dy	*	*	<u>-6.77</u>	-0.51	<u>0.50</u>	4.54	-1.26	2.03	*	*	*	<u>0.12</u>	*
Er	*	*	*	-0.53	<u>0.81</u>	0.19	-0.70	0.53	*	*	*	<u>-0.09</u>	*
Eu	*	*	*	-0.09	<u>0.33</u>	0.69	-1.73	1.36	*	*	*	<u>-0.29</u>	*
Ga	1.16	0.00	<u>0.41</u>	-0.20	<u>1.79</u>	0.18	-0.33	-0.81	*	*	*	<u>-0.13</u>	<u>0.41</u>
Gd	*	*	<u>3.64</u>	-0.14	<u>0.97</u>	-0.52	-1.01	0.19	*	*	*	<u>-0.66</u>	*
Hf	*	1.00	<u>1.77</u>	-0.12	<u>1.31</u>	-1.08	-4.18	0.42	*	*	*	<u>-0.18</u>	<u>-3.64</u>
Ho	*	*	*	-0.46	<u>0.55</u>	0.30	-0.49	1.45	*	*	*	<u>-0.20</u>	*
La	*	<u>-0.25</u>	<u>-4.38</u>	-1.01	<u>0.25</u>	-2.03	-2.57	0.09	*	*	-0.62	<u>-0.33</u>	<u>-1.25</u>
Li	*	*	<u>0.48</u>	*	<u>0.98</u>	-1.25	-0.97	*	*	*	*	*	*
Lu	*	*	*	-0.65	<u>0.38</u>	-0.05	11289.50	0.25	*	*	*	<u>-0.38</u>	*
Mo	*	<u>-0.98</u>	<u>-0.20</u>	-0.32	<u>0.26</u>	0.59	*	*	*	*	*	<u>-0.36</u>	*
Nb	*	-2.64	<u>-3.46</u>	-0.16	<u>0.58</u>	*	2.78	-0.20	*	*	*	<u>0.03</u>	<u>3.79</u>
Nd	*	-0.71	<u>7.35</u>	-0.29	<u>0.77</u>	13.71	-1.81	0.49	*	*	*	<u>-0.28</u>	<u>-1.21</u>
Ni	*	*	48.51	11.04	<u>6.48</u>	-1.03	-2.09	20.87	*	*	*	<u>14.70</u>	*
Pb	*	*	<u>-2.94</u>	-0.76	<u>0.00</u>	-0.45	1.53	0.05	*	*	*	*	<u>6.33</u>
Pr	*	*	<u>1.96</u>	-0.31	<u>0.44</u>	-0.05	-1.60	0.44	*	*	*	<u>-0.08</u>	*
Rb	3.62	0.32	*	-0.10	<u>-0.06</u>	1.96	-0.22	-0.44	*	*	*	<u>-0.40</u>	<u>0.18</u>
Sb	*	*	*	135.40	<u>0.11</u>	0.00	*	*	*	*	*	<u>16.98</u>	*
Sc	*	*	*	1.05	<u>-0.19</u>	0.08	6.39	0.00	*	*	*	<u>0.32</u>	*
Sm	*	<u>-1.64</u>	<u>22.04</u>	-0.35	<u>0.45</u>	0.45	-1.37	0.68	*	*	*	<u>-0.10</u>	*
Sn	*	<u>5.00</u>	*	4.70	<u>2.73</u>	-0.55	*	*	*	*	*	*	<u>-0.33</u>
Sr	-0.54	-0.72	<u>0.20</u>	0.61	<u>-1.71</u>	0.68	-2.04	0.92	*	*	-1.71	<u>0.03</u>	<u>0.87</u>
Ta	*	*	*	-0.26	<u>0.71</u>	-0.48	-1.34	0.00	*	*	*	<u>-0.95</u>	*
Tb	*	*	*	0.00	<u>0.39</u>	0.02	-2.39	0.89	*	*	*	<u>-0.53</u>	*
Th	*	3.20	*	-0.49	<u>1.45</u>	-0.44	-2.56	0.32	*	*	*	<u>-0.14</u>	<u>-0.69</u>
Tl	*	*	*	0.69	<u>0.00</u>	-2.78	*	*	*	*	*	*	*
Tm	*	*	*	-0.06	<u>0.52</u>	0.46	-0.45	0.29	*	*	*	<u>-0.47</u>	*
U	*	*	*	-0.85	<u>1.15</u>	-0.11	-1.47	-0.28	*	*	*	<u>-0.39</u>	<u>1.78</u>
V	*	0.07	<u>8.91</u>	0.45	<u>-0.55</u>	-1.04	2.74	3.03	*	*	*	<u>0.04</u>	<u>14.83</u>
W	*	*	*	*	<u>0.30</u>	0.28	*	*	*	*	*	*	*
Y	*	-0.04	<u>8.19</u>	0.34	<u>0.12</u>	0.16	-0.92	1.03	*	*	-0.76	<u>-0.10</u>	<u>2.84</u>
Yb	*	*	*	-0.36	<u>0.40</u>	-0.16	1.08	0.14	*	*	*	<u>-0.46</u>	*
Zn	-0.02	-6.39	<u>-0.33</u>	7.99	<u>-0.06</u>	-0.37	-5.31	1.15	*	*	*	<u>-0.47</u>	<u>-1.84</u>
Zr	0.26	-1.80	<u>4.16</u>	1.71	<u>0.30</u>	0.69	-9.45	1.16	*	*	-1.23	<u>-0.94</u>	<u>-0.36</u>

Bold entries are Data Quality 1 - Underlined entries are Data Quality 2 - Entries in italics are derived from Provisional Values.

Table 3 - GeoPT48 Z-scores for Monzonite, MzBP-1. 24/03/2021

Lab Code	K35	K36	K38	K40	K42	K43	K44	K45	K46	K47	K49	K50	K51
SiO ₂	-0.08	0.77	-0.64	0.00	0.06	-0.07	-0.06	-0.71	*	-0.81	-0.27	*	0.10
TiO ₂	0.09	0.61	1.73	-0.38	0.32	0.09	0.32	-1.86	*	0.18	1.12	-3.49	-0.38
Al ₂ O ₃	0.02	0.40	-0.56	1.04	-0.38	-0.38	-0.44	-0.71	*	-0.44	0.08	0.40	-0.16
Fe ₂ O _{3T}	0.35	0.35	0.42	-0.12	0.75	-0.32	-0.18	-0.28	*	0.17	0.17	-1.03	-0.05
MnO	0.40	-0.27	1.33	-0.40	-7.64	-1.33	0.00	2.66	*	0.00	-1.33	-1.06	-1.33
MgO	0.00	0.16	*	0.23	-0.23	-0.23	-0.90	1.06	*	-0.45	-3.61	0.00	-0.23
CaO	0.09	1.51	*	0.00	0.33	-0.32	0.09	0.01	*	-0.15	-0.81	0.99	0.00
Na ₂ O	0.12	0.44	4.04	-0.22	-5.88	0.02	-0.37	-0.28	*	-0.84	1.93	*	0.47
K ₂ O	-0.15	0.14	-7.97	-0.47	-1.28	0.17	0.42	-1.37	*	-0.14	-0.14	0.83	0.33
P ₂ O ₅	-0.33	-0.57	*	-0.41	0.05	0.44	-0.33	1.06	*	-0.67	-4.53	0.18	0.44
Ba	0.88	0.61	*	*	*	*	-0.61	-1.58	-0.73	-1.23	*	0.92	0.28
Be	*	2.09	*	*	-1.76	*	*	-0.85	-2.19	*	*	*	*
Ce	-1.35	0.45	0.76	*	*	*	*	0.24	-6.75	-1.19	*	0.99	-0.14
Co	*	-0.33	*	*	4.09	*	*	-1.62	-3.54	*	*	-0.06	*
Cr	0.66	1.57	*	*	-1.77	*	-1.45	-0.71	-5.87	-0.58	*	1.41	0.77
Cs	*	0.08	*	*	*	*	*	-0.58	-0.02	*	*	0.32	*
Cu	*	-2.34	*	*	3.71	*	*	-2.71	2.08	-2.39	*	31.12	*
Dy	*	0.12	0.37	*	*	*	*	-0.75	-1.19	*	*	0.22	*
Er	*	-0.37	0.03	*	*	*	*	-0.19	-0.86	*	*	-0.04	*
Eu	*	0.04	0.73	*	*	*	*	-0.84	-1.28	*	*	-0.31	*
Ga	0.81	0.76	*	*	*	*	-0.81	-1.01	1.22	-0.81	*	0.71	-0.41
Gd	*	0.77	1.17	*	*	*	*	2.57	-0.45	*	*	2.75	*
Hf	0.22	0.04	*	*	*	*	*	*	-0.94	1.99	*	0.94	*
Ho	*	-0.33	0.03	*	*	*	*	-0.62	-0.97	*	*	0.41	*
La	0.25	0.26	0.15	*	*	*	-1.87	-0.83	-4.47	-1.25	*	-0.04	0.38
Li	*	-0.66	*	*	*	*	*	-1.65	-2.75	*	*	1.73	*
Lu	*	-0.08	0.94	*	*	*	*	-0.75	-0.75	*	*	0.50	*
Mo	*	0.23	*	*	*	*	*	0.09	2.12	-3.52	*	0.00	*
Nb	-0.73	-0.61	*	*	*	*	*	-0.26	-10.96	0.21	*	2.68	-0.85
Nd	-1.72	-0.00	0.41	*	*	*	*	-1.01	12.98	-2.42	*	0.80	*
Ni	*	0.09	*	*	9.17	*	*	-1.67	0.51	*	*	3.76	0.28
Pb	*	0.07	*	*	0.24	*	*	-2.22	-4.37	-8.52	*	2.25	1.03
Pr	-2.45	0.34	-0.34	*	*	*	*	0.12	-2.55	0.00	*	1.01	*
Rb	-1.82	0.65	*	*	*	*	*	-1.61	-6.27	0.32	*	0.08	0.88
Sb	*	-0.27	*	*	81.57	*	*	-1.55	5.11	*	*	*	*
Sc	*	4.69	*	*	*	*	-1.59	-0.69	3.42	2.12	*	1.01	2.39
Sm	0.28	-0.19	-0.22	*	*	*	*	-0.91	-1.80	*	*	0.29	*
Sn	*	-0.07	*	*	*	*	*	*	0.74	*	*	*	*
Sr	0.72	0.12	*	*	3.51	*	-1.94	-2.46	-4.38	0.92	0.20	0.53	0.63
Ta	*	0.25	*	*	*	*	*	*	1.17	*	*	0.35	*
Tb	*	0.00	1.59	*	*	*	*	-0.03	-1.18	*	*	1.81	*
Th	*	0.14	0.95	*	*	*	*	-1.01	-3.29	-2.90	*	1.80	0.08
Tl	*	*	*	*	48.57	*	*	-1.39	10.41	*	*	*	*
Tm	*	-0.26	0.76	*	*	*	*	-0.70	-0.95	*	*	0.83	*
U	*	-0.41	1.43	*	*	*	*	-1.80	-3.42	-1.06	*	1.25	-0.53
V	-2.92	0.35	*	*	-2.18	*	0.04	-0.90	-1.55	3.03	*	-0.53	-2.55
W	*	0.32	*	*	*	*	*	*	7.30	*	*	*	*
Y	0.34	0.04	-0.13	*	*	*	*	-0.47	-2.61	0.67	*	1.69	0.69
Yb	*	0.10	0.15	*	*	*	*	-0.71	-0.96	*	*	1.20	*
Zn	-2.29	0.60	*	*	-1.69	*	-1.24	-0.92	-8.87	-0.06	*	-0.02	-2.90
Zr	0.14	-1.79	*	*	*	*	-0.27	-3.02	0.22	-0.10	*	5.37	-0.77

Bold entries are Data Quality 1 - **Underlined entries** are Data Quality 2 - **Entries in italics** are derived from Provisional Values.

Table 3 - GeoPT48 Z-scores for Monzonite, MzBP-1. 24/03/2021

Lab Code	K52	K53	K56	K57	K59	K60	K61	K62	K67	K68	K69	K70	K71
SiO ₂	0.85	-1.66	<u>1.02</u>	-3.67	3.33	-0.18	*	-0.34	*	<u>0.38</u>	-0.64	-0.59	*
TiO ₂	-0.29	1.26	<u>-1.79</u>	<u>-1.79</u>	-0.76	-2.17	-6.87	-0.19	*	<u>0.56</u>	-0.29	0.65	0.93
Al ₂ O ₃	0.00	-2.36	<u>0.54</u>	<u>4.83</u>	0.28	-1.12	*	<u>0.08</u>	*	<u>0.16</u>	-0.88	0.80	0.32
Fe ₂ O _{3T}	0.17	5.96	<u>-6.03</u>	<u>-3.51</u>	0.30	0.70	*	-0.57	*	<u>0.48</u>	0.03	0.17	-0.90
MnO	-2.66	1.06	<u>-3.19</u>	<u>-2.66</u>	0.00	0.00	-5.31	<u>0.53</u>	<u>-3.15</u>	<u>0.00</u>	-0.80	0.00	0.00
MgO	0.00	-2.61	<u>-1.13</u>	*	0.90	1.35	*	-0.25	*	<u>0.68</u>	-1.80	2.25	3.61
CaO	-0.48	-3.28	<u>-1.31</u>	<u>-0.40</u>	0.50	-1.14	*	-0.32	*	<u>0.09</u>	-0.65	-2.45	4.60
Na ₂ O	-0.25	-3.32	<u>-0.42</u>	*	-0.15	0.05	*	<u>0.15</u>	*	<u>0.72</u>	-0.25	3.22	-0.94
K ₂ O	0.83	5.59	<u>-0.71</u>	<u>0.58</u>	0.02	-0.14	*	-0.10	*	<u>0.58</u>	-0.62	-0.78	-1.27
P ₂ O ₅	2.43	2.82	<u>1.60</u>	*	<u>0.88</u>	-1.44	*	<u>0.25</u>	*	<u>0.83</u>	-0.67	-2.99	-2.99
Ba	-1.96	4.30	<u>-3.07</u>	<u>0.78</u>	<u>237.30</u>	0.31	-4.25	<u>0.46</u>	<u>-0.01</u>	<u>-0.91</u>	-0.78	0.36	1.96
Be	-2.69	*	<u>-4.57</u>	*	*	*	-1.56	<u>1.64</u>	*	<u>-0.61</u>	-0.60	*	3.31
Ce	-0.44	*	<u>-4.66</u>	<u>-0.09</u>	-0.51	0.31	-1.94	<u>0.38</u>	<u>-0.48</u>	<u>-0.59</u>	-2.99	-0.36	2.42
Co	0.78	*	<u>-2.05</u>	*	*	1.89	-1.29	<u>-0.42</u>	<u>-0.52</u>	<u>-0.25</u>	-1.71	0.69	1.74
Cr	0.06	*	<u>-1.98</u>	<u>1.56</u>	0.95	3.23	-2.27	<u>1.30</u>	*	<u>-2.30</u>	0.90	-1.68	3.23
Cs	2.23	*	<u>-1.41</u>	*	<u>123.29</u>	*	-2.08	<u>-0.38</u>	*	<u>0.37</u>	-1.14	<u>37.09</u>	*
Cu	1.79	*	<u>-0.00</u>	<u>7.42</u>	<u>12.69</u>	*	*	<u>0.42</u>	*	<u>-0.48</u>	-1.92	<u>-4.55</u>	<u>0.93</u>
Dy	1.42	*	<u>-2.05</u>	*	*	*	-1.47	<u>0.28</u>	*	<u>-0.11</u>	-5.91	*	-0.17
Er	0.96	*	<u>-1.91</u>	*	*	*	-0.57	<u>-0.26</u>	*	<u>-0.33</u>	-4.59	*	19.80
Eu	1.19	*	<u>-2.57</u>	*	*	*	-0.24	<u>0.13</u>	*	<u>-0.14</u>	-6.47	*	-0.88
Ga	1.79	*	<u>-0.81</u>	<u>0.45</u>	-5.03	0.00	-0.97	<u>4.63</u>	<u>0.24</u>	<u>0.20</u>	-1.14	-1.87	-2.19
Gd	1.85	*	<u>-2.43</u>	*	*	2.86	2.90	<u>0.44</u>	*	<u>-0.53</u>	<u>-5.26</u>	*	<u>3.06</u>
Hf	2.30	*	<u>0.07</u>	*	*	0.45	-1.33	<u>-0.01</u>	*	<u>-0.70</u>	*	<u>-15.17</u>	*
Ho	0.76	*	<u>-1.58</u>	*	*	*	-0.97	<u>0.03</u>	*	<u>0.03</u>	-4.42	*	-0.29
La	3.25	*	<u>-5.00</u>	<u>-1.20</u>	-4.98	-2.50	-2.47	<u>0.13</u>	<u>0.79</u>	<u>-1.31</u>	<u>-12.87</u>	<u>8.75</u>	<u>-0.05</u>
Li	1.40	*	<u>-4.67</u>	*	*	*	0.06	<u>0.48</u>	*	<u>-0.14</u>	-1.29	*	*
Lu	-0.90	*	<u>-1.76</u>	*	*	*	-1.00	<u>0.00</u>	*	<u>0.00</u>	-2.51	*	1.76
Mo	2.03	*	<u>6.50</u>	*	<u>-2.28</u>	*	-0.12	<u>1.42</u>	<u>-0.28</u>	<u>-0.08</u>	<u>0.73</u>	<u>-3.83</u>	*
Nb	6.16	*	<u>3.79</u>	<u>0.51</u>	-1.45	1.64	3.54	<u>1.06</u>	<u>-0.57</u>	<u>1.06</u>	<u>6.63</u>	<u>-1.95</u>	*
Nd	2.03	*	<u>-4.55</u>	<u>1.92</u>	-1.84	-1.40	-2.15	<u>-0.36</u>	*	<u>0.04</u>	-11.46	-1.74	<u>0.69</u>
Ni	-1.16	*	<u>-0.48</u>	*	-6.04	41.18	*	<u>0.15</u>	<u>0.79</u>	<u>-0.48</u>	<u>-0.96</u>	-1.97	<u>12.14</u>
Pb	-2.17	*	<u>-3.27</u>	<u>5.00</u>	-7.99	-5.88	-0.16	<u>0.01</u>	<u>3.73</u>	<u>-0.16</u>	-2.96	<u>45.20</u>	-14.61
Pr	2.75	*	<u>-3.78</u>	*	*	*	-1.28	<u>0.15</u>	*	<u>-0.37</u>	<u>-10.11</u>	*	0.66
Rb	1.36	*	<u>-4.88</u>	<u>1.11</u>	-0.94	0.32	-2.31	<u>0.02</u>	<u>0.66</u>	<u>-0.04</u>	-0.40	<u>1.76</u>	-0.94
Sb	0.49	*	<u>-1.22</u>	*	109.87	*	0.22	*	*	<u>0.55</u>	<u>0.55</u>	*	<u>48.17</u>
Sc	-0.42	*	<u>0.80</u>	*	0.00	-0.53	8.20	4.88	*	<u>-0.66</u>	-1.33	3.45	-0.27
Sm	1.23	*	<u>-2.82</u>	*	-5.47	*	-1.90	<u>0.36</u>	*	<u>-0.22</u>	-7.81	0.90	-0.83
Sn	4.27	*	<u>-0.66</u>	*	57.95	*	18.05	<u>1.73</u>	*	<u>0.34</u>	<u>2.00</u>	*	*
Sr	3.06	2.54	<u>0.21</u>	<u>0.95</u>	-2.22	-1.15	-2.60	<u>0.20</u>	<u>0.03</u>	<u>-0.61</u>	-1.09	<u>0.20</u>	-1.75
Ta	0.69	*	<u>1.79</u>	*	4.11	*	0.67	<u>-0.11</u>	*	<u>-0.48</u>	2.24	*	*
Tb	8.71	*	<u>-2.43</u>	*	*	*	0.08	<u>0.21</u>	*	<u>-0.42</u>	-3.60	*	0.20
Th	*	*	<u>-3.74</u>	*	4.73	-2.90	-1.37	<u>0.00</u>	<u>-0.37</u>	<u>0.42</u>	-6.71	-7.17	-0.67
Tl	0.00	*	<u>-1.73</u>	*	*	*	*	*	*	<u>0.00</u>	0.00	*	1.39
Tm	0.54	*	<u>-1.46</u>	*	*	*	-0.95	<u>-0.23</u>	*	<u>0.39</u>	-3.42	*	-0.21
U	1.62	*	<u>-2.61</u>	*	1.71	*	-1.25	<u>0.21</u>	<u>1.78</u>	<u>-0.30</u>	-1.06	<u>13.25</u>	1.39
V	-8.87	*	<u>-2.18</u>	*	-4.59	-6.58	-1.48	<u>-1.85</u>	<u>-2.39</u>	<u>-1.44</u>	0.07	<u>0.30</u>	<u>0.37</u>
W	0.98	*	<u>9.91</u>	*	10.02	*	*	<u>-0.57</u>	*	<u>-0.16</u>	<u>0.93</u>	<u>45.42</u>	*
Y	11.39	*	<u>-3.24</u>	<u>-2.13</u>	-1.04	1.39	-1.90	<u>0.48</u>	<u>-0.24</u>	<u>-0.41</u>	-4.33	0.24	1.46
Yb	3.22	*	<u>-1.92</u>	*	*	*	-1.17	<u>0.20</u>	*	<u>0.15</u>	-4.09	*	0.40
Zn	-8.08	1.39	<u>-6.06</u>	<u>-2.70</u>	-12.27	1.15	0.39	<u>-0.41</u>	<u>-2.97</u>	<u>0.87</u>	-0.66	-5.88	1.00
Zr	-9.60	1.51	<u>3.69</u>	<u>-1.94</u>	-3.01	-2.68	-1.48	<u>0.55</u>	<u>-0.84</u>	<u>1.65</u>	<u>-0.67</u>	<u>-1.48</u>	<u>2.92</u>

Bold entries are Data Quality 1 - Underlined entries are Data Quality 2 - Entries in italics are derived from Provisional Values.

Table 3 - GeoPT48 Z-scores for Monzonite, MzBP-1. 24/03/2021

Lab Code	K72	K73	K74	K77	K78	K79	K81	K83	K84	K87	K88	K92	K94
SiO ₂	-4.31	-1.93	<u>-0.25</u>	0.00	<u>0.20</u>	-0.37	0.19	-0.96	<u>0.14</u>	<u>0.15</u>	<u>0.06</u>	-0.67	<u>0.82</u>
TiO ₂	-0.76	-0.29	<u>-0.08</u>	-0.29	<u>0.28</u>	<u>-0.08</u>	0.48	-0.29	<u>0.09</u>	<u>0.56</u>	<u>-0.38</u>	-1.23	<u>0.16</u>
Al ₂ O ₃	-5.55	-2.00	<u>-0.48</u>	-2.84	<u>0.14</u>	<u>-0.23</u>	-0.44	0.48	<u>0.10</u>	<u>-0.12</u>	<u>-0.56</u>	0.56	<u>-0.04</u>
Fe ₂ O ₃ T	2.69	0.03	<u>-0.24</u>	2.03	<u>-0.35</u>	<u>-0.40</u>	-0.32	-1.16	<u>0.42</u>	<u>-0.12</u>	<u>2.21</u>	0.43	<u>-0.40</u>
MnO	2.66	0.00	<u>-0.35</u>	1.06	<u>-0.66</u>	<u>-0.56</u>	-1.33	0.53	<u>-0.13</u>	<u>0.00</u>	<u>-1.73</u>	-0.19	<u>-4.49</u>
MgO	0.90	-2.25	<u>0.14</u>	-4.06	<u>-0.77</u>	<u>0.86</u>	1.57	3.61	<u>-1.13</u>	<u>-0.68</u>	<u>-0.68</u>	0.90	<u>1.28</u>
CaO	13.77	-0.65	<u>-0.12</u>	-0.32	<u>0.47</u>	<u>-0.48</u>	-0.35	-0.15	<u>1.32</u>	<u>0.41</u>	<u>-0.16</u>	1.97	<u>-0.24</u>
Na ₂ O	-0.84	-3.82	<u>1.15</u>	1.34	<u>-0.07</u>	<u>-0.02</u>	0.21	1.93	<u>-0.42</u>	<u>0.52</u>	<u>-3.79</u>	-0.15	<u>-4.55</u>
K ₂ O	-0.14	-0.94	<u>-0.51</u>	0.67	<u>1.54</u>	<u>0.57</u>	-0.09	0.83	<u>-0.07</u>	<u>0.17</u>	<u>0.58</u>	0.67	<u>-0.47</u>
P ₂ O ₅	-3.76	-1.44	<u>-0.42</u>	-0.90	<u>-0.14</u>	<u>0.90</u>	-1.10	-1.36	<u>0.25</u>	<u>0.05</u>	<u>0.05</u>	0.88	<u>-0.68</u>
Ba	7.90	0.00	<u>-0.36</u>	0.42	<u>-0.25</u>	<u>1.08</u>	-0.30	-0.20	<u>0.60</u>	<u>-1.90</u>	<u>-0.84</u>	0.95	<u>-0.99</u>
Be	0.02	*	*	0.31	*	*	1.02	0.48	<u>0.47</u>	*	<u>1.36</u>	-0.50	<u>-0.01</u>
Ce	6.18	-1.49	<u>-0.54</u>	3.82	<u>0.23</u>	*	0.35	-0.29	<u>0.23</u>	<u>0.16</u>	<u>-0.44</u>	0.39	<u>1.36</u>
Co	1.65	4.89	*	-0.12	*	*	0.13	-0.21	*	*	<u>-0.10</u>	0.12	<u>0.56</u>
Cr	1.75	-0.79	<u>-1.02</u>	0.06	*	<u>-1.29</u>	-0.48	0.90	*	<u>-1.56</u>	<u>0.03</u>	-11.76	<u>5.12</u>
Cs	0.54	63.32	*	1.29	<u>0.37</u>	*	-0.01	0.08	*	*	<u>0.18</u>	0.00	<u>0.59</u>
Cu	12.69	16.76	*	-2.23	*	*	2.63	1.00	*	<u>10.77</u>	<u>0.48</u>	-0.68	<u>9.65</u>
Dy	0.31	*	*	0.00	<u>0.00</u>	*	0.47	-0.08	<u>-0.03</u>	*	<u>0.25</u>	0.97	<u>-0.24</u>
Er	1.06	*	*	-0.19	<u>0.19</u>	*	-0.46	-0.38	<u>-0.05</u>	*	0.10	0.62	<u>1.07</u>
Eu	1.12	*	*	-0.31	<u>-0.37</u>	*	0.15	-0.31	<u>-0.39</u>	*	<u>-0.11</u>	0.15	<u>0.08</u>
Ga	1.87	-4.87	<u>-0.55</u>	-0.50	<u>0.37</u>	*	0.82	-1.62	*	<u>0.81</u>	<u>0.00</u>	*	<u>0.55</u>
Gd	5.73	*	*	0.39	<u>0.83</u>	*	-0.44	-0.36	<u>-0.46</u>	*	<u>1.47</u>	0.27	<u>2.73</u>
Hf	18.07	0.45	<u>-1.28</u>	-0.17	<u>0.07</u>	*	0.02	-0.17	<u>-0.91</u>	*	<u>-0.09</u>	0.15	<u>-1.98</u>
Ho	0.41	*	*	0.18	<u>-0.20</u>	*	0.25	0.30	<u>-0.20</u>	*	<u>-0.05</u>	0.95	<u>-0.50</u>
La	1.00	1.00	<u>-0.24</u>	-0.10	<u>0.00</u>	*	0.36	-1.22	<u>0.01</u>	<u>0.88</u>	<u>-0.60</u>	-1.93	<u>0.18</u>
Li	*	*	*	1.41	*	*	-0.29	0.17	*	*	<u>1.03</u>	0.12	<u>0.32</u>
Lu	1.00	*	*	0.00	<u>0.00</u>	*	0.04	-0.13	<u>-0.09</u>	*	<u>0.25</u>	0.88	<u>0.03</u>
Mo	*	-9.76	<u>0.33</u>	-0.84	*	*	0.56	0.22	*	*	<u>0.11</u>	*	*
Nb	1.40	-0.26	<u>-0.86</u>	1.47	<u>-0.25</u>	<u>-1.81</u>	3.21	2.35	<u>-0.13</u>	<u>-1.56</u>	<u>0.22</u>	2.42	<u>-1.18</u>
Nd	2.51	1.69	<u>-2.91</u>	0.01	<u>0.33</u>	*	0.27	-0.13	*	*	<u>-0.16</u>	0.40	<u>-0.22</u>
Ni	22.24	56.41	<u>8.48</u>	-0.96	*	*	2.35	0.51	*	<u>43.44</u>	<u>1.04</u>	-0.46	<u>9.32</u>
Pb	-0.40	2.06	<u>1.07</u>	0.26	*	*	0.43	-0.66	*	*	<u>0.24</u>	0.35	<u>0.21</u>
Pr	2.06	*	*	0.20	<u>0.25</u>	*	0.02	0.00	<u>0.05</u>	*	<u>0.00</u>	-0.23	<u>0.84</u>
Rb	1.36	-4.00	<u>-0.35</u>	1.69	<u>0.38</u>	<u>-0.00</u>	0.88	-0.54	<u>0.37</u>	<u>-0.38</u>	<u>-0.38</u>	0.13	<u>0.85</u>
Sb	*	*	*	*	*	*	*	-0.44	*	*	<u>0.78</u>	-1.64	*
Sc	7.70	7.43	<u>2.46</u>	1.46	*	*	-0.30	13.00	<u>0.19</u>	<u>-2.92</u>	<u>0.13</u>	3.93	<u>3.71</u>
Sm	0.90	*	*	-0.26	<u>0.11</u>	*	0.29	-0.11	<u>0.21</u>	*	<u>-0.28</u>	0.25	<u>0.71</u>
Sn	*	-0.66	*	*	*	*	0.51	2.94	<u>0.64</u>	*	<u>0.47</u>	-0.21	*
Sr	1.98	-1.55	<u>-0.51</u>	0.46	<u>0.79</u>	<u>0.05</u>	0.63	-0.66	<u>0.86</u>	<u>-0.20</u>	<u>-0.77</u>	-2.55	<u>-1.04</u>
Ta	0.08	-13.77	*	-1.15	<u>-0.35</u>	*	0.06	0.00	<u>0.49</u>	*	<u>0.05</u>	0.18	*
Tb	2.27	*	*	-0.15	<u>0.04</u>	*	-0.02	-0.49	<u>-0.13</u>	*	<u>0.20</u>	0.06	<u>-0.45</u>
Th	0.15	-1.37	<u>-2.39</u>	0.75	<u>0.08</u>	*	0.28	0.00	<u>0.27</u>	*	<u>-0.15</u>	1.33	<u>0.39</u>
Tl	*	*	*	*	*	*	*	-0.69	*	*	<u>0.69</u>	1.04	<u>-0.82</u>
Tm	1.52	*	*	*	<u>0.02</u>	*	0.23	0.07	<u>-0.07</u>	*	<u>0.04</u>	0.51	<u>-0.53</u>
U	-1.15	-5.68	*	*	<u>0.09</u>	*	0.24	0.74	<u>0.45</u>	*	<u>-0.51</u>	1.10	<u>0.38</u>
V	-0.52	0.81	<u>0.07</u>	-0.04	*	*	0.20	-0.96	<u>1.54</u>	<u>4.84</u>	<u>-0.33</u>	*	<u>-6.61</u>
W	*	-9.04	*	*	*	*	-1.26	-1.36	*	*	<u>-0.16</u>	*	*
Y	1.60	0.67	<u>-0.16</u>	0.74	<u>-0.06</u>	<u>-0.06</u>	1.27	-0.61	<u>-1.72</u>	<u>-0.38</u>	<u>-0.20</u>	1.67	<u>-2.04</u>
Yb	0.70	*	*	0.20	<u>-0.03</u>	*	0.17	-0.11	<u>-0.15</u>	*	<u>0.09</u>	1.16	<u>-0.11</u>
Zn	-0.66	-5.79	<u>-3.02</u>	-1.18	*	<u>0.02</u>	0.28	-0.51	*	<u>-2.44</u>	<u>-3.05</u>	0.97	<u>0.69</u>
Zr	4.24	-1.86	<u>-1.24</u>	1.31	<u>0.86</u>	<u>0.10</u>	1.70	1.35	<u>-0.74</u>	<u>-1.31</u>	<u>0.23</u>	2.22	<u>-1.76</u>

Bold entries are Data Quality 1 - **Underlined entries** are Data Quality 2 - *Entries in italics* are derived from Provisional Values.

Table 3 - GeoPT48 Z-scores for Monzonite, MzBP-1. 24/03/2021

Lab Code	K95	K96	K97	K98	K99	K100	K101	K103	K106	K110	K112	K113	K115
SiO ₂	<u>0.53</u>	<u>-0.32</u>	<u>0.00</u>	<u>-0.09</u>	<u>0.53</u>	<u>0.16</u>	<u>0.94</u>	<u>0.28</u>	<u>1.10</u>	<u>1.20</u>	-1.28	-0.41	<u>-0.30</u>
TiO ₂	<u>-0.62</u>	<u>-1.32</u>	<u>0.09</u>	<u>0.32</u>	<u>1.26</u>	<u>0.32</u>	<u>-0.38</u>	<u>0.37</u>	<u>-4.99</u>	<u>0.07</u>	-0.76	-2.26	<u>-0.29</u>
Al ₂ O ₃	<u>-0.16</u>	<u>-0.36</u>	<u>-0.16</u>	<u>0.14</u>	<u>0.20</u>	<u>-0.06</u>	<u>0.84</u>	<u>0.16</u>	<u>-12.83</u>	<u>1.18</u>	-1.80	0.76	<u>-0.17</u>
Fe ₂ O _{3T}	<u>0.15</u>	<u>-0.38</u>	<u>0.15</u>	<u>0.48</u>	<u>0.75</u>	<u>-0.18</u>	<u>1.48</u>	<u>-0.58</u>	<u>-16.85</u>	<u>0.75</u>	-0.10	2.97	*
MnO	<u>0.00</u>	<u>-1.33</u>	<u>0.00</u>	<u>-2.66</u>	<u>1.33</u>	<u>0.00</u>	<u>2.66</u>	<u>0.53</u>	<u>-10.63</u>	<u>0.80</u>	1.86	0.53	<u>-2.56</u>
MgO	<u>1.35</u>	<u>0.45</u>	<u>-0.23</u>	<u>1.35</u>	<u>-0.68</u>	<u>0.00</u>	<u>-1.13</u>	<u>0.45</u>	<u>-17.13</u>	<u>-2.70</u>	-1.85	3.34	<u>-0.72</u>
CaO	<u>0.00</u>	<u>-0.40</u>	<u>-0.49</u>	<u>1.32</u>	<u>1.07</u>	<u>0.25</u>	<u>0.66</u>	<u>-0.54</u>	<u>-6.38</u>	<u>0.09</u>	-1.30	0.01	<u>-0.25</u>
Na ₂ O	<u>-0.77</u>	<u>0.67</u>	<u>-0.37</u>	<u>1.51</u>	<u>-0.12</u>	<u>-0.07</u>	<u>-1.07</u>	<u>-1.66</u>	<u>-28.21</u>	<u>0.72</u>	-5.40	4.50	<u>1.01</u>
K ₂ O	<u>-0.55</u>	<u>-0.39</u>	<u>-0.23</u>	<u>0.33</u>	<u>-0.63</u>	<u>0.01</u>	<u>0.90</u>	<u>-1.20</u>	<u>-5.14</u>	<u>3.24</u>	-0.75	-0.46	<u>0.60</u>
P ₂ O ₅	<u>0.05</u>	<u>0.05</u>	<u>0.05</u>	<u>1.44</u>	<u>0.83</u>	<u>0.32</u>	<u>-1.11</u>	<u>-0.06</u>	<u>-1.44</u>	<u>0.44</u>	-0.82	-0.13	<u>0.09</u>
Ba	<u>0.54</u>	*	<u>0.14</u>	<u>0.02</u>	<u>-0.59</u>	<u>0.63</u>	<u>-0.24</u>	<u>0.20</u>	<u>-6.06</u>	*	0.08	0.03	<u>-0.28</u>
Be	<u>0.95</u>	*	*	*	<u>0.32</u>	<u>0.53</u>	*	*	*	*	0.35	*	*
Ce	<u>0.09</u>	*	<u>-0.14</u>	<u>-0.88</u>	<u>0.44</u>	<u>1.07</u>	<u>1.59</u>	<u>0.31</u>	<u>2.42</u>	*	1.52	-1.79	<u>-0.22</u>
Co	<u>0.49</u>	*	<u>0.64</u>	<u>-1.15</u>	<u>0.03</u>	<u>0.49</u>	*	*	<u>27.38</u>	*	-0.60	4.89	*
Cr	<u>0.16</u>	*	*	<u>-1.73</u>	<u>0.17</u>	<u>0.77</u>	<u>-1.45</u>	<u>-0.18</u>	<u>-6.40</u>	*	2.17	3.87	<u>-0.61</u>
Cs	<u>11.05</u>	*	<u>-0.20</u>	*	*	<u>-0.20</u>	*	*	<u>3.73</u>	*	*	<u>100.80</u>	*
Cu	<u>6.70</u>	*	*	<u>-0.48</u>	*	<u>-2.39</u>	*	<u>1.80</u>	<u>-3.11</u>	*	-1.44	<u>2.39</u>	*
Dy	<u>-0.25</u>	*	<u>-0.21</u>	*	<u>-0.06</u>	<u>0.44</u>	*	*	<u>7.72</u>	*	0.72	*	*
Er	<u>0.00</u>	*	<u>-0.52</u>	*	<u>-0.14</u>	<u>0.24</u>	*	*	<u>7.89</u>	*	0.96	*	*
Eu	<u>0.09</u>	*	<u>-0.64</u>	*	<u>0.28</u>	<u>0.43</u>	*	*	<u>2.59</u>	*	1.26	*	*
Ga	<u>-0.20</u>	*	<u>0.41</u>	<u>-0.37</u>	<u>0.69</u>	<u>-0.28</u>	*	<u>0.20</u>	<u>20.46</u>	*	-0.16	<u>0.00</u>	*
Gd	<u>1.32</u>	*	<u>0.70</u>	*	<u>-0.07</u>	<u>0.25</u>	*	*	<u>5.84</u>	*	<u>1.29</u>	*	*
Hf	<u>0.07</u>	*	<u>-2.10</u>	<u>-2.95</u>	<u>-0.39</u>	<u>0.61</u>	*	*	<u>24.26</u>	*	<u>1.77</u>	*	*
Ho	<u>-0.02</u>	*	<u>-0.31</u>	*	<u>-0.20</u>	<u>-0.02</u>	*	*	<u>6.73</u>	*	<u>0.53</u>	*	*
La	<u>-0.11</u>	*	<u>-0.79</u>	<u>-1.47</u>	<u>0.02</u>	<u>0.64</u>	<u>2.13</u>	<u>-0.07</u>	<u>3.00</u>	*	<u>1.00</u>	-1.75	<u>-0.12</u>
Li	*	*	<u>-0.08</u>	*	*	<u>-0.03</u>	*	*	*	*	*	*	*
Lu	<u>-0.50</u>	*	<u>-0.50</u>	*	<u>-0.13</u>	<u>-0.50</u>	*	*	<u>6.03</u>	*	<u>1.26</u>	*	*
Mo	<u>0.26</u>	*	<u>-0.20</u>	<u>1.98</u>	<u>0.37</u>	<u>0.26</u>	*	*	*	*	-0.03	<u>2.71</u>	*
Nb	<u>0.25</u>	*	<u>-0.25</u>	<u>-0.79</u>	<u>-0.97</u>	<u>0.43</u>	*	<u>-0.90</u>	<u>-5.11</u>	*	<u>-0.25</u>	-2.64	<u>-1.08</u>
Nd	*	*	<u>-0.25</u>	<u>-1.06</u>	<u>-0.17</u>	<u>0.89</u>	*	<u>0.14</u>	<u>2.80</u>	*	1.27	-2.08	*
Ni	<u>-3.02</u>	*	*	<u>-3.78</u>	*	<u>2.82</u>	*	*	<u>1.58</u>	*	<u>4.27</u>	*	*
Pb	<u>-0.16</u>	*	*	<u>-3.47</u>	<u>0.49</u>	<u>1.03</u>	*	*	<u>-3.76</u>	*	<u>0.24</u>	*	*
Pr	<u>0.10</u>	*	<u>0.00</u>	*	<u>-0.24</u>	<u>0.74</u>	*	<u>-0.59</u>	<u>2.36</u>	*	<u>-0.20</u>	*	*
Rb	<u>-1.39</u>	*	<u>-0.31</u>	<u>0.56</u>	<u>0.00</u>	<u>-0.06</u>	*	<u>-1.91</u>	<u>-2.92</u>	*	<u>-0.27</u>	<u>0.68</u>	*
Sb	*	*	*	<u>19.42</u>	*	<u>-0.55</u>	*	*	*	*	<u>-2.89</u>	*	*
Sc	<u>-0.40</u>	*	<u>1.06</u>	<u>11.54</u>	<u>-0.13</u>	<u>-0.27</u>	*	*	<u>-13.27</u>	*	<u>0.57</u>	*	*
Sm	<u>-0.22</u>	*	<u>-0.47</u>	<u>7.65</u>	<u>-0.31</u>	<u>0.53</u>	*	<u>1.45</u>	<u>2.03</u>	*	<u>1.57</u>	*	*
Sn	<u>2.33</u>	*	<u>-0.33</u>	<u>14.32</u>	<u>0.07</u>	<u>0.34</u>	*	<u>-1.66</u>	*	*	<u>0.57</u>	*	*
Sr	<u>-1.07</u>	*	<u>0.18</u>	<u>-0.13</u>	<u>-0.64</u>	<u>0.71</u>	*	<u>-1.48</u>	<u>3.26</u>	*	<u>-0.35</u>	-1.78	<u>-0.38</u>
Ta	<u>0.59</u>	*	*	<u>-3.68</u>	<u>-0.85</u>	<u>0.45</u>	*	*	<u>-2.00</u>	*	<u>-0.32</u>	*	*
Tb	<u>-0.02</u>	*	<u>-0.25</u>	*	<u>0.27</u>	<u>-0.02</u>	*	*	<u>4.68</u>	*	<u>1.00</u>	*	*
Th	<u>0.23</u>	*	<u>-0.23</u>	<u>3.05</u>	<u>-0.59</u>	<u>0.11</u>	*	<u>3.74</u>	<u>0.34</u>	*	<u>2.29</u>	-1.37	*
Tl	*	*	*	*	*	<u>0.00</u>	*	*	*	*	*	*	*
Tm	<u>-0.60</u>	*	<u>-0.35</u>	*	<u>0.14</u>	<u>0.64</u>	*	*	<u>5.73</u>	*	<u>0.78</u>	*	*
U	<u>-0.07</u>	*	<u>-0.09</u>	<u>7.32</u>	<u>-0.58</u>	<u>0.12</u>	*	*	<u>2.45</u>	*	<u>1.75</u>	*	*
V	<u>1.11</u>	*	<u>0.41</u>	<u>-1.59</u>	<u>-0.04</u>	<u>-0.33</u>	<u>19.26</u>	<u>-2.92</u>	<u>6.80</u>	*	<u>0.67</u>	-3.62	*
W	<u>0.11</u>	*	<u>-1.80</u>	<u>-3.16</u>	<u>3.62</u>	<u>0.93</u>	*	*	<u>2.94</u>	*	*	*	*
Y	<u>0.59</u>	*	<u>-0.13</u>	<u>0.19</u>	<u>-0.13</u>	<u>0.37</u>	*	<u>0.51</u>	<u>-5.40</u>	*	<u>0.17</u>	-1.47	*
Yb	<u>-0.03</u>	*	<u>-0.53</u>	*	<u>-0.18</u>	<u>0.45</u>	*	*	<u>7.31</u>	*	<u>1.56</u>	*	*
Zn	<u>2.49</u>	*	<u>-0.33</u>	<u>-3.20</u>	<u>0.03</u>	<u>0.57</u>	*	<u>0.42</u>	<u>-10.34</u>	*	<u>-0.48</u>	-4.89	<u>-2.44</u>
Zr	<u>0.41</u>	*	<u>-5.01</u>	<u>-1.58</u>	<u>-0.86</u>	<u>1.05</u>	*	<u>-0.49</u>	<u>-3.06</u>	*	<u>-1.34</u>	-2.24	<u>-0.71</u>

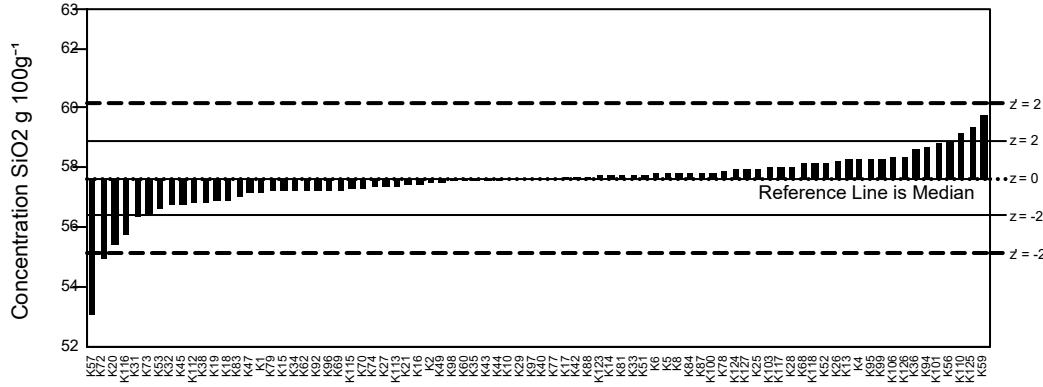
Bold entries are Data Quality 1 - **Underlined entries** are Data Quality 2 - **Entries in italics** are derived from Provisional Values.

Table 3 - GeoPT48 Z-scores for Monzonite, MzBP-1. 24/03/2021

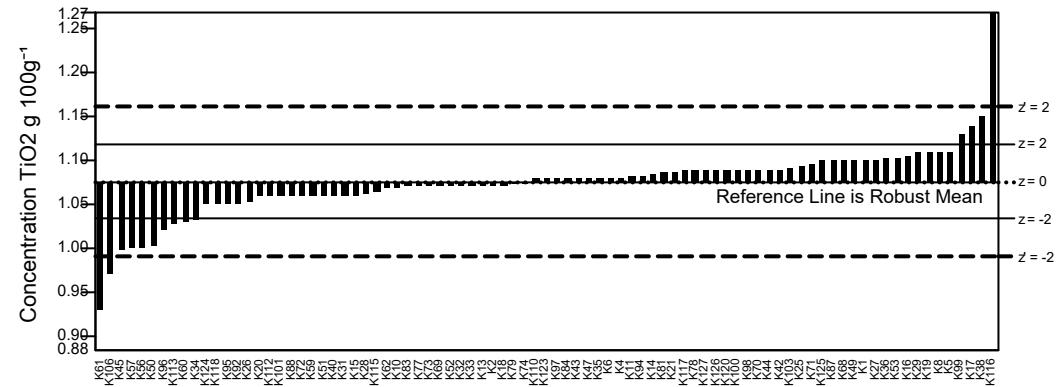
Lab Code	K116	K117	K118	K120	K123	K124	K125	K126	K127
SiO ₂	-1.54	0.57	0.40	*	0.08	0.23	1.36	0.57	0.48
TiO ₂	12.54	0.55	-0.62	0.65	0.09	-0.62	0.56	0.32	0.65
Al ₂ O ₃	-8.01	0.45	0.32	-0.40	0.24	0.82	-3.16	-2.74	0.12
Fe ₂ O _{3T}	4.93	0.13	-3.44	0.03	0.42	0.34	-5.03	-0.25	0.96
MnO	0.00	1.59	-3.98	0.00	-0.27	0.20	0.00	164.71	0.00
MgO	-11.27	-0.18	0.00	-0.45	-0.23	0.73	-5.18	-2.70	-2.70
CaO	14.83	0.27	-0.57	-2.28	0.58	0.29	-0.98	-1.80	-1.30
Na ₂ O	*	3.93	0.12	0.25	0.62	0.15	2.40	-5.13	-0.35
K ₂ O	14.12	-0.22	-0.15	0.02	0.50	0.14	0.90	-1.36	1.80
P ₂ O ₅	14.74	-2.06	0.44	2.43	0.05	0.69	8.17	1.99	-1.44
Ba	*	-3.70	-0.08	-0.08	-0.28	0.28	0.42	-0.33	0.92
Be	*	-2.73	*	-1.10	*	0.21	2.20	-3.01	*
Ce	*	4.66	-0.44	1.07	-3.15	-0.06	0.98	*	*
Co	*	31.30	*	-1.71	-7.75	-0.50	0.19	7.59	*
Cr	*	-11.04	2.04	-0.15	4.05	0.61	1.72	0.31	-1.42
Cs	*	-0.96	*	-1.52	*	0.09	*	*	*
Cu	*	0.50	5.98	-0.05	-0.12	-0.49	-0.00	-6.64	*
Dy	*	2.52	-0.53	-0.36	*	-0.21	0.03	*	*
Er	*	2.16	3.59	0.39	*	-0.00	0.00	*	*
Eu	*	-0.24	0.26	0.59	*	-0.15	0.26	*	*
Ga	*	0.37	-0.81	-1.46	0.00	0.22	0.69	*	-3.25
Gd	*	0.00	8.05	1.71	*	-0.37	1.98	*	*
Hf	*	-5.94	*	6.32	*	-0.10	*	*	5.09
Ho	*	1.81	2.27	0.41	*	-0.16	-0.02	*	*
La	*	4.31	-0.25	0.25	1.25	-0.39	0.38	-1.81	*
Li	*	6.50	-1.20	-0.39	*	-0.08	-0.03	0.92	*
Lu	*	4.82	2.01	-3.52	*	-0.12	0.00	*	*
Mo	*	4.08	*	-0.53	*	-0.13	0.42	-0.94	*
Nb	*	3.04	-0.61	6.87	-0.73	0.30	1.89	*	-0.98
Nd	*	-1.38	-0.70	1.03	-3.27	0.13	0.47	*	*
Ni	*	0.56	*	*	56.13	-0.81	1.30	-0.07	*
Pb	*	5.13	*	-1.56	-0.95	-0.32	-0.03	-4.78	*
Pr	*	-1.83	-1.96	0.49	*	-0.04	0.29	*	*
Rb	*	-7.69	-0.38	-1.34	-0.92	-0.71	0.88	*	0.68
Sb	*	3.77	*	5.99	*	-0.44	1.00	29.85	*
Sc	*	-1.94	-0.27	7.27	*	0.16	0.66	-0.80	*
Sm	*	1.80	0.28	0.56	*	-0.26	0.20	*	*
Sn	*	4.00	*	-0.39	*	-0.70	0.67	-0.10	*
Sr	*	-5.44	0.64	0.03	0.21	-0.54	0.21	-0.51	-0.03
Ta	*	5.84	*	-5.10	*	-0.41	*	*	*
Tb	*	3.26	1.13	0.31	*	-0.37	0.56	*	*
Th	*	-2.41	-1.45	0.31	-1.83	0.31	*	*	10.83
Tl	*	5.90	*	*	*	0.05	*	*	*
Tm	*	1.38	3.11	-0.21	*	-0.25	0.02	*	*
U	*	-1.29	-0.53	-0.28	-2.61	-0.02	1.55	*	*
V	*	0.27	0.04	1.63	-2.55	0.13	0.89	1.15	-1.41
W	*	2.67	*	-3.00	*	-0.38	*	-2.04	*
Y	*	-0.61	0.34	0.74	0.34	0.11	-0.38	0.55	-0.04
Yb	*	-0.27	-0.03	0.70	*	-0.01	0.22	*	*
Zn	*	-1.06	1.18	0.00	0.27	-0.42	0.38	-1.03	-7.60
Zr	*	-16.04	-2.09	*	1.02	1.20	0.86	-5.08	-1.17

Bold entries are Data Quality 1 - **Underlined entries** are Data Quality 2 - **Entries in italics** are derived from Provisional Values.

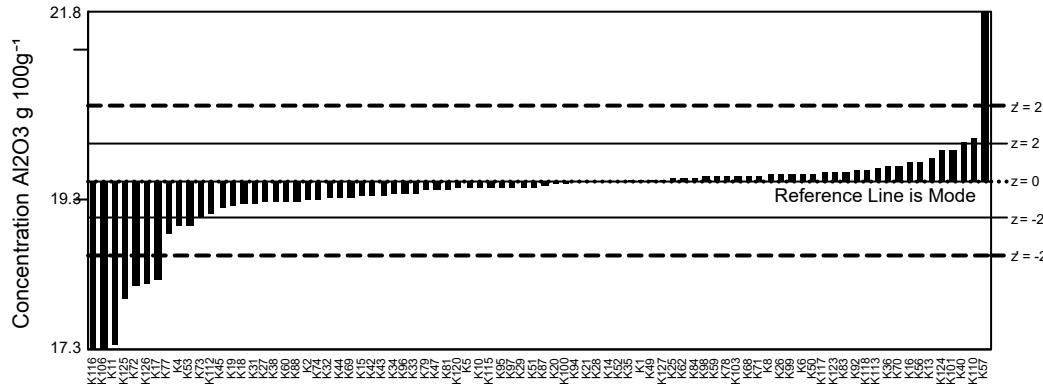
GeoPT48 - Barchart for SiO₂



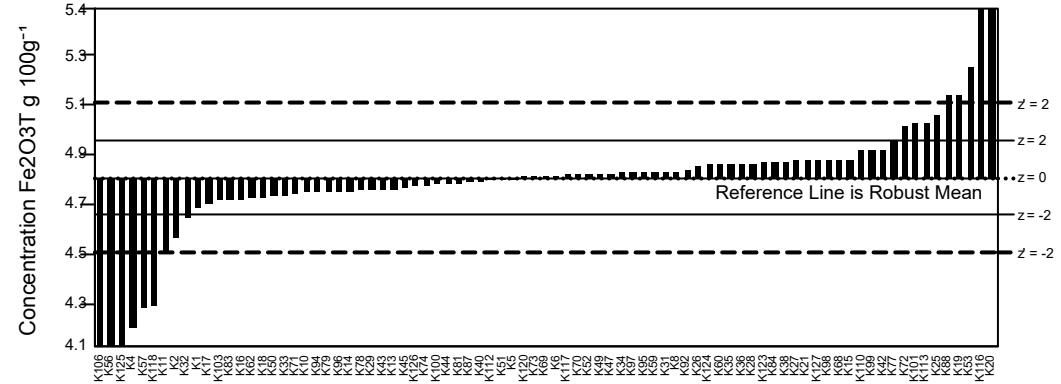
GeoPT48 - Barchart for TiO₂



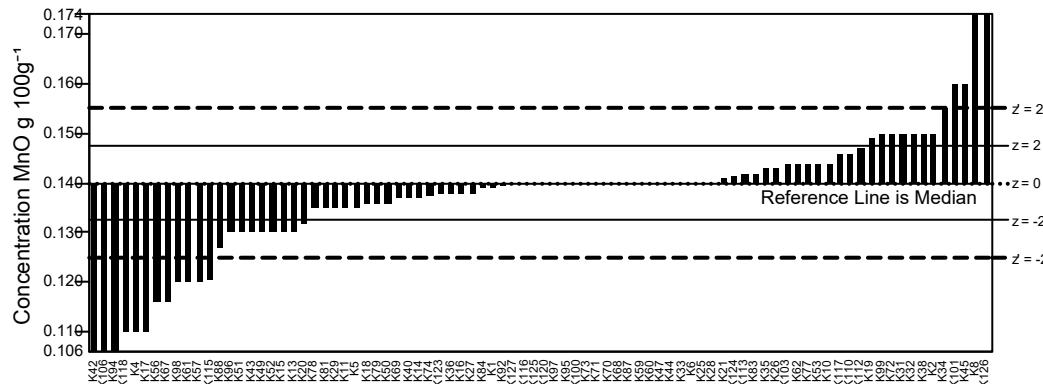
GeoPT48 - Barchart for Al₂O₃



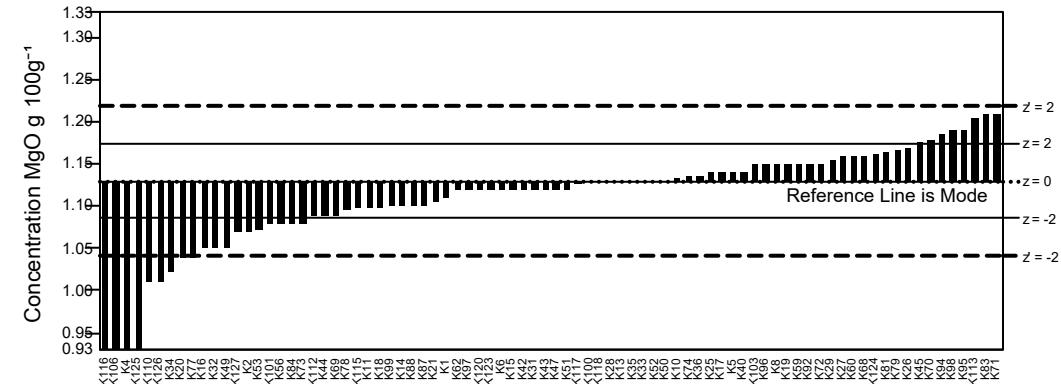
GeoPT48 - Barchart for Fe₂O₃T



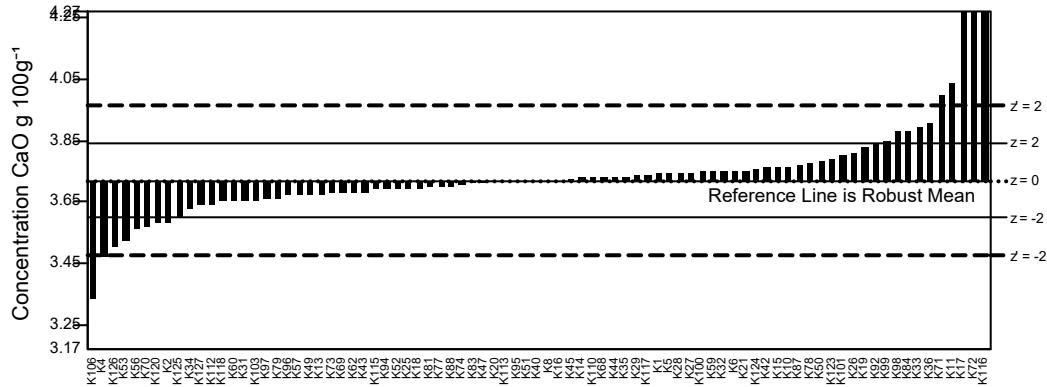
GeoPT48 - Barchart for MnO



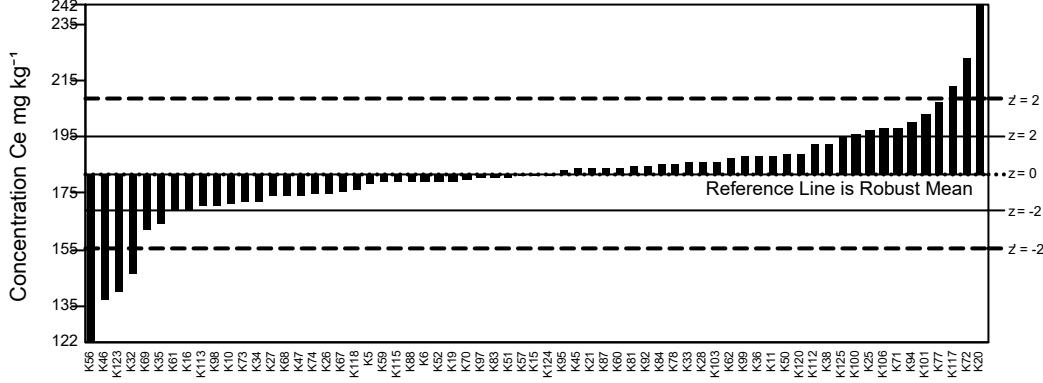
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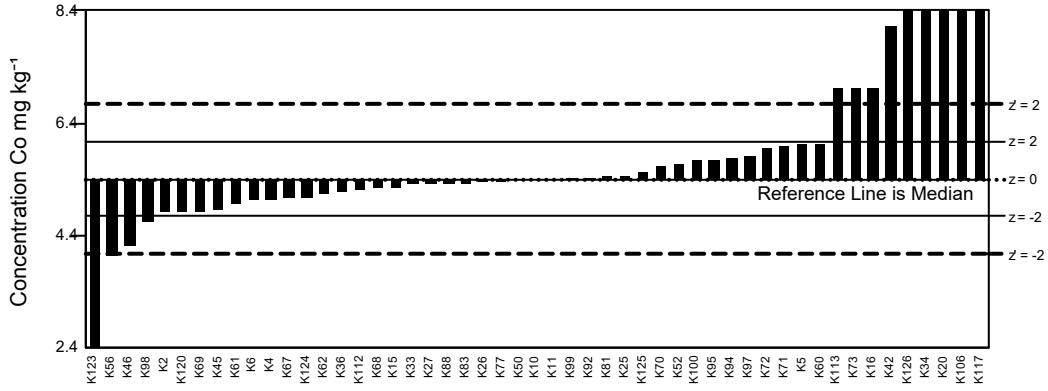
GeoPT48 - Barchart for CaO



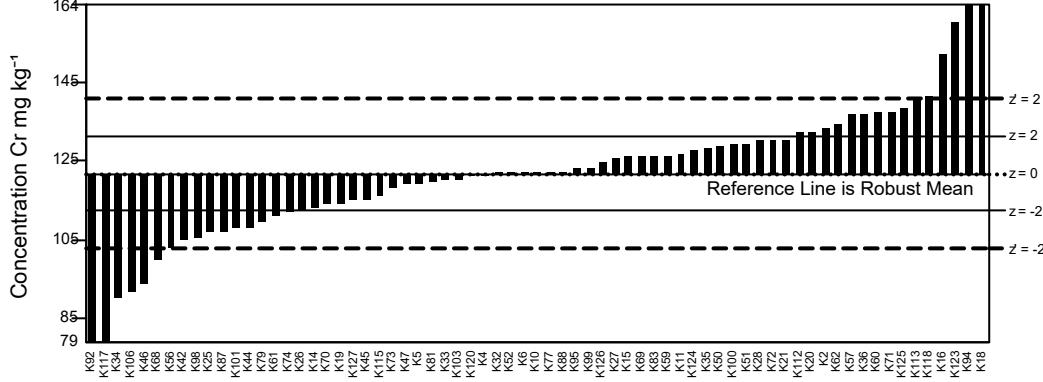
GeoPT48 - Barchart for Ce



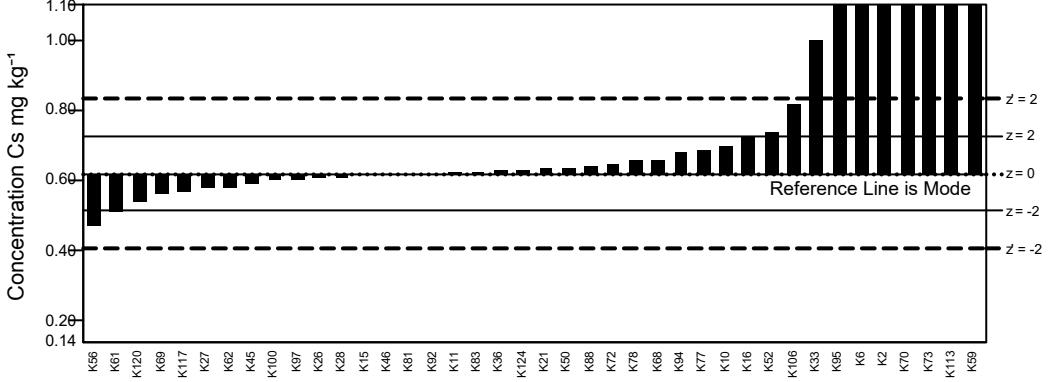
GeoPT48 - Barchart for Co



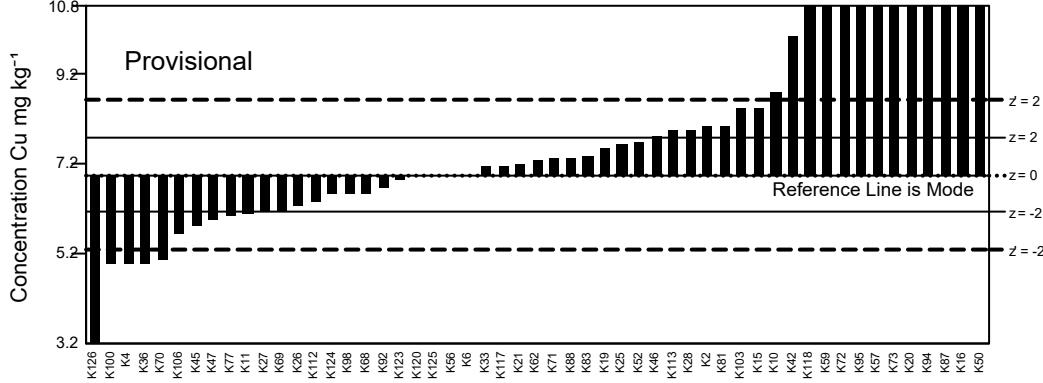
GeoPT48 - Barchart for Cr



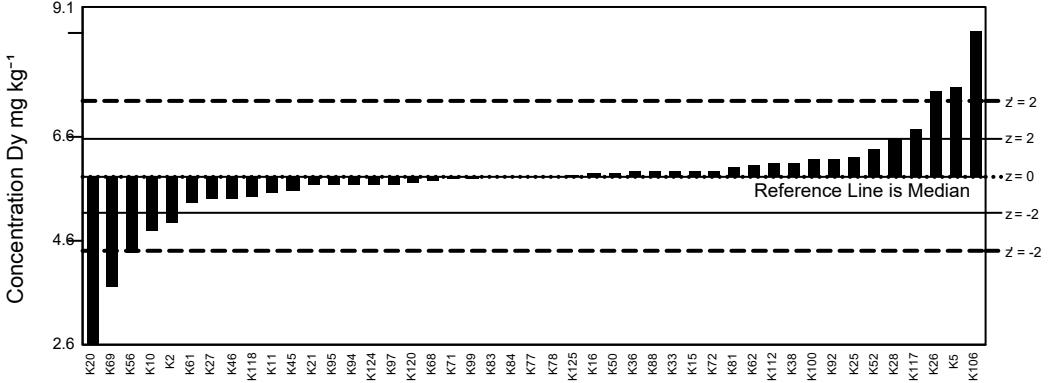
GeoPT48 - Barchart for Cs

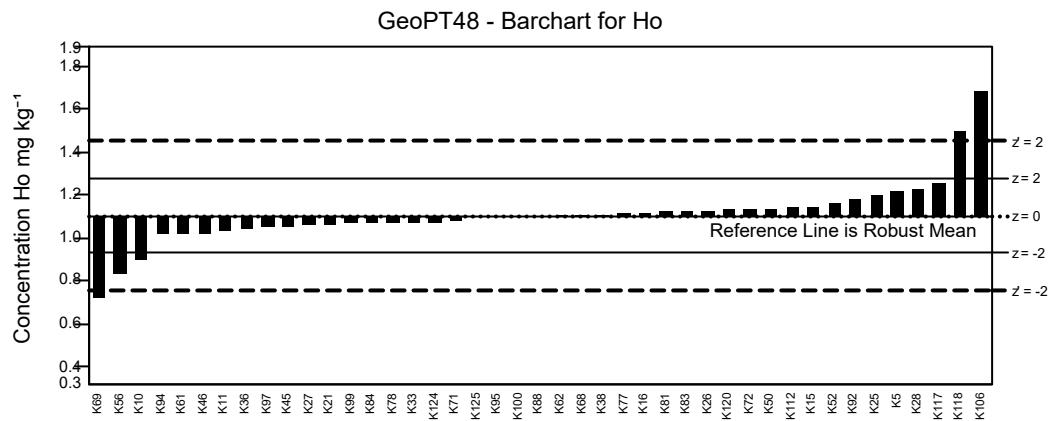
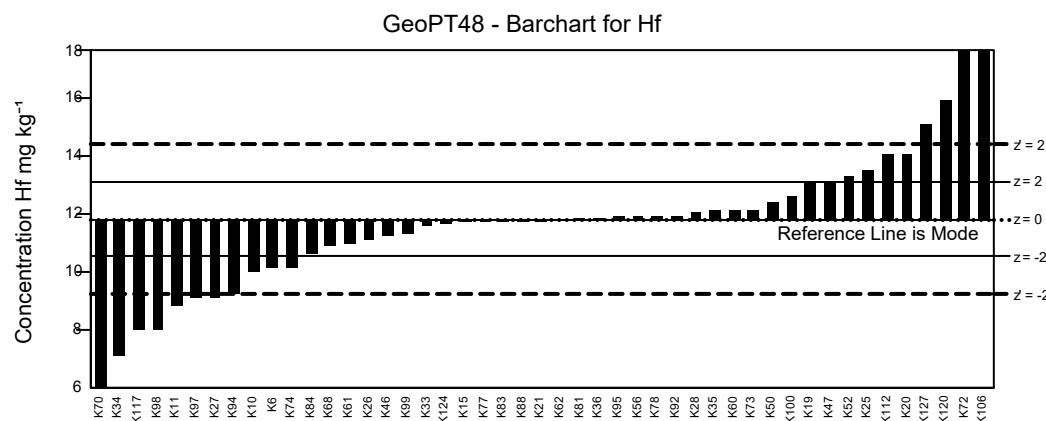
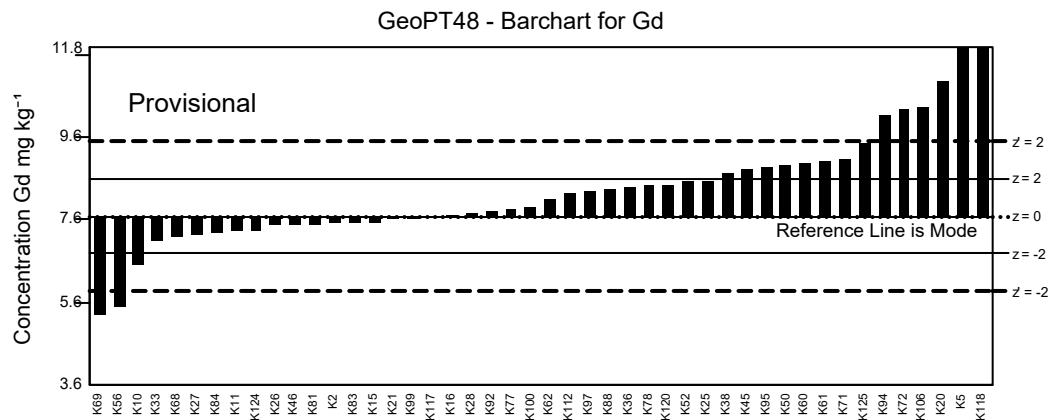
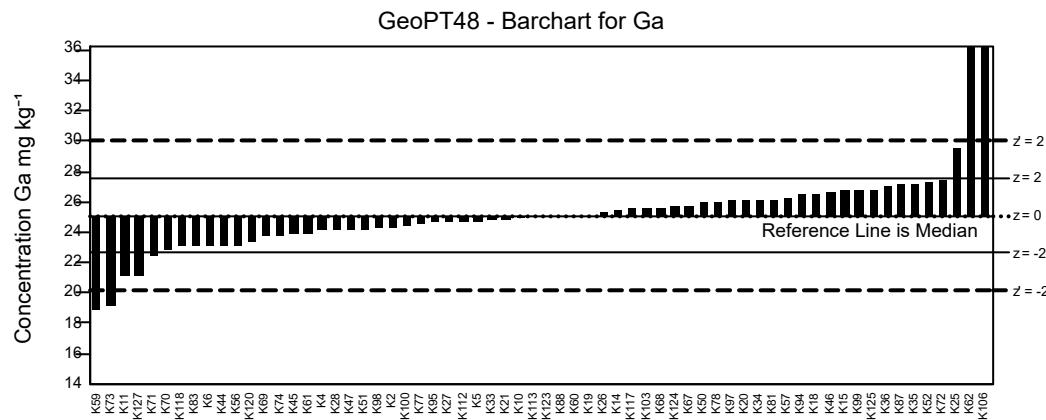
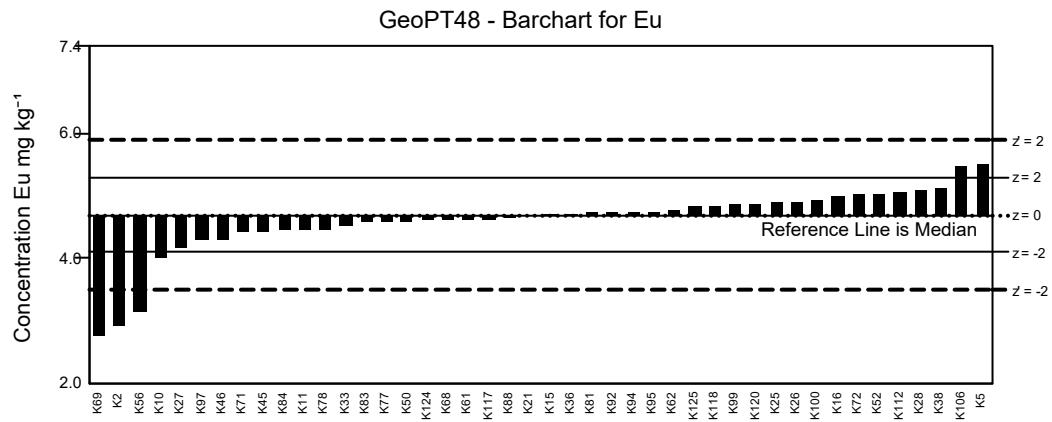
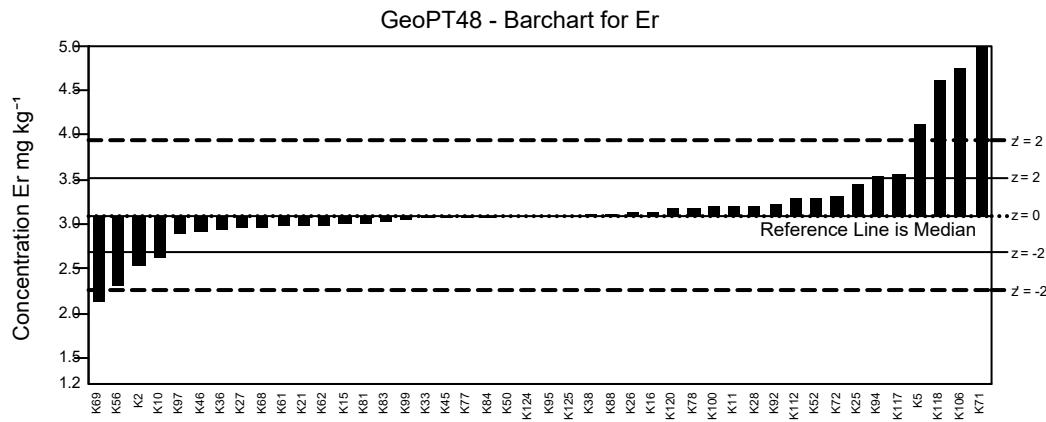


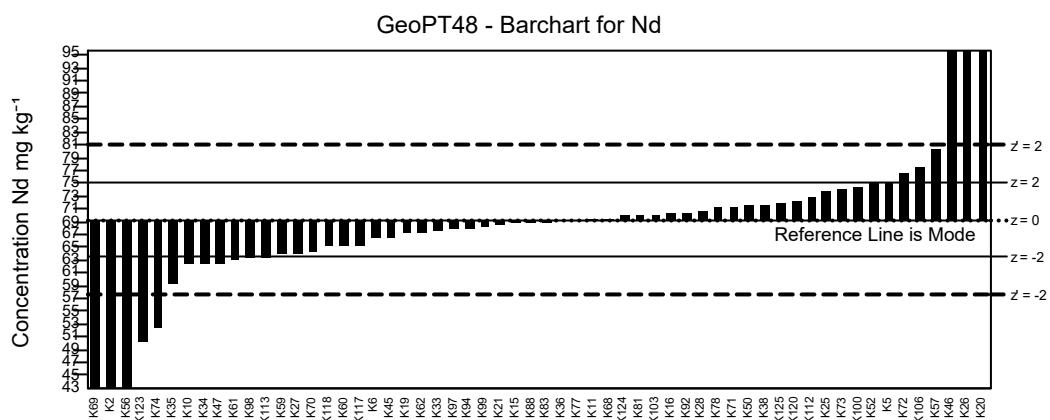
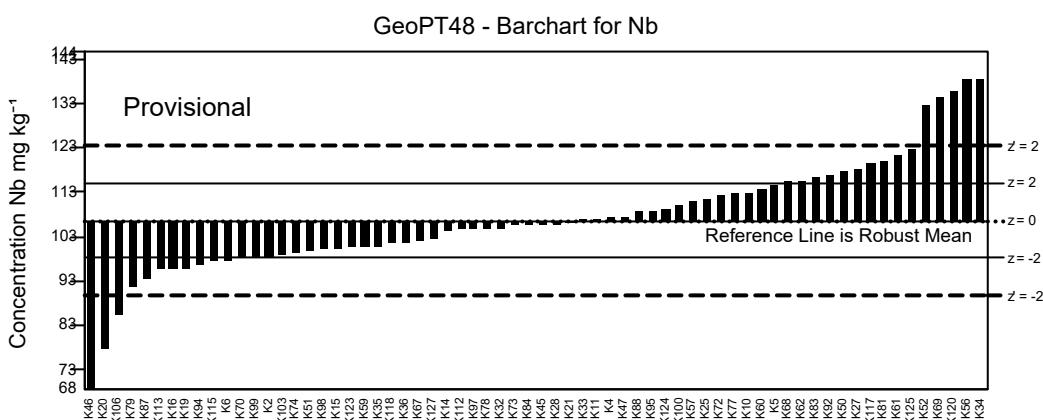
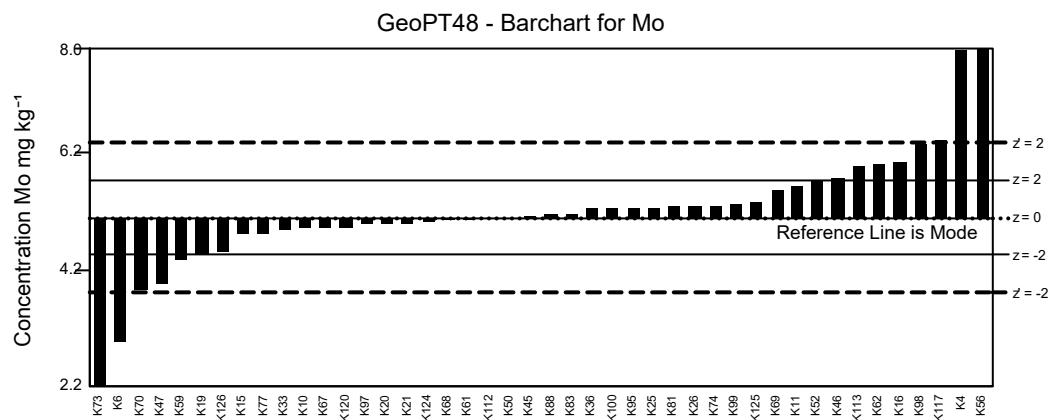
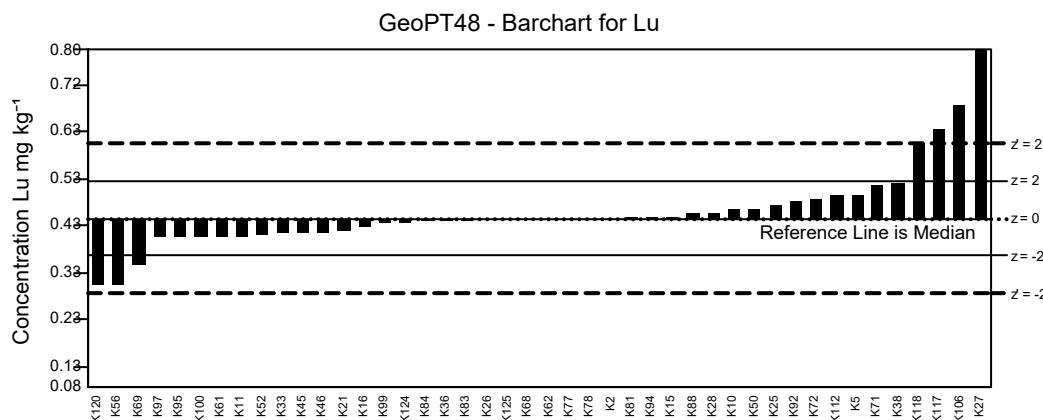
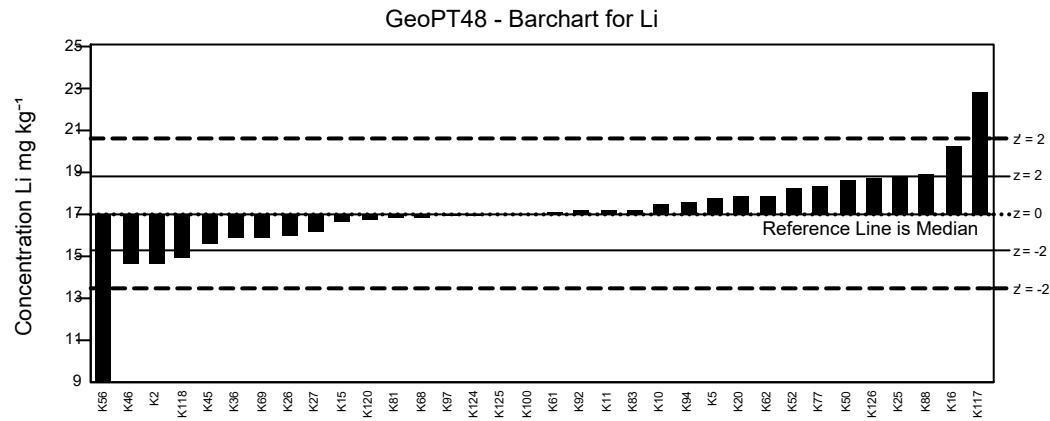
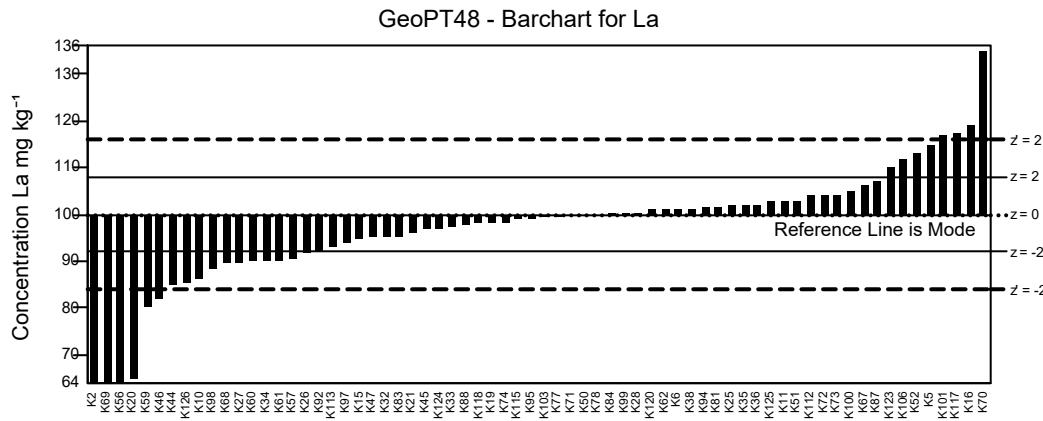
GeoPT48 - Barchart for Cu

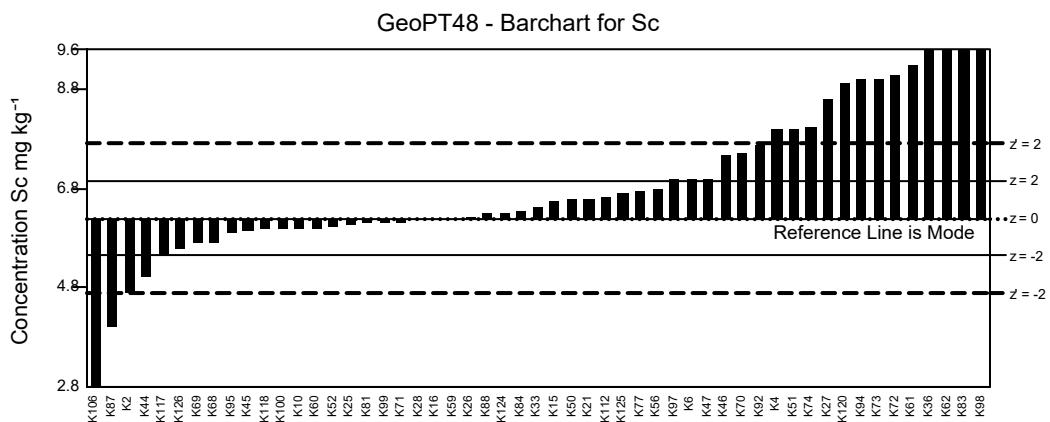
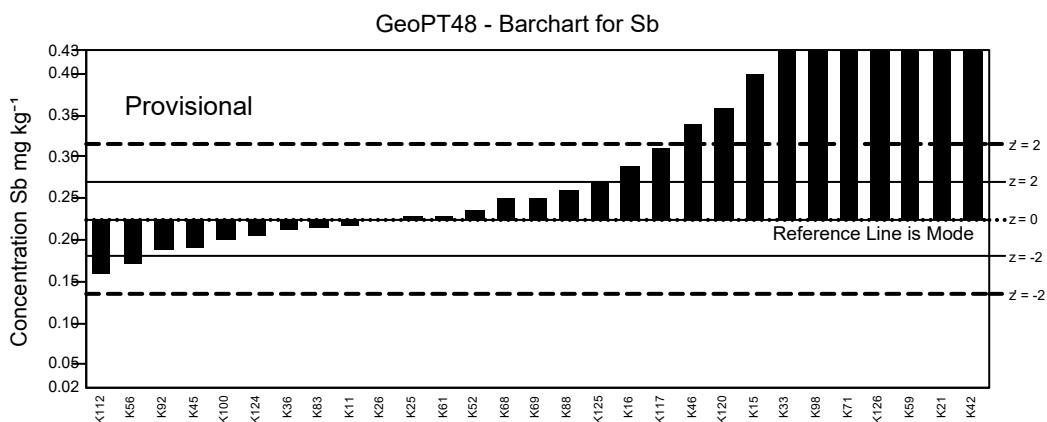
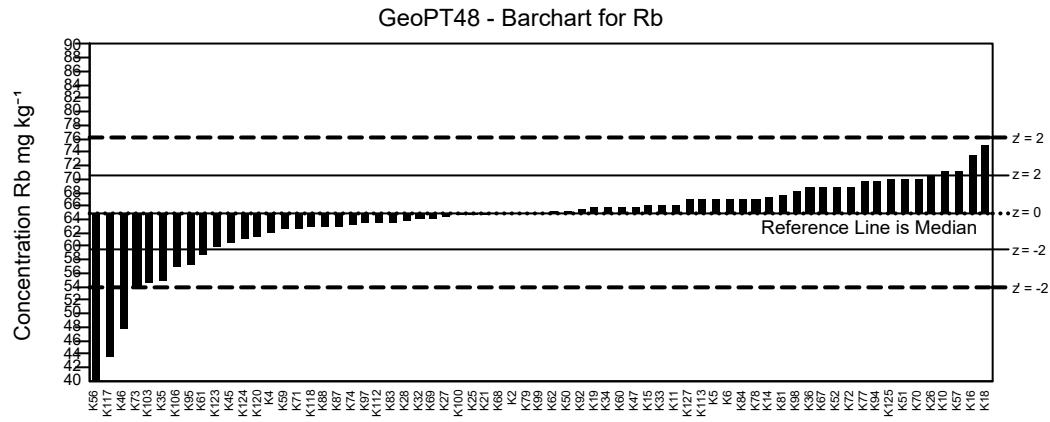
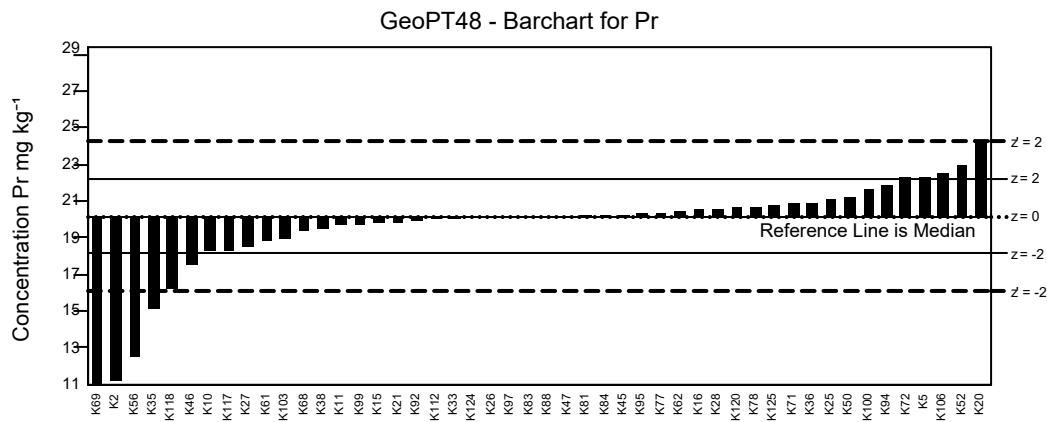
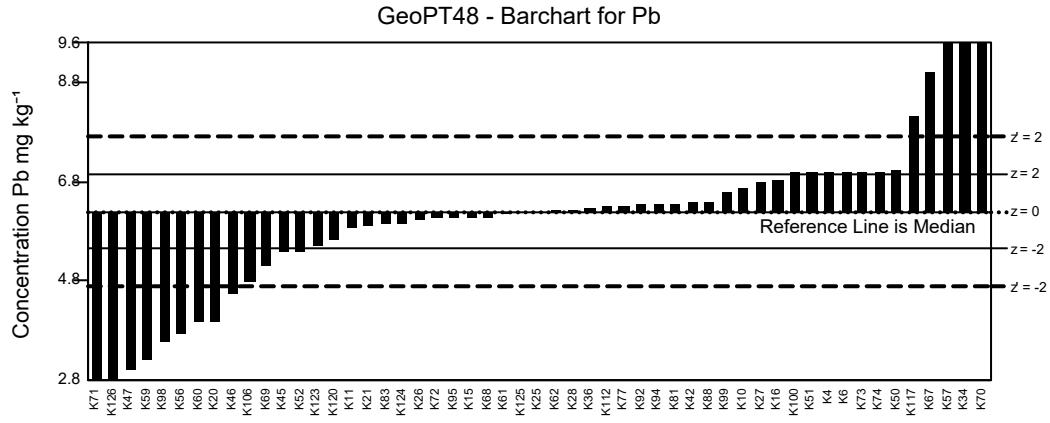
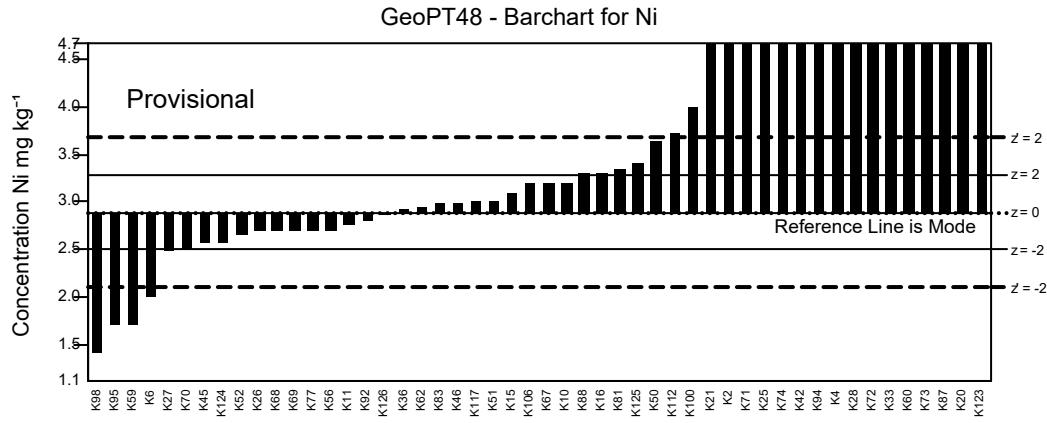


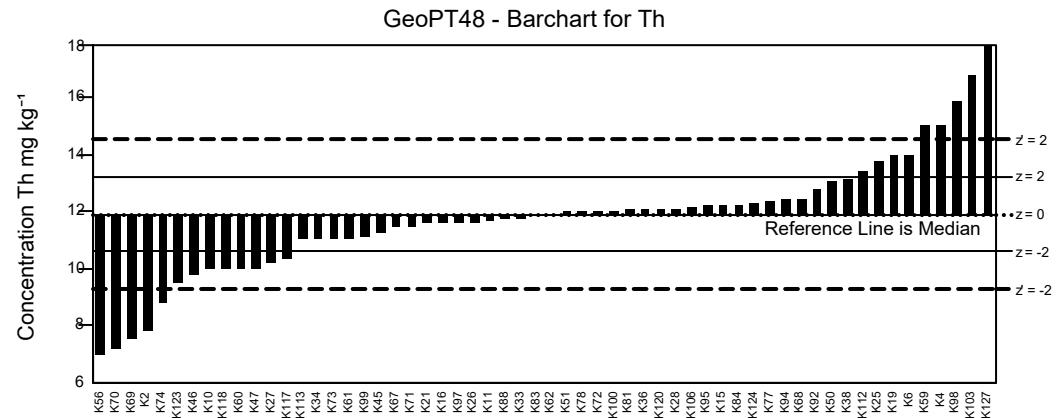
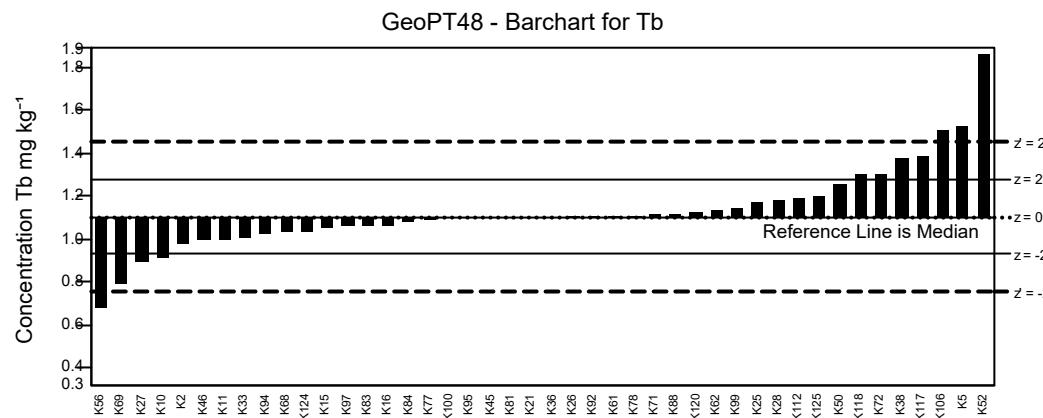
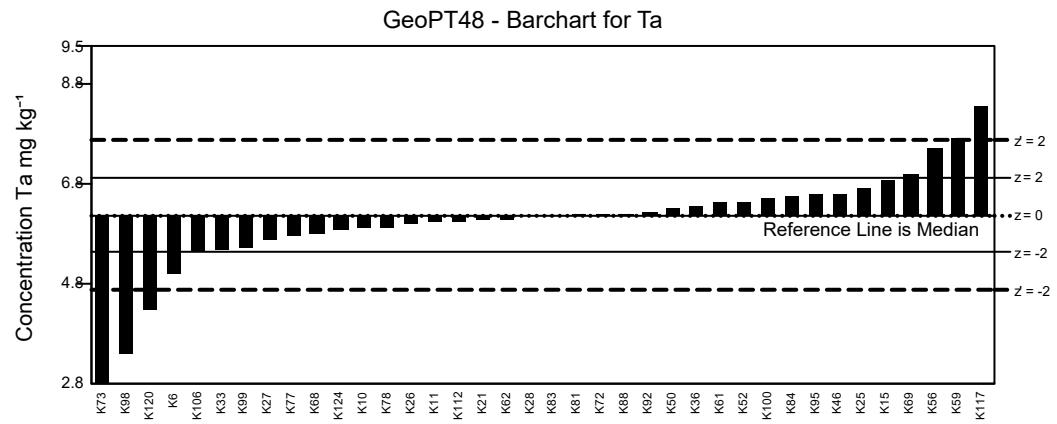
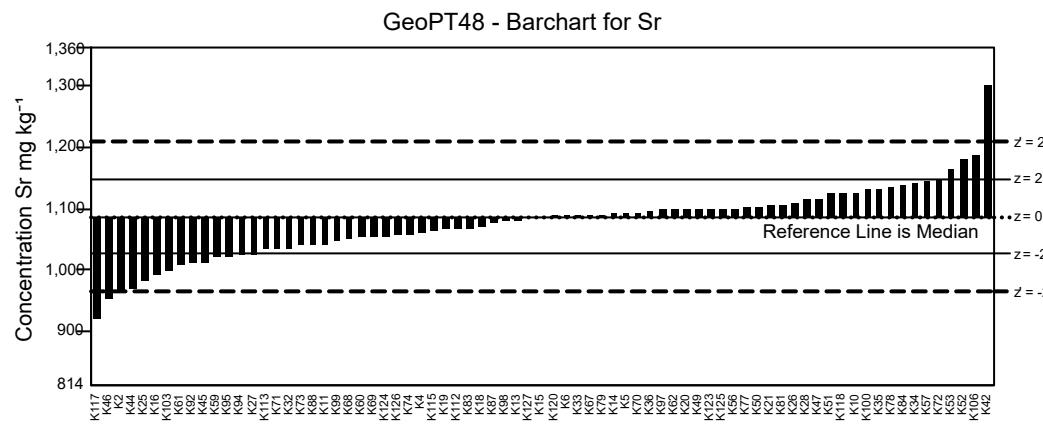
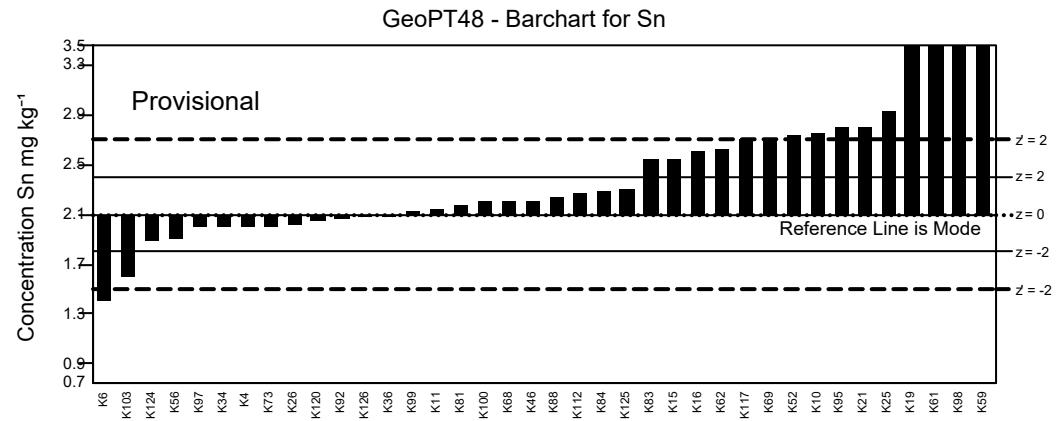
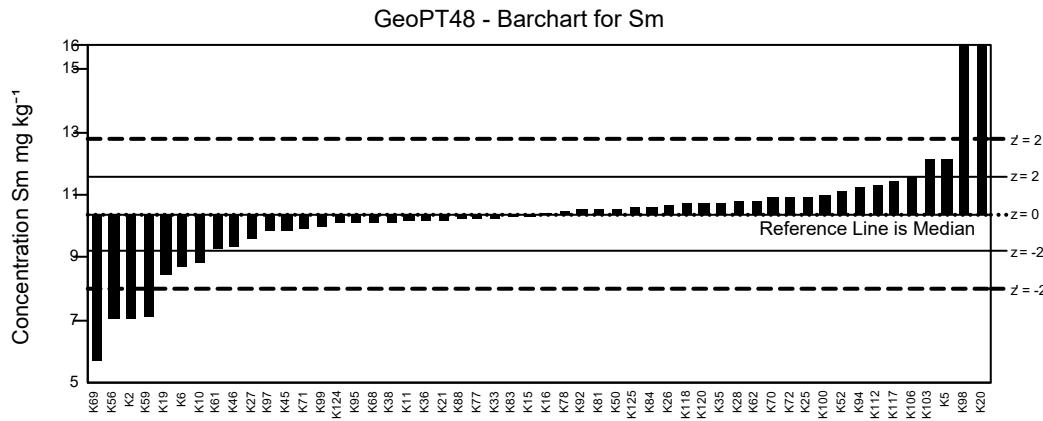
GeoPT48 - Barchart for Dy

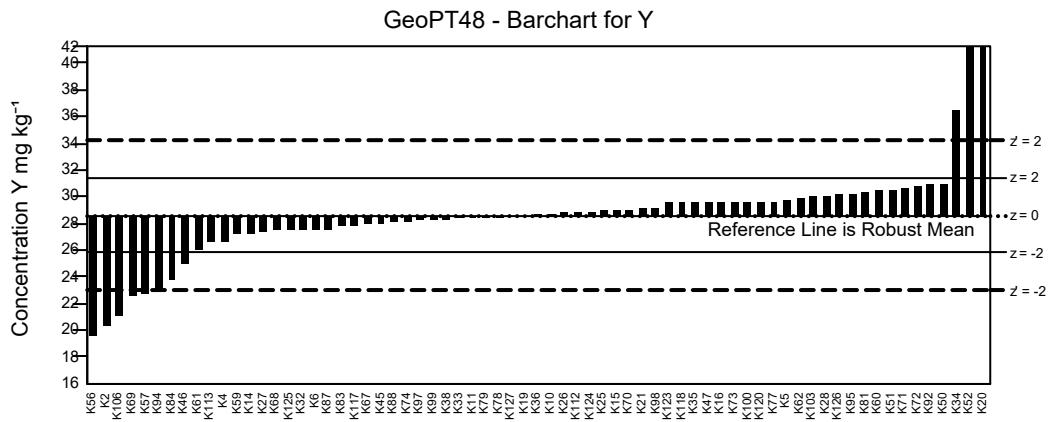
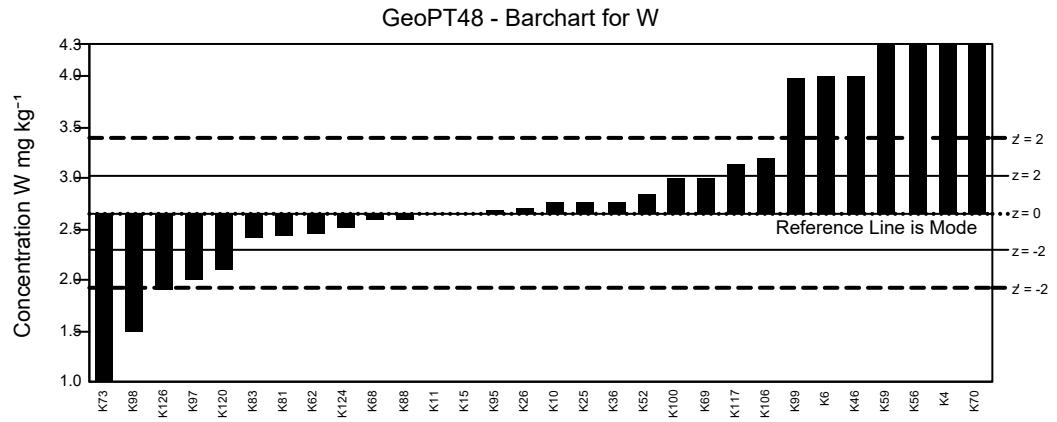
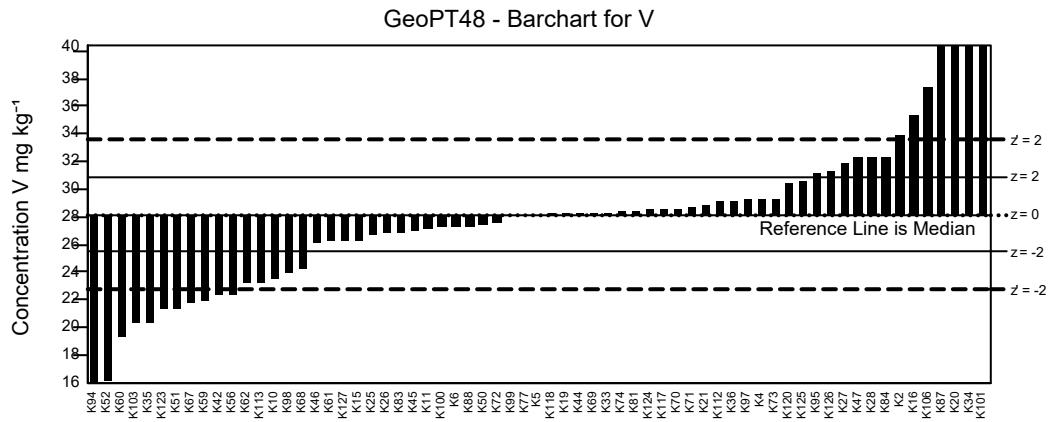
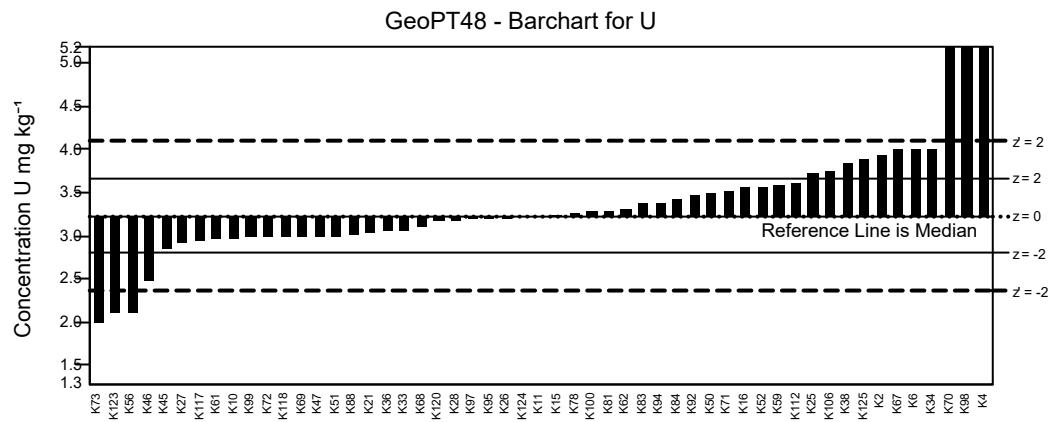
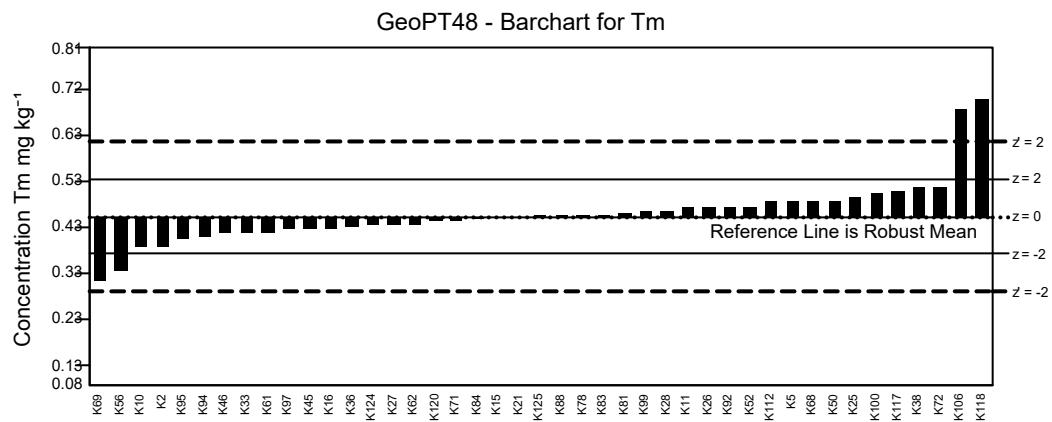
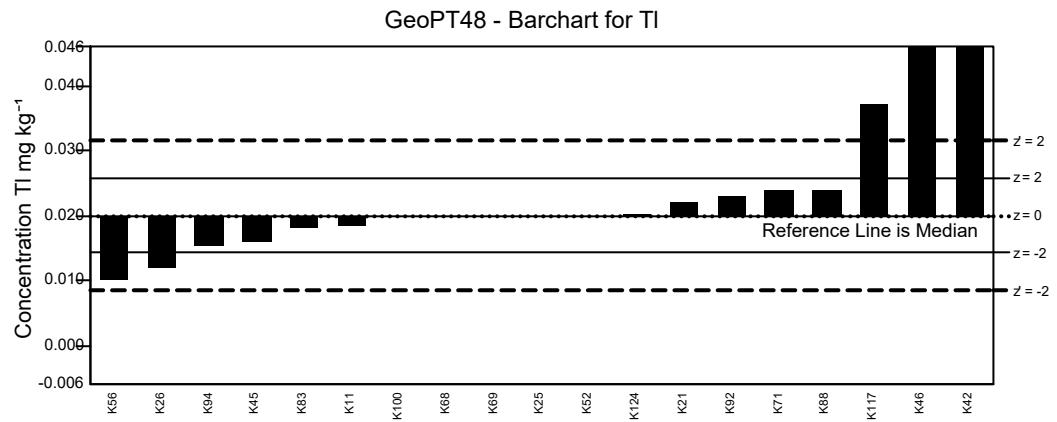




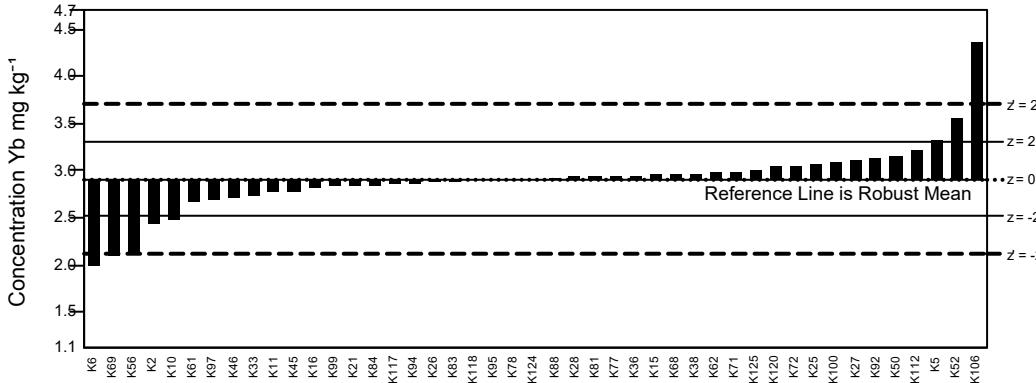




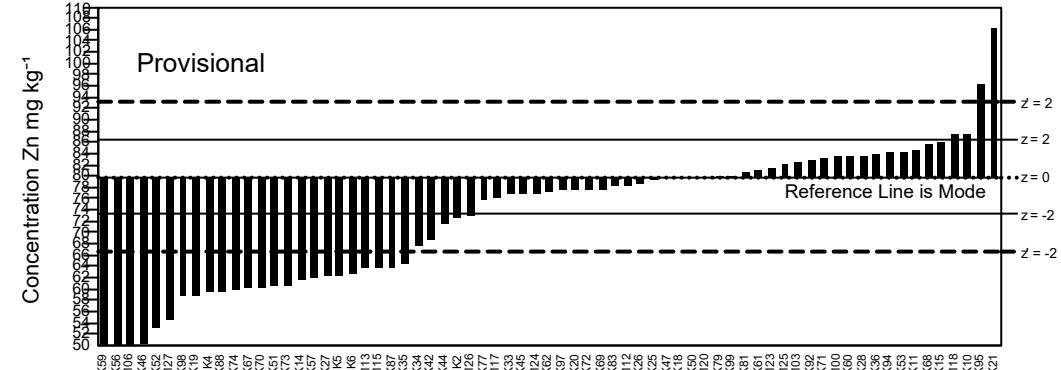




GeoPT48 - Barchart for Yb



GeoPT48 - Barchart for Zn



GeoPT48 - Barchart for Zr

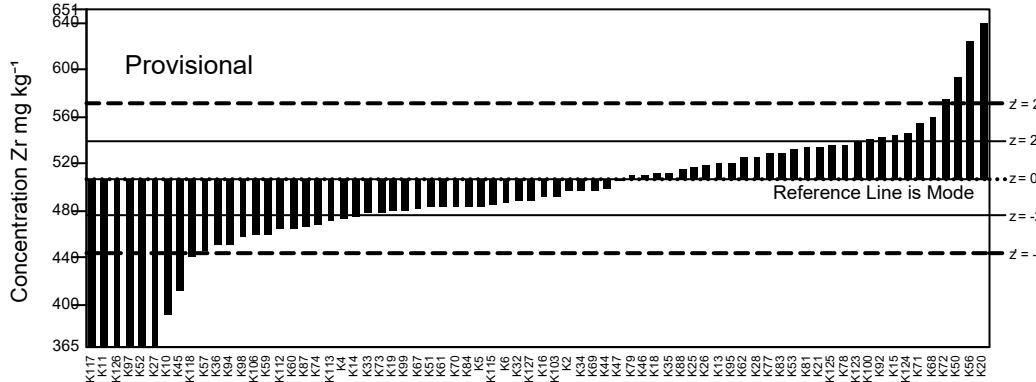
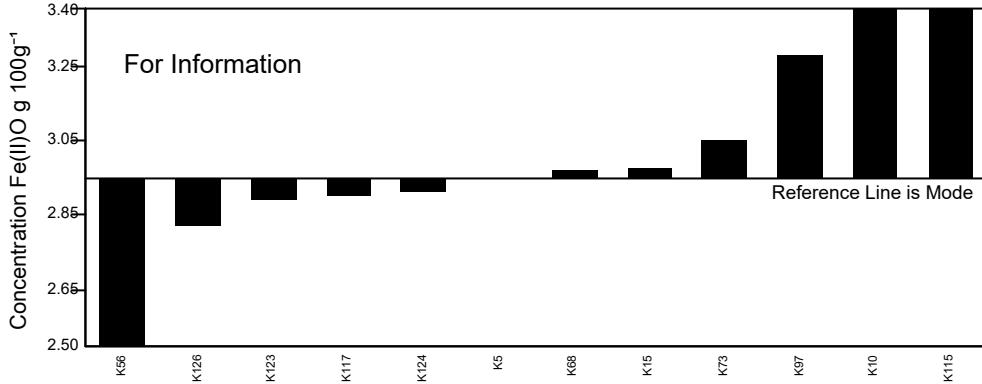
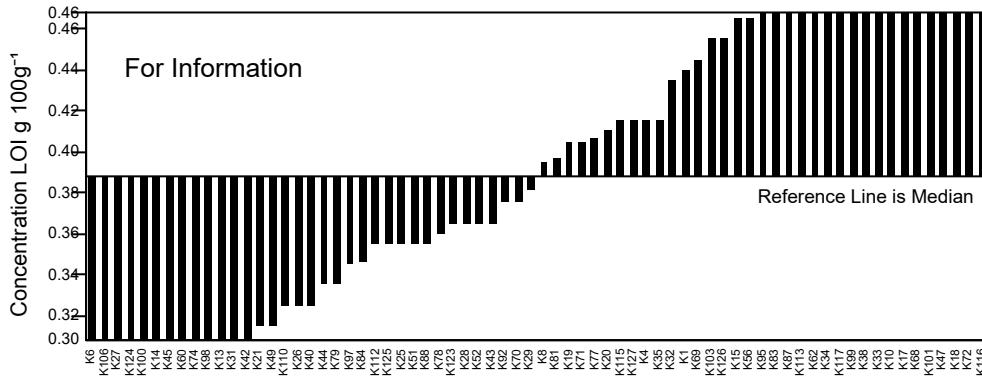


Figure 1: GeoPT48 - Monzonite, MzBP-1. Data distribution charts for elements for which values were assigned or provisional values given for guidance. Horizontal lines show the limits for $-2 < z < 2$ for pure geochemistry labs (solid lines) and $-2 < z' < 2$ for applied geochemistry labs (pecked lines).

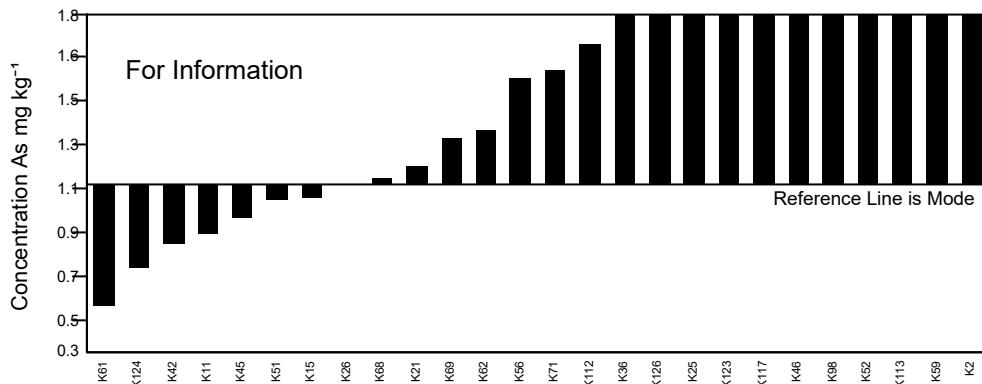
GeoPT48 - Barchart for Fe(II)O



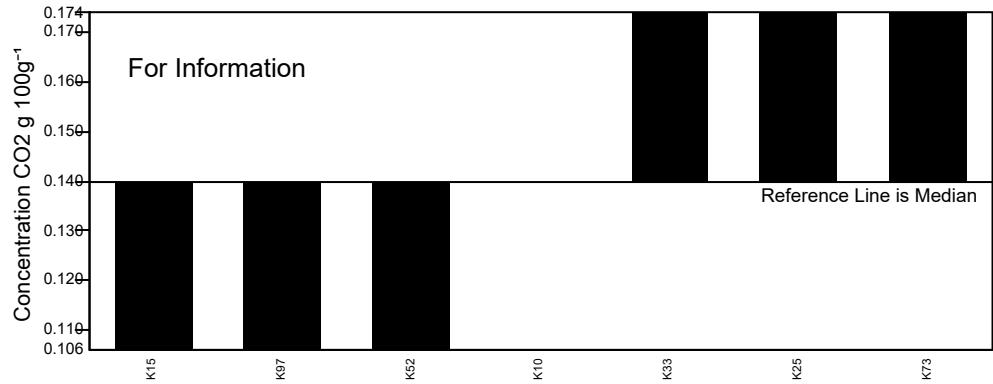
GeoPT48 - Barchart for LOI



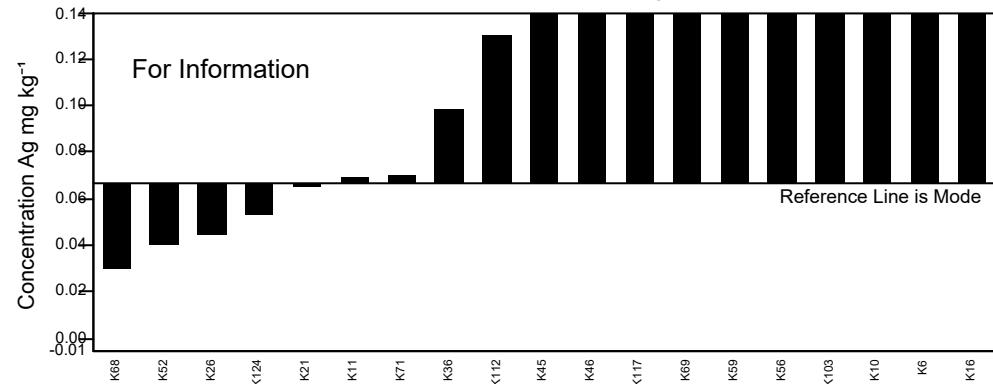
GeoPT48 - Barchart for As



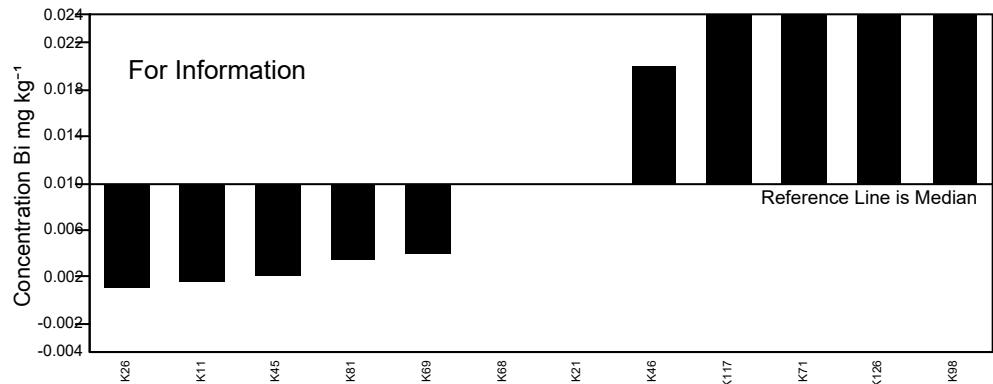
GeoPT48 - Barchart for CO2



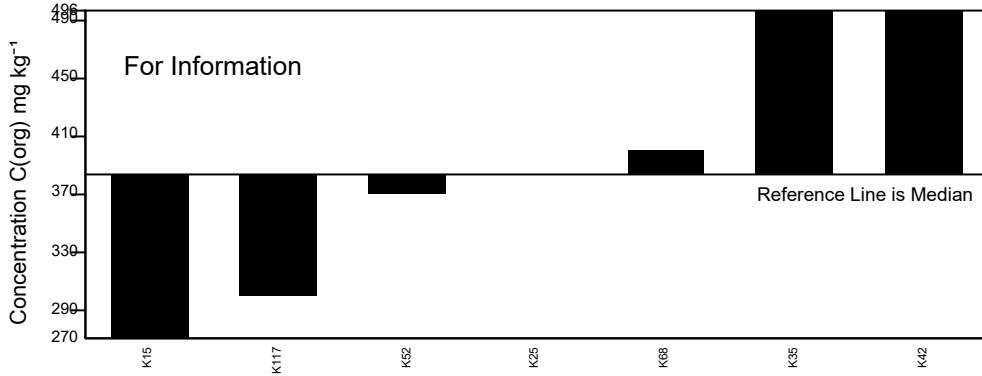
GeoPT48 - Barchart for Ag



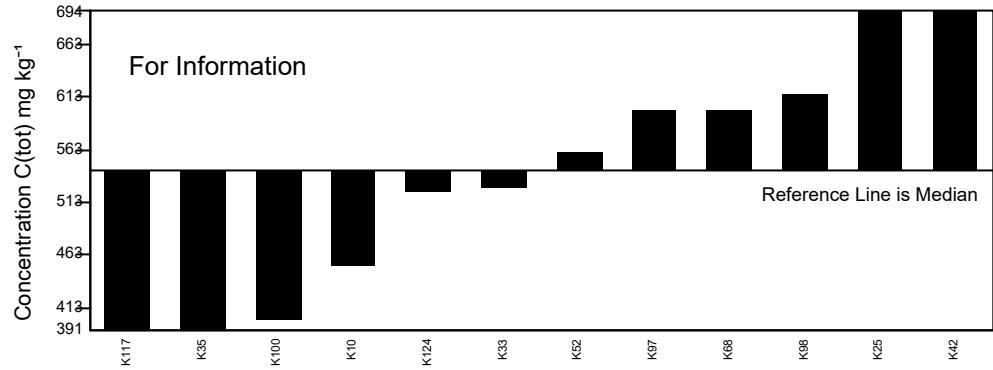
GeoPT48 - Barchart for Bi



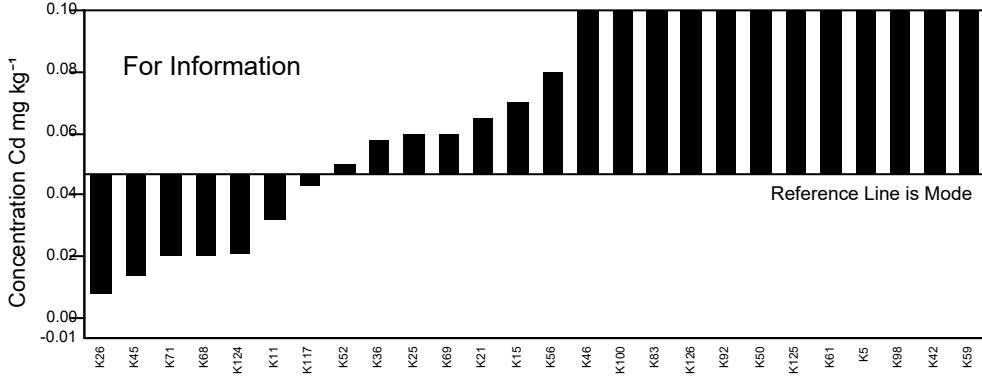
GeoPT48 - Barchart for C(org)



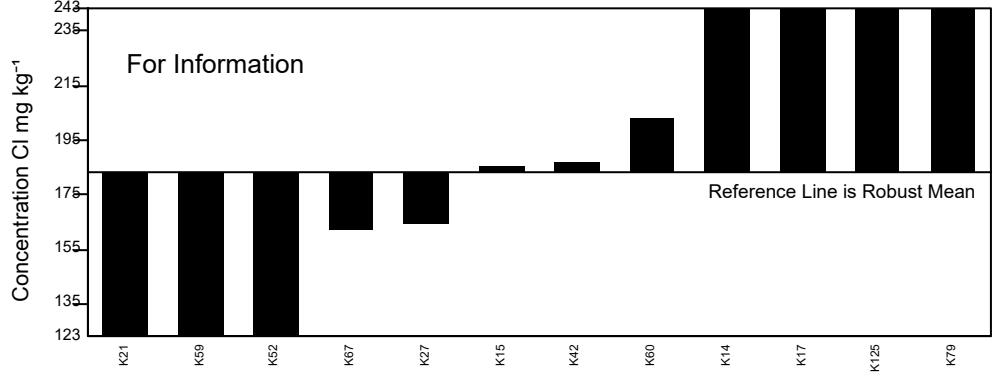
GeoPT48 - Barchart for C(tot)



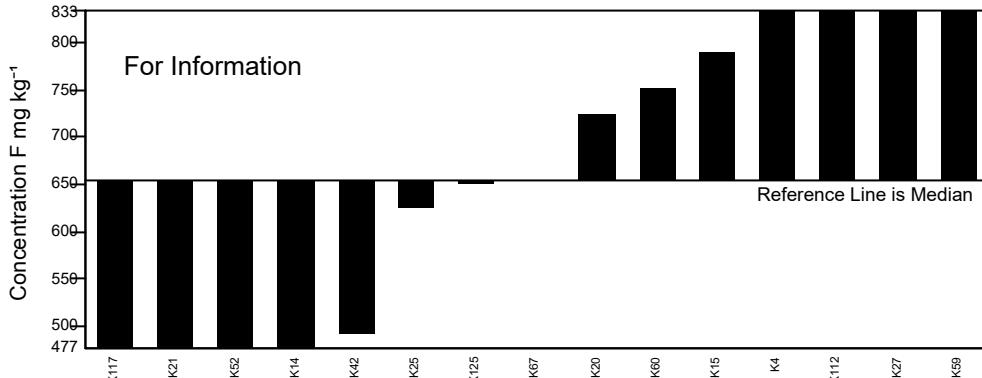
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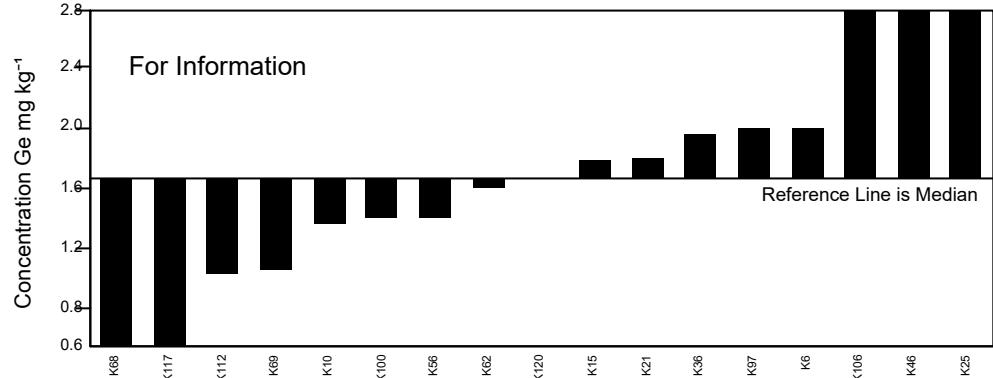
GeoPT48 - Barchart for Cl



GeoPT48 - Barchart for F



GeoPT48 - Barchart for Ge



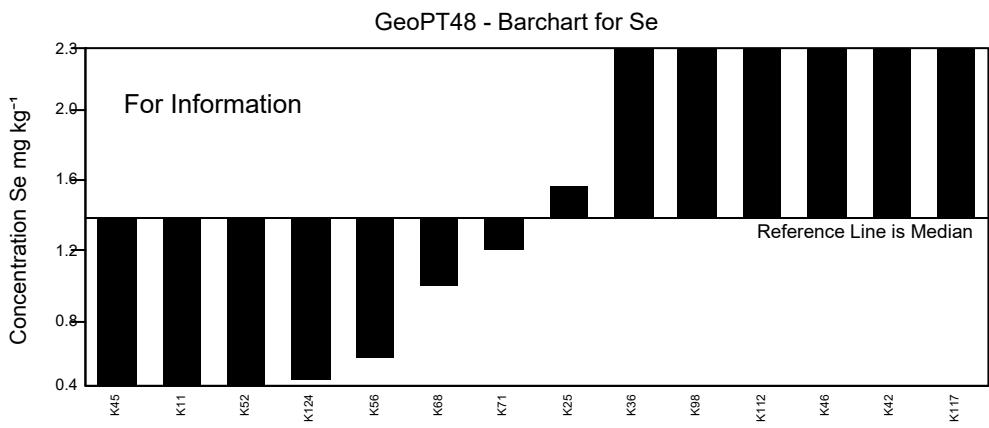
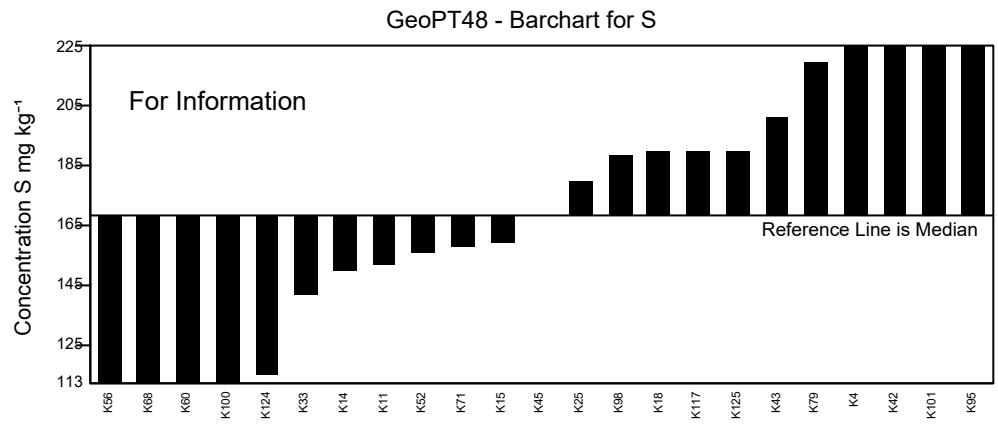
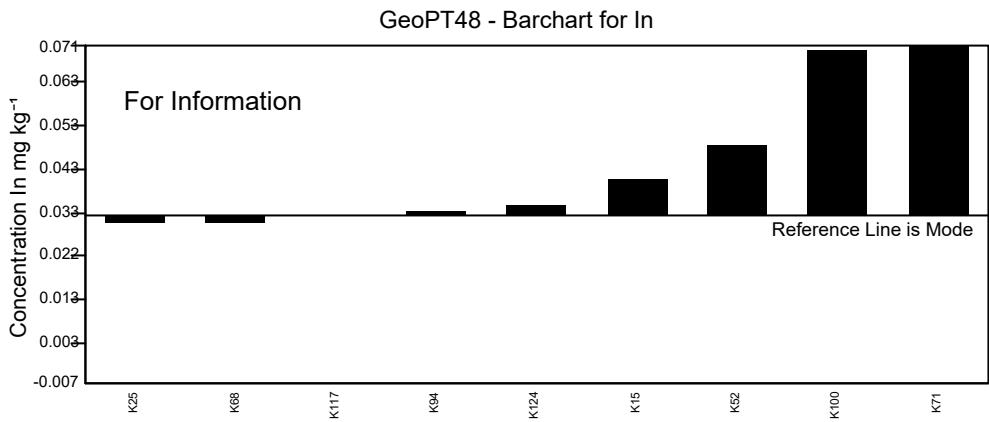
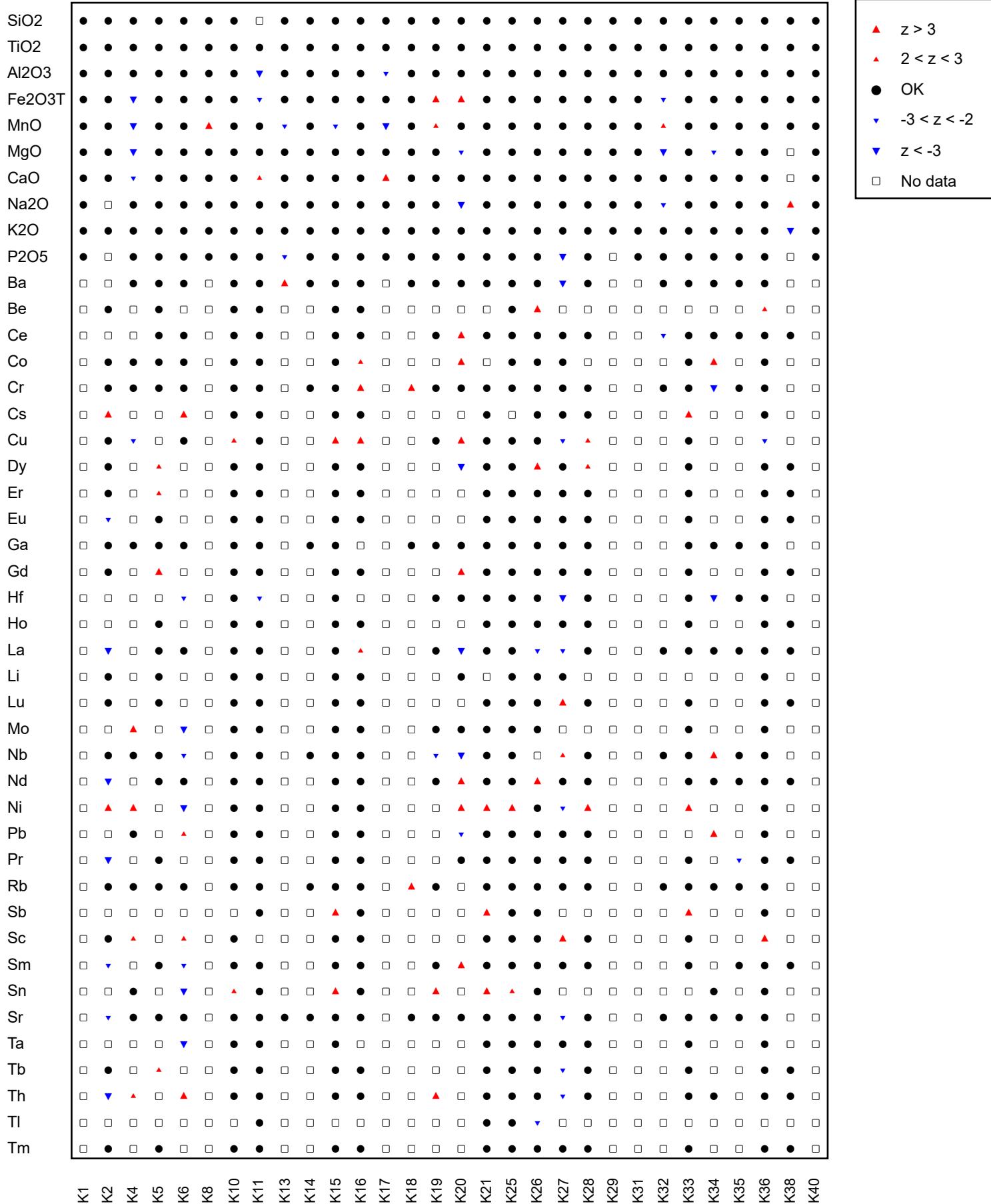


Figure 2: GeoPT48 - Monzonite, MzBP-1. Data distribution charts provided for information only for elements for which values could not be assigned.

Multiple Z-Score Chart for GeoPT48



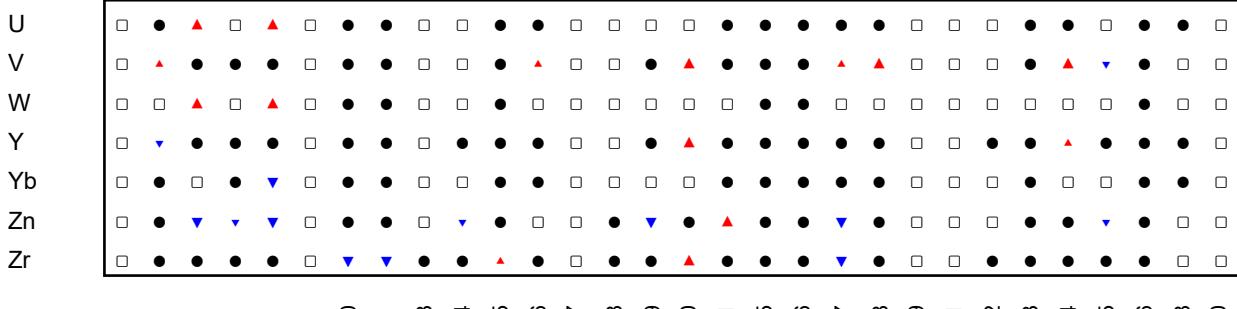
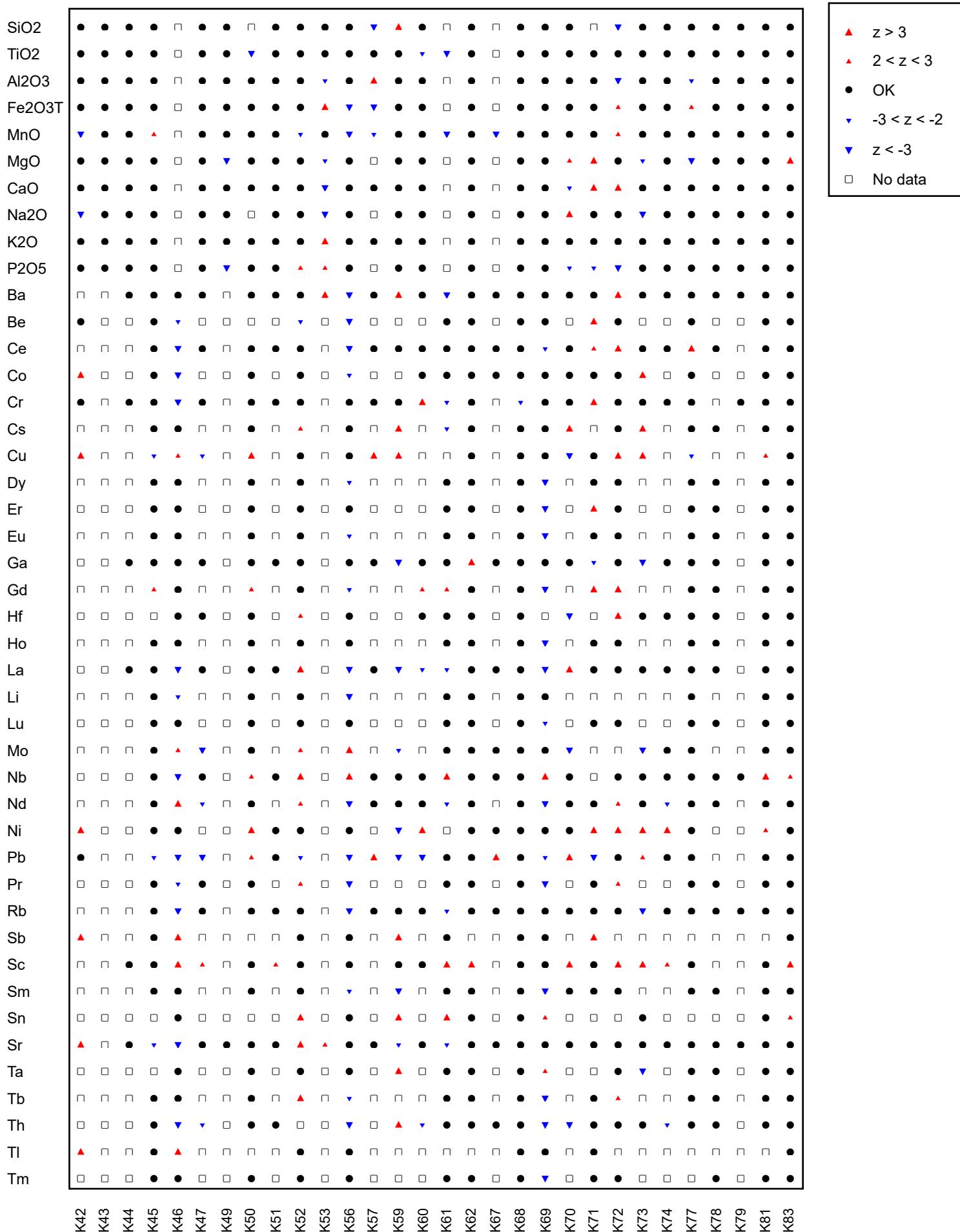


Figure 3: GeoPT48 - Monzonite, MzBP-1. Multiple z-score charts for laboratories participating in the GeoPT48 round. Symbols indicate whether or not an elemental result complies with the $-2 < z < +2$ criteria (see key).

Multiple Z-Score Chart for GeoPT48



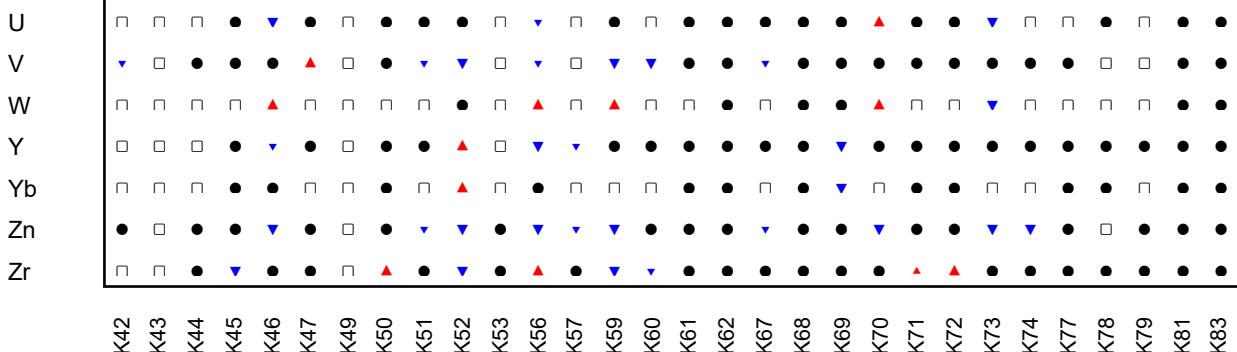
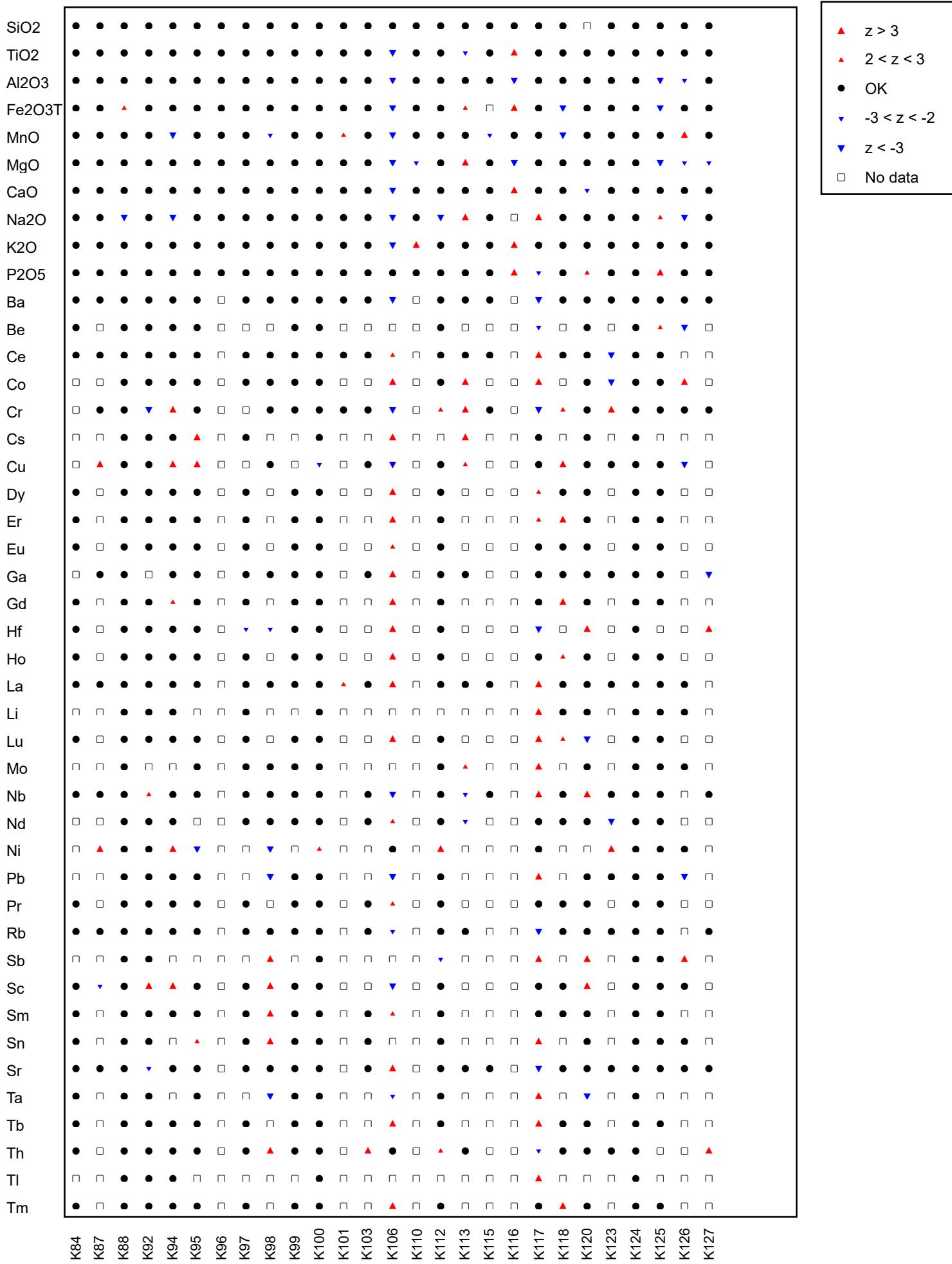


Figure 3: GeoPT48 - Monzonite, MzBP-1. Multiple z-score charts for laboratories participating in the GeoPT48 round. Symbols indicate whether or not an elemental result complies with the $-2 < z < +2$ criteria (see key).

Multiple Z-Score Chart for GeoPT48



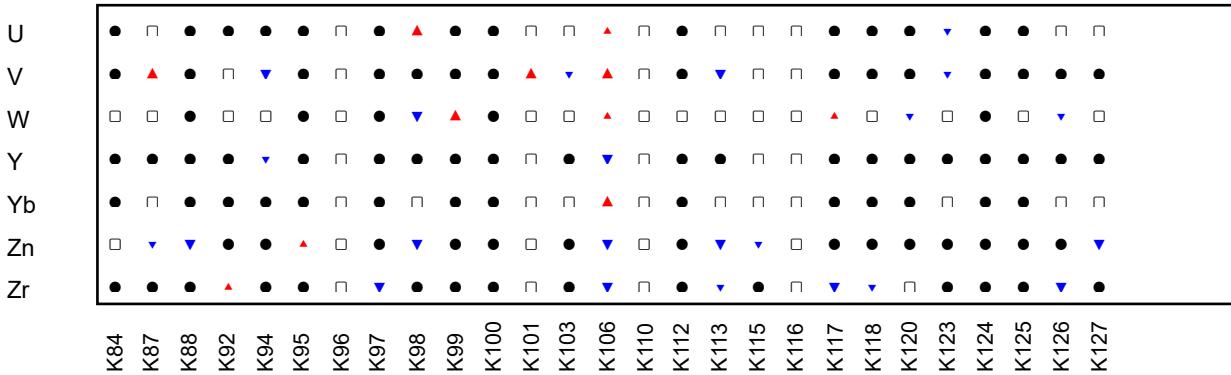


Figure 3: GeoPT48 - Monzonite, MzBP-1. Multiple z-score charts for laboratories participating in the GeoPT48 round. Symbols indicate whether or not an elemental result complies with the $-2 < z < +2$ criteria (see key).

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