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# RFA Ringversuch GeoPT 48, IAG - MONZ-1, Monzonite

**Veranstalter des Ringversuchs:** International Association of Geoanalysts and Geostandards Newsletter - GeoPT48
**Ringversuchsmaterial:** MONZ-1, Monzonite
**RV geschlossen:** 2021 - 3
**Literatur:** Report - GeoPT48 Proficiency Testing Round 48 (Laborcode CRB = K35)

## Hauptelemente [MA%]

| | CRB | RV | 1sRV | Z-Score |
|---|---|---|---|---|
| $SiO_2$ | 57,600 | 57,700 | 0,627 | -0,080 |
| $TiO_2$ | 1,080 | 1,076 | 0,021 | 0,090 |
| $Al_2O_3$ | 19,590 | 19,580 | 0,250 | 0,020 |
| $Fe_2O_3$tot | 4,810 | 4,757 | 0,075 | 0,350 |
| MnO | 0,143 | 0,140 | 0,004 | 0,400 |
| MgO | 1,130 | 1,130 | 0,022 | 0,000 |
| CaO | 3,730 | 3,719 | 0,061 | 0,090 |
| $Na_2O$ | 6,740 | 6,715 | 0,101 | 0,120 |
| $K_2O$ | 3,770 | 3,789 | 0,062 | -0,150 |
| $P_2O5$ | 0,590 | 0,599 | 0,010 | -0,330 |
| L.O.I. * | 0,410 | 0,400 | 0,108 | 0,040 |

## Spurenelemente [µg/g]

| | CRB | RV | 1sRV | Z-Score |
|---|---|---|---|---|
| Ba | 1383,00 | 1320,00 | 35,80 | 0,88 |
| Ce | 164,00 | 181,90 | 6,60 | -1,35 |
| Cr | 128,00 | 121,70 | 4,70 | 0,67 |
| Ga | 27,00 | 25,00 | 1,20 | 0,81 |
| Hf | 12,00 | 11,71 | 0,60 | 0,22 |
| La | 102,00 | 100,00 | 4,00 | 0,25 |
| Nb | 100,00 | 106,10 | 4,20 | -0,73 |
| Nd | 59,00 | 69,10 | 2,90 | -1,73 |
| Pr | 15,00 | 20,00 | 1,00 | -2,45 |
| Rb | 55,00 | 65,10 | 2,80 | -1,82 |
| Sm | 11,00 | 10,70 | 0,60 | 0,28 |
| Sr | 1131,00 | 1087,00 | 30,40 | 0,72 |
| V | 20,00 | 27,90 | 1,40 | -2,92 |
| Y | 30,00 | 29,10 | 1,40 | 0,34 |
| Zn | 65,00 | 80,20 | 3,30 | -2,29 |
| Zr | 512,00 | 507,60 | 15,90 | 0,14 |

## Legende

**CRB:** Ergebnisse CRB – **RV:** Ergebnisse Ringversuch -- **1s-RV:** Standardabweichung Ringversuch
**Z-Score:** Differenz des Messwertes vom Mittelwert des Ringversuchs -- * Wert nicht zertifiziert

# Geo*PT*

# Proficiency Testing Programme for Geochemical Laboratories

Organised by the International Association of Geoanalysts (IAG)

## *Certificate of Performance*

Subscriber: **GeoPT240** Laboratory Code: **K35** Test Material: **MzBP-1**

Round: **GeoPT48** Date: **March 2021**

| Analyte | Z-Score | Data Quality | Consensus Value | Result Submitted |
|---|---|---|---|---|
| | | | g/100g | g/100g |
| SiO2 | **-0.08** | 2 | 57.70 | 57.6 |
| TiO2 | **0.09** | 2 | 1.076 | 1.08 |
| Al2O3 | **0.02** | 2 | 19.58 | 19.59 |
| Fe2O3T | **0.35** | 2 | 4.757 | 4.81 |
| MnO | **0.4** | 2 | 0.1400 | 0.143 |
| MgO | **0** | 2 | 1.130 | 1.13 |
| CaO | **0.09** | 2 | 3.719 | 3.73 |
| Na2O | **0.12** | 2 | 6.715 | 6.74 |
| K2O | **-0.15** | 2 | 3.789 | 3.77 |
| P2O5 | **-0.33** | 2 | 0.5986 | 0.59 |
| | | | mg/kg | mg/kg |
| Ba | **0.88** | 2 | 1320 | 1383 |
| Be | **-** | 2 | 3.645 | |
| Ce | **-1.35** | 2 | 181.9 | 164 |
| Co | **-** | 2 | 5.370 | |
| Cr | **0.66** | 2 | 121.7 | 128 |
| Cs | **-** | 2 | 0.6210 | |
| Cu | **-** | 2 | 7.000 | |
| Dy | **-** | 2 | 5.880 | |
| Er | **-** | 2 | 3.099 | |
| Eu | **-** | 2 | 4.743 | |
| Ga | **0.81** | 2 | 25.00 | 27 |
| Gd | **-** | 2 | 7.704 | |
| Hf | **0.22** | 2 | 11.71 | 12 |
| Ho | **-** | 2 | 1.104 | |
| La | **0.25** | 2 | 100.0 | 102 |

| Analyte | Z-Score | Data Quality | Consensus Value | Result Submitted |
|---|---|---|---|---|
| | | | mg/kg | mg/kg |
| Li | **-** | 2 | 17.15 | |
| Lu | **-** | 2 | 0.4400 | |
| Mo | **-** | 2 | 5.130 | |
| Nb | **-0.73** | 2 | 106.1 | 100 |
| Nd | **-1.72** | 2 | 69.08 | 59 |
| Ni | **-** | 2 | 2.889 | |
| Pb | **-** | 2 | 6.220 | |
| Pr | **-2.45** | 2 | 20.00 | 15 |
| Rb | **-1.82** | 2 | 65.11 | 55 |
| Sb | **-** | 2 | 0.2250 | |
| Sc | **-** | 2 | 6.200 | |
| Sm | **0.28** | 2 | 10.67 | 11 |
| Sn | **-** | 2 | 2.099 | |
| Sr | **0.72** | 2 | 1087 | 1131 |
| Ta | **-** | 2 | 6.160 | |
| Tb | **-** | 2 | 1.103 | |
| Th | **-** | 2 | 11.90 | |
| Tl | **-** | 2 | 0.02000 | |
| Tm | **-** | 2 | 0.4483 | |
| U | **-** | 2 | 3.230 | |
| V | **-2.92** | 2 | 27.90 | 20 |
| W | **-** | 2 | 2.660 | |
| Y | **0.34** | 2 | 29.06 | 30 |
| Yb | **-** | 2 | 2.911 | |
| Zn | **-2.29** | 2 | 80.20 | 65 |
| Zr | **0.14** | 2 | 507.6 | 512 |

The principles upon which GeoPT z-scores are based are detailed in the full report for this round

- indicates result within acceptable range of z-score limits |z| < 2

- indicates result outside z-score limits |z| > 2 but within the z-score limits |z| < or = 3

- indicates result outside z-score limits |z| > 3 and likely to require investigation

Consensus values are assigned values unless otherwise indicated

Shaded Consensus values have provisional status

Peter Webb - Administrator of GeoPT on behalf of the International Association of Geoanalysts

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

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*Keywords: proficiency testing, quality assurance, Geo*PT*, Geo*PT*48, Round 48, MzBP-1, Monzonite,*

## 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 Geo*PT* 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, Geo*PT*, 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

**Geo*PT*48**: 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 Geo*PT*48 (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 Geo*PT* 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 Geo*PT*48 (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

Geo*PT*48 listed in Table 2 are for the analytes: $SiO_2$, $TiO_2$, $Al_2O_3$, $Fe_2O_3T$, MnO, MgO, CaO, $Na_2O$, $K_2O$, $P_2O_5$, 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, $CO_2$, 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

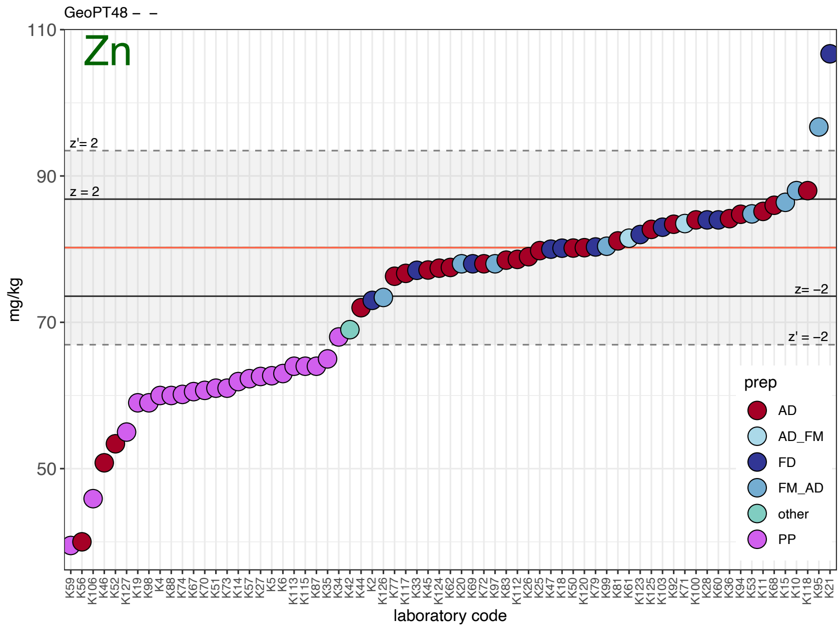


Figure 0.1 Sequential plot of sorted Zn results for MzBP-1 represented according to means of sample preparation codes explained in the text. XRF powder pellet data (PP) clearly contrast with data produced by other methods.

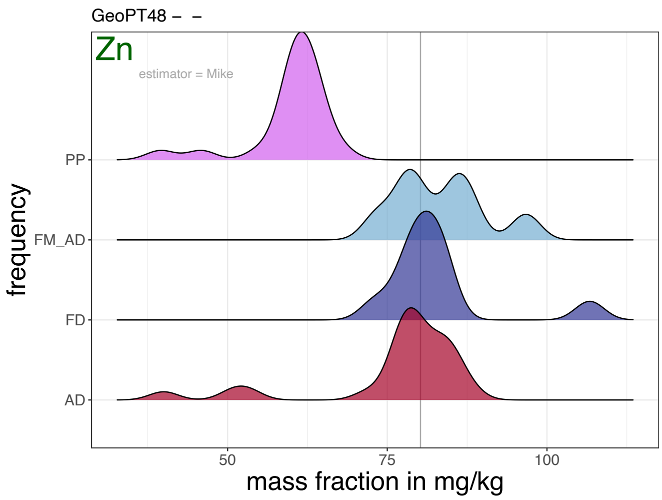


Figure 0.2 Distribution of Zn data contributed for MzBP-1 according to sample preparation procedure.

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 $TiO_2$, MnO, MgO, $P_2O_5$, 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 ($\sigma_{pt}$) – also referred to as the target precision – for each measurand assessed was calculated from a modified form of the Horwitz function as follows:

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

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 $\sigma_{pt}$ is the target standard deviation (all as mass fractions). *Z*-scores for results contributed to Geo*PT*48 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

The authors once again thank Andrea Mills (BGS) for much-valued assistance in distributing these samples and Thomas Meisel (Montanuniversität Leoben, Austria) for development of procedures involving the package 'R' and the Shiny App which has greatly assisted the investigation of data according to analytical procedure, the graphics featured in Figures 0.1 and 0.2, as well as facilitating analysis of datasets involving modes derived according to Thompson (2017).

## References

**IAG (2020)** Protocol for the operation of the Geo*PT* 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 Geo*PT* 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 Geo*PT* 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 Geo*PT* 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 Geo*PT* proficiency testing programme. *Geostandards and Geoanalytical Research*, **43**, 397–408.

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

## Appendix 1

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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Geo*PT*25 - an international proficiency test for analytical geochemistry laboratories - report on round 25 / July 2009 (Basalt, HTP-1). International Association of Geoanalysts: Unpublished report.

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

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

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

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

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

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

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

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

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

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

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

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

**Geo*PT*36A**
Webb, P.C., Thompson, M., Potts, P.J and Wilson, S. (2015)
Geo*PT*36A - 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.

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

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

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

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

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

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

**Geo*PT*40**
Webb, P.C., Thompson, M., Potts, P.J, Gowing, C.J.B. and Wilson, S.A. (2017)
Geo*PT*40 - 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.

**Geo*PT*40A**
Webb, P.C., Thompson, M., Potts, P.J, Gowing, C.J.B. and Wilson, S.A. (2017)
Geo*PT*40A - 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.

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

**Geo*PT*41A**
Webb, P.C., Thompson, M., Potts, P.J, Gowing, C.J.B. and Wilson, S.A. (2017)
Geo*PT*41A - 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.

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

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

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

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

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

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

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

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

**Geo*PT*47A**
Webb, P.C., Potts, P.J., Thompson, M. and Gowing, C.J.B. (2020)
Geo*PT*47A – 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SiO2** | g 100g$^{-1}$ | 57.2 | 57.51 | 58.34 | 57.87 | **57.85** | 57.87 | 57.65 | | **58.33** | 57.81 | **57.26** | 57.47 | 57.75 |
| **TiO2** | g 100g$^{-1}$ | 1.1 | 1.07 | 1.08 | 1.11 | **1.08** | 1.11 | 1.068 | 1.082 | **1.07** | 1.084 | **1.06** | 1.104 | 1.14 |
| **Al2O3** | g 100g$^{-1}$ | 19.6 | 19.34 | 18.98 | 19.49 | **19.68** | 19.67 | 19.49 | 17.38 | **19.89** | 19.58 | **19.37** | 19.83 | 18.27 |
| **Fe2O3T** | g 100g$^{-1}$ | 4.63 | 4.51 | 4.15 | 4.75 | **4.76** | 4.78 | 4.695 | 4.446 | **4.71** | 4.702 | **4.83** | 4.67 | 4.65 |
| **Fe(II)O** | g 100g$^{-1}$ | | | | 2.95 | | | 3.7 | | | | **2.973** | | |
| **MnO** | g 100g$^{-1}$ | 0.139 | 0.15 | 0.11 | 0.135 | **0.14** | 0.21 | 0.144 | 0.135 | **0.13** | 0.137 | **0.13** | 0.138 | 0.11 |
| **MgO** | g 100g$^{-1}$ | 1.11 | 1.07 | 0.83 | 1.14 | **1.12** | 1.15 | 1.134 | 1.098 | **1.13** | 1.1 | **1.12** | 1.05 | 1.14 |
| **CaO** | g 100g$^{-1}$ | 3.74 | 3.58 | 3.47 | 3.74 | **3.75** | 3.72 | 3.764 | 4.035 | **3.67** | 3.728 | **3.76** | 3.72 | 4.28 |
| **Na2O** | g 100g$^{-1}$ | 6.66 | | 7.1 | 6.72 | **6.84** | 6.79 | 6.761 | 6.609 | **6.72** | 6.845 | **6.67** | 6.94 | 6.8 |
| **K2O** | g 100g$^{-1}$ | 3.83 | 3.81 | 3.72 | 3.74 | **3.87** | 3.84 | 3.765 | 3.77 | **3.71** | 3.829 | **3.75** | 3.72 | 3.83 |
| **P2O5** | g 100g$^{-1}$ | 0.597 | | 0.61 | 0.57 | **0.6** | 0.623 | 0.596 | 0.618 | **0.56** | 0.61 | **0.61** | 0.603 | 0.59 |
| **H2O+** | g 100g$^{-1}$ | | | | | | | 0.6 | | | | **0.526** | | |
| **CO2** | g 100g$^{-1}$ | | | | | | | 0.14 | | | | **0.027** | | |
| **LOI** | g 100g$^{-1}$ | 0.435 | | 0.41 | | **0.12** | 0.39 | 0.62 | | **0.3** | 0.238 | **0.46** | | 0.64 |
| **Ag** | mg kg$^{-1}$ | | | | | **1.5** | | 0.835 | 0.069 | | | | 2.45 | |
| **As** | mg kg$^{-1}$ | | 8 | | | | | | 0.842 | | | **1.01** | | |
| **B** | mg kg$^{-1}$ | | | | | | | | | | | **8.253** | | |
| **Ba** | mg kg$^{-1}$ | | | 1355 | 1448 | **1286** | | 1328 | 1237 | **1440** | 1331 | **1273** | 1373 | |
| **Be** | mg kg$^{-1}$ | | 3.94 | | 3.6 | | | 3.338 | 3.519 | | | **3.64** | 4.14 | |
| **Bi** | mg kg$^{-1}$ | | | | | | | | 0.002 | | | | | |
| **Br** | mg kg$^{-1}$ | | | | | | | | | | | | | |
| **C(org)** | mg kg$^{-1}$ | | | | | | | | | | | **138** | | |
| **C(tot)** | mg kg$^{-1}$ | | | | | | | 452 | | | | | | |
| **Cd** | mg kg$^{-1}$ | | | | 0.57 | | | | 0.032 | | | **0.07** | | |
| **Ce** | mg kg$^{-1}$ | | | | 178 | **179** | | 171.3 | 188.2 | | | **181** | 169 | |
| **Cl** | mg kg$^{-1}$ | | | | | | | | | | 250 | **185.195** | | 257.350 |
| **Co** | mg kg$^{-1}$ | | 4.79 | 5 | 6 | **5** | | 5.37 | 5.371 | | | **5.22** | 7 | |
| **Cr** | mg kg$^{-1}$ | | 133 | 121 | 119 | **122** | | 122 | 126.7 | | 112.8 | **126** | 152 | |
| **Cs** | mg kg$^{-1}$ | | 2.56 | | | **2** | | 0.7 | 0.622 | | | **0.62** | 0.73 | |
| **Cu** | mg kg$^{-1}$ | | 8.09 | 5 | | **7** | | 8.875 | 6.146 | | | **8.5** | 16.72 | |
| **Dy** | mg kg$^{-1}$ | | 4.98 | | 7.61 | | | 4.845 | 5.576 | | | **5.98** | 5.96 | |
| **Er** | mg kg$^{-1}$ | | 2.54 | | 4.11 | | | 2.62 | 3.206 | | | **3** | 3.14 | |
| **Eu** | mg kg$^{-1}$ | | 2.97 | | 5.55 | | | 4.045 | 4.512 | | | **4.77** | 5.06 | |
| **F** | mg kg$^{-1}$ | | | 876 | | | | | | | 310 | **790** | | |
| **Ga** | mg kg$^{-1}$ | | 24.18 | 24 | 24.6 | **23** | | 24.79 | 20.98 | | 25.3 | **26.6** | | |
| **Gd** | mg kg$^{-1}$ | | 7.53 | | 11.9 | | | 6.52 | 7.346 | | | **7.56** | 7.75 | |
| **Ge** | mg kg$^{-1}$ | | | | | **2** | | 1.36 | | | | **1.78** | | |
| **Hf** | mg kg$^{-1}$ | | | | | **10** | | 9.92 | 8.747 | | | **11.6** | | |
| **Hg** | mg kg$^{-1}$ | | | | | | | | | | | **0.001** | | |
| **Ho** | mg kg$^{-1}$ | | | | 1.22 | | | 0.895 | 1.04 | | | **1.15** | 1.12 | |
| **I** | mg kg$^{-1}$ | | | | | **1.5** | | | | | | | | |
| **In** | mg kg$^{-1}$ | | | | | | | | | | | **0.04** | | |
| **Ir** | mg kg$^{-1}$ | | | | | | | | | | | | | |
| **La** | mg kg$^{-1}$ | | 42.46 | | 115 | **101** | | 86.2 | 103 | | | **94.9** | 119 | |
| **Li** | mg kg$^{-1}$ | | 14.71 | | 17.9 | | | 17.55 | 17.27 | | | **16.775** | 20.4 | |
| **Lu** | mg kg$^{-1}$ | | 0.44 | | 0.49 | | | 0.46 | 0.400 | | | **0.443** | 0.42 | |
| **Mo** | mg kg$^{-1}$ | | | 8 | | **3** | | 4.945 | 5.667 | | | **4.85** | 6.09 | |
| **Nb** | mg kg$^{-1}$ | | 98 | 107 | 114 | **97** | | 112.460 | 106.5 | | 103.6 | **99.7** | 95 | |
| **Nd** | mg kg$^{-1}$ | | 36.21 | | 75 | **66** | | 61.95 | 69.16 | | | **68.5** | 70.2 | |
| **Ni** | mg kg$^{-1}$ | | 5.15 | 7 | | **2** | | 3.2 | 2.746 | | | **3.1** | 3.3 | |
| **Pb** | mg kg$^{-1}$ | | | 7 | | **7** | | 6.67 | 5.862 | | | **6.1** | 6.84 | |
| **Pd** | mg kg$^{-1}$ | | | | | | | | | | | | | |
| **Pr** | mg kg$^{-1}$ | | 11.07 | | 22.1 | | | 18.055 | 19.49 | | | **19.6** | 20.4 | |
| **Pt** | mg kg$^{-1}$ | | | | | | | | | | | | | |
| **Rb** | mg kg$^{-1}$ | | 65 | 62 | 67 | **67** | | 71.1 | 66.28 | | 67.5 | **66.1** | 73.5 | |
| **Re** | mg kg$^{-1}$ | | | | | | | | | | | | | |
| **Rh** | mg kg$^{-1}$ | | | | | | | | | | | | | |
| **Ru** | mg kg$^{-1}$ | | | | | | | | | | | | | |
| **S** | mg kg$^{-1}$ | | | 233 | | | | | 152 | | 150 | **159** | | |
| **Sb** | mg kg$^{-1}$ | | | | | | | | 0.218 | | | **0.4** | 0.29 | |
| **Sc** | mg kg$^{-1}$ | | 4.7 | 8 | | **7** | | 6 | | | | **6.53** | 6.2 | |
| **Se** | mg kg$^{-1}$ | | | | | | | | 0.037 | | | | | |
| **Sm** | mg kg$^{-1}$ | | 7.31 | | 12.4 | **9** | | 9.09 | 10.42 | | | **10.6** | 10.73 | |
| **Sn** | mg kg$^{-1}$ | | | 2 | | **1.4** | | 2.75 | 2.147 | | | **2.55** | 2.6 | |
| **Sr** | mg kg$^{-1}$ | | 965 | 1059 | 1092 | **1088** | | 1126 | 1041 | **1080** | 1092 | **1087** | 991 | |
| **Ta** | mg kg$^{-1}$ | | | | | **5** | | 5.9 | 6.027 | | | **6.85** | | |
| **Tb** | mg kg$^{-1}$ | | 0.98 | | 1.53 | | | 0.91 | 1.001 | | | **1.05** | 1.06 | |
| **Te** | mg kg$^{-1}$ | | | | | | | | | | | | | |
| **Th** | mg kg$^{-1}$ | | 7.82 | 15 | | **14** | | 9.995 | 11.67 | | | **12.2** | 11.59 | |
| **Tl** | mg kg$^{-1}$ | | | | | | | | 0.019 | | | | | |
| **Tm** | mg kg$^{-1}$ | | 0.38 | | 0.48 | | | 0.38 | 0.467 | | | **0.445** | 0.42 | |
| **U** | mg kg$^{-1}$ | | 3.95 | 9 | | **4** | | 2.975 | 3.23 | | | **3.25** | 3.56 | |
| **V** | mg kg$^{-1}$ | | 33.57 | 29 | 27.9 | **27** | | 23.25 | 26.8 | | | **26** | 35 | |
| **W** | mg kg$^{-1}$ | | | 7 | | **4** | | 2.77 | 2.655 | | | **2.66** | | |
| **Y** | mg kg$^{-1}$ | | 20.81 | 27 | 30.2 | **28** | | 29.2 | 28.8 | | 27.6 | **29.4** | 30 | |
| **Yb** | mg kg$^{-1}$ | | 2.43 | | 3.33 | **2** | | 2.475 | 2.766 | | | **2.96** | 2.82 | |
| **Zn** | mg kg$^{-1}$ | | 73 | 60 | 62.7 | **63** | | 88 | 85.16 | | 61.9 | **86.4** | | |
| **Zr** | mg kg$^{-1}$ | | 496 | 473 | 484 | **486** | | 392 | 316 | **520** | 475.4 | **544** | 491 | |

**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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SiO2 | $g\ 100g^{-1}$ | 56.961 | 56.96 | 55.442 | 57.46 | 58 | 58.27 | 57.416 | 58.11 | 57.68 | 56.43 | 56.8 | 57.82 | 57.265 |
| TiO2 | $g\ 100g^{-1}$ | 1.072 | 1.11 | 1.059 | 1.087 | 1.093 | 1.052 | 1.101 | 1.062 | 1.11 | 1.06 | 1.07 | 1.07 | 1.033 |
| Al2O3 | $g\ 100g^{-1}$ | 19.269 | 19.26 | 19.533 | 19.567 | 19.62 | 19.67 | 19.297 | 19.57 | 19.5 | 19.27 | 19.35 | 19.4 | 19.399 |
| Fe2O3T | $g\ 100g^{-1}$ | 4.675 | 5.09 | 5.508 | 4.825 | 5.01 | 4.8 | 4.824 | 4.81 | 4.708 | 4.78 | 4.59 | 4.68 | 4.775 |
| Fe(II)O | $g\ 100g^{-1}$ | | | | | | | | | | | | | |
| MnO | $g\ 100g^{-1}$ | 0.136 | 0.149 | 0.132 | 0.141 | 0.14 | 0.143 | 0.138 | 0.14 | 0.135 | 0.15 | 0.15 | 0.14 | 0.155 |
| MgO | $g\ 100g^{-1}$ | 1.099 | 1.15 | 1.038 | 1.105 | 1.14 | 1.17 | 1.159 | 1.13 | 1.156 | 1.12 | 1.05 | 1.13 | 1.023 |
| CaO | $g\ 100g^{-1}$ | 3.691 | 3.83 | 3.717 | 3.751 | 3.69 | 3.808 | 3.744 | 3.74 | 3.734 | 3.65 | 3.75 | 3.89 | 3.625 |
| Na2O | $g\ 100g^{-1}$ | 6.586 | 6.74 | 5.255 | 6.673 | 6.52 | 6.81 | 6.519 | 6.7 | 6.651 | 6.37 | 6.46 | 6.85 | 6.405 |
| K2O | $g\ 100g^{-1}$ | 3.787 | 3.85 | 3.953 | 3.828 | 3.84 | 3.79 | 3.728 | 3.79 | 3.815 | 3.76 | 3.73 | 3.74 | 3.801 |
| P2O5 | $g\ 100g^{-1}$ | 0.593 | 0.613 | 0.646 | 0.588 | 0.562 | 0.605 | 0.55 | 0.594 | | 0.6 | 0.58 | 0.59 | 0.584 |
| H2O+ | $g\ 100g^{-1}$ | | | | | | | | | | | | | |
| CO2 | $g\ 100g^{-1}$ | | | | | 0.21 | | | | | | | 0.19 | |
| LOI | $g\ 100g^{-1}$ | 1.74 | 0.4 | 0.405 | 0.31 | 0.35 | 0.32 | 0.2 | 0.36 | 0.376 | 0.3 | 0.43 | 0.6 | 0.497 |
| Ag | $mg\ kg^{-1}$ | | | | 0.065 | | 0.044 | | | | | | | |
| As | $mg\ kg^{-1}$ | | | | 1.156 | 2.63 | 1.075 | | | | | | | |
| B | $mg\ kg^{-1}$ | | | | | | | | | | | | | |
| Ba | $mg\ kg^{-1}$ | 1302.470 | 1375 | 1361 | 1320.700 | 1232 | 1381.300 | 1196 | 1310 | | | 1257 | 1311.410 | 1320 |
| Be | $mg\ kg^{-1}$ | | | | | 3.26 | 4.513 | | | | | | | |
| Bi | $mg\ kg^{-1}$ | | | | 0.01 | | 0.001 | | | | | | | |
| Br | $mg\ kg^{-1}$ | | | | 0.53 | | | | | | | | | |
| C(org) | $mg\ kg^{-1}$ | | | | | 383 | | | | | | | | |
| C(tot) | $mg\ kg^{-1}$ | | | | | 955 | | | | | | | 524.7 | |
| Cd | $mg\ kg^{-1}$ | | | | 0.065 | 0.06 | 0.008 | | | | | | | |
| Ce | $mg\ kg^{-1}$ | | 179 | 655 | 183.640 | 197 | 174.7 | 173.9 | 185.990 | | | 146 | 185.750 | 172 |
| Cl | $mg\ kg^{-1}$ | | | | 0.016 | | | 164 | | | | | | |
| Co | $mg\ kg^{-1}$ | | | 12 | | 5.42 | 5.308 | 5.298 | | | | | 5.29 | 11 |
| Cr | $mg\ kg^{-1}$ | 193.930 | 114 | 132 | 130.3 | 107 | 112.4 | 125.8 | 130 | | | 122 | 119.960 | 90 |
| Cs | $mg\ kg^{-1}$ | | | | 0.637 | | 0.607 | 0.579 | 0.61 | | | | 1 | |
| Cu | $mg\ kg^{-1}$ | | 7.6 | 15 | 7.27 | 7.72 | 6.3 | 6.162 | 8 | | | | 7.19 | |
| Dy | $mg\ kg^{-1}$ | | | 1 | 5.697 | 6.24 | 7.514 | 5.427 | 6.61 | | | | 5.97 | |
| Er | $mg\ kg^{-1}$ | | | | 2.989 | 3.44 | 3.14 | 2.954 | 3.21 | | | | 3.06 | |
| Eu | $mg\ kg^{-1}$ | | | | 4.716 | 4.94 | 4.95 | 4.225 | 5.15 | | | | 4.57 | |
| F | $mg\ kg^{-1}$ | | | 724 | 0.46 | 625 | | 930 | | | | | | |
| Ga | $mg\ kg^{-1}$ | 26.433 | 25 | 26 | 24.75 | 29.4 | 25.22 | 24.59 | 24 | | | | 24.68 | 26 |
| Gd | $mg\ kg^{-1}$ | | | 11 | 7.639 | 8.58 | 7.47 | 7.246 | 7.79 | | | | 7.11 | |
| Ge | $mg\ kg^{-1}$ | | | | 1.791 | 7.65 | | | | | | | | |
| Hf | $mg\ kg^{-1}$ | | 13 | 14 | 11.633 | 13.4 | 11.01 | 9.009 | 11.98 | | | | 11.48 | 7 |
| Hg | $mg\ kg^{-1}$ | | | | | | | | | | | | | |
| Ho | $mg\ kg^{-1}$ | | | | 1.064 | 1.2 | 1.13 | 1.062 | 1.23 | | | | 1.07 | |
| I | $mg\ kg^{-1}$ | | | | | | | | | | | | | |
| In | $mg\ kg^{-1}$ | | | | | 0.03 | | | | | | | | |
| Ir | $mg\ kg^{-1}$ | | | | | | | | | | | | | |
| La | $mg\ kg^{-1}$ | | 98 | 65 | 95.941 | 102 | 91.86 | 89.73 | 100.340 | | | 95 | 97.33 | 90 |
| Li | $mg\ kg^{-1}$ | | | 18 | | 18.9 | 16.03 | 16.28 | | | | | | |
| Lu | $mg\ kg^{-1}$ | | | | 0.414 | 0.47 | 0.438 | 450 | 0.45 | | | | 0.41 | |
| Mo | $mg\ kg^{-1}$ | | 4.5 | 5 | 5.026 | 5.3 | 5.32 | | | | | | 4.9 | |
| Nb | $mg\ kg^{-1}$ | | 95 | 77 | 105.420 | 111 | | 117.8 | 105.260 | | | 104 | 106.330 | 138 |
| Nd | $mg\ kg^{-1}$ | | 67 | 112 | 68.229 | 73.6 | 109.120 | 63.79 | 70.52 | | | | 67.43 | 62 |
| Ni | $mg\ kg^{-1}$ | | | 22 | 5.064 | 5.44 | 2.686 | 2.478 | 7 | | | | 8.68 | |
| Pb | $mg\ kg^{-1}$ | | | 4 | 5.934 | 6.22 | 6.05 | 6.8 | 6.24 | | | | | 11 |
| Pd | $mg\ kg^{-1}$ | | | | | | | | | | | | | |
| Pr | $mg\ kg^{-1}$ | | | 24 | 19.686 | 20.9 | 19.95 | 18.37 | 20.45 | | | | 19.83 | |
| Pt | $mg\ kg^{-1}$ | | | | | | | | | | | | | |
| Rb | $mg\ kg^{-1}$ | 75.167 | 66 | | 64.83 | 64.8 | 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 | | | | 180 | | | | | | | 141.7 | |
| Sb | $mg\ kg^{-1}$ | | | | 3.275 | 0.23 | 0.225 | | | | | | 0.99 | |
| Sc | $mg\ kg^{-1}$ | | | | 6.596 | 6.06 | 6.232 | 8.608 | 6.2 | | | | 6.44 | |
| Se | $mg\ kg^{-1}$ | | | | | 1.57 | | | | | | | | |
| Sm | $mg\ kg^{-1}$ | | 8.7 | 37 | 10.453 | 11.2 | 10.933 | 9.846 | 11.07 | | | | 10.54 | |
| Sn | $mg\ kg^{-1}$ | | 3.6 | | 2.804 | 2.92 | 2.017 | | | | | | | 2 |
| Sr | $mg\ kg^{-1}$ | 1070.730 | 1065 | 1099 | 1105.500 | 983 | 1107.600 | 1025 | 1115 | | | 1035 | 1088.580 | 1140 |
| Ta | $mg\ kg^{-1}$ | | | | 6.063 | 6.69 | 5.98 | 5.656 | 6.16 | | | | 5.45 | |
| Tb | $mg\ kg^{-1}$ | | | | 1.103 | 1.17 | 1.105 | 0.895 | 1.18 | | | | 1.01 | |
| Te | $mg\ kg^{-1}$ | | | | | | | | | | | | | |
| Th | $mg\ kg^{-1}$ | | 14 | | 11.579 | 13.8 | 11.61 | 10.22 | 12.11 | | | | 11.72 | 11 |
| Tl | $mg\ kg^{-1}$ | | | | 0.022 | 0.02 | 0.012 | | | | | | | |
| Tm | $mg\ kg^{-1}$ | | | | 0.446 | 0.49 | 0.467 | 0.43 | 0.46 | | | | 0.41 | |
| U | $mg\ kg^{-1}$ | | | | 3.047 | 3.73 | 3.207 | 2.911 | 3.17 | | | | 3.06 | 4 |
| V | $mg\ kg^{-1}$ | | 28 | 52 | 28.51 | 26.4 | 26.493 | 31.61 | 32 | | | | 28.01 | 68 |
| W | $mg\ kg^{-1}$ | | | | | 2.77 | 2.711 | | | | | | | |
| Y | $mg\ kg^{-1}$ | | 29 | 52 | 29.532 | 29.4 | 29.28 | 27.77 | 30.5 | | | 28 | 28.79 | 37 |
| Yb | $mg\ kg^{-1}$ | | | | 2.84 | 3.07 | 2.88 | 3.125 | 2.94 | | | | 2.73 | |
| Zn | $mg\ kg^{-1}$ | 80.133 | 59 | 78 | 106.7 | 79.8 | 78.97 | 62.6 | 84 | | | | 77.11 | 68 |
| Zr | $mg\ kg^{-1}$ | 511.670 | 479 | 640 | 534.7 | 517 | 518.520 | 357.4 | 526 | | | 488 | 477.750 | 496 |

**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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SiO2 | 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 |
| TiO2 | g 100g$^{-1}$ | 1.08 | 1.102 | 1.15 | 1.06 | 1.09 | 1.08 | 1.09 | 0.997 | | **1.08** | **1.1** | **1.002** | 1.06 |
| Al2O3 | g 100g$^{-1}$ | 19.59 | 19.78 | 19.3 | 20.1 | 19.39 | 19.39 | 19.36 | 19.225 | | **19.47** | **19.6** | **19.68** | 19.5 |
| Fe2O3T | g 100g$^{-1}$ | 4.81 | 4.81 | 4.82 | 4.74 | 4.87 | 4.71 | 4.73 | 4.715 | | **4.77** | **4.77** | **4.68** | 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** | 0.13 |
| MgO | g 100g$^{-1}$ | 1.13 | 1.137 | | 1.14 | 1.12 | 1.12 | 1.09 | 1.177 | | **1.12** | **1.05** | **1.13** | 1.12 |
| CaO | g 100g$^{-1}$ | 3.73 | 3.904 | | 3.72 | 3.76 | 3.68 | 3.73 | 3.721 | | **3.71** | **3.67** | **3.78** | 3.72 |
| Na2O | 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 |
| K2O | 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** | 3.83 |
| P2O5 | g 100g$^{-1}$ | 0.59 | 0.584 | | 0.588 | 0.6 | 0.61 | 0.59 | 0.626 | | **0.59** | **0.54** | **0.601** | 0.61 |
| H2O+ | g 100g$^{-1}$ | | | | | | | | | | | | | |
| CO2 | 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** | 180 |
| 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** | 129 |
| 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** | 24 |
| 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** | 103 |
| 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** | 99 |
| 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** | 3 |
| Pb | mg kg$^{-1}$ | | 6.273 | | | 6.4 | | | **5.38** | **4.57** | **3** | | **7.07** | 7 |
| 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** | 70 |
| 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** | 8 |
| Se | mg kg$^{-1}$ | | 2.414 | | | 3.4 | | | **0.016** | **3.13** | | | | |
| 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** | 1125 |
| 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** | 12 |
| Tl | mg kg$^{-1}$ | | | | | 0.3 | | | **0.016** | **0.05** | | | | |
| 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** | 3 |
| 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** | 31 |
| 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** | 483 |

**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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SiO2 | g 100g$^{-1}$ | **58.23** | **56.66** | 58.98 | 53.1 | **59.79** | **57.59** | | 57.27 | | 58.18 | **57.3** | **57.33** | |
| TiO2 | g 100g$^{-1}$ | **1.07** | **1.103** | 1 | 1 | **1.06** | **1.03** | **0.93** | 1.068 | | 1.1 | **1.07** | **1.09** | **1.096** |
| Al2O3 | g 100g$^{-1}$ | **19.58** | **18.99** | 19.85 | 22 | **19.65** | **19.3** | | 19.62 | | 19.66 | **19.36** | **19.78** | **19.66** |
| Fe2O3T | g 100g$^{-1}$ | **4.77** | **5.206** | 3.85 | 4.23 | **4.78** | **4.81** | | 4.671 | | 4.83 | **4.76** | **4.77** | **4.69** |
| Fe(II)O | g 100g$^{-1}$ | | | 1.48 | | | | | | | 2.97 | | | |
| MnO | g 100g$^{-1}$ | **0.13** | **0.144** | 0.116 | 0.12 | **0.14** | **0.14** | **0.12** | 0.144 | 0.116 | 0.14 | **0.137** | **0.14** | **0.14** |
| MgO | g 100g$^{-1}$ | **1.13** | **1.072** | 1.08 | | **1.15** | **1.16** | | 1.119 | | 1.16 | **1.09** | **1.18** | **1.21** |
| CaO | g 100g$^{-1}$ | **3.69** | **3.519** | 3.56 | 3.67 | **3.75** | **3.65** | | 3.68 | | 3.73 | **3.68** | **3.57** | **4** |
| Na2O | g 100g$^{-1}$ | **6.69** | **6.38** | 6.63 | | **6.7** | **6.72** | | 6.745 | | 6.86 | **6.69** | **7.04** | **6.62** |
| K2O | g 100g$^{-1}$ | **3.84** | **4.135** | 3.7 | 3.86 | **3.79** | **3.78** | | 3.776 | | 3.86 | **3.75** | **3.74** | **3.71** |
| P2O5 | g 100g$^{-1}$ | **0.63** | **0.635** | 0.64 | | **0.61** | **0.58** | | 0.605 | | 0.62 | **0.59** | **0.56** | **0.56** |
| H2O+ | g 100g$^{-1}$ | **1.67** | | | | | | | | | | | | |
| CO2 | g 100g$^{-1}$ | 0.09 | | | | | | | | | | | | |
| LOI | g 100g$^{-1}$ | **0.36** | | 0.46 | | | **0.26** | | 0.49 | | 0.67 | **0.44** | **0.37** | **0.4** |
| Ag | mg kg$^{-1}$ | **0.04** | | 0.72 | | **0.7** | | | | | 0.03 | 0.6 | | **0.07** |
| As | mg kg$^{-1}$ | **6.5** | | 1.55 | | **7.1** | | **0.52** | 1.32 | | 1.1 | 1.28 | | **1.59** |
| B | mg kg$^{-1}$ | | | 2.3 | | | | | | | | 5.5 | | |
| Ba | mg kg$^{-1}$ | **1250** | **1474** | 1100 | 1375.500 | 18312.600 | **1331** | **1168** | 1353 | 1319.300 | 1255 | **1292** | **1333** | **1390** |
| Be | mg kg$^{-1}$ | **3** | | 1.45 | | | | **3.27** | 4.43 | | 3.35 | **3.5** | | **4.44** |
| Bi | mg kg$^{-1}$ | | | | | | | | | | 0.01 | 0.004 | | **0.128** |
| Br | mg kg$^{-1}$ | | | | | **3.3** | | | | | | | | |
| C(org) | mg kg$^{-1}$ | **370** | | | | | | | | | 400 | | | |
| C(tot) | mg kg$^{-1}$ | **560** | | | | | | | | | 600 | | | |
| Cd | mg kg$^{-1}$ | **0.05** | | 0.08 | | **2.8** | | **0.5** | | | 0.02 | 0.06 | | **0.02** |
| Ce | mg kg$^{-1}$ | **179** | | 120 | 180.7 | **178.5** | **184** | **169** | 187 | 175.5 | 174 | **162** | **179.5** | **198** |
| Cl | mg kg$^{-1}$ | **67** | | | | 65.4 | **203** | | | 162 | | | | |
| Co | mg kg$^{-1}$ | **5.63** | | 4 | | | **6** | **4.94** | 5.09 | 5.02 | 5.2 | **4.8** | **5.6** | **5.95** |
| Cr | mg kg$^{-1}$ | **122** | | 103 | 136.5 | **126.2** | **137** | **111** | 134 | | 100 | **126** | **113.8** | **137** |
| Cs | mg kg$^{-1}$ | **0.74** | | 0.47 | | **7.2** | | **0.51** | 0.58 | | 0.66 | **0.56** | **2.6** | |
| Cu | mg kg$^{-1}$ | **7.75** | | 7 | 13.2 | **12.3** | | | 7.35 | | 6.6 | **6.2** | **5.1** | **7.39** |
| Dy | mg kg$^{-1}$ | **6.39** | | 4.4 | | | | **5.35** | 6.08 | | 5.8 | **3.75** | | **5.82** |
| Er | mg kg$^{-1}$ | **3.3** | | 2.3 | | | | **2.98** | 2.99 | | 2.96 | **2.14** | | **7.24** |
| Eu | mg kg$^{-1}$ | **5.1** | | 3.2 | | | | **4.67** | 4.82 | | 4.66 | **2.8** | | **4.48** |
| F | mg kg$^{-1}$ | **109** | | | | 1561.400 | **751** | | | 655 | | | | |
| Ga | mg kg$^{-1}$ | **27.2** | | 23 | 26.1 | **18.8** | **25** | **23.8** | 36.4 | 25.59 | 25.5 | **23.6** | **22.7** | **22.3** |
| Gd | mg kg$^{-1}$ | **8.54** | | 5.5 | | | **9** | **9.02** | 8.1 | | 7.22 | **5.32** | | **9.09** |
| Ge | mg kg$^{-1}$ | | | 1.4 | | | | | 1.6 | | 0.2 | 1.05 | | |
| Hf | mg kg$^{-1}$ | **13.2** | | 11.8 | | | **12** | **10.85** | 11.7 | | 10.8 | | **1.9** | |
| Hg | mg kg$^{-1}$ | **0.021** | | 0.04 | | | | | | | | | | |
| Ho | mg kg$^{-1}$ | **1.17** | | 0.83 | | | | **1.02** | 1.11 | | 1.11 | **0.72** | | **1.079** |
| I | mg kg$^{-1}$ | | | | | | | | | | | | | |
| In | mg kg$^{-1}$ | **0.048** | | | | | | | | | 0.03 | | | **0.09** |
| Ir | mg kg$^{-1}$ | | | 0.016 | | | | | | | | | | |
| La | mg kg$^{-1}$ | **113** | | 60 | 90.4 | **80.1** | **90** | **90.1** | 101 | 106.3 | 89.5 | **48.52** | **135** | **99.81** |
| Li | mg kg$^{-1}$ | **18.4** | | 8.8 | | | | **17.2** | 18 | | 16.9 | **16** | | |
| Lu | mg kg$^{-1}$ | **0.404** | | 0.3 | | | | **0.4** | 0.44 | | 0.44 | **0.34** | | **0.51** |
| Mo | mg kg$^{-1}$ | **5.78** | | 9.3 | | **4.4** | | **5.09** | 6.04 | 4.95 | 5.08 | 5.6 | **3.9** | |
| Nb | mg kg$^{-1}$ | **132** | | 138 | 110.4 | **100** | **113** | **121** | 115 | 101.340 | 115 | **134** | **97.9** | |
| Nd | mg kg$^{-1}$ | **75** | | 42.5 | 80.3 | **63.7** | **65** | **62.8** | 67 | | 69.3 | **35.59** | **64** | **71.1** |
| Ni | mg kg$^{-1}$ | **2.66** | | 2.7 | | **1.7** | **11** | | 2.95 | 3.2 | 2.7 | **2.7** | **2.5** | **5.28** |
| Pb | mg kg$^{-1}$ | **5.4** | | 3.75 | 10 | **3.2** | **4** | **6.16** | 6.23 | 9.04 | 6.1 | **5.1** | **23.3** | **0.7** |
| Pd | mg kg$^{-1}$ | | | 9 | | | | | | | | | | |
| Pr | mg kg$^{-1}$ | **22.8** | | 12.3 | | | | **18.7** | 20.3 | | 19.25 | **9.7** | | **20.67** |
| Pt | mg kg$^{-1}$ | | | 0.07 | | | | | | | | | | |
| Rb | mg kg$^{-1}$ | **68.9** | | 38 | 71.3 | **62.5** | **66** | **58.7** | 65.2 | 68.76 | 64.9 | **64** | **70** | **62.5** |
| Re | mg kg$^{-1}$ | | | | | | | | | | 0.002 | | | |
| Rh | mg kg$^{-1}$ | | | 0.014 | | | | | | | | | | |
| Ru | mg kg$^{-1}$ | | | 0.004 | | | | | | | | | | |
| S | mg kg$^{-1}$ | **156** | | 0.016 | | | **88** | | | | 0.02 | | | **158** |
| Sb | mg kg$^{-1}$ | **0.236** | | 0.17 | | **2.7** | | **0.23** | | | 0.25 | 0.25 | | **1.31** |
| Sc | mg kg$^{-1}$ | **6.04** | | 6.8 | | **6.2** | **6** | **9.29** | 9.88 | | 5.7 | **5.7** | **7.5** | **6.1** |
| Se | mg kg$^{-1}$ | **0.053** | | 0.6 | | | | | | | 1 | | | **1.21** |
| Sm | mg kg$^{-1}$ | **11.4** | | 7.3 | | **7.4** | | **9.53** | 11.1 | | 10.4 | **6** | **11.2** | **10.17** |
| Sn | mg kg$^{-1}$ | **2.74** | | 1.9 | | **10.8** | | **4.81** | 2.62 | | 2.2 | 2.7 | | |
| Sr | mg kg$^{-1}$ | **1180** | **1164** | 1100 | 1144.600 | **1019.500** | **1052** | **1008** | 1099 | 1088.600 | 1050 | **1054** | **1093** | **1034** |
| Ta | mg kg$^{-1}$ | **6.42** | | 7.5 | | **7.7** | | **6.41** | 6.08 | | 5.8 | **7** | | |
| Tb | mg kg$^{-1}$ | **1.86** | | 0.68 | | | | **1.11** | 1.14 | | 1.03 | **0.79** | | **1.12** |
| Te | mg kg$^{-1}$ | | | 0.016 | | | | | | | 0.05 | | | **0.024** |
| Th | mg kg$^{-1}$ | | | 7 | | **15** | **10** | **11** | 11.9 | 11.42 | 12.45 | **7.5** | **7.2** | **11.46** |
| Tl | mg kg$^{-1}$ | **0.02** | | 0.01 | | | | | | | 0.02 | **0.02** | | **0.024** |
| Tm | mg kg$^{-1}$ | **0.47** | | 0.33 | | | | **0.41** | 0.43 | | 0.48 | **0.31** | | **0.44** |
| U | mg kg$^{-1}$ | **3.58** | | 2.1 | | **3.6** | | **2.96** | 3.32 | 4 | 3.1 | **3** | **6.1** | **3.53** |
| V | mg kg$^{-1}$ | **15.9** | | 22 | | **21.7** | **19** | **25.9** | 22.9 | 21.45 | 24 | **28** | **28.3** | **28.4** |
| W | mg kg$^{-1}$ | **2.84** | | 6.3 | | **4.5** | | | 2.45 | | 2.6 | 3 | **11** | |
| Y | mg kg$^{-1}$ | **45** | | 20 | 23.1 | **27.6** | **31** | **26.4** | 30.4 | 28.39 | 27.9 | **23** | **29.4** | **31.1** |
| Yb | mg kg$^{-1}$ | **3.55** | | 2.15 | | | | **2.68** | 2.99 | | 2.97 | **2.1** | | **2.99** |
| Zn | mg kg$^{-1}$ | **53.4** | **84.82** | 40 | 62.3 | **39.5** | **84** | **81.5** | 77.5 | 60.53 | 86 | **78** | **60.7** | **83.5** |
| Zr | mg kg$^{-1}$ | **355** | **531.6** | 625 | 445.8 | **459.7** | **465** | **484** | 525 | 480.840 | 560 | **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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SiO2 | g 100g$^{-1}$ | **55** | **56.49** | 57.39 | **57.7** | 57.95 | 57.241 | **57.818** | **57.1** | 57.88 | 57.89 | 57.77 | **57.28** | 58.73 |
| TiO2 | g 100g$^{-1}$ | **1.06** | **1.07** | 1.073 | **1.07** | 1.088 | 1.073 | **1.087** | **1.07** | 1.08 | 1.1 | 1.06 | **1.05** | 1.083 |
| Al2O3 | g 100g$^{-1}$ | **18.19** | **19.08** | 19.34 | **18.87** | 19.65 | 19.465 | **19.471** | **19.7** | 19.63 | 19.52 | 19.3 | **19.72** | 19.56 |
| Fe2O3T | g 100g$^{-1}$ | **4.96** | **4.76** | 4.721 | **4.91** | 4.705 | 4.697 | **4.734** | **4.67** | 4.82 | 4.74 | 5.09 | **4.79** | 4.697 |
| Fe(II)O | g 100g$^{-1}$ | | **3.05** | | | | | | | | | | | |
| MnO | g 100g$^{-1}$ | **0.15** | **0.14** | 0.137 | **0.144** | 0.135 | 0.136 | **0.135** | **0.142** | 0.139 | 0.14 | 0.127 | **0.139** | 0.106 |
| MgO | g 100g$^{-1}$ | **1.15** | **1.08** | 1.136 | **1.04** | 1.096 | 1.168 | **1.165** | **1.21** | 1.08 | 1.1 | 1.1 | **1.15** | 1.187 |
| CaO | g 100g$^{-1}$ | **4.56** | **3.68** | 3.705 | **3.7** | 3.777 | 3.661 | **3.698** | **3.71** | 3.88 | 3.77 | 3.7 | **3.84** | 3.69 |
| Na2O | g 100g$^{-1}$ | **6.63** | **6.33** | 6.946 | **6.85** | 6.701 | 6.711 | **6.736** | **6.91** | 6.63 | 6.82 | 5.95 | **6.7** | 5.797 |
| K2O | g 100g$^{-1}$ | **3.78** | **3.73** | 3.725 | **3.83** | 3.98 | 3.859 | **3.783** | **3.84** | 3.78 | 3.81 | 3.86 | **3.83** | 3.73 |
| P2O5 | g 100g$^{-1}$ | **0.55** | **0.58** | 0.588 | **0.587** | 0.595 | 0.622 | **0.584** | **0.581** | 0.605 | 0.6 | 0.6 | **0.61** | 0.581 |
| H2O+ | g 100g$^{-1}$ | | **0.51** | | | | | | | | | | | |
| CO2 | g 100g$^{-1}$ | | **0.26** | | | | | | | | | | | |
| LOI | g 100g$^{-1}$ | **3.58** | | 0.26 | **0.402** | 0.355 | 0.33 | **0.392** | **0.47** | 0.341 | 0.47 | 0.35 | **0.37** | |
| Ag | mg kg$^{-1}$ | | | | | | | | | | | | | |
| As | mg kg$^{-1}$ | | | | | | | | | | | | | |
| B | mg kg$^{-1}$ | | | | | | | **17.673** | | | | | | |
| Ba | mg kg$^{-1}$ | **1603** | **1320** | 1294 | **1335** | 1302 | 1397 | **1309.277** | **1313** | 1363 | 1184 | 1260 | **1354.020** | 1249 |
| Be | mg kg$^{-1}$ | **3.65** | | | **3.72** | | | **3.890** | **3.76** | 3.87 | | 4.3 | **3.525** | 3.639 |
| Bi | mg kg$^{-1}$ | | | | | | | **0.003** | | | | | | |
| Br | mg kg$^{-1}$ | | | | | | | | | | | | | |
| C(org) | mg kg$^{-1}$ | | | | | | | | | | | | | |
| C(tot) | mg kg$^{-1}$ | | | | | | | | | | | | | |
| Cd | mg kg$^{-1}$ | | | | | | | | **0.212** | | | | **0.313** | |
| Ce | mg kg$^{-1}$ | **223** | **172** | 174.7 | **207.3** | 185 | | **184.227** | **180** | 185 | 184 | **179** | **184.533** | 200 |
| Cl | mg kg$^{-1}$ | | | | | | 323 | | | | | | | |
| Co | mg kg$^{-1}$ | **5.92** | **7** | | **5.33** | | | **5.413** | **5.3** | | | 5.3 | **5.41** | 5.741 |
| Cr | mg kg$^{-1}$ | **130** | **118** | 112.1 | **122** | | 109.5 | **119.446** | **126** | | 107 | 122 | **66.128** | 170.1 |
| Cs | mg kg$^{-1}$ | **0.65** | **4** | | **0.69** | 0.66 | | **0.620** | **0.625** | | | 0.64 | **0.621** | 0.684 |
| Cu | mg kg$^{-1}$ | **12.3** | **14** | | **6.07** | | | **8.099** | **7.42** | | 16 | 7.4 | **6.718** | 15.06 |
| Dy | mg kg$^{-1}$ | **5.99** | | | **5.88** | 5.88 | | **6.050** | **5.85** | 5.86 | | **5.97** | **6.228** | 5.704 |
| Er | mg kg$^{-1}$ | **3.32** | | | **3.06** | 3.18 | | **3.004** | **3.02** | 3.08 | | **3.12** | **3.229** | 3.545 |
| Eu | mg kg$^{-1}$ | **5.08** | | | **4.65** | 4.52 | | **4.787** | **4.65** | 4.51 | | **4.71** | **4.789** | 4.793 |
| F | mg kg$^{-1}$ | | | | | | | | | | | | | |
| Ga | mg kg$^{-1}$ | **27.3** | **19** | 23.65 | **24.39** | 25.9 | | **26.012** | **23** | | 27 | 25 | | 26.35 |
| Gd | mg kg$^{-1}$ | **10.3** | | | **7.88** | 8.46 | | **7.502** | **7.54** | 7.29 | | **8.37** | **7.827** | 10.18 |
| Ge | mg kg$^{-1}$ | | | | | | | | | | | | | |
| Hf | mg kg$^{-1}$ | **23.4** | **12** | 10.06 | **11.6** | 11.8 | | **11.722** | **11.6** | 10.54 | | 11.6 | **11.81** | 9.144 |
| Hg | mg kg$^{-1}$ | | | | | | | | | | | 0.005 | | |
| Ho | mg kg$^{-1}$ | **1.14** | | | **1.12** | 1.07 | | **1.126** | **1.13** | 1.07 | | **1.1** | **1.187** | 1.017 |
| I | mg kg$^{-1}$ | | | | | | | | | | | | | |
| In | mg kg$^{-1}$ | | | | | | | | | | | | | 0.033 |
| Ir | mg kg$^{-1}$ | | | | | | | | | | | | | |
| La | mg kg$^{-1}$ | **104** | **104** | 98.06 | **99.6** | 100 | | **101.448** | **95.1** | 100.1 | 107 | **97.6** | **92.296** | 101.4 |
| Li | mg kg$^{-1}$ | | | | **18.41** | | | **16.891** | **17.3** | | | 19 | **17.26** | 17.72 |
| Lu | mg kg$^{-1}$ | **0.48** | | | **0.44** | 0.44 | | **0.442** | **0.435** | 0.433 | | **0.45** | **0.475** | 0.442 |
| Mo | mg kg$^{-1}$ | | **2** | 5.339 | **4.86** | | | **5.310** | **5.2** | | | 5.2 | | |
| Nb | mg kg$^{-1}$ | **112** | **105** | 98.89 | **112.3** | 104 | 90.9 | **119.593** | **116** | 105 | 93 | 108 | **116.277** | 96.2 |
| Nd | mg kg$^{-1}$ | **76.4** | **74** | 52.07 | **69.1** | 71 | | **69.878** | **68.7** | | | **68.6** | **70.235** | 67.8 |
| Ni | mg kg$^{-1}$ | **7.27** | **14** | 6.231 | **2.7** | | | **3.352** | **2.99** | | 20 | 3.3 | **2.798** | 6.561 |
| Pb | mg kg$^{-1}$ | **6.07** | **7** | 7.032 | **6.32** | | | **6.382** | **5.97** | | | 6.4 | **6.352** | 6.379 |
| Pd | mg kg$^{-1}$ | | | | | | | | | | | | | |
| Pr | mg kg$^{-1}$ | **22.1** | | | **20.2** | 20.5 | | **20.022** | **20** | 20.11 | | **20** | **19.762** | 21.71 |
| Pt | mg kg$^{-1}$ | | | | | | | | | | | | | |
| Rb | mg kg$^{-1}$ | **68.9** | **54** | 63.18 | **69.8** | 67.2 | 65.1 | **67.552** | **63.6** | 67.16 | 63 | 63 | **65.463** | 69.82 |
| Re | mg kg$^{-1}$ | | | | | | | | | | | | | |
| Rh | mg kg$^{-1}$ | | | | | | | | | | | | | |
| Ru | mg kg$^{-1}$ | | | | | | | | | | | | | |
| S | mg kg$^{-1}$ | | | | | | 220 | | | | | | | |
| Sb | mg kg$^{-1}$ | | | | | | | | **0.215** | | | 0.26 | **0.188** | |
| Sc | mg kg$^{-1}$ | **9.1** | **9** | 8.052 | **6.75** | | | **6.086** | **11.1** | 6.34 | 4 | 6.3 | **7.681** | 8.996 |
| Se | mg kg$^{-1}$ | | | | | | | | | | | | | |
| Sm | mg kg$^{-1}$ | **11.2** | | | **10.51** | 10.8 | | **10.840** | **10.6** | 10.91 | | **10.5** | **10.817** | 11.51 |
| Sn | mg kg$^{-1}$ | | **2** | | | | | **2.175** | **2.54** | 2.29 | | 2.24 | **2.067** | |
| Sr | mg kg$^{-1}$ | **1147** | **1040** | 1056 | **1101** | 1135 | 1090 | **1106.209** | **1067** | 1139 | 1075 | 1040 | **1009.610** | 1024 |
| Ta | mg kg$^{-1}$ | **6.19** | **1** | | **5.73** | 5.9 | | **6.184** | **6.16** | 6.53 | | 6.2 | **6.227** | |
| Tb | mg kg$^{-1}$ | **1.3** | | | **1.09** | 1.11 | | **1.102** | **1.06** | 1.08 | | **1.12** | **1.108** | 1.025 |
| Te | mg kg$^{-1}$ | | | | | | | | | | | | | |
| Th | mg kg$^{-1}$ | **12** | **11** | 8.77 | **12.39** | 12 | | **12.086** | **11.9** | 12.26 | | 11.7 | **12.77** | 12.41 |
| Tl | mg kg$^{-1}$ | | | | | | | | **0.018** | | | 0.024 | **0.023** | 0.015 |
| Tm | mg kg$^{-1}$ | **0.51** | | | | 0.45 | | **0.458** | **0.451** | 0.443 | | **0.45** | **0.469** | 0.405 |
| U | mg kg$^{-1}$ | **2.98** | **2** | | | 3.27 | | **3.282** | **3.39** | 3.424 | | 3.01 | **3.468** | 3.393 |
| V | mg kg$^{-1}$ | **27.2** | **29** | 28.09 | **27.85** | | | **28.172** | **26.6** | 32.07 | 41 | 27 | | 10.03 |
| W | mg kg$^{-1}$ | | **1** | | | | | **2.429** | **2.41** | | | 2.6 | | |
| Y | mg kg$^{-1}$ | **31.3** | **30** | 28.62 | **30.1** | 28.9 | 28.9 | **30.836** | **28.2** | 24.24 | 28 | 28.5 | **31.389** | 23.35 |
| Yb | mg kg$^{-1}$ | **3.05** | | | **2.95** | 2.9 | | **2.945** | **2.89** | 2.85 | | **2.93** | **3.141** | 2.869 |
| Zn | mg kg$^{-1}$ | **78** | **61** | 60.15 | **76.3** | | 80.3 | **81.128** | **78.5** | | 64 | 60 | **83.405** | 84.77 |
| Zr | mg kg$^{-1}$ | **575** | **478** | 468.3 | **528.4** | 535 | 510.8 | **534.678** | **529** | 484 | 466 | 515 | **542.847** | 451.5 |

**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 | | K95 | K96 | K97 | K98 | K99 | K100 | K101 | K103 | K106 | K110 | K112 | K113 | K115 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SiO2 | 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** | 57.329 |
| TiO2 | g 100g$^{-1}$ | 1.05 | 1.02 | 1.08 | 1.09 | 1.13 | 1.09 | 1.06 | 1.092 | **0.97** | 1.079 | **1.06** | **1.028** | 1.064 |
| Al2O3 | g 100g$^{-1}$ | 19.5 | 19.4 | 19.5 | 19.65 | 19.68 | 19.55 | 20 | 19.66 | **16.37** | 20.17 | **19.13** | **19.77** | 19.496 |
| Fe2O3T | g 100g$^{-1}$ | 4.78 | 4.7 | 4.78 | 4.83 | 4.87 | 4.73 | 4.98 | 4.67 | **3.49** | 4.87 | **4.75** | **4.981** | |
| Fe(II)O | g 100g$^{-1}$ | | | 3.28 | | | | | | | | | | 4.856 |
| MnO | g 100g$^{-1}$ | 0.14 | 0.13 | 0.14 | 0.12 | 0.15 | 0.14 | 0.16 | 0.144 | **0.1** | 0.146 | **0.147** | **0.142** | 0.121 |
| MgO | g 100g$^{-1}$ | 1.19 | 1.15 | 1.12 | 1.19 | 1.1 | 1.13 | 1.08 | 1.15 | **0.75** | 1.01 | **1.089** | **1.204** | 1.098 |
| CaO | g 100g$^{-1}$ | 3.72 | 3.67 | 3.66 | 3.88 | 3.85 | 3.75 | 3.8 | 3.653 | **3.33** | 3.73 | **3.64** | **3.72** | 3.689 |
| Na2O | g 100g$^{-1}$ | 6.56 | 6.85 | 6.64 | 7.02 | 6.69 | 6.7 | 6.5 | 6.38 | **3.87** | 6.86 | **6.17** | **7.169** | 6.919 |
| K2O | g 100g$^{-1}$ | 3.72 | 3.74 | 3.76 | 3.83 | 3.71 | 3.79 | 3.9 | 3.64 | **3.47** | 4.19 | **3.742** | **3.76** | 3.863 |
| P2O5 | g 100g$^{-1}$ | 0.6 | 0.6 | 0.6 | 0.636 | 0.62 | 0.607 | 0.57 | 0.597 | **0.58** | 0.61 | **0.588** | **0.597** | 0.601 |
| H2O+ | g 100g$^{-1}$ | | | | | | | | | | | | | |
| CO2 | g 100g$^{-1}$ | | | 0.08 | | | | | | | | | | |
| LOI | g 100g$^{-1}$ | 0.47 | | 0.34 | 0.28 | 0.51 | 0.23 | 0.88 | 0.45 | **0.2** | 0.32 | **0.35** | **0.48** | 0.41 |
| Ag | mg kg$^{-1}$ | | | | | | | | 0.78 | | | **0.13** | | |
| As | mg kg$^{-1}$ | | | | 4.3 | | | | | | | **1.71** | **7** | |
| B | mg kg$^{-1}$ | | | | | | | | | | | | | |
| Ba | mg kg$^{-1}$ | 1359 | | 1330 | 1321.500 | 1278 | 1365 | 1303 | 1334 | **1103** | | **1323** | **1321** | 1300 |
| Be | mg kg$^{-1}$ | 4.1 | | | | 3.8 | 3.9 | | | | | **3.73** | | |
| Bi | mg kg$^{-1}$ | | | | 1.2 | | | | | | | | | |
| Br | mg kg$^{-1}$ | | | | | | | | | | | | | |
| C(org) | mg kg$^{-1}$ | | | | | | | | | | | | | |
| C(tot) | mg kg$^{-1}$ | | | 600 | 614.5 | | 400 | | | | | | | |
| Cd | mg kg$^{-1}$ | | | | 1.2 | | 0.18 | | | | | | | |
| Ce | mg kg$^{-1}$ | 183.1 | | 180 | 170.2 | 187.710 | 196.2 | 203 | 186 | **198** | | **192** | **170** | 179 |
| Cl | mg kg$^{-1}$ | | | | | | | | | | | | | |
| Co | mg kg$^{-1}$ | 5.7 | | 5.8 | 4.6 | 5.39 | 5.7 | | | **14.5** | | **5.17** | **7** | |
| Cr | mg kg$^{-1}$ | 123.2 | | | 105.4 | 123.3 | 129 | 108 | 120 | **91.5** | | **132** | **140** | 116 |
| Cs | mg kg$^{-1}$ | 1.8 | | 0.6 | | | 0.6 | | | **0.82** | | | **6** | |
| Cu | mg kg$^{-1}$ | 12.6 | | | 6.6 | | 5 | | 8.5 | **5.7** | | **6.4** | **8** | |
| Dy | mg kg$^{-1}$ | 5.7 | | 5.73 | | 5.84 | 6.2 | | | **8.66** | | **6.14** | | |
| Er | mg kg$^{-1}$ | 3.1 | | 2.88 | | 3.04 | 3.2 | | | **4.75** | | **3.3** | | |
| Eu | mg kg$^{-1}$ | 4.8 | | 4.36 | | 4.91 | 5 | | | **5.52** | | **5.12** | | |
| F | mg kg$^{-1}$ | | | | | | | | | | | **886** | | |
| Ga | mg kg$^{-1}$ | 24.5 | | 26 | 24.1 | 26.69 | 24.3 | | 25.5 | **50.2** | | 24.6 | **25** | |
| Gd | mg kg$^{-1}$ | 8.9 | | 8.34 | | 7.64 | 7.93 | | | **10.35** | | **8.29** | | |
| Ge | mg kg$^{-1}$ | | | 2 | | | 1.4 | | | **3.54** | | 1.03 | | |
| Hf | mg kg$^{-1}$ | 11.8 | | 9 | 7.9 | 11.21 | 12.5 | | | **27.4** | | 14 | | |
| Hg | mg kg$^{-1}$ | | | | 97 | | | | | | | | | |
| Ho | mg kg$^{-1}$ | 1.1 | | 1.05 | | 1.07 | 1.1 | | | **1.69** | | **1.15** | | |
| I | mg kg$^{-1}$ | | | | 2 | | | | | | | 5.36 | | |
| In | mg kg$^{-1}$ | | | | | | 0.07 | | | | | | | |
| Ir | mg kg$^{-1}$ | | | | | | | | | | | | | |
| La | mg kg$^{-1}$ | 99.1 | | 93.7 | 88.2 | 100.170 | 105.1 | 117 | 99.4 | **112** | | **104** | **93** | 99 |
| Li | mg kg$^{-1}$ | | | 17 | | | 17.1 | | | | | | | |
| Lu | mg kg$^{-1}$ | 0.4 | | 0.4 | | 0.43 | 0.4 | | | **0.68** | | **0.49** | | |
| Mo | mg kg$^{-1}$ | 5.3 | | 5 | 6.4 | 5.37 | 5.3 | | | | | **5.12** | **6** | |
| Nb | mg kg$^{-1}$ | 108.2 | | 104 | 99.5 | 97.93 | 109.7 | | 98.5 | **84.6** | | 104 | **95** | 97 |
| Nd | mg kg$^{-1}$ | | | 67.6 | 62.9 | 68.07 | 74.3 | | 69.9 | **77.25** | | **72.8** | **63** | |
| Ni | mg kg$^{-1}$ | 1.7 | | | 1.4 | | 4 | | | **3.2** | | **3.73** | | |
| Pb | mg kg$^{-1}$ | 6.1 | | | 3.6 | 6.59 | 7 | | | **4.8** | | **6.31** | | |
| Pd | mg kg$^{-1}$ | | | | | | | | | | | | | |
| Pr | mg kg$^{-1}$ | 20.2 | | 20 | | 19.52 | 21.5 | | 18.8 | **22.41** | | **19.8** | | |
| Pt | mg kg$^{-1}$ | | | | | | | | | | | | | |
| Rb | mg kg$^{-1}$ | 57.4 | | 63.4 | 68.2 | 65.11 | 64.8 | | 54.5 | **57** | | 63.6 | **67** | |
| Re | mg kg$^{-1}$ | | | | | | | | | | | | | |
| Rh | mg kg$^{-1}$ | | | | | | | | | | | | | |
| Ru | mg kg$^{-1}$ | | | | | | | | | | | | | |
| S | mg kg$^{-1}$ | 7985 | | | 188.6 | | 100 | 320 | | | | | | |
| Sb | mg kg$^{-1}$ | | | | 1.1 | | 0.2 | | | | | **0.16** | | |
| Sc | mg kg$^{-1}$ | 5.9 | | 7 | 14.9 | 6.1 | 6 | | | **1.2** | | 6.63 | | |
| Se | mg kg$^{-1}$ | | | | 2.6 | | | | | | | **3.11** | | |
| Sm | mg kg$^{-1}$ | 10.4 | | 10.1 | 19.8 | 10.29 | 11.3 | | 12.4 | **11.88** | | **11.6** | | |
| Sn | mg kg$^{-1}$ | 2.8 | | 2 | 6.4 | 2.12 | 2.2 | | 1.6 | | | 2.27 | | |
| Sr | mg kg$^{-1}$ | 1022.200 | | 1098 | 1079.100 | 1047.900 | 1130.400 | | 997 | **1186** | | 1066 | **1033** | 1064 |
| Ta | mg kg$^{-1}$ | 6.6 | | | 3.4 | 5.52 | 6.5 | | | **5.41** | | **6.04** | | |
| Tb | mg kg$^{-1}$ | 1.1 | | 1.06 | | 1.15 | 1.1 | | | **1.51** | | **1.19** | | |
| Te | mg kg$^{-1}$ | | | | | | | | | | | | | |
| Th | mg kg$^{-1}$ | 12.2 | | 11.6 | 15.9 | 11.12 | 12.04 | | 16.8 | **12.12** | | **13.4** | **11** | |
| Tl | mg kg$^{-1}$ | | | | | | 0.02 | | | | | | | |
| Tm | mg kg$^{-1}$ | 0.4 | | 0.42 | | 0.46 | 0.5 | | | **0.68** | | **0.48** | | |
| U | mg kg$^{-1}$ | 3.2 | | 3.19 | 6.4 | 2.98 | 3.28 | | | **3.76** | | **3.61** | | |
| V | mg kg$^{-1}$ | 30.9 | | 29 | 23.6 | 27.8 | 27 | 80 | 20 | **37.1** | | **28.8** | **23** | |
| W | mg kg$^{-1}$ | 2.7 | | 2 | 1.5 | 3.99 | 3 | | | **3.2** | | | | |
| Y | mg kg$^{-1}$ | 30.7 | | 28.7 | 29.6 | 28.7 | 30.1 | | 30.5 | **21.5** | | **29.3** | **27** | |
| Yb | mg kg$^{-1}$ | 2.9 | | 2.7 | | 2.84 | 3.09 | | | **4.36** | | **3.22** | | |
| Zn | mg kg$^{-1}$ | 96.7 | | 78 | 59 | 80.4 | 84 | | 83 | **45.9** | | **78.6** | **64** | 64 |
| Zr | mg kg$^{-1}$ | 520.5 | | 348.4 | 457.4 | 480.170 | 541 | | 492 | **459** | | 465 | **472** | 485 |

**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 | - | - | - | - |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SiO2 | g 100g$^{-1}$ | 55.77 | **58.056** | 58.2 | | 57.8 | 57.984 | 59.4 | 58.41 | **58** | | | | |
| TiO2 | g 100g$^{-1}$ | 1.61 | **1.088** | 1.05 | **1.09** | 1.08 | 1.050 | 1.1 | 1.09 | **1.09** | | | | |
| Al2O3 | g 100g$^{-1}$ | 15.57 | **19.693** | 19.74 | **19.48** | 19.7 | 19.988 | 18 | 18.21 | **19.61** | | | | |
| Fe2O3T | 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 | 1.38 | **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** | | | | |
| Na2O | g 100g$^{-1}$ | | **7.111** | 6.74 | **6.74** | 6.84 | 6.745 | 7.2 | 5.68 | **6.68** | | | | |
| K2O | g 100g$^{-1}$ | 5.54 | **3.775** | 3.77 | **3.79** | 3.85 | 3.806 | 3.9 | 3.62 | **3.9** | | | | |
| P2O5 | g 100g$^{-1}$ | 0.98 | **0.572** | 0.61 | **0.63** | 0.6 | 0.617 | 0.81 | 0.65 | **0.58** | | | | |
| H2O+ | g 100g$^{-1}$ | | | | | | 0.643 | | 0.41 | | | | | |
| CO2 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| | $X_{pt}$ | $u(x_{pt})$ | $\sigma_{pt}$ | $u(x_{pt}) / \sigma_{pt}$ | $n$ | | | | | |
| | g 100g$^{-1}$ | g 100g$^{-1}$ | g 100g$^{-1}$ | | | g 100g$^{-1}$ | g 100g$^{-1}$ | g 100g$^{-1}$ | | |
| **SiO2** | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SiO2 | -0.40 | -0.15 | 0.51 | 0.14 | **0.24** | 0.14 | -0.04 | * | **1.01** | 0.09 | **-0.70** | -0.18 | 0.04 |
| TiO2 | 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 |
| Al2O3 | 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 |
| Fe2O3T | -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 |
| Na2O | -0.27 | * | 1.91 | 0.02 | **1.24** | 0.37 | 0.23 | -0.53 | **0.05** | 0.64 | **-0.45** | 1.12 | 0.42 |
| K2O | 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 |
| P2O5 | -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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SiO2 | **-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 |
| TiO2 | **-0.21** | **1.59** | -0.40 | **0.48** | 0.39 | **-1.14** | **1.16** | **-0.67** | 0.79 | -0.38 | -0.29 | -0.15 | -1.01 |
| Al2O3 | **-1.24** | **-1.28** | -0.09 | **-0.05** | 0.08 | **0.36** | **-1.13** | **-0.04** | -0.16 | -0.62 | -0.92 | -0.36 | -0.36 |
| Fe2O3T | **-1.10** | **4.42** | 4.99 | **0.90** | 1.68 | **0.57** | **0.88** | **0.70** | -0.33 | 0.15 | -2.23 | -0.51 | 0.12 |
| MnO | **-1.14** | **2.39** | -1.06 | **0.29** | 0.00 | **0.80** | **-0.53** | **0.00** | -0.66 | 1.33 | 2.66 | 0.00 | 1.99 |
| MgO | **-1.41** | **0.90** | -2.07 | **-1.13** | 0.23 | **1.80** | **1.31** | **0.00** | 0.59 | -0.23 | -3.61 | 0.00 | -2.41 |
| CaO | **-0.47** | **1.81** | -0.02 | **0.52** | -0.24 | **1.45** | **0.40** | **0.34** | 0.12 | -0.57 | 0.50 | 1.40 | -0.77 |
| Na2O | **-1.28** | **0.25** | -7.24 | **-0.42** | -0.97 | **0.94** | **-1.94** | **-0.15** | -0.32 | -1.71 | -2.53 | 0.67 | -1.54 |
| K2O | **-0.02** | **0.99** | 1.33 | **0.64** | 0.42 | **0.02** | **-0.98** | **0.02** | 0.21 | -0.23 | -0.94 | -0.39 | 0.10 |
| P2O5 | **-0.41** | **1.11** | 1.83 | **-0.85** | -1.42 | **0.49** | **-3.76** | **-0.36** | * | 0.05 | -1.44 | -0.33 | -0.57 |
| Ba | **-0.49** | **1.54** | 0.57 | **0.02** | -1.23 | **1.71** | **-3.46** | **-0.28** | * | * | -1.76 | -0.12 | 0.00 |
| Be | * | * | * | * | -0.80 | **3.62** | * | * | * | * | * | * | * |
| Ce | * | **-0.44** | 35.58 | **0.26** | 1.13 | **-1.08** | **-1.21** | **0.61** | * | * | -2.70 | 0.29 | -0.75 |
| Co | * | * | 9.94 | * | 0.07 | **-0.19** | **-0.22** | * | * | * | * | -0.12 | 8.44 |
| Cr | **15.28** | **-1.63** | 1.09 | **1.81** | -1.56 | **-1.97** | **0.86** | **1.75** | * | * | 0.06 | -0.19 | -3.36 |
| Cs | * | * | * | **0.30** | * | **-0.26** | **-0.79** | **-0.21** | * | * | * | 3.55 | * |
| Cu | * | ***1.44*** | *9.57* | ***0.65*** | *0.86* | ***-1.68*** | ***-2.01*** | ***2.39*** | * | * | * | *0.23* | * |
| Dy | * | * | -6.77 | **-0.51** | 0.50 | **4.54** | **-1.26** | **2.03** | * | * | * | 0.12 | * |
| Er | * | * | * | **-0.53** | 0.81 | **0.19** | **-0.70** | **0.53** | * | * | * | -0.09 | * |
| Eu | * | * | * | **-0.09** | 0.33 | **0.69** | **-1.73** | **1.36** | * | * | * | -0.29 | * |
| Ga | **1.16** | **0.00** | 0.41 | **-0.20** | 1.79 | **0.18** | **-0.33** | **-0.81** | * | * | * | -0.13 | 0.41 |
| Gd | * | * | *3.64* | ***-0.14*** | *0.97* | ***-0.52*** | ***-1.01*** | ***0.19*** | * | * | * | *-0.66* | * |
| Hf | * | 1.00 | 1.77 | **-0.12** | 1.31 | **-1.08** | **-4.18** | **0.42** | * | * | * | -0.18 | -3.64 |
| Ho | * | * | * | **-0.46** | 0.55 | **0.30** | **-0.49** | **1.45** | * | * | * | -0.20 | * |
| La | * | -0.25 | -4.38 | **-1.01** | 0.25 | **-2.03** | **-2.57** | **0.09** | * | * | -0.62 | -0.33 | -1.25 |
| Li | * | * | 0.48 | * | 0.98 | **-1.25** | **-0.97** | * | * | * | * | * | * |
| Lu | * | * | * | **-0.65** | 0.38 | **-0.05** | **11289.50** | **0.25** | * | * | * | -0.38 | * |
| Mo | * | -0.98 | -0.20 | **-0.32** | 0.26 | **0.59** | * | * | * | * | * | -0.36 | * |
| Nb | * | ***-2.64*** | *-3.46* | ***-0.16*** | *0.58* | * | ***2.78*** | ***-0.20*** | * | * | *-0.50* | *0.03* | *3.79* |
| Nd | * | **-0.71** | 7.35 | **-0.29** | 0.77 | **13.71** | **-1.81** | **0.49** | * | * | * | -0.28 | -1.21 |
| Ni | * | * | *48.51* | ***11.04*** | *6.48* | ***-1.03*** | ***-2.09*** | ***20.87*** | * | * | * | *14.70* | * |
| Pb | * | * | -2.94 | **-0.76** | 0.00 | **-0.45** | **1.53** | **0.05** | * | * | * | * | 6.33 |
| Pr | * | * | 1.96 | **-0.31** | 0.44 | **-0.05** | **-1.60** | **0.44** | * | * | * | -0.08 | * |
| Rb | **3.62** | **0.32** | * | **-0.10** | -0.06 | **1.96** | **-0.22** | **-0.44** | * | * | -0.40 | 0.18 | 0.16 |
| Sb | * | * | * | ***135.40*** | *0.11* | ***0.00*** | * | * | * | * | * | *16.98* | * |
| Sc | * | * | * | **1.05** | -0.19 | **0.08** | **6.39** | **0.00** | * | * | * | 0.32 | * |
| Sm | * | -1.64 | 22.04 | **-0.35** | 0.45 | **0.45** | **-1.37** | **0.68** | * | * | * | -0.10 | * |
| Sn | * | *5.00* | * | ***4.70*** | *2.73* | ***-0.55*** | * | * | * | * | * | * | *-0.33* |
| Sr | **-0.54** | **-0.72** | 0.20 | **0.61** | -1.71 | **0.68** | **-2.04** | **0.92** | * | * | -1.71 | 0.03 | 0.87 |
| Ta | * | * | * | **-0.26** | 0.71 | **-0.48** | **-1.34** | **0.00** | * | * | * | -0.95 | * |
| Tb | * | * | * | **0.00** | 0.39 | **0.02** | **-2.39** | **0.89** | * | * | * | -0.53 | * |
| Th | * | **3.20** | * | **-0.49** | 1.45 | **-0.44** | **-2.56** | **0.32** | * | * | * | -0.14 | -0.69 |
| Tl | * | * | * | **0.69** | 0.00 | **-2.78** | * | * | * | * | * | * | * |
| Tm | * | * | * | **-0.06** | 0.52 | **0.46** | **-0.45** | **0.29** | * | * | * | -0.47 | * |
| U | * | * | * | **-0.85** | 1.15 | **-0.11** | **-1.47** | **-0.28** | * | * | * | -0.39 | 1.78 |
| V | * | **0.07** | 8.91 | **0.45** | -0.55 | **-1.04** | **2.74** | **3.03** | * | * | * | 0.04 | 14.83 |
| W | * | * | * | * | 0.30 | **0.28** | * | * | * | * | * | * | * |
| Y | * | **-0.04** | 8.19 | **0.34** | 0.12 | **0.16** | **-0.92** | **1.03** | * | * | -0.76 | -0.10 | 2.84 |
| Yb | * | * | * | **-0.36** | 0.40 | **-0.16** | **1.08** | **0.14** | * | * | * | -0.46 | * |
| Zn | ***-0.02*** | ***-6.39*** | *-0.33* | ***7.99*** | *-0.06* | ***-0.37*** | ***-5.31*** | ***1.15*** | * | * | * | *-0.47* | *-1.84* |
| Zr | ***0.26*** | ***-1.80*** | *4.16* | ***1.71*** | *0.30* | ***0.69*** | ***-9.45*** | ***1.16*** | * | * | *-1.23* | *-0.94* | *-0.36* |

**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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SiO2 | -0.08 | 0.77 | -0.64 | 0.00 | 0.06 | -0.07 | -0.06 | -0.71 | * | -0.81 | **-0.27** | * | 0.10 |
| TiO2 | 0.09 | 0.61 | 1.73 | -0.38 | 0.32 | 0.09 | 0.32 | -1.86 | * | 0.18 | **1.12** | **-3.49** | -0.38 |
| Al2O3 | 0.02 | 0.40 | -0.56 | 1.04 | -0.38 | -0.38 | -0.44 | -0.71 | * | -0.44 | **0.08** | **0.40** | -0.16 |
| Fe2O3T | 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 |
| Na2O | 0.12 | 0.44 | 4.04 | -0.22 | -5.88 | 0.02 | -0.37 | -0.28 | * | -0.84 | **1.93** | * | 0.47 |
| K2O | -0.15 | 0.14 | -7.97 | -0.47 | -1.28 | 0.17 | 0.42 | -1.37 | * | -0.14 | **-0.14** | **0.83** | 0.33 |
| P2O5 | -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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SiO2 | 0.85 | -1.66 | 1.02 | -3.67 | 3.33 | -0.18 | * | -0.34 | * | 0.38 | -0.64 | -0.59 | * |
| TiO2 | -0.29 | 1.26 | -1.79 | -1.79 | -0.76 | -2.17 | -6.87 | -0.19 | * | 0.56 | -0.29 | 0.65 | 0.93 |
| Al2O3 | 0.00 | -2.36 | 0.54 | 4.83 | 0.28 | -1.12 | * | 0.08 | * | 0.16 | -0.88 | 0.80 | 0.32 |
| Fe2O3T | 0.17 | 5.96 | -6.03 | -3.51 | 0.30 | 0.70 | * | -0.57 | * | 0.48 | 0.03 | 0.17 | -0.90 |
| MnO | -2.66 | 1.06 | -3.19 | -2.66 | 0.00 | 0.00 | -5.31 | 0.53 | -3.15 | 0.00 | -0.80 | 0.00 | 0.00 |
| MgO | 0.00 | -2.61 | -1.13 | * | 0.90 | 1.35 | * | -0.25 | * | 0.68 | -1.80 | 2.25 | 3.61 |
| CaO | -0.48 | -3.28 | -1.31 | -0.40 | 0.50 | -1.14 | * | -0.32 | * | 0.09 | -0.65 | -2.45 | 4.60 |
| Na2O | -0.25 | -3.32 | -0.42 | * | -0.15 | 0.05 | * | 0.15 | * | 0.72 | -0.25 | 3.22 | -0.94 |
| K2O | 0.83 | 5.59 | -0.71 | 0.58 | 0.02 | -0.14 | * | -0.10 | * | 0.58 | -0.62 | -0.78 | -1.27 |
| P2O5 | 2.43 | 2.82 | 1.60 | * | 0.88 | -1.44 | * | 0.25 | * | 0.83 | -0.67 | -2.99 | -2.99 |
| Ba | -1.96 | 4.30 | -3.07 | 0.78 | 237.30 | 0.31 | -4.25 | 0.46 | -0.01 | -0.91 | -0.78 | 0.36 | 1.96 |
| Be | -2.69 | * | -4.57 | * | * | * | -1.56 | 1.64 | * | -0.61 | -0.60 | * | 3.31 |
| Ce | -0.44 | * | -4.66 | -0.09 | -0.51 | 0.31 | -1.94 | 0.38 | -0.48 | -0.59 | -2.99 | -0.36 | 2.42 |
| Co | 0.78 | * | -2.05 | * | * | 1.89 | -1.29 | -0.42 | -0.52 | -0.25 | -1.71 | 0.69 | 1.74 |
| Cr | 0.06 | * | -1.98 | 1.56 | 0.95 | 3.23 | -2.27 | 1.30 | * | -2.30 | 0.90 | -1.68 | 3.23 |
| Cs | 2.23 | * | -1.41 | * | 123.29 | * | -2.08 | -0.38 | * | 0.37 | -1.14 | 37.09 | * |
| Cu | 1.79 | * | -0.00 | 7.42 | 12.69 | * | * | 0.42 | * | -0.48 | -1.92 | -4.55 | 0.93 |
| Dy | 1.42 | * | -2.05 | * | * | * | -1.47 | 0.28 | * | -0.11 | -5.91 | * | -0.17 |
| Er | 0.96 | * | -1.91 | * | * | * | -0.57 | -0.26 | * | -0.33 | -4.59 | * | 19.80 |
| Eu | 1.19 | * | -2.57 | * | * | * | -0.24 | 0.13 | * | -0.14 | -6.47 | * | -0.88 |
| Ga | 1.79 | * | -0.81 | 0.45 | -5.03 | 0.00 | -0.97 | 4.63 | 0.24 | 0.20 | -1.14 | -1.87 | -2.19 |
| Gd | 1.85 | * | -2.43 | * | * | 2.86 | 2.90 | 0.44 | * | -0.53 | -5.26 | * | 3.06 |
| Hf | 2.30 | * | 0.07 | * | * | 0.45 | -1.33 | -0.01 | * | -0.70 | * | -15.17 | * |
| Ho | 0.76 | * | -1.58 | * | * | * | -0.97 | 0.03 | * | 0.03 | -4.42 | * | -0.29 |
| La | 3.25 | * | -5.00 | -1.20 | -4.98 | -2.50 | -2.47 | 0.13 | 0.79 | -1.31 | -12.87 | 8.75 | -0.05 |
| Li | 1.40 | * | -4.67 | * | * | * | 0.06 | 0.48 | * | -0.14 | -1.29 | * | * |
| Lu | -0.90 | * | -1.76 | * | * | * | -1.00 | 0.00 | * | 0.00 | -2.51 | * | 1.76 |
| Mo | 2.03 | * | 6.50 | * | -2.28 | * | -0.12 | 1.42 | -0.28 | -0.08 | 0.73 | -3.83 | * |
| Nb | 6.16 | * | 3.79 | 0.51 | -1.45 | 1.64 | 3.54 | 1.06 | -0.57 | 1.06 | 6.63 | -1.95 | * |
| Nd | 2.03 | * | -4.55 | 1.92 | -1.84 | -1.40 | -2.15 | -0.36 | * | 0.04 | -11.46 | -1.74 | 0.69 |
| Ni | -1.16 | * | -0.48 | * | -6.04 | 41.18 | * | 0.15 | 0.79 | -0.48 | -0.96 | -1.97 | 12.14 |
| Pb | -2.17 | * | -3.27 | 5.00 | -7.99 | -5.88 | -0.16 | 0.01 | 3.73 | -0.16 | -2.96 | 45.20 | -14.61 |
| Pr | 2.75 | * | -3.78 | * | * | * | -1.28 | 0.15 | * | -0.37 | -10.11 | * | 0.66 |
| Rb | 1.36 | * | -4.88 | 1.11 | -0.94 | 0.32 | -2.31 | 0.02 | 0.66 | -0.04 | -0.40 | 1.76 | -0.94 |
| Sb | 0.49 | * | -1.22 | * | 109.87 | * | 0.22 | * | * | 0.55 | 0.55 | * | 48.17 |
| Sc | -0.42 | * | 0.80 | * | 0.00 | -0.53 | 8.20 | 4.88 | * | -0.66 | -1.33 | 3.45 | -0.27 |
| Sm | 1.23 | * | -2.82 | * | -5.47 | * | -1.90 | 0.36 | * | -0.22 | -7.81 | 0.90 | -0.83 |
| Sn | 4.27 | * | -0.66 | * | 57.95 | * | 18.05 | 1.73 | * | 0.34 | 2.00 | * | * |
| Sr | 3.06 | 2.54 | 0.21 | 0.95 | -2.22 | -1.15 | -2.60 | 0.20 | 0.03 | -0.61 | -1.09 | 0.20 | -1.75 |
| Ta | 0.69 | * | 1.79 | * | 4.11 | * | 0.67 | -0.11 | * | -0.48 | 2.24 | * | * |
| Tb | 8.71 | * | -2.43 | * | * | * | 0.08 | 0.21 | * | -0.42 | -3.60 | * | 0.20 |
| Th | * | * | -3.74 | * | 4.73 | -2.90 | -1.37 | 0.00 | -0.37 | 0.42 | -6.71 | -7.17 | -0.67 |
| Tl | 0.00 | * | -1.73 | * | * | * | * | * | * | 0.00 | 0.00 | * | 1.39 |
| Tm | 0.54 | * | -1.46 | * | * | * | -0.95 | -0.23 | * | 0.39 | -3.42 | * | -0.21 |
| U | 1.62 | * | -2.61 | * | 1.71 | * | -1.25 | 0.21 | 1.78 | -0.30 | -1.06 | 13.25 | 1.39 |
| V | -8.87 | * | -2.18 | * | -4.59 | -6.58 | -1.48 | -1.85 | -2.39 | -1.44 | 0.07 | 0.30 | 0.37 |
| W | 0.98 | * | 9.91 | * | 10.02 | * | * | -0.57 | * | -0.16 | 0.93 | 45.42 | * |
| Y | 11.39 | * | -3.24 | -2.13 | -1.04 | 1.39 | -1.90 | 0.48 | -0.24 | -0.41 | -4.33 | 0.24 | 1.46 |
| Yb | 3.22 | * | -1.92 | * | * | * | -1.17 | 0.20 | * | 0.15 | -4.09 | * | 0.40 |
| Zn | -8.08 | 1.39 | -6.06 | -2.70 | -12.27 | 1.15 | 0.39 | -0.41 | -2.97 | 0.87 | -0.66 | -5.88 | 1.00 |
| Zr | -9.60 | 1.51 | 3.69 | -1.94 | -3.01 | -2.68 | -1.48 | 0.55 | -0.84 | 1.65 | -0.67 | -1.48 | 2.92 |

**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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SiO2 | **-4.31** | **-1.93** | -0.25 | **0.00** | 0.20 | -0.37 | **0.19** | **-0.96** | 0.14 | 0.15 | 0.06 | **-0.67** | 0.82 |
| TiO2 | **-0.76** | **-0.29** | -0.08 | **-0.29** | 0.28 | -0.08 | **0.48** | **-0.29** | 0.09 | 0.56 | -0.38 | **-1.23** | 0.16 |
| Al2O3 | **-5.55** | **-2.00** | -0.48 | **-2.84** | 0.14 | -0.23 | **-0.44** | **0.48** | 0.10 | -0.12 | -0.56 | **0.56** | -0.04 |
| Fe2O3T | **2.69** | **0.03** | -0.24 | **2.03** | -0.35 | -0.40 | **-0.32** | **-1.16** | 0.42 | -0.12 | 2.21 | **0.43** | -0.40 |
| MnO | **2.66** | **0.00** | -0.35 | **1.06** | -0.66 | -0.56 | **-1.33** | **0.53** | -0.13 | 0.00 | -1.73 | **-0.19** | -4.49 |
| MgO | **0.90** | **-2.25** | 0.14 | **-4.06** | -0.77 | 0.86 | **1.57** | **3.61** | -1.13 | -0.68 | -0.68 | **0.90** | 1.28 |
| CaO | **13.77** | **-0.65** | -0.12 | **-0.32** | 0.47 | -0.48 | **-0.35** | **-0.15** | 1.32 | 0.41 | -0.16 | **1.97** | -0.24 |
| Na2O | **-0.84** | **-3.82** | 1.15 | **1.34** | -0.07 | -0.02 | **0.21** | **1.93** | -0.42 | 0.52 | -3.79 | **-0.15** | -4.55 |
| K2O | **-0.14** | **-0.94** | -0.51 | **0.67** | 1.54 | 0.57 | **-0.09** | **0.83** | -0.07 | 0.17 | 0.58 | **0.67** | -0.47 |
| P2O5 | **-3.76** | **-1.44** | -0.42 | **-0.90** | -0.14 | 0.90 | **-1.10** | **-1.36** | 0.25 | 0.05 | 0.05 | **0.88** | -0.68 |
| Ba | **7.90** | **0.00** | -0.36 | **0.42** | -0.25 | 1.08 | **-0.30** | **-0.20** | 0.60 | -1.90 | -0.84 | **0.95** | -0.99 |
| Be | **0.02** | * | * | **0.31** | * | * | **1.02** | **0.48** | 0.47 | * | 1.36 | **-0.50** | -0.01 |
| Ce | **6.18** | **-1.49** | -0.54 | **3.82** | 0.23 | * | **0.35** | **-0.29** | 0.23 | 0.16 | **-0.44** | **0.39** | 1.36 |
| Co | **1.65** | **4.89** | * | **-0.12** | * | * | **0.13** | **-0.21** | * | * | -0.10 | **0.12** | 0.56 |
| Cr | **1.75** | **-0.79** | -1.02 | **0.06** | * | -1.29 | **-0.48** | **0.90** | * | -1.56 | 0.03 | **-11.76** | 5.12 |
| Cs | **0.54** | **63.32** | * | **1.29** | 0.37 | * | **-0.01** | **0.08** | * | * | 0.18 | **0.00** | 0.59 |
| Cu | ***12.69*** | ***16.76*** | * | ***-2.23*** | * | * | ***2.63*** | ***1.00*** | * | *10.77* | *0.48* | ***-0.68*** | *9.65* |
| Dy | **0.31** | * | * | **0.00** | 0.00 | * | **0.47** | **-0.08** | -0.03 | * | **0.25** | **0.97** | -0.24 |
| Er | **1.06** | * | * | **-0.19** | 0.19 | * | **-0.46** | **-0.38** | -0.05 | * | **0.10** | **0.62** | 1.07 |
| Eu | **1.12** | * | * | **-0.31** | -0.37 | * | **0.15** | **-0.31** | -0.39 | * | **-0.11** | **0.15** | 0.08 |
| Ga | **1.87** | **-4.87** | -0.55 | **-0.50** | 0.37 | * | **0.82** | **-1.62** | * | 0.81 | 0.00 | * | 0.55 |
| Gd | ***5.73*** | * | * | ***0.39*** | *0.83* | * | ***-0.44*** | ***-0.36*** | *-0.46* | * | ***1.47*** | ***0.27*** | *2.73* |
| Hf | **18.07** | **0.45** | -1.28 | **-0.17** | 0.07 | * | **0.02** | **-0.17** | -0.91 | * | -0.09 | **0.15** | -1.98 |
| Ho | **0.41** | * | * | **0.18** | -0.20 | * | **0.25** | **0.30** | -0.20 | * | **-0.05** | **0.95** | -0.50 |
| La | **1.00** | **1.00** | -0.24 | **-0.10** | 0.00 | * | **0.36** | **-1.22** | 0.01 | 0.88 | **-0.60** | **-1.93** | 0.18 |
| Li | * | * | * | **1.41** | * | * | **-0.29** | **0.17** | * | * | 1.03 | **0.12** | 0.32 |
| Lu | **1.00** | * | * | **0.00** | 0.00 | * | **0.04** | **-0.13** | -0.09 | * | **0.25** | **0.88** | 0.03 |
| Mo | * | **-9.76** | 0.33 | **-0.84** | * | * | **0.56** | **0.22** | * | * | 0.11 | * | * |
| Nb | ***1.40*** | ***-0.26*** | *-0.86* | ***1.47*** | *-0.25* | *-1.81* | ***3.21*** | ***2.35*** | *-0.13* | *-1.56* | *0.22* | ***2.42*** | *-1.18* |
| Nd | **2.51** | **1.69** | -2.91 | **0.01** | 0.33 | * | **0.27** | **-0.13** | * | * | **-0.16** | **0.40** | -0.22 |
| Ni | ***22.24*** | ***56.41*** | *8.48* | ***-0.96*** | * | * | ***2.35*** | ***0.51*** | * | *43.44* | *1.04* | ***-0.46*** | *9.32* |
| Pb | **-0.40** | **2.06** | 1.07 | **0.26** | * | * | **0.43** | **-0.66** | * | * | 0.24 | **0.35** | 0.21 |
| Pr | **2.06** | * | * | **0.20** | 0.25 | * | **0.02** | **0.00** | 0.05 | * | **0.00** | **-0.23** | 0.84 |
| Rb | **1.36** | **-4.00** | -0.35 | **1.69** | 0.38 | -0.00 | **0.88** | **-0.54** | 0.37 | -0.38 | -0.38 | **0.13** | 0.85 |
| Sb | * | * | * | * | * | * | * | ***-0.44*** | * | * | *0.78* | ***-1.64*** | * |
| Sc | **7.70** | **7.43** | 2.46 | **1.46** | * | * | **-0.30** | **13.00** | 0.19 | -2.92 | 0.13 | **3.93** | 3.71 |
| Sm | **0.90** | * | * | **-0.26** | 0.11 | * | **0.29** | **-0.11** | 0.21 | * | **-0.28** | **0.25** | 0.71 |
| Sn | * | ***-0.66*** | * | * | * | * | ***0.51*** | ***2.94*** | *0.64* | * | *0.47* | ***-0.21*** | * |
| Sr | **1.98** | **-1.55** | -0.51 | **0.46** | 0.79 | 0.05 | **0.63** | **-0.66** | 0.86 | -0.20 | -0.77 | **-2.55** | -1.04 |
| Ta | **0.08** | **-13.77** | * | **-1.15** | -0.35 | * | **0.06** | **0.00** | 0.49 | * | 0.05 | **0.18** | * |
| Tb | **2.27** | * | * | **-0.15** | 0.04 | * | **-0.02** | **-0.49** | -0.13 | * | **0.20** | **0.06** | -0.45 |
| Th | **0.15** | **-1.37** | -2.39 | **0.75** | 0.08 | * | **0.28** | **0.00** | 0.27 | * | -0.15 | **1.33** | 0.39 |
| Tl | * | * | * | * | * | * | * | **-0.69** | * | * | 0.69 | **1.04** | -0.82 |
| Tm | **1.52** | * | * | * | 0.02 | * | **0.23** | **0.07** | -0.07 | * | **0.04** | **0.51** | -0.53 |
| U | **-1.15** | **-5.68** | * | * | 0.09 | * | **0.24** | **0.74** | 0.45 | * | -0.51 | **1.10** | 0.38 |
| V | **-0.52** | **0.81** | 0.07 | **-0.04** | * | * | **0.20** | **-0.96** | 1.54 | 4.84 | -0.33 | * | -6.61 |
| W | * | **-9.04** | * | * | * | * | **-1.26** | **-1.36** | * | * | -0.16 | * | * |
| Y | **1.60** | **0.67** | -0.16 | **0.74** | -0.06 | -0.06 | **1.27** | **-0.61** | -1.72 | -0.38 | -0.20 | **1.67** | -2.04 |
| Yb | **0.70** | * | * | **0.20** | -0.03 | * | **0.17** | **-0.11** | -0.15 | * | **0.09** | **1.16** | -0.11 |
| Zn | ***-0.66*** | ***-5.79*** | *-3.02* | ***-1.18*** | * | *0.02* | ***0.28*** | ***-0.51*** | * | *-2.44* | *-3.05* | ***0.97*** | *0.69* |
| Zr | ***4.24*** | ***-1.86*** | *-1.24* | ***1.31*** | *0.86* | *0.10* | ***1.70*** | ***1.35*** | *-0.74* | *-1.31* | *0.23* | ***2.22*** | *-1.76* |

**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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SiO2 | 0.53 | -0.32 | 0.00 | -0.09 | 0.53 | 0.16 | 0.94 | 0.28 | **1.10** | 1.20 | **-1.28** | **-0.41** | -0.30 |
| TiO2 | -0.62 | -1.32 | 0.09 | 0.32 | 1.26 | 0.32 | -0.38 | 0.37 | **-4.99** | 0.07 | **-0.76** | **-2.26** | -0.29 |
| Al2O3 | -0.16 | -0.36 | -0.16 | 0.14 | 0.20 | -0.06 | 0.84 | 0.16 | **-12.83** | 1.18 | **-1.80** | **0.76** | -0.17 |
| Fe2O3T | 0.15 | -0.38 | 0.15 | 0.48 | 0.75 | -0.18 | 1.48 | -0.58 | **-16.85** | 0.75 | **-0.10** | **2.97** | * |
| MnO | 0.00 | -1.33 | 0.00 | -2.66 | 1.33 | 0.00 | 2.66 | 0.53 | **-10.63** | 0.80 | **1.86** | **0.53** | -2.56 |
| MgO | 1.35 | 0.45 | -0.23 | 1.35 | -0.68 | 0.00 | -1.13 | 0.45 | **-17.13** | -2.70 | **-1.85** | **3.34** | -0.72 |
| CaO | 0.00 | -0.40 | -0.49 | 1.32 | 1.07 | 0.25 | 0.66 | -0.54 | **-6.38** | 0.09 | **-1.30** | **0.01** | -0.25 |
| Na2O | -0.77 | 0.67 | -0.37 | 1.51 | -0.12 | -0.07 | -1.07 | -1.66 | **-28.21** | 0.72 | **-5.40** | **4.50** | 1.01 |
| K2O | -0.55 | -0.39 | -0.23 | 0.33 | -0.63 | 0.01 | 0.90 | -1.20 | **-5.14** | 3.24 | **-0.75** | **-0.46** | 0.60 |
| P2O5 | 0.05 | 0.05 | 0.05 | 1.44 | 0.83 | 0.32 | -1.11 | -0.06 | **-1.44** | 0.44 | **-0.82** | **-0.13** | 0.09 |
| Ba | 0.54 | * | 0.14 | 0.02 | -0.59 | 0.63 | -0.24 | 0.20 | **-6.06** | * | **0.08** | **0.03** | -0.28 |
| Be | 0.95 | * | * | * | 0.32 | 0.53 | * | * | * | * | **0.35** | * | * |
| Ce | 0.09 | * | -0.14 | -0.88 | 0.44 | 1.07 | 1.59 | 0.31 | **2.42** | * | **1.52** | **-1.79** | -0.22 |
| Co | 0.49 | * | 0.64 | -1.15 | 0.03 | 0.49 | * | * | **27.38** | * | **-0.60** | **4.89** | * |
| Cr | 0.16 | * | * | -1.73 | 0.17 | 0.77 | -1.45 | -0.18 | **-6.40** | * | **2.17** | **3.87** | -0.61 |
| Cs | 11.05 | * | -0.20 | * | * | -0.20 | * | * | **3.73** | * | * | **100.80** | * |
| Cu | *6.70* | * | * | *-0.48* | * | *-2.39* | * | *1.80* | ***-3.11*** | * | ***-1.44*** | ***2.39*** | * |
| Dy | -0.25 | * | -0.21 | * | -0.06 | 0.44 | * | * | **7.72** | * | **0.72** | * | * |
| Er | 0.00 | * | -0.52 | * | -0.14 | 0.24 | * | * | **7.89** | * | **0.96** | * | * |
| Eu | 0.09 | * | -0.64 | * | 0.28 | 0.43 | * | * | **2.59** | * | **1.26** | * | * |
| Ga | -0.20 | * | 0.41 | -0.37 | 0.69 | -0.28 | * | 0.20 | **20.46** | * | -0.16 | **0.00** | * |
| Gd | *1.32* | * | *0.70* | * | *-0.07* | *0.25* | * | * | ***5.84*** | * | ***1.29*** | * | * |
| Hf | 0.07 | * | -2.10 | -2.95 | -0.39 | 0.61 | * | * | **24.26** | * | 1.77 | * | * |
| Ho | -0.02 | * | -0.31 | * | -0.20 | -0.02 | * | * | **6.73** | * | **0.53** | * | * |
| La | -0.11 | * | -0.79 | -1.47 | 0.02 | 0.64 | 2.13 | -0.07 | **3.00** | * | **1.00** | **-1.75** | -0.12 |
| Li | * | * | -0.08 | * | * | -0.03 | * | * | * | * | * | * | * |
| Lu | -0.50 | * | -0.50 | * | -0.13 | -0.50 | * | * | **6.03** | * | **1.26** | * | * |
| Mo | 0.26 | * | -0.20 | 1.98 | 0.37 | 0.26 | * | * | * | * | **-0.03** | **2.71** | * |
| Nb | *0.25* | * | *-0.25* | *-0.79* | *-0.97* | *0.43* | * | *-0.90* | ***-5.11*** | * | *-0.25* | ***-2.64*** | *-1.08* |
| Nd | * | * | -0.25 | -1.06 | -0.17 | 0.89 | * | 0.14 | **2.80** | * | **1.27** | **-2.08** | * |
| Ni | *-3.02* | * | * | *-3.78* | * | *2.82* | * | * | ***1.58*** | * | ***4.27*** | * | * |
| Pb | -0.16 | * | * | -3.47 | 0.49 | 1.03 | * | * | **-3.76** | * | **0.24** | * | * |
| Pr | 0.10 | * | 0.00 | * | -0.24 | 0.74 | * | -0.59 | **2.36** | * | **-0.20** | * | * |
| Rb | -1.39 | * | -0.31 | 0.56 | 0.00 | -0.06 | * | -1.91 | **-2.92** | * | -0.27 | **0.68** | * |
| Sb | * | * | * | *19.42* | * | *-0.55* | * | * | * | * | ***-2.89*** | * | * |
| Sc | -0.40 | * | 1.06 | 11.54 | -0.13 | -0.27 | * | * | **-13.27** | * | 0.57 | * | * |
| Sm | -0.22 | * | -0.47 | 7.65 | -0.31 | 0.53 | * | 1.45 | **2.03** | * | **1.57** | * | * |
| Sn | *2.33* | * | *-0.33* | *14.32* | *0.07* | *0.34* | * | *-1.66* | * | * | *0.57* | * | * |
| Sr | -1.07 | * | 0.18 | -0.13 | -0.64 | 0.71 | * | -1.48 | **3.26** | * | -0.35 | **-1.78** | -0.38 |
| Ta | 0.59 | * | * | -3.68 | -0.85 | 0.45 | * | * | **-2.00** | * | **-0.32** | * | * |
| Tb | -0.02 | * | -0.25 | * | 0.27 | -0.02 | * | * | **4.68** | * | **1.00** | * | * |
| Th | 0.23 | * | -0.23 | 3.05 | -0.59 | 0.11 | * | 3.74 | **0.34** | * | **2.29** | **-1.37** | * |
| Tl | * | * | * | * | * | 0.00 | * | * | * | * | * | * | * |
| Tm | -0.60 | * | -0.35 | * | 0.14 | 0.64 | * | * | **5.73** | * | **0.78** | * | * |
| U | -0.07 | * | -0.09 | 7.32 | -0.58 | 0.12 | * | * | **2.45** | * | **1.75** | * | * |
| V | 1.11 | * | 0.41 | -1.59 | -0.04 | -0.33 | 19.26 | -2.92 | **6.80** | * | **0.67** | **-3.62** | * |
| W | 0.11 | * | -1.80 | -3.16 | 3.62 | 0.93 | * | * | **2.94** | * | * | * | * |
| Y | 0.59 | * | -0.13 | 0.19 | -0.13 | 0.37 | * | 0.51 | **-5.40** | * | **0.17** | **-1.47** | * |
| Yb | -0.03 | * | -0.53 | * | -0.18 | 0.45 | * | * | **7.31** | * | **1.56** | * | * |
| Zn | *2.49* | * | *-0.33* | *-3.20* | *0.03* | *0.57* | * | *0.42* | ***-10.34*** | * | ***-0.48*** | ***-4.89*** | *-2.44* |
| Zr | *0.41* | * | *-5.01* | *-1.58* | *-0.86* | *1.05* | * | *-0.49* | ***-3.06*** | * | *-1.34* | ***-2.24*** | *-0.71* |

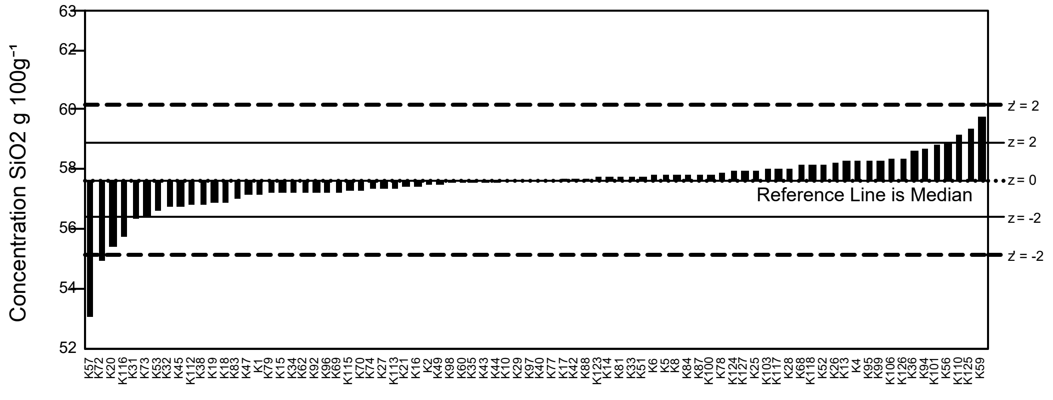
**Bold entries** are Data Quality 1 - Underlined entries are Data Quality 2 - *Entries in italics* are derived from Provisional Values.

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

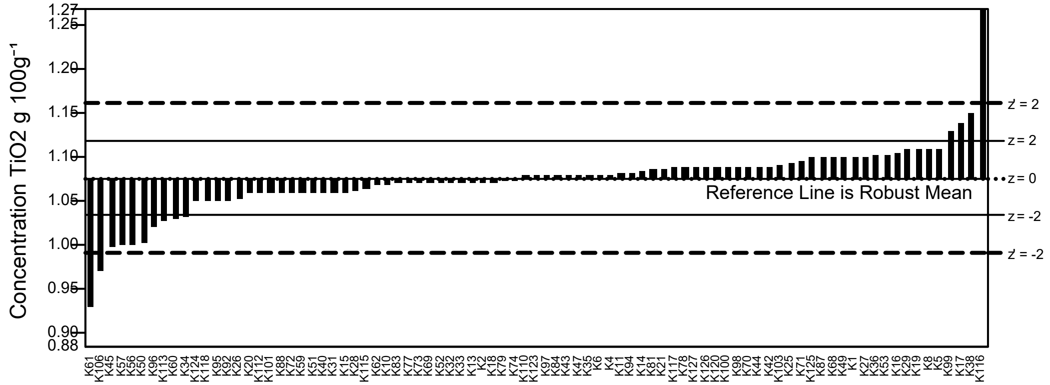
| Lab Code | K116 | K117 | K118 | K120 | K123 | K124 | K125 | K126 | K127 |
|---|---|---|---|---|---|---|---|---|---|
| **SiO2** | -1.54 | **0.57** | 0.40 | * | 0.08 | 0.23 | 1.36 | 0.57 | **0.48** |
| **TiO2** | 12.54 | **0.55** | -0.62 | **0.65** | 0.09 | -0.62 | 0.56 | 0.32 | **0.65** |
| **Al2O3** | -8.01 | **0.45** | 0.32 | **-0.40** | 0.24 | 0.82 | -3.16 | -2.74 | **0.12** |
| **Fe2O3T** | 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** |
| **Na2O** | * | **3.93** | 0.12 | **0.25** | 0.62 | 0.15 | 2.40 | -5.13 | **-0.35** |
| **K2O** | 14.12 | **-0.22** | -0.15 | **0.02** | 0.50 | 0.14 | 0.90 | -1.36 | **1.80** |
| **P2O5** | 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.

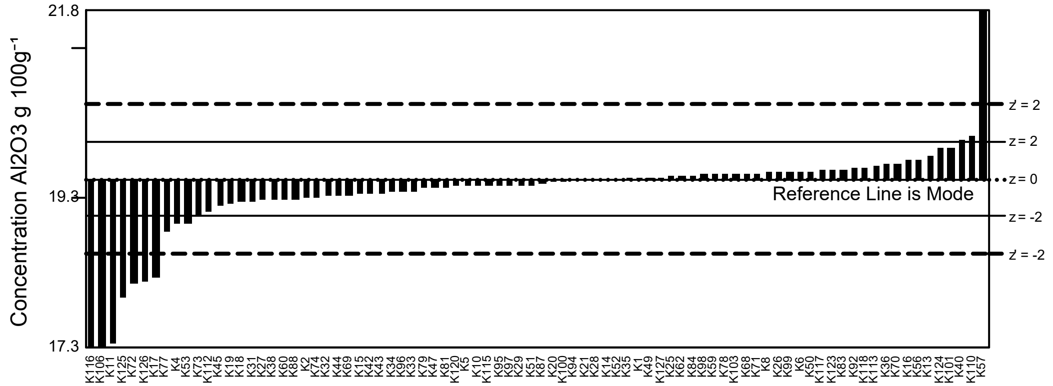
GeoPT48 - Barchart for SiO2



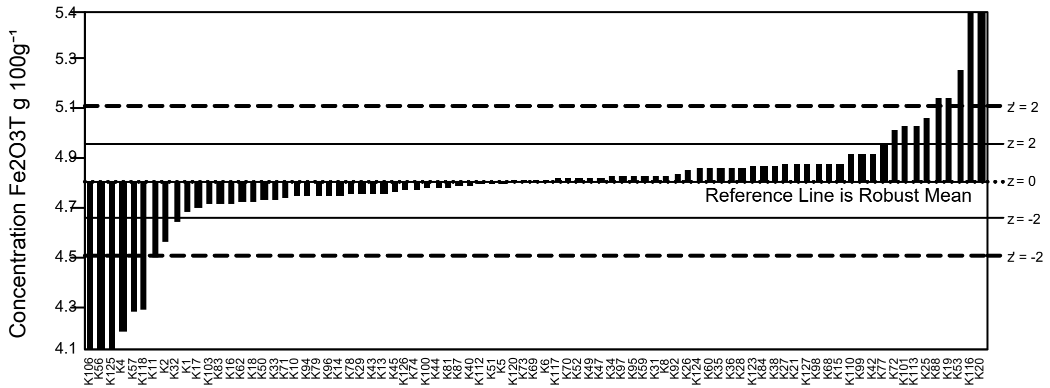

GeoPT48 - Barchart for TiO2



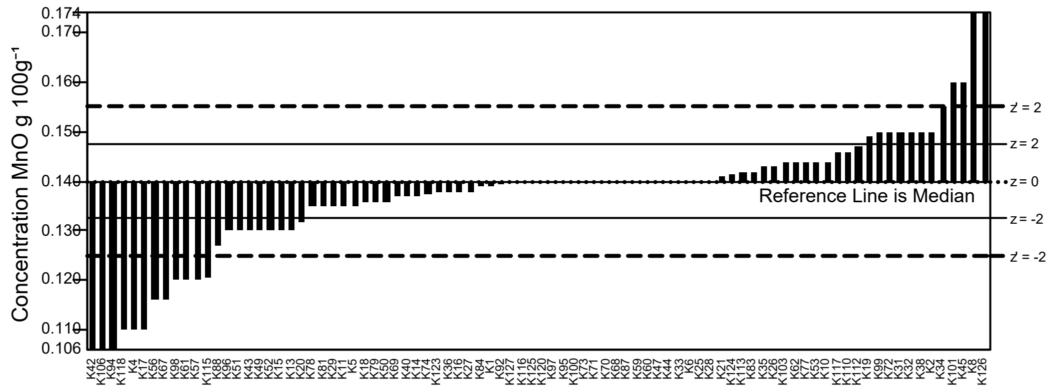

GeoPT48 - Barchart for Al2O3



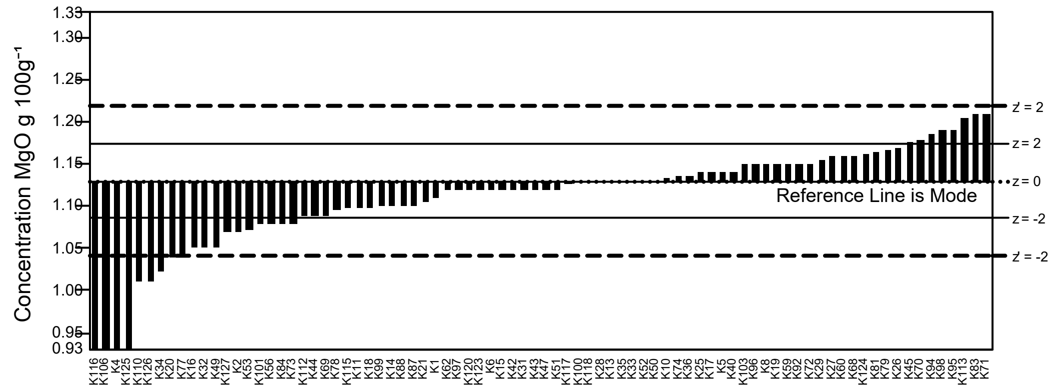

GeoPT48 - Barchart for Fe2O3T



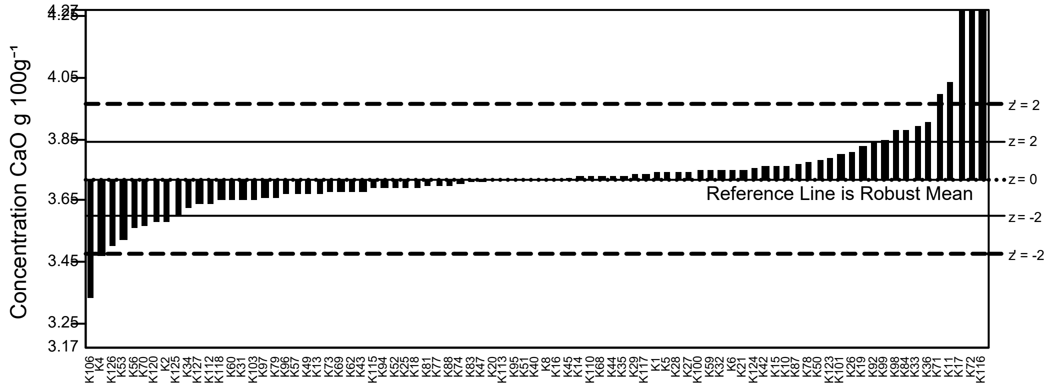

GeoPT48 - Barchart for MnO



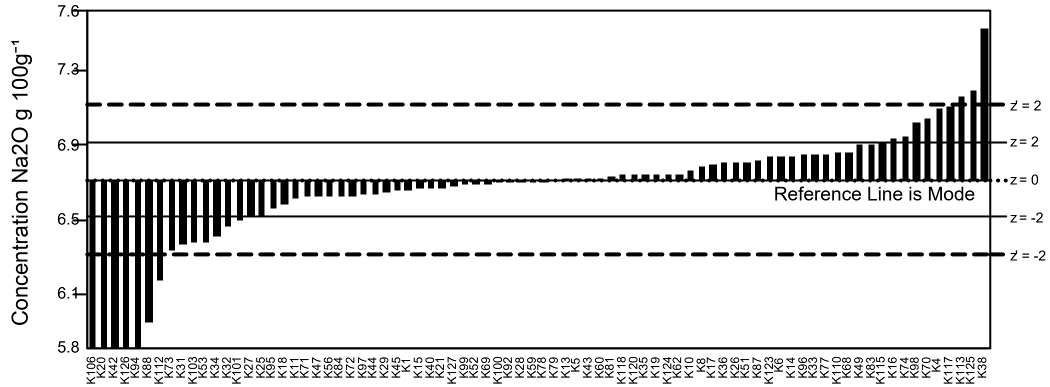

GeoPT48 - Barchart for MgO



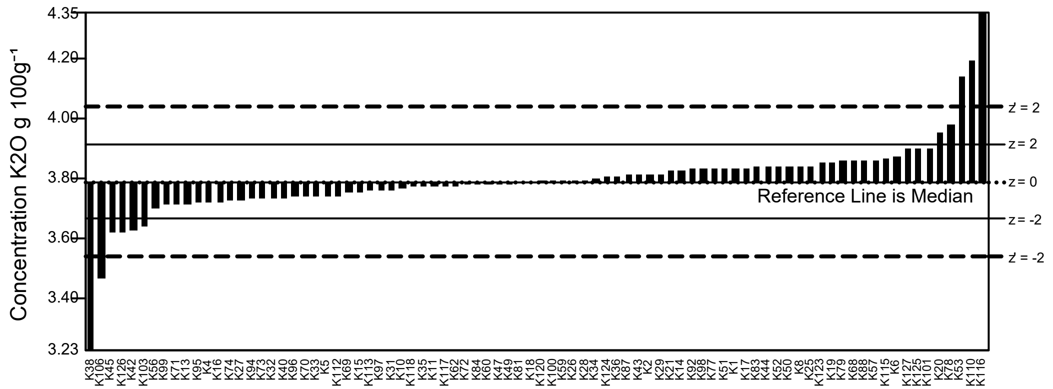
## GeoPT48 - Barchart for CaO



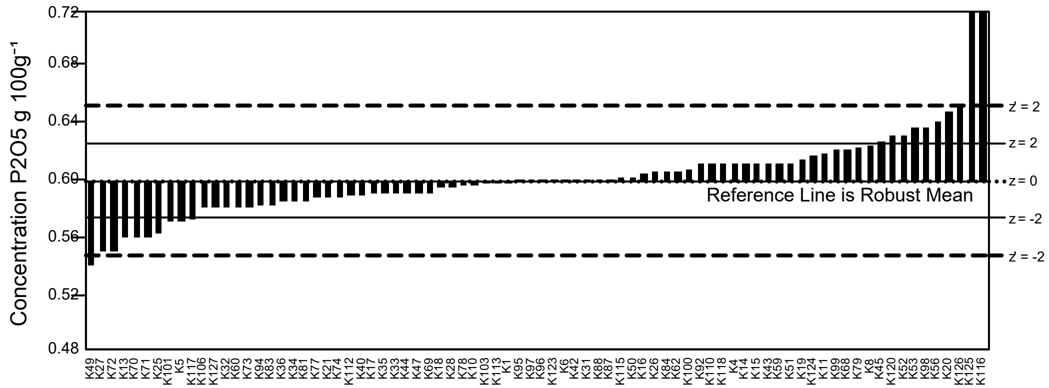

## GeoPT48 - Barchart for Na2O



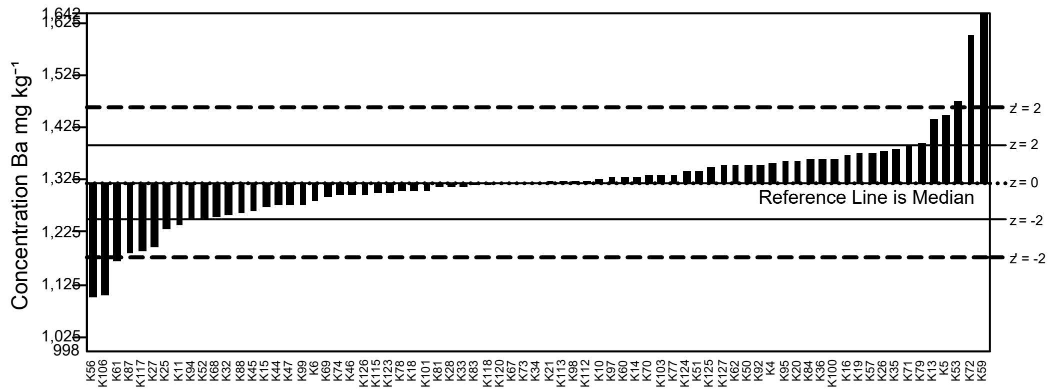

## GeoPT48 - Barchart for K2O



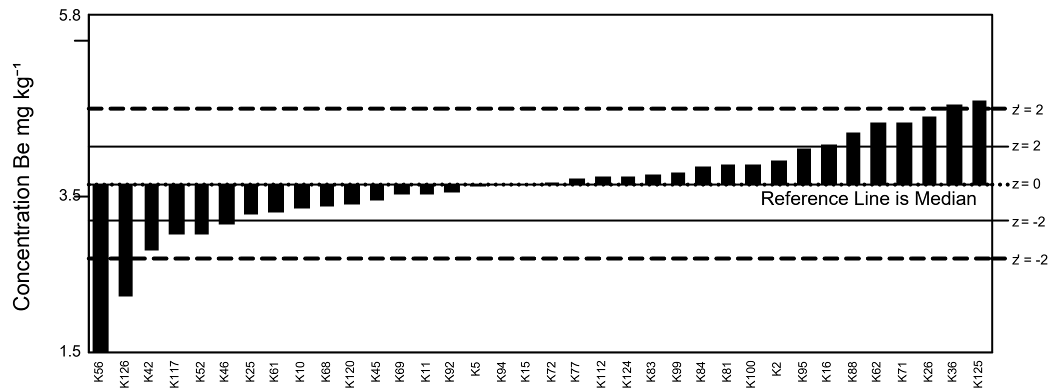

## GeoPT48 - Barchart for P2O5



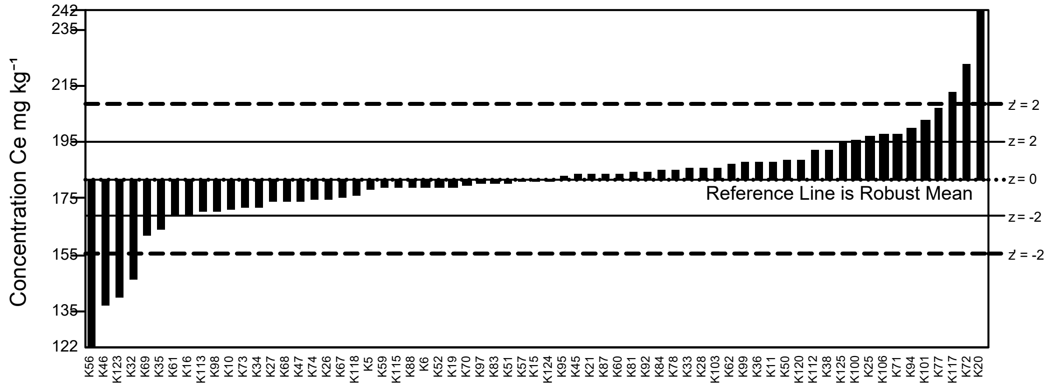

## GeoPT48 - Barchart for Ba



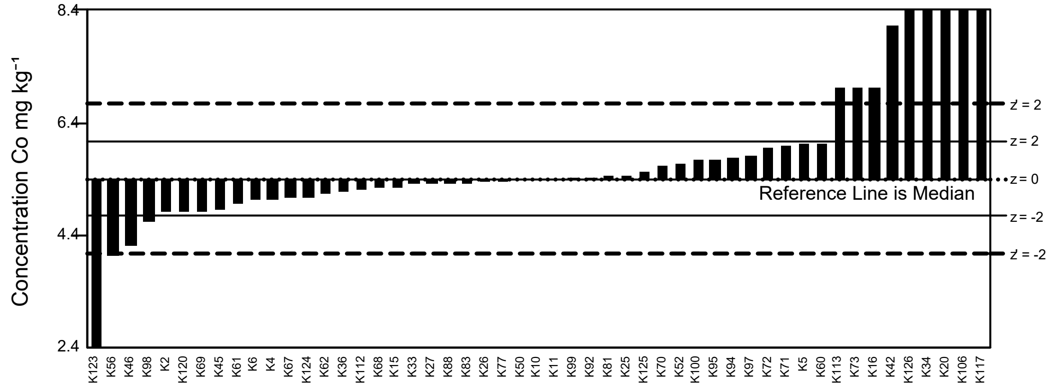

## GeoPT48 - Barchart for Be



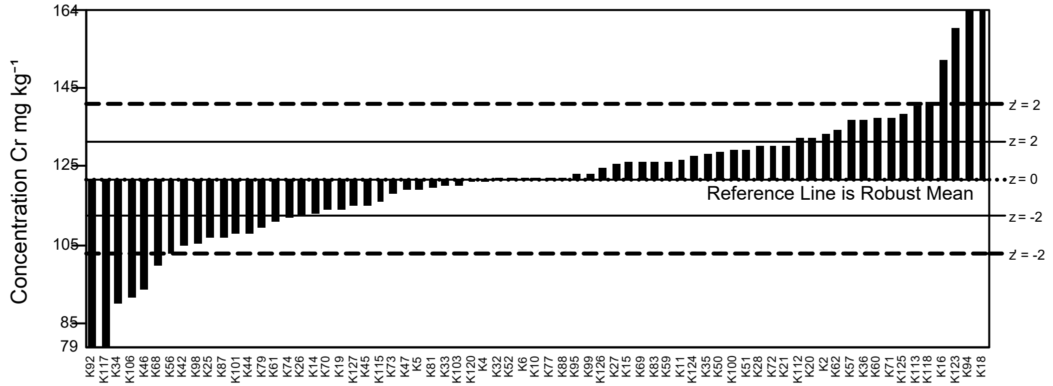
## GeoPT48 - Barchart for Ce



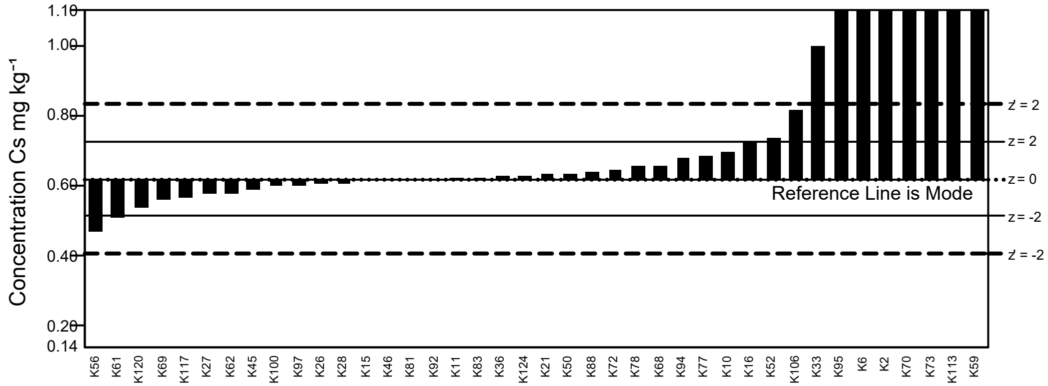

## GeoPT48 - Barchart for Co



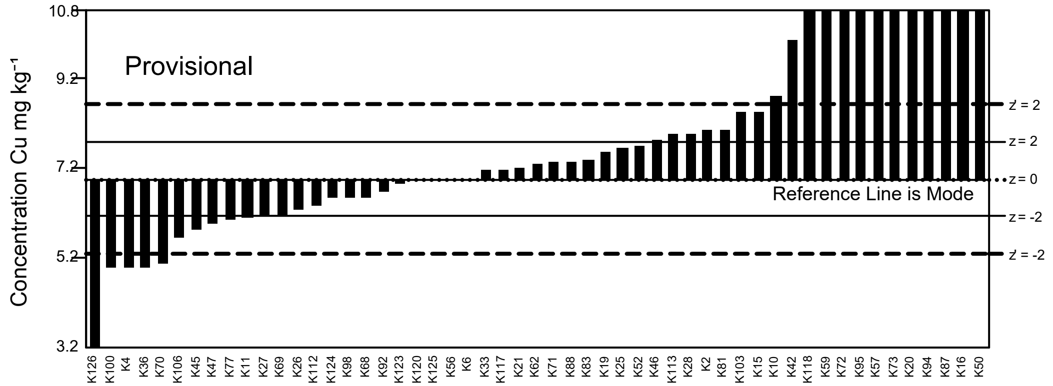

## GeoPT48 - Barchart for Cr



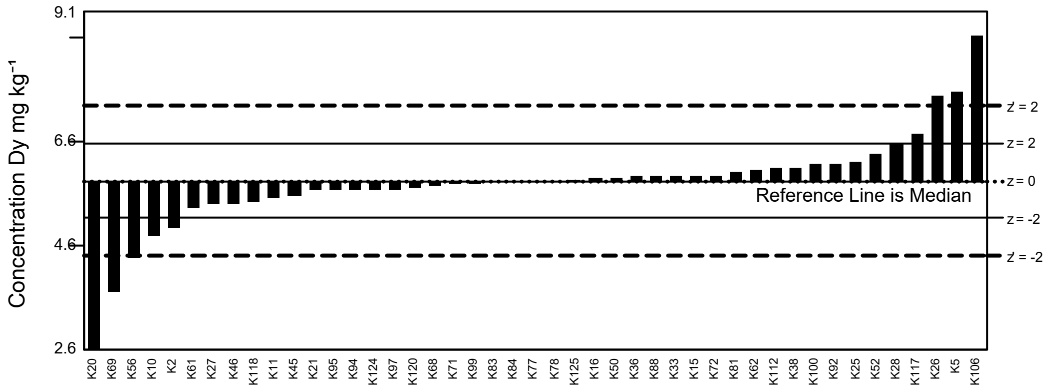

## GeoPT48 - Barchart for Cs



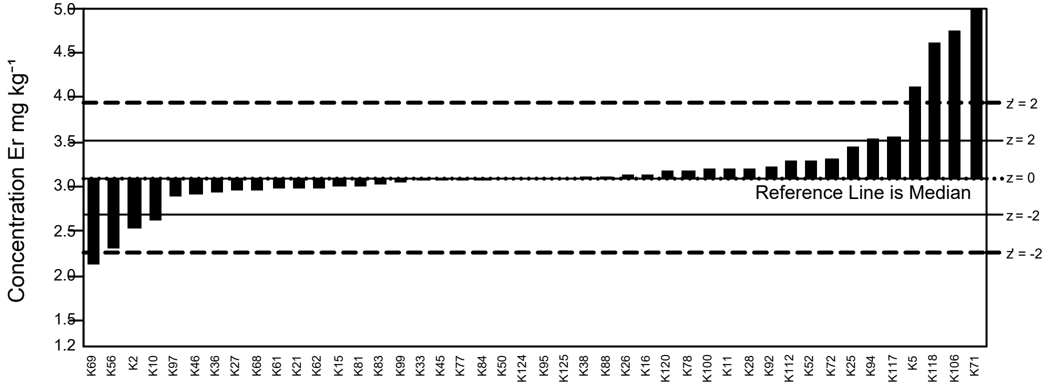

## GeoPT48 - Barchart for Cu



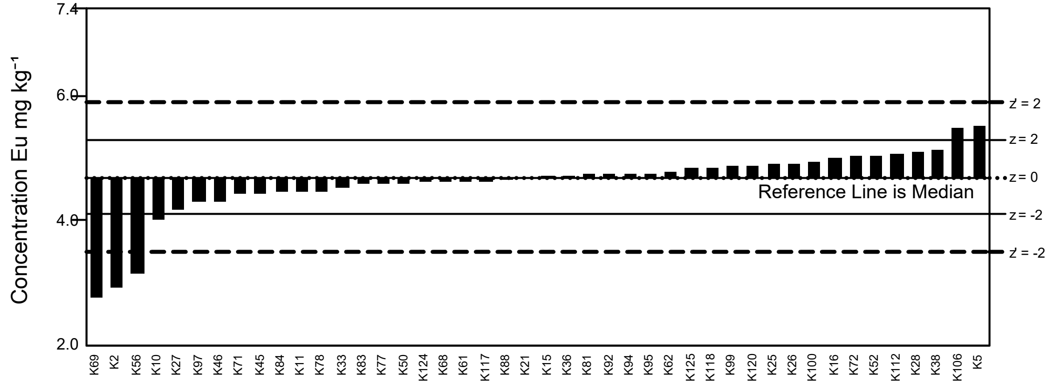

## GeoPT48 - Barchart for Dy



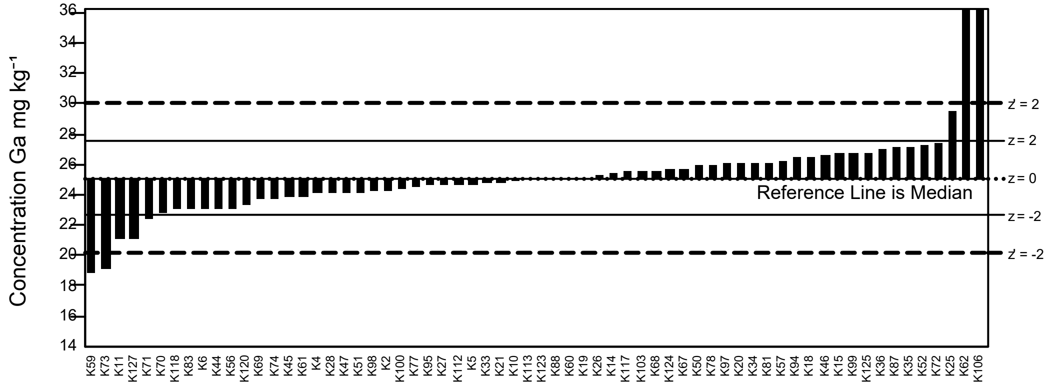
## GeoPT48 - Barchart for Er



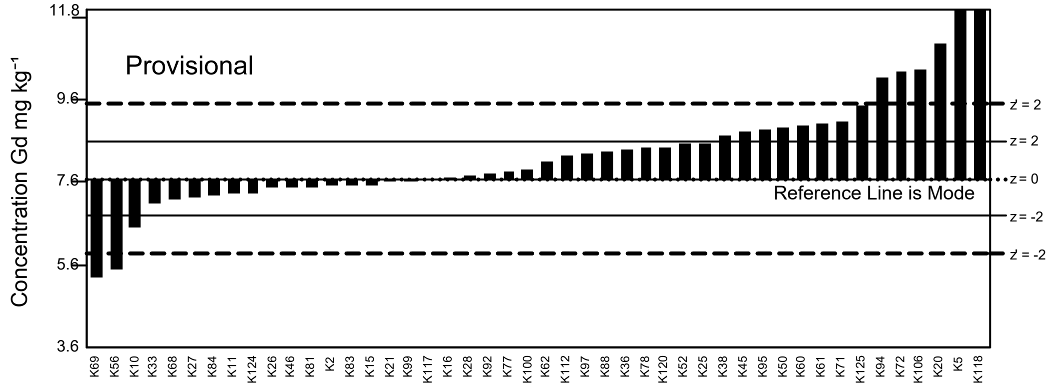

## GeoPT48 - Barchart for Eu



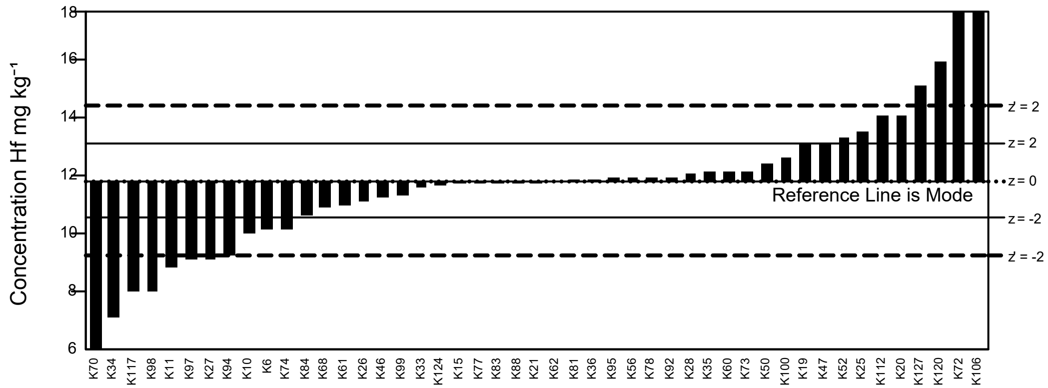

## GeoPT48 - Barchart for Ga



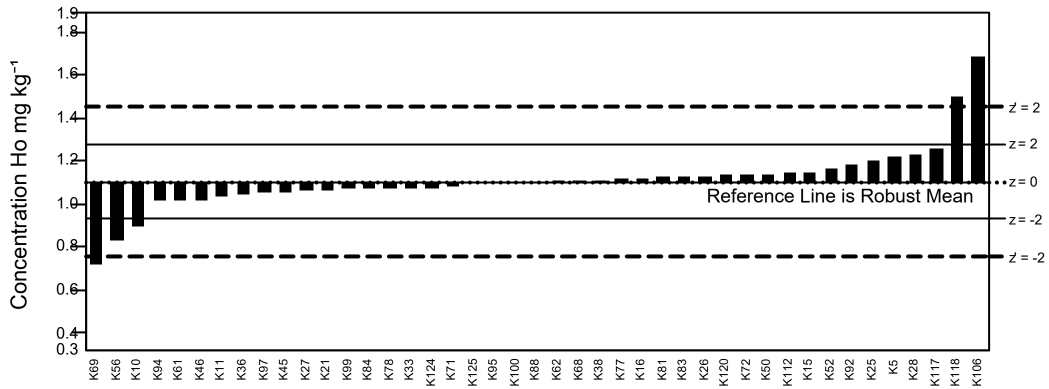

## GeoPT48 - Barchart for Gd



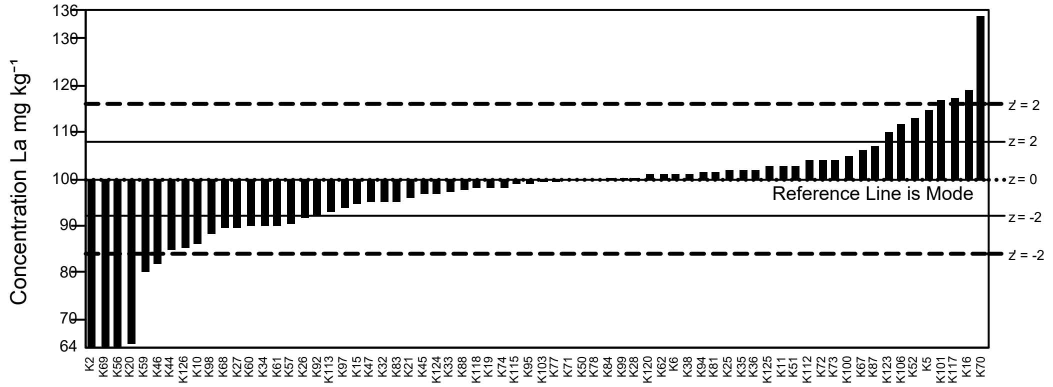

## GeoPT48 - Barchart for Hf



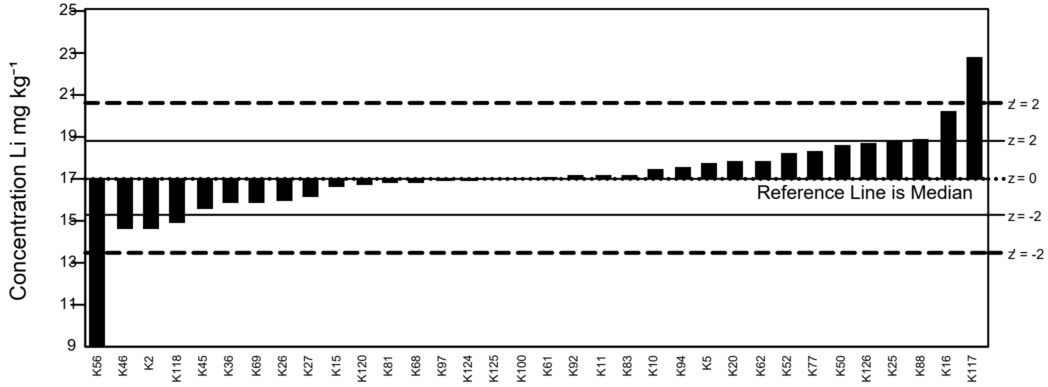

## GeoPT48 - Barchart for Ho



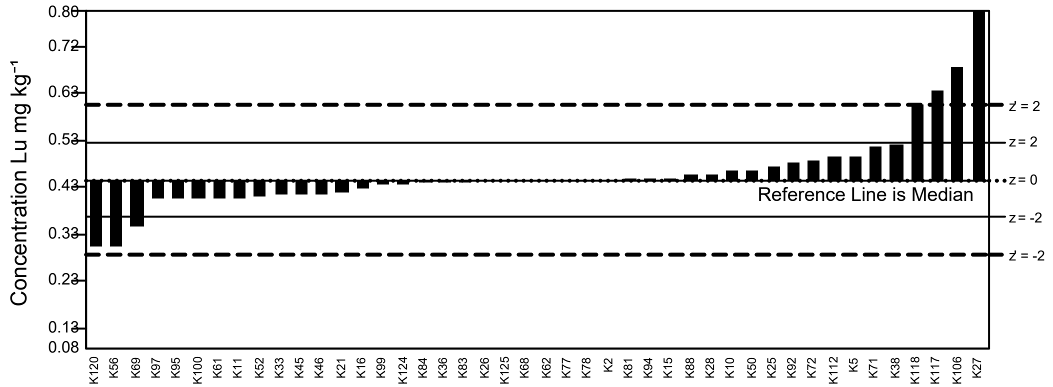
GeoPT48 - Barchart for La



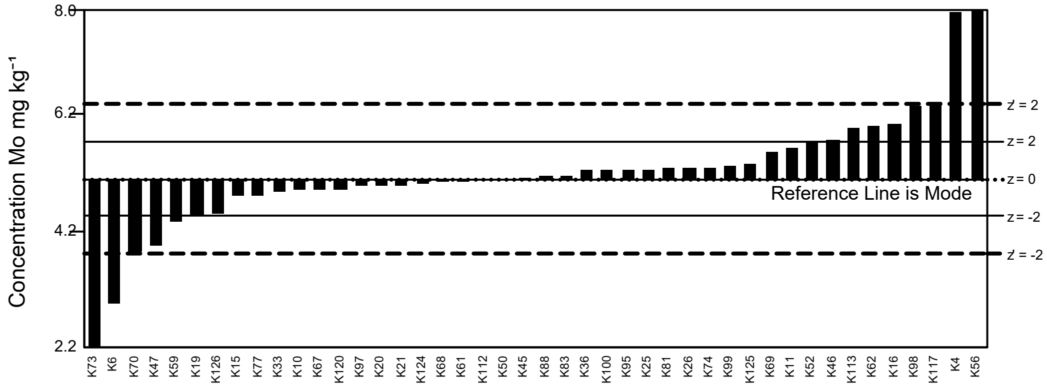

GeoPT48 - Barchart for Li



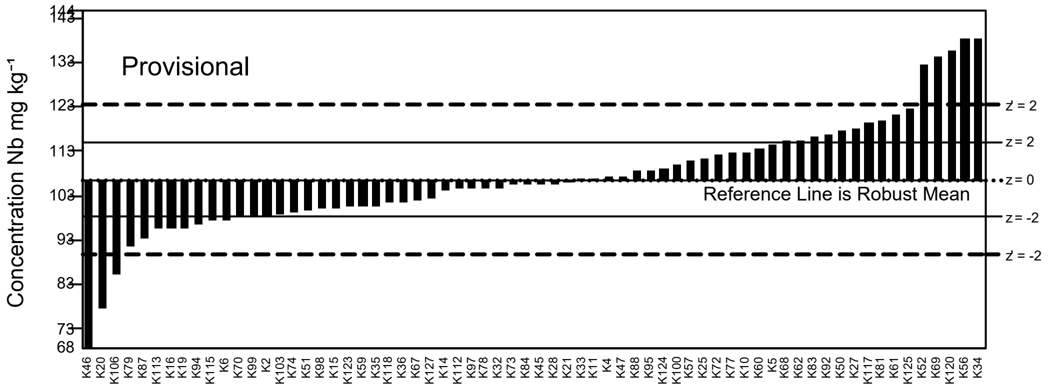

GeoPT48 - Barchart for Lu



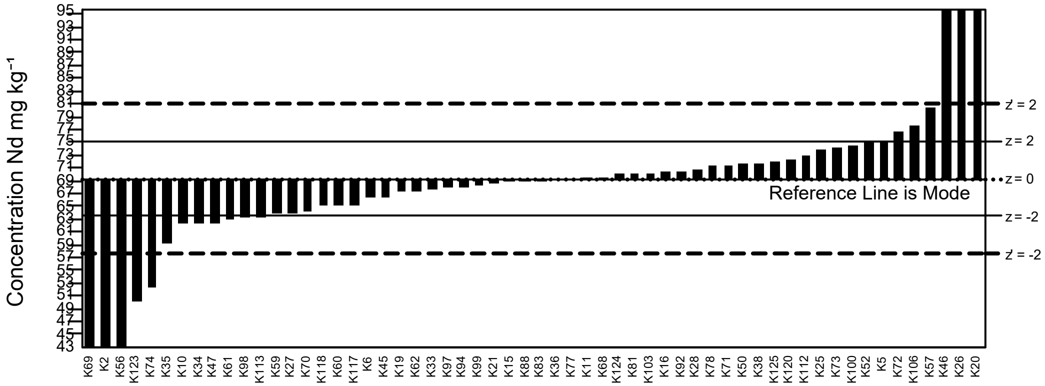

GeoPT48 - Barchart for Mo

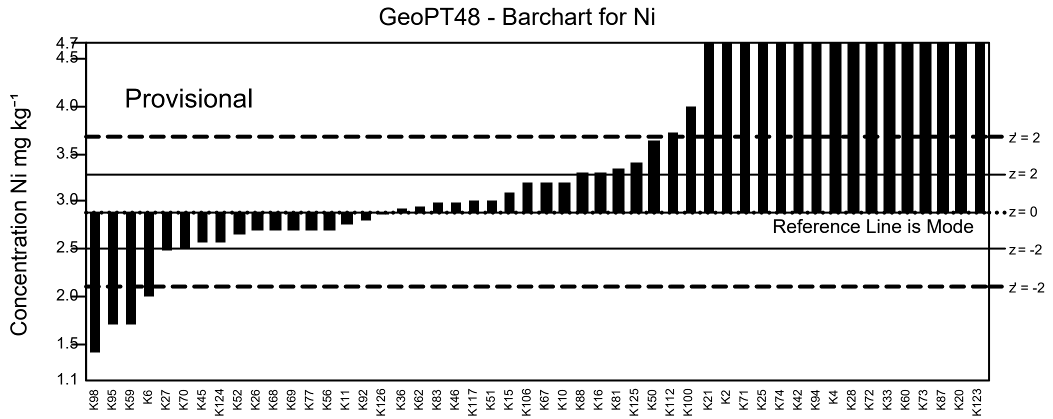


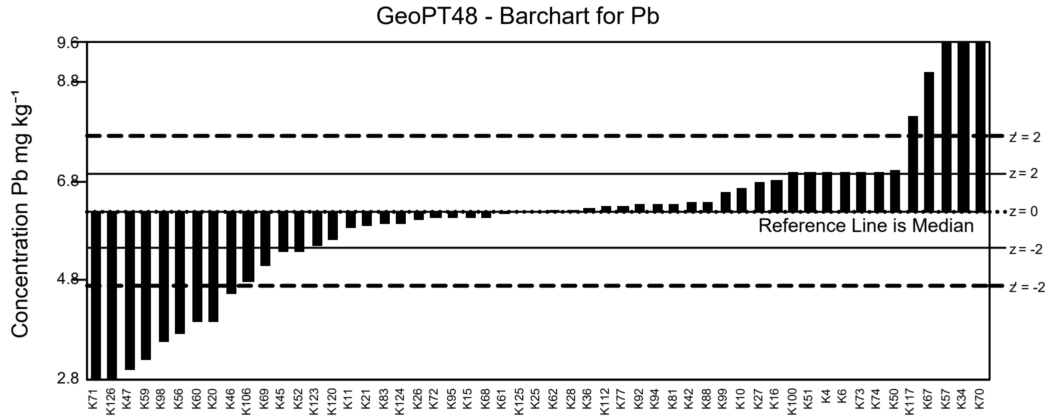

GeoPT48 - Barchart for Nb

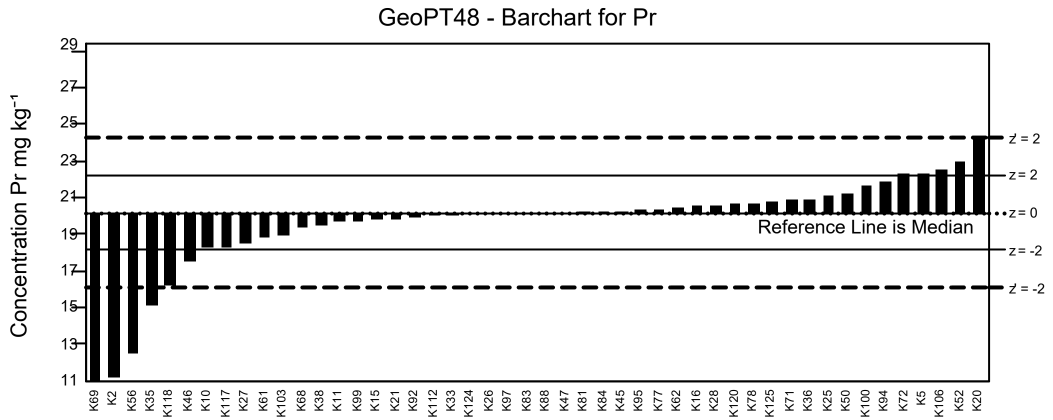


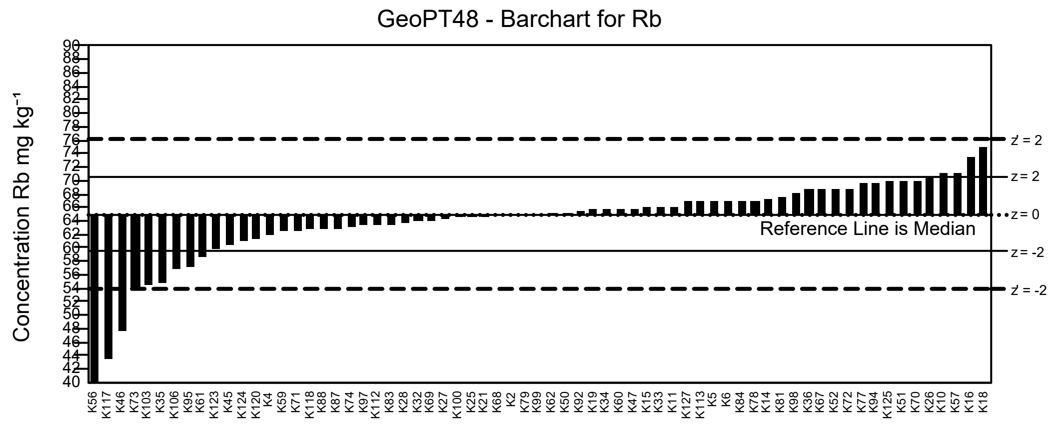

GeoPT48 - Barchart for Nd

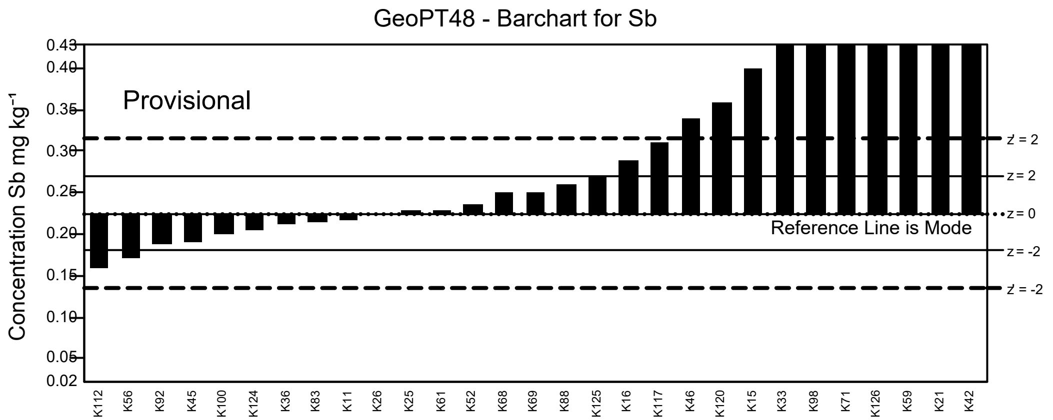


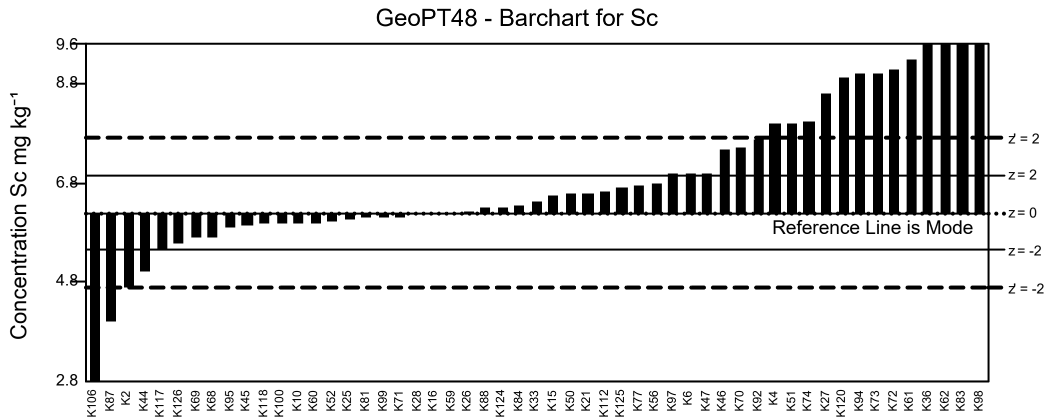

GeoPT48 - Barchart for Ni
Provisional
Concentration Ni mg kg⁻¹
Reference Line is Mode

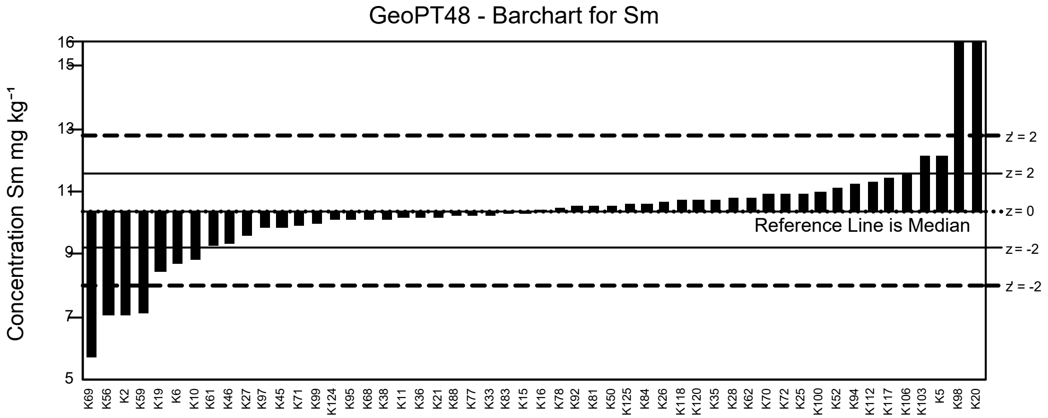

GeoPT48 - Barchart for Pb
Concentration Pb mg kg⁻¹
Reference Line is Median

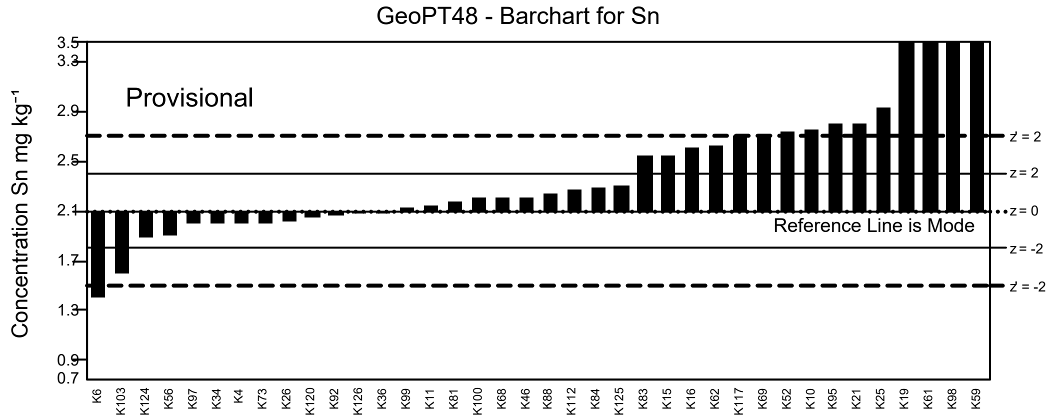

GeoPT48 - Barchart for Pr
Concentration Pr mg kg⁻¹
Reference Line is Median

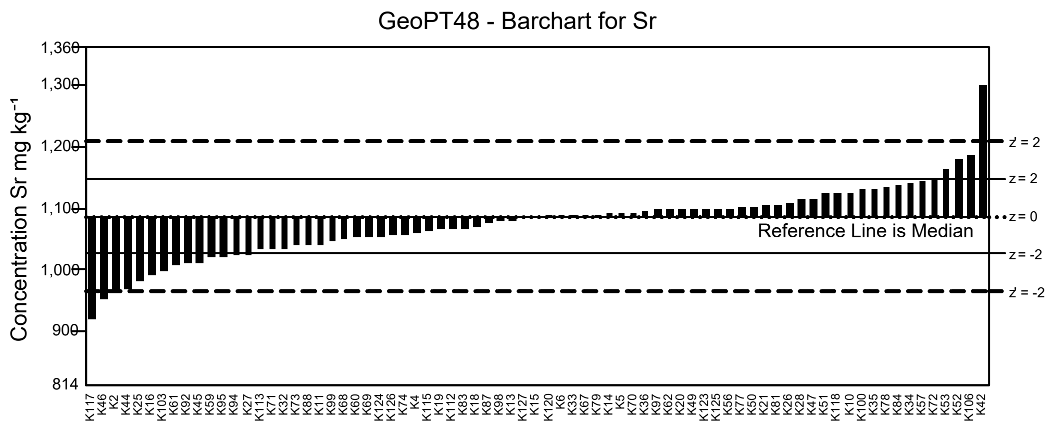

GeoPT48 - Barchart for Rb
Concentration Rb mg kg⁻¹
Reference Line is Median

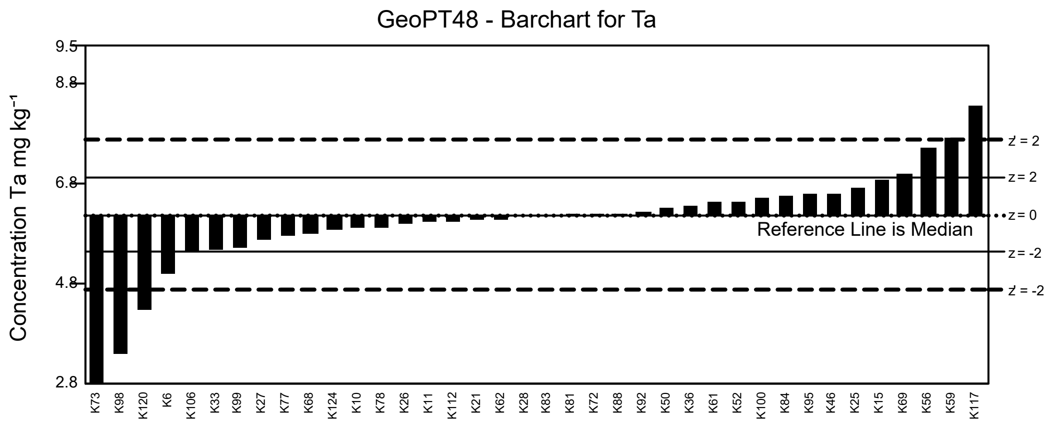

GeoPT48 - Barchart for Sb
Provisional
Concentration Sb mg kg⁻¹
Reference Line is Mode

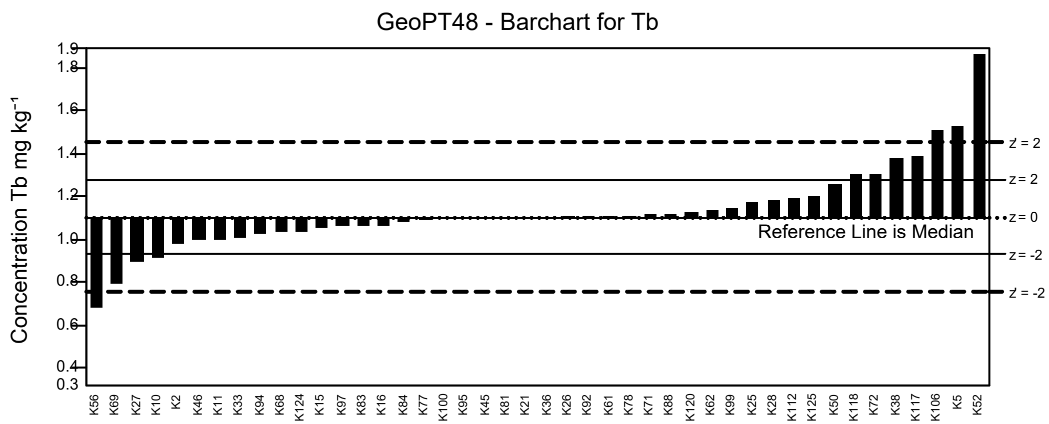

GeoPT48 - Barchart for Sc
Concentration Sc mg kg⁻¹
Reference Line is Mode

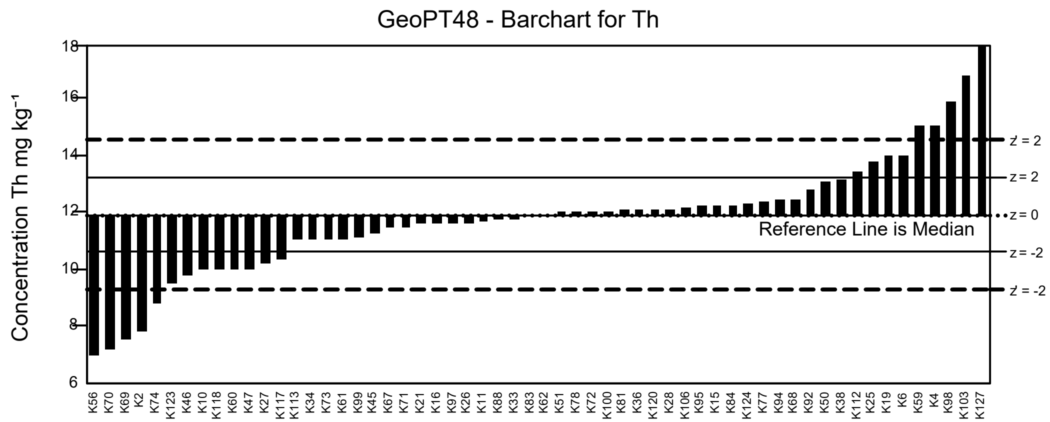

GeoPT48 - Barchart for Sm
Concentration Sm mg kg⁻¹
16
15
13
11
9
7
5
z' = 2
z = 2
z = 0
z = -2
z' = -2
Reference Line is Median


GeoPT48 - Barchart for Sn
Provisional
Concentration Sn mg kg⁻¹
3.5
3.3
2.9
2.5
2.1
1.7
1.3
0.9
0.7
z' = 2
z = 2
z = 0
z = -2
z' = -2
Reference Line is Mode

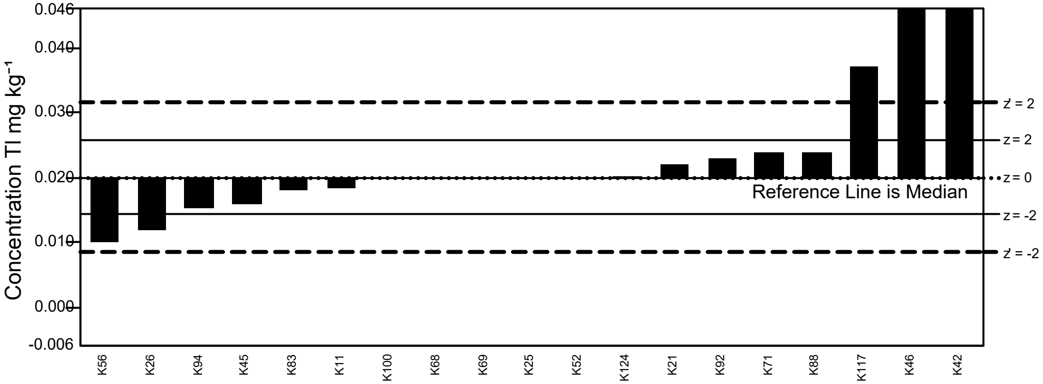

GeoPT48 - Barchart for Sr
Concentration Sr mg kg⁻¹
1,360
1,300
1,200
1,100
1,000
900
814
z' = 2
z = 2
z = 0
z = -2
z' = -2
Reference Line is Median


GeoPT48 - Barchart for Ta
Concentration Ta mg kg⁻¹
9.5
8.8
6.8
4.8
2.8
z' = 2
z = 2
z = 0
z = -2
z' = -2
Reference Line is Median

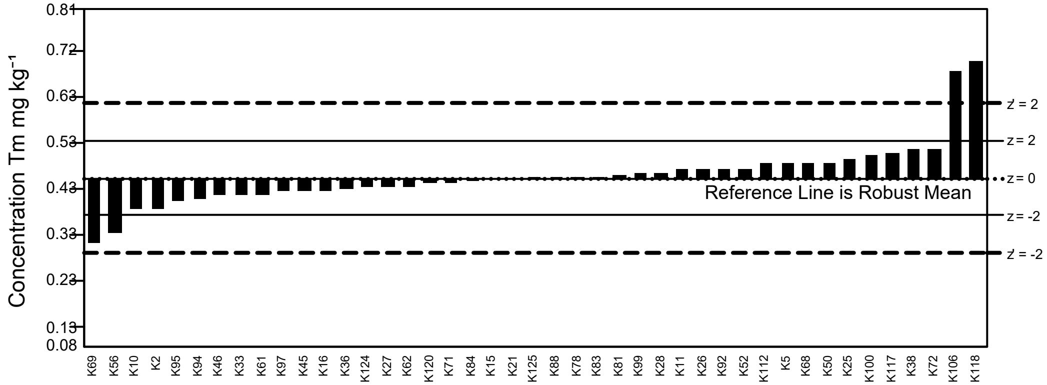

GeoPT48 - Barchart for Tb
Concentration Tb mg kg⁻¹
1.9
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.3
z' = 2
z = 2
z = 0
z = -2
z' = -2
Reference Line is Median


GeoPT48 - Barchart for Th
Concentration Th mg kg⁻¹
18
16
14
12
10
8
6
z' = 2
z = 2
z = 0
z = -2
z' = -2
Reference Line is Median

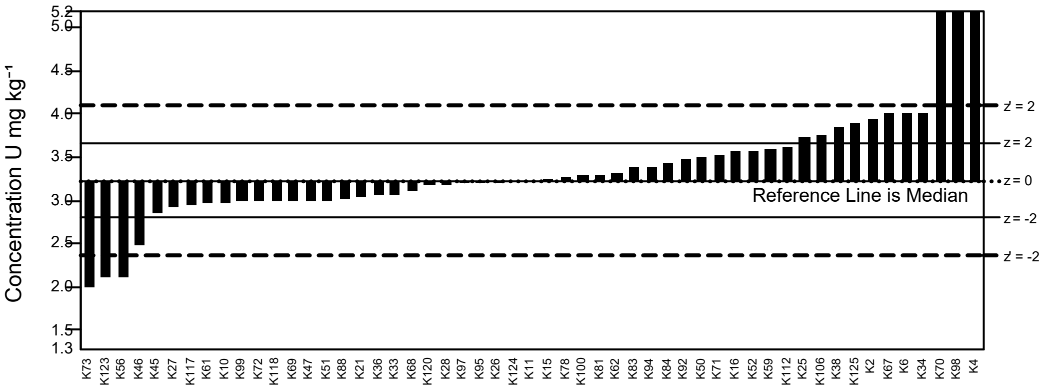
## GeoPT48 - Barchart for Tl



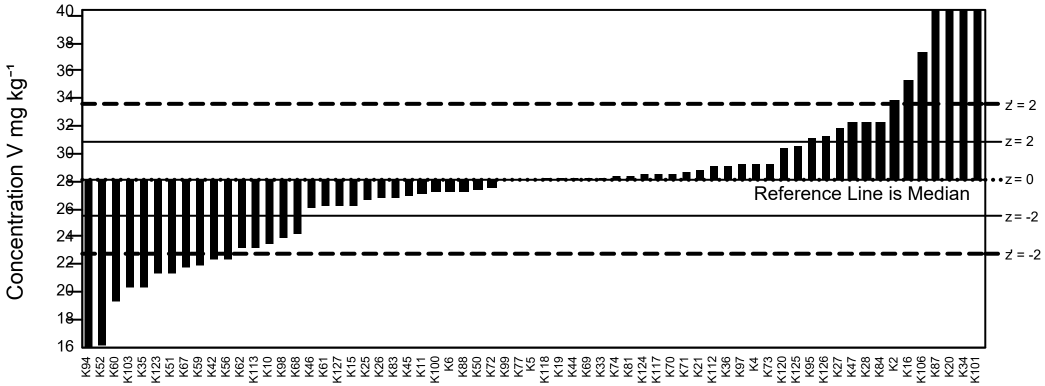

## GeoPT48 - Barchart for Tm



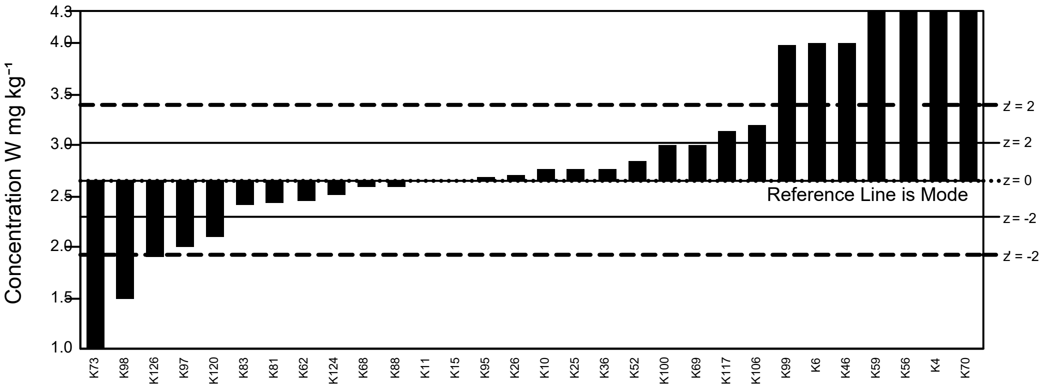

## GeoPT48 - Barchart for U



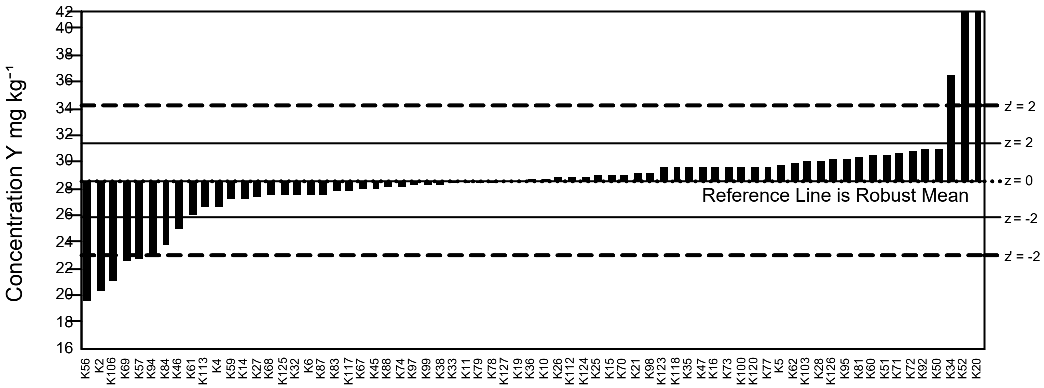

## GeoPT48 - Barchart for V

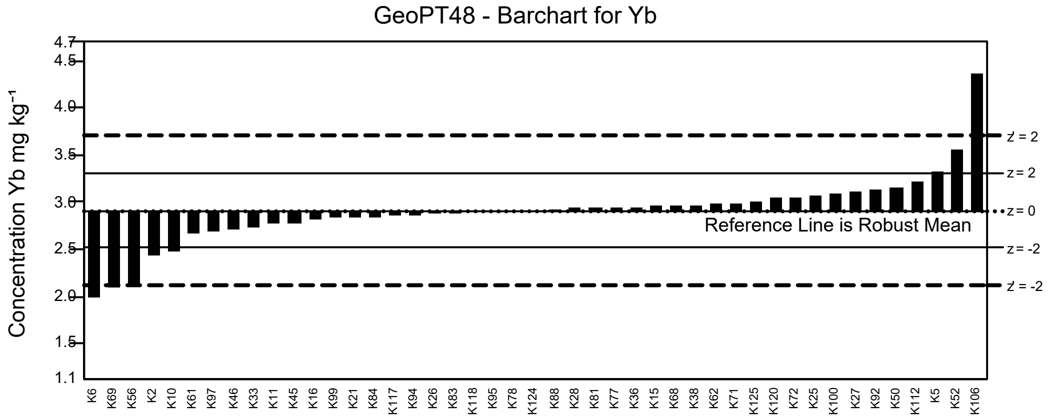


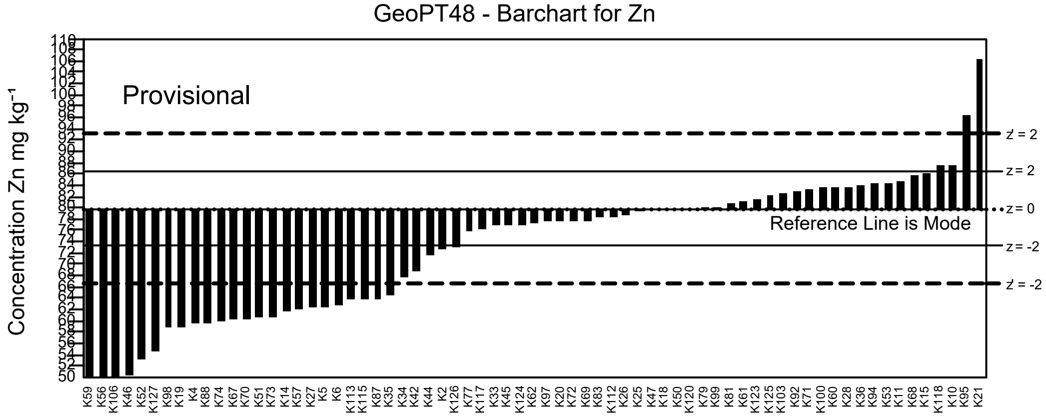

## GeoPT48 - Barchart for W




## GeoPT48 - Barchart for Y





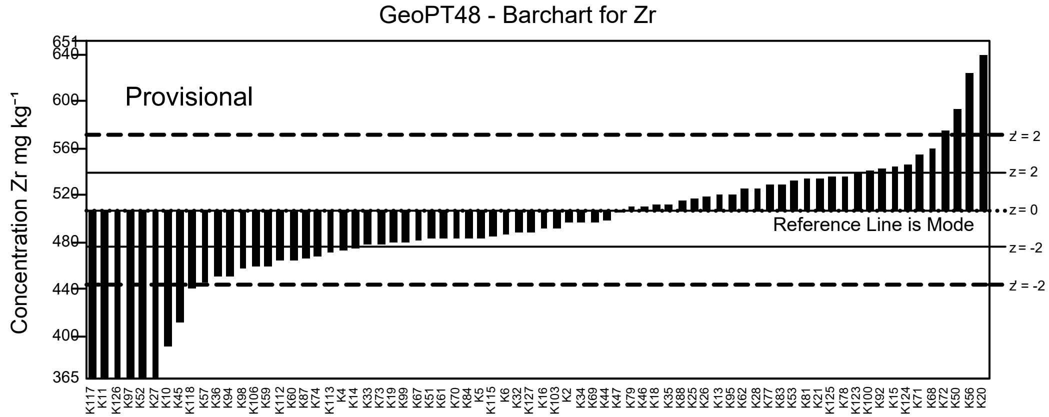
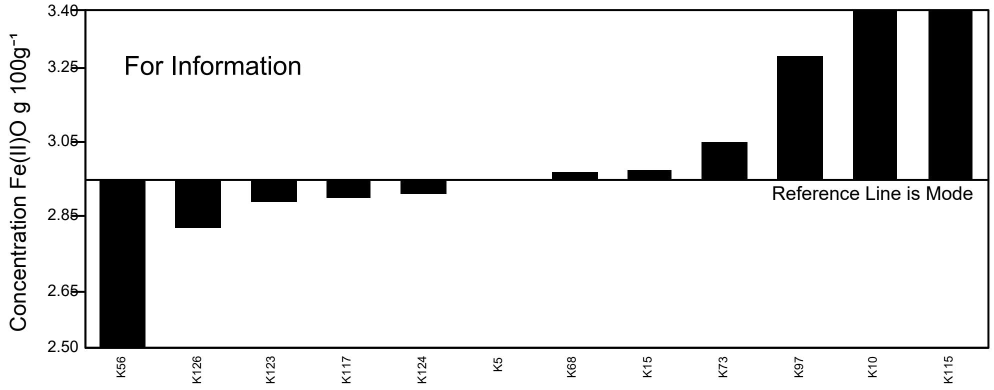
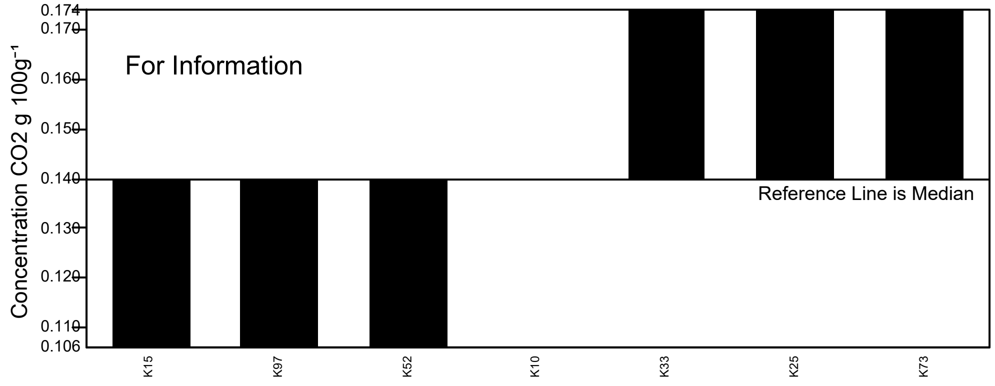




Figure 1: GeoPT48 - Monzonite, MzBP-1. Data distribution charts for elements for which values were assigned or provisional values given for guidance. Horizontal lines show the limits for -2<z<2 for pure geochemistry labs (solid lines) and -2<z'<2 for applied geochemistry labs (pecked lines).

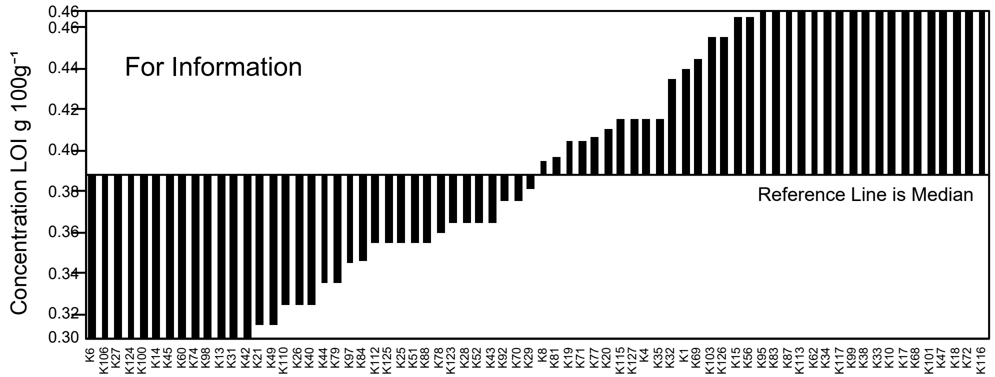
GeoPT48 - Barchart for Fe(II)O



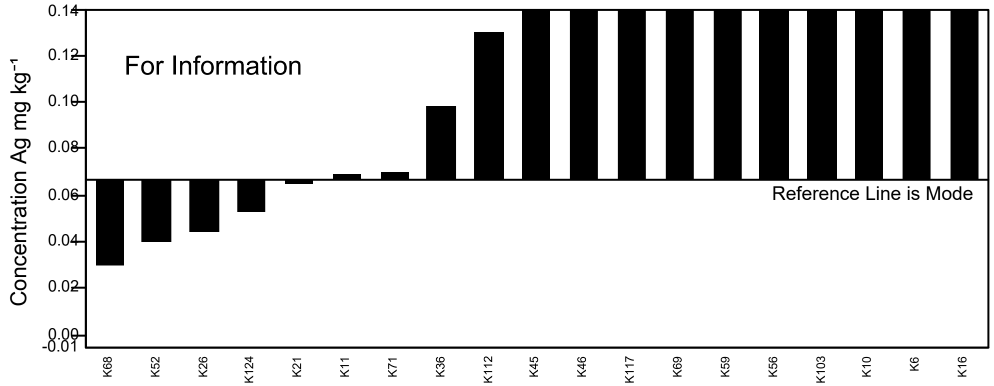

GeoPT48 - Barchart for CO2



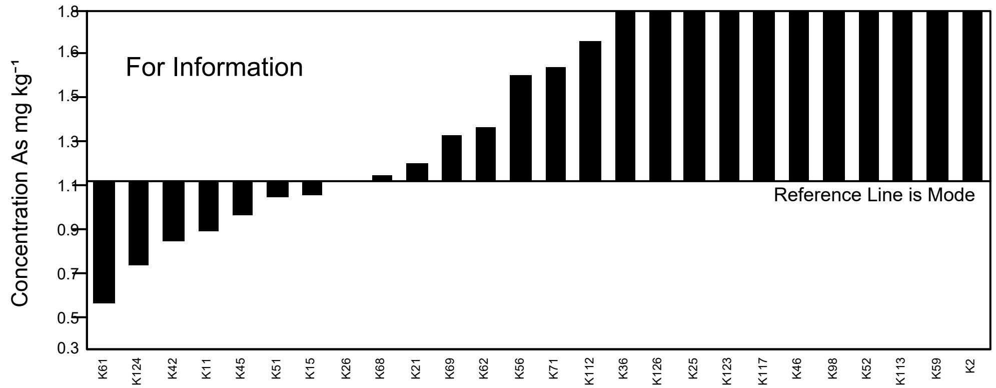

GeoPT48 - Barchart for LOI



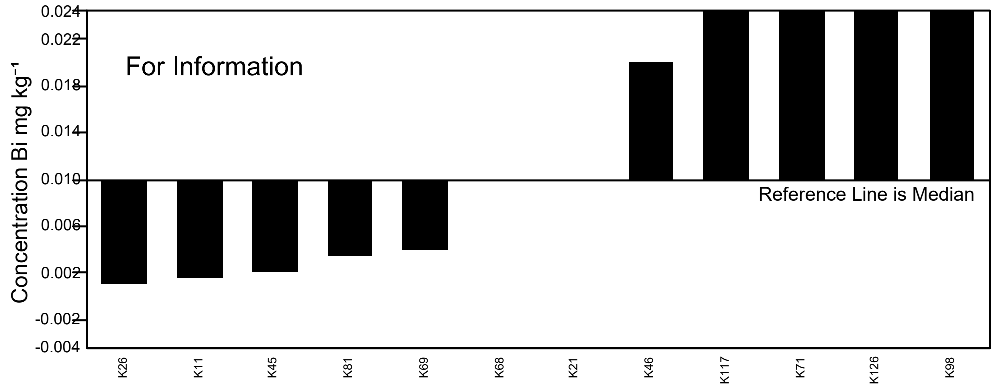

GeoPT48 - Barchart for Ag



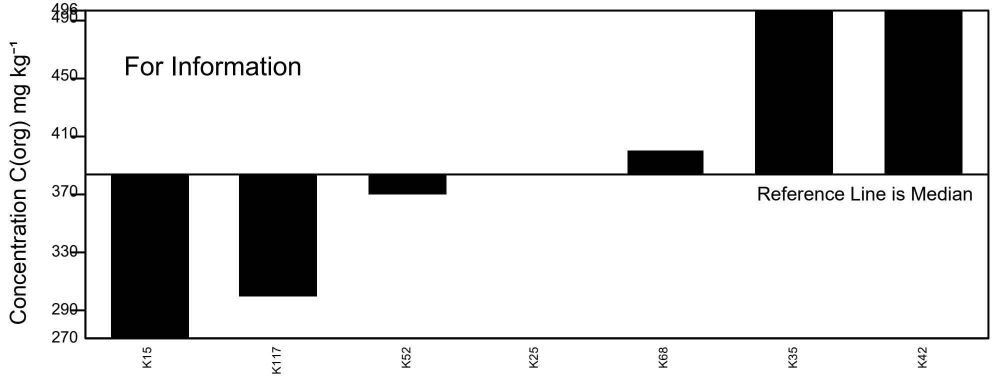

GeoPT48 - Barchart for As



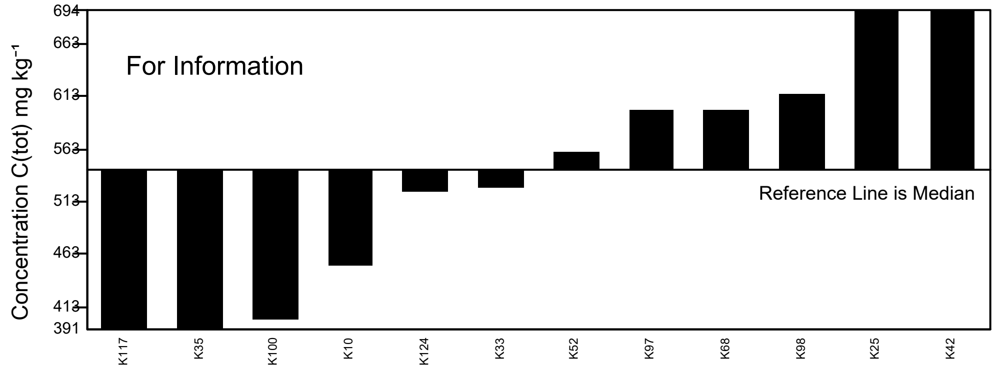

GeoPT48 - Barchart for Bi



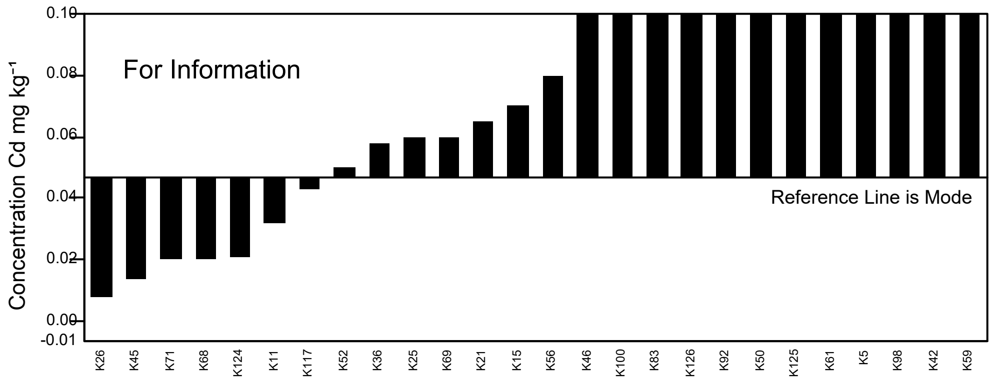
## GeoPT48 - Barchart for C(org)



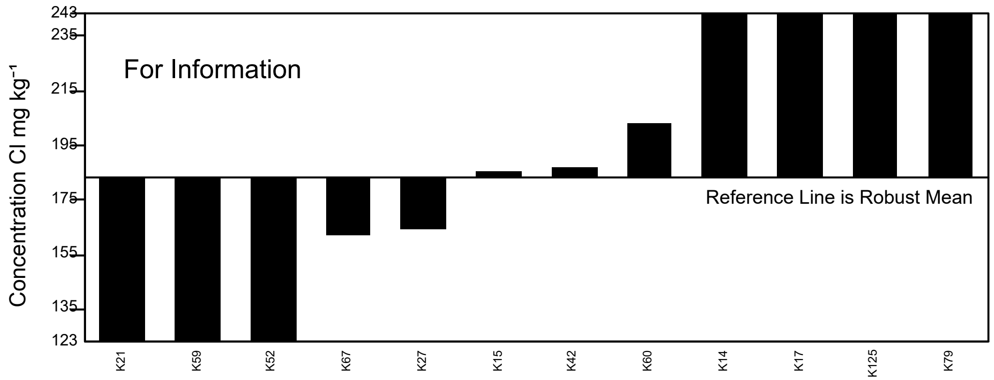

## GeoPT48 - Barchart for C(tot)



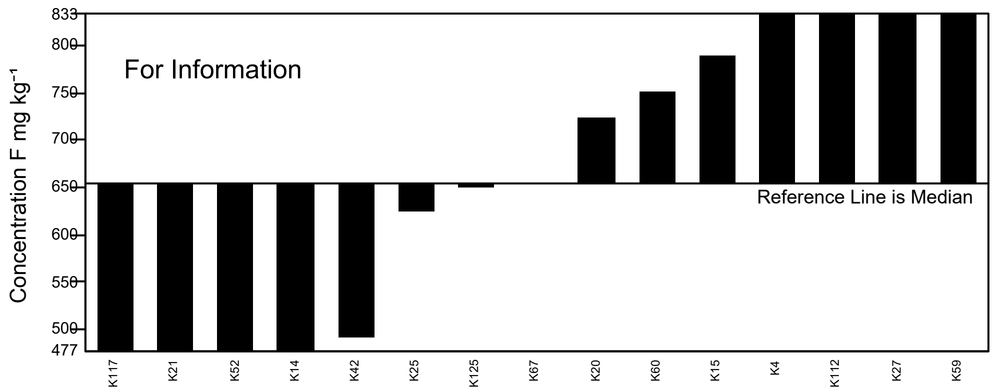

## GeoPT48 - Barchart for Cd



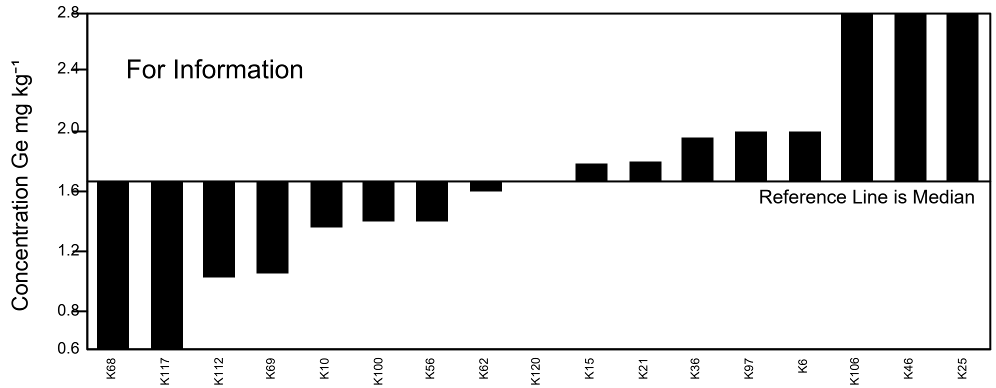

## GeoPT48 - Barchart for Cl

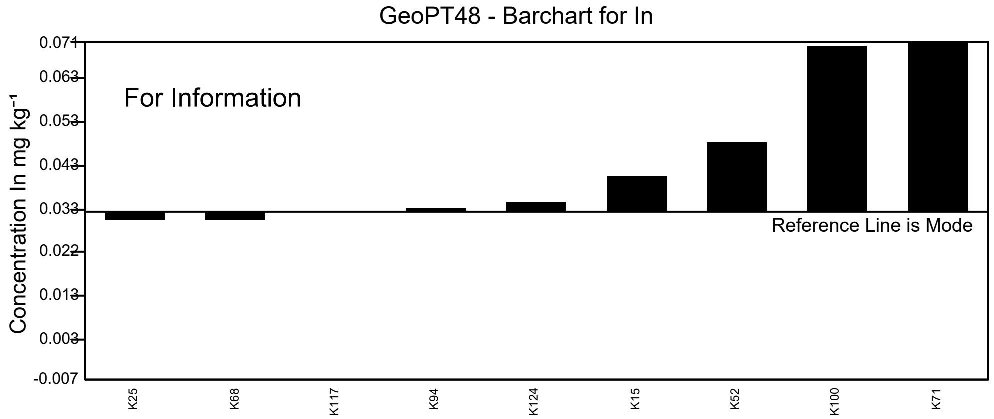


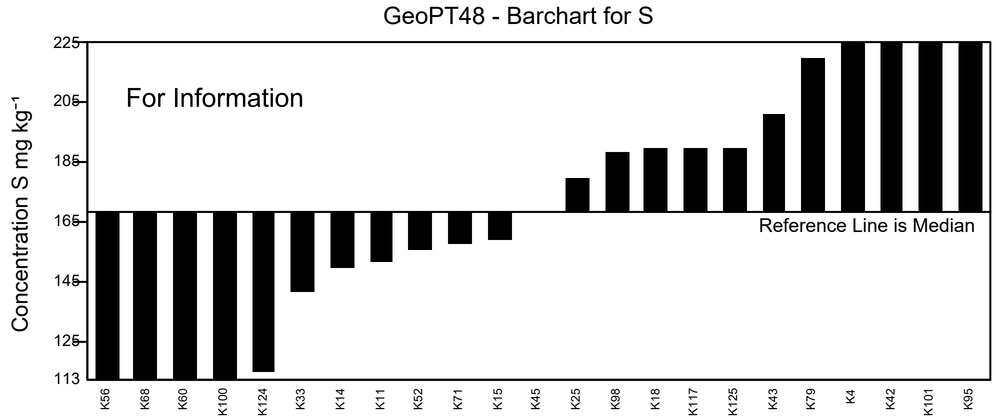

## GeoPT48 - Barchart for F




## GeoPT48 - Barchart for Ge





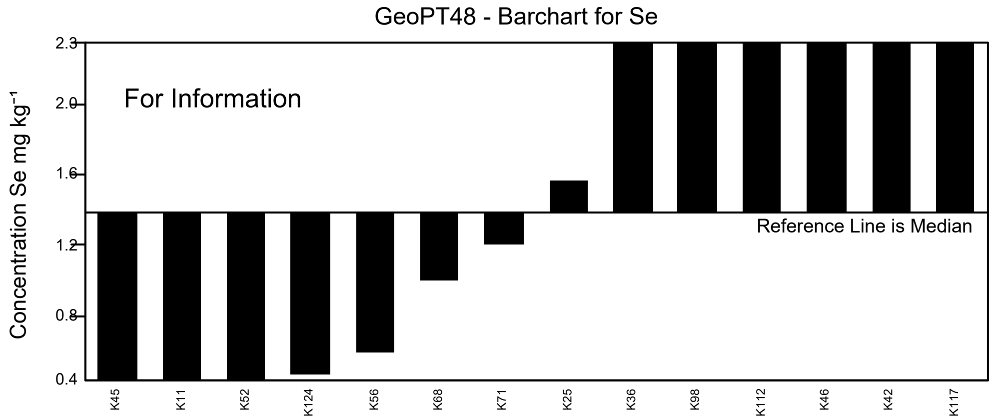
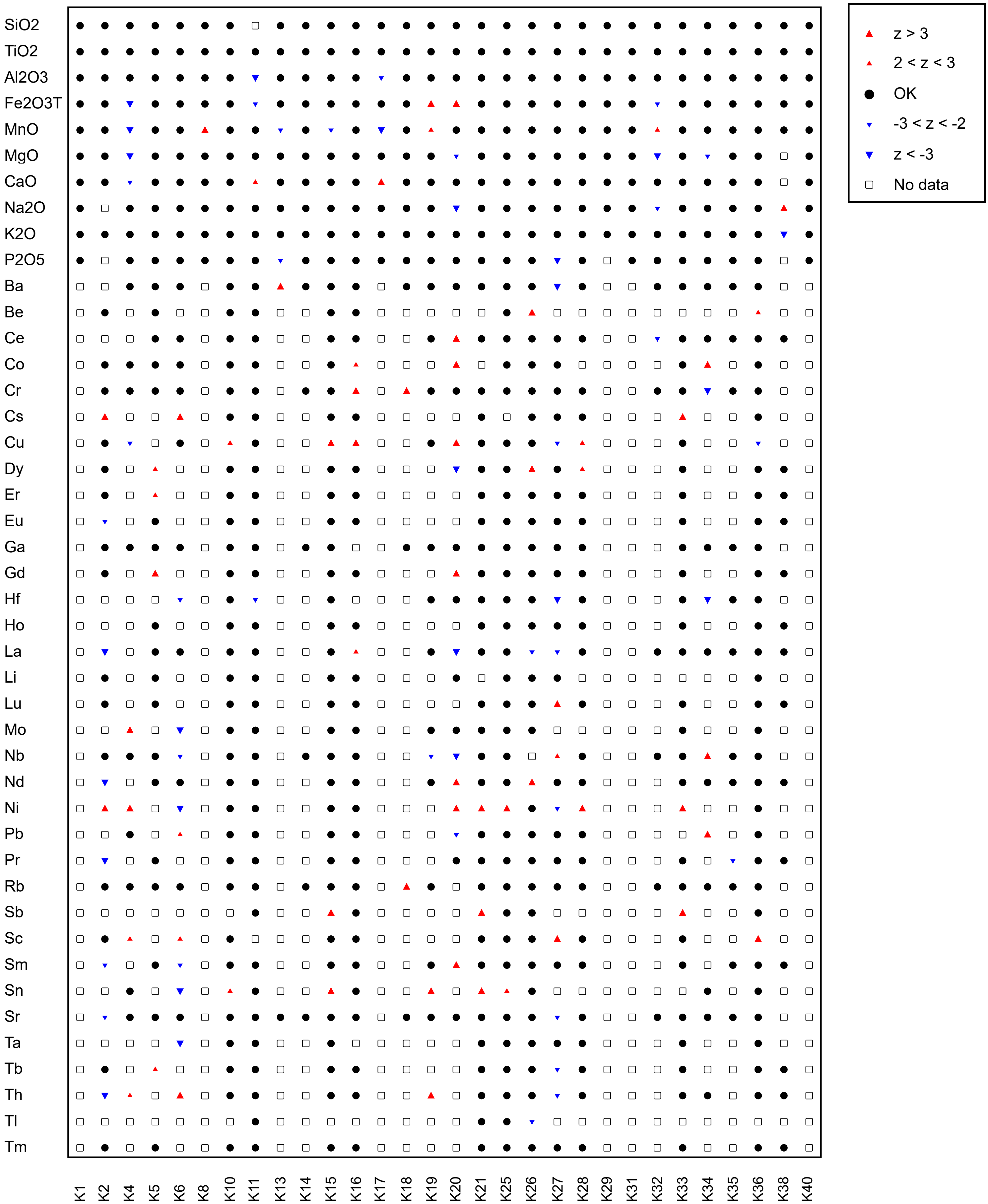




Figure 2: GeoPT48 - Monzonite, MzBP-1. Data distribution charts provided for information only for elements for which values could not be assigned.

## Multiple Z-Score Chart for GeoPT48



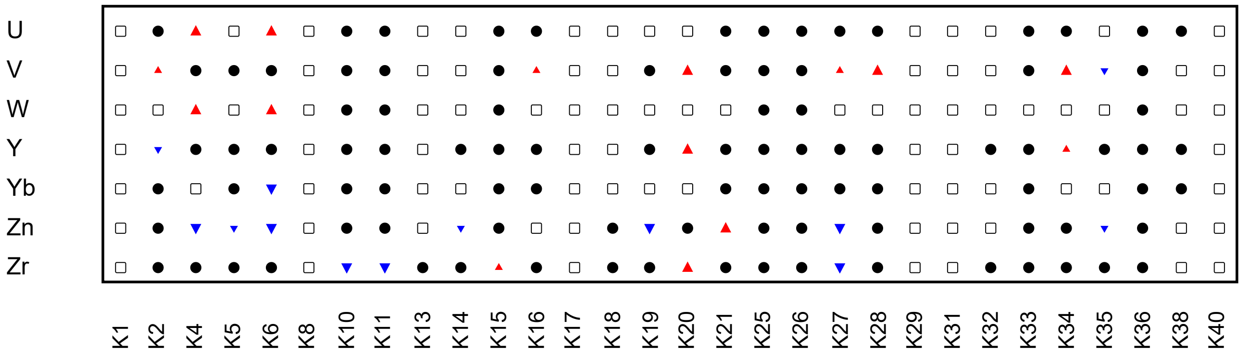
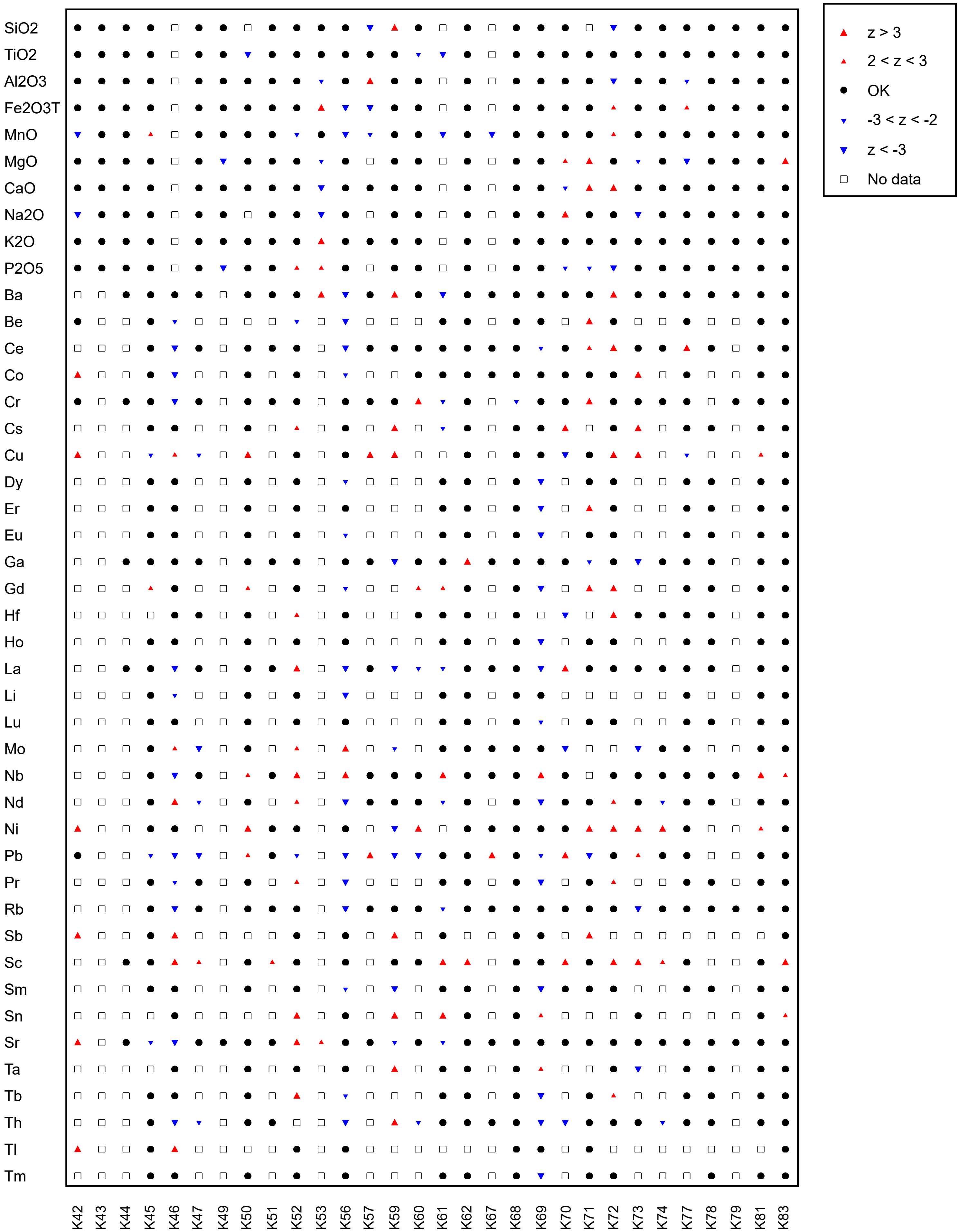



Figure 3: GeoPT48 - Monzonite, MzBP-1. Multiple z-score charts for laboratories participating in the GeoPT48 round. Symbols indicate whether or not an elemental result complies with the -2<z<+2 criteria (see key).

## Multiple Z-Score Chart for GeoPT48



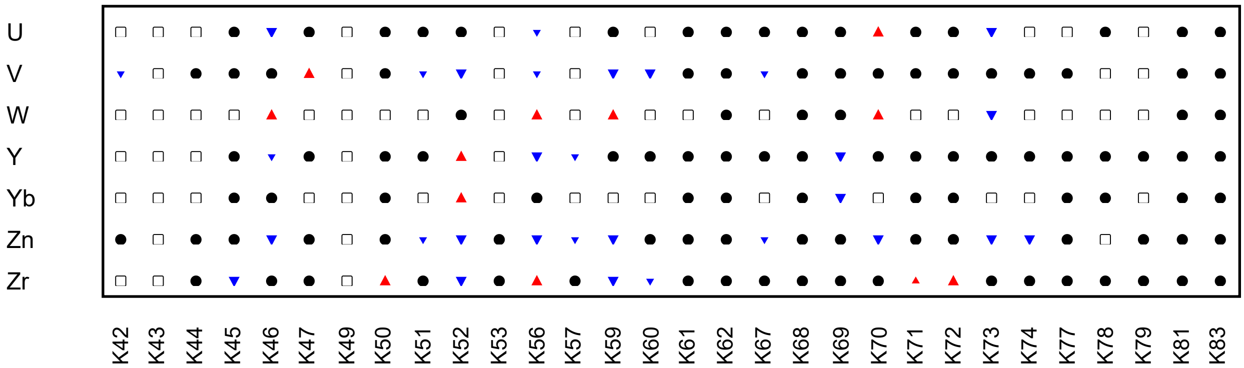
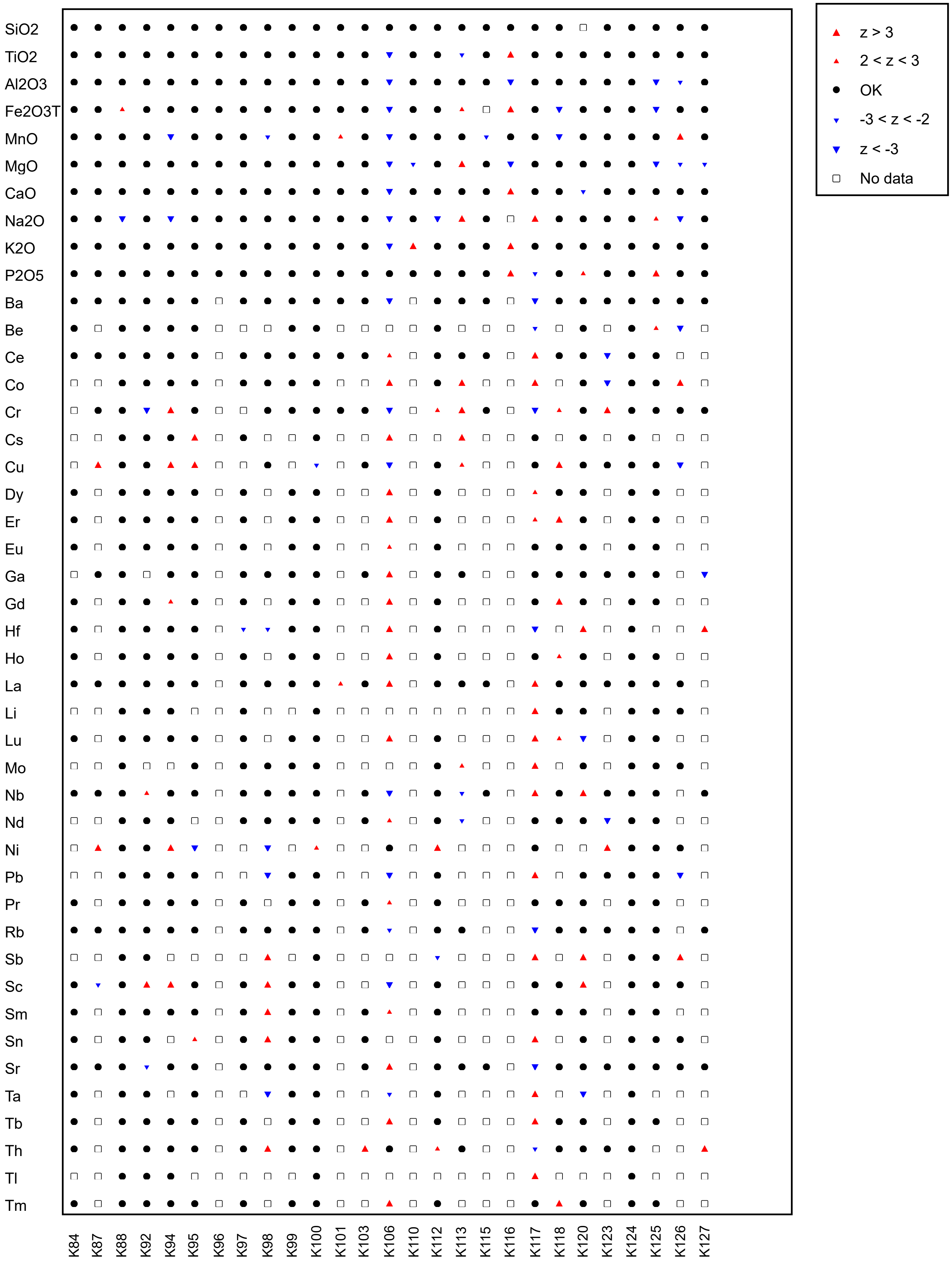



Figure 3: GeoPT48 - Monzonite, MzBP-1. Multiple z-score charts for laboratories participating in the GeoPT48 round. Symbols indicate whether or not an elemental result complies with the -2<z<+2 criteria (see key).

## Multiple Z-Score Chart for GeoPT48



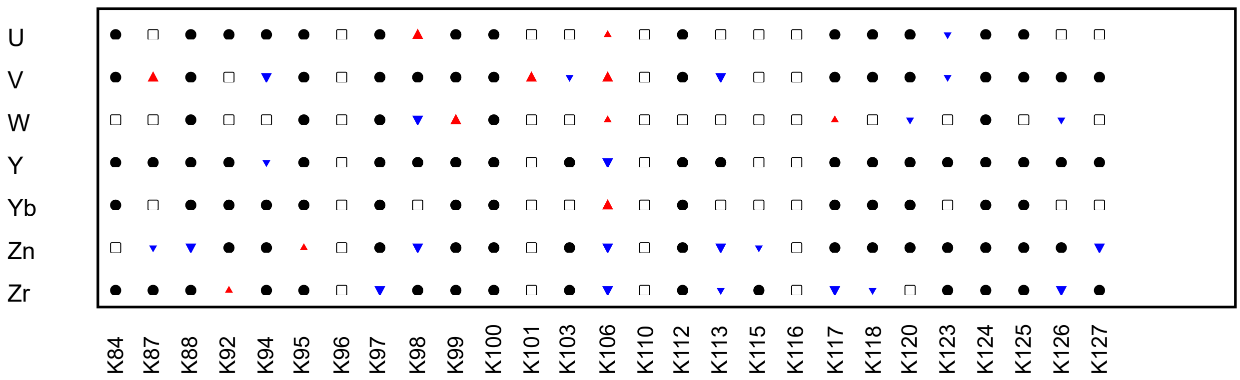



Figure 3: GeoPT48 - Monzonite, MzBP-1. Multiple z-score charts for laboratories participating in the GeoPT48 round. Symbols indicate whether or not an elemental result complies with the -2<z<+2 criteria (see key).

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).