Geo*PT*51A — AN INTERNATIONAL PROFICIENCY TEST FOR ANALYTICAL GEOCHEMISTRY LABORATORIES — REPORT ON ROUND 51A (Granite, MEG-1) / July 2022

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Abstract

Results are presented for Round 51A of the Geo*PT* proficiency testing programme for analytical geochemistry laboratories organised by the International Association of Geoanalysts (IAG). The test material distributed in this round was the Granite, MEG-1, supplied by the Central Geological Laboratory, Mongolia. In fact, this test material is a certified reference material, the Granite MGT-1 (code CGL 008), renamed to ensure complete anonymity. In this report, the data contributed by 112 laboratories are listed, together with an assessment of consensus values, consequent *z*-scores and a series of charts to show the distribution of contributed results and the overall performance of participating laboratories.

Introduction

This fifty-first round of Geo*PT*, the international proficiency testing programme for geoanalytical laboratories, was conducted in a similar manner to earlier rounds (reports listed in Appendix 1). The programme is designed to be a key part of the routine quality assurance procedures employed by an analytical geochemistry laboratory. 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 their performance in the form of *z*-scores for each reported measurement result so that every laboratory can decide whether the quality of their data is satisfactory in relation both to their chosen fitness-for-purpose criteria and to the performance of other laboratories participating in this round. In circumstances where its *z*-scores are unsatisfactory, a participating laboratory is encouraged to investigate for unsuspected analytical bias and to take corrective action when it appears justified.

Steering Committee for Round 51A: P.C. Webb (administrator and results assessor), P.J. Potts (results reviewer), C.J.B. Gowing (results reviewer and distribution manager), M. Thompson (statistical advisor).

Timetable for Round 51A:
Distribution of sample: March 2022
Results accepted from: 10th May 2022
Results submission deadline: 15th June 2022
Release of report: July 2022

Test Material details

Geo*PT*51A: The Granite test material, MEG-1, is in fact, the certified reference material (CRM) known as Granite MGT-1 (code CGL 008), purchased from the Central Geological Laboratory, Mongolia. Supplied in 100g portions, it was repackaged at BGS Keyworth, whereby portions were combined in pairs and divided 8 ways to provide 140 packets of test material in a form suitable for distribution to participating laboratories. The test material had been evaluated for homogeneity as part of the CGL certification process. As a result, the sample was considered suitable for use in this proficiency test.

Submission of results

For Geo*PT*51A (MEG-1), a total of 3888 measurement results submitted by 112 laboratories are listed in Table 1. We are pleased to report that this number reflects the highest level of participation in any round of Geo*PT* since its inception. Of the measurements submitted, 1783 results were designated by their originators as data quality 1 (see ***z*-score analysis section** below for explanation of data quality) and are shown in **bold**, whereas 2105 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.

Several laboratories reported values of '0' (i.e. zero) in this round. We continue to remind participants not to report zeros or values that are close to detection limits, below their recognised quantification limits and have an unacceptably large uncertainty associated with them. However, it is apparent that a few laboratories reported **results for C(org), C(tot), Cl and S in units of g/100g instead of mg/kg**. Consequently, we must respectfully, but **firmly remind analysts** that **measurement results** of **all constituents listed in elemental form should be reported in mg/kg**. Analysts should be aware that **erroneous results cannot be altered or removed** either by them or by us 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.

Data assessments involved an examination of bar charts showing the distribution of results 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 measurement 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 enables us, when necessary, to refine the selection of consensus values by taking account of data distributions according to measurement procedure. As previously notified to participants, the facility now exists for participants to observe Geo*PT* data distributions using Shiny App graphics through the link: *https://www.geoanalyst.shinyapps.io/GeoPTcommon2/*. You will be able to view all data submitted according to the principle of measurement, the method of sample preparation, and the chosen fitness-for-purpose criterion.

Consensus values derived from contributed data were provided in 8 instances by the Huber robust mean. Although outliers can be accommodated by this procedure, it is less effective when a dataset is skewed, when it tends not to provide a satisfactory estimation of the consensus. In such circumstances, the median is often a more appropriate robust estimator and was employed in 27 cases. For more severely skewed and strongly tailed datasets, the median may not be an adequate estimator and a mode can provide a more effective means of estimating the location of the consensus. In this round the use of a mode as a consensus location estimator was preferred in 22 cases, and in 14 of these, the distribution of data was sufficiently compatible with the conditions outlined above to justify its designation as an assigned value. Although the choice of a mode may be sometimes be used to 'fine tune' the location of the consensus, the extensive use of modes in this round was necessary because a large number of datasets were skewed and the source of the skew could be attributed to a known analytical problem or problems as discussed later. The procedure used to determine modes was mostly as 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 provide a robust estimate of the consensus location that represents the most coherent part of the data distribution often where the 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 47 trace elements in Geo*PT*51A (MEG-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. Statistical data, consensus values and status designations are listed in Table 2 for the 57 analytes: SiO_2, TiO_2, Al_2O_3, Fe_2O_3T, MnO, MgO*, CaO, Na_2O, K_2O, P_2O_5*, Ag*, As*, Ba, Be, Bi, Cd*, Ce, Co, Cr*, Cs, Cu*, Dy, Er, Eu, Ga, Gd, Ge*, Hf, Ho, In*, La, Li, Lu, Mo, Nb, Nd, Ni*, Pb, Pr, Rb, Sb*, Sc, Sm, Sn, Sr, Ta, Tb, Th, Tl, Tm, U, V, W*, Y, Yb, Zn and Zr. Of these, the measurands of the 12 analytes marked '*' could be credited only with provisional status. Such instances of provisional status were conferred 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 or more methods employed but the remaining data defined a viable consensus. Of the provisional results, those for Ge and W, with fewer data reported, have a relatively high degree of uncertainty associated with them.

Bar charts for the 9 analytes: Fe(II)O, H_2O^+, LOI, B, C(tot), Cl, F, 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 highly dispersed for a sufficiently reliable determination of a consensus for the estimation of *z*-scores.

In this round, as in Round 51, although many datasets are symmetrically disposed, it is common for many to be asymmetrical on account of notable low tails, especially for the REEs, as well as Hf, U, Y and Zr, elements known to reside in refractory accessory minerals in granitic rocks. As with GMN-1, this effect was less striking for MEG-1 than for CSd-1 in Geo*PT*50, but evidence of procedures from metadata supplied indicated that this effect was again, in many cases associated with acid digestion (AD) as a means of dissolution. A particularly marked low tail is apparent for data reported by a small number of laboratories as illustrated for Sm in Figure 0.1, as representative of LREEs. The consensus for Sm is defined by the maximum density of results which use a variety of forms of sample preparation, including acid digestion, permitting an assigned status to be conferred. Potts *et al.* (2014) demonstrated that incomplete dissolution of refractory minerals, such as zircon, does not affect all of the data obtained by acid digestion but is observed when the dissolution procedure was insufficiently rigorous. For many such asymmetric distributions in this round it was necessary to use a mode to obtain a value to represent the most coherent consensus location.

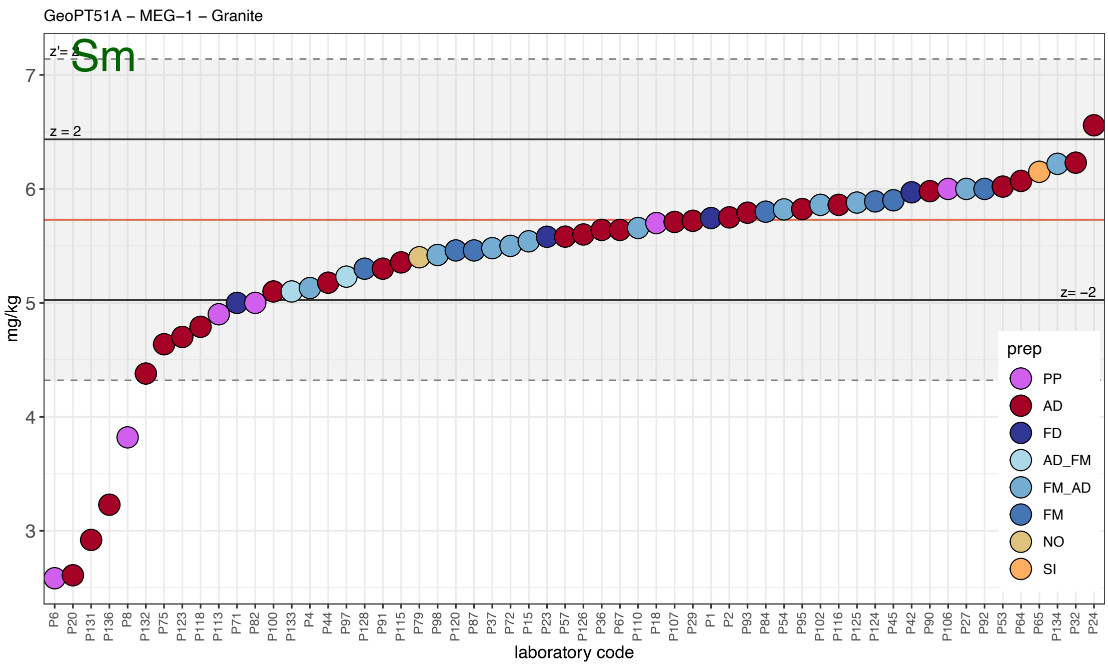

Figure 0.1 A sequential plot for MEG-1 of sorted Sm results distinguished according to method of sample preparation typifies many LREE data distributions. Some of the acid digestion (AD) data form a striking low tail. The lowest powder pellet (PP) results are not by XRF but by LA-ICP-MS on nano-pellets. ICP-MS data derived by a variety of forms of sample preparation including many by acid digestion, form a convincing consensus, sufficient to confer an assigned value. FM procedures involve fusion, SI is sintering. FD is fusion disc; NO represents no preparation.

For HREEs it is apparent that many of the low values are recorded by the same laboratories that reported low values for LREEs, but in addition, a number of other laboratories undertaking acid digestion also record what appear to be systematically low values. It is suggested, therefore, that the HREEs and the LREEs are dominantly hosted by different mineral phases which respond differently to different dissolution procedures. For most HREEs, an appropriate consensus, defined as a mode, thus providing a robust representation of the most coherent part of the results distribution, was credited with assigned status when a sufficient number of measurements involved a variety of analytical procedures. This situation is exemplified for Tm in Figure 0.2.

For some elements the asymmetry of data distributions is due to high tails, examples of which are apparent in Figure 1, most notably for Ag, As, Cd, Co, Cu, Ni, Sb and W. In all of these cases the quantities of the analytes are at

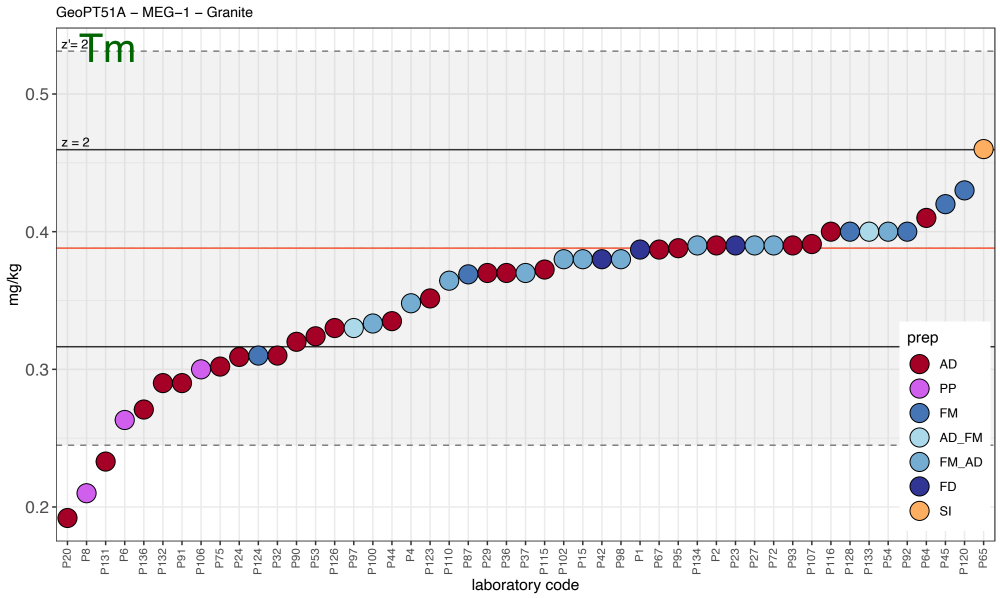

Figure 0.2 A sequential plot of sorted Tm results for MEG-1 distinguished according to method of sample preparation. Much of the acid digestion (AD) data tends to be low and less well aligned compared to most of the data derived using other forms of sample preparation, usually involving fusion, which are in better agreement and on which the consensus value is based. See Figure 0.1 caption for definition of the symbols.

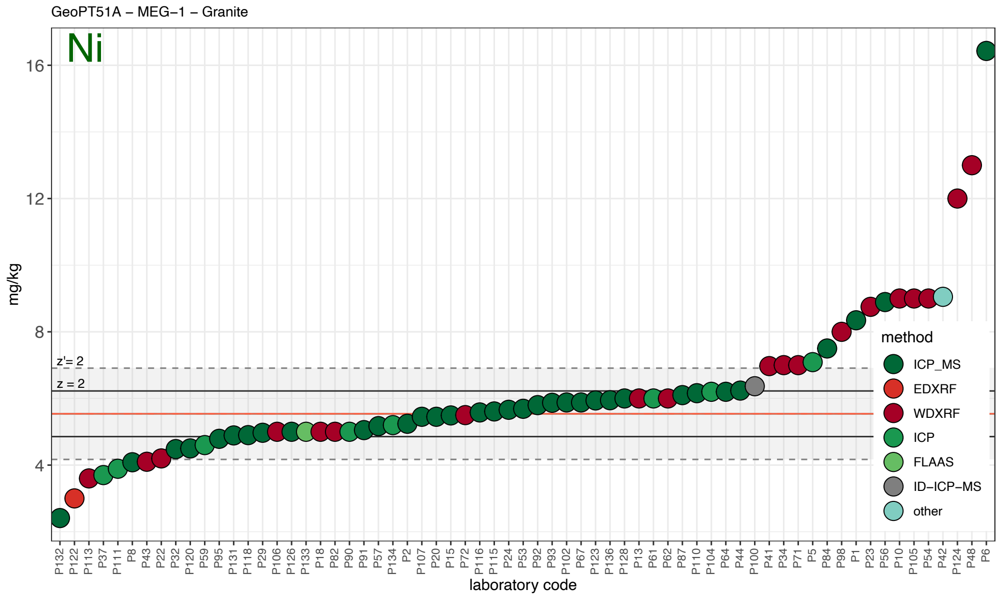

Figure 0.3 A sequential plot of sorted Ni results for MEG-1 distinguished according to analytical technique. Much of the XRF data contributes to the high tail. The distribution was credited with a provisional value as there was insufficient coherence of results around the consensus value. Key: WDXRF – Wavelength dispersive XRF; INAA – Instrumental neutron activation analysis; ICP-MS – Inductively coupled plasma-mass spectrometry; ICP – Inductively coupled plasma - atomic/optical emission spectrometry; ID-ICP-MS – Isotope dilution-inductively coupled plasma-mass spectrometry.

low mass fractions (As: 2.268 mg/kg, Cd: 0.11 mg/kg, Co: 2.623 mg/kg, Ni: 5.548 mg/kg and W 0.526 mg/kg). Figure 0.3 is one such example which reveals the distribution of data for Ni where XRF results contribute significantly to the high tail. In other examples, however, a varied range of measurement procedures contribute to the high tail.

As is often the case, some sets of results, especially those of TiO_2, MnO, MgO, P_2O_5, Co, Ga, Li, Nb, Ni and Sc feature stepped distributions caused by over-rounding of much of the contributed data (see Figure 1 barcharts). The distributions of MgO and P_2O_5 results were so significantly affected that values could only be credited with provisional status. See Figure 0.4 to examine the problematic P_2O_5 data distribution. We continue to recommend that for proficiency testing purposes **all measurands** should be quoted to **at least one decimal place more than would be routinely presented** to a client. This would enable our statistical procedures to define a robust consensus more effectively. This recommendation is especially relevant to distributions of major element components reported at low mass fractions.

Z-score analysis

As in previous rounds, laboratories were invited to choose one of two performance standards against which their analytical results would be judged:

Data quality 1 for laboratories working to a 'pure geochemistry' standard of performance, where analytical results are designed for geochemical research and where care is taken to provide data of high precision and accuracy, sometimes at the expense of a reduced sample throughput rate.

Data quality 2 for laboratories working to an 'applied geochemistry' standard of performance, where, although precision and accuracy are still important, the main objective is to provide results on large numbers of samples collected, for example, as part of geochemical mapping projects or geochemical exploration programmes.

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

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

Where x_{pt} is the mass fraction of the element; the factor k = 0.01 for pure geochemistry laboratories (quality 1) and k = 0.02 for applied geochemistry laboratories (quality 2).

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

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

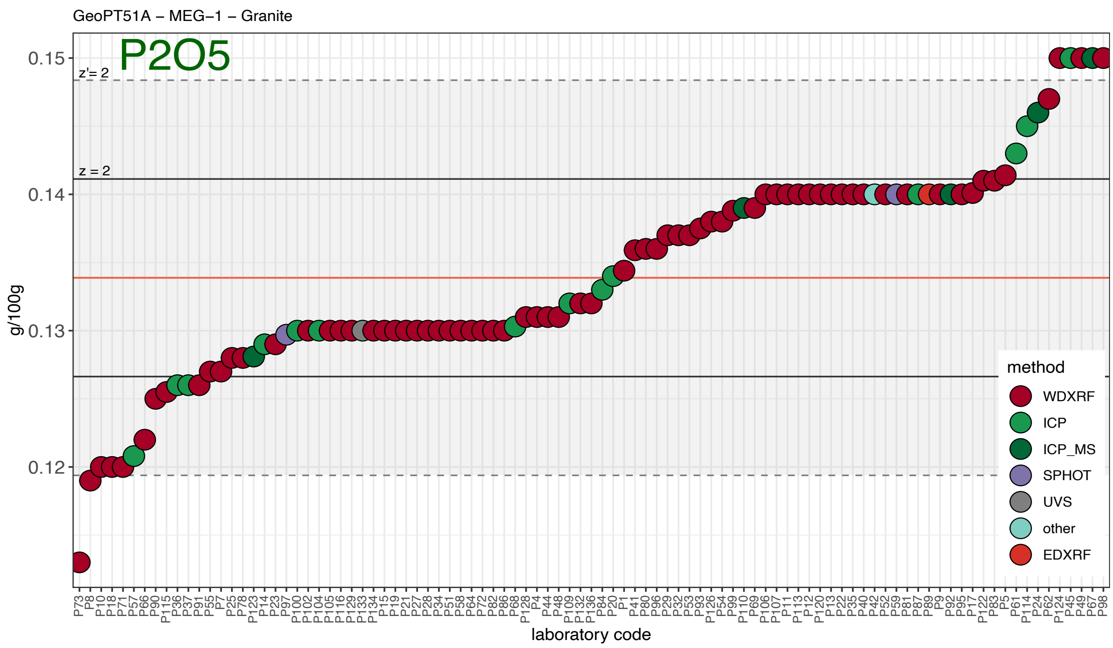

Figure 0.4 A sequential plot of sorted P_2O_5 results for MEG-1 distinguished according to analytical technique. Many of the XRF results are quoted to only two significant figures, producing an artificially stepped distribution of data, for which it is not possible to define a reliable consensus, hence the provisional status of the estimated value. See Figure 0.3 caption for definition of the symbols. SPHOT – Spectrophotometry; UVS – Ultraviolet spectrometry.

Where x_i is the contributed measurement result, x_{pt} is the assigned (or provisional) value and σ_{pt} is the target standard deviation (all as mass fractions). *Z*-scores for results contributed to Geo*PT*51A are listed in Table 3. Those of results designated as data **quality 1** are shown in **bold**: those of data quality 2 are shown underlined. *Z*-scores derived from *provisional value*s 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 52, the test materials for which will be distributed during September 2022.

Acknowledgements

The authors once again thank Andrea Mills (BGS) for much-valued assistance in distributing these samples and Thomas Meisel (Montanuniversität Leoben, Austria) for both maintaining the system and developing procedures involving the package 'R' and the Shiny App which has greatly assisted in the investigation of data according to analytical procedure, provided the graphics featured in Figures 0.1, 0.2, 0.3 and 0.4, as well as facilitating the analysis of datasets involving modes derived according to Thompson (2017). In addition, Jenny Cook (IAGeo Ltd) is thanked for arranging acquisition of the reference material CGL 008 from the Central Geological Laboratory, Mongolia.

References

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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.

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.

ADDENDUM
— IMPORTANT NOTICES TO ANALYSTS

New procedural coding for Round 52

New procedural codes will be available for Round 52. Please note that on account of the number of laboratories now measuring by **LA-ICP-MS on nano-particulate pellets (NP) and glass discs (FD)** there will be new analytical technique and sample preparation method codes available for more accurate definition of procedures in subsequent rounds.

Change in uncertainty estimation, 2020

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 rounds prior to that date. 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.

Access to graphical displays of data distributions

Via Shiny App graphics:
https://www.geoanalyst.shinyapps.io/GeoPTcommon2

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, Keyworth. 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, Keyworth. 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, Keyworth. 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, Keyworth. 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, Keyworth. 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, Keyworth. Unpublished report.

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

Geo*PT*13
Potts P.J., Thompson M., Chenery S.R., Webb, P.C. and Kasper 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, Keyworth. Unpublished report.

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

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

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

Appendix 1 (Cont'd)

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

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

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

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

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

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

Geo*PT*36
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, Keyworth. 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, Keyworth. Unpublished report.

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, Keyworth. 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, Keyworth. 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, Keyworth. 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, Keyworth. 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, Keyworth. Unpublished report.

Appendix 1 (Cont'd)

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, Keyworth. 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, Keyworth. 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, Keyworth. 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, Keyworth. 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, Keyworth. 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, Keyworth. 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, Keyworth. 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, Keyworth. 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, Keyworth. 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, Keyworth. 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, Keyworth. 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, Keyworth. 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, Keyworth. 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, Keyworth. Unpublished report.

Geo*PT*48
Webb, P.C., Potts, P.J., Thompson, M., Gowing, C.J.B., Glodny, J., Wiedenbeck, M. (2021)
Geo*PT*48 – an international proficiency test for analytical geochemistry laboratories – report on round 48 (Monzonite, MzBP-1) / April 2021. International Association of Geoanalysts, Keyworth. Unpublished report.

Geo*PT*49
Webb, P.C., Potts, P.J., Thompson, M., Gowing, C.J.B., and Wilson, S.A. (2021)
Geo*PT*49 – an international proficiency test for analytical geochemistry laboratories – report on round 49 (Basalt, BVA-1) / July 2021. International Association of Geoanalysts, Keyworth. Unpublished report.

Geo*PT*50
Webb, P.C., Potts, P.J., Thompson, M., and Gowing, C.J.B. (2022)
Geo*PT*50 – an international proficiency test for analytical geochemistry laboratories – report on round 50 (Calcified sediment, CSd-1) / January 2022. International Association of Geoanalysts, Keyworth. Unpublished report.

Table 1 - GeoPT51A Contributed data for Granite, MEG-1. 15/06/2022

Lab Code		P1	P2	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14
SiO2	g 100g^{-1}	**72.402**		72.81	**71.715**	**83.96**	**72.979**	**72.114**	73.53	**71.52**	72.33	72.5	71.97	72.12
TiO2	g 100g^{-1}	**0.308**	**0.28**	0.292	**0.302**	**0.104**	**0.281**	**0.303**	0.3	**0.32**	0.29	0.28	0.28	0.289
Al2O3	g 100g^{-1}	**14.006**		13.94	**14.096**	**6.253**	**13.885**	**14.014**	14.4	**13.73**	14.28	14.5	14.2	13.81
Fe2O3T	g 100g^{-1}	**2.438**		2.41	**2.549**	**0.998**	**2.467**	**2.472**	2.5	**2.47**	2.49	2.37	2.51	2.42
Fe(II)O	g 100g^{-1}									**2.08**				
MnO	g 100g^{-1}	**0.061**	**0.06**	0.062	**0.065**	**0.027**	**0.06**	**0.061**	0.06	**0.062**	0.05	0.082	0.05	0.06
MgO	g 100g^{-1}	**0.347**		0.39	**0.401**	**0.231**	**0.432**	**0.383**	0.35	**0.26**	0.4	0.42	0.36	0.376
CaO	g 100g^{-1}	**1.168**		1.13	**1.236**	**0.563**	**1.123**		1.17	**1.11**	1.18	1.12	1.12	1.113
Na2O	g 100g^{-1}	**3.671**		3.51	**3.947**	**2.015**	**3.403**	**3.574**	3.58	**3.6**	3.77	3.62	3.66	3.62
K2O	g 100g^{-1}	**4.693**		4.548	**5.062**	**2.826**	**4.667**	**4.707**	4.81	**4.63**	4.75	4.64	4.54	4.6
P2O5	g 100g^{-1}	**0.134**		0.131	**0.141**	**0.028**	**0.127**	**0.119**	0.14	**0.12**	0.14	0.14	0.14	0.129
H2O+	g 100g^{-1}						**0.29**			**0.77**				
CO2	g 100g^{-1}									**0.12**				
LOI	g 100g^{-1}	**0.56**		0.53	0.383		**0.69**	**0.69**	0.67		0.68	0.71		
Ag	mg kg^{-1}	**0.095**				**0.012**								
As	mg kg^{-1}	**2.152**				**1.192**								
Au	mg kg^{-1}													
B	mg kg^{-1}					**22.29**		8.67						
Ba	mg kg^{-1}	**346.9**	**353**	354.1	358.1	**161.3**	**400**	346.8	300	**329**	389		378	351
Be	mg kg^{-1}		**9.29**			**3.048**		9.042						
Bi	mg kg^{-1}	**1.297**				**0.104**								
Br	mg kg^{-1}													
C(org)	mg kg^{-1}													
C(tot)	mg kg^{-1}											200		180
Cd	mg kg^{-1}	**0.273**												
Ce	mg kg^{-1}	**65.008**	**66.5**	60.1		**33.77**		32.16	66	**56**				64
Cl	mg kg^{-1}			0.004						22				
Co	mg kg^{-1}		**2.62**			**1.326**		5.23		**3**			3	
Cr	mg kg^{-1}	**200.1**	**191**	188	189.5	**497.8**	**180**	90.81	171	**370**	199		225	198
Cs	mg kg^{-1}	**17.376**	**16.9**	15		**4.111**		26.85		**13**				
Cu	mg kg^{-1}	**8.22**	**6.32**	8	7.96	**4.554**		8.435		**2**			6	
Dy	mg kg^{-1}	**4.647**	**4.64**	4.11		**2.536**		3.446						
Er	mg kg^{-1}	**2.493**	**2.55**	2.26		**1.654**		1.56						
Eu	mg kg^{-1}	**0.598**	**0.59**	0.658		**0.297**		0.514						
F	mg kg^{-1}									857				
Ga	mg kg^{-1}	**21.582**	**23**	23		**9.719**		33.97	24	**11**	20		22	
Gd	mg kg^{-1}	**5**	**4.97**	4.3		**2.315**		3.914						
Ge	mg kg^{-1}	**1.69**				**1.796**		1.936						
Hf	mg kg^{-1}	**5.156**	**5.06**		6.74	**2.881**		0.489		**3**				
Hg	mg kg^{-1}			0.003							0.001			
Ho	mg kg^{-1}	**0.873**	**0.87**	0.756		**0.580**		0.581						
I	mg kg^{-1}													
In	mg kg^{-1}					**0.022**								
La	mg kg^{-1}	**30.202**	**30.7**	31.5	30.39	**18.07**		11.66	24	**33**				30
Li	mg kg^{-1}		**122**			**27.07**		235.6						
Lu	mg kg^{-1}	**0.362**	**0.38**	0.363		**0.268**		0.166						
Mo	mg kg^{-1}	**3.161**	**3.19**			**1.691**				**7**				
Nb	mg kg^{-1}	**15.306**	**16.1**	14.3	15.63	**11.45**		29.31	15	**20**	20		13	
Nd	mg kg^{-1}	**27.738**	**27.9**	22.6	27.33	**12.35**		14.39		**25**				
Ni	mg kg^{-1}	**8.346**	**5.24**		7.09	**16.43**		4.085		**9**			6	
Pb	mg kg^{-1}	**22.852**	**25.5**	24		**15.99**		34.25	29	**24**	26		24	
Pd	mg kg^{-1}													
Pr	mg kg^{-1}	**7.569**	**7.55**	6.83		**3.814**		3.66						
Pt	mg kg^{-1}													
Rb	mg kg^{-1}	**271.1**	**291**	258	300.5	**154.010**		404.4	274	**89**	293		261	
Re	mg kg^{-1}													
S	mg kg^{-1}											100		
Sb	mg kg^{-1}	**0.409**				**0.256**								
Sc	mg kg^{-1}	**4.438**	**4.62**	4.59	4.41	**4.591**		8.958		**4**	5		6	
Se	mg kg^{-1}													
Sm	mg kg^{-1}	**5.744**	**5.75**	5.13		**2.584**		3.82						
Sn	mg kg^{-1}	**12.608**	**12.9**	12.2		**2.892**				**4**				
Sr	mg kg^{-1}	**112.020**	**108**	109	121.6	**66.69**	**100**	105	110	**135**	121		114	
Ta	mg kg^{-1}	**2.447**	**2.46**			**0.977**		4.212		**6**				
Tb	mg kg^{-1}	**0.807**	**0.8**	0.677		**0.429**		0.603						
Te	mg kg^{-1}													
Th	mg kg^{-1}	**19.673**	**20.1**	19.8		**19.61**		11.77		**32**	28		18	
Tl	mg kg^{-1}	**1.806**	**1.8**			**0.657**								
Tm	mg kg^{-1}	**0.387**	**0.39**	0.348		**0.263**		0.21						
U	mg kg^{-1}	**5.474**	**5.5**	6.06		**7.318**		3.503		**10**				
V	mg kg^{-1}	**15.12**	**12.9**		13.82	**7.458**		26.8		**12**	15		17	10
W	mg kg^{-1}					**2.16**				**8**				
Y	mg kg^{-1}	**26.225**	**27**	23.4	26.11	**18.6**		16.7	27	**62**	31		25	23
Yb	mg kg^{-1}	**2.519**	**2.57**	2.63		**1.772**		1.395						
Zn	mg kg^{-1}	**54**	**53.4**	56.3	54.06	**17.96**		53.6		**29**	60		53	52
Zr	mg kg^{-1}	**179.4**	**178**	179	188.770	**73.61**	**130**	164.7	161	**132**	165		161	151

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

Table 1 - GeoPT51A Contributed data for Granite, MEG-1. 15/06/2022

Lab Code		P15	P17	P18	P19	P20	P21	P22	P23	P24	P25	P27	P28	P29
SiO2	g 100g^{-1}	**71.65**	71.471	**72.12**	71.67	61.59	**73.32**	**72.53**	**73.85**	**68.52**	72.1	71.82	72.83	72.76
TiO2	g 100g^{-1}	**0.293**	0.309	**0.3**	0.29	0.282	**0.29**	**0.297**	**0.3**	**0.272**	0.3	0.31	0.29	0.297
Al2O3	g 100g^{-1}	**13.89**	14.000	**14.3**	14.02	13.96	**14.08**	**14.21**	**13.88**	**14.997**	14.1	14.05	13.69	14.23
Fe2O3T	g 100g^{-1}	**2.46**	2.440	**2.45**	2.34	2.4	**2.23**	**2.39**	**2.33**	**2.54**	2.48	2.47	2.42	2.37
Fe(II)O	g 100g^{-1}					2.16								
MnO	g 100g^{-1}	**0.063**	0.054	**0.06**	0.05	0.06	**0.06**	**0.064**	**0.054**	**0.064**	0.063	0.06	0.06	0.064
MgO	g 100g^{-1}	**0.367**	0.357	**0.42**	0.37	0.383	**0.42**	**0.395**	**0.38**	**0.408**	0.407	0.37	0.45	0.34
CaO	g 100g^{-1}	**1.138**	1.142	**1.14**	1.14	1.14	**1.17**	**1.2**	**1.11**	**1.162**	1.16	1.15	1.11	1.158
Na2O	g 100g^{-1}	**3.31**	3.625	**3.8**	3.64		**3.62**	**3.77**	**3.62**	**3.795**	3.7	3.65	3.58	3.624
K2O	g 100g^{-1}	**4.71**	4.706	**4.7**	4.77	4.63	**4.7**	**4.835**	**4.53**	**4.594**	4.79	4.74	4.6	4.772
P2O5	g 100g^{-1}	**0.13**	0.140	**0.12**	0.13	0.134	**0.13**	**0.14**	**0.129**	**0.146**	0.128	0.13	0.13	0.137
H2O+	g 100g^{-1}													
CO2	g 100g^{-1}													
LOI	g 100g^{-1}	**0.63**	0.501	**0.54**	**0.59**			**0.13**	**0.539**	**0.68**	0.58	0.49	0.52	0.53
Ag	mg kg^{-1}	**0.13**				0.125								
As	mg kg^{-1}	**2.18**		**4.5**		2.17			**1.16**	**2.093**				2.04
Au	mg kg^{-1}					0.104								
B	mg kg^{-1}													
Ba	mg kg^{-1}	**356**	298	**322.2**		282	**336**	**335**	**342**	**404.801**		360		377
Be	mg kg^{-1}	**8.56**				8.91				**9.305**		8.9		7.9
Bi	mg kg^{-1}					1.12				**1.03**		1.1		1.19
Br	mg kg^{-1}													
C(org)	mg kg^{-1}													
C(tot)	mg kg^{-1}													
Cd	mg kg^{-1}					0.12				**0.106**				0.26
Ce	mg kg^{-1}	**59.7**		**67.5**		21.2		**52.9**	**64**	**88.803**		67		67.2
Cl	mg kg^{-1}													
Co	mg kg^{-1}	**2.57**		**3.2**		2.67			**2.6**	**2.626**		3		2.62
Cr	mg kg^{-1}	**191**	224	**163.7**		171	**185**	**162.4**	**193**	**216.712**	214			204
Cs	mg kg^{-1}	16		**14.7**		16.7	**17.8**		**17.6**	**19.329**		17.6		22.3
Cu	mg kg^{-1}	**6.09**	36	**2.6**		6.31		**5.3**	**14.3**	**4.375**				6.38
Dy	mg kg^{-1}	**4.31**				2.51			**4.56**	**0.511**		4.7		4.65
Er	mg kg^{-1}	**2.47**				1.27			**2.58**	**2.156**		2.6		2.37
Eu	mg kg^{-1}	**0.56**				0.293			**0.6**	**0.578**		0.61		0.62
F	mg kg^{-1}													
Ga	mg kg^{-1}	20.8		**20.8**		23.9	**22**	**22.5**	**20**	**25.987**		22.5		24.5
Gd	mg kg^{-1}	**4.9**				2.46			**4.73**	**5.527**		5.1		5.01
Ge	mg kg^{-1}					1.6								1.61
Hf	mg kg^{-1}	6.91		**5.1**		3.28			**5.94**	**8.293**		5.3		4.14
Hg	mg kg^{-1}													
Ho	mg kg^{-1}	**0.83**				0.428			**0.84**	**0.763**		0.92		0.89
I	mg kg^{-1}	3.57												
In	mg kg^{-1}					0.073								
La	mg kg^{-1}	**28.7**		**31.4**		8.84		**27**	**29.5**	**33.736**		31.9		31.6
Li	mg kg^{-1}	**160**				115				**118.658**	131			130
Lu	mg kg^{-1}	**0.36**				0.189			**0.39**	**0.286**		0.37		0.36
Mo	mg kg^{-1}	**2.89**		**2.5**		3.18		**9.8**	**2.64**	**3.122**		3.2		7.33
Nb	mg kg^{-1}	14.9		**14.2**		15.5	**17**	**17.9**	**15.5**					15.9
Nd	mg kg^{-1}	**25.7**		**25.2**		11.1		**25.5**	**27.09**			28.1		27.6
Ni	mg kg^{-1}	**5.49**		**5**		5.45		**4.2**	**8.75**	**5.66**				4.97
Pb	mg kg^{-1}	**24.6**		**24.6**		23.8		**22**	**23.4**	**32.311**	26			26.4
Pd	mg kg^{-1}					0.012								
Pr	mg kg^{-1}	**6.69**				2.77			**7.23**	**8.642**		7.8		7.68
Pt	mg kg^{-1}					0.01								
Rb	mg kg^{-1}	257	258	**260.4**		173	**275**	**267.8**	**248**	**303.169**		291		318
Re	mg kg^{-1}													
S	mg kg^{-1}								**0.005**					
Sb	mg kg^{-1}	**0.15**				0.167				**0.142**				0.18
Sc	mg kg^{-1}	3.91		**8.7**		3.12	**4.3**		**4.52**	**5.756**		4.6		5.3
Se	mg kg^{-1}	**2.62**												
Sm	mg kg^{-1}	**5.54**		**5.7**		2.61			**5.58**	**6.558**		6		5.72
Sn	mg kg^{-1}	12.8				14				**22.569**		14.3		14.8
Sr	mg kg^{-1}	**113**	104	**106.1**		90.4	**111**	**106.5**	**114**	**111.402**		114		122
Ta	mg kg^{-1}	**2.28**				2.79			**2.41**	**5.645**		2.4		2.55
Tb	mg kg^{-1}	**0.76**				0.392			**0.74**	**0.745**		0.83		0.82
Te	mg kg^{-1}									**0.281**				
Th	mg kg^{-1}	**20.5**		**19.5**		10.9	**19**	**18.2**	**19.2**	**23.507**		18.7		18.5
Tl	mg kg^{-1}	**1.7**				1.77				**1.701**		1.7		1.83
Tm	mg kg^{-1}	**0.38**				0.192			**0.39**	**0.309**		0.39		0.37
U	mg kg^{-1}	**5.49**		**4.8**		3.32		**6.4**	**6.1**	**5.707**		6.1		5.1
V	mg kg^{-1}	**13.7**		**14.2**		12.9	**14**	**13.2**	**18**	**15.941**		14.7		13.2
W	mg kg^{-1}			**6.1**		0.563				**0.618**				0.47
Y	mg kg^{-1}	**21.1**	23	**25.9**		9.24	**27**	**26.1**	**25.3**	**22.299**		25.6		25.7
Yb	mg kg^{-1}	**2.52**				1.26			**2.6**	**1.973**		2.5		2.45
Zn	mg kg^{-1}	**56.9**	4	**51.5**		55.4	**48**	**46.1**	**49.3**	**41.295**	749	56.4		55.1
Zr	mg kg^{-1}	152	156	**159.4**		108	**180**	**160.3**	**212**	**116.135**	207	171		143

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

Table 1 - GeoPT51A Contributed data for Granite, MEG-1. 15/06/2022

Lab Code		P32	P34	P35	P36	P37	P38	P40	P41	P42	P43	P44	P45	P48
SiO2	g 100g^{-1}	**72.29**	**71.67**	**72.54**		75.307	71.68	72.22	72.3	72.45		**73.08**	74.09	72.332
TiO2	g 100g^{-1}	**0.3**	**0.28**	**0.3**	**0.29**	0.309		0.29	0.294	0.3	0.256	**0.291**	0.287	0.309
Al2O3	g 100g^{-1}	**14.11**	**13.84**	**14.43**	**14.1**	14.421	14.26	14.66	13.87	14.05		**13.49**	13.48	14.125
Fe2O3T	g 100g^{-1}	**2.42**	**2.47**	**2.41**		2.455	2.61	2.46	2.422	2.41		**2.432**	2.38	2.505
Fe(II)O	g 100g^{-1}													
MnO	g 100g^{-1}	**0.063**	**0.06**	**0.05**	**0.06**	0.057		0.05	0.062	0.06	0.052	**0.057**	0.061	0.057
MgO	g 100g^{-1}	**0.38**	**0.41**	**0.38**	**0.4**	0.366	0.42	0.37	0.380	0.39		**0.384**	0.36	0.402
CaO	g 100g^{-1}	**1.12**	**1.11**	**1.13**		1.136	1.17	0.32	1.142	1.42		**1.124**	1.16	1.159
Na2O	g 100g^{-1}	**3.62**	**3.57**	**3.62**		3.87		3.84	3.784	3.74		**3.506**	3.5	3.621
K2O	g 100g^{-1}	**4.51**	**4.73**	**4.62**		4.651		4.98	4.649	4.78		**4.48**	4.61	4.779
P2O5	g 100g^{-1}	**0.137**	**0.13**	**0.14**	**0.126**	0.126		0.14	0.136	0.14		**0.131**	0.15	0.131
H2O+	g 100g^{-1}													
CO2	g 100g^{-1}									0.085				
LOI	g 100g^{-1}	**0.76**	**0.46**	**0.53**		0.57	0.6	0.71	0.540	0.7		**0.393**	0.49	0.58
Ag	mg kg^{-1}	**0.178**								0.14	0.078	**0.142**		
As	mg kg^{-1}	**2.3**								2.98	1.71	**2.268**		
Au	mg kg^{-1}													
B	mg kg^{-1}	**3.68**												
Ba	mg kg^{-1}	**337**	**345**	**360**	**348**	342.240			292.8	367.440	311.4	**343.5**	356	424
Be	mg kg^{-1}	**9.15**			**9.25**	9.01						**7.439**	9	
Bi	mg kg^{-1}	**1.14**									1.029	**1.027**		
Br	mg kg^{-1}													
C(org)	mg kg^{-1}													
C(tot)	mg kg^{-1}									231.350		**297.6**		
Cd	mg kg^{-1}	**0.121**									0.084	**0.119**		
Ce	mg kg^{-1}	**74.8**	**43**		**63.3**	68.96			46.45	68.86	59.8	**61.71**	70.3	
Cl	mg kg^{-1}													
Co	mg kg^{-1}	**2.38**			**2.64**	2.46				2.85	2.57	**2.458**		5
Cr	mg kg^{-1}	**194**	**188**	**170**	**202**	203.050			149.3	198.140	166.2	**166.5**		206
Cs	mg kg^{-1}	**17.12**			**17.9**	17.29				16.93		**15.91**		
Cu	mg kg^{-1}	**5.48**			**5.16**	5.7				13.74	5.76	**16.51**		8
Dy	mg kg^{-1}	**4.28**			**4.51**	4.58				4.73		**3.923**	4.6	
Er	mg kg^{-1}	**2.19**			**2.51**	2.49				2.53		**2.189**	2.4	
Eu	mg kg^{-1}	**0.64**			**0.57**	0.57				0.6		**0.538**	0.59	
F	mg kg^{-1}		**938**											
Ga	mg kg^{-1}	**22**	**19**		**21.9**	20.88			20.76	22.27	21.01	**22.56**		
Gd	mg kg^{-1}	**5.24**	**3**		**4.77**	4.76				5.08		**4.502**	4.7	
Ge	mg kg^{-1}	**1.1**												
Hf	mg kg^{-1}	**4.85**	**6**		**5.1**	4.8			6.485	4.97		**4.613**	5	
Hg	mg kg^{-1}													
Ho	mg kg^{-1}	**0.78**			**0.85**	0.86				0.89		**0.774**	0.9	
I	mg kg^{-1}													
In	mg kg^{-1}										0.052			
La	mg kg^{-1}	**33.5**	**32**		**29.5**	29.97			33.11	31.47	26.6	**26.06**	32.1	
Li	mg kg^{-1}	**111**										**105**		
Lu	mg kg^{-1}	**0.31**			**0.33**	0.37				0.38		**0.34**	0.39	
Mo	mg kg^{-1}	**3.16**				2.97				3.6	2.4	**3.526**		
Nb	mg kg^{-1}	**15.9**	**16**		**15.2**	12.93			13.4	15.58	14.37	**14.18**	12	16
Nd	mg kg^{-1}	**30**	**31**		**26.8**	27.16			25.09	28.15		**24.56**	28.1	
Ni	mg kg^{-1}	**4.48**	**7**			3.7			6.971	9.05	4.1	**6.236**		13
Pb	mg kg^{-1}	**23.4**	**25**			23.94			24.45	28.57	25.86	**23.34**		21
Pd	mg kg^{-1}													
Pr	mg kg^{-1}	**8.06**			**7.31**	7.85				7.82		**6.767**	7.64	
Pt	mg kg^{-1}													
Rb	mg kg^{-1}	**264**	**283**		**274**	267.310			260.3	284.870	269.530	**251.1**	271	279
Re	mg kg^{-1}													
S	mg kg^{-1}									61.49		**101.970**		
Sb	mg kg^{-1}	**0.156**								0.29	0.086	**0.284**		
Sc	mg kg^{-1}	**2.47**	**4**			4.3				5.06		**5.01**	4	
Se	mg kg^{-1}	**1.11**									0.165			
Sm	mg kg^{-1}	**6.23**			**5.64**	5.48				5.97		**5.177**	5.9	
Sn	mg kg^{-1}	**14.12**			**15.2**				11.48			**12.19**	13	
Sr	mg kg^{-1}	**113**	**103**		**113**	114.890			102	112.790	108.480	**101.2**	111	112
Ta	mg kg^{-1}	**2.46**			**2.82**	2.26				2.36		**1.961**	2.1	
Tb	mg kg^{-1}	**0.77**			**0.75**	0.76				0.78		**0.693**	0.8	
Te	mg kg^{-1}													
Th	mg kg^{-1}	**17.8**	**20**		**19.2**	21.22			18.11	20.37	19.06	**16.94**	18	21
Tl	mg kg^{-1}	**1.67**			**2.37**	1.44					0.655	**1.607**		
Tm	mg kg^{-1}	**0.31**			**0.37**	0.37				0.38		**0.335**	0.42	
U	mg kg^{-1}	**4.89**	**4**		**5.61**	6.25			7.689	5.8	4.94	**5.791**	5.7	
V	mg kg^{-1}	**13.4**	**9**		**13.8**	13.3			11.63	17.19	11.28	**12.85**	15	58
W	mg kg^{-1}	**1.05**										**0.613**		
Y	mg kg^{-1}	**20.5**	**30**		**25.7**	28			24.39	25.4	24.67	**22.4**	23	44
Yb	mg kg^{-1}	**2.03**	**9**		**2.52**	2.52				2.53		**2.175**	2.7	
Zn	mg kg^{-1}	**51**	**55**			60.5			45.88	59.88	51.3	**51.5**		54
Zr	mg kg^{-1}	**168**	**176**		**177**	164.630			172.2	158.260	161.170	**172.7**	168	161

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

Table 1 - GeoPT51A Contributed data for Granite, MEG-1. 15/06/2022

Lab Code		P49	P51	P52	P53	P54	P55	P56	P57	P58	P59	P61	P62	P64
SiO2	g 100g^{-1}	71.4	72.29	71.9	72.11	**72.11**	**73.12**	71.1	**72.79**	72.5	73.63	72.314	**72.39**	72.32
TiO2	g 100g^{-1}	0.35	0.3	0.283	0.29	**0.299**	**0.324**	0.26	**0.293**	0.28	0.291	0.317	**0.299**	0.31
Al2O3	g 100g^{-1}	14.94	14.11	14.6	14.13	**14.12**	**14.2**	13.4	**13.08**	14.1	13.241	14.185	**14.15**	13.97
Fe2O3T	g 100g^{-1}	2.42	2.44	2.42	2.44	**2.54**	**2.64**	2.4	**2.48**	2.46	2.211	2.682	**2.431**	2.5
Fe(II)O	g 100g^{-1}				2.06									
MnO	g 100g^{-1}	0.07	0.06		0.06	**0.06**	**0.059**	0.06	**0.057**	0.06	0.309	0.058	**0.064**	0.06
MgO	g 100g^{-1}	0.45	0.37	0.384	0.38	**0.38**	**0.408**	0.45	**0.359**	0.4	0.349	0.395	**0.383**	0.42
CaO	g 100g^{-1}	1.15	1.16	1.12	1.16	**1.16**	**1.11**	1.23	**1.104**	1.2	1.143	1.17	**1.15**	1.13
Na2O	g 100g^{-1}	3.59	3.65	3.62	3.66	**3.69**	**3.65**	3.6	**3.492**	3.71	3.529	3.669	**3.702**	3.65
K2O	g 100g^{-1}	4.68	4.79	4.67	4.72	**4.75**	**4.63**	4.47	**4.542**	4.68	4.548	4.654	**4.67**	4.74
P2O5	g 100g^{-1}	0.15	0.13	0.14	0.137	**0.138**	**0.127**		**0.121**	0.13	0.14	0.143	**0.147**	0.13
H2O+	g 100g^{-1}				0.54			0.15						
CO2	g 100g^{-1}													
LOI	g 100g^{-1}	**0.56**	0.47	0.493	0.42	**0.67**	**0.53**	0.34	**0.694**	0.54	0.625	0.635	**0.64**	0.59
Ag	mg kg^{-1}				0.107									
As	mg kg^{-1}				2.07			2.285			2		**6**	
Au	mg kg^{-1}													
B	mg kg^{-1}										20.8			
Ba	mg kg^{-1}		327		360	**351**	379	362.4	**355.4**		332.6	396	**347**	344
Be	mg kg^{-1}				8.72				**9.72**		7.5			9.53
Bi	mg kg^{-1}				1.115						2.7			
Br	mg kg^{-1}													
C(org)	mg kg^{-1}				300			342.6						
C(tot)	mg kg^{-1}				300			178.8						
Cd	mg kg^{-1}				0.06									
Ce	mg kg^{-1}				66.8	**67.04**			**64.94**				**58**	65.7
Cl	mg kg^{-1}				110								**71**	
Co	mg kg^{-1}				2.74			3.016	**2.588**		5	2	**5**	2.7
Cr	mg kg^{-1}	0.021	182		164.5	**202**	183	231.4	**190.6**		153.3	184	**215**	205
Cs	mg kg^{-1}				18.7	**17.59**			**17.1**				**19**	17.8
Cu	mg kg^{-1}				6.45	**6**		9.396	**6.04**		2.5	8	**9**	7.53
Dy	mg kg^{-1}				4.33	**4.71**			**4.263**					4.82
Er	mg kg^{-1}				2.27	**2.52**			**2.246**					2.62
Eu	mg kg^{-1}				0.583	**0.57**			**0.545**					0.611
F	mg kg^{-1}				1090					966		1182	**1111**	
Ga	mg kg^{-1}		22		23.9	**22**	26		**22.1**		20.7	20	**23**	22.7
Gd	mg kg^{-1}				4.78	**5.04**			**4.679**					5.33
Ge	mg kg^{-1}				0.13									1.96
Hf	mg kg^{-1}				3.51	**4.82**			**4.273**			6		4.71
Hg	mg kg^{-1}													
Ho	mg kg^{-1}				0.767	**0.91**			**0.804**					0.917
I	mg kg^{-1}													
In	mg kg^{-1}				0.056						32.9			
La	mg kg^{-1}				32.2	**30.94**			**30.57**		31.2		**18**	31.6
Li	mg kg^{-1}				125				**148.530**		115.6	125		124
Lu	mg kg^{-1}				0.304	**0.38**			**0.322**					0.399
Mo	mg kg^{-1}				3.22			4.519	**3.525**		2.5			
Nb	mg kg^{-1}				16.6	**15.96**			**15.62**				**15**	16
Nd	mg kg^{-1}	0.051			29.2	**28.38**			**26.95**				**26**	29.2
Ni	mg kg^{-1}				5.69	**9**		8.893	**5.17**		4.6	6	**6**	6.2
Pb	mg kg^{-1}				24.8	**25.76**		23.92	**25.88**		16.1	49	**23**	26.5
Pd	mg kg^{-1}													
Pr	mg kg^{-1}				8.21	**7.84**			**7.514**					7.9
Pt	mg kg^{-1}													
Rb	mg kg^{-1}				302	**277.8**	264	273	**270.790**				**273**	272
Re	mg kg^{-1}													
S	mg kg^{-1}										50.57			
Sb	mg kg^{-1}				0.16			0.284						
Sc	mg kg^{-1}				3.91	**4.5**			**4.4**		3.8		**7**	4.92
Se	mg kg^{-1}				0.009						4.7			
Sm	mg kg^{-1}				6.02	**5.82**			**5.581**					6.07
Sn	mg kg^{-1}				13.7			11.61			13.1		**16**	
Sr	mg kg^{-1}	0.008	101		120.5	**112**	111	104.2	**106.590**		109	137	**113**	117
Ta	mg kg^{-1}				2.36	**2.58**			**2.496**					2.54
Tb	mg kg^{-1}				0.766	**0.84**			**0.753**					0.847
Te	mg kg^{-1}													
Th	mg kg^{-1}				20.2	**20.54**			**20.01**				**22**	20.8
Tl	mg kg^{-1}				1.615									
Tm	mg kg^{-1}				0.324	**0.4**								0.41
U	mg kg^{-1}				4.91	**5.67**			**5.315**				**6**	5.43
V	mg kg^{-1}		13		14	**15**		14.32	**12.873**		12.9		**14**	13.5
W	mg kg^{-1}				0.497				**1.007**					
Y	mg kg^{-1}				23.5	**26.36**	63		**23.43**		21.9	27	**27**	27.4
Yb	mg kg^{-1}				2.26	**2.49**			**2.237**					2.6
Zn	mg kg^{-1}	0.024	53		59.4	**54**	54	54.56	**55.77**		55.7	55	**56**	52.7
Zr	mg kg^{-1}	0.037	161		125.5	**167**	186		**144.040**		109.2	289	**158**	165

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

Table 1 - GeoPT51A Contributed data for Granite, MEG-1. 15/06/2022

Lab Code		P65	P66	P67	P68	P69	P71	P72	P73	P75	P77	P78	P79	P80
SiO2	g 100g^{-1}		71.523	**73.18**	**72.6**	71.82	69.05	72.88	72.11		68.9	72.4	**87.71**	72.19
TiO2	g 100g^{-1}		0.291	**0.312**	**0.298**	0.293	0.28	0.29	0.306		0.283	0.29	**0.317**	0.3
Al2O3	g 100g^{-1}		13.713	**15.24**	**14.152**	14.14	13.38	14.22	14.09		14.7	14.14	**14.04**	14.12
Fe2O3T	g 100g^{-1}		2.469	**2.66**	**2.434**	2.43	2.44	2.38	2.472		2.3	2.433	**2.52**	2.47
Fe(II)O	g 100g^{-1}													
MnO	g 100g^{-1}		0.08	**0.065**	**0.062**	0.06	0.058	0.05	0.057		0.051	0.061	**0.066**	0.062
MgO	g 100g^{-1}		0.61	**0.419**	**0.390**	0.39	0.52	0.35	0.387			0.437	**0.51**	0.38
CaO	g 100g^{-1}		1.099	**1.27**	**1.114**	1.14	1.08	1.16	1.168		1.15	1.143	**1.105**	1.16
Na2O	g 100g^{-1}		3.734	**3.61**	**3.755**	3.66	3.76	3.6	3.755			3.794	**3.88**	3.68
K2O	g 100g^{-1}		4.842	**5.09**	**4.877**	4.65	4.9	4.63	4.779		4.14	4.827	**4.94**	4.74
P2O5	g 100g^{-1}		0.122	**0.15**	**0.130**	0.139	0.12	0.13	0.113			0.128		0.136
H2O+	g 100g^{-1}													
CO2	g 100g^{-1}													
LOI	g 100g^{-1}		0.748		**0.744**	0.58	4.41	0.66	0.631					0.61
Ag	mg kg^{-1}												**1.3**	
As	mg kg^{-1}						3							
Au	mg kg^{-1}													
B	mg kg^{-1}													
Ba	mg kg^{-1}		360	**363.6**	**352.440**	344.1	296	352		**312.4**	356		**320**	325
Be	mg kg^{-1}							8.57						
Bi	mg kg^{-1}													
Br	mg kg^{-1}										6.6			
C(org)	mg kg^{-1}													
C(tot)	mg kg^{-1}													
Cd	mg kg^{-1}			**0.332**										
Ce	mg kg^{-1}	**64.52**	67	**68.25**			51	64.79		**58.08**	66.9		**67**	
Cl	mg kg^{-1}												**110**	360
Co	mg kg^{-1}		14	**2.73**				4					**2.68**	
Cr	mg kg^{-1}		172	**203.3**	**183.9**	192.6	160	212			204	198	**209**	188
Cs	mg kg^{-1}		14	**17.01**			15			**16.22**			**17.7**	
Cu	mg kg^{-1}			**7.37**			6	7.5			11.1			
Dy	mg kg^{-1}	**5.27**		**4.46**				4.52		**3.584**			**5.6**	
Er	mg kg^{-1}	**2.83**		**2.43**				2.41		**1.941**				
Eu	mg kg^{-1}	**0.63**		**0.56**				0.58		**0.621**			**0.6**	
F	mg kg^{-1}													1035
Ga	mg kg^{-1}		22	**22.23**		21.7	20	21			22.3			25
Gd	mg kg^{-1}	**5.33**		**5.01**				4.84						
Ge	mg kg^{-1}							1.71						
Hf	mg kg^{-1}		4	**4.85**			4	5.2		**4.167**			**4.54**	5.4
Hg	mg kg^{-1}													
Ho	mg kg^{-1}	**0.87**		**0.883**				0.83		**0.681**				
I	mg kg^{-1}						3							
In	mg kg^{-1}													
La	mg kg^{-1}	**32.64**	29	**31.69**			31	30.46		**25.76**	28.9		**31**	
Li	mg kg^{-1}			**122.1**										
Lu	mg kg^{-1}	**0.33**		**0.376**				0.39		**0.259**			**0.33**	
Mo	mg kg^{-1}			**2.64**			3							
Nb	mg kg^{-1}		8	**16.05**		14.7	14	15		**14.48**	22.1			19
Nd	mg kg^{-1}	**28.13**	34	**28.3**			22	28.43		**23.73**	25.7		**26**	
Ni	mg kg^{-1}			**5.88**			7	5.5						
Pb	mg kg^{-1}		31	**24.03**		23.9	23	25		**23.06**	30.3			
Pd	mg kg^{-1}												**140**	
Pr	mg kg^{-1}	**7.89**		**7.85**				7.78		**6.56**				
Pt	mg kg^{-1}													
Rb	mg kg^{-1}		268	**278.4**		272	264	275		**276.8**	289		**282**	258
Re	mg kg^{-1}													
S	mg kg^{-1}													
Sb	mg kg^{-1}												**0.22**	
Sc	mg kg^{-1}			**4.36**	**4.533**		5			**3.268**			**4.43**	
Se	mg kg^{-1}													
Sm	mg kg^{-1}	**6.15**		**5.64**			5	5.5		**4.637**			**5.4**	
Sn	mg kg^{-1}		11				13							
Sr	mg kg^{-1}		114	**105.9**	**113.520**	112.4	108	115		**101.5**	117	110	**110**	113
Ta	mg kg^{-1}			**2.51**				2.47		**2.292**			**2.23**	
Tb	mg kg^{-1}	**0.85**		**0.835**				0.81		**0.690**			**0.73**	
Te	mg kg^{-1}													
Th	mg kg^{-1}		24	**18.92**			19	18		**19.09**	18.4		**20.5**	
Tl	mg kg^{-1}													
Tm	mg kg^{-1}	**0.46**		**0.387**				0.39		**0.302**				
U	mg kg^{-1}		3	**5.59**			6	5.55		**4.865**	4.3		**4.7**	
V	mg kg^{-1}			**12.7**			12	14					**12.3**	
W	mg kg^{-1}													
Y	mg kg^{-1}	**24.93**	7	**26**	**25.19**	25.6	25	25.33		**18.87**	28.3			35
Yb	mg kg^{-1}	**2.46**		**2.53**			3	2.5		**1.899**			**2.56**	
Zn	mg kg^{-1}		53	**53.87**	**53.8**	53.6	47	54			52.1		**77**	57
Zr	mg kg^{-1}		200	**163.780**	**183.7**	163.6	162	176		**167.4**	154	178	**170**	170

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

Table 1 - GeoPT51A Contributed data for Granite, MEG-1. 15/06/2022

Lab Code		P81	P82	P83	P84	P85	P86	P87	P88	P89	P90	P91	P92	P93
SiO2	g 100g^{-1}	**71.48**	**73.31**	**72.189**	72.5	71.53	72.05	**71.93**	72.6	72.23	73.2	72.667	71.83	**72.218**
TiO2	g 100g^{-1}	**0.31**	**0.28**	**0.301**	0.288	0.3	0.3	**0.3**	0.28	0.3	0.3	0.315	0.29	**0.297**
Al2O3	g 100g^{-1}	**13.79**	**14.07**	**13.981**	14.23	14.55	13.98	**14.01**	14	13.97	13.8	13.874	14.32	**14.107**
Fe2O3T	g 100g^{-1}	**2.43**	**2.33**	**2.482**	2.434	2.5	2.44	**2.52**	3.07	2.44	2.45	2.512	2.49	**2.429**
Fe(II)O	g 100g^{-1}			**1.66**				**1.786**		2.3				**1.825**
MnO	g 100g^{-1}	**0.06**	**0.056**	**0.06**	0.055	0.058	0.06	**0.06**		0.058	0.062	0.064	0.06	**0.060**
MgO	g 100g^{-1}	**0.38**	**0.36**	**0.362**	0.372	0.4	0.33	**0.38**	0.31	0.42	0.34	0.433	0.43	**0.404**
CaO	g 100g^{-1}	**1.08**	**1.14**	**1.159**	1.105	1.09	1.14	**1.2**	1.05	1.2	1.16	1.144	1.27	**1.174**
Na2O	g 100g^{-1}	**3.63**	**3.69**	**3.84**	3.636	3.94	3.83	**3.7**	2	3.7	3.91	3.68	3.72	**3.686**
K2O	g 100g^{-1}	**4.59**	**4.72**	**4.734**	4.515	4.72	4.96	**4.77**	4.74	4.7	4.8	4.823	4.83	**4.769**
P2O5	g 100g^{-1}	**0.14**	**0.13**	**0.141**	0.133		0.13	**0.14**	0.09	0.14	0.125	0.126	0.14	**0.138**
H2O+	g 100g^{-1}							**0.667**						
CO2	g 100g^{-1}							**0.149**						
LOI	g 100g^{-1}	0.65	**0.66**	**0.554**		0.5	0.64	**0.72**	0.83	0.64	0.6	0.455		**0.555**
Ag	mg kg^{-1}							**0.115**				0.12		
As	mg kg^{-1}		**3**		2.867			**1.86**				1.98		
Au	mg kg^{-1}													
B	mg kg^{-1}							**6.075**						
Ba	mg kg^{-1}	**375**	**320**	**337.630**	336	335	307	**326**		338	359	347.940	368.5	**349.118**
Be	mg kg^{-1}			**9.25**	9.767			**8.59**		8.2	8.39	7.66	9.1	**9.366**
Bi	mg kg^{-1}		**1**		1.25			**1.04**				1		
Br	mg kg^{-1}													
C(org)	mg kg^{-1}							**119**						
C(tot)	mg kg^{-1}													
Cd	mg kg^{-1}							**0.12**				0.11		
Ce	mg kg^{-1}		**54**		67			**60.9**		60	69.6	66.32	69.9	**66.955**
Cl	mg kg^{-1}				51			**100.278**			70			
Co	mg kg^{-1}		**3**		2.733			**2.59**			2.6	2.4	3	**2.618**
Cr	mg kg^{-1}	**198**	**160**	**189.490**	94.33		158	**197**		164		218.330	217.1	**193.615**
Cs	mg kg^{-1}		**15**					**16.9**				15.25	18.1	**16.712**
Cu	mg kg^{-1}		**5**	**6.63**	6.6			**6.7**				6.68	7.8	**6.588**
Dy	mg kg^{-1}				4.7			**4.52**			4.24	3.89	4.7	**4.719**
Er	mg kg^{-1}				2.8			**2.38**			2.2	2.05	2.6	**2.574**
Eu	mg kg^{-1}							**0.571**			0.64	0.54	0.6	**0.612**
F	mg kg^{-1}				1150			**1210**			1200			
Ga	mg kg^{-1}		**21**		22.5		17	**23.1**		21	22.7	19.89	22.8	**22.576**
Gd	mg kg^{-1}				5.4			**4.54**				4.5	5.6	**4.941**
Ge	mg kg^{-1}							**1.65**				3.07		
Hf	mg kg^{-1}		**5**					**4.99**					5	**4.671**
Hg	mg kg^{-1}							**0.011**						
Ho	mg kg^{-1}							**0.882**			0.77	0.7	1	**0.902**
I	mg kg^{-1}													
In	mg kg^{-1}							**0.06**						
La	mg kg^{-1}	29	**26**		31			**28.4**		29	32.2	31.52	33.3	**31.874**
Li	mg kg^{-1}			**131.150**	128.3			**123.723**		104	124	110.8		**118.829**
Lu	mg kg^{-1}							**0.357**			0.29	0.27	0.4	**0.367**
Mo	mg kg^{-1}		**2**	**3.02**	3.167			**2.87**				2.99	3.4	**3.123**
Nb	mg kg^{-1}		**13**				15	**12.9**		15	14	14.22	15.2	**15.91**
Nd	mg kg^{-1}		**22**		29			**25.7**			28.7	25.9	29.9	**28.317**
Ni	mg kg^{-1}		**5**		7.5			**6.1**			5	5.05	5.8	**5.87**
Pb	mg kg^{-1}		**24**	**34.22**	26.33	24	28	**23.6**		25	24.3	21.95	32.2	**25.853**
Pd	mg kg^{-1}													
Pr	mg kg^{-1}				7.8			**7**			7.82	7.14	8.3	**7.61**
Pt	mg kg^{-1}													
Rb	mg kg^{-1}	**274**	**260**		342	260	256	**271**		264	259	257.020	291.5	**278.142**
Re	mg kg^{-1}													
S	mg kg^{-1}			**14.09**							130			
Sb	mg kg^{-1}							**0.18**			0.22	0.18		
Sc	mg kg^{-1}		**3**	**4.25**	5.8			**4.65**						**4.277**
Se	mg kg^{-1}							**0.004**						
Sm	mg kg^{-1}		**5**		5.8			**5.46**			5.98	5.3	6	**5.791**
Sn	mg kg^{-1}		**9**	**10.59**	13			**12.6**		12	13.6		12.6	**12.873**
Sr	mg kg^{-1}	**127**	**108**	**112.190**	102.7	117	108	**110**		107	110	102.270	116.3	**112.067**
Ta	mg kg^{-1}		**2**		3.4			**2.72**					2.8	**2.485**
Tb	mg kg^{-1}							**0.752**				0.68	0.9	**0.832**
Te	mg kg^{-1}													
Th	mg kg^{-1}		**18**		19	23	23	**19.5**		20		18.67	21.1	**20.571**
Tl	mg kg^{-1}		**1**		1.9						1.72	1.39	1.6	**1.813**
Tm	mg kg^{-1}							**0.369**			0.32	0.29	0.4	**0.39**
U	mg kg^{-1}		**5**		6.8			**5.39**			5.4	4.57	5.8	**5.664**
V	mg kg^{-1}		**13**	**13.2**	14.33		12	**12**			14.5	12.4	15.1	**13.399**
W	mg kg^{-1}		**2**		1.95								0.9	
Y	mg kg^{-1}	**24**	**25**		27	25	23	**24**		25	28	21.26	28.1	**27.211**
Yb	mg kg^{-1}				2.7			**2.42**			2.15		2.6	**2.611**
Zn	mg kg^{-1}	46	**50**	**53.61**			42	**58**		54	54.8	46.92	56.6	**50.394**
Zr	mg kg^{-1}	**184**	**172**		103.6	149	163	**166**		182	180	111.380	168.1	**169.225**

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

Table 1 - GeoPT51A Contributed data for Granite, MEG-1. 15/06/2022

Lab Code		P95	P96	P97	P98	P99	P100	P102	P104	P105	P106	P107	P109	P110
SiO2	g 100g^{-1}	**72.74**	72	**70.85**	71.61	**71.975**	**72.733**	71.55	70.89	**70.93**	72.88	**72.1**	**71.2**	77.04
TiO2	g 100g^{-1}	**0.3**	0.294	**0.35**	0.3	**0.302**	**0.283**	0.3	0.3	**0.29**	0.29	**0.286**	**0.291**	0.306
Al2O3	g 100g^{-1}	**13.9**	14	**13.9**	14.05	**14.142**	**14.567**	14.16	13.8	**13.98**	14.82	**14.3**	**13.6**	14.36
Fe2O3T	g 100g^{-1}	**2.39**	2.46	**2.662**	2.48	**2.488**	**2.463**	2.45	2.58	**2.44**	2.47	**2.42**	**2.44**	2.42
Fe(II)O	g 100g^{-1}			**1.84**										
MnO	g 100g^{-1}	**0.06**	0.061	**0.058**	0.06	**0.063**	**0.057**	0.06	0.047	**0.07**	0.06	**0.063**	**0.060**	0.059
MgO	g 100g^{-1}	**0.41**	0.396	**0.41**	0.4	**0.425**	**0.38**	0.4	0.4	**0.38**	0.36	**0.463**	**0.384**	0.351
CaO	g 100g^{-1}	**1.2**	1.18	**1.241**	1.18	**1.173**	**1.1**	1.14	1.16	**1.17**	1.11	**1.049**	**1.17**	1.162
Na2O	g 100g^{-1}	**3.71**	3.71	**3.67**	4.02	**3.933**	**3.607**	3.69	3.48	**3.06**	3.88	**3.75**	**3.6**	3.993
K2O	g 100g^{-1}	**4.71**	4.78	**5.06**	4.65	**4.721**	**4.227**	4.73	4.69	**4.7**	4.68	**4.59**	**4.5**	4.883
P2O5	g 100g^{-1}	**0.14**	0.136	**0.130**	0.15	**0.139**	**0.13**	0.13	0.13	**0.13**	0.14	**0.14**	**0.132**	0.139
H2O+	g 100g^{-1}			**0.78**									**0.94**	
CO2	g 100g^{-1}												**0.207**	
LOI	g 100g^{-1}		0.6	**0.595**		**0.62**	**0.5**	0.51	0.73	**0.63**	0.77	**0.66**		
Ag	mg kg^{-1}	**0.176**					**0.3**	0.103						0.107
As	mg kg^{-1}	**2.322**			4.78		**2.567**	2.29	2.5		4			1.811
Au	mg kg^{-1}													
B	mg kg^{-1}	**3.618**												8.859
Ba	mg kg^{-1}	**339**	154	286.6	380		**377.333**	344		**328**	385	**349**		363.2
Be	mg kg^{-1}	**9.42**			8.11		**8.867**	8.14	7			**8.78**		12.65
Bi	mg kg^{-1}					**1.075**	**1.167**	1.085						1.084
Br	mg kg^{-1}													
C(org)	mg kg^{-1}						**0.01**	200						
C(tot)	mg kg^{-1}						**0.01**	200		**960**				
Cd	mg kg^{-1}	**0.155**					**0.2**	0.064	0.91			**0.117**		0.102
Ce	mg kg^{-1}	**68.964**		**65.4**	64.12		**100.333**	66.9		**73**	61	**65.2**		63.63
Cl	mg kg^{-1}								45		118			
Co	mg kg^{-1}	**2.416**					**2.807**	2.99	10.3	**7**	4	**2.71**		2.642
Cr	mg kg^{-1}	**192.1**	173	9.76	197			166.5	162	**199**	218	**199**		151.2
Cs	mg kg^{-1}	**17.078**				**17.108**	**18.5**	18.85				**17.72**		17.16
Cu	mg kg^{-1}	**5.72**	9.64		5		**8.933**	7.36	7.7		7	**6.3**		5.967
Dy	mg kg^{-1}	**4.64**		**4.22**	4.31		**4.433**	4.63			4	**4.56**		4.617
Er	mg kg^{-1}	**2.537**		**2.33**	2.36		**2.303**	2.49			4	**2.5**		2.555
Eu	mg kg^{-1}	**0.641**		**0.576**	0.62		**0.68**	0.55			1	**0.571**		0.600
F	mg kg^{-1}			**8355**							1248			
Ga	mg kg^{-1}	**23.678**		24	23	**23.052**	**19**	24.7			22	**22**		19.49
Gd	mg kg^{-1}	**5.495**		**0.636**	4.9		**4.7**	5.02			5	**4.87**		4.934
Ge	mg kg^{-1}				1.37		**1.533**	0.19			2			
Hf	mg kg^{-1}	**4.973**		2.15	5.18	**4.879**	**4.5**	3.56			5	**5.15**		5.275
Hg	mg kg^{-1}								0.007					
Ho	mg kg^{-1}	**0.891**		**0.796**	0.9		**0.827**	0.85			0.9	**0.897**		0.936
I	mg kg^{-1}													
In	mg kg^{-1}	**0.092**						0.06						
La	mg kg^{-1}	**32.137**		**30.1**	30.11		**42.667**	31.2		**33**	30	**29.7**		30.12
Li	mg kg^{-1}	**122.123**		**130.1**		**124.790**	**0.353**	120				**131**		119.7
Lu	mg kg^{-1}	**0.363**		**0.335**	0.38			0.36			0.4	**0.373**		0.377
Mo	mg kg^{-1}	**3.835**					**3.653**	3.21	2.8		2	**3.06**		3.121
Nb	mg kg^{-1}	**13.606**		14	14	**16.03**	**17.167**	15.4		**20**	15	**16.1**		14.31
Nd	mg kg^{-1}	**29.177**		**24.9**	26.68		**28.433**	27.8			26	**27.5**		26.95
Ni	mg kg^{-1}	**4.789**	28.5	41	8		**6.367**	5.88	6.2	**9**	5	**5.45**		6.158
Pb	mg kg^{-1}	**24.096**		25	33		**24.1**	26	18.4		28	**23.1**		24.03
Pd	mg kg^{-1}													
Pr	mg kg^{-1}	**7.897**		**6.95**	7.09		**7.733**	7.92			7	**7.7**		7.388
Pt	mg kg^{-1}													
Rb	mg kg^{-1}	**278.315**		263.3	273		**302**	287		**268**	277	**271**		274.4
Re	mg kg^{-1}							0.001						
S	mg kg^{-1}	**9.195**						100	26	**400**	70			17.21
Sb	mg kg^{-1}	**0.123**				**0.150**		0.15	0.77			**0.169**		0.114
Sc	mg kg^{-1}	**3.881**		5.21			**4.467**	4.02			5	**5.59**		
Se	mg kg^{-1}						**9.333**	0.019	2.8					
Sm	mg kg^{-1}	**5.823**		**5.23**	5.42		**5.1**	5.86			6	**5.71**		5.657
Sn	mg kg^{-1}	**9.801**				**13.272**	**12.4**	13.25	11.3		14	**15.5**		13.28
Sr	mg kg^{-1}	**5.72**		**118.4**	112		**117**	120.5	100	**123**	110	**110.4**		112.4
Ta	mg kg^{-1}	**2.105**			2.53	**2.058**	**2.067**	2.59			3	**2.52**		2.202
Tb	mg kg^{-1}	**0.834**		**0.721**	0.78		**0.73**	0.77			1	**0.798**		0.783
Te	mg kg^{-1}							0.006	2.4					
Th	mg kg^{-1}	**18.99**		18	18.19		**22.2**	19.85		**28**	29	**17.67**		16.8
Tl	mg kg^{-1}	**1.706**						1.595	1			**1.72**		1.689
Tm	mg kg^{-1}	**0.388**		**0.33**	0.38		**0.333**	0.38			0.3	**0.391**		0.364
U	mg kg^{-1}	**5.615**		5.21	4.02		**6.907**	4.94		**4**	7	**5.15**		5.62
V	mg kg^{-1}		14.9	11	23			13.2	10.5	**13**	12	**13.04**		14.09
W	mg kg^{-1}	**0.477**					**0.7**	0.516			1	**0.494**		0.504
Y	mg kg^{-1}	**25.665**		**24.3**	27		**22.767**	25.8		**37**	26	**24.5**		24.28
Yb	mg kg^{-1}	**2.48**		**2.45**	2.4		**2.193**	2.59			5	**2.59**		2.742
Zn	mg kg^{-1}		37.3		53		**53.333**	56	44.9	**117**	55	**54.5**		53.21
Zr	mg kg^{-1}	**177.362**		154	165	**186.871**	**161.667**	193		**186**	161	**183.2**		171.8

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

Table 1 - GeoPT51A Contributed data for Granite, MEG-1. 15/06/2022

Lab Code		P111	P113	P114	P115	P116	P118	P120	P121	P122	P123	P124	P125	P126
SiO2	g 100g^{-1}		72.22	72.19	73.582	72.14	73.09	71.31	69.85	73.065		71.55		72.08
TiO2	g 100g^{-1}	0.31	0.28	0.3	0.302	0.3	0.297	0.296	0.24	0.316		0.29		0.299
Al2O3	g 100g^{-1}	13.65	14.09	14.32	13.931	14.1	14.09	14.09	16.44	13.945	12.11	14.34		14.11
Fe2O3T	g 100g^{-1}	2.8	2.56	2.58	2.373	2.5	2.14	2.43	1.87	2.446		2.48		2.45
Fe(II)O	g 100g^{-1}				2.47			2.25						
MnO	g 100g^{-1}	0.06	0.053	0.066	0.055	0.06	0.064	0.06		0.053	0.055	0.06		0.062
MgO	g 100g^{-1}	0.44	0.44	0.4	0.376	0.38		0.39	0.42	0.422		0.26		0.37
CaO	g 100g^{-1}	1.35	1.21	1.21	1.118	1.15	1.11	1.16	1.28	1.119	1.186	1.24		1.15
Na2O	g 100g^{-1}	4.49	3.84	3.92	3.733	3.66	3.43	4.31	4.63	3.678		4.07		3.55
K2O	g 100g^{-1}	3.88	4.73	5.01	4.478	4.68	4.84	4.71	4.52	4.826	4.344	4.87		4.75
P2O5	g 100g^{-1}		0.14	0.145	0.126	0.13		0.14		0.141	0.128	0.15		0.138
H2O+	g 100g^{-1}				0.14			0.4						
CO2	g 100g^{-1}													
LOI	g 100g^{-1}	0.795	0.5	0.6	0.437	0.61	0.6	0.88	0.62	0.63		0.59		0.71
Ag	mg kg^{-1}							0.38				0.42		
As	mg kg^{-1}		3.6			12.76						2.56	4.89	
Au	mg kg^{-1}								0.2					
B	mg kg^{-1}													
Ba	mg kg^{-1}	342.720	317.8		339.980	356.310	321	347.2		350	316.7	349		344
Be	mg kg^{-1}				9.216	8.94	8.03	8.286			9.839	7.84	8.08	
Bi	mg kg^{-1}		1.6					1.07						
Br	mg kg^{-1}													
C(org)	mg kg^{-1}													
C(tot)	mg kg^{-1}		0.02		206			268						
Cd	mg kg^{-1}		1.5		0.092	0.07					0.065	2.38		
Ce	mg kg^{-1}		56		62.698	65.97	58.95	59.1			27.63	70.45	67.04	62.1
Cl	mg kg^{-1}													
Co	mg kg^{-1}	3.59	3		2.417	2.68	2.84				2.534	26		3
Cr	mg kg^{-1}	174.930	157.2		186.090	213.690		201.3		171	177.3	193		183
Cs	mg kg^{-1}		15.2		17.393	17.95	15.31				16.57	16.32		17.7
Cu	mg kg^{-1}	4.05	5.1		7.91	7.63		7.2			15.88	5		
Dy	mg kg^{-1}				4.378	4.64	3.5	5.36			3.978	4.01	4.37	4.08
Er	mg kg^{-1}				2.434	2.6	1.81	3.62			2.219	2.17	2.39	2.18
Eu	mg kg^{-1}				0.561	0.61	0.51	0.99			0.526	0.64	0.62	0.57
F	mg kg^{-1}													952
Ga	mg kg^{-1}		21.5		22.348	22.5						32.63		24
Gd	mg kg^{-1}				4.708	5.01	5.08	5.77			4.182	5.11	5.18	4.63
Ge	mg kg^{-1}											2.19	1.27	
Hf	mg kg^{-1}		2.9		5.54	4.23					6.015	3.75	4.96	4.31
Hg	mg kg^{-1}		0.017											
Ho	mg kg^{-1}				0.827	0.89		0.94			0.779	0.75	0.78	0.79
I	mg kg^{-1}													
In	mg kg^{-1}				0.061	0.07					0.058			
La	mg kg^{-1}		23.4		28.794	32	27.45	30.2			22.63	31.49	32.8	29
Li	mg kg^{-1}	131.650			120.330		110	146.2			121.1			131
Lu	mg kg^{-1}				0.360	0.39	0.27	0.67			0.349	0.29	0.36	0.31
Mo	mg kg^{-1}		3.9		3.12		3.4	3.41				3.93		
Nb	mg kg^{-1}		13.6		14.707	15.75					14.94	21		16
Nd	mg kg^{-1}		21.5		26.73	27.64	26.02	25.7			22.05	27.42	29.74	26.3
Ni	mg kg^{-1}	3.89	3.6		5.61	5.58	4.9	4.5		3	5.94	12		5
Pb	mg kg^{-1}		23.9		23.961	27.24	21.49			25	25.74	24		24.7
Pd	mg kg^{-1}													
Pr	mg kg^{-1}				7.359	7.84	7.46	7.5			6.064	7.67	8.17	7.32
Pt	mg kg^{-1}													
Rb	mg kg^{-1}		260		266.635	274.190	238				222.2	315	277.480	278
Re	mg kg^{-1}													
S	mg kg^{-1}							132		157				
Sb	mg kg^{-1}				0.203						0.285	1.1		
Sc	mg kg^{-1}		4.8		4.27	5.47	3.6				4.438	4		4
Se	mg kg^{-1}		1.8									3.8		
Sm	mg kg^{-1}		4.9		5.355	5.86	4.79	5.46			4.701	5.89	5.88	5.6
Sn	mg kg^{-1}		16.8		12.49			13.5			12.88	22	12.12	
Sr	mg kg^{-1}		105.6		109.770	112.550	97.28	109		103		130		113
Ta	mg kg^{-1}		1.9		2.391	0.98					2.455	4.79	2.37	2.52
Tb	mg kg^{-1}				0.727	0.83	0.65	1.05			0.688	0.76	0.83	0.74
Te	mg kg^{-1}													
Th	mg kg^{-1}	20.28	19.3		18.561	19.2	20.39	18.03				18.77	19.93	18.8
Tl	mg kg^{-1}		2.3		1.657			1.71				1.79		
Tm	mg kg^{-1}				0.373	0.4		0.43			0.352	0.31		0.33
U	mg kg^{-1}		5.7		5.657	6.08	4.63	6.4			5.531	4.81	4.7	4.96
V	mg kg^{-1}	9.58	12.1		12.81	13.7		13.8		17	12.39	9		13
W	mg kg^{-1}				0.532						0.635	0.9		
Y	mg kg^{-1}		27.2		24.817	26.33	19.63	26.18			22.38	88		23.3
Yb	mg kg^{-1}		1.5		2.515	2.63	1.68	2.73			2.349	2.01	2.42	2.14
Zn	mg kg^{-1}	52.45	48.8		52.74	51.11	56.64	64.9		51	58.38	79		57
Zr	mg kg^{-1}		160.8		211	177.450				167	208.7	170		156

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

Table 1 - GeoPT51A Contributed data for Granite, MEG-1. 15/06/2022

Lab Code		P128	P129	P131	P132	P133	P134	P135	P136	-	-	-	-	-
SiO2	$g\,100g^{-1}$	73.2	72.31		**72.672**	72.24	72.228	71.26	**72.52**					
TiO2	$g\,100g^{-1}$	0.28	0.29		**0.299**	0.3	0.305		**0.32**					
Al2O3	$g\,100g^{-1}$	13.73	14.14		**14.03**	14.11	14.162	13.78	**14.23**					
Fe2O3T	$g\,100g^{-1}$	2.32	2.42		**2.471**	2.46	2.523	2.36	**2.5**					
Fe(II)O	$g\,100g^{-1}$					1.98			**1.91**					
MnO	$g\,100g^{-1}$	0.06	0.06		**0.062**	0.06	0.067		**0.061**					
MgO	$g\,100g^{-1}$	0.37	0.36		**0.403**	0.38	0.439		**0.38**					
CaO	$g\,100g^{-1}$	1.13	1.15		**1.169**	1.19	1.164		**1.11**					
Na2O	$g\,100g^{-1}$	3.59	3.64		**3.647**	3.73	3.655	3.51	**3.6**					
K2O	$g\,100g^{-1}$	4.52	4.65		**4.784**	4.78	4.884	4.43	**4.73**					
P2O5	$g\,100g^{-1}$	0.131	0.13		**0.132**	0.13	0.13		**0.132**					
H2O+	$g\,100g^{-1}$					0.15		0.16						
CO2	$g\,100g^{-1}$						0.009							
LOI	$g\,100g^{-1}$	0.43			**0.55**	0.73	0.54	0.61	**0.47**					
Ag	$mg\,kg^{-1}$						0.16							
As	$mg\,kg^{-1}$	2.3		**2.64**	**2.8**		2.72							
Au	$mg\,kg^{-1}$													
B	$mg\,kg^{-1}$			**3.24**					**9.301**					
Ba	$mg\,kg^{-1}$	332.7	350	**311.3**	**285.2**	350	396							
Be	$mg\,kg^{-1}$	9.4		**9.35**	**5**		8.58		**7.37**					
Bi	$mg\,kg^{-1}$	1.1		**1.02**	**0.53**		1.2		**1.046**					
Br	$mg\,kg^{-1}$													
C(org)	$mg\,kg^{-1}$													
C(tot)	$mg\,kg^{-1}$	200					3028.300							
Cd	$mg\,kg^{-1}$	0.12		**0.28**	**0.09**		0.141							
Ce	$mg\,kg^{-1}$	63.6	63	**27.02**	**34.14**	63.6	71.5		**29.06**					
Cl	$mg\,kg^{-1}$													
Co	$mg\,kg^{-1}$	2.6		**2.02**	**1.1**		2.4		**2.293**					
Cr	$mg\,kg^{-1}$	176	184	**195.7**	**84.08**	184	203.005							
Cs	$mg\,kg^{-1}$	14.8		**14.49**	**12.03**	17.2	18.137		**16.1**					
Cu	$mg\,kg^{-1}$	15.5	11	**6.16**	**2.85**	7	6.1		**6.341**					
Dy	$mg\,kg^{-1}$	4.3		**2.6**	**3.4**	4.3	5		**2.918**					
Er	$mg\,kg^{-1}$	2.3		**1.52**	**1.87**	2.5	2.74		**1.679**					
Eu	$mg\,kg^{-1}$	0.6		**0.357**	**0.46**	0.5	0.79		**0.408**					
F	$mg\,kg^{-1}$						947							
Ga	$mg\,kg^{-1}$	21	23	**21.61**	**13.51**		23.619		**20.93**					
Gd	$mg\,kg^{-1}$	4.74		**2.89**	**3.89**	6.5	5.14		**3.018**					
Ge	$mg\,kg^{-1}$	1.6		**2.79**	**3.15**		2.41		**2.27**					
Hf	$mg\,kg^{-1}$	5.2		**6.44**	**3.66**		5.3		**4.914**					
Hg	$mg\,kg^{-1}$													
Ho	$mg\,kg^{-1}$	0.8		**0.509**	**0.65**	0.9	0.92		**0.603**					
I	$mg\,kg^{-1}$													
In	$mg\,kg^{-1}$			**0.108**			0.059							
La	$mg\,kg^{-1}$	29.3		**11.62**	**22.38**	30.2	38.361		**13.16**					
Li	$mg\,kg^{-1}$	112		**117.7**	**66.78**	129	128		**104.9**					
Lu	$mg\,kg^{-1}$	0.4		**0.233**	**0.28**	0.4	0.37		**0.266**					
Mo	$mg\,kg^{-1}$	3.2		**4.2**	**2.44**		3.61		**3.275**					
Nb	$mg\,kg^{-1}$	14.1	17	**18.38**	**13.46**	16	15.697		**16.32**					
Nd	$mg\,kg^{-1}$	25.9		**12.91**	**21.07**	27.9	31		**14.17**					
Ni	$mg\,kg^{-1}$	6		**4.89**	**2.41**	5	5.2		**5.947**					
Pb	$mg\,kg^{-1}$	24.3	25	**11.4**	**8.01**	25	29.86		**15.93**					
Pd	$mg\,kg^{-1}$													
Pr	$mg\,kg^{-1}$	7.3		**3.45**	**5.7**	7.5	8.1		**3.951**					
Pt	$mg\,kg^{-1}$													
Rb	$mg\,kg^{-1}$	254.1	277	**131.7**	**134.170**	277	275.220							
Re	$mg\,kg^{-1}$						0.003							
S	$mg\,kg^{-1}$													
Sb	$mg\,kg^{-1}$	0.28		**0.197**	**0.19**		0.13							
Sc	$mg\,kg^{-1}$	4.8		**2.43**	**2.99**	4	5.2		**3.554**					
Se	$mg\,kg^{-1}$			**0.76**	**1.89**		1.2							
Sm	$mg\,kg^{-1}$	5.3		**2.92**	**4.38**	5.1	6.22		**3.229**					
Sn	$mg\,kg^{-1}$	13		**16.63**	**11.62**		13.515		**12.47**					
Sr	$mg\,kg^{-1}$	108.5	114	**50.8**	**59.67**	112	113.176							
Ta	$mg\,kg^{-1}$	2.3		**1.58**	**2.94**		2.4							
Tb	$mg\,kg^{-1}$	0.8		**0.456**	**0.61**	0.8	0.85		**0.522**					
Te	$mg\,kg^{-1}$						0.017							
Th	$mg\,kg^{-1}$	17.8	19		**13.42**	17	23.989		**8.812**					
Tl	$mg\,kg^{-1}$	1.68		**1.67**	**1.27**		1.76							
Tm	$mg\,kg^{-1}$	0.4		**0.233**	**0.29**	0.4	0.39		**0.271**					
U	$mg\,kg^{-1}$	5.3			**2.22**	6	5.58		**2.759**					
V	$mg\,kg^{-1}$	12		**13.47**	**11.27**	20	15.072		**8.59**					
W	$mg\,kg^{-1}$	0.7			**0.38**		0.526							
Y	$mg\,kg^{-1}$	22.6	26	**13.11**	**18.11**	23.2	27.885		**12.01**					
Yb	$mg\,kg^{-1}$	2.3		**1.57**	**1.88**	2.3	2.7		**1.71**					
Zn	$mg\,kg^{-1}$	53	54	**26.3**	**18.03**	54	54.4		**40.43**					
Zr	$mg\,kg^{-1}$	193	164	**263.3**		158	183		**161.5**					

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

Table 2 - GeoPT51A Consensus values and statistical summary for Granite, MEG-1.

	Consensus Value	Uncertainty of consensus value	Horwitz Target Precision	Uncertainty/ Target Precision	Number of reported results	Robust Mean of results	Robust SD of results	Median of results	Status of consensus value	Type of consensus value
	X_{pt}	$u(x_{pt})$	σ_{pt}	$u(x_{pt}) / \sigma_{pt}$	n					
	g 100g $^{-1}$	g 100g $^{-1}$	g 100g $^{-1}$			g 100g $^{-1}$	g 100g $^{-1}$	g 100g $^{-1}$		
SiO2	72.26	0.07453	0.7588	0.09822	103	72.26	0.7564	72.23	Assigned	Robust Mean
TiO2	0.2957	0.001146	0.007104	0.1613	105	0.2957	0.01174	0.297	Assigned	Robust Mean
Al2O3	14.09	0.02527	0.1892	0.1335	106	14.07	0.2589	14.09	Assigned	Median
Fe2O3T	2.451	0.006162	0.04284	0.1438	104	2.451	0.06284	2.45	Assigned	Robust Mean
MnO	0.06	0.0003662	0.001833	0.1998	103	0.05986	0.003585	0.06	Assigned	Median
MgO	0.3855	0.003523	0.008899	0.3959	102	0.3905	0.032	0.3855	Provisional	Median
CaO	1.15	0.004394	0.02252	0.1951	103	1.149	0.03828	1.15	Assigned	Median
Na2O	3.66	0.01294	0.06022	0.2149	101	3.681	0.1329	3.66	Assigned	Median
K2O	4.708	0.0143	0.07458	0.1918	104	4.699	0.1352	4.708	Assigned	Median
P2O5	0.1339	0.0007652	0.003624	0.2112	97	0.1339	0.007537	0.132	Provisional	Robust Mean
	mg kg $^{-1}$	mg kg $^{-1}$	mg kg $^{-1}$			mg kg $^{-1}$	mg kg $^{-1}$	mg kg $^{-1}$		
Ag	0.12	0.01051	0.01321	0.7957	19	0.1507	0.07431	0.13	Provisional	Mode
As	2.268	0.14	0.1604	0.873	36	2.559	0.7662	2.311	Provisional	Mode
Ba	346.9	2.552	11.51	0.2218	91	344.4	25.2	346.9	Assigned	Median
Be	9.01	0.1799	0.5177	0.3476	45	8.682	0.8243	8.867	Assigned	Mode
Bi	1.085	0.02059	0.08569	0.2403	26	1.097	0.1036	1.085	Assigned	Median
Cd	0.11	0.01236	0.01226	1.007	26	0.1569	0.09701	0.12	Provisional	Mode
Ce	66.16	1.06	2.816	0.3765	71	63.19	6.666	64.52	Assigned	Mode
Co	2.623	0.0495	0.1815	0.2728	58	2.814	0.4764	2.69	Assigned	Mode
Cr	193	4.03	6.992	0.5764	88	187.5	22.9	190.1	Provisional	Mode
Cs	17.1	0.217	0.8921	0.2432	53	16.83	1.568	17.1	Assigned	Median
Cu	6.38	0.449	0.3861	1.163	65	6.889	1.945	6.6	Provisional	Mode
Dy	4.56	0.06015	0.2903	0.2072	54	4.341	0.4712	4.406	Assigned	Mode
Er	2.49	0.02981	0.1736	0.1717	53	2.366	0.2788	2.4	Assigned	Mode
Eu	0.59	0.007657	0.05109	0.1499	53	0.5845	0.0534	0.59	Assigned	Median
Ga	22.05	0.203	1.107	0.1833	71	22.05	1.71	22	Assigned	Robust Mean
Gd	4.9	0.05553	0.3085	0.18	52	4.828	0.4961	4.9	Assigned	Median
Ge	1.7	0.1248	0.1255	0.9941	22	1.798	0.586	1.7	Provisional	Median
Hf	4.965	0.1049	0.312	0.3362	58	4.812	0.9217	4.965	Assigned	Median
Ho	0.8734	0.012	0.07129	0.1683	51	0.8281	0.08821	0.84	Assigned	Mode
In	0.06	0.004344	0.007329	0.5928	13	0.06702	0.01992	0.06	Provisional	Median
La	31	0.451	1.479	0.3049	73	29.96	2.789	30.2	Assigned	Mode
Li	122.1	2.15	4.739	0.4537	42	121.6	11.42	122.1	Assigned	Median
Lu	0.373	0.005408	0.03461	0.1563	52	0.3441	0.05179	0.36	Assigned	Mode
Mo	3.167	0.0805	0.213	0.378	47	3.195	0.554	3.167	Assigned	Median
Nb	15.54	0.294	0.8225	0.3574	71	15.29	1.578	15.31	Assigned	Mode
Nd	26.88	0.3279	1.31	0.2503	66	26.43	2.781	26.88	Assigned	Median
Ni	5.548	0.169	0.3429	0.4928	67	5.976	1.663	5.8	Provisional	Mode
Pb	24.45	0.2897	1.209	0.2396	75	24.81	2.45	24.45	Assigned	Median
Pr	7.733	0.1049	0.4546	0.2308	53	7.433	0.602	7.55	Assigned	Mode
Rb	272	1.942	9.358	0.2076	80	271.2	15.46	272	Assigned	Median
Sb	0.167	0.01651	0.01748	0.9442	29	0.2034	0.07537	0.18	Provisional	Mode
Sc	4.478	0.1011	0.2858	0.3539	58	4.478	0.7703	4.438	Assigned	Robust Mean
Sm	5.73	0.09467	0.3524	0.2686	58	5.505	0.522	5.591	Assigned	Mode
Sn	12.98	0.2303	0.7058	0.3263	48	12.98	1.595	12.95	Assigned	Robust Mean
Sr	111	0.5909	4.37	0.1352	89	110.3	6.892	111	Assigned	Median
Ta	2.455	0.04645	0.1715	0.2708	49	2.444	0.3571	2.455	Assigned	Median
Tb	0.7925	0.02995	0.06564	0.4563	52	0.7642	0.07736	0.768	Assigned	Mode
Th	19.2	0.2562	0.9844	0.2603	72	19.47	1.795	19.2	Assigned	Median
Tl	1.7	0.03008	0.1255	0.2396	33	1.662	0.1849	1.7	Assigned	Median
Tm	0.388	0.004486	0.03579	0.1253	49	0.3575	0.05004	0.37	Assigned	Mode
U	5.531	0.197	0.342	0.5761	65	5.398	0.8219	5.5	Assigned	Mode
V	13.2	0.2436	0.716	0.3402	73	13.38	1.749	13.2	Assigned	Median
W	0.526	0.0332	0.04634	0.7164	25	0.7988	0.386	0.6347	Provisional	Mode
Y	25.25	0.3619	1.242	0.2914	84	24.99	2.908	25.25	Assigned	Median
Yb	2.485	0.04097	0.1733	0.2364	56	2.384	0.3362	2.485	Assigned	Median
Zn	53.61	0.4817	2.355	0.2045	85	52.94	4.948	53.61	Assigned	Median
Zr	167.4	1.833	6.195	0.2959	88	167.4	17.2	166.5	Assigned	Robust Mean

Table 3 - GeoPT51A Z-scores for Granite, MEG-1. 15/06/2022

Lab Code	P1	P2	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14
SiO2	0.19	*	0.36	-0.71	15.42	0.95	-0.19	0.84	-0.97	0.05	0.16	-0.19	-0.09
TiO2	1.75	-2.21	-0.26	0.93	-26.95	-2.07	1.03	0.30	3.42	-0.40	-1.10	-1.10	-0.47
Al2O3	-0.44	*	-0.40	0.03	-41.41	-1.08	-0.40	0.82	-1.90	0.50	1.08	0.29	-0.74
Fe2O3T	-0.31	*	-0.48	2.28	-33.93	0.36	0.48	0.57	0.43	0.45	-0.95	0.68	-0.37
MnO	0.49	0.00	0.55	2.62	-18.01	0.00	0.55	0.00	1.09	-2.73	6.00	-2.73	0.00
MgO	-4.33	*	0.25	1.73	-17.36	5.23	-0.28	-1.99	-14.10	0.81	1.94	-1.43	-0.53
CaO	0.80	*	-0.44	3.80	-26.07	-1.20	*	0.44	-1.78	0.67	-0.67	-0.67	-0.82
Na2O	0.18	*	-1.25	4.76	-27.32	-4.27	-1.43	-0.66	-1.00	0.91	-0.33	0.00	-0.33
K2O	-0.21	*	-1.08	4.75	-25.24	-0.56	-0.02	0.68	-1.05	0.28	-0.46	-1.13	-0.73
P2O5	0.14	*	-0.40	2.08	-29.11	-1.90	-4.11	0.84	-3.83	0.84	0.84	0.84	-0.67
Ag	-1.89	*	*	*	-8.18	*	*	*	*	*	*	*	*
As	-0.72	*	*	*	-6.71	*	*	*	*	*	*	*	*
Ba	0.00	0.53	0.31	0.49	-16.13	4.62	-0.00	-2.04	-1.56	1.83	*	1.35	0.18
Be	*	0.54	*	*	-11.52	*	0.03	*	*	*	*	*	*
Bi	2.48	*	*	*	-11.44	*	*	*	*	*	*	*	*
Cd	13.29	*	*	*	*	*	*	*	*	*	*	*	*
Ce	-0.41	0.12	-1.08	*	-11.50	*	-6.04	-0.03	-3.61	*	*	*	-0.38
Co	*	-0.02	*	*	-7.15	*	7.18	*	2.08	*	*	1.04	*
Cr	1.01	-0.29	-0.36	-0.25	43.59	-1.86	-7.31	-1.57	25.31	0.43	*	2.29	0.36
Cs	0.31	-0.22	-1.18	*	-14.56	*	5.46	*	-4.60	*	*	*	*
Cu	4.76	-0.16	2.10	2.05	-4.73	*	2.66	*	-11.34	*	*	-0.49	*
Dy	0.30	0.28	-0.78	*	-6.97	*	-1.92	*	*	*	*	*	*
Er	0.02	0.35	-0.66	*	-4.82	*	-2.68	*	*	*	*	*	*
Eu	0.16	0.00	0.67	*	-5.73	*	-0.74	*	*	*	*	*	*
Ga	-0.42	0.86	0.43	*	-11.14	*	5.38	0.88	-9.98	-0.93	*	-0.02	*
Gd	0.32	0.23	-0.97	*	-8.38	*	-1.60	*	*	*	*	*	*
Ge	-0.08	*	*	*	0.76	*	0.94	*	*	*	*	*	*
Hf	0.61	0.30	*	2.84	-6.68	*	-7.17	*	-6.30	*	*	*	*
Ho	-0.00	-0.05	-0.82	*	-4.11	*	-2.05	*	*	*	*	*	*
In	*	*	*	*	-5.17	*	*	*	*	*	*	*	*
La	-0.54	-0.20	0.17	-0.21	-8.74	*	-6.54	-2.37	1.35	*	*	*	-0.34
Li	*	-0.02	*	*	-20.05	*	11.97	*	*	*	*	*	*
Lu	-0.32	0.20	-0.14	*	-3.04	*	-2.99	*	*	*	*	*	*
Mo	-0.03	0.11	*	*	-6.93	*	*	*	18.00	*	*	*	*
Nb	-0.28	0.68	-0.75	0.05	-4.97	*	8.37	-0.33	5.42	2.71	*	-1.54	*
Nd	0.66	0.78	-1.63	0.17	-11.09	*	-4.77	*	-1.43	*	*	*	*
Ni	8.16	-0.90	*	2.25	31.74	*	-2.13	*	10.07	*	*	0.66	*
Pb	-1.32	0.87	-0.19	*	-7.00	*	4.05	1.88	-0.37	0.64	*	-0.19	*
Pr	-0.36	-0.40	-0.99	*	-8.62	*	-4.48	*	*	*	*	*	*
Rb	-0.10	2.03	-0.75	1.52	-12.61	*	7.07	0.11	-19.56	1.12	*	-0.59	*
Sb	13.84	*	*	*	5.11	*	*	*	*	*	*	*	*
Sc	-0.14	0.50	0.20	-0.12	0.40	*	7.84	*	-1.67	0.91	*	2.66	*
Sm	0.04	0.06	-0.85	*	-8.93	*	-2.71	*	*	*	*	*	*
Sn	-0.52	-0.11	-0.55	*	-14.29	*	*	*	-12.72	*	*	*	*
Sr	0.23	-0.69	-0.23	1.21	-10.14	-2.52	-0.69	-0.11	5.49	1.14	*	0.34	*
Ta	-0.05	0.03	*	*	-8.62	*	5.12	*	20.67	*	*	*	*
Tb	0.22	0.11	-0.88	*	-5.54	*	-1.44	*	*	*	*	*	*
Th	0.48	0.91	0.30	*	0.42	*	-3.77	*	13.00	4.47	*	-0.61	*
Tl	0.84	0.80	*	*	-8.31	*	*	*	*	*	*	*	*
Tm	-0.03	0.06	-0.56	*	-3.49	*	-2.49	*	*	*	*	*	*
U	-0.17	-0.09	0.77	*	5.23	*	-2.97	*	13.07	*	*	*	*
V	2.68	-0.42	*	0.43	-8.02	*	9.50	*	-1.68	1.26	*	2.65	-2.23
W	*	*	*	*	35.26	*	*	*	161.27	*	*	*	*
Y	0.79	1.41	-0.74	0.35	-5.35	*	-3.44	0.71	29.59	2.32	*	-0.10	-0.90
Yb	0.20	0.49	0.42	*	-4.11	*	-3.14	*	*	*	*	*	*
Zn	0.17	-0.09	0.57	0.10	-15.14	*	-0.00	*	-10.45	1.36	*	-0.13	-0.34
Zr	1.94	1.71	0.94	1.73	-15.14	-6.04	-0.22	-0.52	-5.71	-0.19	*	-0.52	-1.32

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

Table 3 - GeoPT51A Z-scores for Granite, MEG-1. 15/06/2022

Lab Code	P15	P17	P18	P19	P20	P21	P22	P23	P24	P25	P27	P28	P29
SiO2	-0.80	-0.52	-0.18	-0.39	-7.03	1.40	0.36	2.10	-4.92	-0.10	-0.29	0.38	0.33
TiO2	-0.38	0.94	0.61	-0.40	-0.96	-0.80	0.12	0.61	-3.33	0.30	1.01	-0.40	0.09
Al2O3	-1.06	-0.24	1.11	-0.18	-0.34	-0.05	0.63	-1.11	4.79	0.03	-0.11	-1.06	0.37
Fe2O3T	0.20	-0.13	-0.03	-1.30	-0.60	-5.17	-1.43	-2.83	2.07	0.33	0.22	-0.37	-0.95
MnO	1.64	-1.75	0.00	-2.73	0.00	0.00	1.91	-3.27	2.18	0.82	0.00	0.00	1.09
MgO	-2.08	-1.60	3.88	-0.87	-0.14	3.88	1.07	-0.62	2.53	1.21	-0.87	3.62	-2.56
CaO	-0.53	-0.17	-0.44	-0.22	-0.22	0.89	2.22	-1.78	0.53	0.22	0.00	-0.89	0.18
Na2O	-5.81	-0.29	2.32	-0.17	*	-0.66	1.83	-0.66	2.24	0.33	-0.08	-0.66	-0.30
K2O	0.02	-0.02	-0.11	0.41	-0.53	-0.11	1.70	-2.39	-1.54	0.55	0.21	-0.73	0.43
P2O5	-1.07	0.86	-3.83	-0.53	0.02	-1.07	1.69	-1.35	3.35	-0.81	-0.53	-0.53	0.43
Ag	0.76	*	*	*	0.19	*	*	*	*	*	*	*	*
As	-0.55	*	13.92	*	-0.31	*	*	-6.91	-1.09	*	*	*	-0.71
Ba	0.79	-2.13	-2.15	*	-2.82	-0.95	-1.03	-0.43	5.03	*	0.57	*	1.31
Be	-0.87	*	*	*	-0.10	*	*	*	0.57	*	-0.11	*	-1.07
Bi	*	*	*	*	0.21	*	*	*	-0.64	*	0.09	*	0.62
Cd	*	*	*	*	0.41	*	*	*	-0.33	*	*	*	6.12
Ce	-2.29	*	0.48	*	-7.98	*	-4.71	-0.77	8.04	*	0.15	*	0.18
Co	-0.29	*	3.18	*	0.13	*	*	-0.13	0.02	*	1.04	*	-0.01
Cr	-0.29	2.22	-4.19	*	-1.57	-1.15	-4.38	-0.00	3.39	1.50	*	*	0.79
Cs	-0.62	*	-2.69	*	-0.22	0.78	*	0.56	2.50	*	0.28	*	2.91
Cu	-0.75	38.36	-9.79	*	-0.09	*	-2.80	20.51	-5.19	*	*	*	-0.00
Dy	-0.86	*	*	*	-3.53	*	*	0.00	-13.95	*	0.24	*	0.16
Er	-0.12	*	*	*	-3.51	*	*	0.52	-1.92	*	0.32	*	-0.35
Eu	-0.59	*	*	*	-2.91	*	*	0.20	-0.23	*	0.20	*	0.29
Ga	-0.56	*	-1.13	*	0.84	-0.04	0.41	-1.85	3.56	*	0.20	*	1.11
Gd	0.00	*	*	*	-3.95	*	*	-0.55	2.03	*	0.32	*	0.18
Ge	*	*	*	*	-0.40	*	*	*	*	*	*	*	-0.36
Hf	3.12	*	0.43	*	-2.70	*	*	3.12	10.67	*	0.54	*	-1.32
Ho	-0.61	*	*	*	-3.12	*	*	-0.47	-1.55	*	0.33	*	0.12
In	*	*	*	*	0.89	*	*	*	*	*	*	*	*
La	-1.56	*	0.27	*	-7.49	*	-2.70	-1.01	1.85	*	0.30	*	0.20
Li	7.99	*	*	*	-0.75	*	*	*	-0.73	0.94	*	*	0.83
Lu	-0.38	*	*	*	-2.66	*	*	0.49	-2.51	*	-0.04	*	-0.19
Mo	-1.30	*	-3.13	*	0.03	*	31.15	-2.47	-0.21	*	0.08	*	9.77
Nb	-0.39	*	-1.63	*	-0.02	1.78	2.87	-0.05	*	*	*	*	0.22
Nd	-0.90	*	-1.28	*	-6.02	*	-1.05	0.16	*	*	0.47	*	0.28
Ni	-0.17	*	-1.60	*	-0.14	*	-3.93	9.34	0.33	*	*	*	-0.84
Pb	0.12	*	0.12	*	-0.27	*	-2.03	-0.87	6.50	0.64	*	*	0.81
Pr	-2.29	*	*	*	-5.46	*	*	-1.11	2.00	*	0.07	*	-0.06
Rb	-0.80	-0.75	-1.24	*	-5.29	0.32	-0.45	-2.56	3.33	*	1.02	*	2.46
Sb	-0.97	*	*	*	0.00	*	*	*	-1.43	*	*	*	0.37
Sc	-0.99	*	14.77	*	-2.38	-0.62	*	0.15	4.47	*	0.21	*	1.44
Sm	-0.54	*	-0.09	*	-4.43	*	*	-0.43	2.35	*	0.38	*	-0.01
Sn	-0.13	*	*	*	0.72	*	*	*	13.59	*	0.94	*	1.29
Sr	0.46	-0.80	-1.12	*	-2.36	0.00	-1.03	0.69	0.09	*	0.34	*	1.26
Ta	-1.02	*	*	*	0.98	*	*	-0.26	18.60	*	-0.16	*	0.28
Tb	-0.50	*	*	*	-3.05	*	*	-0.80	-0.72	*	0.29	*	0.21
Th	1.32	*	0.30	*	-4.22	-0.20	-1.02	0.00	4.38	*	-0.25	*	-0.36
Tl	0.00	*	*	*	0.28	*	*	*	0.01	*	0.00	*	0.52
Tm	-0.22	*	*	*	-2.74	*	*	0.06	-2.21	*	0.03	*	-0.25
U	-0.12	*	-2.14	*	-3.23	*	2.54	1.66	0.51	*	0.83	*	-0.63
V	0.70	*	1.40	*	-0.21	1.12	0.00	6.70	3.83	*	1.05	*	0.00
W	*	*	120.27	*	0.40	*	*	*	1.98	*	*	*	-0.60
Y	-3.34	-0.90	0.53	*	-6.44	1.41	0.69	0.04	-2.37	*	0.14	*	0.18
Yb	0.20	*	*	*	-3.53	*	*	0.66	-2.95	*	0.04	*	-0.10
Zn	1.40	-10.53	-0.90	*	0.38	-2.38	-3.19	-1.83	-5.23	147.64	0.59	*	0.32
Zr	-1.24	-0.92	-1.29	*	-4.79	2.04	-1.14	7.20	-8.27	3.20	0.29	*	-1.97

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

Table 3 - GeoPT51A Z-scores for Granite, MEG-1. 15/06/2022

Lab Code	P32	P34	P35	P36	P37	P38	P40	P41	P42	P43	P44	P45	P48
SiO2	0.04	-0.77	0.37	*	2.01	-0.38	-0.02	0.03	0.13	*	1.08	1.21	0.05
TiO2	0.61	-2.21	0.61	-0.80	0.94	*	-0.40	-0.10	0.30	-2.80	-0.66	-0.61	0.94
Al2O3	0.11	-1.32	1.80	0.05	0.87	0.45	1.51	-0.58	-0.11	*	-3.17	-1.61	0.09
Fe2O3T	-0.73	0.43	-0.97	*	0.04	1.85	0.10	-0.34	-0.48	*	-0.45	-0.83	0.63
MnO	1.64	0.00	-5.46	0.00	-0.82	*	-2.73	0.46	0.00	-2.27	-1.64	0.27	-0.82
MgO	-0.62	2.75	-0.62	1.63	-1.10	1.94	-0.87	-0.31	0.25	*	-0.17	-1.43	0.93
CaO	-1.33	-1.78	-0.89	*	-0.31	0.44	-18.43	-0.18	5.99	*	-1.15	0.22	0.20
Na2O	-0.66	-1.49	-0.66	*	1.74	*	1.49	1.03	0.66	*	-2.56	-1.33	-0.32
K2O	-2.66	0.29	-1.19	*	-0.39	*	1.82	-0.40	0.48	*	-3.06	-0.66	0.47
P2O5	0.86	-1.07	1.69	-2.17	-1.09	*	0.84	0.28	0.84	*	-0.79	2.22	-0.40
Ag	4.39	*	*	*	*	*	*	*	0.76	-1.59	1.67	*	*
As	0.20	*	*	*	*	*	*	*	2.22	-1.74	0.00	*	*
Ba	-0.86	-0.17	1.14	0.10	-0.20	*	*	-2.35	0.89	-1.54	-0.30	0.40	3.35
Be	0.27	*	*	0.46	-0.00	*	*	*	*	*	-3.04	-0.01	*
Bi	0.65	*	*	*	*	*	*	*	*	-0.32	-0.67	*	*
Cd	0.90	*	*	*	*	*	*	*	*	-1.05	0.73	*	*
Ce	3.07	-8.23	*	-1.02	0.50	*	*	-3.50	0.48	-1.13	-1.58	0.74	*
Co	-1.34	*	*	0.09	-0.45	*	*	*	0.63	-0.15	-0.91	*	6.55
Cr	0.14	-0.72	-3.29	1.29	0.72	*	*	-3.13	0.37	-1.92	-3.79	*	0.93
Cs	0.02	*	*	0.90	0.11	*	*	*	-0.10	*	-1.33	*	*
Cu	-2.33	*	*	-3.16	-0.88	*	*	*	9.53	-0.80	26.23	*	2.10
Dy	-0.96	*	*	-0.17	0.03	*	*	*	0.29	*	-2.19	0.07	*
Er	-1.73	*	*	0.12	0.00	*	*	*	0.12	*	-1.73	-0.26	*
Eu	0.98	*	*	-0.39	-0.20	*	*	*	0.10	*	-1.02	0.00	*
Ga	-0.04	-2.75	*	-0.13	-0.53	*	*	-0.58	0.10	-0.47	0.46	*	*
Gd	1.10	-6.16	*	-0.42	-0.23	*	*	*	0.29	*	-1.29	-0.32	*
Ge	-4.78	*	*	*	*	*	*	*	*	*	*	*	*
Hf	-0.37	3.32	*	0.43	-0.26	*	*	2.44	0.01	*	-1.13	0.06	*
Ho	-1.31	*	*	-0.33	-0.09	*	*	*	0.12	*	-1.39	0.19	*
In	*	*	*	*	*	*	*	*	*	-0.58	*	*	*
La	1.69	0.68	*	-1.01	-0.35	*	*	0.71	0.16	-1.49	-3.34	0.37	*
Li	-2.34	*	*	*	*	*	*	*	*	*	-3.61	*	*
Lu	-1.82	*	*	-1.24	-0.04	*	*	*	0.10	*	-0.95	0.25	*
Mo	-0.03	*	*	*	-0.46	*	*	*	1.02	-1.80	1.69	*	*
Nb	0.44	0.56	*	-0.41	-1.59	*	*	-1.30	0.02	-0.71	-1.65	-2.15	0.28
Nd	2.39	3.15	*	-0.06	0.11	*	*	-0.68	0.49	*	-1.77	0.47	*
Ni	-3.11	4.24	*	*	-2.69	*	*	2.08	5.11	-2.11	2.01	*	10.87
Pb	-0.87	0.46	*	*	-0.21	*	*	0.00	1.70	0.58	-0.92	*	-1.43
Pr	0.72	*	*	-0.93	0.13	*	*	*	0.10	*	-2.13	-0.10	*
Rb	-0.85	1.18	*	0.21	-0.25	*	*	-0.63	0.69	-0.13	-2.23	-0.05	0.37
Sb	-0.63	*	*	*	*	*	*	*	3.52	-2.32	6.69	*	*
Sc	-7.02	-1.67	*	*	-0.31	*	*	*	1.02	*	1.86	-0.84	*
Sm	1.42	*	*	-0.26	-0.35	*	*	*	0.34	*	-1.57	0.24	*
Sn	1.62	*	*	3.15	*	*	*	-1.06	*	*	-1.12	0.02	*
Sr	0.46	-1.83	*	0.46	0.45	*	*	-1.03	0.20	-0.29	-2.24	0.00	0.11
Ta	0.03	*	*	2.13	-0.57	*	*	*	-0.28	*	-2.88	-1.03	*
Tb	-0.34	*	*	-0.65	-0.25	*	*	*	-0.10	*	-1.52	0.06	*
Th	-1.42	0.81	*	0.00	1.03	*	*	-0.55	0.59	-0.07	-2.30	-0.61	0.91
Tl	-0.24	*	*	5.34	-1.04	*	*	*	*	-4.16	-0.74	*	*
Tm	-2.18	*	*	-0.50	-0.25	*	*	*	-0.11	*	-1.48	0.45	*
U	-1.87	-4.48	*	0.23	1.05	*	*	3.16	0.39	-0.86	0.76	0.25	*
V	0.28	-5.87	*	0.84	0.07	*	*	-1.10	2.79	-1.34	-0.49	1.26	31.28
W	11.31	*	*	*	*	*	*	*	*	*	1.88	*	*
Y	-3.82	3.83	*	0.37	1.11	*	*	-0.34	0.06	-0.23	-2.29	-0.90	7.55
Yb	-2.63	37.59	*	0.20	0.10	*	*	*	0.13	*	-1.79	0.62	*
Zn	-1.11	0.59	*	*	1.46	*	*	-1.64	1.33	-0.49	-0.90	*	0.08
Zr	0.10	1.39	*	1.55	-0.22	*	*	0.39	-0.74	-0.50	0.86	0.05	-0.52

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

Table 3 - GeoPT51A Z-scores for Granite, MEG-1. 15/06/2022

Lab Code	P49	P51	P52	P53	P54	P55	P56	P57	P58	P59	P61	P62	P64
SiO2	-0.56	0.02	-0.24	-0.10	**-0.19**	**1.14**	-0.76	**0.70**	0.16	0.90	0.04	**0.18**	0.04
TiO2	3.82	0.30	-0.89	-0.40	**0.47**	**3.99**	-2.51	**-0.38**	-1.10	-0.33	1.50	**0.47**	1.01
Al2O3	2.25	0.05	1.35	0.11	**0.16**	**0.58**	-1.82	**-5.34**	0.03	-2.24	0.25	**0.32**	-0.32
Fe2O3T	-0.37	-0.13	-0.37	-0.13	**2.07**	**4.40**	-0.60	**0.67**	0.10	-2.81	2.69	**-0.49**	0.57
MnO	2.73	0.00	*	0.00	**0.00**	**-0.71**	0.00	**-1.42**	0.00	67.94	-0.55	**2.18**	0.00
MgO	*3.62*	*-0.87*	*-0.08*	*-0.31*	***-0.62***	***2.53***	*3.62*	***-2.98***	*0.81*	*-2.05*	*0.53*	***-0.28***	*1.94*
CaO	0.00	0.22	-0.67	0.22	**0.44**	**-1.78**	1.78	**-2.04**	1.11	-0.16	0.44	**0.00**	-0.44
Na2O	-0.58	-0.08	-0.33	0.00	**0.50**	**-0.17**	-0.50	**-2.79**	0.42	-1.09	0.07	**0.70**	-0.08
K2O	-0.19	0.55	-0.26	0.08	**0.56**	**-1.05**	-1.60	**-2.23**	-0.19	-1.08	-0.37	**-0.52**	0.21
P2O5	*2.22*	*-0.53*	*0.84*	*0.43*	***1.14***	***-1.90***	*	***-3.61***	*-0.53*	*0.84*	*1.26*	***3.62***	*-0.53*
Ag	*	*	*	*-0.49*	*	*	*	*	*	*	*	*	*
As	*	*	*	*-0.62*	*	*	*0.05*	*	*	*-0.84*	*	***23.27***	*
Ba	*	-0.86	*	0.57	**0.36**	1.39	0.67	**0.74**	*	-0.62	2.13	**0.01**	-0.13
Be	*	*	*	-0.28	*	*	*	**1.37**	*	-1.46	*	*	0.50
Bi	*	*	*	0.18	*	*	*	*	*	9.43	*	*	*
Cd	*	*	*	*-2.04*	*	*	*	*	*	*	*	*	*
Ce	*	*	*	0.11	**0.31**	*	*	**-0.43**	*	*	*	**-2.90**	-0.08
Co	*	*	*	0.32	*	*	1.08	**-0.19**	*	6.55	-1.72	**13.10**	0.21
Cr	*-13.80*	*-0.79*	*	*-2.04*	***1.29***	*-0.72*	*2.75*	***-0.34***	*	*-2.84*	*-0.64*	***3.15***	*0.86*
Cs	*	*	*	0.90	**0.55**	*	*	**0.00**	*	*	*	**2.13**	0.39
Cu	*	*	*	*0.09*	***-0.99***	*	*3.90*	***-0.88***	*	*-5.02*	*2.10*	***6.78***	*1.49*
Dy	*	*	*	-0.40	**0.52**	*	*	**-1.02**	*	*	*	*	0.45
Er	*	*	*	-0.63	**0.17**	*	*	**-1.41**	*	*	*	*	0.37
Eu	*	*	*	-0.07	**-0.39**	*	*	**-0.88**	*	*	*	*	0.21
Ga	*	-0.02	*	0.84	**-0.04**	1.78	*	**0.05**	*	-0.61	-0.93	**0.86**	0.29
Gd	*	*	*	-0.19	**0.45**	*	*	**-0.72**	*	*	*	*	0.70
Ge	*	*	*	*-6.25*	*	*	*	*	*	*	*	*	*1.04*
Hf	*	*	*	-2.33	**-0.46**	*	*	**-2.22**	*	*	1.66	*	-0.41
Ho	*	*	*	-0.75	**0.51**	*	*	**-0.97**	*	*	*	*	0.31
In	*	*	*	*-0.27*	*	*	*	*	*	*2240.44*	*	*	*
La	*	*	*	0.41	**-0.04**	*	*	**-0.29**	*	0.07	*	**-8.79**	0.20
Li	*	*	*	0.30	*	*	*	**5.57**	*	-0.69	0.30	*	0.20
Lu	*	*	*	-1.00	**0.20**	*	*	**-1.47**	*	*	*	*	0.38
Mo	*	*	*	0.12	*	*	3.17	**1.68**	*	-1.57	*	*	*
Nb	*	*	*	0.64	**0.51**	*	*	**0.10**	*	*	*	**-0.66**	0.28
Nd	-10.24	*	*	0.89	**1.15**	*	*	**0.06**	*	*	*	**-0.67**	0.89
Ni	*	*	*	*0.21*	***10.07***	*	*4.88*	***-1.10***	*	*-1.38*	*0.66*	***1.32***	*0.95*
Pb	*	*	*	0.14	**1.08**	*	-0.22	**1.18**	*	-3.45	10.15	**-1.20**	0.85
Pr	*	*	*	0.52	**0.23**	*	*	**-0.48**	*	*	*	*	0.18
Rb	*	*	*	1.60	**0.62**	-0.43	0.05	**-0.13**	*	*	*	**0.11**	0.00
Sb	*	*	*	*-0.20*	*	*	*3.35*	*	*	*	*	*	*
Sc	*	*	*	-0.99	**0.08**	*	*	**-0.27**	*	-1.19	*	**8.82**	0.77
Sm	*	*	*	0.41	**0.26**	*	*	**-0.42**	*	*	*	*	0.48
Sn	*	*	*	0.51	*	*	-0.97	*	*	0.09	*	**4.28**	*
Sr	-12.70	-1.14	*	1.09	**0.23**	0.00	-0.78	**-1.01**	*	-0.23	2.97	**0.46**	0.69
Ta	*	*	*	-0.28	**0.73**	*	*	**0.24**	*	*	*	*	0.25
Tb	*	*	*	-0.20	**0.72**	*	*	**-0.60**	*	*	*	*	0.42
Th	*	*	*	0.51	**1.36**	*	*	**0.82**	*	*	*	**2.84**	0.81
Tl	*	*	*	-0.34	*	*	*	*	*	*	*	*	*
Tm	*	*	*	-0.89	**0.34**	*	*	*	*	*	*	*	0.31
U	*	*	*	-0.91	**0.41**	*	*	**-0.63**	*	*	*	**1.37**	-0.15
V	*	-0.14	*	0.56	**2.51**	*	0.78	**-0.46**	*	-0.21	*	**1.12**	0.21
W	*	*	*	*-0.31*	*	*	*	***10.38***	*	*	*	*	*
Y	*	*	*	-0.70	**0.90**	15.20	*	**-1.46**	*	-1.35	0.71	**1.41**	0.87
Yb	*	*	*	-0.65	**0.03**	*	*	**-1.43**	*	*	*	*	0.33
Zn	-11.38	-0.13	*	1.23	**0.17**	0.08	0.20	**0.92**	*	0.44	0.30	**1.01**	-0.19
Zr	-13.51	-0.52	*	-3.38	**-0.06**	1.50	*	**-3.77**	*	-4.70	9.81	**-1.52**	-0.19

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

Table 3 - GeoPT51A Z-scores for Granite, MEG-1. 15/06/2022

Lab Code	P65	P66	P67	P68	P69	P71	P72	P73	P75	P77	P78	P79	P80
SiO2	*	-0.48	**1.22**	**0.45**	-0.29	-2.11	0.41	-0.10	*	-2.21	0.09	**20.36**	-0.04
TiO2	*	-0.33	**2.30**	**0.27**	-0.19	-1.10	-0.40	0.73	*	-0.89	-0.40	**3.00**	0.30
Al2O3	*	-1.00	**6.08**	**0.33**	0.13	-1.88	0.34	0.00	*	1.61	0.13	**-0.26**	0.08
Fe2O3T	*	0.21	**4.87**	**-0.41**	-0.25	-0.13	-0.83	0.24	*	-1.77	-0.21	**1.60**	0.22
MnO	*	5.46	**2.73**	**0.82**	0.00	-0.55	-2.73	-0.90	*	-2.46	0.38	**3.33**	0.55
MgO	*	*12.61*	***3.76***	***0.54***	*0.25*	*7.56*	*-1.99*	*0.08*	*	*	*2.89*	***13.99***	*-0.31*
CaO	*	-1.13	**5.33**	**-1.60**	-0.22	-1.55	0.22	0.40	*	0.00	-0.16	**-2.00**	0.22
Na2O	*	0.61	**-0.83**	**1.58**	0.00	0.83	-0.50	0.79	*	*	1.11	**3.65**	0.17
K2O	*	0.89	**5.12**	**2.26**	-0.39	1.28	-0.53	0.47	*	-3.81	0.79	**3.10**	0.21
P2O5	*	*-1.64*	***4.45***	***-0.99***	*0.71*	*-1.91*	*-0.53*	*-2.88*	*	*	*-0.81*	*	*0.29*
Ag	*	*	*	*	*	*	*	*	*	*	*	***89.35***	*
As	*	*	*	*	*	*2.28*	*	*	*	*	*	*	*
Ba	*	0.57	**1.45**	**0.48**	-0.12	-2.21	0.22	*	**-3.00**	0.40	*	**-2.34**	-0.95
Be	*	*	*	*	*	*	-0.43	*	*	*	*	*	*
Bi	*	*	*	*	*	*	*	*	*	*	*	*	*
Cd	*	*	***18.10***	*	*	*	*	*	*	*	*	*	*
Ce	**-0.58**	0.15	**0.74**	*	*	-2.69	-0.24	*	**-2.87**	0.13	*	**0.30**	*
Co	*	31.35	**0.59**	*	*	*	3.79	*	*	*	*	**0.31**	*
Cr	*	*-1.50*	***1.47***	***-1.30***	*-0.03*	*-2.36*	*1.36*	*	*	*0.79*	*0.36*	***2.29***	*-0.36*
Cs	*	-1.74	**-0.10**	*	*	-1.18	*	*	**-0.99**	*	*	**0.67**	*
Cu	*	*	***2.56***	*	*	*-0.49*	*1.45*	*	*	*6.11*	*	*	*
Dy	**2.45**	*	**-0.34**	*	*	*	-0.07	*	**-3.36**	*	*	**3.58**	*
Er	**1.96**	*	**-0.35**	*	*	*	-0.23	*	**-3.16**	*	*	*	*
Eu	**0.78**	*	**-0.59**	*	*	*	-0.10	*	**0.60**	*	*	**0.20**	*
Ga	*	-0.02	**0.16**	*	-0.16	-0.93	-0.47	*	*	0.11	*	*	1.33
Gd	**1.39**	*	**0.36**	*	*	*	-0.10	*	*	*	*	*	*
Ge	*	*	*	*	*	*	*0.04*	*	*	*	*	*	*
Hf	*	-1.55	**-0.37**	*	*	-1.55	0.38	*	**-2.56**	*	*	**-1.36**	0.70
Ho	**-0.05**	*	**0.14**	*	*	*	-0.30	*	**-2.69**	*	*	*	*
In	*	*	*	*	*	*	*	*	*	*	*	*	*
La	**1.11**	-0.68	**0.47**	*	*	0.00	-0.18	*	**-3.54**	-0.71	*	**0.00**	*
Li	*	*	**-0.00**	*	*	*	*	*	*	*	*	*	*
Lu	**-1.24**	*	**0.09**	*	*	*	0.25	*	**-3.29**	*	*	**-1.24**	*
Mo	*	*	**-2.47**	*	*	-0.39	*	*	*	*	*	*	*
Nb	*	-4.58	**0.62**	*	-0.51	-0.94	-0.33	*	**-1.29**	3.99	*	*	2.10
Nd	**0.96**	2.72	**1.09**	*	*	-1.86	0.59	*	**-2.40**	-0.45	*	**-0.67**	*
Ni	*	*	***0.97***	*	*	*2.12*	*-0.07*	*	*	*	*	*	*
Pb	*	2.71	**-0.35**	*	-0.23	-0.60	0.23	*	**-1.15**	2.42	*	*	*
Pr	**0.34**	*	**0.26**	*	*	*	0.05	*	**-2.58**	*	*	*	*
Rb	*	-0.21	**0.68**	*	0.00	-0.43	0.16	*	**0.51**	0.91	*	**1.07**	-0.75
Sb	*	*	*	*	*	*	*	*	*	*	*	***3.03***	*
Sc	*	*	**-0.41**	**0.19**	*	0.91	*	*	**-4.23**	*	*	**-0.17**	*
Sm	**1.19**	*	**-0.26**	*	*	-1.04	-0.33	*	**-3.10**	*	*	**-0.94**	*
Sn	*	-1.40	*	*	*	0.02	*	*	*	*	*	*	*
Sr	*	0.34	**-1.17**	**0.58**	0.16	-0.34	0.46	*	**-2.17**	0.69	-0.11	**-0.23**	0.23
Ta	*	*	**0.32**	*	*	*	0.04	*	**-0.95**	*	*	**-1.31**	*
Tb	**0.88**	*	**0.65**	*	*	*	0.13	*	**-1.57**	*	*	**-0.95**	*
Th	*	2.44	**-0.28**	*	*	-0.10	-0.61	*	**-0.11**	-0.41	*	**1.32**	*
Tl	*	*	*	*	*	*	*	*	*	*	*	*	*
Tm	**2.01**	*	**-0.03**	*	*	*	0.03	*	**-2.40**	*	*	*	*
U	*	-3.70	**0.17**	*	*	0.69	0.03	*	**-1.95**	-1.80	*	**-2.43**	*
V	*	*	**-0.70**	*	*	-0.84	0.56	*	*	*	*	**-1.26**	*
W	*	*	*	*	*	*	*	*	*	*	*	*	*
Y	**-0.25**	-7.34	**0.61**	**-0.04**	0.14	-0.10	0.03	*	**-5.13**	1.23	*	*	3.93
Yb	**-0.14**	*	**0.26**	*	*	1.49	0.04	*	**-3.38**	*	*	**0.43**	*
Zn	*	-0.13	**0.11**	**0.08**	-0.00	-1.40	0.08	*	*	-0.32	*	**9.93**	0.72
Zr	*	2.63	**-0.58**	**2.63**	-0.31	-0.43	0.69	*	**0.00**	-1.08	0.86	**0.42**	0.21

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

Table 3 - GeoPT51A Z-scores for Granite, MEG-1. 15/06/2022

Lab Code	P81	P82	P83	P84	P85	P86	P87	P88	P89	P90	P91	P92	P93
SiO2	-1.02	1.39	-0.09	0.16	-0.48	-0.14	-0.43	0.23	-0.02	0.62	0.27	-0.28	-0.05
TiO2	2.02	-2.21	0.75	-0.55	0.30	0.30	0.61	-1.10	0.30	0.30	1.36	-0.40	0.12
Al2O3	-1.59	-0.11	-0.58	0.37	1.22	-0.29	-0.42	-0.24	-0.32	-0.77	-0.57	0.61	0.09
Fe2O3T	-0.50	-2.83	0.71	-0.20	0.57	-0.13	1.60	7.22	-0.13	-0.02	0.71	0.45	-0.53
MnO	0.00	-2.18	0.00	-1.26	-0.55	0.00	0.00	*	-0.55	0.55	1.09	0.00	-0.27
MgO	-0.62	-2.87	-2.64	-0.76	0.81	-3.12	-0.62	-4.24	1.94	-2.56	2.67	2.50	2.11
CaO	-3.11	-0.44	0.40	-1.00	-1.33	-0.22	2.22	-2.22	1.11	0.22	-0.13	2.66	1.07
Na2O	-0.50	0.50	2.99	-0.20	2.32	1.41	0.66	-13.78	0.33	2.08	0.17	0.50	0.42
K2O	-1.59	0.15	0.34	-1.30	0.08	1.69	0.82	0.21	-0.06	0.61	0.77	0.81	0.81
P2O5	1.69	-1.07	1.97	-0.12	*	-0.53	1.69	-6.05	0.84	-1.22	-1.09	0.84	1.00
Ag	*	*	*	*	*	*	-0.38	*	*	*	0.00	*	*
As	*	4.56	*	1.87	*	*	-2.54	*	*	*	-0.90	*	*
Ba	2.44	-2.34	-0.81	-0.47	-0.52	-1.73	-1.82	*	-0.39	0.53	0.05	0.94	0.19
Be	*	*	0.46	0.73	*	*	-0.81	*	-0.78	-0.60	-1.30	0.09	0.69
Bi	*	-0.99	*	0.97	*	*	-0.52	*	*	*	-0.49	*	*
Cd	*	*	*	*	*	*	0.82	*	*	*	0.00	*	*
Ce	*	-4.32	*	0.15	*	*	-1.87	*	-1.09	0.61	0.03	0.66	0.28
Co	*	2.08	*	0.30	*	*	-0.18	*	*	-0.06	-0.61	1.04	-0.03
Cr	0.71	-4.72	-0.50	-7.06	*	-2.50	0.57	*	-2.07	*	1.81	1.72	0.09
Cs	*	-2.35	*	*	*	*	-0.22	*	*	*	-1.04	0.56	-0.43
Cu	*	-3.58	0.65	0.28	*	*	0.83	*	*	*	0.39	1.84	0.54
Dy	*	*	*	0.24	*	*	-0.14	*	*	-0.55	-1.15	0.24	0.55
Er	*	*	*	0.89	*	*	-0.63	*	*	-0.84	-1.27	0.32	0.48
Eu	*	*	*	*	*	*	-0.37	*	*	0.49	-0.49	0.10	0.43
Ga	*	-0.95	*	0.20	*	-2.28	0.95	*	-0.47	0.29	-0.97	0.34	0.48
Gd	*	*	*	0.81	*	*	-1.17	*	*	*	-0.65	1.13	0.13
Ge	*	*	*	*	*	*	-0.40	*	*	*	5.46	*	*
Hf	*	0.11	*	*	*	*	0.08	*	*	*	*	0.06	-0.94
Ho	*	*	*	*	*	*	0.12	*	*	-0.72	-1.22	0.89	0.40
In	*	*	*	*	*	*	0.00	*	*	*	*	*	*
La	-0.68	-3.38	*	0.00	*	*	-1.76	*	-0.68	0.41	0.18	0.78	0.59
Li	*	*	1.91	0.65	*	*	0.34	*	-1.91	0.20	-1.19	*	-0.69
Lu	*	*	*	*	*	*	-0.46	*	*	-1.20	-1.49	0.39	-0.17
Mo	*	-5.48	-0.69	0.00	*	*	-1.39	*	*	*	-0.42	0.55	-0.21
Nb	*	-3.09	*	*	*	-0.33	-3.21	*	-0.33	-0.94	-0.80	-0.21	0.45
Nd	*	-3.72	*	0.81	*	*	-0.90	*	*	0.70	-0.37	1.15	1.10
Ni	*	-1.60	*	2.85	*	*	1.61	*	*	-0.80	-0.73	0.37	0.94
Pb	*	-0.37	8.08	0.78	-0.19	1.47	-0.70	*	0.23	-0.06	-1.03	3.21	1.16
Pr	*	*	*	0.07	*	*	-1.61	*	*	0.10	-0.65	0.62	-0.27
Rb	0.21	-1.28	*	3.74	-0.64	-0.85	-0.11	*	-0.43	-0.69	-0.80	1.04	0.66
Sb	*	*	*	*	*	*	0.74	*	*	1.52	0.37	*	*
Sc	*	-5.17	-0.80	2.31	*	*	0.60	*	*	*	*	*	-0.70
Sm	*	-2.07	*	0.10	*	*	-0.77	*	*	0.35	-0.61	0.38	0.17
Sn	*	-5.64	-3.38	0.02	*	*	-0.54	*	-0.69	0.44	*	-0.27	-0.15
Sr	3.66	-0.69	0.27	-0.95	0.69	-0.34	-0.23	*	-0.46	-0.11	-1.00	0.61	0.24
Ta	*	-2.65	*	2.75	*	*	1.54	*	*	*	*	1.01	0.17
Tb	*	*	*	*	*	*	-0.62	*	*	*	-0.86	0.82	0.60
Th	*	-1.22	*	-0.10	1.93	1.93	0.30	*	0.41	*	-0.27	0.97	1.39
Tl	*	-5.58	*	0.80	*	*	*	*	*	0.08	-1.23	-0.40	0.90
Tm	*	*	*	*	*	*	-0.53	*	*	-0.95	-1.37	0.17	0.06
U	*	-1.55	*	1.86	*	*	-0.41	*	*	-0.19	-1.41	0.39	0.39
V	*	-0.28	0.00	0.79	*	-0.84	-1.68	*	*	0.91	-0.56	1.33	0.28
W	*	31.81	*	15.36	*	*	*	*	*	*	*	4.03	*
Y	-1.00	-0.20	*	0.71	-0.10	-0.90	-1.00	*	-0.10	1.11	-1.60	1.15	1.58
Yb	*	*	*	0.62	*	*	-0.38	*	*	-0.97	*	0.33	0.73
Zn	-1.62	-1.53	0.00	*	*	-2.46	1.86	*	0.08	0.25	-1.42	0.63	-1.37
Zr	2.68	0.74	*	-5.15	-1.48	-0.35	-0.22	*	1.18	1.02	-4.52	0.06	0.30

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

Table 3 - GeoPT51A Z-scores for Granite, MEG-1. 15/06/2022

Lab Code	P95	P96	P97	P98	P99	P100	P102	P104	P105	P106	P107	P109	P110
SiO2	0.64	-0.17	-1.85	-0.43	-0.37	0.63	-0.47	-0.90	-1.75	0.41	-0.21	-1.39	3.15
TiO2	0.61	-0.12	7.65	0.30	0.82	-1.74	0.30	0.30	-0.80	-0.40	-1.36	-0.66	0.73
Al2O3	-1.00	-0.24	-1.00	-0.11	0.27	2.52	0.18	-0.77	-0.58	1.93	1.11	-2.59	0.71
Fe2O3T	-1.43	0.10	4.92	0.33	0.85	0.28	-0.02	1.50	-0.27	0.22	-0.73	-0.27	-0.37
MnO	0.00	0.27	-1.04	0.00	1.80	-1.80	0.00	-3.55	5.46	0.00	1.64	0.22	-0.27
MgO	2.75	0.59	2.75	0.81	4.44	-0.62	0.81	0.81	-0.62	-1.43	8.71	-0.17	-1.94
CaO	2.22	0.67	4.04	0.67	1.02	-2.22	-0.22	0.22	0.89	-0.89	-4.48	0.89	0.27
Na2O	0.83	0.42	0.17	2.99	4.53	-0.89	0.25	-1.49	-9.96	1.83	1.49	-1.00	2.77
K2O	0.02	0.48	4.71	-0.39	0.17	-6.46	0.14	-0.12	-0.11	-0.19	-1.59	-2.80	1.17
P2O5	1.69	0.29	-1.15	2.22	1.36	-1.07	-0.53	-0.53	-1.07	0.84	1.69	-0.52	0.71
Ag	4.23	*	*	*	*	13.63	-0.64	*	*	*	*	*	-0.50
As	0.34	*	*	7.83	*	1.86	0.07	0.72	*	5.40	*	*	-1.42
Ba	-0.69	-8.38	-2.62	1.44	*	2.65	-0.13	*	-1.64	1.66	0.18	*	0.71
Be	0.79	*	*	-0.87	*	-0.28	-0.84	-1.94	*	*	-0.44	*	3.52
Bi	*	*	*	*	-0.11	0.96	0.00	*	*	*	*	*	-0.00
Cd	3.66	*	*	*	*	7.34	-1.88	32.61	*	*	0.57	*	-0.33
Ce	1.00	*	-0.27	-0.36	*	12.14	0.13	*	2.43	-0.92	-0.34	*	-0.45
Co	-1.14	*	*	*	*	1.01	1.01	21.15	24.12	3.79	0.48	*	0.05
Cr	-0.13	-1.43	-13.10	0.29	*	*	-1.90	-2.22	0.86	1.79	0.86	*	-2.99
Cs	-0.02	*	*	*	0.01	1.57	0.98	*	*	*	0.69	*	0.03
Cu	-1.71	4.22	*	-1.79	*	6.61	1.27	1.71	*	0.80	-0.21	*	-0.54
Dy	0.28	*	-1.17	-0.43	*	-0.44	0.12	*	*	-0.96	0.00	*	0.10
Er	0.27	*	-0.92	-0.37	*	-1.08	0.00	*	*	4.35	0.06	*	0.19
Eu	0.99	*	-0.27	0.29	*	1.76	-0.39	*	*	4.01	-0.37	*	0.10
Ga	1.47	*	0.88	0.43	0.91	-2.75	1.20	*	*	-0.02	-0.04	*	-1.16
Gd	1.93	*	-13.82	0.00	*	-0.65	0.19	*	*	0.16	-0.10	*	0.06
Ge	*	*	*	-1.31	*	-1.33	-6.01	*	*	1.19	*	*	*
Hf	0.03	*	-4.51	0.34	-0.28	-1.49	-2.25	*	*	0.06	0.59	*	0.50
Ho	0.24	*	-1.08	0.19	*	-0.65	-0.16	*	*	0.19	0.33	*	0.44
In	4.41	*	*	*	*	*	0.00	*	*	*	*	*	*
La	0.77	*	-0.61	-0.30	*	7.89	0.07	*	1.35	-0.34	-0.88	*	-0.30
Li	0.00	*	1.69	*	0.57	-25.69	-0.22	*	*	*	1.88	*	-0.25
Lu	-0.28	*	-1.10	0.10	*	*	-0.19	*	*	0.39	0.00	*	0.05
Mo	3.14	*	*	*	*	2.28	0.10	-0.86	*	-2.74	-0.50	*	-0.11
Nb	-2.35	*	-0.94	-0.94	0.60	1.98	-0.09	*	5.42	-0.33	0.68	*	-0.75
Nd	1.76	*	-1.51	-0.07	*	1.19	0.35	*	*	-0.33	0.48	*	0.03
Ni	-2.21	33.47	51.70	3.58	*	2.39	0.48	0.95	10.07	-0.80	-0.28	*	0.89
Pb	-0.29	*	0.23	3.54	*	-0.29	0.64	-2.50	*	1.47	-1.12	*	-0.17
Pr	0.36	*	-1.72	-0.71	*	0.00	0.21	*	*	-0.81	-0.07	*	-0.38
Rb	0.67	*	-0.46	0.05	*	3.21	0.80	*	-0.43	0.27	-0.11	*	0.13
Sb	-2.54	*	*	*	-0.95	*	-0.49	17.24	*	*	0.12	*	-1.51
Sc	-2.09	*	1.28	*	*	-0.04	-0.80	*	*	0.91	3.89	*	*
Sm	0.26	*	-1.42	-0.44	*	-1.79	0.18	*	*	0.38	-0.06	*	-0.10
Sn	-4.50	*	*	*	0.42	-0.82	0.19	-1.19	*	0.72	3.57	*	0.21
Sr	-24.09	*	1.69	0.11	*	1.37	1.09	-1.26	2.75	-0.11	-0.14	*	0.16
Ta	-2.04	*	*	0.22	-2.31	-2.26	0.39	*	*	1.59	0.38	*	-0.74
Tb	0.63	*	-1.09	-0.10	*	-0.95	-0.17	*	*	1.58	0.08	*	-0.07
Th	-0.21	*	-0.61	-0.51	*	3.05	0.33	*	8.94	4.98	-1.55	*	-1.22
Tl	0.05	*	*	*	*	*	-0.42	-2.79	*	*	0.16	*	-0.04
Tm	0.00	*	-1.62	-0.11	*	-1.53	-0.11	*	*	-1.23	0.08	*	-0.33
U	0.25	*	-0.47	-2.21	*	4.02	-0.86	*	-4.48	2.15	-1.11	*	0.13
V	*	1.19	-1.54	6.84	*	*	0.00	-1.89	-0.28	-0.84	-0.22	*	0.62
W	-1.06	*	*	*	*	3.75	-0.11	*	*	5.11	-0.69	*	-0.24
Y	0.34	*	-0.76	0.71	*	-2.00	0.22	*	9.46	0.30	-0.60	*	-0.39
Yb	-0.03	*	-0.20	-0.25	*	-1.68	0.30	*	*	7.26	0.61	*	0.74
Zn	*	-3.46	*	-0.13	*	-0.12	0.51	-1.85	26.92	0.30	0.38	*	-0.08
Zr	1.61	*	-1.08	-0.19	3.14	-0.92	2.07	*	3.00	-0.52	2.55	*	0.36

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

Table 3 - GeoPT51A Z-scores for Granite, MEG-1. 15/06/2022

Lab Code	P111	P113	P114	P115	P116	P118	P120	P121	P122	P123	P124	P125	P126
SiO2	*	-0.02	**-0.09**	0.87	**-0.15**	0.55	-0.62	**-3.17**	0.53	*	**-0.93**	*	**-0.23**
TiO2	1.01	-1.10	**0.61**	0.46	**0.61**	0.09	0.02	**-7.84**	1.43	*	**-0.80**	*	**0.47**
Al2O3	-1.16	0.00	**1.22**	-0.42	**0.05**	0.00	0.00	**12.42**	-0.38	**-10.46**	**1.32**	*	**0.11**
Fe2O3T	4.07	1.27	**3.00**	-0.92	**1.14**	-3.63	-0.25	**-13.57**	-0.06	*	**0.67**	*	**-0.03**
MnO	0.00	-1.91	**3.27**	-1.40	**0.00**	1.09	0.00	*	-1.91	**-2.53**	**0.00**	*	**1.09**
MgO	*3.06*	*3.06*	***1.63***	*-0.53*	***-0.62***	*	*0.25*	***3.88***	*2.05*	*	***-14.10***	*	***-1.74***
CaO	4.44	1.33	**2.66**	-0.71	**0.00**	-0.89	0.22	**5.77**	-0.69	**1.60**	**4.00**	*	**0.00**
Na2O	6.89	1.49	**4.32**	0.61	**0.00**	-1.91	5.40	**16.11**	0.15	*	**6.81**	*	**-1.83**
K2O	-5.55	0.14	**4.04**	-1.55	**-0.38**	0.88	0.01	**-2.53**	0.79	**-4.89**	**2.17**	*	**0.56**
P2O5	*	*0.84*	***3.07***	*-1.16*	***-1.07***	*	*0.84*	*	*0.98*	***-1.59***	***4.45***	*	***1.14***
Ag	*	*	*	*	*	*	*9.84*	*	*	*	***22.72***	*	*
As	*	*4.15*	*	*	***65.42***	*	*	*	*	*	***1.82***	***16.35***	*
Ba	-0.18	-1.26	*	-0.30	**0.82**	-1.13	0.01	*	0.13	**-2.62**	**0.18**	*	**-0.25**
Be	*	*	*	0.20	**-0.14**	-0.95	-0.70	*	*	**1.60**	**-2.26**	**-1.80**	*
Bi	*	3.01	*	*	*	*	-0.08	*	*	*	*	*	*
Cd	*	*56.67*	*	*-0.73*	***-3.26***	*	*	*	*	***-3.69***	***185.08***	*	*
Ce	*	-1.80	*	-0.61	**-0.07**	-1.28	-1.25	*	*	**-13.68**	**1.52**	**0.31**	**-1.44**
Co	2.66	1.04	*	-0.57	**0.31**	0.60	*	*	*	**-0.49**	**128.83**	*	**2.08**
Cr	*-1.29*	*-2.56*	*	*-0.49*	***2.96***	*	*0.59*	*	*-1.57*	***-2.25***	***-0.00***	*	***-1.43***
Cs	*	-1.06	*	0.16	**0.95**	-1.00	*	*	*	**-0.59**	**-0.87**	*	**0.67**
Cu	*-3.02*	*-1.66*	*	*1.98*	***3.24***	*	*1.06*	*	*	***24.60***	***-3.58***	*	*
Dy	*	*	*	-0.31	**0.28**	-1.83	1.38	*	*	**-2.01**	**-1.89**	**-0.65**	**-1.65**
Er	*	*	*	-0.16	**0.63**	-1.96	3.25	*	*	**-1.56**	**-1.84**	**-0.58**	**-1.79**
Eu	*	*	*	-0.29	**0.39**	-0.78	3.91	*	*	**-1.26**	**0.98**	**0.59**	**-0.39**
Ga	*	-0.25	*	0.14	**0.41**	*	*	*	*	*	**9.56**	*	**1.76**
Gd	*	*	*	-0.31	**0.36**	0.29	1.41	*	*	**-2.33**	**0.68**	**0.91**	**-0.88**
Ge	*	*	*	*	*	*	*	*	*	*	***3.90***	***-3.43***	*
Hf	*	-3.31	*	0.92	**-2.36**	*	*	*	*	**3.37**	**-3.89**	**-0.02**	**-2.10**
Ho	*	*	*	-0.33	**0.23**	*	0.47	*	*	**-1.33**	**-1.73**	**-1.31**	**-1.17**
In	*	*	*	*0.06*	***1.36***	*	*	*	*	***-0.33***	*	*	*
La	*	-2.57	*	-0.75	**0.68**	-1.20	-0.27	*	*	**-5.66**	**0.33**	**1.22**	**-1.35**
Li	1.01	*	*	-0.19	*	-1.28	2.54	*	*	**-0.21**	*	*	**1.88**
Lu	*	*	*	-0.19	**0.49**	-1.49	4.29	*	*	**-0.69**	**-2.40**	**-0.38**	**-1.82**
Mo	*	1.72	*	-0.11	*	0.55	0.57	*	*	*	**3.58**	*	*
Nb	*	-1.18	*	-0.51	**0.26**	*	*	*	*	**-0.73**	**6.64**	*	0.28
Nd	*	-2.05	*	-0.06	**0.58**	-0.33	-0.45	*	*	**-3.68**	**0.42**	**2.19**	**-0.44**
Ni	*-2.42*	*-2.84*	*	*0.09*	***0.09***	*-0.94*	*-1.53*	*	*-3.72*	***1.14***	***18.82***	*	***-1.60***
Pb	*	-0.23	*	-0.20	**2.31**	-1.22	*	*	0.23	**1.07**	**-0.37**	*	**0.21**
Pr	*	*	*	-0.41	**0.23**	-0.30	-0.26	*	*	**-3.67**	**-0.14**	**0.96**	**-0.91**
Rb	*	-0.64	*	-0.29	**0.23**	-1.82	*	*	*	**-5.32**	**4.60**	**0.59**	**0.64**
Sb	*	*	*	*1.03*	*	*	*	*	*	***6.72***	***53.36***	*	*
Sc	*	0.56	*	-0.36	**3.47**	-1.54	*	*	*	**-0.14**	**-1.67**	*	-0.84
Sm	*	-1.18	*	-0.53	**0.37**	-1.33	-0.38	*	*	**-2.92**	**0.45**	**0.43**	**-0.37**
Sn	*	2.71	*	-0.35	*	*	0.37	*	*	**-0.14**	**12.78**	**-1.22**	*
Sr	*	-0.62	*	-0.14	**0.35**	-1.57	-0.23	*	-0.92	*	**4.35**	*	**0.46**
Ta	*	-1.62	*	-0.19	**-8.60**	*	*	*	*	**0.00**	**13.61**	**-0.50**	0.19
Tb	*	*	*	-0.50	**0.57**	-1.09	1.96	*	*	**-1.59**	**-0.50**	**0.57**	**-0.80**
Th	0.55	0.05	*	-0.32	**0.00**	0.60	-0.59	*	*	*	**-0.44**	**0.74**	**-0.41**
Tl	*	2.39	*	-0.17	*	*	0.04	*	*	*	**0.72**	*	*
Tm	*	*	*	-0.22	**0.34**	*	0.59	*	*	**-1.02**	**-2.18**	*	**-1.62**
U	*	0.25	*	0.18	**1.61**	-1.32	1.27	*	*	**0.00**	**-2.11**	**-2.43**	**-1.67**
V	-2.53	-0.77	*	-0.27	**0.70**	*	0.42	*	2.65	**-1.13**	**-5.87**	*	**-0.28**
W	*	*	*	*0.06*	*	*	*	*	*	***2.35***	***8.07***	*	*
Y	*	0.79	*	-0.17	**0.87**	-2.26	0.38	*	*	**-2.31**	**50.52**	*	**-1.57**
Yb	*	-2.84	*	0.09	**0.84**	-2.32	0.71	*	*	**-0.78**	**-2.74**	**-0.38**	**-1.99**
Zn	-0.25	-1.02	*	-0.18	**-1.06**	0.64	2.40	*	-0.55	**2.03**	**10.78**	*	**1.44**
Zr	*	-0.53	*	3.52	**1.62**	*	*	*	-0.03	**6.67**	**0.42**	*	**-1.84**

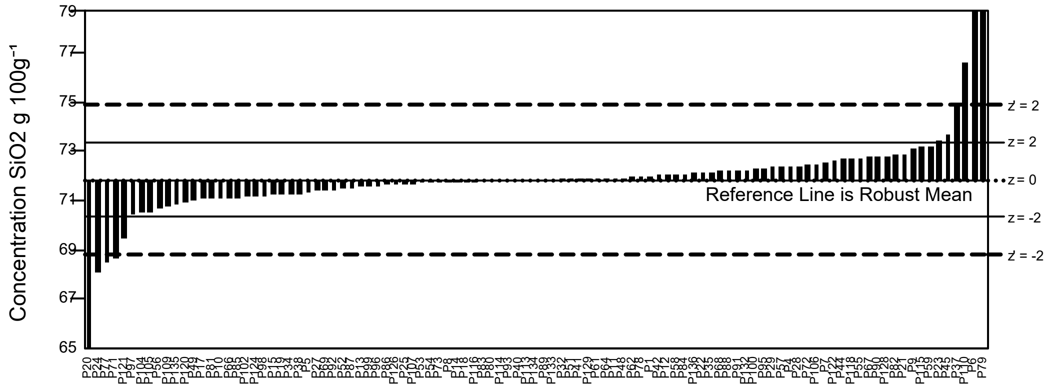
Bold entries are Data Quality 1 - Underlined entries are Data Quality 2 - *Entries in italics* are derived from Provisional Values.

Table 3 - GeoPT51A Z-scores for Granite, MEG-1. 15/06/2022 9

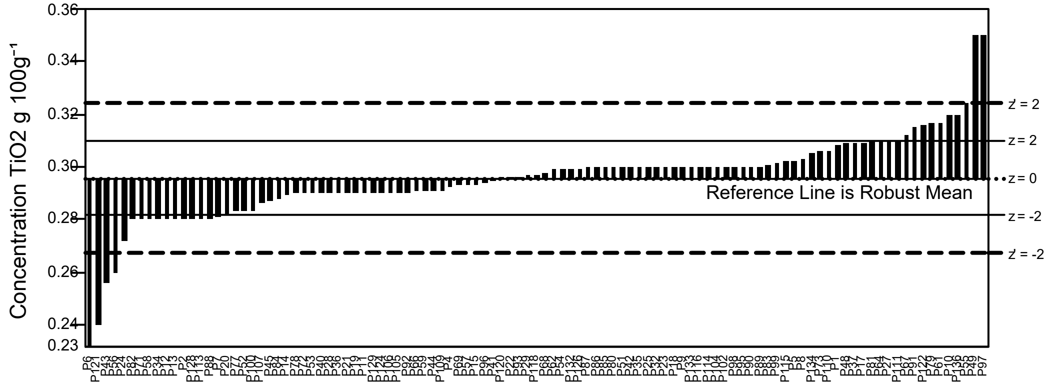
Lab Code	P128	P129	P131	P132	P133	P134	P135	P136
SiO2	0.62	0.03	*	**0.55**	-0.01	-0.02	-0.66	**0.35**
TiO2	-1.10	-0.40	*	**0.47**	0.30	0.66	*	**3.42**
Al2O3	-0.95	0.13	*	**-0.32**	0.05	0.19	-0.82	**0.74**
Fe2O3T	-1.53	-0.37	*	**0.46**	0.10	0.84	-1.07	**1.14**
MnO	0.00	0.00	*	**1.04**	0.00	1.91	*	**0.55**
MgO	*-0.87*	*-1.43*	*	***1.97***	*-0.31*	*3.01*	*	***-0.62***
CaO	-0.44	0.00	*	**0.84**	0.89	0.31	*	**-1.78**
Na2O	-0.58	-0.17	*	**-0.22**	0.58	-0.04	-1.25	**-1.00**
K2O	-1.26	-0.39	*	**1.01**	0.48	1.18	-1.87	**0.29**
P2O5	*-0.40*	*-0.53*	*	***-0.52***	*-0.53*	*-0.53*	*	***-0.52***
Ag	*	*	*	*	*	*1.51*	*	*
As	*0.10*	*	***2.32***	***3.32***	*	*1.41*	*	*
Ba	-0.62	0.13	**-3.09**	**-5.36**	0.13	2.13	*	*
Be	0.38	*	**0.66**	**-7.75**	*	-0.42	*	**-3.17**
Bi	0.09	*	**-0.75**	**-6.47**	*	0.67	*	**-0.45**
Cd	*0.41*	*	***13.86***	***-1.63***	*	*1.26*	*	*
Ce	-0.45	-0.56	**-13.90**	**-11.37**	-0.45	0.95	*	**-13.18**
Co	-0.06	*	**-3.32**	**-8.39**	*	-0.61	*	**-1.82**
Cr	*-1.22*	*-0.64*	***0.38***	***-15.58***	*-0.64*	*0.71*	*	*
Cs	-1.29	*	**-2.93**	**-5.68**	0.06	0.58	*	**-1.12**
Cu	*11.81*	*5.98*	***-0.57***	***-9.14***	*0.80*	*-0.36*	*	***-0.10***
Dy	-0.45	*	**-6.75**	**-4.00**	-0.45	0.76	*	**-5.66**
Er	-0.55	*	**-5.59**	**-3.57**	0.03	0.72	*	**-4.67**
Eu	0.10	*	**-4.56**	**-2.54**	-0.88	1.96	*	**-3.57**
Ga	-0.47	0.43	**-0.40**	**-7.71**	*	0.71	*	**-1.01**
Gd	-0.26	*	**-6.51**	**-3.27**	2.59	0.39	*	**-6.10**
Ge	*-0.40*	*	***8.68***	***11.55***	*	*2.83*	*	***4.54***
Hf	0.38	*	**4.73**	**-4.18**	*	0.54	*	**-0.16**
Ho	-0.51	*	**-5.11**	**-3.13**	0.19	0.33	*	**-3.79**
In	*	*	***6.55***	*	*	*-0.07*	*	*
La	-0.57	*	**-13.11**	**-5.83**	-0.27	2.49	*	**-12.06**
Li	-1.07	*	**-0.93**	**-11.68**	0.73	0.62	*	**-3.63**
Lu	0.39	*	**-4.05**	**-2.69**	0.39	-0.04	*	**-3.10**
Mo	0.08	*	**4.85**	**-3.41**	*	1.04	*	**0.51**
Nb	-0.88	0.89	**3.45**	**-2.53**	0.28	0.10	*	**0.95**
Nd	-0.37	*	**-10.66**	**-4.43**	0.39	1.57	*	**-9.70**
Ni	*0.66*	*	***-1.92***	***-9.15***	*-0.80*	*-0.51*	*	***1.16***
Pb	-0.06	0.23	**-10.80**	**-13.60**	0.23	2.24	*	**-7.05**
Pr	-0.48	*	**-9.42**	**-4.47**	-0.26	0.40	*	**-8.32**
Rb	-0.96	0.27	**-14.99**	**-14.73**	0.27	0.17	*	*
Sb	*3.23*	*	***1.72***	***1.32***	*	*-1.06*	*	*
Sc	0.56	*	**-7.16**	**-5.21**	-0.84	1.26	*	**-3.23**
Sm	-0.61	*	**-7.97**	**-3.83**	-0.89	0.70	*	**-7.10**
Sn	0.02	*	**5.17**	**-1.92**	*	0.38	*	**-0.72**
Sr	-0.29	0.34	**-13.78**	**-11.75**	0.11	0.25	*	*
Ta	-0.45	*	**-5.10**	**2.83**	*	-0.16	*	*
Tb	0.06	*	**-5.13**	**-2.78**	0.06	0.44	*	**-4.12**
Th	-0.71	-0.10	*	**-5.87**	-1.12	2.43	*	**-10.55**
Tl	-0.08	*	**-0.24**	**-3.43**	*	0.24	*	*
Tm	0.17	*	**-4.33**	**-2.74**	0.17	0.03	*	**-3.28**
U	-0.34	*	*	**-9.68**	0.69	0.07	*	**-8.11**
V	-0.84	*	**0.38**	**-2.70**	4.75	1.31	*	**-6.44**
W	*1.88*	*	*	***-3.15***	*	*-0.00*	*	*
Y	-1.06	0.30	**-9.77**	**-5.74**	-0.82	1.06	*	**-10.66**
Yb	-0.53	*	**-5.28**	**-3.49**	-0.53	0.62	*	**-4.47**
Zn	-0.13	0.08	**-11.60**	**-15.11**	0.08	0.17	*	**-5.60**
Zr	2.07	-0.27	**15.48**	*	-0.76	1.26	*	**-0.95**

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

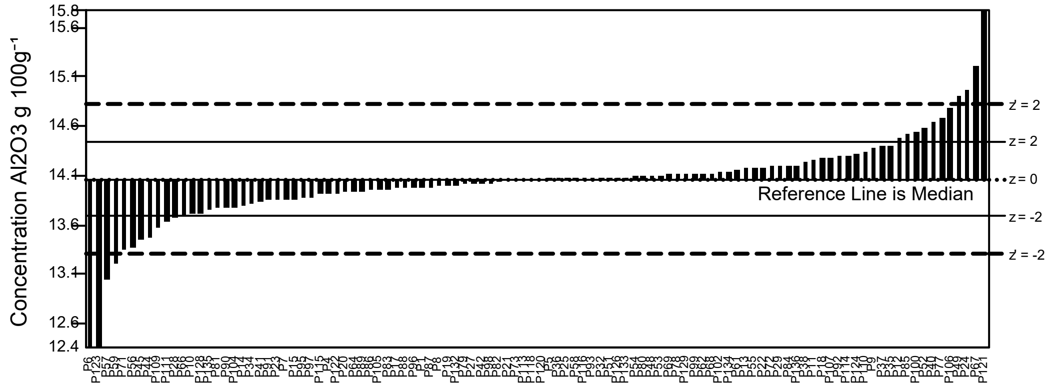
GeoPT51A - Barchart for SiO2



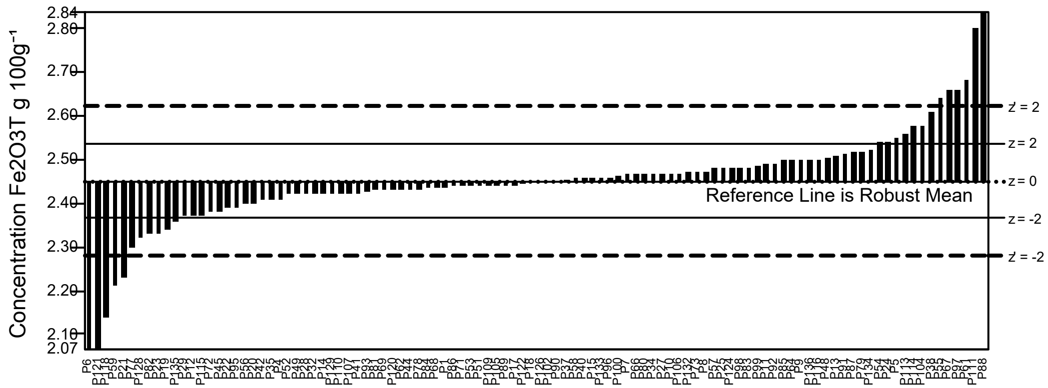
GeoPT51A - Barchart for TiO2



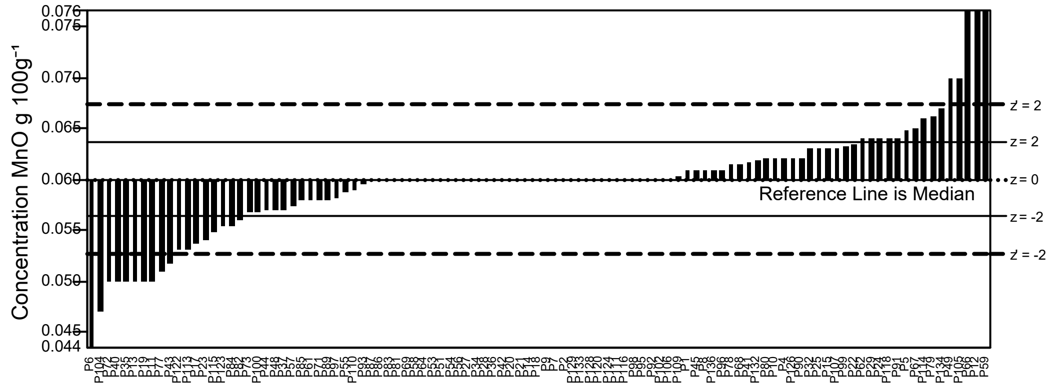
GeoPT51A - Barchart for Al2O3



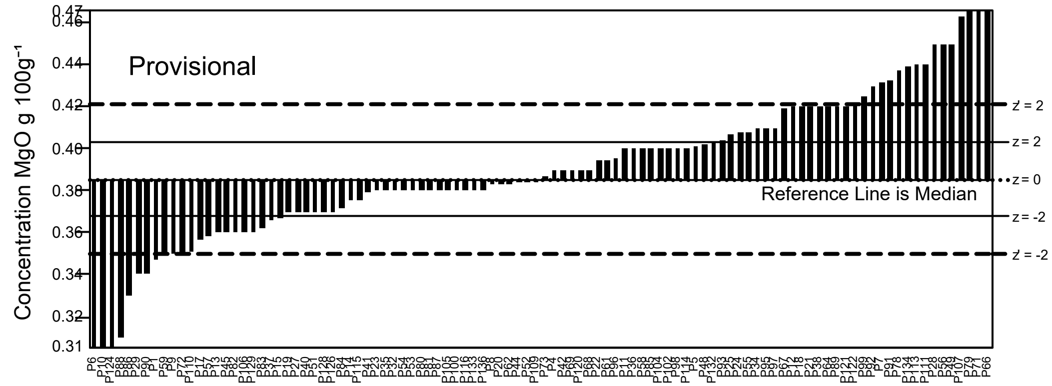
GeoPT51A - Barchart for Fe2O3T

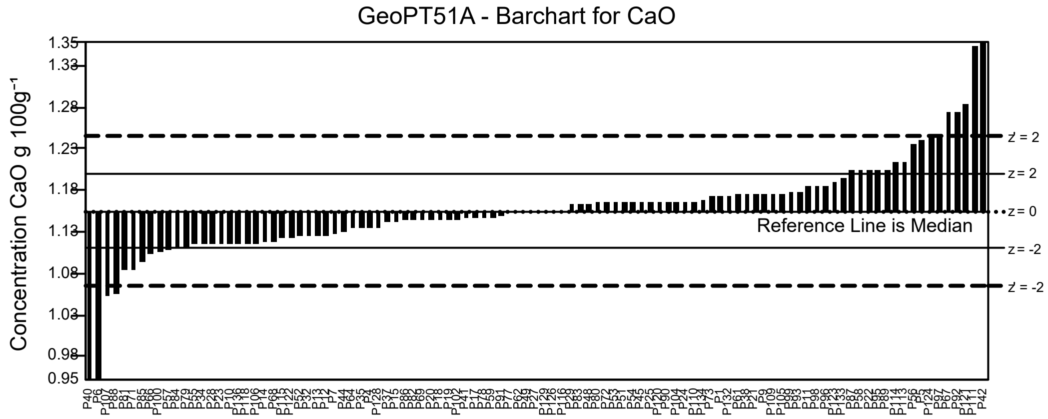


GeoPT51A - Barchart for MnO



GeoPT51A - Barchart for MgO




GeoPT51A - Barchart for CaO
Concentration CaO g 100g⁻¹
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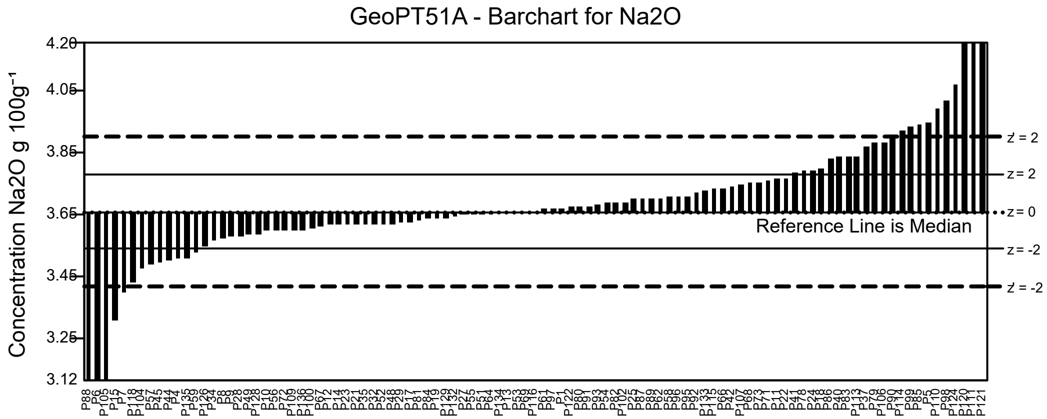
z = -2
Reference Line is Median


GeoPT51A - Barchart for Na2O
Concentration Na2O g 100g⁻¹
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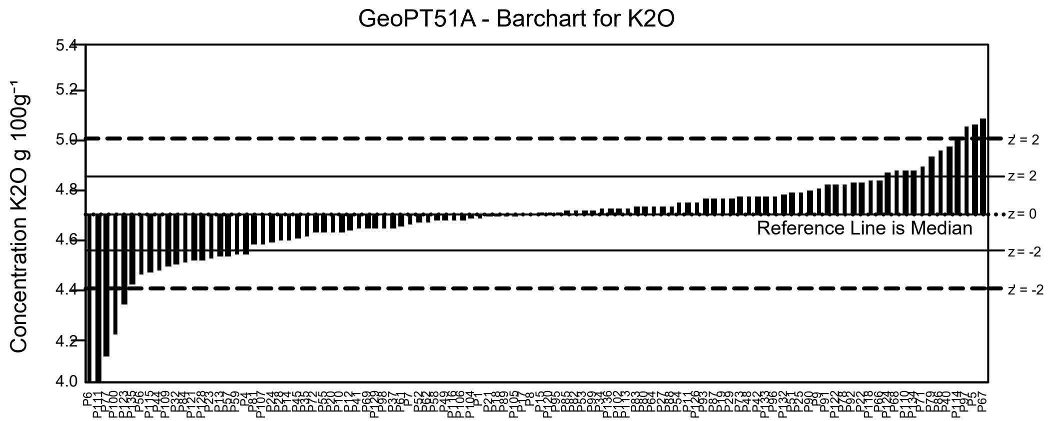
z = 0
z = -2
Reference Line is Median


GeoPT51A - Barchart for K2O
Concentration K2O g 100g⁻¹
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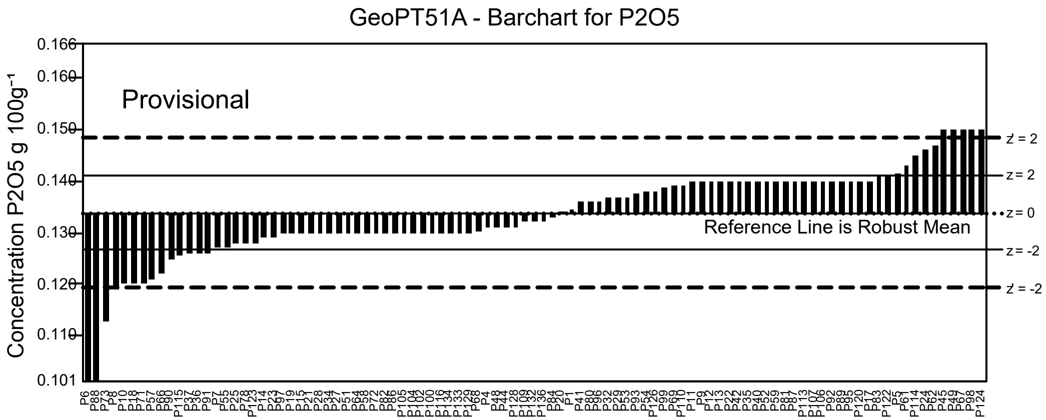
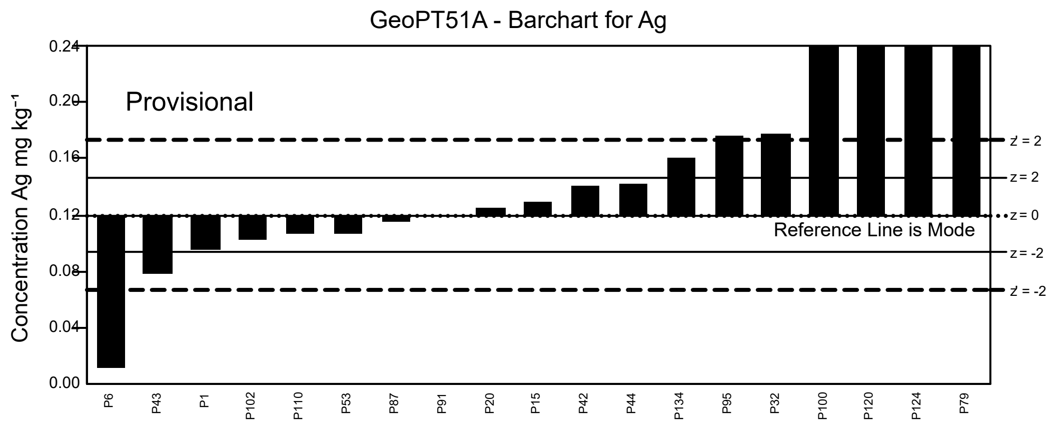
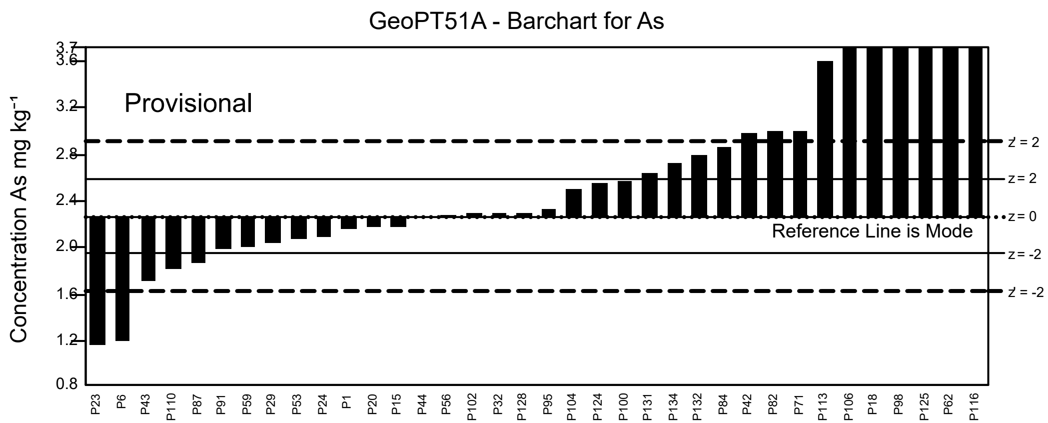
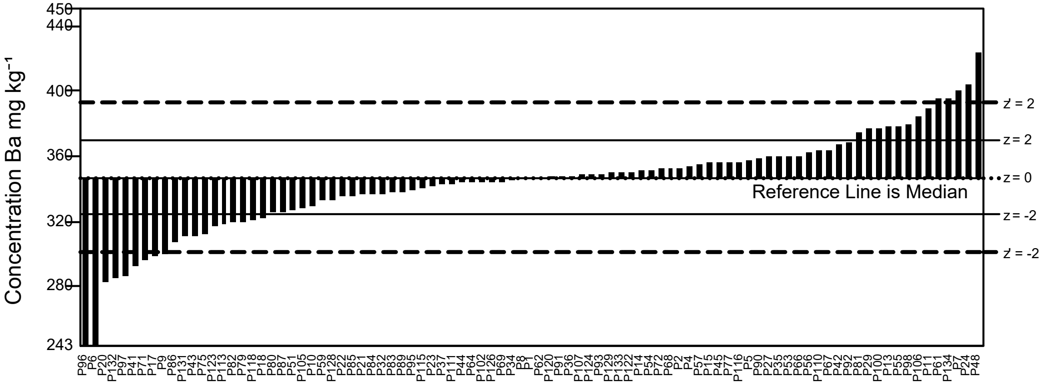
z = -2
Reference Line is Median


GeoPT51A - Barchart for P2O5
Provisional
Concentration P2O5 g 100g⁻¹
z = 2
z = 0
z = -2
Reference Line is Robust Mean

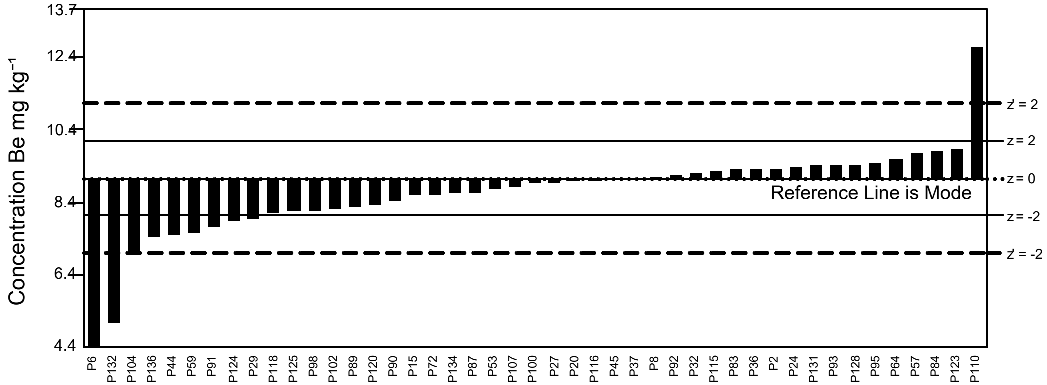

GeoPT51A - Barchart for Ag
Provisional
Concentration Ag mg kg⁻¹
z = 2
z = 0
z = -2
Reference Line is Mode
P6 P43 P1 P102 P110 P53 P87 P91 P20 P15 P42 P44 P134 P95 P32 P100 P120 P124 P79


GeoPT51A - Barchart for As
Provisional
Concentration As mg kg⁻¹
z = 2
z = 0
z = -2
Reference Line is Mode
P23 P6 P43 P110 P87 P91 P59 P29 P53 P24 P1 P20 P15 P44 P56 P102 P32 P128 P95 P104 P124 P100 P131 P134 P132 P84 P42 P82 P71 P113 P106 P18 P98 P125 P62 P116

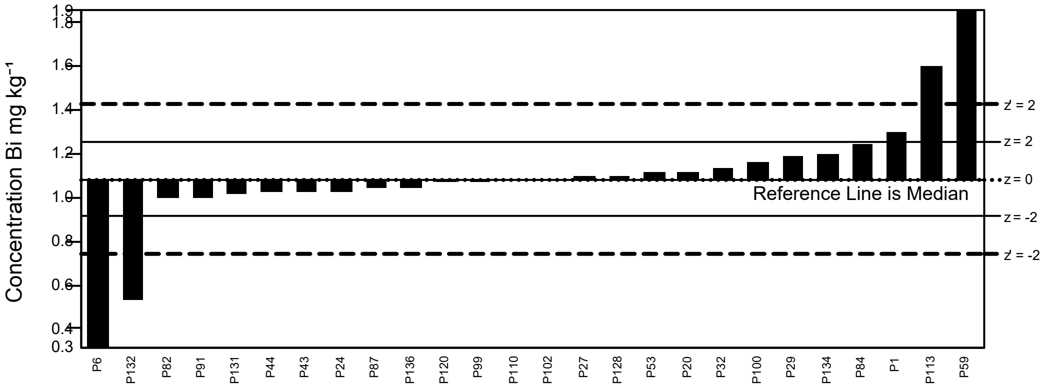
GeoPT51A - Barchart for Ba



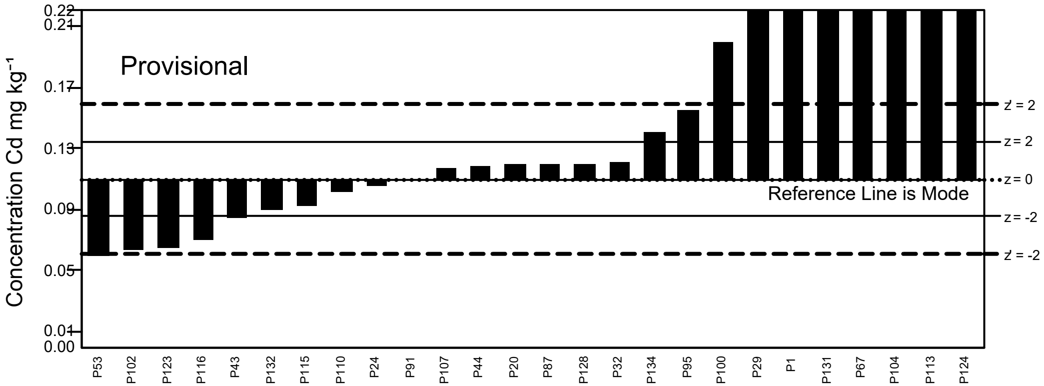
GeoPT51A - Barchart for Be



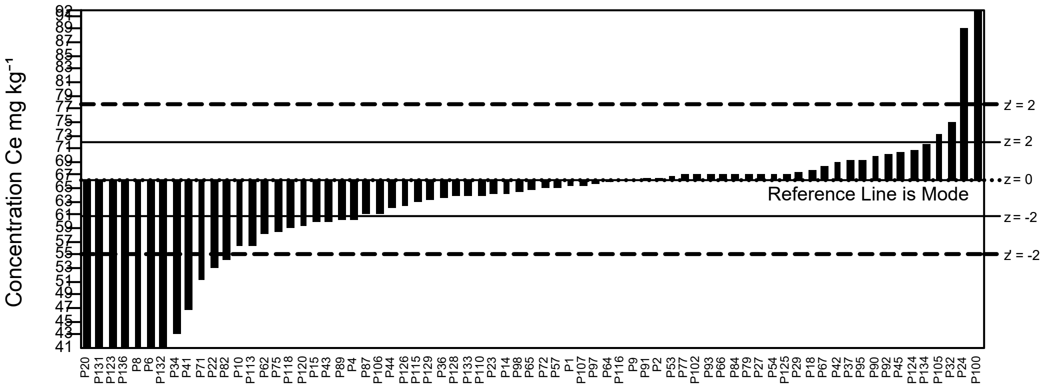
GeoPT51A - Barchart for Bi



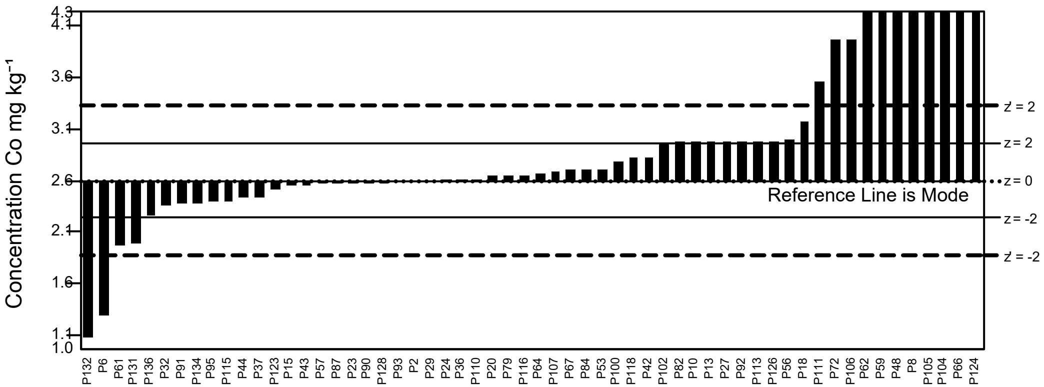
GeoPT51A - Barchart for Cd



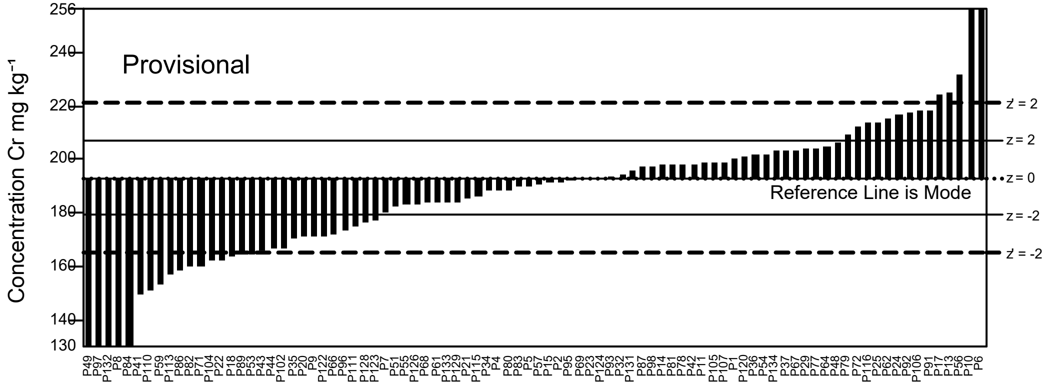
GeoPT51A - Barchart for Ce



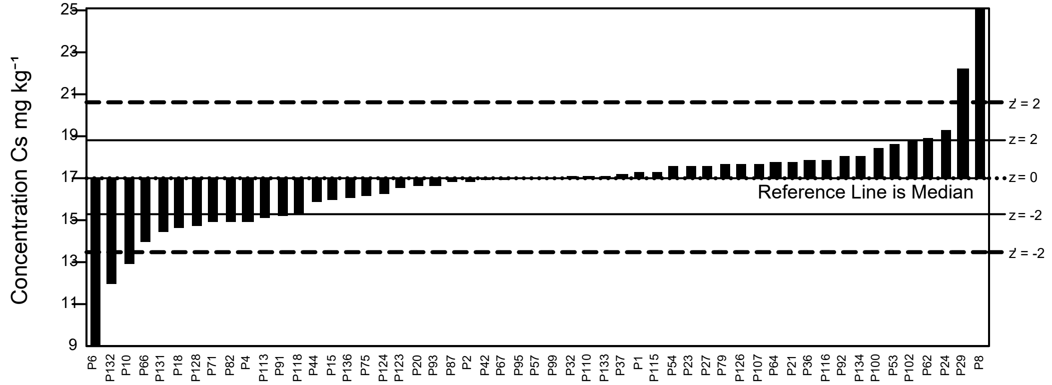
GeoPT51A - Barchart for Co



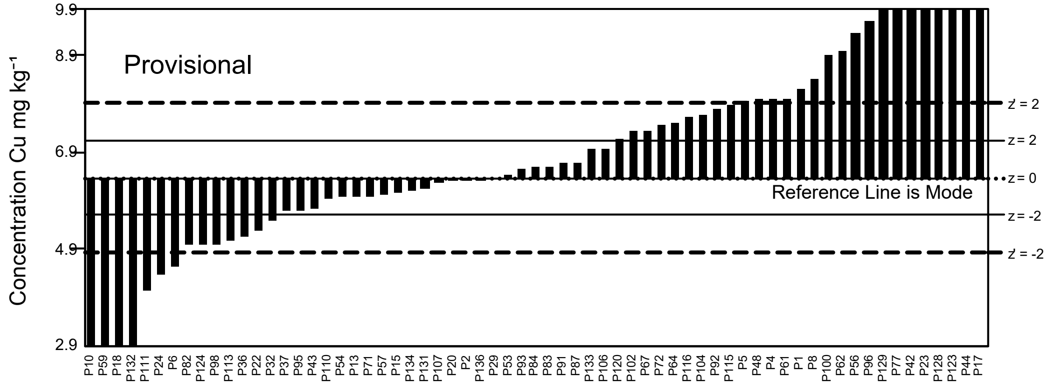
GeoPT51A - Barchart for Cr



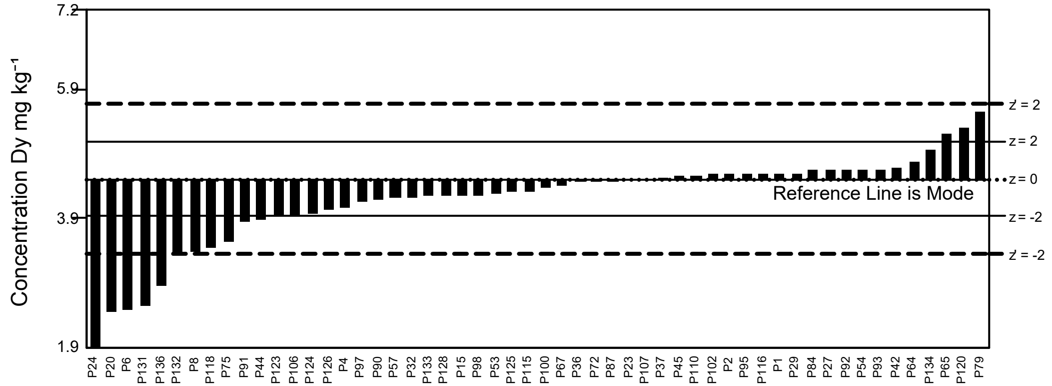
GeoPT51A - Barchart for Cs



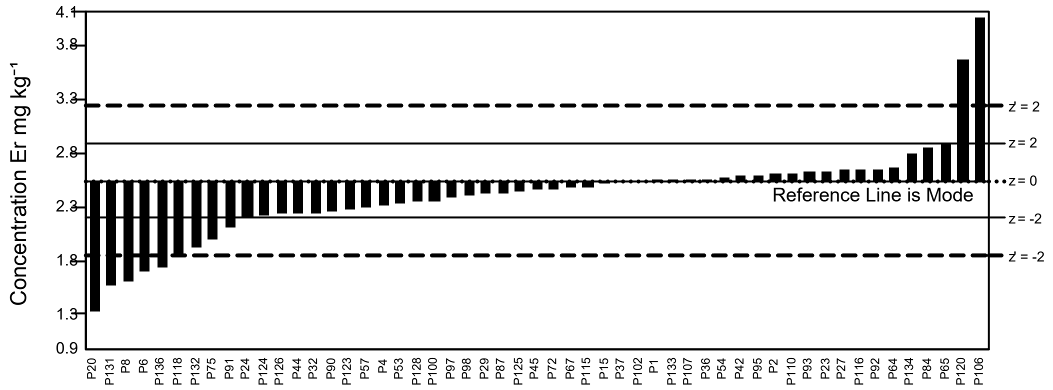
GeoPT51A - Barchart for Cu



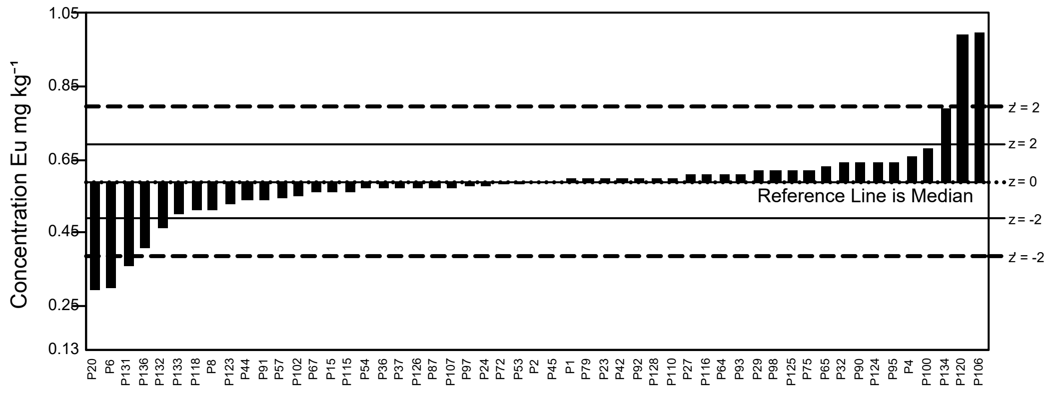
GeoPT51A - Barchart for Dy



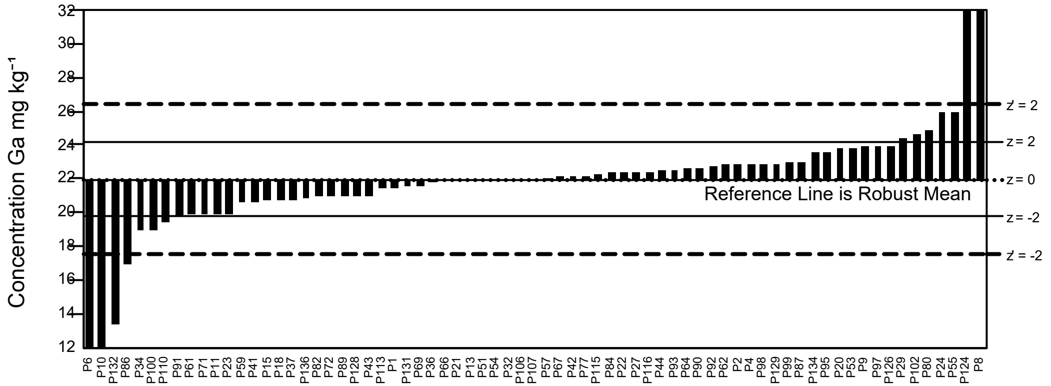
GeoPT51A - Barchart for Er



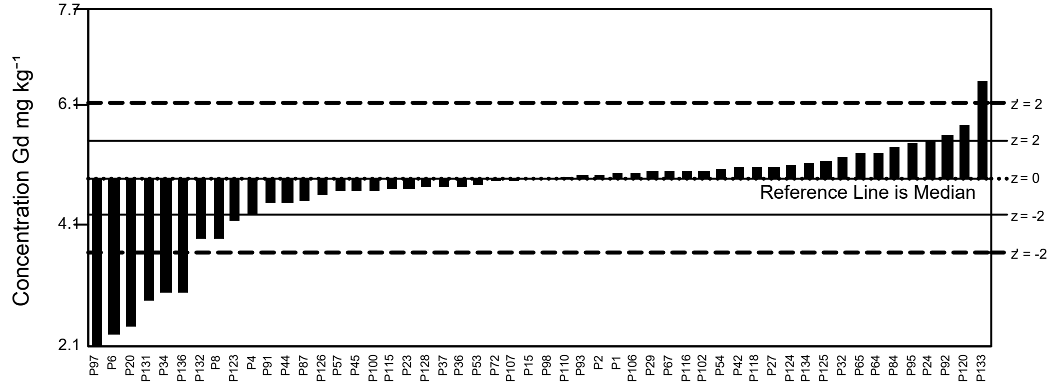
GeoPT51A - Barchart for Eu



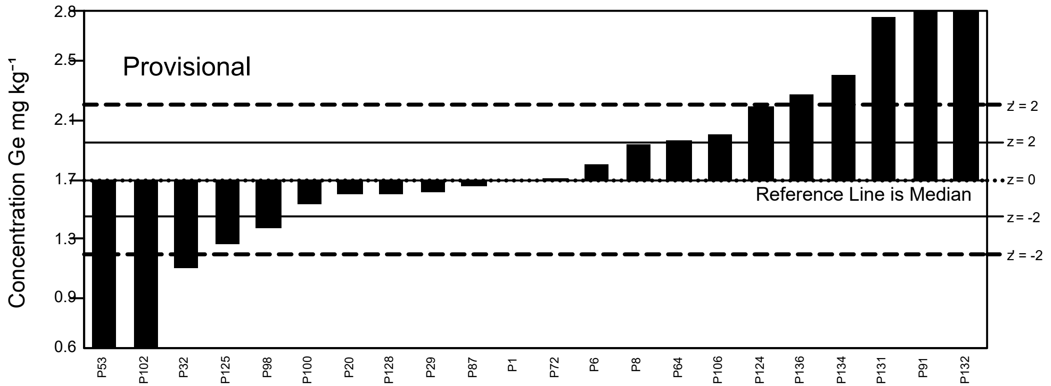
GeoPT51A - Barchart for Ga



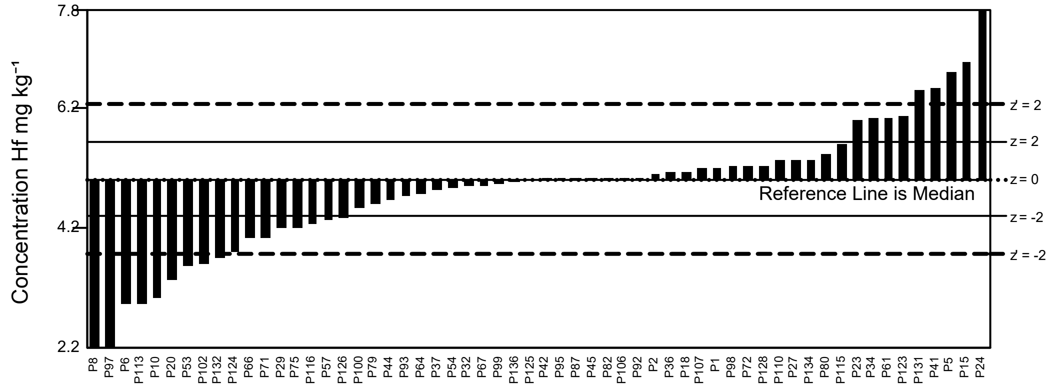
GeoPT51A - Barchart for Gd



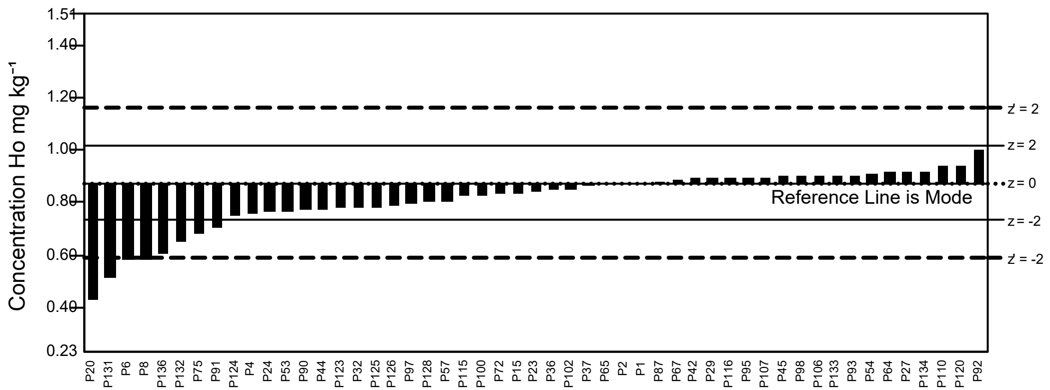
GeoPT51A - Barchart for Ge



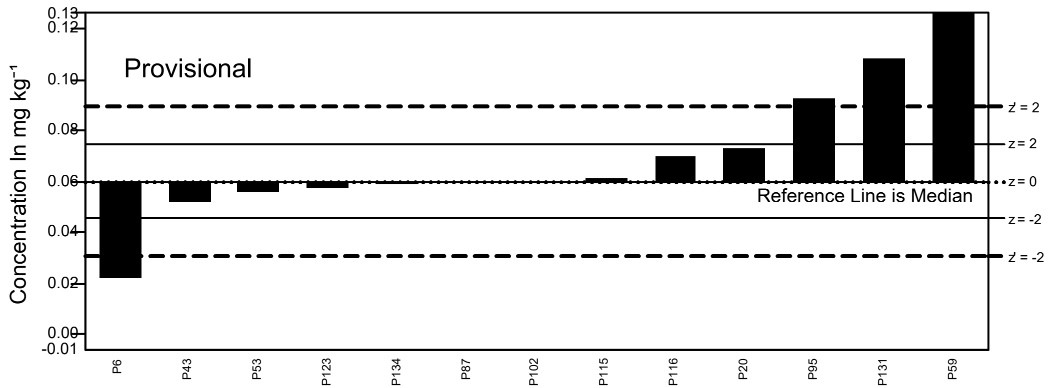
GeoPT51A - Barchart for Hf



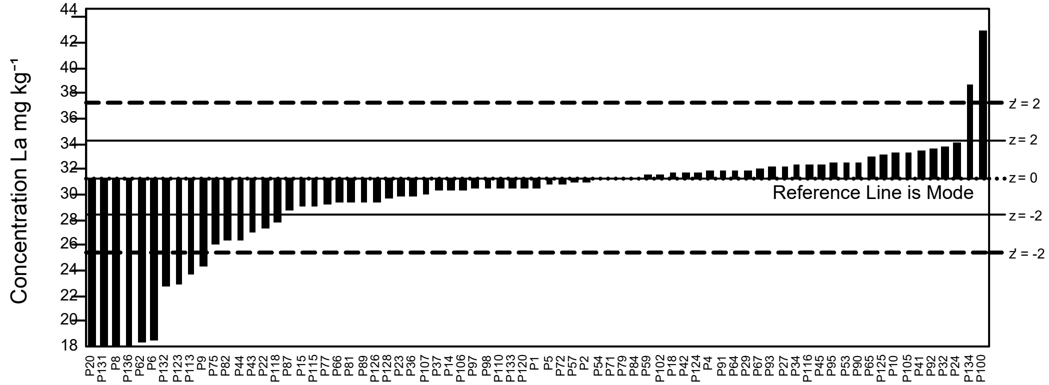
GeoPT51A - Barchart for Ho



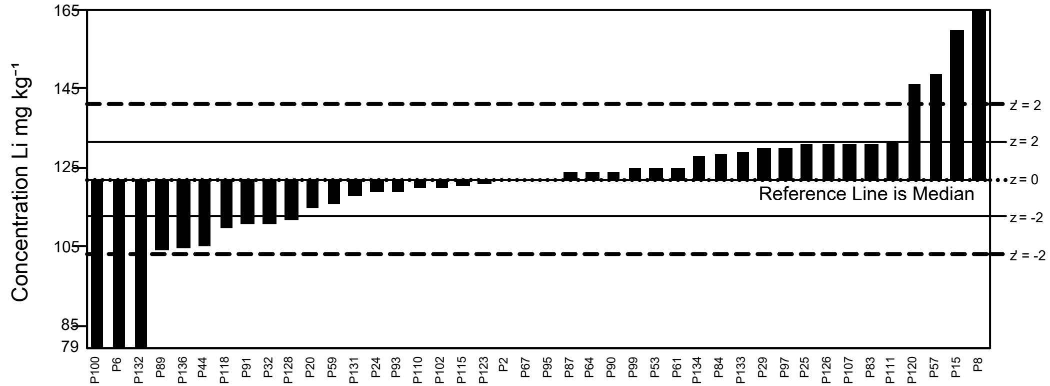
GeoPT51A - Barchart for In



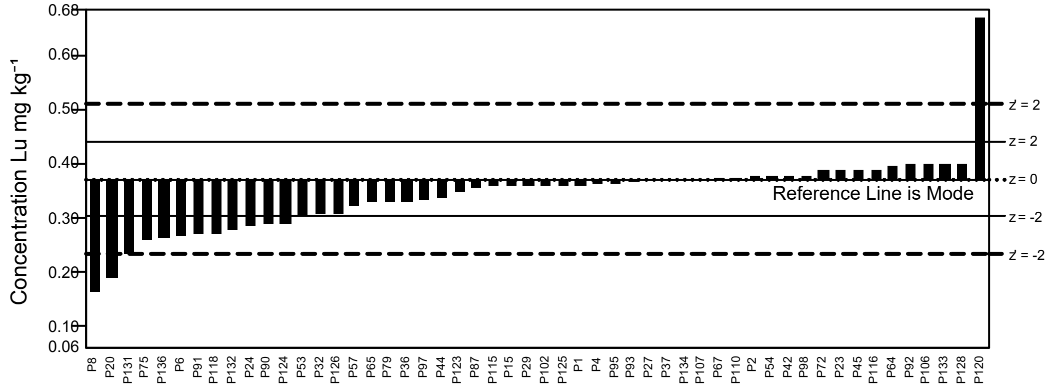
GeoPT51A - Barchart for La



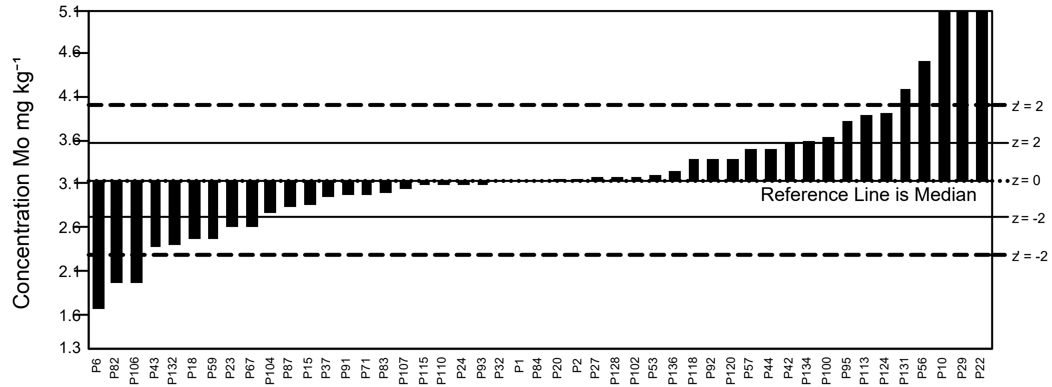
GeoPT51A - Barchart for Li



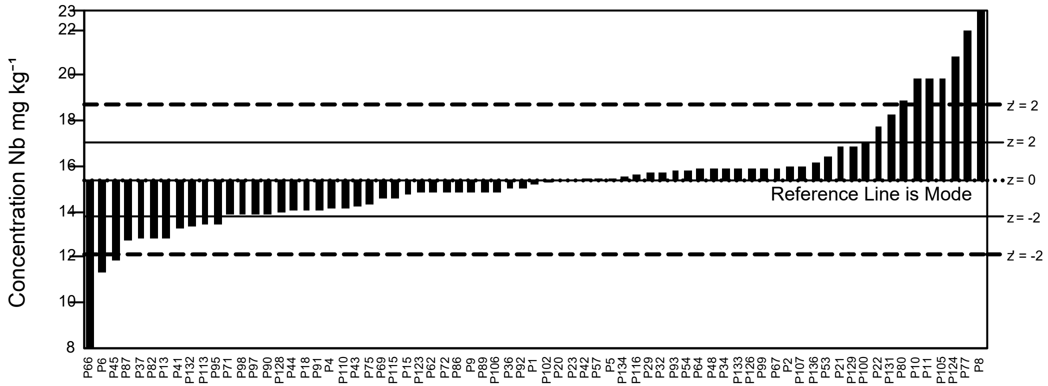
GeoPT51A - Barchart for Lu



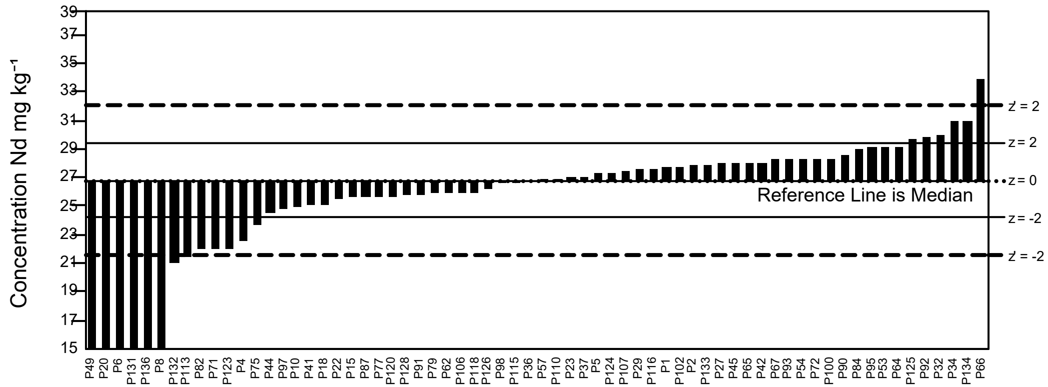
GeoPT51A - Barchart for Mo



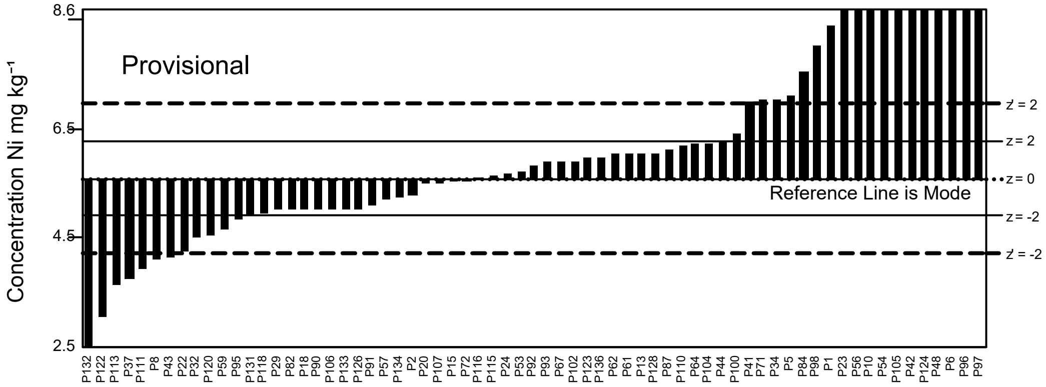
GeoPT51A - Barchart for Nb



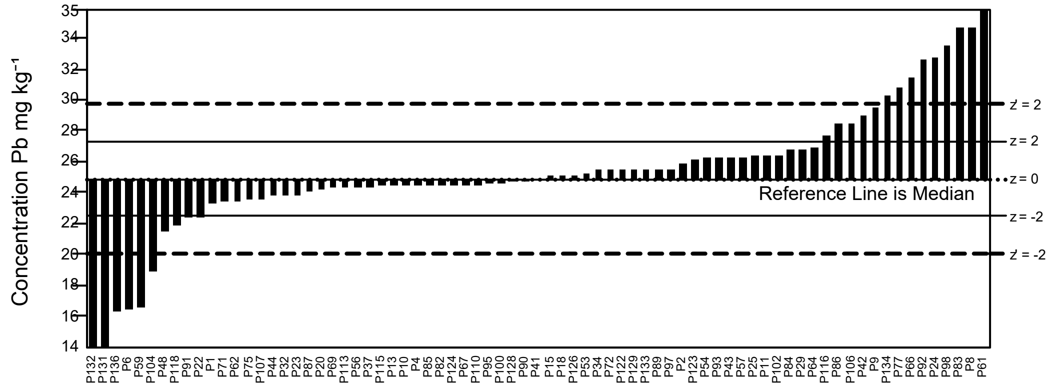
GeoPT51A - Barchart for Nd



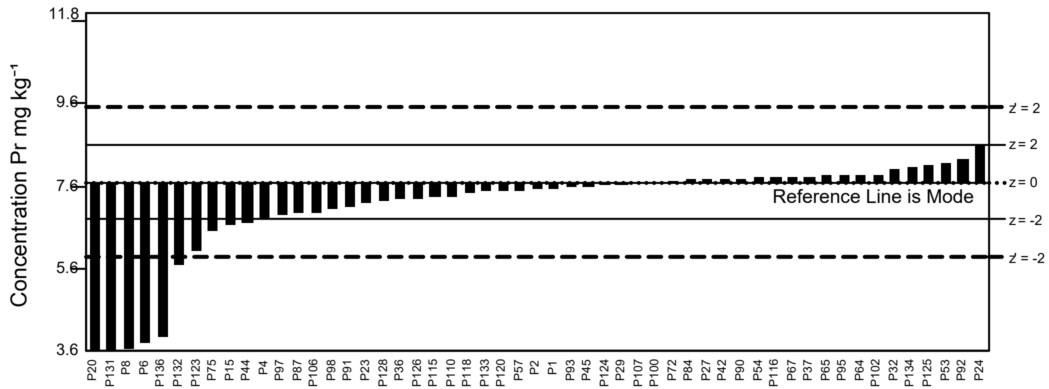
GeoPT51A - Barchart for Ni



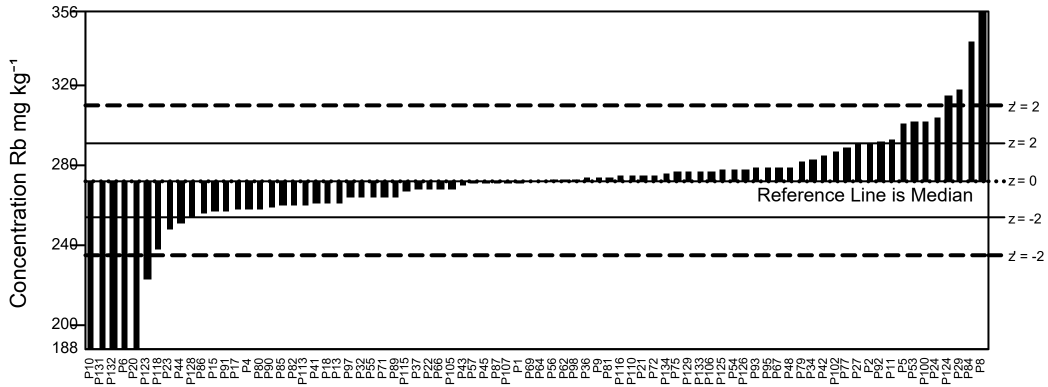
GeoPT51A - Barchart for Pb



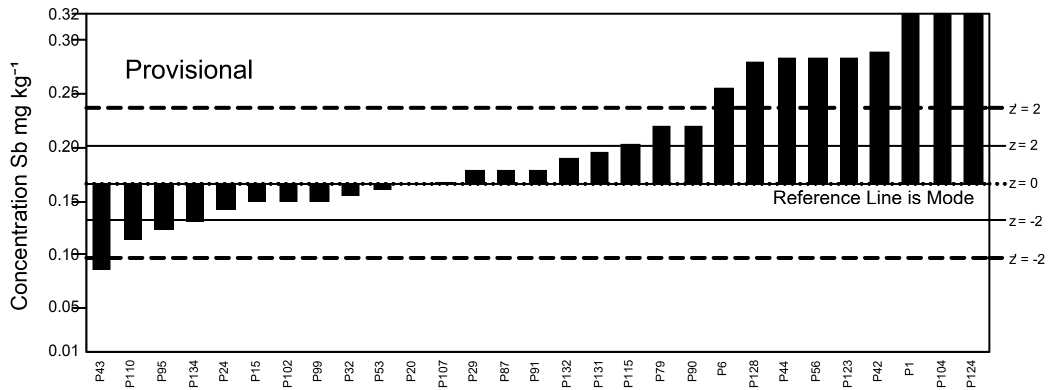
GeoPT51A - Barchart for Pr



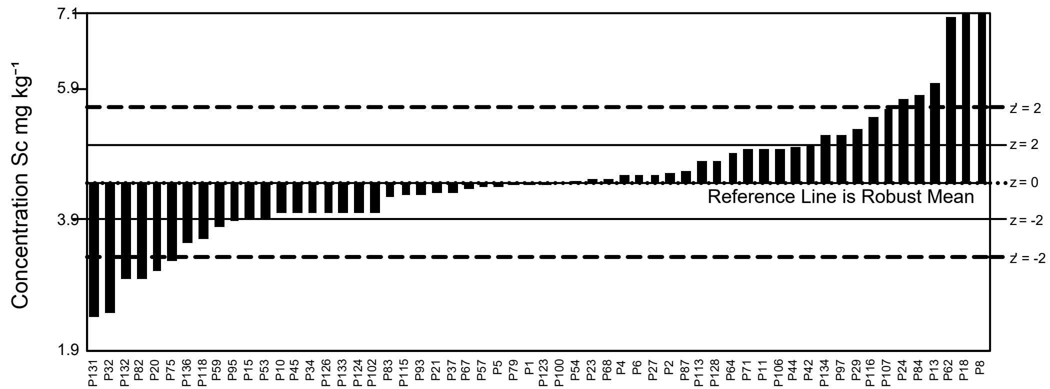
GeoPT51A - Barchart for Rb



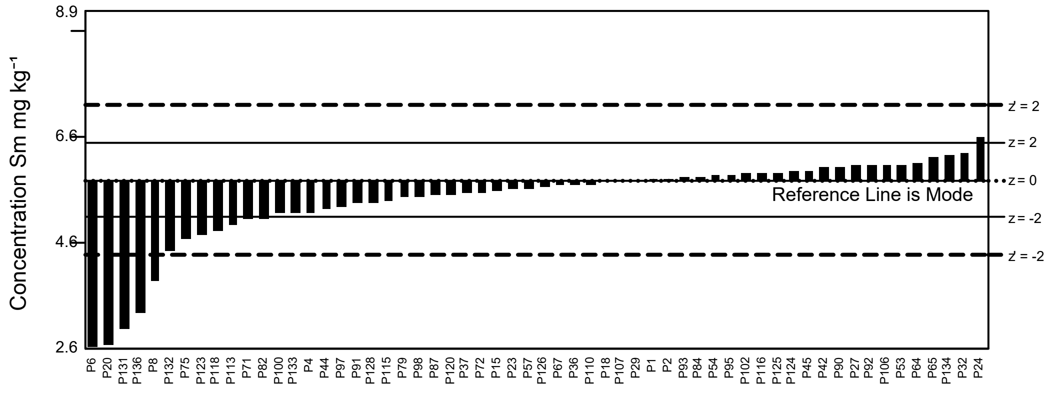
GeoPT51A - Barchart for Sb



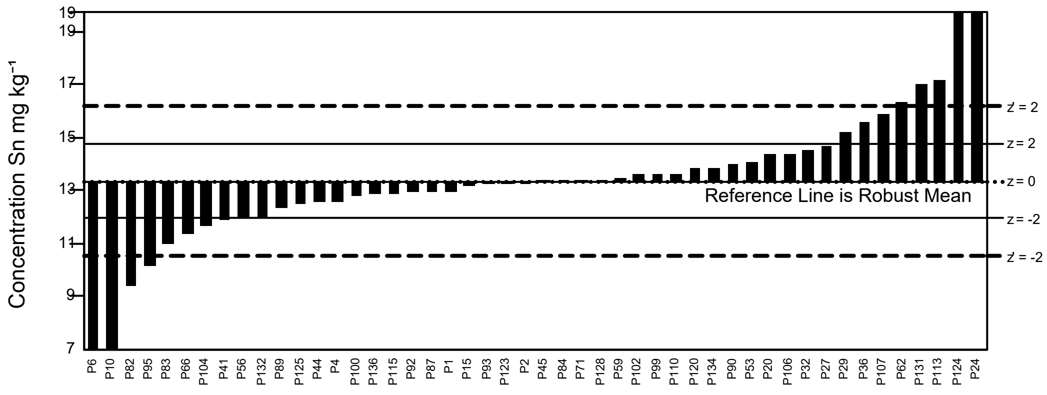
GeoPT51A - Barchart for Sc



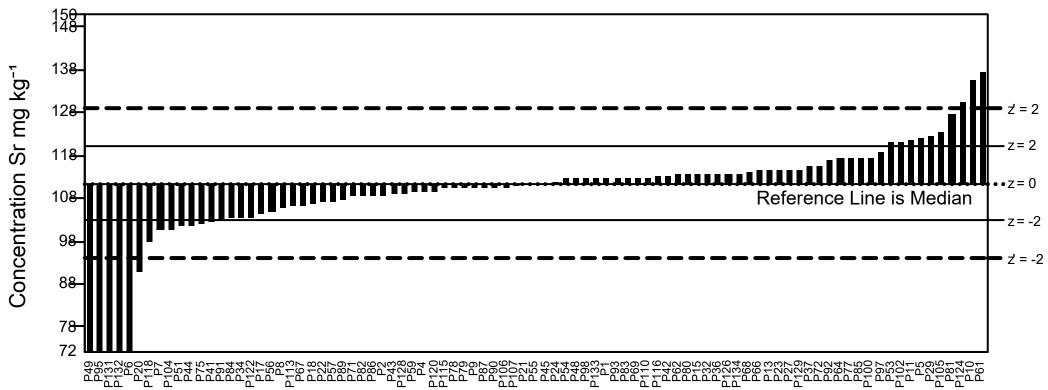
GeoPT51A - Barchart for Sm



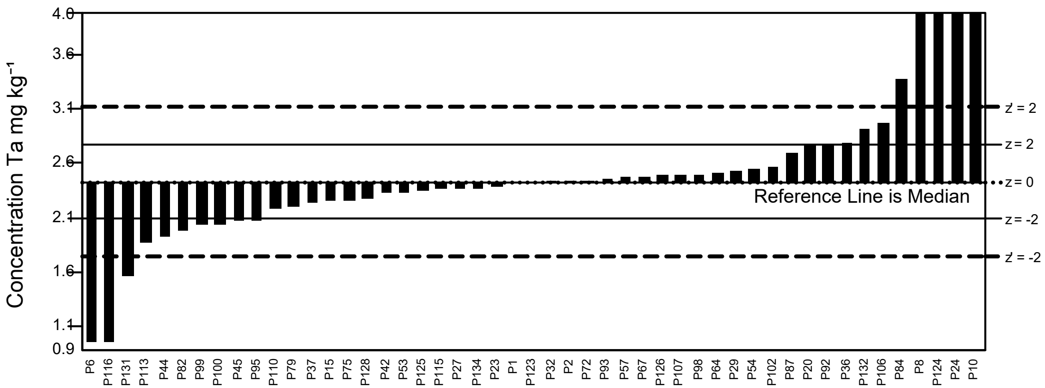
GeoPT51A - Barchart for Sn



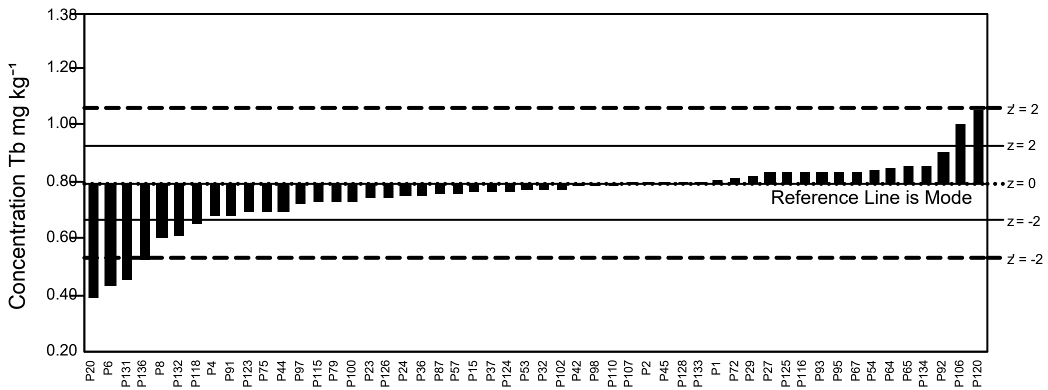
GeoPT51A - Barchart for Sr



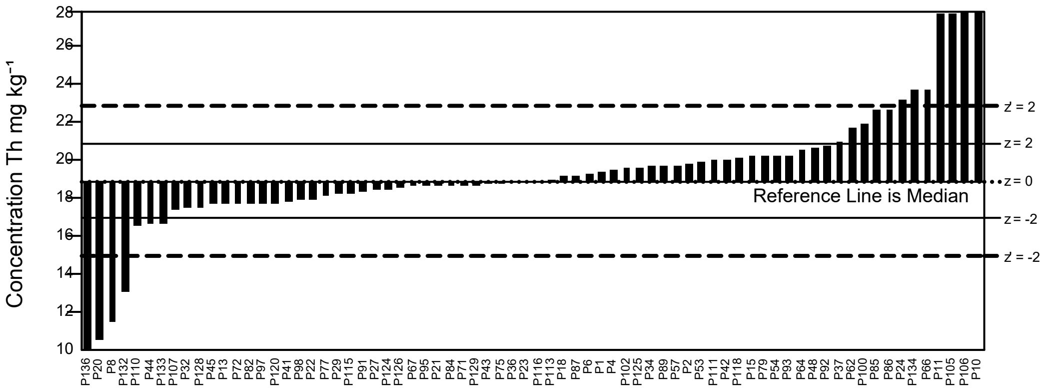
GeoPT51A - Barchart for Ta



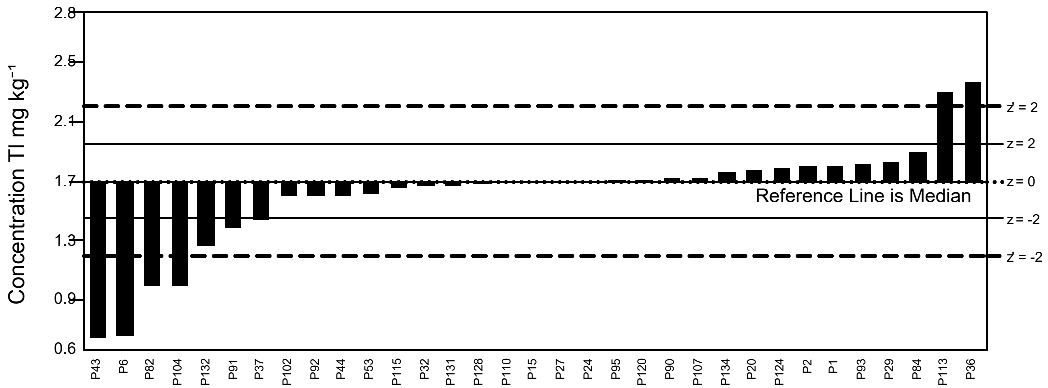
GeoPT51A - Barchart for Tb



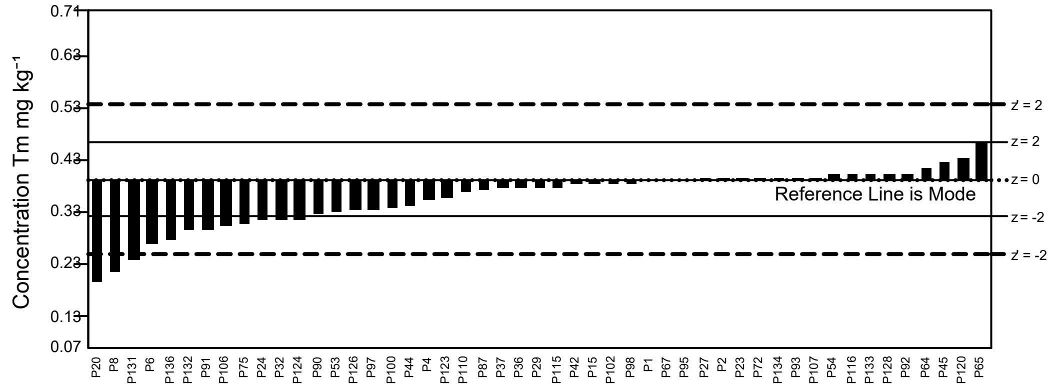
GeoPT51A - Barchart for Th



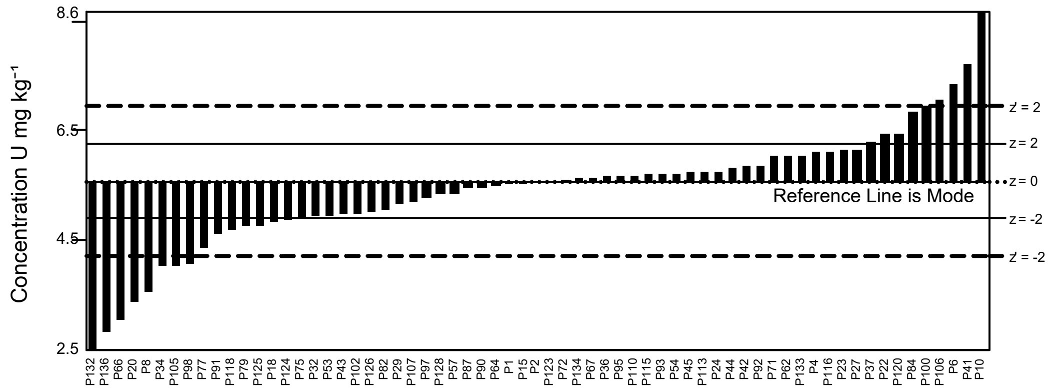
GeoPT51A - Barchart for Tl



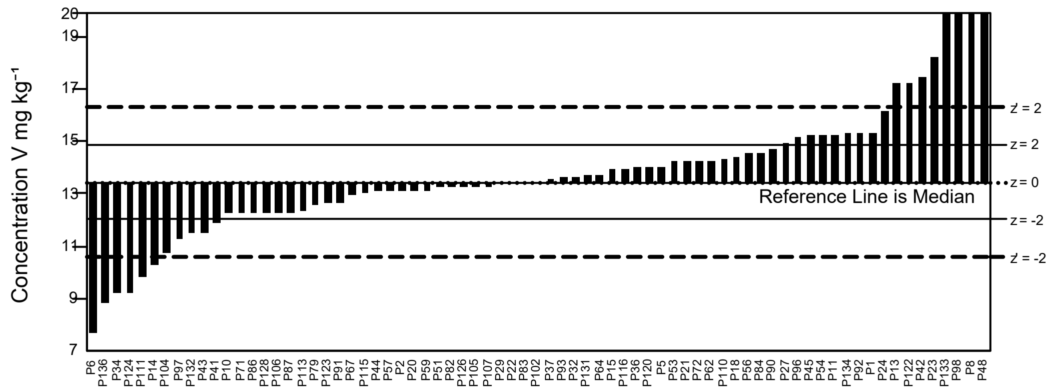
GeoPT51A - Barchart for Tm



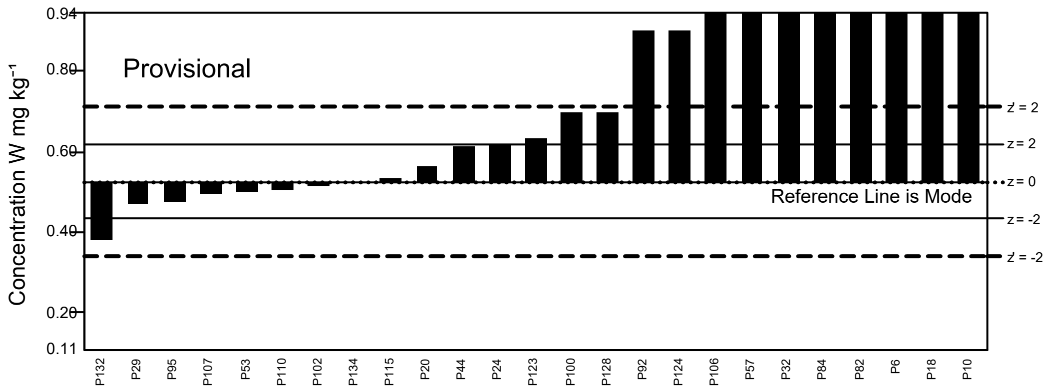
GeoPT51A - Barchart for U



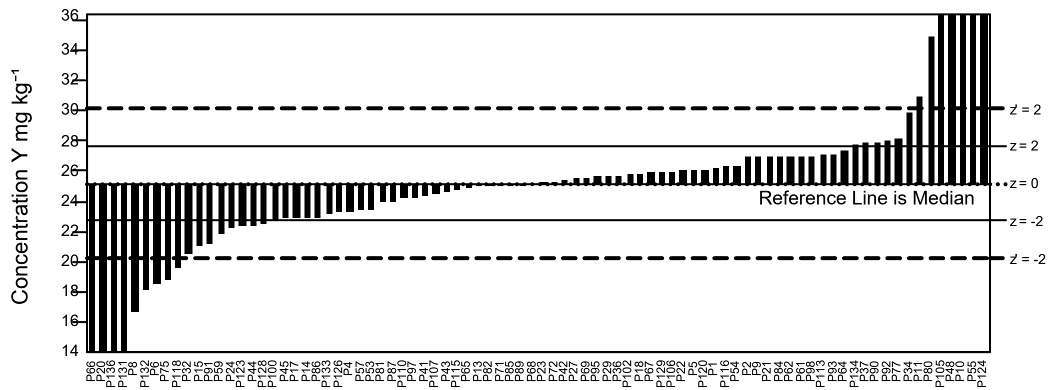
GeoPT51A - Barchart for V

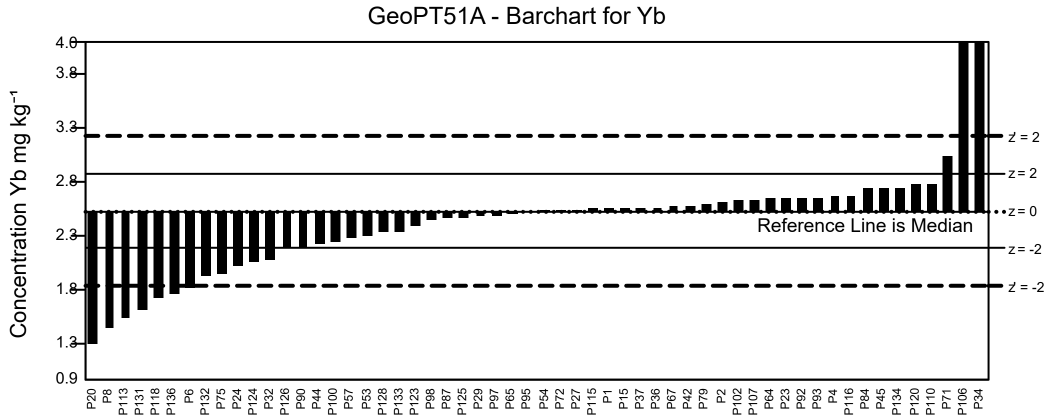


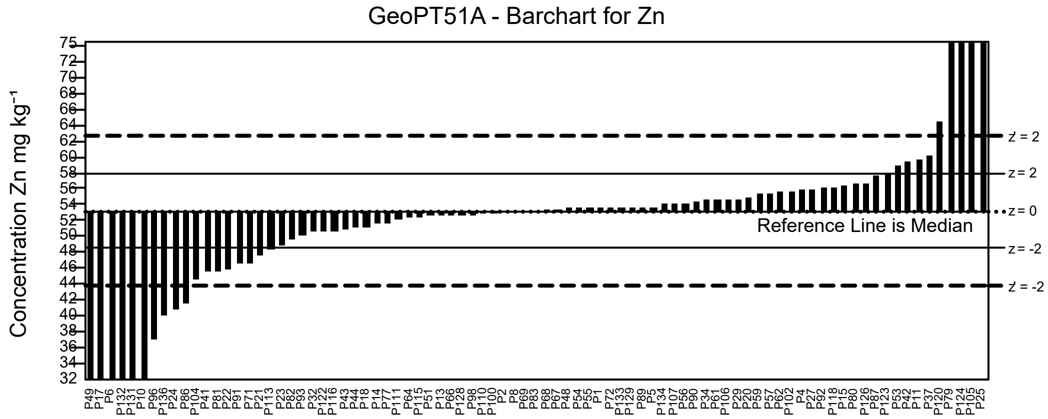
GeoPT51A - Barchart for W



GeoPT51A - Barchart for Y







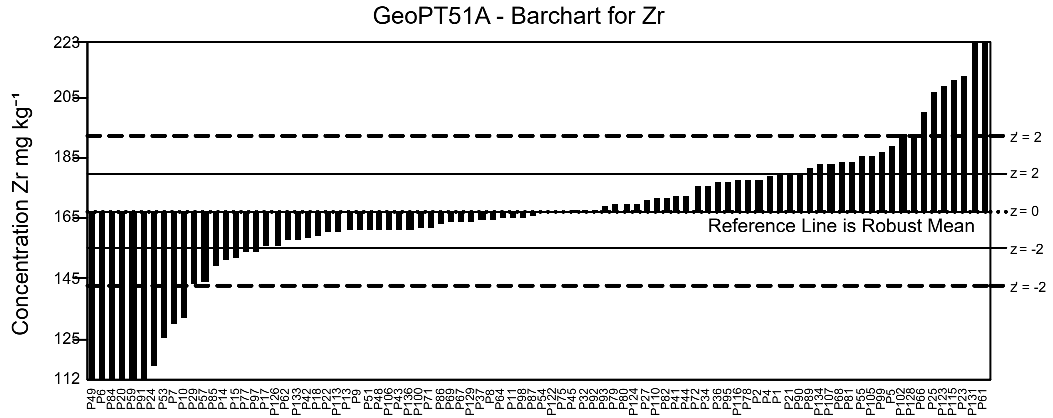
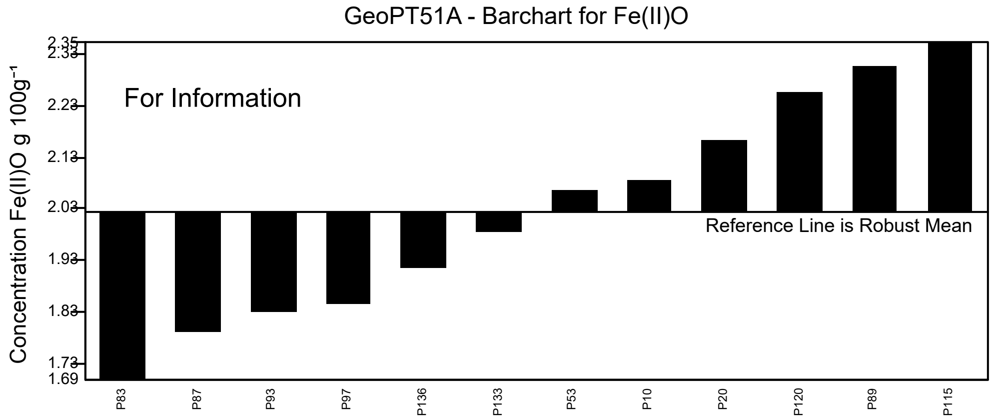
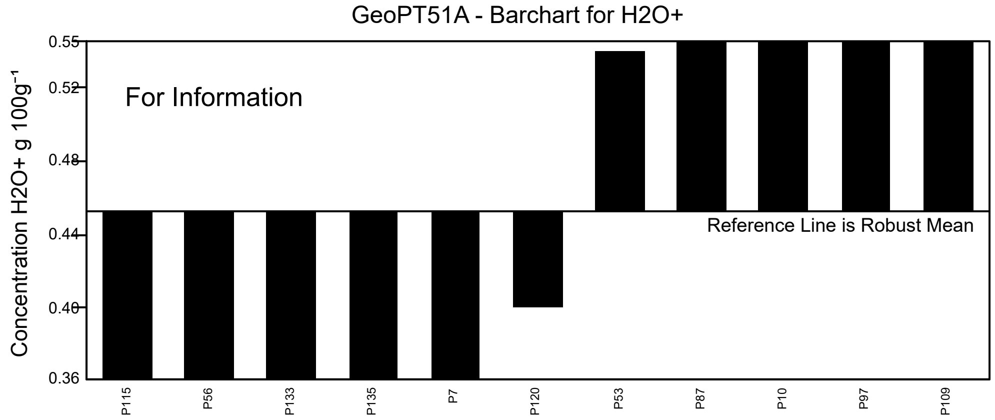
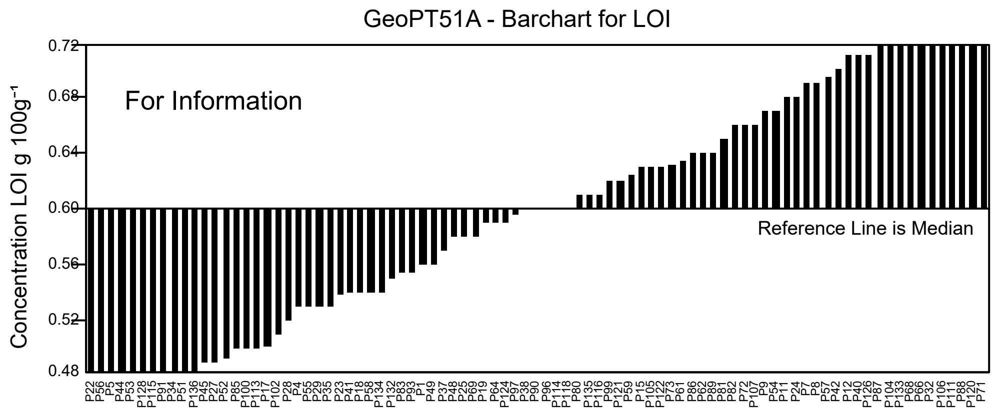
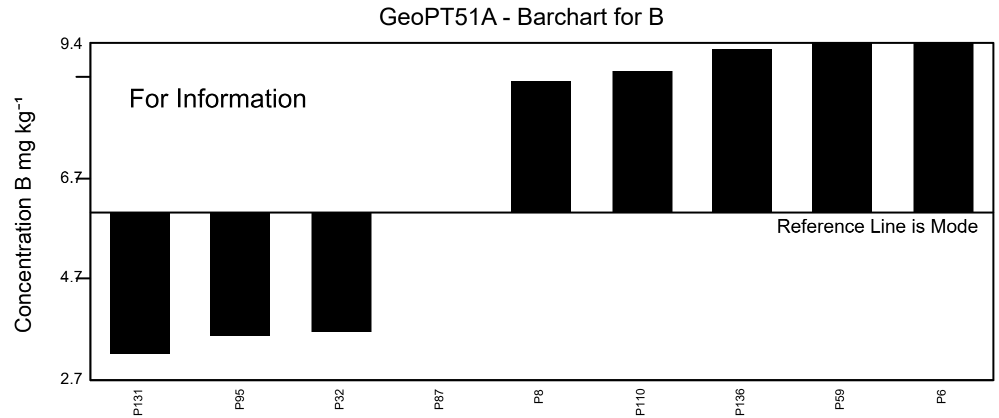


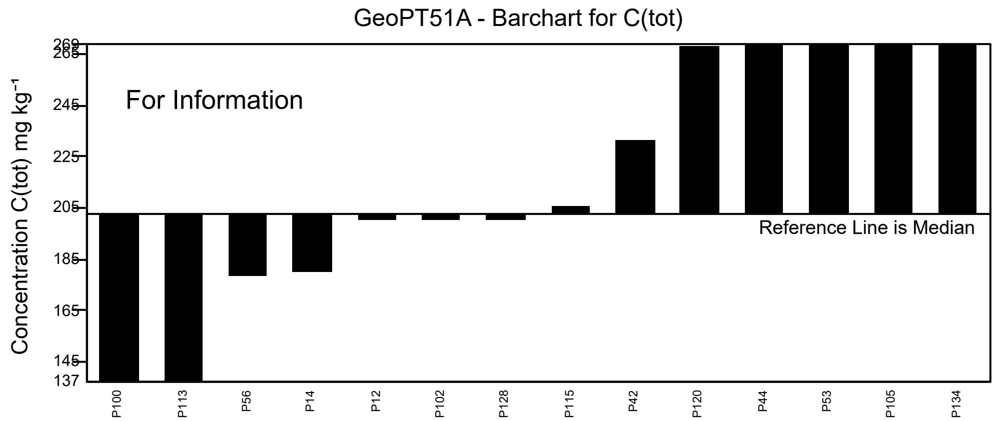
Figure 1: GeoPT51A - Granite, MEG-1. Data distribution charts for elements for which values were assigned or provisional values given for guidance. Horizontal lines show the limits for -2<z<2 for pure geochemistry labs (solid lines) and -2<z'<2 for applied geochemistry labs (pecked lines).

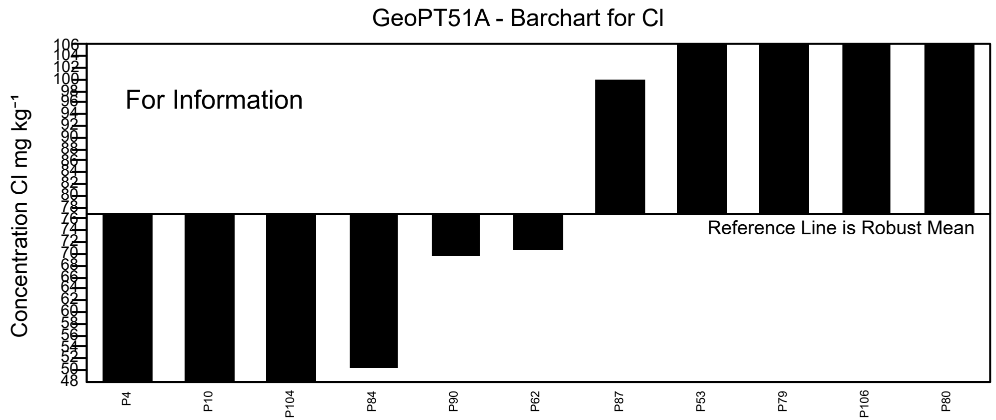

GeoPT51A - Barchart for Fe(II)O
For Information
Reference Line is Robust Mean
Concentration Fe(II)O g 100g⁻¹
P83 P87 P93 P97 P136 P133 P53 P10 P20 P120 P89 P115


GeoPT51A - Barchart for H2O+
For Information
Reference Line is Robust Mean
Concentration H2O+ g 100g⁻¹
P115 P56 P133 P135 P7 P120 P53 P87 P10 P97 P109


GeoPT51A - Barchart for LOI
For Information
Reference Line is Median
Concentration LOI g 100g⁻¹


GeoPT51A - Barchart for B
For Information
Reference Line is Mode
Concentration B mg kg⁻¹
P131 P95 P32 P87 P8 P110 P136 P59 P6


GeoPT51A - Barchart for C(tot)
For Information
Reference Line is Median
Concentration C(tot) mg kg⁻¹
P100 P113 P56 P14 P12 P102 P128 P115 P42 P120 P44 P53 P105 P134


GeoPT51A - Barchart for Cl
For Information
Reference Line is Robust Mean
Concentration Cl mg kg⁻¹
P4 P10 P104 P84 P90 P62 P87 P53 P79 P106 P80

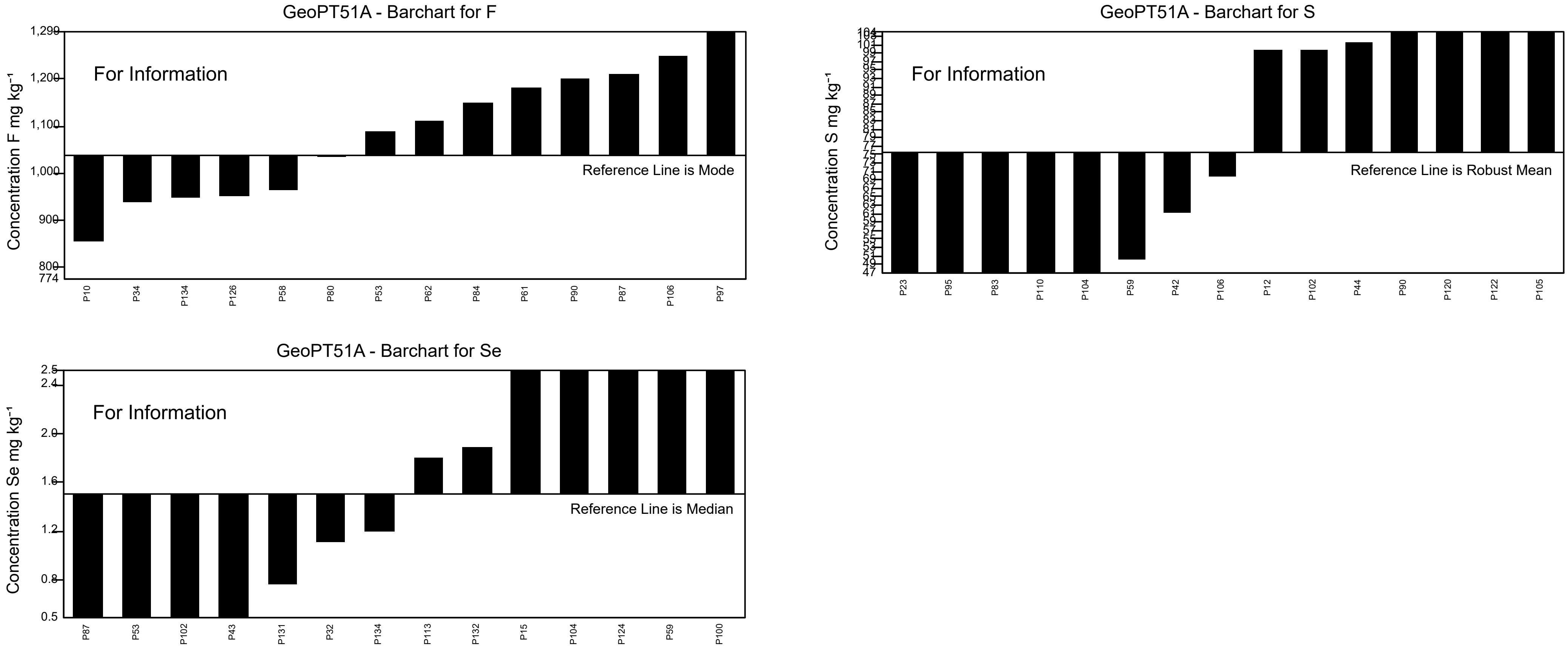
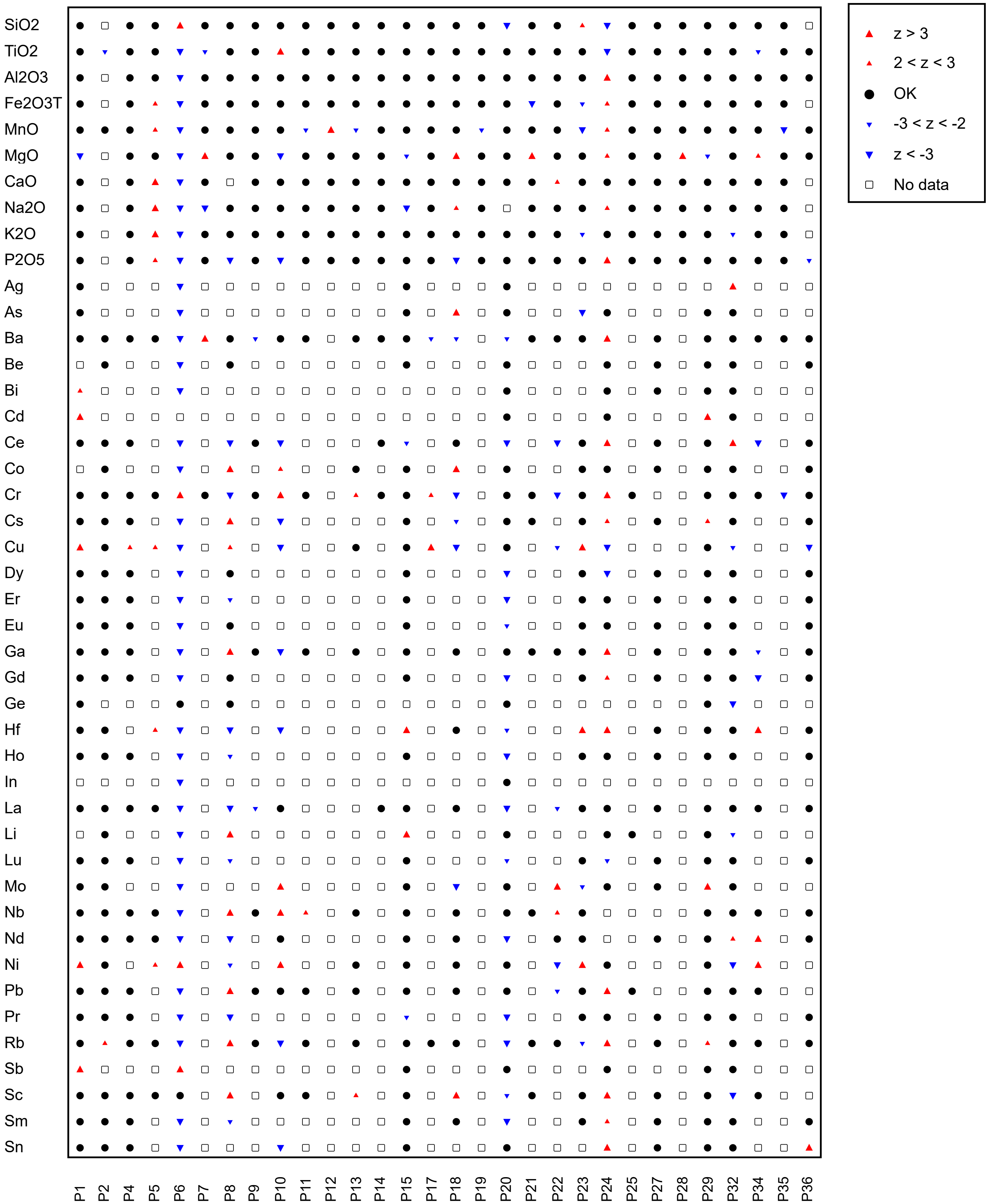


Figure 2: GeoPT51A - Granite, MEG-1. Data distribution charts provided for information only for elements for which values could not be assigned.

Multiple Z-Score Chart for GeoPT51A



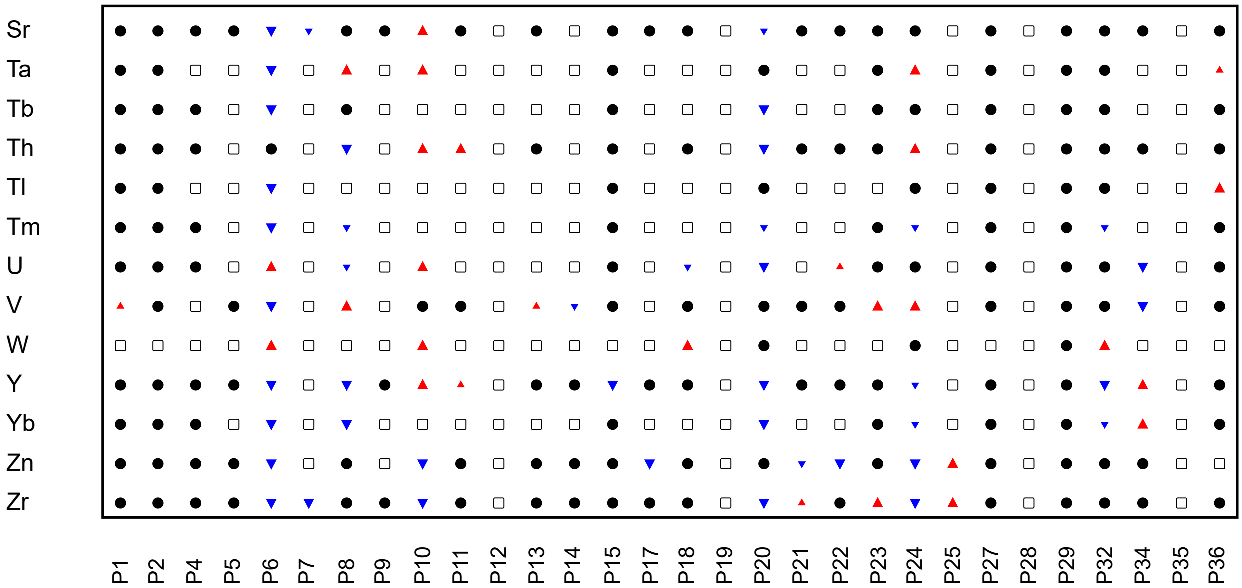
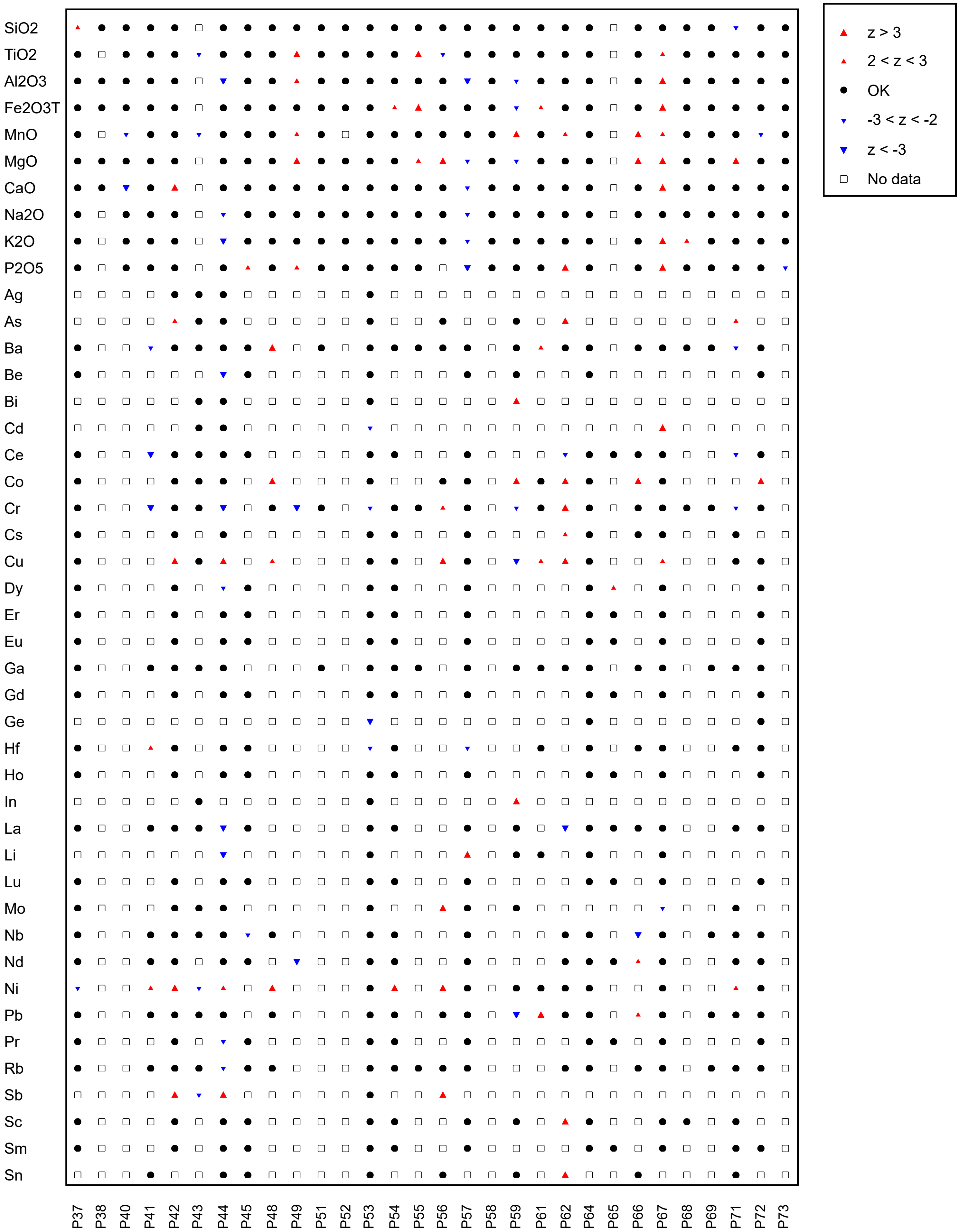


Figure 3: GeoPT51A - Granite, MEG-1. Multiple z-score charts for laboratories participating in the GeoPT51 A round. Symbols indicate whether or not an elemental result complies with the -2<z<+2 criteria (see key).

Multiple Z-Score Chart for GeoPT51A



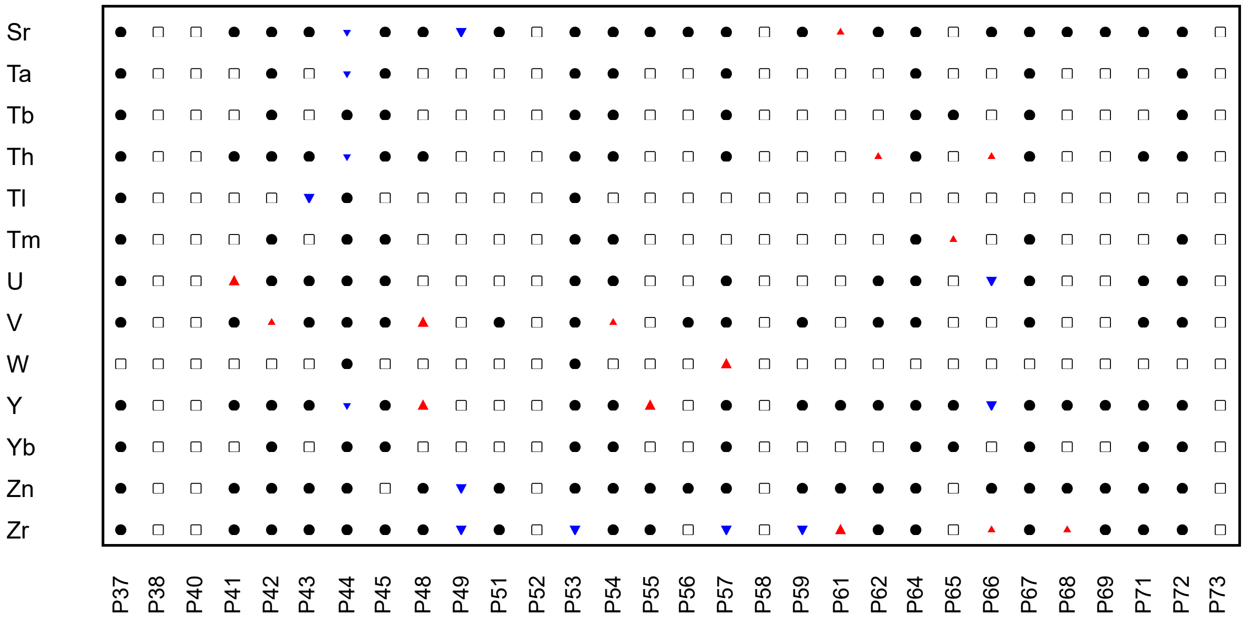
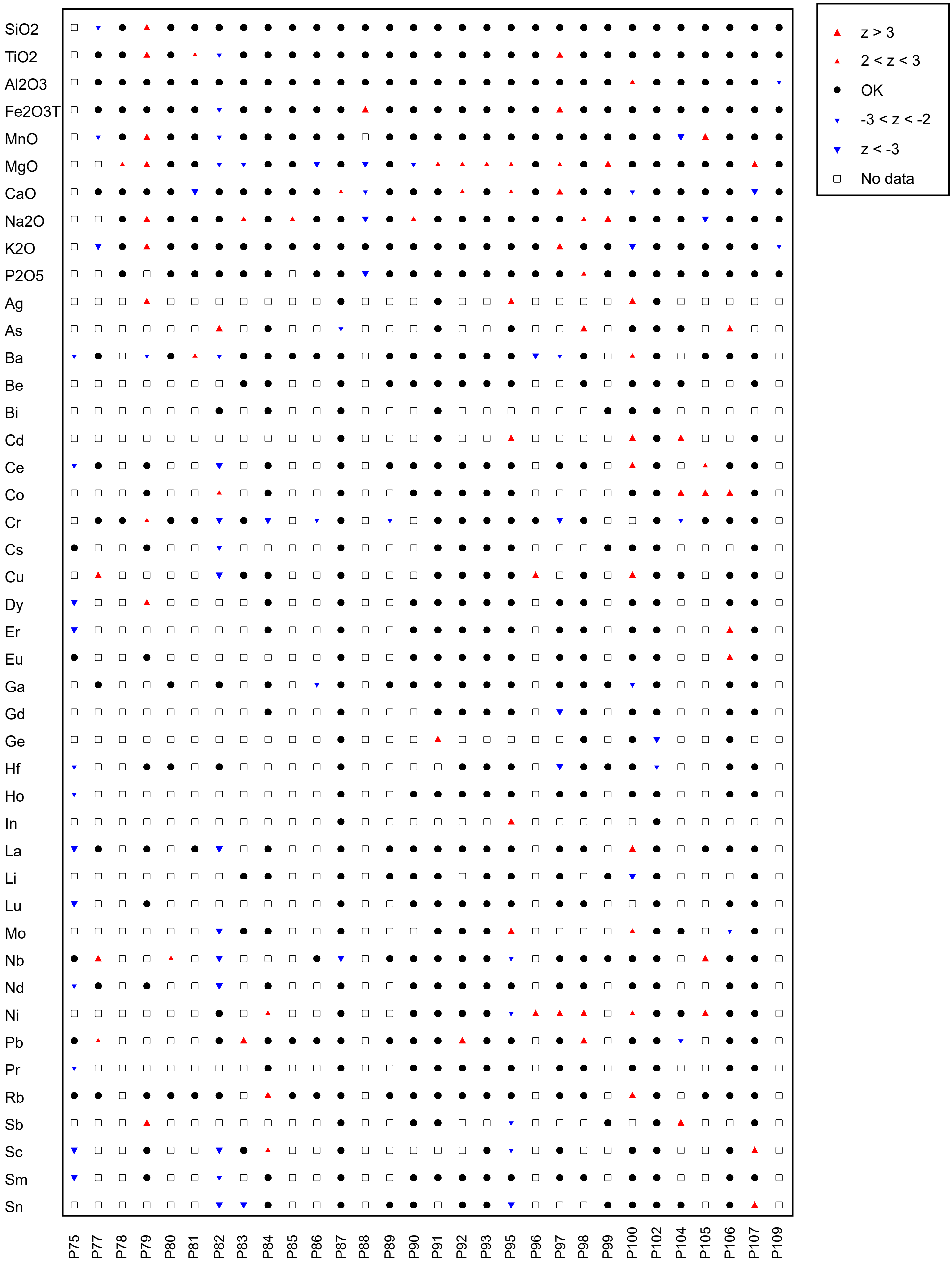


Figure 3: GeoPT51A - Granite, MEG-1. Multiple z-score charts for laboratories participating in the GeoPT51 A round. Symbols indicate whether or not an elemental result complies with the -2<z<+2 criteria (see key).

Multiple Z-Score Chart for GeoPT51A



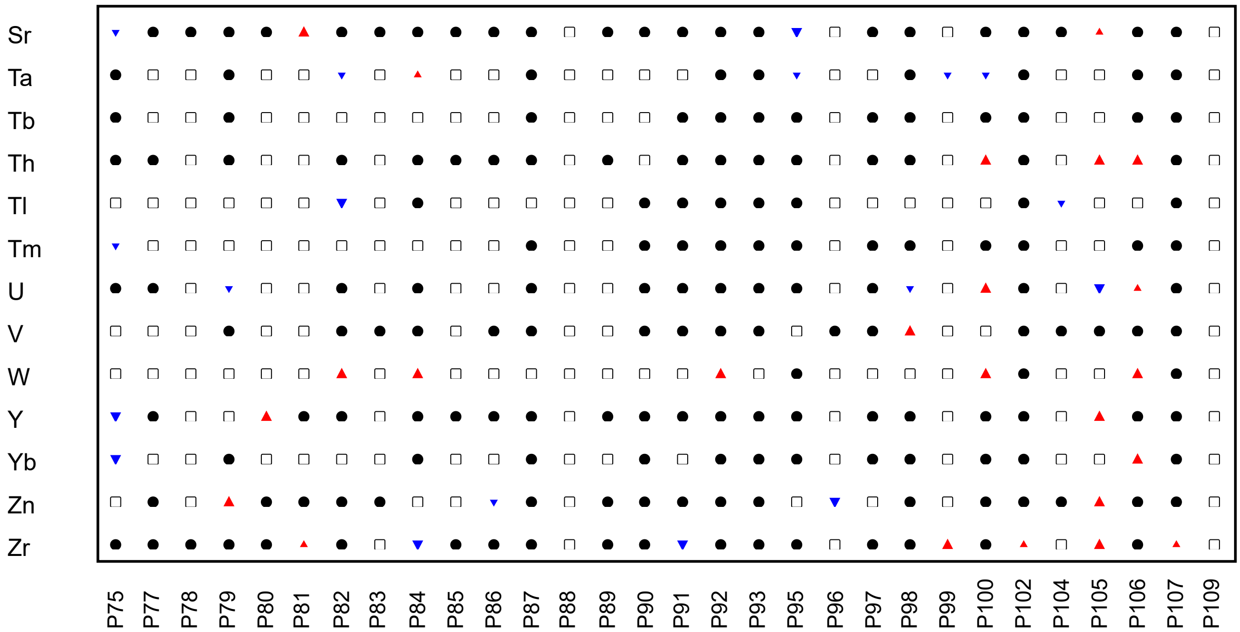
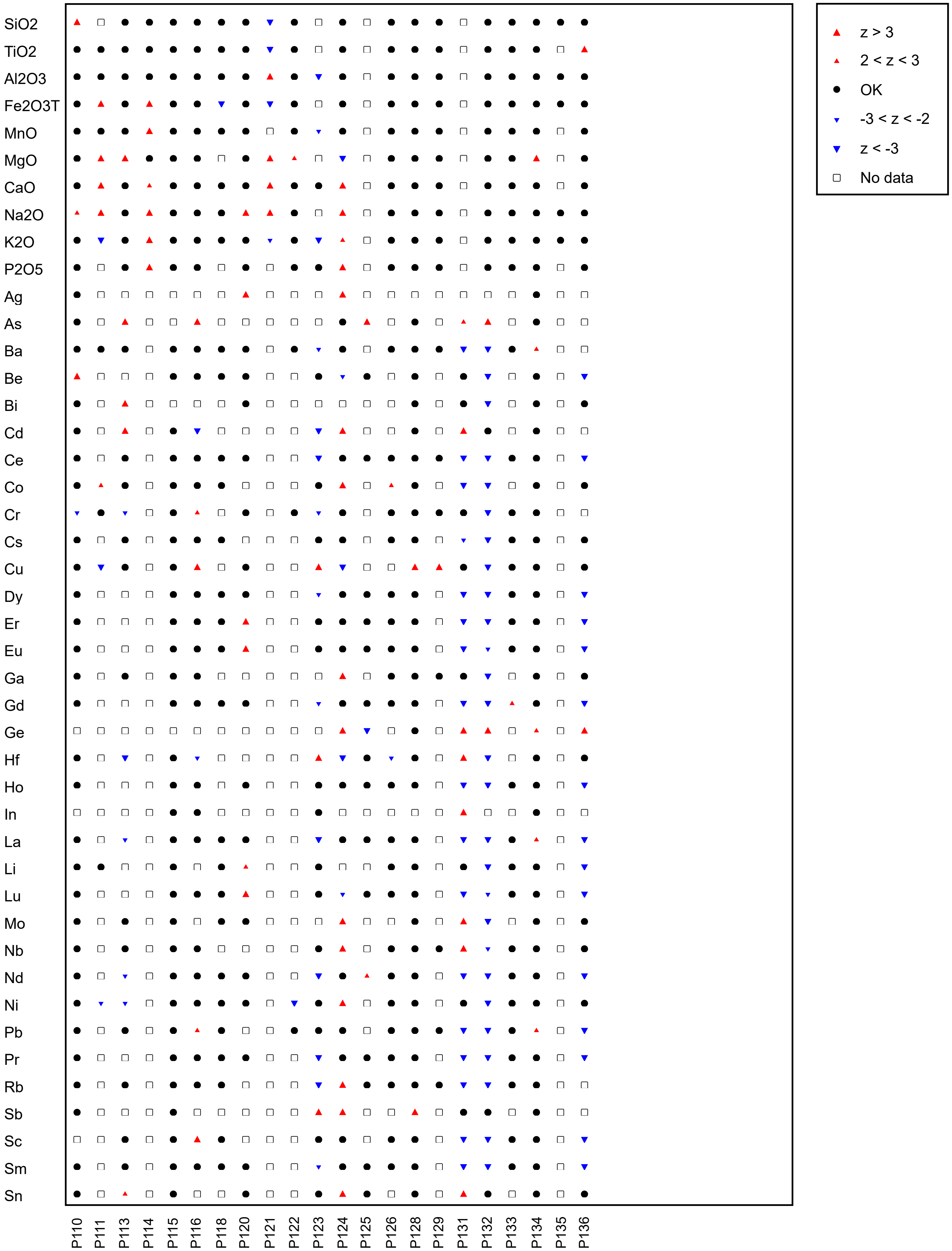


Figure 3: GeoPT51A - Granite, MEG-1. Multiple z-score charts for laboratories participating in the GeoPT51 A round. Symbols indicate whether or not an elemental result complies with the -2<z<+2 criteria (see key).

Multiple Z-Score Chart for GeoPT51A



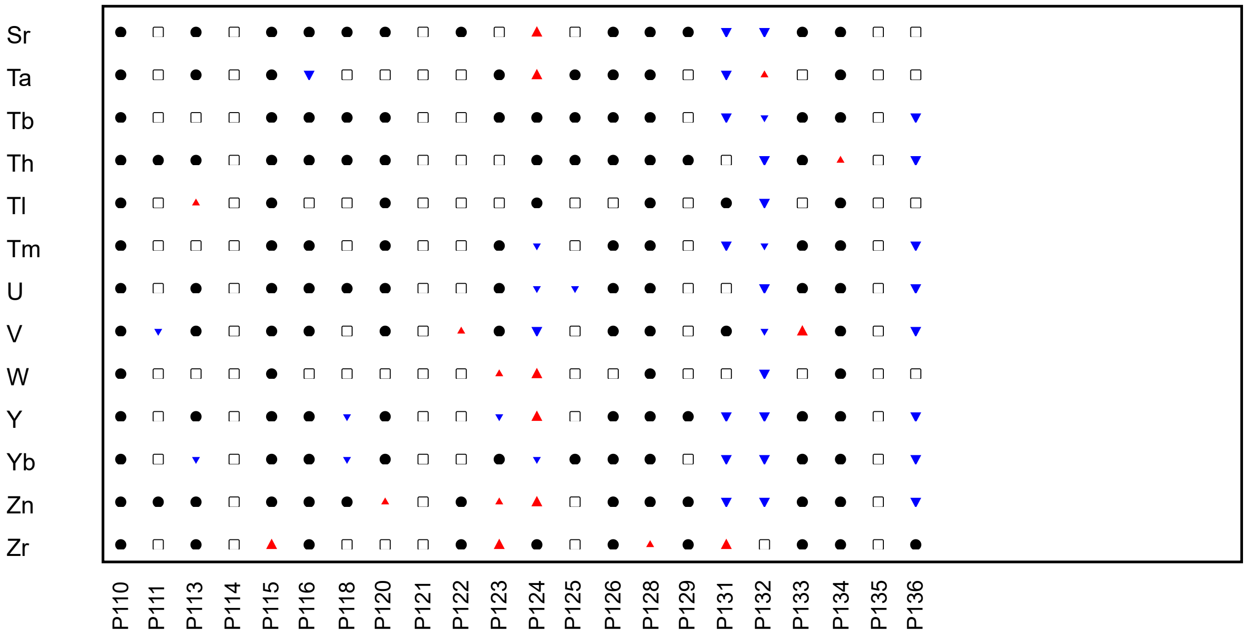


Figure 3: GeoPT51A - Granite, MEG-1. Multiple z-score charts for laboratories participating in the GeoPT51 A round. Symbols indicate whether or not an elemental result complies with the -2<z<+2 criteria (see key).