GeoPT50 — AN INTERNATIONAL PROFICIENCY TEST FOR ANALYTICAL GEOCHEMISTRY LABORATORIES — REPORT ON ROUND 50 (Calcified Sediment, CSd-1) / January 2022

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Abstract

Results are presented for Round 50 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 Calcified Sediment, CSd-1, provided by IAGeo Ltd from material supplied by Uwe Kasper (University of Cologne) sourced at the same time as the Geo*PT*13 test material, UoK Köln Loess. In this report, the data contributed by 100 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 fiftieth round of the international proficiency testing programme, Geo*PT*, was conducted in a similar manner to earlier rounds (listed in Appendix 1). The programme is designed to be 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 results submitted by 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 this appears justified.

Steering Committee for Round 50: P.C. Webb (administrator and results assessor), P.J. Potts (results reviewer), M. Thompson (statistical advisor), C.J.B. Gowing (distribution manager).

Timetable for Round 50:

Distribution of sample: September 2021

Results accepted from: 25th October 2021

Results submission deadline: 15th December 2021

Release of report: January 2022

Test Material details

Geo*PT*50: The Calcified Sediment test material, CSd-1, was provided by IAGeo Ltd from material supplied by Uwe Kasper of Cologne University and sourced at the same time as the Geo*PT*13 test material, UoK, Köln Loess.

Due to circumstances beyond our control, this test material was not formally tested for homogeneity. However, confidence that it was suitable for use as a Geo*PT* test material was gained from the following: (i) The material was crushed and milled at the University of Cologne following procedures similar to those employed for the UoK test material that was prepared for the Geo*PT*13 proficiency testing round. This latter material was formally tested for homogeneity (Potts *et al*. 2003). (ii) The source material was not coarse grained so as to be likely to cause known inhomogeneity problems. (iii) A careful examination of the distribution of measurement results submitted to the Geo*PT*50 round did not give rise to any discrepancies that could not be explained by procedure-related issues that had been observed in previous rounds.

Submission of results

For Geo*PT*50 (CSd-1), a total of 3614 measurement results submitted by 100 laboratories are listed in Table 1. Of these, 1734 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 1880 results were specified as data quality 2 and are shown underlined. Results from all laboratories submitting data were used to assess consensus values for each measurand.

It was especially gratifying that no laboratories reported values of '0' (i.e. zero) in this round. Our continued messaging to this effect is clearly proving successful. However, it is apparent that several laboratories reported **results for C(org), C(tot) and S in units of g/100g instead of mg/kg**. The distribution of C(tot) data in particular would have been improved by correct reporting. Consequently, we must respectfully, but **firmly remind analysts** that **measurement results** of **these and other trace constituents should be reported in mg/kg**. Analysts should be aware that suspected **invalid results cannot be altered or removed** once they have been submitted and that 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 for the Shiny App (*https://www.shinyapps.io*) and linked to the statistical package 'R', were also examined. This enabled us, when necessary, to refine the selection of consensus values by taking account of data distributions according to analytical procedure.

Consensus values derived from contributed data were provided in 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 frequently it does not provide a satisfactory estimation of the consensus. In such circumstances, the median is often a more appropriate robust estimator and was employed in 17 cases. For more severely skewed and strongly tailed datasets, the median may not be an adequate estimator and a mode provides 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 32 cases, and in 27 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. In particular, many significantly enlarged tails at low mass fractions could be attributed to results obtained when recoveries by acid digestion were poor owing to incomplete dissolution of refractory minerals (Potts *et al*. 2015). 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 11 major components and 46 trace elements in Geo*PT*50 (CSd-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, LOI, As*, Ba, Be, Bi*, C(tot)*, Cd*, Ce, Co, Cr*, Cs, Cu*, Dy, Er, Eu, Ga, Gd, 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 9 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.

Bar charts for the 13 analytes: Fe(II)O, H_2O^+, CO_2, Ag, B, C(org), Cl, F, Ge, Hg, S, Se and Te 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 the reliable determination of a consensus for the estimation of *z*-scores.

In this round, fewer datasets than usual were symmetrically disposed. Asymmetry of distributions was noted in many cases, particularly for many of the REEs, the HREEs especially, as well as for Zr, Hf, U and Th. Evidence from metadata supplied indicated that this effect was mainly associated with acid digestion (AD) as a means of dissolution. This is revealed for Hf in Figure 0.1 where there is also evidence for much of the reported XRF powder pellet (PP) data being low. Sufficient Hf data by fusion (FM_AD and FD) and a limited number of data by acid digestion were available to define a clear consensus, however, permitting an assigned status to be conferred. Potts *et al*. (2015) demonstrated that incomplete dissolution of refractory minerals, in this case zircon, does not affect all data obtained by acid digestion but is a feature of much of it where the dissolution procedure is insufficiently rigorous. Resultant data distributions involving acid digestion tend to be highly dispersed and biased to low values compared with data obtained by fusion (and sintering, in some cases). Nevertheless, coherent distributions sufficient to define clear consensus values were convincing enough for the recognition of assigned values, especially for Ce, Dy, Er, Hf, Ho, La, Lu, Nd, Th, Tm, U, Y, Yb and Zr in CSd-1.

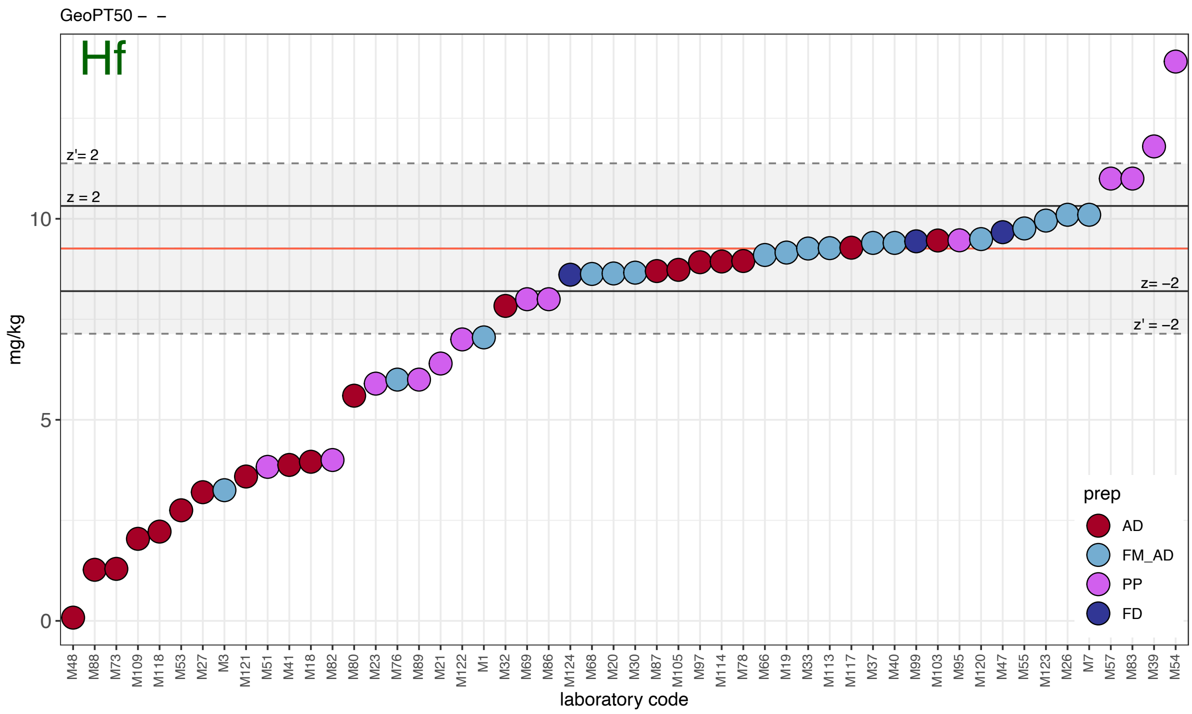

Figure 0.1 A sequential plot of sorted Hf results for CSd-1 distinguished according to method of sample preparation. Much of the acid digestion (AD) data forms a striking low tail where XRF powder pellet data also makes a significant contribution. Data from fusion disc (FD) and fusion followed by acid digestion (FM_AD) as well as some AD data form a convincing consensus, sufficient to confer an assigned value.

One notable case where a low-tailed distribution is clearly not associated with dissolution of zircon is for Cr, as shown in Figure 0.2. This plot shows that most of the low, more variable data also involves acid digestion and measurement by ICP-AES/OES and ICP-MS. However, some of the ICP-MS acid digestion data and XRF fusion disc data in combination contribute to a satisfactory consensus on which provisional status was conferred. The implication is that the phase carrying Cr (as with zircon) may not always be recovered fully when acid digestion is employed. Note that a high tail is also present for Cr in Figure 0.2, largely due to XRF powder pellet data.

For some elements the asymmetry of data distributions is due to high tails, examples of which are apparent in Figure 1, notably for As, Cd, Mo, and Sc. For As (6.42 mg/kg) it is due mainly to some of the WDXRF data that is variable; for Cd (0.114 mg/kg) it is due mainly to variable ICP-MS and ICP-AES/OES data; for Mo (0.82 mg/kg) it is both ICP-MS and XRF data; whereas for Sc (as illustrated in Figure 0.3) it is almost entirely due to XRF data, hardly any of which conforms to the clear consensus provided by the ICP-MS data. In most of these cases the quantities of the analytes are at mass fractions that approach the detection limit ranges of the methods involved.

As is often the case, some sets of results, especially those of TiO_2, Fe_2O_3T, MnO, Na_2O, K_2O, P_2O_5, Co, Nb, and Tl feature stepped distributions caused by over-rounding of much of the contributed data. 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, to enable statistical procedures to define the consensus more effectively. This logic is especially relevant to the 'major' components when reported at low mass fractions.

For Hg, a significant proportion of the limited data submitted exhibited a fair

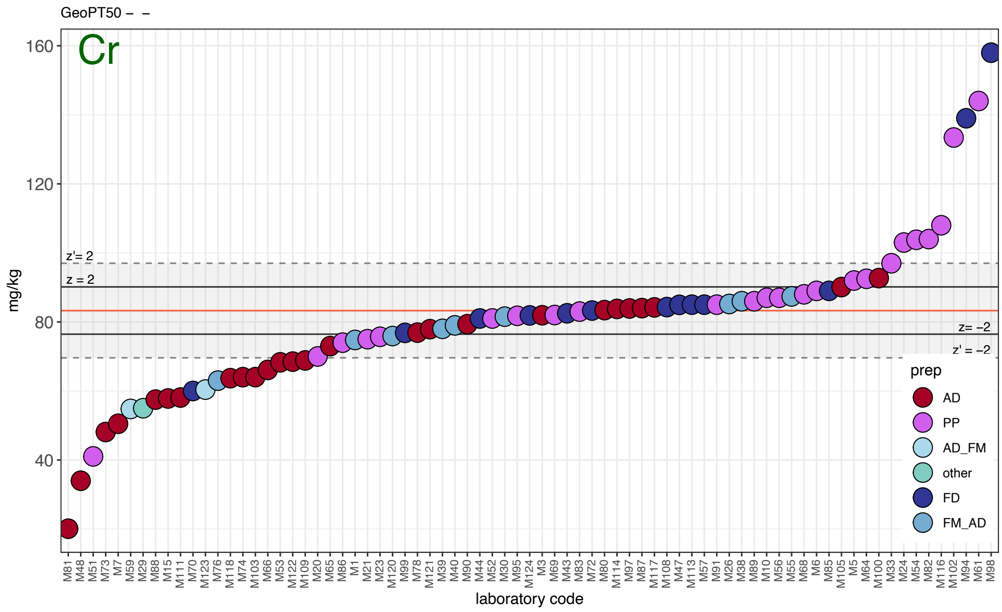

Figure 0.2 A sequential plot of sorted Cr results for CSd-1 distinguished according to method of sample preparation. Much of the acid digestion (AD) data contributes to the low tail. Much of the XRF powder pellet (PP) data contributes to the high tail. See Figure 0.1 caption for definition of the symbols. In addition, AD_FM is acid digestion followed by fusion of the residue.

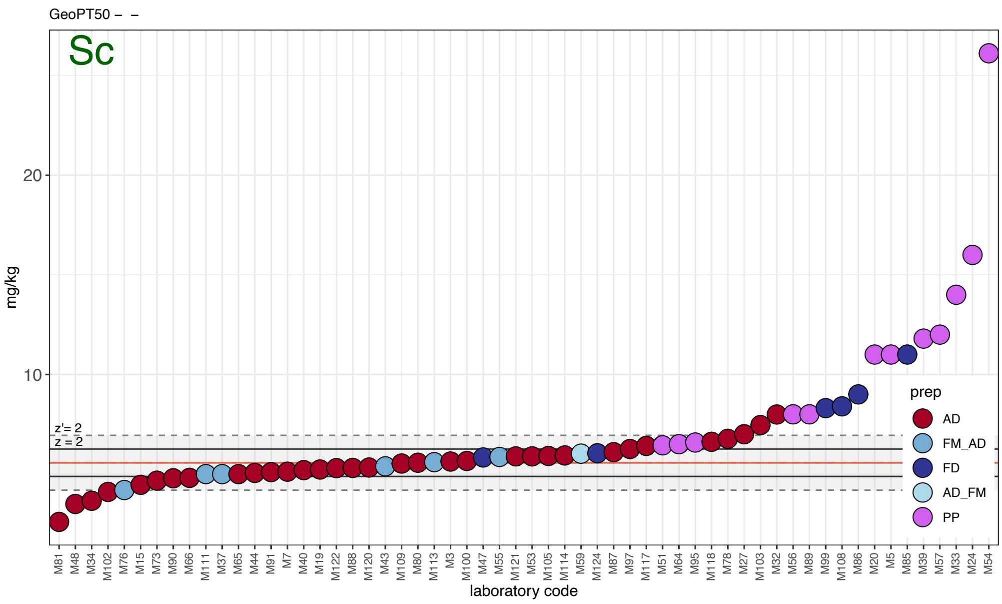

Figure 0.3 A sequential plot of sorted Sc results for CSd-1 distinguished according to method of sample preparation. Most of the XRF powder pellet and some XRF fusion disc (FD) data contributes to the high tail. See Figure 0.1 and 0.2 captions for definitions of symbols.

degree of consistency, but there were insufficient data to satisfy our criteria for conferring values that would permit *z*-scores to be quoted. In this case an information value of around 0.008 mg/kg Hg may be recognised.

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:

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

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*50 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 51, the test materials for which will be distributed during March 2022.

Acknowledgements

Our thanks to Uwe Kasper for originally supplying the test material and IAGeo Ltd, especially Jenny Cook, for provision of packets of material for this round. 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 and 0.3, as well as facilitating the analysis of datasets involving modes derived according to Thompson (2017).

References

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

Potts P.J., 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.

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

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

References of more general relevance

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Potts P.J., Thompson M., and Webb, P.C. (2015) The reliability of assigned values from the Geo*PT* proficiency testing programme from an evaluation of data for six test materials that have been characterised as certified reference materials. *Geostandards and Geoanalytical Research*, **39**, 407–417.

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

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

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

ADDENDUM
— IMPORTANT NOTICES TO ANALYSTS

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 past rounds. Uncertainty values previously reported for values estimated as medians should be increased by this factor.

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

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

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

Appendix 1

Publication status of proficiency testing reports.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Appendix 1 (Cont'd)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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: Unpublished report.

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

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

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

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

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

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

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

Appendix 1 (Cont'd)

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

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

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

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

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

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

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

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

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

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

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

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

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

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: Unpublished report.

Geo*PT*49
Webb, P.C., Potts, P.J., Thompson, M., Gowing, C.J.B., and Wilson, S.A. (2021)
Geo*PT*48 – an international proficiency test for analytical geochemistry laboratories – report on round 49 (Basalt, BVA-1) / July 2021. International Association of Geoanalysts: Unpublished report.

Table 1 - GeoPT50 Contributed data for Calcified sediment, CSd-1. 15/12/2021

Lab Code		M1	M2	M3	M4	M5	M6	M7	M9	M10	M13	M15	M16	M17
SiO2	g 100g^{-1}	52.07	**51.51**		52.85	52.81	52.825	**52.6**	**54.47**	53.6		53.76	53.1	52.89
TiO2	g 100g^{-1}	0.417	**0.42**	**0.348**	0.44	0.4	0.42	**0.43**	**0.22**	0.43	0.42	0.41	0.446	0.428
Al2O3	g 100g^{-1}	6.36	**5.86**	**6.21**	6.33	6	6.129	**6.08**	**8.1**	6.17	6.22	5.99	5.58	6.188
Fe2O3T	g 100g^{-1}	2.133	**2.12**	**2.12**	2.03	2.07	2.082	**2.06**	**1.4**	2.09	2.06	2.07	2.31	2.044
Fe(II)O	g 100g^{-1}							**0.76**						
MnO	g 100g^{-1}	0.065	**0.069**	**0.068**	0.07	0.06	0.062	**0.06**		0.06		0.058	0.068	0.06
MgO	g 100g^{-1}	3.09	**2.95**	**3.01**	3.03	2.85	2.912	**2.89**	**4.22**	2.92	2.9	2.81	3.11	2.942
CaO	g 100g^{-1}	17.272	**17.11**	**16.87**	16.13	16.34	16.497	**16.4**	**12.28**	16.6	16.21	17.16	17.5	16.49
Na2O	g 100g^{-1}	1.173	**1.17**	**1.08**	1.07	1.05	1.117	**1.04**	**1.45**		1.04	1	1.14	1.011
K2O	g 100g^{-1}	1.379	**1.45**	**1.34**	1.35	1.35	1.303	**1.31**	**1.08**	1.36	1.37	1.49	1.43	1.322
P2O5	g 100g^{-1}	0.133	**0.132**	**0.133**	0.13	0.2	0.125	**0.13**	**0.15**	0.13		0.13	0.128	0.13
H2O+	g 100g^{-1}													
CO2	g 100g^{-1}													
LOI	g 100g^{-1}		**15.94**		16.4	16.32	16.33	**16.05**	**16.63**	16.5		16.02	16.2	16.35
Ag	mg kg^{-1}	0.057						**0.05**						
As	mg kg^{-1}	5.568				7		**5.79**				6.37		
Au	mg kg^{-1}													
B	mg kg^{-1}	48.66												
Ba	mg kg^{-1}	207		**205.3**		198	204	**192.5**		173		189.570		
Be	mg kg^{-1}	1.099						**0.9**				0.9		
Bi	mg kg^{-1}	0.117						**0.119**				0.13		
Br	mg kg^{-1}													
C(org)	mg kg^{-1}							**700**						
C(tot)	mg kg^{-1}							**39300**						
Cd	mg kg^{-1}	0.102		**0.119**				**0.112**				0.11		
Ce	mg kg^{-1}	56.66		**50.89**		58		**52.9**				48.98		
Cl	mg kg^{-1}													
Co	mg kg^{-1}	5.035		**5.55**				**5.37**				4.87		
Cr	mg kg^{-1}	74.78		**81.93**		92	89	**50.5**		87		57.83		
Cs	mg kg^{-1}	2.494		**2.72**				**2.61**				2.48		
Cu	mg kg^{-1}	8.723		**10.17**		7		**9.9**				8.48		
Dy	mg kg^{-1}	4.453		**3.65**				**4.5**				2.85		
Er	mg kg^{-1}	2.588		**2.05**				**2.53**				1.41		
Eu	mg kg^{-1}	0.891		**0.805**				**0.87**				0.77		
F	mg kg^{-1}													
Ga	mg kg^{-1}	5.512		**6.95**		7		**6.76**		9		6.63		
Gd	mg kg^{-1}	4.688		**4.38**				**4.74**				3.77		
Ge	mg kg^{-1}							**0.11**				1.62		
Hf	mg kg^{-1}	7.05		**3.25**				**10.1**						
Hg	mg kg^{-1}													
Ho	mg kg^{-1}	0.896		**0.733**				**0.88**				0.52		
In	mg kg^{-1}							**0.028**						
La	mg kg^{-1}	27.95		**24.89**		28		**26.3**		14		23.79		
Li	mg kg^{-1}	21.7		**23**				**22.4**				18.64		
Lu	mg kg^{-1}	0.377		**0.31**				**0.35**				0.18		
Mo	mg kg^{-1}	0.779		**0.793**				**0.85**				0.81		
Nb	mg kg^{-1}	7.848		**9.22**		8		**8**		10		4.05		
Nd	mg kg^{-1}	26.01		**23.39**				**25**				21.27		
Ni	mg kg^{-1}	41.72		**34.83**		30		**30.5**				28.36		
Pb	mg kg^{-1}	9.947		**11.61**		14		**11.05**				9.99		
Pr	mg kg^{-1}	6.733		**6.23**				**6.51**				5.61		
Rb	mg kg^{-1}	47.4		**50.56**		52		**46.8**		52		48.79		
Re	mg kg^{-1}							**0.001**						
S	mg kg^{-1}	99.9						**0.000**				530		
Sb	mg kg^{-1}	0.677						**0.5**				0.57		
Sc	mg kg^{-1}			**5.63**		11		**5.12**				4.46		
Se	mg kg^{-1}	0.045						**0.023**						
Sm	mg kg^{-1}	5.423		**4.67**				**4.71**				4.43		
Sn	mg kg^{-1}	1.609						**1.51**						
Sr	mg kg^{-1}	282.7		**269.9**		280	259	**294**		267		264.890		
Ta	mg kg^{-1}	0.666		**0.733**				**0.54**						
Tb	mg kg^{-1}	0.726		**0.674**				**0.75**				0.52		
Te	mg kg^{-1}							**0.014**						
Th	mg kg^{-1}	8.331		**7.66**		8		**8.62**				7.5		
Tl	mg kg^{-1}	0.302						**0.301**				0.3		
Tm	mg kg^{-1}	0.371		**0.316**				**0.41**				0.2		
U	mg kg^{-1}	2.513		**2.5**		3		**2.97**				1.85		
V	mg kg^{-1}	35.99		**34.49**		39		**31**		40		32.55		
W	mg kg^{-1}	0.655						**1.11**						
Y	mg kg^{-1}	24.76		**21.94**		25		**23.2**		23		14.27		
Yb	mg kg^{-1}	2.697		**2.11**				**2.54**						
Zn	mg kg^{-1}	32.16		**33.72**		32		**29.6**				25.83		
Zr	mg kg^{-1}	273		**118**		330	329	**392**		310		428		

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

Table 1 - GeoPT50 Contributed data for Calcified sediment, CSd-1. 15/12/2021

Lab Code		M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30
SiO2	g 100g^{-1}	**52.2**	53.189	51.07	52.7	53.77	**53.54**	**53.04**	52.74	**52.11**	**52.89**	53.42	53.03	54.52
TiO2	g 100g^{-1}	**0.42**	0.433	0.37	0.41	0.42	**0.43**	**0.428**	0.43	**0.42**	**0.436**	0.42	0.44	0.426
Al2O3	g 100g^{-1}	**5.88**	5.939	6.55	5.89	6.02	**6.28**	**6.13**	6.02	**5.95**	**6.03**	6.06	6.11	6.15
Fe2O3T	g 100g^{-1}	**2.06**	1.997	2.11	2.15	2.12	**2.04**	**2.492**	2.05	**2.43**	**2.08**	2.1	2.16	2.07
Fe(II)O	g 100g^{-1}													
MnO	g 100g^{-1}	**0.06**	0.062	0.04	0.058	0.067	**0.07**	**0.065**	0.05	**0.07**	**0.061**	0.06	0.04	0.065
MgO	g 100g^{-1}	**2.76**	2.923	3.26	2.96	2.86	**3.08**	**3.067**	2.87	**3.01**	**2.92**	2.9	3	2.77
CaO	g 100g^{-1}	**17.4**	16.727	17.97	17.22	16.53	**16.01**	**15.798**	16.39	**16.66**	**16.43**	16.38	16.8	17.6
Na2O	g 100g^{-1}	**0.95**	1.041	1.05	1.1	0.92	**1.09**	**1.137**	1.03	**1.07**	**0.99**	1.08	0.96	1.03
K2O	g 100g^{-1}	**1.26**	1.321	1.47	1.36	1.38	**1.35**	**1.354**	1.35	**1.31**	**1.33**	1.34	1.33	1.33
P2O5	g 100g^{-1}	**0.13**	0.125	0.13	0.133	0.1	**0.11**	**0.142**	0.12	**0.45**	**0.132**	0.124	0.13	0.129
H2O+	g 100g^{-1}													
CO2	g 100g^{-1}													
LOI	g 100g^{-1}	**16.2**	15.264	15.91	16.08	15.91	**16.15**	**16.19**	**16.18**	**16.66**	**16.49**	16.49	16.32	9.48
Ag	mg kg^{-1}													
As	mg kg^{-1}		10.5	6.34	8.8		**8.2**	**10**					6.4	
Au	mg kg^{-1}													
B	mg kg^{-1}													
Ba	mg kg^{-1}	**194.476**	200	198	187.1		**192.9**	**206**		**243.2**	**180**			202.4
Be	mg kg^{-1}		0.94	0.96						**1.1**			0.72	1
Bi	mg kg^{-1}		0.14	0.15	1.1									
Br	mg kg^{-1}													
C(org)	mg kg^{-1}													
C(tot)	mg kg^{-1}				4.14							3.93	41200	
Cd	mg kg^{-1}												0.67	
Ce	mg kg^{-1}	**54.532**	52.5	51.37	39.3		**44.1**	**40**		**63.4**	**47.7**			51.58
Cl	mg kg^{-1}							**70**			307		30	
Co	mg kg^{-1}		5.71	4	5.9		**6.7**	**6**		**6.4**	**5.13**		14.7	5.51
Cr	mg kg^{-1}			70	75		**75.7**	**103**		**85.2**			55	81.53
Cs	mg kg^{-1}	**2.424**	2.58	2.82	2.9		**7.4**	**13**		**2.5**	**2.63**			
Cu	mg kg^{-1}		10.4	11	7.4		**6.6**	**11**		**11.3**	**8.38**		9	9.67
Dy	mg kg^{-1}	**3.91**	4.28	3.96						**4.3**	**3.18**			4.33
Er	mg kg^{-1}	**2.179**	2.58	2.27						**2.5**	**1.72**			2.61
Eu	mg kg^{-1}	**0.896**		0.89						**1.1**	**0.81**			0.9
F	mg kg^{-1}							**655**			268			
Ga	mg kg^{-1}		7.38	8	6.9		**6.4**	**8**		**6.9**	**7.93**			7.35
Gd	mg kg^{-1}	**4.477**	4.74	4.39						**5.2**	**4.1**			4.23
Ge	mg kg^{-1}			0.72										
Hf	mg kg^{-1}	**3.957**	9.16	8.64	6.4		**5.9**			**10.1**	3.2			8.66
Hg	mg kg^{-1}				0.006								0.007	
Ho	mg kg^{-1}	**0.76**	0.91	0.75						**0.9**	**0.62**			0.9
In	mg kg^{-1}			0.03										
La	mg kg^{-1}	**25.227**	26.4	26.18	20.1		**27.9**	**8**		**31.6**	**23.3**			24.82
Li	mg kg^{-1}	**21.472**	23.8	19.57							**21.2**			
Lu	mg kg^{-1}	**0.318**	0.42	0.38						**0.4**	**0.27**			0.39
Mo	mg kg^{-1}		0.93	0.41	1.9			**5**		**1.2**	2			0.8
Nb	mg kg^{-1}	**8.789**	8.06	9	7.1		**7.3**	**7**		**15.2**	7			7.99
Nd	mg kg^{-1}	**25.064**	24	24.56	17.6		**19**	**22**		**29.3**	**21.4**			23.87
Ni	mg kg^{-1}		32.9	47	27.9		**27.5**	**35**		**33.4**	**31.7**		29	28.55
Pb	mg kg^{-1}	**12.179**	11.4	14	10.1		**16.9**	**10**		**12**	**12.1**		10.9	11.21
Pr	mg kg^{-1}	**6.359**	6.45	6.34						**7.7**	**5.39**			6.19
Rb	mg kg^{-1}	**49.73**	50.2	48.96	48.3		**50.3**	**10**		**50.3**	**51**			50.16
Re	mg kg^{-1}													
S	mg kg^{-1}							**225**	120		90	0.04	400	
Sb	mg kg^{-1}		0.52	0.52									1.8	
Sc	mg kg^{-1}		5.23	11	55			**16**			7			
Se	mg kg^{-1}				1.9								4.1	
Sm	mg kg^{-1}	**5.01**	4.8	4.84	7.4		**1.6**			**5.7**	**4.39**			4.95
Sn	mg kg^{-1}			1.12	4.3			**5**		**1.9**			0.48	1.62
Sr	mg kg^{-1}	**269.974**	273	288	259.7		**268.8**	**278**	254	**303.2**	**293**		300	297.4
Ta	mg kg^{-1}	**0.905**		0.88						**1.9**	0.8			0.65
Tb	mg kg^{-1}	**0.672**	0.72	0.73						**0.8**	**0.57**			0.69
Te	mg kg^{-1}			0.05									4.4	
Th	mg kg^{-1}	**8.231**	8.25	8.35	8.7		**6.1**	**12**		**9.7**	**7.33**			8.03
Tl	mg kg^{-1}		0.34	0.35	1.4					**0.3**			0.14	0.26
Tm	mg kg^{-1}	**0.317**	0.4	0.36						**0.4**	**0.26**			0.39
U	mg kg^{-1}	**2.56**	2.97	2.54	4.7		**3.1**			**4.6**	**2.32**			2.79
V	mg kg^{-1}			37	36.2		**35.9**	**42**		**40.7**	**32.1**		27	36.94
W	mg kg^{-1}			1.27			**7.3**			**1.6**	1.1			1.13
Y	mg kg^{-1}	**21.973**	25.1	26	22.5		**22.5**	**24**		**26.3**	**18.1**			25.28
Yb	mg kg^{-1}	**2.081**	2.61	2.36						**2.5**	**1.69**			2.59
Zn	mg kg^{-1}		31.1	38	28.8		**32.4**	**33**		**42.4**	**33.8**		37	31.53
Zr	mg kg^{-1}	**353.5**	329	364	304.3		**316.1**	**308**		**362.5**	**351**			336.580

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

Table 1 - GeoPT50 Contributed data for Calcified sediment, CSd-1. 15/12/2021

Lab Code		M32	M33	M34	M37	M38	M39	M40	M41	M42	M43	M44	M45	M47
SiO2	g 100g^{-1}		50.26		53.44	52.07	52.39	52.98		52.86	53.07	52.89	52.21	53.225
TiO2	g 100g^{-1}	0.447	0.35		0.414	0.423	0.418	0.41		0.42	0.422	0.42	0.386	0.435
Al2O3	g 100g^{-1}	5.806	7.76		6.14	5.98	5.96	6.11		6.11	6.11	6.11	6.12	6.224
Fe2O3T	g 100g^{-1}	1.89	1.89		2.07	2.06	2.07	2.08		2.09	2.09	2.02	2.104	2.13
Fe(II)O	g 100g^{-1}									0.65			0.76	
MnO	g 100g^{-1}		0.05		0.066	0.064	0.067	0.06		0.063	0.068	0.065	0.086	0.066
MgO	g 100g^{-1}	2.935	3.01		2.82	2.89	2.85	2.94		2.91	2.95	2.93	3.08	2.884
CaO	g 100g^{-1}	16.99	18.29		17.34	16.34	16.14	16.59		16.61	16.47	16.69	16.09	16.555
Na2O	g 100g^{-1}	1.099	0.96		1.03	1.04	0.96	1.07		1.06	0.98	1.04	1.09	1.079
K2O	g 100g^{-1}	1.312	1.35		1.33	1.35	1.33	1.34		1.33	1.286	1.32	1.28	1.356
P2O5	g 100g^{-1}	0.141	0.12		0.13	0.13	0.124	0.131		0.13	0.128	0.128	0.123	0.130
H2O+	g 100g^{-1}												2.47	
CO2	g 100g^{-1}												13.73	
LOI	g 100g^{-1}		15.67		15.7		15.86	16.14		16.2	16.22	15.98	16.43	15.85
Ag	mg kg^{-1}						0.04					0.33		0.055
As	mg kg^{-1}		6.96				5.7	6.6		7		5.8		6.872
Au	mg kg^{-1}													
B	mg kg^{-1}											24.5		
Ba	mg kg^{-1}	199.4	221		202	199	195	193.5	172.7	217	202	181	301	208.110
Be	mg kg^{-1}	1.112	0.94	0.67	1		0.89	0.99				0.78		
Bi	mg kg^{-1}							0.14				0.13		0.136
Br	mg kg^{-1}						1.01							1.53
C(org)	mg kg^{-1}												3700	
C(tot)	mg kg^{-1}					41000	40500	40300					41169	
Cd	mg kg^{-1}	0.115					0.1	0.12				0.17		0.093
Ce	mg kg^{-1}	52.42	49.85	40.41	59.1		55.7	53	49.52		52.9	27.83	50.9	54.935
Cl	mg kg^{-1}													30
Co	mg kg^{-1}	5.506	7	4.68		30	4.7	5.3				4.79		
Cr	mg kg^{-1}		97			86	78	79			82.5	81		84.95
Cs	mg kg^{-1}	2.776		2.07			3.1	2.66	2.55		2.5	1.84		2.681
Cu	mg kg^{-1}	10.38	11	12.52			8.21	9.6			8.5	8.37		8.47
Dy	mg kg^{-1}	3.951	4.27	3.38	4.7		4.32	4.3	3.78		4.34	3.08	4.49	4.419
Er	mg kg^{-1}	2.27	2.4	1.11	2.7		2.64	2.4	2.193		2.53	1.84	2.6	2.615
Eu	mg kg^{-1}	0.868	0.91	0.61	0.97		0.94	0.9	0.865		0.919	0.66	0.907	0.921
F	mg kg^{-1}												511	524
Ga	mg kg^{-1}		7	6.07		26	6.38	6.58			7	6.15		7.191
Gd	mg kg^{-1}	4.431	4.9	3.61	4.7		4.98	4.55	5.159		4.68	3.03	4.46	4.731
Ge	mg kg^{-1}		0.73	0.66			0.59	1				0.45		0.792
Hf	mg kg^{-1}	7.833	9.26		9.4		11.8	9.4	3.878					9.667
Hg	mg kg^{-1}										0.008			
Ho	mg kg^{-1}	0.792	0.81		0.9		0.88	0.8	0.804		0.853	0.61	0.912	0.894
In	mg kg^{-1}	0.026												
La	mg kg^{-1}	25.8	28.06	20.33	29.1		28.5	26.4	23.1		26.7	14.49	27.8	27.586
Li	mg kg^{-1}	22.95		19.34				21.7				17.22		
Lu	mg kg^{-1}	0.350	0.41	0.31	0.42		0.41	0.4	0.313		0.41	0.28	0.406	0.409
Mo	mg kg^{-1}	0.888	0.76				0.38	0.9				0.74		0.872
Nb	mg kg^{-1}	8.815	9		8		7.99	8.6			8	9.06		8.555
Nd	mg kg^{-1}	23.78	24.42	20.99	27.3		25.7	24.2	22.11		22.6	12.86	23.9	25.43
Ni	mg kg^{-1}		34	29.67		32	27.7	30.6			31	28.27		34.93
Pb	mg kg^{-1}	11.61	15	9.07			10.8	11.1	10.31	12	9.8	9.95		10.758
Pr	mg kg^{-1}	6.264	6.59		6.97		6.3	6.5	6.121		6.49	3.22	6.52	6.773
Rb	mg kg^{-1}	51.46	49.85	46.01	53		47.8	51.7	53.66	53	49.8	51		51.125
Re	mg kg^{-1}													
S	mg kg^{-1}					20								103.2
Sb	mg kg^{-1}	0.616					0.41	0.45				0.61		0.785
Sc	mg kg^{-1}	7.991	14	3.66	5		11.8	5.2			5.39	5.06		5.835
Se	mg kg^{-1}						1.98					0.34		
Sm	mg kg^{-1}	4.871	5.05		5.7		5.47	4.8	4.492		5.15	2.93	5.15	5.155
Sn	mg kg^{-1}	1.632	1.82		2		2.74	1.4			1.7	1.73		1.624
Sr	mg kg^{-1}	271.6	242	297	299		263	283.480	271.7	283	277	280	267	295.790
Ta	mg kg^{-1}	0.724	0.8		0.8		0.69					0.73		0.768
Tb	mg kg^{-1}	0.680	0.74		0.8		0.78	0.7	0.670		0.705	0.5	0.727	0.74
Te	mg kg^{-1}													
Th	mg kg^{-1}	8.063	8.04		9.2		7.1	8.3	8.598	7	8.46	4.67		8.541
Tl	mg kg^{-1}	0.337					0.32	0.33				0.28		0.347
Tm	mg kg^{-1}	0.347	0.4	0.31	0.4		0.39	0.4	0.314		0.384	0.26	0.391	0.404
U	mg kg^{-1}	2.799	2.62	2.59	3.1		1.74	2.7	2.507		2.88	2.38		2.844
V	mg kg^{-1}	35.64	42	34.64	34	35	31.3	31		39	34.5	38		36.6
W	mg kg^{-1}	1.271	1.17									1.56		
Y	mg kg^{-1}	23.36	22		22	25	24.9	22.6	21.04	24	21.2	17.78	26	26.29
Yb	mg kg^{-1}	2.286	2.51	1.3	2.7		2.62	2.54	2.244		2.51	1.78	2.72	2.667
Zn	mg kg^{-1}	45.81	32	32.71		32	26.4	32		34	30.8	29		34.3
Zr	mg kg^{-1}	293.8	257	13.5	342	360	286	361	189.2	356	344	338		361

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

Table 1 - GeoPT50 Contributed data for Calcified sediment, CSd-1. 15/12/2021

Lab Code		M48	M51	M52	M53	M54	M55	M56	M57	M59	M61	M62	M64	M65
SiO2	g 100g^{-1}		**53.33**	**52.97**		53.02	**52.77**	**53.43**	**54.21**		52.466	**53.96**		52.4
TiO2	g 100g^{-1}		**0.426**	**0.4**		0.411	**0.41**	**0.43**	**0.4**	**0.29**	0.445	**0.428**		0.35
Al2O3	g 100g^{-1}		**6.087**	**5.92**		6.019	**6.07**	**5.98**	**6.17**	**5.86**	5.957	**6.134**		6.33
Fe2O3T	g 100g^{-1}		**2.092**	**2.02**		**2.024**	**2.09**	**2.05**	**2.1**	**1.98**	2.223	**1.987**		2
Fe(II)O	g 100g^{-1}						**0.69**							
MnO	g 100g^{-1}		**0.065**	**0.06**		0.065	**0.063**	**0.06**	**0.06**	**0.061**	0.049	**0.065**	0.060	0.06
MgO	g 100g^{-1}		**2.891**	**2.85**		2.907	**2.93**	**3.01**	**3.02**	**2.8**	2.888	**2.963**		3.01
CaO	g 100g^{-1}		**16.778**	**15.66**		16.24	**16.72**	**16.65**	**16.3**	**15.6**	16.977	**16.63**		16.38
Na2O	g 100g^{-1}		**0.964**	**0.64**		1.103	**1.07**	**0.94**	**1.04**	**0.89**	0.955	**1.045**		1.25
K2O	g 100g^{-1}		**1.333**	**1.25**		1.341	**1.36**	**1.31**	**1.37**	**1.19**	1.346	**1.32**		1.33
P2O5	g 100g^{-1}		**0.118**	**0.12**		0.127	**0.13**	**0.13**	**0.13**	**0.115**	0.12	**0.128**		0.13
H2O+	g 100g^{-1}						**1.256**							
CO2	g 100g^{-1}						**14.621**							
LOI	g 100g^{-1}		**15.92**	**15.99**		16.28	**16.14**	**0.38**	**16.09**		16.57			16.75
Ag	mg kg^{-1}									**0.067**				
As	mg kg^{-1}	5.9		**6**	**7.57**	14.36	**4.98**		**12**	**6.5**			6.04	
Au	mg kg^{-1}	0.035												
B	mg kg^{-1}		20.51				**35.708**							
Ba	mg kg^{-1}	30	163.6	**192**	**198**	48.39	**188**	**286**	**200**	**231**	284		185.1	210
Be	mg kg^{-1}	0.14			**0.98**		**0.96**			**1.08**				
Bi	mg kg^{-1}	0.09			**0.14**		**0.13**			**0.15**			0.105	
Br	mg kg^{-1}													
C(org)	mg kg^{-1}						**0.04**							
C(tot)	mg kg^{-1}			**38300**		41700								
Cd	mg kg^{-1}	0.08			**0.13**		**0.15**			**0.29**			0.110	
Ce	mg kg^{-1}	13.4	18.22		**55.3**	48.39	**51.9**	**47**	**40**	**42.2**			42.9	52
Cl	mg kg^{-1}						**43.094**							
Co	mg kg^{-1}	4.7	5.027	**8**	**5.41**	7.057	**5.25**		**7**	**5.21**	9		5.9	
Cr	mg kg^{-1}	34	41.05	**81**	**68.3**	103.8	**87.4**	**87**	**85**	**54.8**	144		92.5	73
Cs	mg kg^{-1}	0.76	2.885		**2.73**		**2.49**							
Cu	mg kg^{-1}	6.8	10.17	**10**	**10.5**	10.64	**12**		**6**	**6.25**	12		9.1	13
Dy	mg kg^{-1}		1.81		**3.46**		**4.05**			**3.25**				3.4
Er	mg kg^{-1}		1.049		**1.82**		**2.29**			**1.75**				1.4
Eu	mg kg^{-1}		0.481		**0.86**		**0.866**			**0.85**				0.8
F	mg kg^{-1}						**290**		**684**				247	
Ga	mg kg^{-1}	2.15	7.161	**6**	**9.65**	9.149	**7.05**		**9**	**6.83**			6.58	
Gd	mg kg^{-1}		1.913		**4.49**		**4.3**		**3**	**4.12**				5
Ge	mg kg^{-1}	0.14			**3.43**		**1.03**		**2**					
Hf	mg kg^{-1}	0.08	3.83		**2.75**	13.91	**9.76**		**11**					
Hg	mg kg^{-1}	0.02					**0.008**							
Ho	mg kg^{-1}		0.353		**0.65**		**0.832**			**0.56**				0.8
In	mg kg^{-1}	0.014								**0.04**			0.013	
La	mg kg^{-1}	6.2	8.379	**23**	**26.8**	25.37	**25.4**	22	**27**	**20.5**			22.4	25
Li	mg kg^{-1}	9.5	19.66		**21.9**		**18.661**							20
Lu	mg kg^{-1}		0.141		**0.25**		**0.36**			**0.16**				
Mo	mg kg^{-1}	0.45		**29**	**0.79**		**0.84**			**0.93**				
Nb	mg kg^{-1}	0.43		**5**	**8.01**	9.643	**7.48**	**8**	**12**	**5.03**	9		7.87	11
Nd	mg kg^{-1}		9.285		**24.9**	21.79	**23.9**		**30**	**19.7**				22
Ni	mg kg^{-1}	26.2	29.43	**28**	**33.6**	41.31	**30.3**	33	**35**	**28.8**	36		32.68	29
Pb	mg kg^{-1}	6.1	11.52		**10.3**	11.17	**10.7**	**10**	**11**	**13.3**	12		12.05	
Pr	mg kg^{-1}		2.278		**6.54**		**6.22**			**5.07**				4.3
Rb	mg kg^{-1}	5	56.5	**46**	**49.8**	61.03	**50.3**	**57**	**60**	**51.3**	55		50.27	50
Re	mg kg^{-1}													
S	mg kg^{-1}			**459**					**100**	**230**				
Sb	mg kg^{-1}	0.32			**0.61**		**0.67**			**0.91**			0.204	
Sc	mg kg^{-1}	3.5	6.444		**5.89**	26.12	**5.86**	8	**12**	**6.026**			6.5	5
Se	mg kg^{-1}	0.9			**2.46**		**0.022**			**0.599**			0.131	
Sm	mg kg^{-1}		2.061		**5.14**		**5**			**4.19**				5
Sn	mg kg^{-1}	0.4			**1.57**		**1.97**			**2.45**				
Sr	mg kg^{-1}	233	236.7	**256**	**277**	329.9	**280**	**297**	**255**	**275**	294		275.1	279
Ta	mg kg^{-1}	0.01	0.91		**1.06**		**0.98**			**0.12**				
Tb	mg kg^{-1}		0.29		**0.63**		**0.668**			**0.63**				0.8
Te	mg kg^{-1}	0.06								**0.11**				
Th	mg kg^{-1}	3.2	2.962	**9**	**8.38**	9.669	**8.51**		**5**	**6.44**	10		7.14	5
Tl	mg kg^{-1}	0.05			**0.32**					**0.35**			0.067	
Tm	mg kg^{-1}		0.148		**0.26**		**0.351**			**0.22**				
U	mg kg^{-1}	0.66	1.341	**4**	**2.35**	5.519	**2.65**		**4**	**1.93**			2.19	2
V	mg kg^{-1}	12	33.38	**47**	**34.5**	43.52	**32.5**	41	**44**	**34.2**	62		34.98	33
W	mg kg^{-1}	0.34			**1.44**		**1.38**			**2.35**				
Y	mg kg^{-1}	7.77	10.41	**21**	**17.5**	29.51	**22.7**	**26**	**28**	**16**	33		22.87	22
Yb	mg kg^{-1}		0.996		**1.73**		**2.34**		**7**	**1.56**				2.2
Zn	mg kg^{-1}	21.4	38.69	**29**	**43.2**	44.17	**33.9**	30	**34**	**30.7**	35		32.36	32
Zr	mg kg^{-1}	1.9	181	**262**	**94.9**	390.2	**367**	**377**	**313**	**58.8**	278		309.370	334

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

Table 1 - GeoPT50 Contributed data for Calcified sediment, CSd-1. 15/12/2021

Lab Code		M66	M68	M69	M70	M71	M72	M73	M74	M76	M77	M78	M80	M81
SiO2	g 100g^{-1}	53.436	53.017	52.604	**52.8**	52.9	**53.42**	**51.78**	52.78	53.586	53.2	52.62	53.091	
TiO2	g 100g^{-1}	0.42	0.417	0.389	**0.42**	0.4	**0.446**	**0.409**	0.42	0.436	0.416	0.44	0.399	0.01
Al2O3	g 100g^{-1}	6.005	6.053	5.967	**6.1**	6.1	**6.130**	**5.979**	6.05	5.891	6.11	6.1	6.129	1.069
Fe2O3T	g 100g^{-1}	2.079	2.07	2.025	**2.06**	2.05	**2.128**	**2.059**	2.06	2.077	2.1	2.09	2.059	1.474
Fe(II)O	g 100g^{-1}												0.73	
MnO	g 100g^{-1}	0.06	0.064	0.07	**0.060**	0.07	**0.067**	**0.063**	0.06	0.068	0.072	0.07	0.062	0.059
MgO	g 100g^{-1}	2.892	2.937	2.809	**2.99**	2.96	**2.961**	**2.924**	2.86	2.965	2.88	2.97	2.905	2.865
CaO	g 100g^{-1}	16.519	16.22	16.314	**16.48**	16.9	**16.943**	**16.42**	16.58	16.169	16.51	16.6	16.342	17.53
Na2O	g 100g^{-1}	0.997	1.055	0.979	**1.01**	1.07	**1.127**	**1.025**	1	0.918	1.4	1.08	1.04	0.01
K2O	g 100g^{-1}	1.344	1.328	1.335	**1.35**	1.29	**1.385**	**1.284**	1.35	1.286	1.46	1.32	1.323	0.093
P2O5	g 100g^{-1}	0.125	0.134	0.131	**0.13**	0.13	**0.13**	**0.107**	0.12	0.137	0.13	0.13	0.127	0.114
H2O+	g 100g^{-1}				**0.64**			**1.34**					0.402	
CO2	g 100g^{-1}							**0.28**		13.723				
LOI	g 100g^{-1}	16.08	16.294	16.609	**16.67**	16.2	**15.1**	**16.35**	16.19	16.442	16.11	16.47	16.06	
Ag	mg kg^{-1}	0.18												0.028
As	mg kg^{-1}	4.79		6				**5.82**						4.215
Au	mg kg^{-1}													
B	mg kg^{-1}													2.134
Ba	mg kg^{-1}	193.460	189.5	203	**290**		**176.4**	**191.9**	185	198		193	194.730	33.655
Be	mg kg^{-1}	0.88	1.09					**0.891**				1.08	0.957	0.334
Bi	mg kg^{-1}	0.091						**0.171**						0.089
Br	mg kg^{-1}													
C(org)	mg kg^{-1}							**35700**						
C(tot)	mg kg^{-1}	39000			**40436**			**36500**					39583	
Cd	mg kg^{-1}	0.116						**0.102**		1.1			0.098	0.119
Ce	mg kg^{-1}	53.6	54.717	53				**46.37**		19.6		52.8	51.201	16.38
Cl	mg kg^{-1}													
Co	mg kg^{-1}	5.4	6.007					**6.688**		6.5		5.69	5.275	4.76
Cr	mg kg^{-1}	66.1	88	82	**60**		**83.3**	**48.11**	64	63		76.9	83.42	20.1
Cs	mg kg^{-1}	2.6										2.65	2.620	0.743
Cu	mg kg^{-1}	9.2						**11.76**		5		10.5	9.21	7.323
Dy	mg kg^{-1}	4.08	4.434					**2.979**				4.31	4.294	1.833
Er	mg kg^{-1}	2.44	2.746					**1.505**				2.54	2.494	0.882
Eu	mg kg^{-1}	0.84	0.886					**0.81**				0.856	0.872	0.45
F	mg kg^{-1}									354.2				
Ga	mg kg^{-1}	7.05	6.467	9			**9.1**	**6.85**		17.6		7.31	6.672	
Gd	mg kg^{-1}	4.53	4.65					**3.73**				4.74	4.373	2.462
Ge	mg kg^{-1}	0.16	1.153									0.989		0.031
Hf	mg kg^{-1}	9.1	8.628	8				**1.293**		6		8.95	5.6	
Hg	mg kg^{-1}													
Ho	mg kg^{-1}	0.81	0.932					**0.537**				0.869	0.846	0.338
In	mg kg^{-1}	0.022						**0.027**					0.025	
La	mg kg^{-1}	25.7	26.814	26				**22.44**		13.2		26.9	24.506	6.67
Li	mg kg^{-1}	18.7						**20.03**		21.5		22.4	20.15	9.99
Lu	mg kg^{-1}	0.37	0.385					**0.182**				0.387	0.354	0.095
Mo	mg kg^{-1}	0.835	1.89					**0.796**		1			0.718	0.273
Nb	mg kg^{-1}	4.63	8.29	10				**6.25**		12		8.81	8.279	0.042
Nd	mg kg^{-1}	23.8	24.085	13				**21.47**				23.7	24.302	9.121
Ni	mg kg^{-1}	30	29.9	25				**24.91**	29	42.5		35.3	31.77	23.152
Pb	mg kg^{-1}	10.5		15				**11.42**				11	11.624	
Pr	mg kg^{-1}	6.42	6.307					**5.503**				6.21	6.119	2.102
Rb	mg kg^{-1}	47.9	51.6	43			**56.7**	**57.08**				53.5	46.917	5.81
Re	mg kg^{-1}	0.007						**0.002**						
S	mg kg^{-1}	300						**115**					70	
Sb	mg kg^{-1}	0.486						**0.494**					0.536	0.012
Sc	mg kg^{-1}	4.81						**4.67**		4.2		6.77	5.57	2.6
Se	mg kg^{-1}	1.03						**0.078**						0.221
Sm	mg kg^{-1}	4.87	5.059					**4.42**		25.4		5.11	4.887	2.199
Sn	mg kg^{-1}	1.65						**1.391**					1.44	0.039
Sr	mg kg^{-1}	279.890	275.4	287	**260**		**290.5**	**300.4**	246	286		287	276.7	252.780
Ta	mg kg^{-1}	0.7						**0.538**				0.781	0.693	
Tb	mg kg^{-1}	0.67	0.745					**0.753**				0.725	0.673	0.342
Te	mg kg^{-1}	0.032						**0.028**						
Th	mg kg^{-1}	8.48	8.345	8				**8**				8.16	7.638	3.871
Tl	mg kg^{-1}	0.309						**0.325**					0.338	0.063
Tm	mg kg^{-1}	0.36	0.404					**0.205**				0.378	0.359	0.113
U	mg kg^{-1}	2.82	2.915					**1.908**				2.71	2.512	0.706
V	mg kg^{-1}	37	35.1				**43.8**	**31.51**	32	37.4		35.9	35.75	12.16
W	mg kg^{-1}	1.82						**0.986**					1.358	0.037
Y	mg kg^{-1}	22.3	24	26				**14.89**		12		27.1	24.923	8.92
Yb	mg kg^{-1}	2.42	2.574					**1.297**				2.5	2.368	0.677
Zn	mg kg^{-1}	29.2	32.4	37	**50**		**39.5**	**28.89**	26	27.1		30.8	31.44	23.882
Zr	mg kg^{-1}	352	318.6	315	**360**		**340.5**	**33.91**		327.5		343	204.8	1.879

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

Table 1 - GeoPT50 Contributed data for Calcified sediment, CSd-1. 15/12/2021

Lab Code		M82	M83	M84	M85	M86	M87	M88	M89	M90	M91	M94	M95	M96
SiO2	$g\ 100g^{-1}$	53.12	53.16	**52.24**	**52.84**	**53.01**	52.8	52.64	**52.58**	53.635	50.5	**52.797**	**52.611**	**53.5**
TiO2	$g\ 100g^{-1}$	0.431	0.38	**0.38**	**0.42**	**0.42**	0.43	0.4	**0.39**	0.421	0.44	**0.43**	**0.429**	**0.42**
Al2O3	$g\ 100g^{-1}$	6.1	6.09	**6.4**	**6.06**	**6.06**	6.2	6.01	**5.77**	6.062	6.8	**6.022**	**6.5**	**6.18**
Fe2O3T	$g\ 100g^{-1}$	2.08	2.07	**2.04**	**2.03**	**2.06**	2.25	1.99	**2.07**	2.123	2.35	**2.076**	**2.171**	**2.03**
Fe(II)O	$g\ 100g^{-1}$							0.77	**0.6**	0.667				
MnO	$g\ 100g^{-1}$	0.067	0.06	**0.07**	**0.06**	**0.06**	0.065	0.06	**0.062**	0.064	0.066	**0.063**	**0.066**	**0.06**
MgO	$g\ 100g^{-1}$	2.87	2.85	**2.95**	**2.89**	**2.93**	2.86	2.89	**2.72**	2.363	2.9	**2.927**	**2.996**	**2.93**
CaO	$g\ 100g^{-1}$	16.55	16.22	**16.18**	**16.51**	**16.46**	16.2	16.54	**16.47**	16.868	18	**16.605**		**16.33**
Na2O	$g\ 100g^{-1}$	0.98	1.12	**0.98**	**0.97**	**1.04**	1.2	1.04	**1.01**	0.584	1.04	**1.034**	**1.317**	**1.06**
K2O	$g\ 100g^{-1}$	1.36	1.4	**1.19**	**1.34**	**1.37**	1.5	1.32	**1.36**	1.287	1.36	**1.355**	**1.409**	**1.32**
P2O5	$g\ 100g^{-1}$	0.13	0.13	**0.39**	**0.13**	**0.12**	0.135	0.13	**0.12**	0.106	0.124	**0.127**	**0.121**	**0.13**
H2O+	$g\ 100g^{-1}$			**0.622**				1.2	**1.8**					
CO2	$g\ 100g^{-1}$	14.83						14.4	**16.6**					
LOI	$g\ 100g^{-1}$	16.25	16.35	**16.08**	16.14	**16.17**	15.94	16.16		16.19	16.7	16.35		**16.16**
Ag	$mg\ kg^{-1}$						0.04	0.041						
As	$mg\ kg^{-1}$	2	9			**7**	7.3	6.74		6.38			**5.177**	
Au	$mg\ kg^{-1}$													
B	$mg\ kg^{-1}$												**32.11**	
Ba	$mg\ kg^{-1}$	202	194		**203**		210	192	**216**	189.6	204	168	**193.5**	**180**
Be	$mg\ kg^{-1}$						0.97	0.91			0.97		**1.082**	
Bi	$mg\ kg^{-1}$							0.124						
Br	$mg\ kg^{-1}$													
C(org)	$mg\ kg^{-1}$	956												
C(tot)	$mg\ kg^{-1}$	41426						40500						
Cd	$mg\ kg^{-1}$						0.16	0.116			0.12			
Ce	$mg\ kg^{-1}$						54.6	57.7	**37**		51		**51.71**	
Cl	$mg\ kg^{-1}$	200							17		51			
Co	$mg\ kg^{-1}$	6				**6**	5.8	5.35	**6**	4.52	5.3		**5.084**	
Cr	$mg\ kg^{-1}$	104	83		**89**	**74**	84	57.5	**86**	79.35	85	139	**81.78**	
Cs	$mg\ kg^{-1}$						2.73	2.67					**2.551**	
Cu	$mg\ kg^{-1}$	11				**7**	12.5	9.45	**12**	8.51	9.9		**8.56**	
Dy	$mg\ kg^{-1}$						4.4	2.99			3		**4.56**	
Er	$mg\ kg^{-1}$						2.46	1.54			1.5		**2.642**	
Eu	$mg\ kg^{-1}$						0.94	0.898			0.82		**0.885**	
F	$mg\ kg^{-1}$								410		3500			
Ga	$mg\ kg^{-1}$	9			**7**	**7**	7.4	6.64	**3**		7.3		**6.497**	
Gd	$mg\ kg^{-1}$						4.96	4.29					**4.718**	
Ge	$mg\ kg^{-1}$													
Hf	$mg\ kg^{-1}$	4	11			**8**	8.7	1.27	**6**				**9.465**	
Hg	$mg\ kg^{-1}$	0.2					0.009							
Ho	$mg\ kg^{-1}$						0.85	0.552			0.53		**0.931**	
In	$mg\ kg^{-1}$							0.026						
La	$mg\ kg^{-1}$						26.5	26	**21**		25		**26.32**	
Li	$mg\ kg^{-1}$						20.7	22.2			22.3		**21.48**	
Lu	$mg\ kg^{-1}$						0.43	0.199			0.18		**0.416**	
Mo	$mg\ kg^{-1}$						0.81	0.83		0.55	0.82		**0.8**	
Nb	$mg\ kg^{-1}$	5	8		**11**	**7**	8.5	6.45	**9**		7		**8.386**	
Nd	$mg\ kg^{-1}$					**20**	24.4	25.5	**18**				**24.59**	
Ni	$mg\ kg^{-1}$	32	31		**26**	**28**	33	30.2	**27**	32.61	30.8		**28.74**	
Pb	$mg\ kg^{-1}$	8	13		**13**	**10**	12.4	10.15	**18**	9.44	11		**9.308**	
Pr	$mg\ kg^{-1}$						6.3	6.4					**6.254**	
Rb	$mg\ kg^{-1}$	53	48		**52**	**47**	52.3	52.6	**19**		50	53	**52.64**	
Re	$mg\ kg^{-1}$													
S	$mg\ kg^{-1}$	140							40	95.68	130			
Sb	$mg\ kg^{-1}$						0.56	0.47			0.5			
Sc	$mg\ kg^{-1}$				**11**	**9**	6.1	5.31	**8**	4.79	5.1		**6.585**	
Se	$mg\ kg^{-1}$							0.026						
Sm	$mg\ kg^{-1}$					**3**	5.1	5.05			4.9		**5.093**	
Sn	$mg\ kg^{-1}$						1.49	1.37	**2**	0.89	1.4			
Sr	$mg\ kg^{-1}$	283	263		**291**	**264**	295	291	**311**	291	269	241	**282.2**	**270**
Ta	$mg\ kg^{-1}$						0.76	0.53	**4**				**0.75**	
Tb	$mg\ kg^{-1}$						0.76	0.54			0.57		**0.752**	
Te	$mg\ kg^{-1}$													
Th	$mg\ kg^{-1}$				8	**5**	7.4	7.66	**8**		7.8		**8.722**	
Tl	$mg\ kg^{-1}$						0.35	0.301			0.32			
Tm	$mg\ kg^{-1}$						0.38	0.2			0.2		**0.404**	
U	$mg\ kg^{-1}$					**2**	2.73	2.13	**2**		1.9		**2.501**	
V	$mg\ kg^{-1}$	43	35		**38**	**34**	35	32.8	**43**	34.1	34		**33.04**	
W	$mg\ kg^{-1}$					**3**	1.34	1.055	**5**				**1.233**	
Y	$mg\ kg^{-1}$	26	23		**26**	**22**	23.9	15.75	**31**		22		**27.97**	
Yb	$mg\ kg^{-1}$					**3**	2.5	1.385			1.3		**2.69**	
Zn	$mg\ kg^{-1}$	33	25		**27**	**30**	27	29.9	**30**	32.2	31	32	**30.48**	
Zr	$mg\ kg^{-1}$	354	307		**351**	**320**	340	44.5	**290**		270	343	**370.9**	**330**

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

Table 1 - GeoPT50 Contributed data for Calcified sediment, CSd-1. 15/12/2021

Lab Code		M97	M98	M99	M100	M102	M103	M104	M105	M108	M109	M110	M111	M113
SiO2	g 100g^{-1}		63.1	53.37	53.13	46.7	51.56	53.66	52.5	50.44	52.6		54.5	53.17
TiO2	g 100g^{-1}	0.41	0.503	0.42	0.413	0.54	0.43	0.44	0.429	0.53	0.374		0.34	0.424
Al2O3	g 100g^{-1}	6.21	7.3	6.08	6.099	6.98	5.89	5.85	6.07	7.85	6.09		6.11	6.11
Fe2O3T	g 100g^{-1}	2.18	2.49	2.13	2.043	2.66	2.12	1.96	2.05	2.92	2.08		2.04	2.1
Fe(II)O	g 100g^{-1}												0.56	
MnO	g 100g^{-1}	0.07	0.076	0.06	0.064	0.082	0.06	1.13	0.066	0.081	0.062		0.06	0.064
MgO	g 100g^{-1}	2.91	3.43	2.88	2.925	2.33	2.35	2.6	3.03	4.23	2.806		2.03	2.92
CaO	g 100g^{-1}	17.22	19.9	16	16.41	21.5	19.13	16.55	16.2	22.54	16.572		15.15	16.85
Na2O	g 100g^{-1}	1.08	1.31	1.04	1.072	0.7	1.09	1	1.111	1.01	1.015		1.15	1.08
K2O	g 100g^{-1}	1.41	1.6	1.31	1.388	1.42	1.33	1.31	1.368	1.48	1.332		1.46	1.34
P2O5	g 100g^{-1}	0.14	0.148	0.14	0.132	0.13	0.13	0.1	0.137	0.14	0.125		0.13	0.127
H2O+	g 100g^{-1}												0.6	
CO2	g 100g^{-1}		4.01	14.75										
LOI	g 100g^{-1}		16.5	16.56	16.33	16.793	16.34	16.38	16.36	8.6	16.611		16.29	15.91
Ag	mg kg^{-1}			0.11										
As	mg kg^{-1}			6.42										
Au	mg kg^{-1}													
B	mg kg^{-1}													
Ba	mg kg^{-1}	199		207.110	200.5		197		198.7	167	203.5		185.5	194
Be	mg kg^{-1}	1.05					0.96		0.994		1.12			
Bi	mg kg^{-1}													
Br	mg kg^{-1}													
C(org)	mg kg^{-1}		858											
C(tot)	mg kg^{-1}		41000	40225.700										
Cd	mg kg^{-1}						0.42		0.191					
Ce	mg kg^{-1}	55.8		53.95	52.743		51.65		53.1		52	50.7		53.21
Cl	mg kg^{-1}													
Co	mg kg^{-1}	5.69		5.65	5.145	5.299	6.02		5.64	27.4	6.28		5.9	
Cr	mg kg^{-1}	83.9	158	76.83	92.7	133.420	64.01		90.1	84.3	68.85		58.1	85
Cs	mg kg^{-1}	2.62		2.18	2.406		1.83		2.69		3.16			2.55
Cu	mg kg^{-1}	9.72		25.01	10.67		11.1		9.72	9.26	9.64		10.9	9
Dy	mg kg^{-1}	4.26		4.48	3.440		4.11		4.04		3.24	4.28		4.29
Er	mg kg^{-1}	2.56		2.6	1.768		2.24		2.4		1.68	2.46		2.49
Eu	mg kg^{-1}	0.9		0.9	0.905		0.85		0.855		0.82	1.02		0.87
F	mg kg^{-1}													
Ga	mg kg^{-1}	7.17		7.16	6.396		7		6.67		6.93			6
Gd	mg kg^{-1}	4.54		4.7			4.56		4.41		4.21	5.25		4.48
Ge	mg kg^{-1}													
Hf	mg kg^{-1}	8.92		9.44			9.46		8.73		2.04			9.27
Hg	mg kg^{-1}													
Ho	mg kg^{-1}	0.85		0.89	0.664		0.8		0.844		0.62	0.88		0.87
In	mg kg^{-1}													
La	mg kg^{-1}	27.4		26.1	25.881		26.07		25.9		25.09	26.1	20.5	26.18
Li	mg kg^{-1}	22.3				21.269			22.1		25.66		22.8	
Lu	mg kg^{-1}	0.37		0.38	0.259		0.34		0.367		0.23	0.46		0.39
Mo	mg kg^{-1}	0.84		1.24	0.732				0.9		0.75		0.7	
Nb	mg kg^{-1}	8.98		8.25	7.95		6.33		8.67	0.72	8.09			8.62
Nd	mg kg^{-1}	25.4		24.65	24.181		24.27		24		23.73	24		24.11
Ni	mg kg^{-1}	33.5		37.57	32.342	29.412	24.07		32.4	37.7	31.4		29.3	32
Pb	mg kg^{-1}	11.9		13.02	11.069		7.11		10.47	25.3	12.46		7.5	11.04
Pr	mg kg^{-1}	6.58		6.35	6.423		6.19		6.38		6.27	6.55		6.42
Rb	mg kg^{-1}	52.1		50.27	52.19	63.19	49.68		50.9	50.5	54.33			49.4
Re	mg kg^{-1}													
S	mg kg^{-1}			76.85		176.2							0.04	
Sb	mg kg^{-1}			0.61					0.883					
Sc	mg kg^{-1}	6.26		8.31	5.659	4.104	7.46		5.91	8.4	5.53		5	5.6
Se	mg kg^{-1}													
Sm	mg kg^{-1}	5.12		5.11	4.895		4.92		4.87		4.79	5.11		5.04
Sn	mg kg^{-1}	1.58							1.887				1.4	
Sr	mg kg^{-1}	289	361	284.340	268.3	357.690	261		282	274	285.440		272.4	281
Ta	mg kg^{-1}	0.75		0.66			2.18		0.699		0.66			0.73
Tb	mg kg^{-1}	0.71		0.71	0.634		0.71		0.684		0.59	0.76		0.72
Te	mg kg^{-1}													
Th	mg kg^{-1}	8.79		8.64	9.17		8.07		7.83		8.2			8.31
Tl	mg kg^{-1}	0.36							0.324					
Tm	mg kg^{-1}	0.39		0.37			0.36		0.368			0.4		0.39
U	mg kg^{-1}	2.97		2.84	2.297		2.76		2.78		2.3			2.77
V	mg kg^{-1}	35.5		38.23	36.93	27.482	36.43		35.2	27.8	35.66		33.3	33
W	mg kg^{-1}								1.324		1.52			
Y	mg kg^{-1}	26.6		24.85	19.249		23.55		23.1	20.7	17.75	24.7	14.9	25.78
Yb	mg kg^{-1}	2.52		2.45	1.746		2.33		2.42		1.58	2.47		2.52
Zn	mg kg^{-1}	32.1		35.59	34	27.156	31.07		31	20.5			32	34
Zr	mg kg^{-1}	355	436	316.8	344.9	360.530	328		338	304	70.76		36	353

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

Table 1 - GeoPT50 Contributed data for Calcified sediment, CSd-1. 15/12/2021

Lab Code		M114	M116	M117	M118	M120	M121	M122	M123	M124	-	-	-	-
SiO2	g 100g^{-1}	**53.137**	46.3	**53.015**		56.93		52.6	52.92	**52.81**				
TiO2	g 100g^{-1}	**0.420**	0.385	**0.420**		0.418		0.43	0.419	**0.42**				
Al2O3	g 100g^{-1}	**6.047**	7.55	**6.17**		6.203		6.33	6.122	**6.06**				
Fe2O3T	g 100g^{-1}	**2.081**	2.16	**2.127**		2.162		2.1	2.098	**2.04**				
Fe(II)O	g 100g^{-1}	**0.736**							0.9					
MnO	g 100g^{-1}	**0.064**	0.058	**0.063**		0.064		0.065	0.065	**0.06**				
MgO	g 100g^{-1}	**2.976**		**3.194**		2.899		3	2.901	**2.9**				
CaO	g 100g^{-1}	**16.363**	17.8	**16.138**		14.41		16.25	16.59	**16.36**				
Na2O	g 100g^{-1}	**1.059**		**1.153**		1.078		1.1	1.089	**1.04**				
K2O	g 100g^{-1}	**1.339**	1.47	**1.364**		1.281		1.35	1.344	**1.33**				
P2O5	g 100g^{-1}	**0.131**		**0.136**		0.144		0.1	0.129	**0.129**				
H2O+	g 100g^{-1}								1.25					
CO2	g 100g^{-1}								13.7					
LOI	g 100g^{-1}	**16.306**		**16.17**	16.12			16.3	16.175	**16.167**				
Ag	mg kg^{-1}					0.034	**0.522**							
As	mg kg^{-1}		7		4.38		**7.56**	6	6.86	**4.6**				
Au	mg kg^{-1}													
B	mg kg^{-1}						**24.08**							
Ba	mg kg^{-1}	**198.190**	216.5	**189.720**	201	202.5	**195.830**	227.170	197	**131.7**				
Be	mg kg^{-1}	**1**		**0.944**	1.13	1.199	**1**	0.95	0.96					
Bi	mg kg^{-1}				0.11	0.135			0.2					
Br	mg kg^{-1}		18					4						
C(org)	mg kg^{-1}								1250					
C(tot)	mg kg^{-1}								39800					
Cd	mg kg^{-1}				0.32	0.152	**0.301**	0.14	0.22					
Ce	mg kg^{-1}	**51.906**	55.6	**50.17**	49.1	51.06	**49.08**	56	52.7	**57.168**				
Cl	mg kg^{-1}													
Co	mg kg^{-1}	**6.205**		**5.778**	5.77	5.24	**5.09**	5.84	5.43	**5.5**				
Cr	mg kg^{-1}	**83.778**	108	**84.21**	63.7	75.91	**77.9**	68.5	60.4	**81.890**				
Cs	mg kg^{-1}	**2.635**		**2.61**	2.86	2.506	**2.65**	2.95	2.9	**3.078**				
Cu	mg kg^{-1}	**10.002**	16.2	**10.42**	11.2	10.25	**8.38**	12.39	8.2	**10.9**				
Dy	mg kg^{-1}	**4.174**		**4.085**	3.22	3.98	**3.6**	3.32	2.39	**4.323**				
Er	mg kg^{-1}	**2.453**		**2.698**	1.71	2.31	**2.07**	1.68	3.91	**2.633**				
Eu	mg kg^{-1}	**0.843**		**0.882**	0.84	0.98	**0.853**	0.92	1.1	**0.969**				
F	mg kg^{-1}													
Ga	mg kg^{-1}	**6.994**	7.2	**6.922**	6.34	6.723	**8.5**	4	7.06	**8.5**				
Gd	mg kg^{-1}	**4.515**		**5.045**	4.02	4.74	**4.74**	4.2	5.69	**4.633**				
Ge	mg kg^{-1}				0.96	1.11	**3.8**		1.12					
Hf	mg kg^{-1}	**8.938**		**9.281**	2.22	9.495	**3.59**	7	9.955	**8.609**				
Hg	mg kg^{-1}			**0.008**										
Ho	mg kg^{-1}	**0.843**		**0.935**	0.61	0.82	**0.702**	0.63	0.95	**0.901**				
In	mg kg^{-1}													
La	mg kg^{-1}	**25.361**	25.8	**24.628**	23.8	26.29	**23.78**	27.5	29.9	**26.278**				
Li	mg kg^{-1}	**20.834**		**21.354**	23.6	21.33	**20.57**	21.7	21.6					
Lu	mg kg^{-1}	**0.39**		**0.365**	0.24	0.34	**0.288**	0.21	0.45	**0.383**				
Mo	mg kg^{-1}	**0.912**			4.06	0.611		0.85	1.15					
Nb	mg kg^{-1}	**8.868**	13.3	**8.215**	8.52	9.265	**7.89**	10	9.145	**8.014**				
Nd	mg kg^{-1}	**23.682**	24.8	**22.647**	22.2	22.94	**22.52**	26.1	26.7	**24.979**				
Ni	mg kg^{-1}	**34.961**		**32.197**	27.2	30.89	**29.14**	37.1	32.3	**34.5**				
Pb	mg kg^{-1}	**11.498**	13.7	**10.509**	11.3	11.08	**10.84**	12.67	16.4	**14.009**				
Pr	mg kg^{-1}	**6.101**		**5.98**	5.93	6.26	**5.89**	7	6.48	**6.698**				
Rb	mg kg^{-1}	**51.471**	57.7	**51.18**	52.5	49.36	**50.05**	50	55.25	**50.7**				
Re	mg kg^{-1}													
S	mg kg^{-1}									**80**				
Sb	mg kg^{-1}			**0.528**	0.44	0.454		0.47	0.55					
Sc	mg kg^{-1}	**5.936**		**6.414**	6.62	5.33	**5.89**	5.3		**6.045**				
Se	mg kg^{-1}					1.486								
Sm	mg kg^{-1}	**4.881**		**4.631**	4.58	4.96	**4.6**	5.2	5.96	**5.076**				
Sn	mg kg^{-1}	**1.574**		**1.542**	1.57	2.037		1.2						
Sr	mg kg^{-1}	**288.666**	309.2	**289.790**	289	272.1	**282.610**	258	277.3	**304.574**				
Ta	mg kg^{-1}	**0.726**		**0.719**	0.67	0.715	**0.72**		0.7	**0.742**				
Tb	mg kg^{-1}	**0.723**		**0.751**	0.59	0.66	**0.672**	0.6	0.67	**0.735**				
Te	mg kg^{-1}													
Th	mg kg^{-1}	**8.176**	5.98	**8.14**	7.07	7.9		8.21	8.5	**8.231**				
Tl	mg kg^{-1}	**0.358**			0.33	0.337		0.37						
Tm	mg kg^{-1}	**0.362**		**0.398**	0.25	0.35	**0.292**	0.23	0.42	**0.386**				
U	mg kg^{-1}	**2.747**	2.76	**2.751**	2.16	2.101		2.28	2.74	**3.284**				
V	mg kg^{-1}	**36.431**		**35.245**	41.9	34.54	**33.97**	34	32.2	**45.120**				
W	mg kg^{-1}				1.1	1.353			1.77					
Y	mg kg^{-1}	**25.534**	21.6	**25.48**	18.7	22.87	**19.35**	16.1	21.07	**25.707**				
Yb	mg kg^{-1}	**2.481**		**2.607**	1.6	2.42	**1.93**	1.38	2.39	**2.629**				
Zn	mg kg^{-1}	**30.1**	34.3	**40.59**	30.6	29.46	**33.78**	35	33	**36.383**				
Zr	mg kg^{-1}	**341.869**	323.3	**362.090**	78.3	337.4	**119.270**	290	391.5	**348.325**				

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

Table 2 - GeoPT50 Consensus values and statistical summary for Calcified sediment, CSd-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	52.92	0.06706	0.5824	0.1151	86	52.92	0.6219	52.89	Assigned	Robust Mean
TiO2	0.42	0.001937	0.009572	0.2024	92	0.4182	0.01909	0.42	Assigned	Median
Al2O3	6.087	0.0195	0.09276	0.2102	92	6.098	0.1555	6.1	Assigned	Mode
Fe2O3T	2.078	0.007071	0.03723	0.1899	92	2.081	0.05926	2.078	Assigned	Median
MnO	0.06359	0.0004907	0.001925	0.2549	90	0.06359	0.004656	0.0636	Assigned	Robust Mean
MgO	2.909	0.01318	0.04954	0.266	91	2.923	0.08752	2.92	Assigned	Mode
CaO	16.53	0.05454	0.2167	0.2516	91	16.6	0.4824	16.53	Assigned	Median
Na2O	1.04	0.008226	0.02069	0.3977	90	1.047	0.07295	1.04	Assigned	Median
K2O	1.34	0.003874	0.02565	0.1511	92	1.343	0.04301	1.34	Assigned	Median
P2O5	0.13	0.0005876	0.003534	0.1662	90	0.1289	0.00684	0.13	Assigned	Median
LOI	16.22	0.02995	0.2132	0.1405	80	16.22	0.2679	16.2	Assigned	Robust Mean
	$mg\ kg^{-1}$	$mg\ kg^{-1}$	$mg\ kg^{-1}$			$mg\ kg^{-1}$	$mg\ kg^{-1}$	$mg\ kg^{-1}$		
As	6.41	0.172	0.3876	0.4438	42	6.524	1.349	6.41	Provisional	Median
Ba	196.9	1.555	7.11	0.2187	80	196.9	13.91	198	Assigned	Robust Mean
Be	0.965	0.0191	0.0776	0.2461	40	0.9753	0.105	0.965	Assigned	Median
Bi	0.1305	0.006053	0.01418	0.4268	21	0.1305	0.02774	0.13	Provisional	Robust Mean
C(tot)	40470	423	655.8	0.6451	19	39950	1403	40300	Provisional	Mode
Cd	0.114	0.00451	0.01264	0.3567	30	0.15	0.06179	0.12	Provisional	Mode
Ce	52.45	0.718	2.312	0.3106	65	50.7	5.351	51.71	Assigned	Mode
Co	5.53	0.195	0.3419	0.5703	62	5.684	0.734	5.645	Assigned	Mode
Cr	83.14	1.51	3.419	0.4417	75	79.03	15.21	81.89	Provisional	Mode
Cs	2.625	0.03507	0.1816	0.1931	46	2.636	0.2485	2.625	Assigned	Median
Cu	9.774	0.2272	0.5547	0.4096	65	9.774	1.832	9.9	Provisional	Robust Mean
Dy	4.3	0.0297	0.2761	0.1076	52	3.873	0.6216	4.065	Assigned	Mode
Er	2.53	0.0451	0.176	0.2563	52	2.212	0.4914	2.4	Assigned	Mode
Eu	0.8779	0.0148	0.0716	0.2067	51	0.8751	0.05986	0.8718	Assigned	Mode
Ga	6.95	0.075	0.4152	0.1806	63	7.085	0.8716	7	Assigned	Mode
Gd	4.596	0.107	0.2922	0.3662	51	4.506	0.4202	4.53	Assigned	Mode
Hf	9.26	0.182	0.5298	0.3435	52	7.442	3.135	8.65	Assigned	Mode
Ho	0.8633	0.02509	0.07059	0.3555	51	0.7831	0.1407	0.82	Assigned	Mode
In	0.0261	0.001704	0.003614	0.4716	10	0.0248	0.007206	0.0261	Provisional	Median
La	26.1	0.276	1.278	0.216	68	25.02	2.797	25.8	Assigned	Mode
Li	21.55	0.3	1.086	0.2763	39	21.13	1.714	21.47	Assigned	Mode
Lu	0.3885	0.007477	0.03583	0.2087	51	0.3372	0.0865	0.365	Assigned	Mode
Mo	0.82	0.0299	0.06757	0.4425	44	0.8655	0.2388	0.8325	Assigned	Mode
Nb	8.279	0.144	0.4817	0.2989	68	8.184	1.382	8.152	Assigned	Mode
Nd	24.27	0.181	1.201	0.1507	60	23.44	2.204	23.9	Assigned	Mode
Ni	31	0.4984	1.479	0.337	71	31.21	3.546	31	Assigned	Median
Pb	11.13	0.2197	0.6197	0.3545	68	11.39	1.627	11.13	Assigned	Median
Pr	6.359	0.078	0.385	0.2026	50	6.281	0.356	6.303	Assigned	Mode
Rb	50.85	0.3514	2.252	0.1561	74	50.85	3.023	50.63	Assigned	Robust Mean
Sb	0.51	0.02401	0.04514	0.5318	30	0.5408	0.1255	0.524	Assigned	Mode
Sc	5.585	0.243	0.3448	0.7047	59	6.324	1.866	5.89	Provisional	Mode
Sm	5.013	0.045	0.3146	0.143	55	4.914	0.3798	4.95	Assigned	Mode
Sn	1.58	0.05774	0.118	0.4894	37	1.612	0.3778	1.58	Assigned	Median
Sr	280	2.217	9.591	0.2312	85	279.1	16.92	280	Assigned	Median
Ta	0.728	0.01763	0.06108	0.2886	40	0.741	0.1228	0.728	Assigned	Median
Tb	0.71	0.0225	0.05979	0.3763	51	0.6872	0.07534	0.7	Assigned	Mode
Th	8.27	0.104	0.4813	0.2161	64	7.977	0.8788	8.105	Assigned	Mode
Tl	0.33	0.0118	0.03119	0.3784	31	0.3191	0.03694	0.324	Assigned	Mode
Tm	0.39	0.00593	0.03594	0.165	49	0.3414	0.07158	0.362	Assigned	Mode
U	2.751	0.0449	0.189	0.2376	60	2.57	0.496	2.635	Assigned	Mode
V	35.15	0.4601	1.645	0.2796	74	35.72	3.935	35.15	Assigned	Median
W	1.332	0.08077	0.102	0.7915	28	1.358	0.4195	1.332	Provisional	Median
Y	23.95	1.17	1.188	0.985	75	22.7	3.825	23	Assigned	Mode
Yb	2.52	0.0151	0.1754	0.0861	53	2.25	0.4999	2.42	Assigned	Mode
Zn	31.99	0.4341	1.519	0.2858	76	31.99	3.784	32	Assigned	Robust Mean
Zr	343	2.86	11.4	0.251	81	315.8	56.61	329	Assigned	Mode

Table 3 - GeoPT50 Z-scores for Calcified sediment, CSd-1. 15/12/2021

Lab Code	M1	M2	M3	M4	M5	M6	M7	M9	M10	M13	M15	M16	M17
SiO2	-0.73	**-2.41**	*	-0.06	-0.09	-0.08	**-0.54**	**2.67**	0.59	*	0.72	0.16	-0.02
TiO2	-0.16	**0.00**	**-7.52**	1.04	-1.04	0.00	**1.04**	**-20.90**	0.52	0.00	-0.52	1.36	0.42
Al2O3	1.47	**-2.45**	**1.33**	1.31	-0.47	0.23	**-0.08**	**21.70**	0.45	0.72	-0.52	-2.73	0.54
Fe2O3T	0.74	**1.13**	**1.13**	-0.64	-0.11	0.05	**-0.48**	**-18.21**	0.16	-0.24	-0.11	3.12	-0.46
MnO	0.37	**2.81**	**2.29**	1.67	-0.93	-0.41	**-1.86**	*	-0.93	*	-1.45	1.15	-0.93
MgO	1.83	**0.84**	**2.05**	1.23	-0.59	0.04	**-0.37**	**26.48**	0.12	-0.09	-0.99	2.03	0.34
CaO	1.71	**2.68**	**1.57**	-0.92	-0.44	-0.08	**-0.60**	**-19.61**	0.16	-0.74	1.45	2.24	-0.09
Na2O	3.20	**6.26**	**1.91**	0.71	0.23	1.85	**-0.02**	**19.80**	*	-0.01	-0.98	2.41	-0.71
K2O	0.76	**4.29**	**0.00**	0.19	0.19	-0.72	**-1.17**	**-10.14**	0.39	0.58	2.92	1.75	-0.35
P2O5	0.42	**0.57**	**0.85**	0.00	9.90	-0.71	**0.00**	**5.66**	0.00	*	0.00	-0.28	0.00
LOI	*	**-1.29**	*	0.43	0.25	0.27	**-0.77**	**1.95**	0.67	*	-0.46	-0.04	0.32
As	*-1.09*	*	*	*	*0.76*	*	***-1.60***	*	*	*	*-0.05*	*	*
Ba	0.71	*	**1.19**	*	0.08	0.50	**-0.61**	*	-1.68	*	-0.51	*	*
Be	0.86	*	*	*	*	*	**-0.84**	*	*	*	-0.42	*	*
Bi	*-0.49*	*	*	*	*	*	***-0.81***	*	*	*	*-0.02*	*	*
C(tot)	*	*	*	*	*	*	***-1.78***	*	*	*	*	*	*
Cd	*-0.49*	*	***0.40***	*	*	*	***-0.16***	*	*	*	*-0.16*	*	*
Ce	0.91	*	**-0.68**	*	1.20	*	**0.19**	*	*	*	-0.75	*	*
Co	-0.72	*	**0.06**	*	*	*	**-0.47**	*	*	*	-0.96	*	*
Cr	*-1.22*	*	***-0.36***	*	*1.30*	*0.86*	***-9.55***	*	*0.56*	*	*-3.70*	*	*
Cs	-0.36	*	**0.52**	*	*	*	**-0.08**	*	*	*	-0.40	*	*
Cu	*-0.95*	*	***0.71***	*	*-2.50*	*	***0.23***	*	*	*	*-1.17*	*	*
Dy	0.28	*	**-2.35**	*	*	*	**0.72**	*	*	*	-2.63	*	*
Er	0.16	*	**-2.73**	*	*	*	**0.00**	*	*	*	-3.18	*	*
Eu	0.09	*	**-1.02**	*	*	*	**-0.11**	*	*	*	-0.75	*	*
Ga	-1.73	*	**0.00**	*	0.06	*	**-0.46**	*	2.47	*	-0.39	*	*
Gd	0.16	*	**-0.74**	*	*	*	**0.49**	*	*	*	-1.41	*	*
Hf	-2.09	*	**-11.34**	*	*	*	**1.59**	*	*	*	*	*	*
Ho	0.23	*	**-1.85**	*	*	*	**0.24**	*	*	*	-2.43	*	*
In	*	*	*	*	*	*	***0.53***	*	*	*	*	*	*
La	0.72	*	**-0.95**	*	0.74	*	**0.16**	*	-4.73	*	-0.90	*	*
Li	0.07	*	**1.34**	*	*	*	**0.78**	*	*	*	-1.34	*	*
Lu	-0.16	*	**-2.19**	*	*	*	**-1.07**	*	*	*	-2.91	*	*
Mo	-0.30	*	**-0.40**	*	*	*	**0.44**	*	*	*	-0.07	*	*
Nb	-0.45	*	**1.95**	*	-0.29	*	**-0.58**	*	1.79	*	-4.39	*	*
Nd	0.72	*	**-0.73**	*	*	*	**0.61**	*	*	*	-1.25	*	*
Ni	3.62	*	**2.59**	*	-0.34	*	**-0.34**	*	*	*	-0.89	*	*
Pb	-0.96	*	**0.77**	*	2.31	*	**-0.14**	*	*	*	-0.92	*	*
Pr	0.49	*	**-0.34**	*	*	*	**0.39**	*	*	*	-0.97	*	*
Rb	-0.77	*	**-0.13**	*	0.25	*	**-1.80**	*	0.25	*	-0.46	*	*
Sb	1.85	*	*	*	*	*	**-0.22**	*	*	*	0.66	*	*
Sc	*	*	***0.13***	*	*7.85*	*	***-1.35***	*	*	*	*-1.63*	*	*
Sm	0.65	*	**-1.09**	*	*	*	**-0.96**	*	*	*	-0.93	*	*
Sn	0.12	*	*	*	*	*	**-0.59**	*	*	*	*	*	*
Sr	0.14	*	**-1.05**	*	0.00	-1.09	**1.46**	*	-0.68	*	-0.79	*	*
Ta	-0.51	*	**0.08**	*	*	*	**-3.08**	*	*	*	*	*	*
Tb	0.13	*	**-0.60**	*	*	*	**0.67**	*	*	*	-1.59	*	*
Th	0.06	*	**-1.27**	*	-0.28	*	**0.73**	*	*	*	-0.80	*	*
Tl	-0.46	*	*	*	*	*	**-0.93**	*	*	*	-0.48	*	*
Tm	-0.27	*	**-2.06**	*	*	*	**0.56**	*	*	*	-2.64	*	*
U	-0.63	*	**-1.33**	*	0.66	*	**1.16**	*	*	*	-2.38	*	*
V	0.26	*	**-0.40**	*	1.17	*	**-2.52**	*	1.47	*	-0.79	*	*
W	*-3.32*	*	*	*	*	*	***-2.18***	*	*	*	*	*	*
Y	0.34	*	**-1.69**	*	0.44	*	**-0.63**	*	-0.40	*	-4.08	*	*
Yb	0.50	*	**-2.34**	*	*	*	**0.11**	*	*	*	*	*	*
Zn	0.06	*	**1.14**	*	0.00	*	**-1.57**	*	*	*	-2.03	*	*
Zr	-3.07	*	**-19.74**	*	-0.57	-0.61	**4.30**	*	-1.45	*	3.73	*	*

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

Table 3 - GeoPT50 Z-scores for Calcified sediment, CSd-1. 15/12/2021

Lab Code	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30
SiO2	**-1.23**	0.23	-1.58	-0.19	0.73	**1.07**	**0.21**	-0.15	**-1.38**	**-0.04**	0.43	0.10	1.38
TiO2	**0.00**	0.68	-2.61	-0.52	0.00	**1.04**	**0.84**	0.52	**0.00**	**1.67**	0.00	1.04	0.31
Al2O3	**-2.23**	-0.80	2.50	-1.06	-0.36	**2.08**	**0.46**	-0.36	**-1.48**	**-0.61**	-0.15	0.12	0.34
Fe2O3T	**-0.48**	-1.09	0.43	0.97	0.56	**-1.02**	**11.12**	-0.38	**9.46**	**0.05**	0.30	1.10	-0.11
MnO	**-1.86**	-0.41	-6.13	-1.45	0.89	**3.33**	**0.84**	-3.53	**3.33**	**-1.34**	-0.93	-6.13	0.24
MgO	**-3.00**	0.15	3.55	0.52	-0.49	**3.46**	**3.20**	-0.39	**2.05**	**0.23**	-0.09	0.92	-1.40
CaO	**4.01**	0.45	3.32	1.59	0.00	**-2.40**	**-3.38**	-0.32	**0.60**	**-0.46**	-0.35	0.62	2.47
Na2O	**-4.37**	0.01	0.23	1.44	-2.91	**2.39**	**4.66**	-0.25	**1.43**	**-2.44**	0.95	-1.95	-0.25
K2O	**-3.12**	-0.37	2.53	0.39	0.78	**0.39**	**0.55**	0.19	**-1.17**	**-0.39**	0.00	-0.19	-0.19
P2O5	**0.00**	-0.71	0.00	0.42	-4.24	**-5.66**	**3.40**	-1.41	**90.54**	**0.57**	-0.85	0.00	-0.14
LOI	**-0.07**	-2.23	-0.72	-0.32	-0.72	**-0.31**	**-0.12**	**-0.16**	**2.09**	**1.29**	0.64	0.25	-15.79
As	*	*5.28*	*-0.09*	*3.08*	*	***4.62***	***9.26***	*	*	*	*	*-0.01*	*
Ba	**-0.33**	0.22	0.08	-0.69	*	**-0.56**	**1.29**	*	**6.52**	**-2.37**	*	*	0.39
Be	*	-0.16	-0.03	*	*	*	*	*	**1.74**	*	*	-1.58	0.23
Bi	*	*0.34*	*0.69*	*34.18*	*	*	*	*	*	*	*	*	*
C(tot)	*	*	*	*-30.85*	*	*	*	*	*	*	*-30.85*	*0.56*	*
Cd	*	*	*	*	*	*	*	*	*	*	*	*21.99*	*
Ce	**0.90**	0.01	-0.23	-2.84	*	**-3.61**	**-5.39**	*	**4.74**	**-2.06**	*	*	-0.19
Co	*	0.26	-2.24	0.54	*	**3.42**	**1.37**	*	**2.54**	**-1.17**	*	13.41	-0.03
Cr	*	*	*-1.92*	*-1.19*	*	***-2.18***	***5.81***	*	***0.60***	*	*	*-4.12*	*-0.24*
Cs	**-1.11**	-0.12	0.54	0.76	*	**26.30**	**57.14**	*	**-0.69**	**0.03**	*	*	*
Cu	*	*0.56*	*1.11*	*-2.14*	*	***-5.72***	***2.21***	*	***2.75***	***-2.51***	*	*-0.70*	*-0.09*
Dy	**-1.41**	-0.04	-0.62	*	*	*	*	*	**0.00**	**-4.06**	*	*	0.05
Er	**-1.99**	0.14	-0.74	*	*	*	*	*	**-0.17**	**-4.60**	*	*	0.23
Eu	**0.25**	*	0.08	*	*	*	*	*	**3.10**	**-0.95**	*	*	0.15
Ga	*	0.52	1.26	-0.06	*	**-1.32**	**2.53**	*	**-0.12**	**2.36**	*	*	0.48
Gd	**-0.41**	0.25	-0.35	*	*	*	*	*	**2.07**	**-1.70**	*	*	-0.63
Hf	**-10.01**	-0.09	-0.59	-2.70	*	**-6.34**	*	*	**1.59**	-5.72	*	*	-0.57
Ho	**-1.46**	0.33	-0.80	*	*	*	*	*	**0.52**	**-3.45**	*	*	0.26
In	*	*	*0.54*	*	*	*	*	*	*	*	*	*	*
La	**-0.68**	0.12	0.03	-2.35	*	**1.41**	**-14.17**	*	**4.30**	**-2.19**	*	*	-0.50
Li	**-0.07**	1.04	-0.91	*	*	*	*	*	*	**-0.32**	*	*	*
Lu	**-1.97**	0.44	-0.12	*	*	*	*	*	**0.32**	**-3.31**	*	*	0.02
Mo	*	0.81	-3.03	7.99	*	*	**61.86**	*	**5.62**	8.73	*	*	-0.15
Nb	**1.06**	-0.23	0.75	-1.22	*	**-2.03**	**-2.65**	*	**14.37**	-1.33	*	*	-0.30
Nd	**0.66**	-0.11	0.12	-2.78	*	**-4.39**	**-1.89**	*	**4.19**	**-2.39**	*	*	-0.17
Ni	*	0.64	5.41	-1.05	*	**-2.37**	**2.70**	*	**1.62**	**0.47**	*	-0.68	-0.83
Pb	**1.68**	0.21	2.31	-0.84	*	**9.30**	**-1.83**	*	**1.40**	**1.56**	*	-0.19	0.06
Pr	**0.00**	0.12	-0.02	*	*	*	*	*	**3.48**	**-2.52**	*	*	-0.22
Rb	**-0.50**	-0.15	-0.42	-0.57	*	**-0.25**	**-18.14**	*	**-0.25**	**0.06**	*	*	-0.15
Sb	*	0.11	0.11	*	*	*	*	*	*	*	*	14.29	*
Sc	*	*-0.51*	*7.85*	*71.65*	*	*	***30.20***	*	*	*2.05*	*	*	*
Sm	**-0.01**	-0.34	-0.27	3.80	*	**-10.85**	*	*	**2.19**	**-1.98**	*	*	-0.10
Sn	*	*	-1.95	11.53	*	*	**28.99**	*	**2.71**	*	*	-4.66	0.17
Sr	**-1.05**	-0.36	0.42	-1.06	*	**-1.17**	**-0.21**	-1.36	**2.42**	**1.36**	*	1.04	0.91
Ta	**2.90**	*	1.24	*	*	*	*	*	**19.19**	0.59	*	*	-0.64
Tb	**-0.64**	0.08	0.17	*	*	*	*	*	**1.51**	**-2.34**	*	*	-0.17
Th	**-0.08**	-0.02	0.08	0.45	*	**-4.51**	**7.75**	*	**2.97**	**-1.95**	*	*	-0.25
Tl	*	0.16	0.32	17.15	*	*	*	*	**-0.96**	*	*	-3.05	-1.12
Tm	**-2.03**	0.14	-0.42	*	*	*	*	*	**0.28**	**-3.62**	*	*	0.00
U	**-1.01**	0.58	-0.56	5.16	*	**1.85**	*	*	**9.79**	**-2.28**	*	*	0.10
V	*	*	0.56	0.32	*	**0.46**	**4.16**	*	**3.37**	**-1.85**	*	-2.48	0.54
W	*	*	*-0.30*	*	*	***58.49***	*	*	***2.63***	*-1.14*	*	*	*-0.99*
Y	**-1.67**	0.48	0.86	-0.61	*	**-1.22**	**0.04**	*	**1.98**	**-4.93**	*	*	0.56
Yb	**-2.50**	0.26	-0.46	*	*	*	*	*	**-0.11**	**-4.73**	*	*	0.20
Zn	*	-0.29	1.98	-1.05	*	**0.27**	**0.67**	*	**6.86**	**1.19**	*	1.65	-0.15
Zr	**0.92**	-0.61	0.92	-1.70	*	**-2.36**	**-3.07**	*	**1.71**	**0.70**	*	*	-0.28

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

Table 3 - GeoPT50 Z-scores for Calcified sediment, CSd-1. 15/12/2021

Lab Code	M32	M33	M34	M37	M38	M39	M40	M41	M42	M43	M44	M45	M47
SiO2	*	-4.56	*	0.45	-0.73	-0.90	0.06	*	-0.05	0.13	-0.04	-1.21	0.53
TiO2	2.83	-7.31	*	-0.31	0.16	-0.21	-0.52	*	0.00	0.10	0.00	-3.55	1.56
Al2O3	-3.03	18.03	*	0.29	-0.58	-1.37	0.12	*	0.12	0.12	0.25	0.36	1.48
Fe2O3T	-5.05	-5.05	*	-0.11	-0.24	-0.21	0.03	*	0.16	0.16	-1.56	0.70	1.40
MnO	*	-7.06	*	0.63	0.11	1.77	-0.93	*	-0.15	1.15	0.73	11.64	0.99
MgO	0.53	2.05	*	-0.89	-0.19	-1.18	0.32	*	0.02	0.42	0.43	3.46	-0.49
CaO	2.12	8.12	*	1.87	-0.44	-1.80	0.14	*	0.18	-0.14	0.74	-2.03	0.12
Na2O	2.83	-3.89	*	-0.25	-0.01	-3.89	0.71	*	0.47	-1.46	-0.02	2.39	1.86
K2O	-1.09	0.39	*	-0.19	0.19	-0.39	0.00	*	-0.19	-1.05	-0.78	-2.34	0.62
P2O5	3.17	-2.83	*	0.00	0.00	-1.70	0.14	*	0.00	-0.28	-0.57	-1.90	0.03
LOI	*	-2.56	*	-1.21	*	-1.67	-0.18	*	-0.04	0.01	-1.10	1.01	-1.71
As	*	1.42	*	*	*	-1.83	0.25	*	0.76	*	-1.57	*	1.19
Ba	0.36	3.40	*	0.36	0.15	-0.26	-0.24	-3.40	1.42	0.36	-2.23	7.32	1.58
Be	1.89	-0.32	-1.90	0.23	*	-0.97	0.16	*	*	*	-2.38	*	*
Bi	*	*	*	*	*	*	0.34	*	*	*	-0.02	*	0.39
C(tot)	*	*	*	*	0.41	0.05	-0.13	*	*	*	*	1.07	*
Cd	0.10	*	*	*	*	-1.11	0.24	*	*	*	2.21	*	-1.66
Ce	-0.01	-1.13	-2.60	1.44	*	1.41	0.12	-1.27	*	0.10	-10.65	-0.67	1.07
Co	-0.07	4.30	-1.24	*	35.78	-2.43	-0.34	*	*	*	-2.16	*	*
Cr	*	4.05	*	*	0.42	-1.50	-0.61	*	*	-0.09	-0.63	*	0.53
Cs	0.83	*	-1.53	*	*	1.31	0.10	-0.41	*	-0.34	-4.32	*	0.31
Cu	1.09	2.21	2.48	*	*	-2.82	-0.16	*	*	-1.15	-2.53	*	-2.35
Dy	-1.26	-0.11	-1.67	0.72	*	0.07	0.00	-1.88	*	0.07	-4.42	0.69	0.43
Er	-1.48	-0.74	-4.03	0.48	*	0.63	-0.37	-1.92	*	0.00	-3.92	0.40	0.48
Eu	-0.14	0.45	-1.87	0.64	*	0.87	0.15	-0.18	*	0.29	-3.04	0.41	0.60
Ga	*	0.12	-1.06	*	22.94	-0.69	-0.45	*	*	0.06	-1.93	*	0.58
Gd	-0.57	1.04	-1.69	0.18	*	1.31	-0.08	1.93	*	0.14	-5.36	-0.47	0.46
Hf	-2.69	0.00	*	0.13	*	2.40	0.13	-10.16	*	*	*	*	0.77
Ho	-1.01	-0.76	*	0.26	*	0.24	-0.45	-0.84	*	-0.07	-3.59	0.69	0.43
In	0.03	*	*	*	*	*	*	*	*	*	*	*	*
La	-0.23	1.53	-2.26	1.17	*	1.88	0.12	-2.35	*	0.23	-9.09	1.33	1.16
Li	1.29	*	-1.02	*	*	*	0.07	*	*	*	-3.99	*	*
Lu	-1.07	0.60	-1.10	0.44	*	0.60	0.16	-2.12	*	0.30	-3.03	0.49	0.57
Mo	1.01	-0.89	*	*	*	-6.51	0.59	*	*	*	-0.59	*	0.77
Nb	1.11	1.50	*	-0.29	*	-0.30	0.33	*	*	-0.29	1.62	*	0.57
Nd	-0.41	0.12	-1.37	1.26	*	1.19	-0.03	-1.80	*	-0.70	-9.50	-0.31	0.97
Ni	*	2.03	-0.45	*	0.34	-2.23	-0.14	*	*	0.00	-1.85	*	2.66
Pb	0.77	6.24	-1.67	*	*	-0.54	-0.03	-1.33	0.70	-1.08	-1.91	*	-0.61
Pr	-0.25	0.60	*	0.79	*	-0.15	0.18	-0.62	*	0.17	-8.15	0.42	1.08
Rb	0.27	-0.45	-1.08	0.48	*	-0.68	0.19	1.25	0.48	-0.23	0.06	*	0.12
Sb	2.35	*	*	*	*	-2.22	-0.66	*	*	*	1.11	*	6.09
Sc	6.98	24.40	-2.79	-0.85	*	9.01	-0.56	*	*	-0.28	-1.52	*	0.73
Sm	-0.45	0.12	*	1.09	*	1.45	-0.34	-1.65	*	0.22	-6.62	0.44	0.45
Sn	0.44	2.03	*	1.78	*	4.92	-0.76	*	*	0.51	1.27	*	0.37
Sr	-0.88	-3.96	0.89	0.99	*	-1.77	0.18	-0.87	0.16	-0.16	0.00	-1.36	1.65
Ta	-0.06	1.18	*	0.59	*	-0.62	*	*	*	*	0.03	*	0.65
Tb	-0.51	0.50	*	0.75	*	1.17	-0.08	-0.67	*	-0.04	-3.51	0.28	0.50
Th	-0.43	-0.48	*	0.97	*	-2.43	0.03	0.68	-1.32	0.20	-7.48	*	0.56
Tl	0.21	*	*	*	*	-0.32	0.00	*	*	*	-1.60	*	0.55
Tm	-1.19	0.28	-1.11	0.14	*	0.00	0.14	-2.11	*	-0.08	-3.62	0.03	0.39
U	0.25	-0.69	-0.43	0.92	*	-5.35	-0.13	-1.29	*	0.34	-1.96	*	0.49
V	0.30	4.16	-0.15	-0.35	-0.05	-2.34	-1.26	*	1.17	-0.20	1.73	*	0.88
W	-0.60	-1.59	*	*	*	*	*	*	*	*	1.12	*	*
Y	-0.50	-1.64	*	-0.82	0.44	0.80	-0.57	-2.45	0.02	-1.16	-5.20	1.73	1.97
Yb	-1.33	-0.06	-3.48	0.51	*	0.57	0.06	-1.57	*	-0.03	-4.22	1.14	0.84
Zn	9.10	0.01	0.24	*	0.00	-3.68	0.00	*	0.66	-0.39	-1.97	*	1.52
Zr	-4.32	-7.55	-14.46	-0.04	0.75	-2.50	0.79	-13.50	0.57	0.04	-0.44	*	1.58

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

Table 3 - GeoPT50 Z-scores for Calcified sediment, CSd-1. 15/12/2021

Lab Code	M48	M51	M52	M53	M54	M55	M56	M57	M59	M61	M62	M64	M65
SiO2	*	0.71	0.09	*	0.09	-0.25	0.88	2.22	*	-0.39	1.79	*	-0.44
TiO2	*	0.63	-2.09	*	-0.45	-1.04	1.04	-2.09	-13.58	1.31	0.79	*	-3.66
Al2O3	*	0.00	-1.80	*	-0.37	-0.18	-1.15	0.89	-2.45	-0.70	0.51	*	1.31
Fe2O3T	*	0.38	-1.56	*	-1.45	0.32	-0.75	0.59	-2.63	1.95	-2.44	*	-1.05
MnO	*	0.73	-1.86	*	0.24	-0.30	-1.86	-1.86	-1.34	-3.79	0.94	-0.86	-0.93
MgO	*	-0.35	-1.18	*	-0.02	0.43	2.05	2.25	-2.19	-0.21	1.10	*	1.02
CaO	*	1.14	-4.01	*	-0.67	0.88	0.55	-1.06	-4.29	1.03	0.46	*	-0.35
Na2O	*	-3.70	-19.36	*	1.51	1.43	-4.86	-0.02	-7.28	-2.07	0.22	*	5.06
K2O	*	-0.27	-3.51	*	0.02	0.78	-1.17	1.17	-5.85	0.12	-0.78	*	-0.19
P2O5	*	-3.40	-2.83	*	-0.38	0.00	0.00	0.00	-4.24	-1.41	-0.54	*	0.00
LOI	*	-1.38	-1.06	*	0.15	-0.35	-74.26	-0.59	*	0.83	*	*	1.25
As	-0.66	*	-1.06	2.99	10.25	-3.69	*	14.42	0.23	*	*	-0.48	*
Ba	-11.73	-2.34	-0.68	0.16	-10.44	-1.24	12.54	0.44	4.80	6.13	*	-0.83	0.92
Be	-5.32	*	*	0.19	*	-0.06	*	*	1.48	*	*	*	*
Bi	-1.43	*	*	0.67	*	-0.03	*	*	1.38	*	*	-0.91	*
C(tot)	*	*	-3.31	*	0.94	*	*	*	*	*	*	*	*
Cd	-1.34	*	*	1.27	*	2.85	*	*	13.92	*	*	-0.18	*
Ce	-8.45	-7.40	*	1.23	-0.88	-0.24	-2.36	-5.39	-4.43	*	*	-2.07	-0.10
Co	-1.21	-0.74	7.22	-0.35	2.23	-0.82	*	4.30	-0.94	5.07	*	0.54	*
Cr	-7.19	-6.16	-0.63	-4.34	3.02	1.24	1.13	0.54	-8.29	8.90	*	1.37	-1.48
Cs	-5.14	0.72	*	0.58	*	-0.74	*	*	*	*	*	*	*
Cu	-2.68	0.36	0.41	1.31	0.78	4.01	*	-6.80	-6.35	2.01	*	-0.61	2.91
Dy	*	-4.51	*	-3.04	*	-0.91	*	*	-3.80	*	*	*	-1.63
Er	*	-4.21	*	-4.03	*	-1.36	*	*	-4.43	*	*	*	-3.21
Eu	*	-2.77	*	-0.25	*	-0.17	*	*	-0.39	*	*	*	-0.54
Ga	-5.78	0.25	-2.29	6.50	2.65	0.24	*	4.94	-0.29	*	*	-0.45	*
Gd	*	-4.59	*	-0.36	*	-1.01	*	-5.46	-1.63	*	*	*	0.69
Hf	-8.66	-5.12	*	-12.29	4.39	0.94	*	3.28	*	*	*	*	*
Ho	*	-3.61	*	-3.02	*	-0.44	*	*	-4.30	*	*	*	-0.45
In	-1.67	*	*	*	*	*	*	*	3.85	*	*	-1.85	*
La	-7.79	-6.93	-2.43	0.55	-0.29	-0.55	-1.60	0.70	-4.38	*	*	-1.45	-0.43
Li	-5.55	-0.87	*	0.32	*	-2.66	*	*	*	*	*	*	-0.71
Lu	*	-3.45	*	-3.87	*	-0.80	*	*	-6.38	*	*	*	*
Mo	-2.74	*	417.03	-0.44	*	0.30	*	*	1.63	*	*	*	*
Nb	-8.15	*	-6.81	-0.56	1.42	-1.66	-0.58	7.73	-6.74	0.75	*	-0.42	2.82
Nd	*	-6.24	*	0.52	-1.03	-0.31	*	4.77	-3.80	*	*	*	-0.94
Ni	-1.62	-0.53	-2.03	1.76	3.49	-0.47	0.68	2.70	-1.49	1.69	*	0.57	-0.68
Pb	-4.06	0.31	*	-1.35	0.03	-0.70	-1.83	-0.22	3.49	0.70	*	0.74	*
Pr	*	-5.30	*	0.47	*	-0.36	*	*	-3.35	*	*	*	-2.67
Rb	-10.18	1.25	-2.16	-0.47	2.26	-0.25	2.73	4.06	0.20	0.92	*	-0.13	-0.19
Sb	-2.10	*	*	2.22	*	3.54	*	*	8.86	*	*	-3.39	*
Sc	-3.02	1.25	*	0.88	29.78	0.80	3.50	18.60	1.28	*	*	1.33	-0.85
Sm	*	-4.69	*	0.41	*	-0.04	*	*	-2.61	*	*	*	-0.02
Sn	-5.00	*	*	-0.08	*	3.31	*	*	7.37	*	*	*	*
Sr	-2.45	-2.26	-2.50	-0.31	2.60	0.00	1.77	-2.61	-0.52	0.73	*	-0.26	-0.05
Ta	-5.88	1.49	*	5.44	*	4.13	*	*	-9.95	*	*	*	*
Tb	*	-3.51	*	-1.34	*	-0.70	*	*	-1.34	*	*	*	0.75
Th	-5.27	-5.51	1.52	0.23	1.45	0.50	*	-6.79	-3.80	1.80	*	-1.17	-3.40
Tl	-4.49	*	*	-0.32	*	*	*	*	0.64	*	*	-4.21	*
Tm	*	-3.37	*	-3.62	*	-1.09	*	*	-4.73	*	*	*	*
U	-5.53	-3.73	6.61	-2.12	7.32	-0.53	*	6.61	-4.35	*	*	-1.48	-1.99
V	-7.03	-0.54	7.20	-0.40	2.54	-1.61	1.78	5.38	-0.58	8.16	*	-0.05	-0.65
W	-4.86	*	*	1.06	*	0.47	*	*	9.98	*	*	*	*
Y	-6.81	-5.70	-2.48	-5.43	2.34	-1.05	1.73	3.41	-6.69	3.81	*	-0.46	-0.82
Yb	*	-4.34	*	-4.50	*	-1.03	*	25.54	-5.47	*	*	*	-0.91
Zn	-3.49	2.21	-1.97	7.38	4.01	1.26	-0.65	1.32	-0.85	0.99	*	0.12	0.00
Zr	-14.97	-7.11	-7.11	-21.77	2.07	2.11	2.98	-2.63	-24.94	-2.85	*	-1.48	-0.39

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

Table 3 - GeoPT50 Z-scores for Calcified sediment, CSd-1. 15/12/2021

Lab Code	M66	M68	M69	M70	M71	M72	M73	M74	M76	M77	M78	M80	M81
SiO2	0.45	0.09	-0.27	-0.20	-0.01	0.87	-1.95	-0.12	0.58	0.24	-0.25	0.15	*
TiO2	0.00	-0.16	-1.62	0.00	-1.04	2.74	-1.15	0.00	0.84	-0.21	1.04	-1.09	-21.42
Al2O3	-0.44	-0.18	-0.65	0.14	0.07	0.47	-1.16	-0.20	-1.06	0.12	0.07	0.23	-27.05
Fe2O3T	0.01	-0.11	-0.71	-0.48	-0.38	1.33	-0.51	-0.24	-0.01	0.30	0.16	-0.25	-8.11
MnO	-0.93	0.11	1.67	-2.12	1.67	1.83	-0.30	-0.93	1.15	2.19	1.67	-0.32	-1.19
MgO	-0.17	0.29	-1.00	1.65	0.52	1.05	0.31	-0.49	0.57	-0.29	0.62	-0.04	-0.44
CaO	-0.03	-0.72	-0.50	-0.23	0.85	1.91	-0.51	0.12	-0.83	-0.05	0.16	-0.43	2.31
Na2O	-1.05	0.35	-1.49	-1.47	0.71	4.16	-0.75	-0.98	-2.96	8.69	0.95	-0.01	-24.91
K2O	0.08	-0.23	-0.10	0.39	-0.97	1.75	-2.18	0.19	-1.05	2.34	-0.39	-0.33	-24.31
P2O5	-0.71	0.57	0.14	0.00	0.00	0.00	-6.51	-1.41	0.99	0.00	0.00	-0.47	-2.26
LOI	-0.32	0.18	0.92	2.13	-0.04	-5.23	0.63	-0.06	0.53	-0.25	0.60	-0.36	*
As	-2.09	*	-0.53	*	*	*	-1.52	*	*	*	*	*	-2.83
Ba	-0.24	-0.52	0.43	13.10	*	-2.88	-0.70	-0.83	0.08	*	-0.27	-0.15	-11.48
Be	-0.55	0.81	*	*	*	*	-0.95	*	*	*	0.74	-0.05	-4.07
Bi	-1.39	*	*	*	*	*	2.86	*	*	*	*	*	-1.46
C(tot)	-1.12	*	*	-0.05	*	*	-6.05	*	*	*	*	-0.67	*
Cd	0.08	*	*	*	*	*	-0.95	*	38.99	*	*	-0.63	0.20
Ce	0.25	0.49	0.12	*	*	*	-2.63	*	-7.11	*	0.08	-0.27	-7.80
Co	-0.19	0.70	*	*	*	*	3.39	*	1.42	*	0.23	-0.37	-1.13
Cr	-2.49	0.71	-0.17	-6.77	*	0.05	-10.25	-2.80	-2.95	*	-0.91	0.04	-9.22
Cs	-0.07	*	*	*	*	*	*	*	*	*	0.07	-0.01	-5.18
Cu	-0.52	*	*	*	*	*	3.58	*	-4.30	*	0.65	-0.51	-2.21
Dy	-0.40	0.24	*	*	*	*	-4.78	*	*	*	0.02	-0.01	-4.47
Er	-0.26	0.61	*	*	*	*	-5.82	*	*	*	0.03	-0.10	-4.68
Eu	-0.26	0.06	*	*	*	*	-0.95	*	*	*	-0.15	-0.04	-2.99
Ga	0.12	-0.58	2.47	*	*	5.18	-0.24	*	12.83	*	0.43	-0.33	*
Gd	-0.11	0.09	*	*	*	*	-2.96	*	*	*	0.25	-0.38	-3.65
Hf	-0.15	-0.60	-1.19	*	*	*	-15.04	*	-3.08	*	-0.29	-3.45	*
Ho	-0.38	0.49	*	*	*	*	-4.62	*	*	*	0.04	-0.12	-3.72
In	-0.57	*	*	*	*	*	0.25	*	*	*	*	-0.12	*
La	-0.16	0.28	-0.04	*	*	*	-2.86	*	-5.05	*	0.31	-0.62	-7.60
Li	-1.31	*	*	*	*	*	-1.40	*	-0.02	*	0.39	-0.64	-5.32
Lu	-0.26	-0.05	*	*	*	*	-5.76	*	*	*	-0.02	-0.48	-4.10
Mo	0.11	7.92	*	*	*	*	-0.35	*	1.33	*	*	-0.75	-4.05
Nb	-3.79	0.01	1.79	*	*	*	-4.21	*	3.86	*	0.55	0.00	-8.55
Nd	-0.20	-0.08	-4.69	*	*	*	-2.33	*	*	*	-0.24	0.01	-6.31
Ni	-0.34	-0.37	-2.03	*	*	*	-4.12	-0.68	3.89	*	1.45	0.26	-2.65
Pb	-0.51	*	3.12	*	*	*	0.46	*	*	*	-0.11	0.39	*
Pr	0.08	-0.07	*	*	*	*	-2.22	*	*	*	-0.19	-0.31	-5.53
Rb	-0.66	0.17	-1.74	*	*	2.60	2.76	*	*	*	0.59	-0.87	-10.00
Sb	-0.27	*	*	*	*	*	-0.35	*	*	*	*	0.29	-5.52
Sc	-1.12	*	*	*	*	*	-2.65	*	-2.01	*	1.72	-0.02	-4.33
Sm	-0.23	0.07	*	*	*	*	-1.88	*	32.41	*	0.15	-0.20	-4.47
Sn	0.30	*	*	*	*	*	-1.60	*	*	*	*	-0.59	-6.53
Sr	-0.01	-0.24	0.36	-2.09	*	1.09	2.13	-1.77	0.31	*	0.36	-0.17	-1.42
Ta	-0.23	*	*	*	*	*	-3.11	*	*	*	0.43	-0.29	*
Tb	-0.33	0.29	*	*	*	*	0.72	*	*	*	0.13	-0.31	-3.08
Th	0.22	0.08	-0.28	*	*	*	-0.56	*	*	*	-0.11	-0.66	-4.57
Tl	-0.34	*	*	*	*	*	-0.16	*	*	*	*	0.13	-4.28
Tm	-0.42	0.19	*	*	*	*	-5.15	*	*	*	-0.17	-0.44	-3.85
U	0.18	0.43	*	*	*	*	-4.46	*	*	*	-0.11	-0.63	-5.41
V	0.56	-0.02	*	*	*	5.26	-2.21	-0.96	0.68	*	0.23	0.18	-6.99
W	2.39	*	*	*	*	*	-3.39	*	*	*	*	0.13	-6.35
Y	-0.69	0.02	0.86	*	*	*	-7.63	*	-5.03	*	1.33	0.41	-6.33
Yb	-0.29	0.15	*	*	*	*	-6.97	*	*	*	-0.06	-0.43	-5.25
Zn	-0.92	0.14	1.65	11.86	*	4.95	-2.04	-1.97	-1.61	*	-0.39	-0.18	-2.67
Zr	0.39	-1.07	-1.23	1.49	*	-0.22	-27.12	*	-0.68	*	0.00	-6.06	-14.97

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

Table 3 - GeoPT50 Z-scores for Calcified sediment, CSd-1. 15/12/2021

Lab Code	M82	M83	M84	M85	M86	M87	M88	M89	M90	M91	M94	M95	M96
SiO2	0.18	0.21	**-1.16**	**-0.13**	**0.16**	-0.10	-0.24	**-0.58**	0.62	-2.07	**-0.20**	**-0.52**	**1.00**
TiO2	0.57	-2.09	**-4.18**	**0.00**	**0.00**	0.52	-1.04	**-3.13**	0.05	1.04	**1.04**	**0.94**	**0.00**
Al2O3	0.07	0.02	**3.37**	**-0.29**	**-0.29**	0.61	-0.42	**-3.42**	-0.13	3.84	**-0.70**	**4.45**	**1.00**
Fe2O3T	0.03	-0.11	**-1.02**	**-1.29**	**-0.48**	2.31	-1.18	**-0.21**	0.60	3.65	**-0.05**	**2.50**	**-1.29**
MnO	0.89	-0.93	**3.33**	**-1.86**	**-1.86**	0.37	-0.93	**-0.82**	0.11	0.63	**-0.30**	**1.25**	**-1.86**
MgO	-0.39	-0.59	**0.84**	**-0.37**	**0.43**	-0.49	-0.19	**-3.81**	-5.51	-0.09	**0.37**	**1.77**	**0.43**
CaO	0.05	-0.72	**-1.61**	**-0.09**	**-0.32**	-0.76	0.02	**-0.28**	0.78	3.39	**0.35**	*	**-0.92**
Na2O	-1.46	1.92	**-2.92**	**-3.41**	**-0.02**	3.86	-0.01	**-1.47**	-11.03	-0.01	**-0.31**	**13.37**	**0.94**
K2O	0.39	1.17	**-5.85**	**0.00**	**1.17**	3.12	-0.39	**0.78**	-1.03	0.39	**0.58**	**2.69**	**-0.78**
P2O5	0.00	0.00	**73.56**	**0.00**	**-2.83**	0.71	0.00	**-2.83**	-3.40	-0.85	**-0.96**	**-2.55**	**0.00**
LOI	0.08	0.32	**-0.63**	-0.18	**-0.21**	-0.65	-0.13	*	-0.06	1.14	0.32	*	**-0.26**
As	*-5.69*	*3.34*	*	*	***1.52***	*1.15*	*0.43*	*	*-0.04*	*	*	***-3.18***	*
Ba	0.36	-0.20	*	**0.86**	*	0.92	-0.34	**2.69**	-0.51	0.50	-2.03	**-0.47**	**-2.37**
Be	*	*	*	*	*	0.03	-0.35	*	*	0.03	*	**1.51**	*
Bi	*	*	*	*	*	*	*-0.23*	*	*	*	*	*	*
C(tot)	*0.73*	*	*	*	*	*	*0.02*	*	*	*	*	*	*
Cd	*	*	*	*	*	*1.82*	*0.08*	*	*	*0.24*	*	*	*
Ce	*	*	*	*	*	0.46	1.14	**-6.68**	*	-0.31	*	**-0.32**	*
Co	0.69	*	*	*	**1.37**	0.39	-0.26	**1.37**	-1.48	-0.34	*	**-1.30**	*
Cr	*3.05*	*-0.02*	*	***1.71***	***-2.67***	*0.13*	*-3.75*	***0.84***	*-0.55*	*0.27*	*8.17*	***-0.40***	*
Cs	*	*	*	*	*	0.29	0.12	*	*	*	*	**-0.41**	*
Cu	*1.11*	*	*	*	***-5.00***	*2.46*	*-0.29*	***4.01***	*-1.14*	*0.11*	*	***-2.19***	*
Dy	*	*	*	*	*	0.18	-2.37	*	*	-2.35	*	**0.94**	*
Er	*	*	*	*	*	-0.20	-2.81	*	*	-2.93	*	**0.64**	*
Eu	*	*	*	*	*	0.43	0.14	*	*	-0.40	*	**0.11**	*
Ga	2.47	*	*	**0.12**	**0.12**	0.54	-0.37	**-9.51**	*	0.42	*	**-1.09**	*
Gd	*	*	*	*	*	0.62	-0.52	*	*	*	*	**0.42**	*
Hf	-4.96	1.64	*	*	**-2.38**	-0.53	-7.54	**-6.15**	*	*	*	**0.39**	*
Ho	*	*	*	*	*	-0.09	-2.20	*	*	-2.36	*	**0.96**	*
In	*	*	*	*	*	*	*-0.01*	*	*	*	*	*	*
La	*	*	*	*	*	0.16	-0.04	**-3.99**	*	-0.43	*	**0.17**	*
Li	*	*	*	*	*	-0.39	0.30	*	*	0.35	*	**-0.06**	*
Lu	*	*	*	*	*	0.58	-2.64	*	*	-2.91	*	**0.76**	*
Mo	*	*	*	*	*	-0.07	0.07	*	-2.00	0.00	*	**-0.30**	*
Nb	-3.40	-0.29	*	**5.65**	**-2.65**	0.23	-1.90	**1.50**	*	-1.33	*	**0.22**	*
Nd	*	*	*	*	**-3.55**	0.05	0.51	**-5.22**	*	*	*	**0.27**	*
Ni	0.34	0.00	*	**-3.38**	**-2.03**	0.68	-0.27	**-2.70**	0.54	-0.07	*	**-1.53**	*
Pb	-2.53	1.50	*	**3.01**	**-1.83**	1.02	-0.79	**11.08**	-1.37	-0.11	*	**-2.95**	*
Pr	*	*	*	*	*	-0.08	0.05	*	*	*	*	**-0.27**	*
Rb	0.48	-0.63	*	**0.51**	**-1.71**	0.32	0.39	**-14.15**	*	-0.19	0.48	**0.79**	*
Sb	*	*	*	*	*	0.55	-0.44	*	*	-0.11	*	*	*
Sc	*	*	*	***15.70***	***9.90***	*0.75*	*-0.40*	***7.00***	*-1.15*	*-0.70*	*	***2.90***	*
Sm	*	*	*	*	**-6.40**	0.14	0.06	*	*	-0.18	*	**0.26**	*
Sn	*	*	*	*	*	-0.38	-0.89	**3.56**	-2.92	-0.76	*	*	*
Sr	0.16	-0.89	*	**1.15**	**-1.67**	0.78	0.57	**3.23**	0.57	-0.57	-2.03	**0.23**	**-1.04**
Ta	*	*	*	*	*	0.26	-1.62	**53.57**	*	*	*	**0.36**	*
Tb	*	*	*	*	*	0.42	-1.42	*	*	-1.17	*	**0.71**	*
Th	*	*	*	-0.28	**-6.79**	-0.90	-0.63	**-0.56**	*	-0.49	*	**0.94**	*
Tl	*	*	*	*	*	0.32	-0.46	*	*	-0.16	*	*	*
Tm	*	*	*	*	*	-0.14	-2.64	*	*	-2.64	*	**0.39**	*
U	*	*	*	*	**-3.97**	-0.06	-1.64	**-3.97**	*	-2.25	*	**-1.32**	*
V	2.39	-0.05	*	**1.73**	**-0.70**	-0.05	-0.71	**4.77**	-0.32	-0.35	*	**-1.28**	*
W	*	*	*	*	***16.35***	*0.04*	*-1.36*	***35.95***	*	*	*	***-0.97***	*
Y	0.86	-0.40	*	**1.73**	**-1.64**	-0.02	-3.45	**5.93**	*	-0.82	*	**3.38**	*
Yb	*	*	*	*	**2.74**	-0.06	-3.24	*	*	-3.48	*	**0.97**	*
Zn	0.33	-2.30	*	**-3.28**	**-1.31**	-1.64	-0.69	**-1.31**	0.07	-0.33	0.00	**-0.99**	*
Zr	0.48	-1.58	*	**0.70**	**-2.02**	-0.13	-13.10	**-4.65**	*	-3.20	0.00	**2.45**	**-1.14**

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

Table 3 - GeoPT50 Z-scores for Calcified sediment, CSd-1. 15/12/2021

Lab Code	M97	M98	M99	M100	M102	M103	M104	M105	M108	M109	M110	M111	M113
SiO2	*	8.74	0.39	**0.37**	-5.34	**-2.33**	0.64	**-0.71**	**-4.25**	**-0.54**	*	**2.72**	**0.44**
TiO2	**-1.04**	4.34	0.00	**-0.75**	6.27	**1.04**	1.04	**0.94**	**11.49**	**-4.81**	*	**-8.36**	**0.42**
Al2O3	**1.33**	6.54	-0.04	**0.13**	4.81	**-2.12**	-1.28	**-0.18**	**19.01**	**0.03**	*	**0.25**	**0.25**
Fe2O3T	**2.74**	5.53	0.70	**-0.94**	7.82	**1.13**	-1.58	**-0.75**	**22.62**	**0.05**	*	**-1.02**	**0.59**
MnO	**3.33**	3.12	-0.93	**0.13**	4.78	**-1.86**	276.96	**1.25**	**9.05**	**-0.62**	*	**-1.86**	**0.22**
MgO	**0.03**	5.26	-0.29	**0.33**	-5.84	**-11.27**	-3.11	**2.45**	**26.68**	**-2.07**	*	**-17.73**	**0.23**
CaO	**3.18**	7.77	-1.22	**-0.55**	11.46	**12.00**	0.05	**-1.52**	**27.73**	**0.19**	*	**-6.37**	**1.48**
Na2O	**1.91**	6.51	-0.01	**1.51**	-8.23	**2.39**	-0.98	**3.41**	**-1.47**	**-1.23**	*	**5.29**	**1.91**
K2O	**2.73**	5.07	-0.58	**1.87**	1.56	**-0.39**	-0.58	**1.09**	**5.46**	**-0.31**	*	**4.68**	**0.00**
P2O5	**2.83**	2.55	1.41	**0.65**	0.00	**0.00**	-4.24	**1.98**	**2.83**	**-1.50**	*	**0.00**	**-0.85**
LOI	*	0.67	0.81	**0.54**	1.36	**0.59**	0.39	**0.68**	**-35.71**	**1.86**	*	**0.35**	**-1.43**
As	*	*	*0.01*	*	*	*	*	*	*	*	*	*	*
Ba	**0.30**	*	0.72	**0.51**	*	**0.02**	*	**0.26**	**-4.20**	**0.94**	*	**-1.60**	**-0.40**
Be	**1.10**	*	*	*	*	**-0.06**	*	**0.37**	*	**2.00**	*	*	*
Bi	*	*	*	*	*	*	*	*	*	*	*	*	*
C(tot)	*	*0.41*	*-0.18*	*	*	*	*	*	*	*	*	*	*
Cd	*	*	*	*	*	***24.20***	*	***6.09***	*	*	*	*	*
Ce	**1.45**	*	0.32	**0.13**	*	**-0.35**	*	**0.28**	*	**-0.20**	**-0.76**	*	**0.33**
Co	**0.47**	*	0.18	**-1.13**	-0.34	**1.43**	*	**0.32**	**63.96**	**2.19**	*	**1.08**	*
Cr	***0.22***	*10.95*	*-0.92*	***2.79***	*7.35*	***-5.60***	*	***2.03***	***0.34***	***-4.18***	*	***-7.32***	***0.54***
Cs	**-0.03**	*	-1.23	**-1.21**	*	**-4.38**	*	**0.36**	*	**2.95**	*	*	**-0.41**
Cu	***-0.10***	*	*13.73*	***1.62***	*	***2.39***	*	***-0.10***	***-0.93***	***-0.24***	*	***2.03***	***-1.39***
Dy	**-0.14**	*	0.33	**-3.12**	*	**-0.69**	*	**-0.94**	*	**-3.84**	**-0.07**	*	**-0.04**
Er	**0.17**	*	0.20	**-4.33**	*	**-1.65**	*	**-0.74**	*	**-4.83**	**-0.40**	*	**-0.23**
Eu	**0.31**	*	0.15	**0.38**	*	**-0.39**	*	**-0.32**	*	**-0.81**	**1.99**	*	**-0.11**
Ga	**0.53**	*	0.25	**-1.33**	*	**0.12**	*	**-0.67**	*	**-0.05**	*	*	**-2.29**
Gd	**-0.19**	*	0.18	*	*	**-0.12**	*	**-0.64**	*	**-1.32**	**2.24**	*	**-0.40**
Hf	**-0.64**	*	0.17	*	*	**0.38**	*	**-1.00**	*	**-13.63**	*	*	**0.02**
Ho	**-0.19**	*	0.19	**-2.83**	*	**-0.90**	*	**-0.27**	*	**-3.45**	**0.24**	*	**0.09**
In	*	*	*	*	*	*	*	*	*	*	*	*	*
La	**1.02**	*	0.00	**-0.17**	*	**-0.02**	*	**-0.16**	*	**-0.79**	**0.00**	**-4.38**	**0.06**
Li	**0.69**	*	*	*	-0.13	*	*	**0.51**	*	**3.79**	*	**1.15**	*
Lu	**-0.52**	*	-0.12	**-3.62**	*	**-1.35**	*	**-0.60**	*	**-4.42**	**2.00**	*	**0.04**
Mo	**0.30**	*	3.11	**-1.30**	*	*	*	**1.18**	*	**-1.04**	*	**-1.78**	*
Nb	**1.46**	*	-0.03	**-0.68**	*	**-4.04**	*	**0.81**	**-15.69**	**-0.39**	*	*	**0.71**
Nd	**0.94**	*	0.16	**-0.07**	*	**0.00**	*	**-0.22**	*	**-0.45**	**-0.22**	*	**-0.13**
Ni	**1.69**	*	2.22	**0.91**	-0.54	**-4.69**	*	**0.95**	**4.53**	**0.27**	*	**-1.15**	**0.68**
Pb	**1.23**	*	1.52	**-0.11**	*	**-6.50**	*	**-1.07**	**22.86**	**2.14**	*	**-5.87**	**-0.15**
Pr	**0.57**	*	-0.01	**0.17**	*	**-0.44**	*	**0.05**	*	**-0.23**	**0.50**	*	**0.16**
Rb	**0.55**	*	-0.13	**0.59**	2.74	**-0.52**	*	**0.02**	**-0.16**	**1.54**	*	*	**-0.65**
Sb	*	*	1.11	*	*	*	*	**8.26**	*	*	*	*	*
Sc	***1.96***	*	*3.95*	***0.21***	*-2.15*	***5.44***	*	***0.94***	***8.16***	***-0.16***	*	***-1.70***	***0.04***
Sm	**0.34**	*	0.15	**-0.37**	*	**-0.29**	*	**-0.45**	*	**-0.71**	**0.31**	*	**0.09**
Sn	**0.00**	*	*	*	*	*	*	**2.60**	*	*	*	**-1.53**	*
Sr	**0.94**	4.22	0.23	**-1.22**	4.05	**-1.98**	*	**0.21**	**-0.63**	**0.57**	*	**-0.79**	**0.10**
Ta	**0.36**	*	-0.56	*	*	**23.77**	*	**-0.47**	*	**-1.11**	*	*	**0.03**
Tb	**0.00**	*	0.00	**-1.27**	*	**0.00**	*	**-0.43**	*	**-2.01**	**0.84**	*	**0.17**
Th	**1.08**	*	0.38	**1.87**	*	**-0.42**	*	**-0.91**	*	**-0.15**	*	*	**0.08**
Tl	**0.96**	*	*	*	*	*	*	**-0.19**	*	*	*	*	*
Tm	**0.00**	*	-0.28	*	*	**-0.83**	*	**-0.61**	*	*	**0.28**	*	**0.00**
U	**1.16**	*	0.24	**-2.40**	*	**0.05**	*	**0.15**	*	**-2.39**	*	*	**0.10**
V	**0.21**	*	0.94	**1.08**	-2.33	**0.78**	*	**0.03**	**-4.47**	**0.31**	*	**-1.12**	**-1.31**
W	*	*	*	*	*	*	*	***-0.08***	*	***1.84***	*	*	*
Y	**2.23**	*	0.38	**-3.96**	*	**-0.34**	*	**-0.72**	**-2.74**	**-5.22**	**0.63**	**-7.62**	**1.54**
Yb	**0.00**	*	-0.20	**-4.41**	*	**-1.08**	*	**-0.57**	*	**-5.36**	**-0.29**	*	**0.00**
Zn	**0.07**	*	1.19	**1.32**	-1.59	**-0.60**	*	**-0.65**	**-7.56**	*	*	**0.01**	**1.32**
Zr	**1.05**	4.08	-1.15	**0.17**	0.77	**-1.32**	*	**-0.44**	**-3.42**	**-23.89**	*	**-26.94**	**0.88**

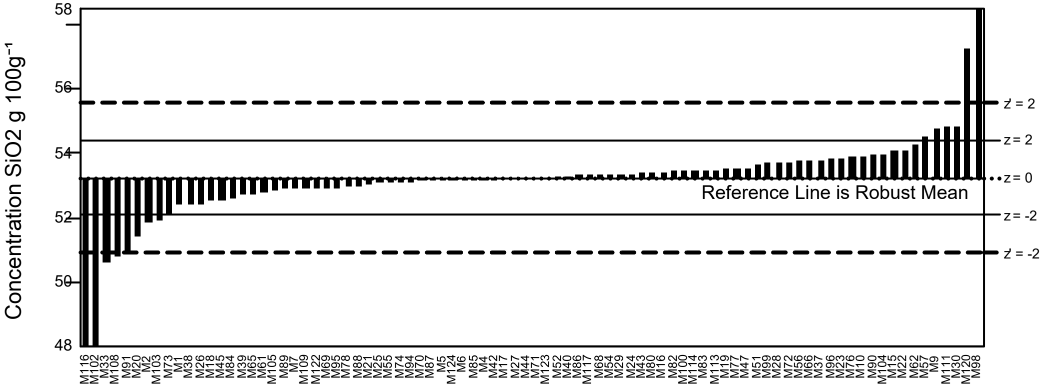
Bold entries are Data Quality 1 - Underlined entries are Data Quality 2 - *Entries in italics* are derived from Provisional Values.

Table 3 - GeoPT50 Z-scores for Calcified sediment, CSd-1. 15/12/2021

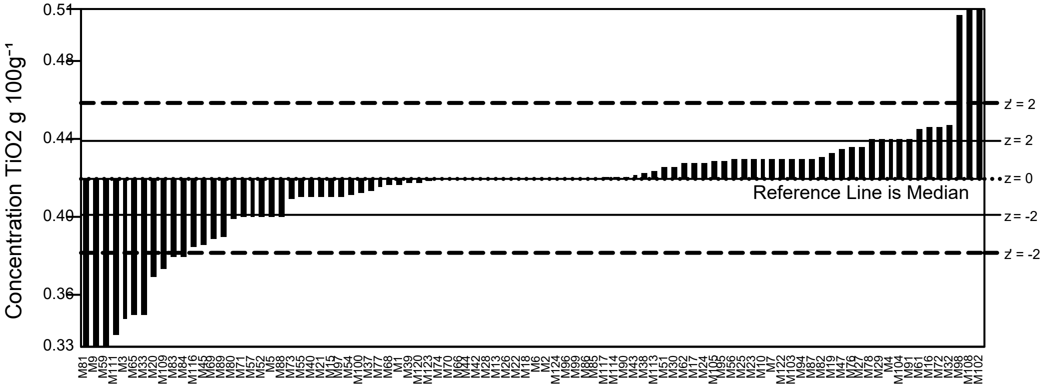
Lab Code	M114	M116	M117	M118	M120	M121	M122	M123	M124
SiO2	**0.38**	-5.68	**0.17**	*	3.45	*	-0.27	0.00	**-0.18**
TiO2	**0.03**	-1.83	**0.03**	*	-0.10	*	0.52	-0.08	**0.00**
Al2O3	**-0.43**	7.89	**0.89**	*	0.63	*	1.31	0.19	**-0.29**
Fe2O3T	**0.08**	1.10	**1.32**	*	1.13	*	0.30	0.27	**-1.02**
MnO	**0.11**	-1.45	**-0.10**	*	0.11	*	0.37	0.24	**-1.86**
MgO	**1.36**	*	**5.76**	*	-0.10	*	0.92	-0.08	**-0.17**
CaO	**-0.77**	2.93	**-1.81**	*	-4.89	*	-0.65	0.14	**-0.78**
Na2O	**0.90**	*	**5.44**	*	0.91	*	1.44	1.16	**-0.02**
K2O	**-0.03**	2.53	**0.94**	*	-1.15	*	0.19	0.08	**-0.39**
P2O5	**0.14**	*	**1.73**	*	1.98	*	-4.24	-0.21	**-0.28**
LOI	**0.43**	*	**-0.21**	-0.22	*	*	0.20	-0.09	**-0.23**
As	*	*0.76*	*	*-2.62*	*	***2.97***	*-0.53*	*0.58*	***-4.67***
Ba	**0.19**	1.38	**-1.00**	0.29	0.40	**-0.14**	2.13	0.01	**-9.16**
Be	**0.45**	*	**-0.27**	1.06	1.51	**0.45**	-0.10	-0.03	*
Bi	*	*	*	*-0.72*	*0.16*	*	*	*2.45*	*
C(tot)	*	*	*	*	*	*	*	*-0.51*	*
Cd	*	*	*	*8.15*	*1.50*	***14.79***	*1.03*	*4.19*	*
Ce	**-0.24**	0.68	**-0.99**	-0.72	-0.30	**-1.46**	0.77	0.05	**2.04**
Co	**1.97**	*	**0.73**	0.35	-0.42	**-1.29**	0.45	-0.15	**-0.09**
Cr	***0.19***	*3.64*	***0.31***	*-2.84*	*-1.06*	***-1.53***	*-2.14*	*-3.33*	***-0.37***
Cs	**0.06**	*	**-0.08**	0.65	-0.33	**0.14**	0.89	0.76	**2.49**
Cu	***0.41***	*5.79*	***1.16***	*1.29*	*0.43*	***-2.51***	*2.36*	*-1.42*	***2.03***
Dy	**-0.46**	*	**-0.78**	-1.96	-0.58	**-2.53**	-1.77	-3.46	**0.08**
Er	**-0.44**	*	**0.95**	-2.33	-0.63	**-2.61**	-2.42	3.92	**0.59**
Eu	**-0.49**	*	**0.06**	-0.26	0.71	**-0.35**	0.29	1.55	**1.27**
Ga	**0.11**	0.30	**-0.07**	-0.73	-0.27	**3.73**	-3.55	0.13	**3.73**
Gd	**-0.28**	*	**1.54**	-0.99	0.25	**0.49**	-0.68	1.87	**0.12**
Hf	**-0.61**	*	**0.04**	-6.64	0.22	**-10.70**	-2.13	0.66	**-1.23**
Ho	**-0.29**	*	**1.02**	-1.79	-0.31	**-2.28**	-1.65	0.61	**0.54**
In	*	*	*	*	*	*	*	*	*
La	**-0.58**	-0.12	**-1.15**	-0.90	0.07	**-1.82**	0.55	1.49	**0.14**
Li	**-0.66**	*	**-0.18**	0.94	-0.10	**-0.90**	0.07	0.02	*
Lu	**0.04**	*	**-0.66**	-2.07	-0.68	**-2.81**	-2.49	0.86	**-0.15**
Mo	**1.36**	*	*	23.97	-1.55	*	0.22	2.44	*
Nb	**1.22**	5.21	**-0.13**	0.25	1.02	**-0.81**	1.79	0.90	**-0.55**
Nd	**-0.49**	0.22	**-1.35**	-0.86	-0.55	**-1.46**	0.76	1.01	**0.59**
Ni	**2.68**	*	**0.81**	-1.28	-0.04	**-1.26**	2.06	0.44	**2.37**
Pb	**0.59**	2.07	**-1.01**	0.13	-0.04	**-0.48**	1.24	4.25	**4.64**
Pr	**-0.67**	*	**-0.98**	-0.56	-0.13	**-1.22**	0.83	0.16	**0.88**
Rb	**0.27**	1.52	**0.14**	0.37	-0.33	**-0.36**	-0.19	0.98	**-0.07**
Sb	*	*	**0.40**	-0.78	-0.62	*	-0.44	0.44	*
Sc	***1.02***	*	***2.40***	*1.50*	*-0.37*	***0.88***	*-0.41*	*	***1.33***
Sm	**-0.42**	*	**-1.21**	-0.69	-0.08	**-1.31**	0.30	1.51	**0.20**
Sn	**-0.05**	*	**-0.32**	-0.04	1.94	*	-1.61	*	*
Sr	**0.90**	1.52	**1.02**	0.47	-0.41	**0.27**	-1.15	-0.14	**2.56**
Ta	**-0.03**	*	**-0.15**	-0.47	-0.11	**-0.13**	*	-0.23	**0.22**
Tb	**0.22**	*	**0.69**	-1.00	-0.42	**-0.64**	-0.92	-0.33	**0.41**
Th	**-0.20**	-2.38	**-0.27**	-1.25	-0.38	*	-0.06	0.24	**-0.08**
Tl	**0.90**	*	*	0.00	0.11	*	0.64	*	*
Tm	**-0.78**	*	**0.22**	-1.95	-0.56	**-2.73**	-2.23	0.42	**-0.11**
U	**-0.02**	0.02	**0.00**	-1.56	-1.72	*	-1.25	-0.03	**2.82**
V	**0.78**	*	**0.06**	2.05	-0.19	**-0.72**	-0.35	-0.90	**6.06**
W	*	*	*	*-1.14*	*0.10*	*	*	*2.15*	*
Y	**1.33**	-0.99	**1.29**	-2.21	-0.46	**-3.87**	-3.30	-1.21	**1.48**
Yb	**-0.22**	*	**0.50**	-2.62	-0.29	**-3.36**	-3.25	-0.37	**0.62**
Zn	**-1.24**	0.76	**5.66**	-0.46	-0.83	**1.18**	0.99	0.33	**2.89**
Zr	**-0.10**	-0.86	**1.68**	-11.61	-0.25	**-19.63**	-2.33	2.13	**0.47**

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

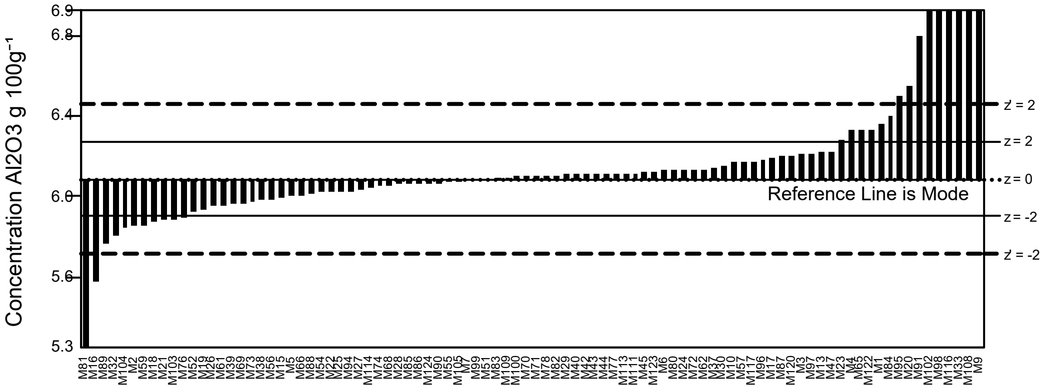
GeoPT50 - Barchart for SiO2



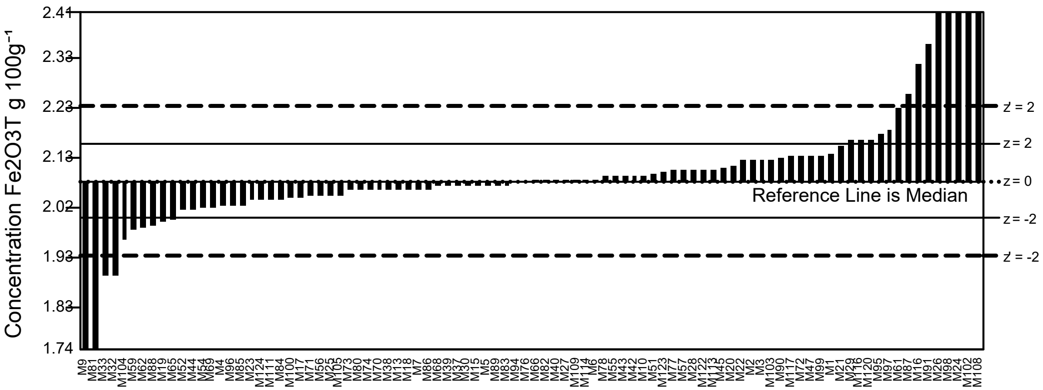
GeoPT50 - Barchart for TiO2



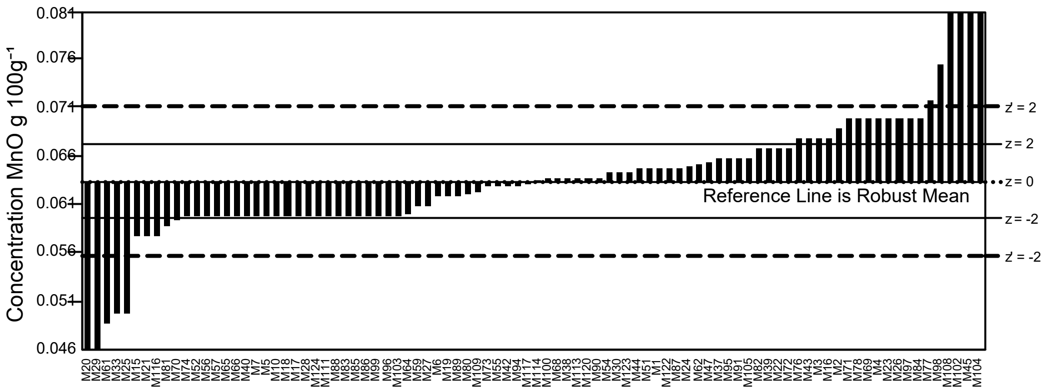
GeoPT50 - Barchart for Al2O3



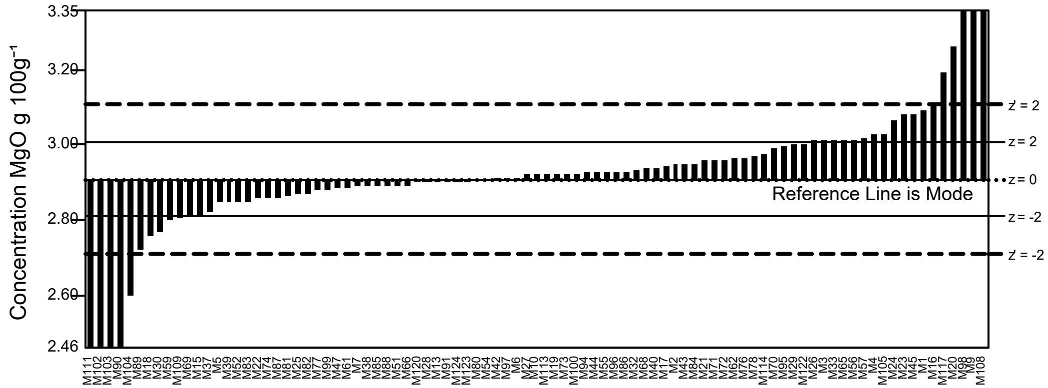
GeoPT50 - Barchart for Fe2O3T



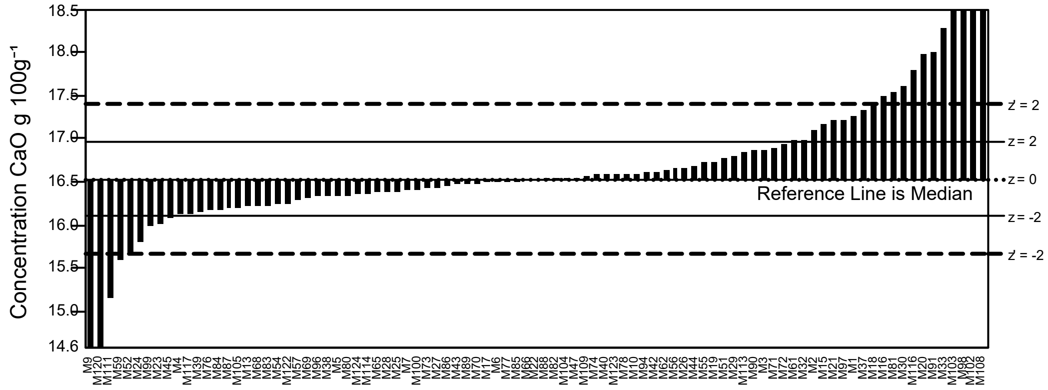
GeoPT50 - Barchart for MnO



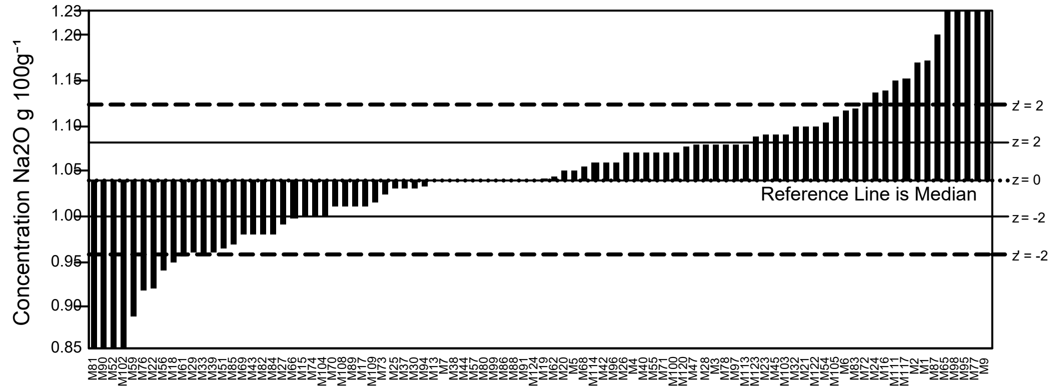
GeoPT50 - Barchart for MgO



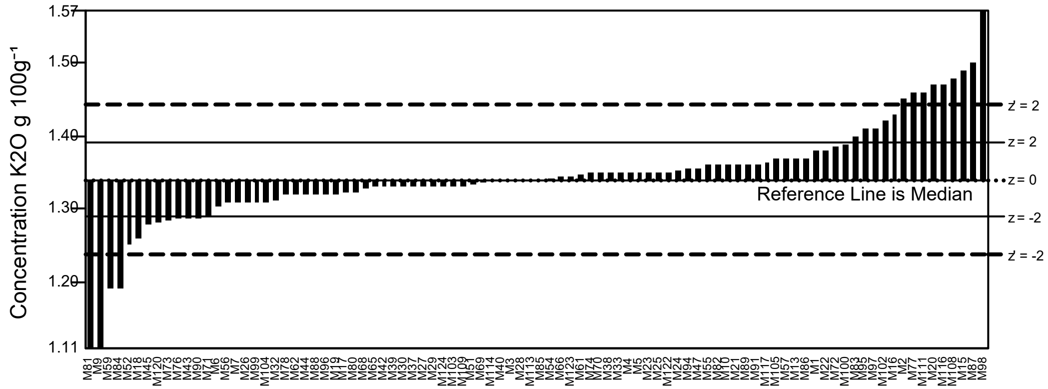
GeoPT50 - Barchart for CaO



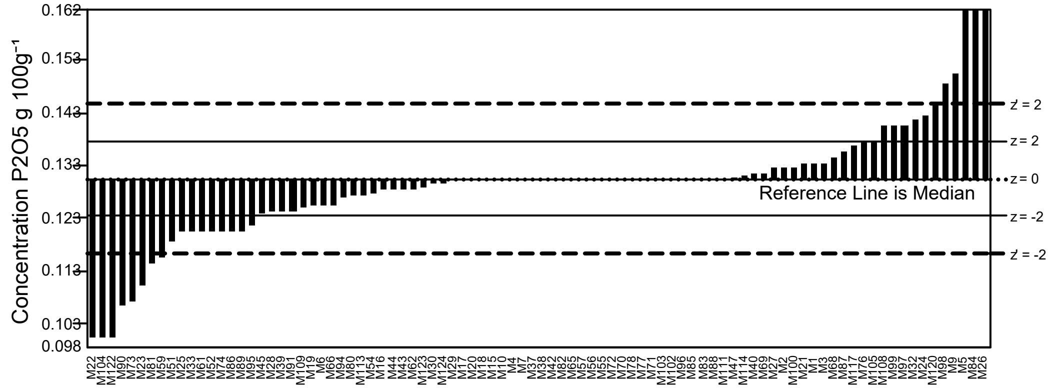
GeoPT50 - Barchart for Na2O



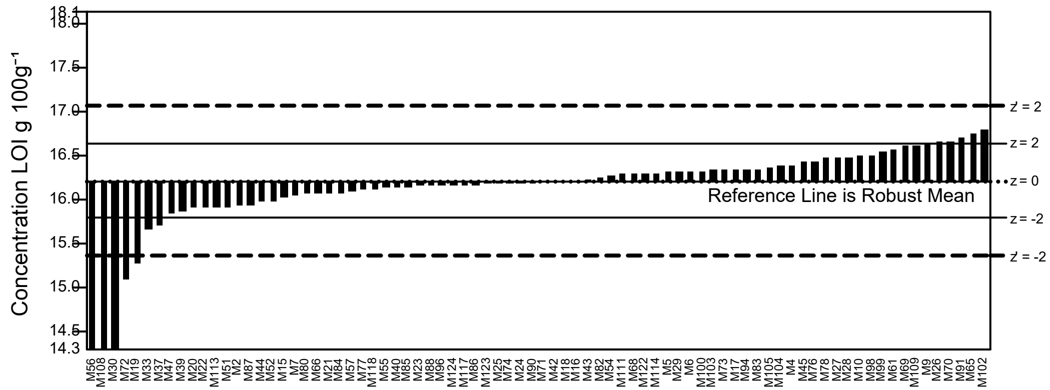
GeoPT50 - Barchart for K2O



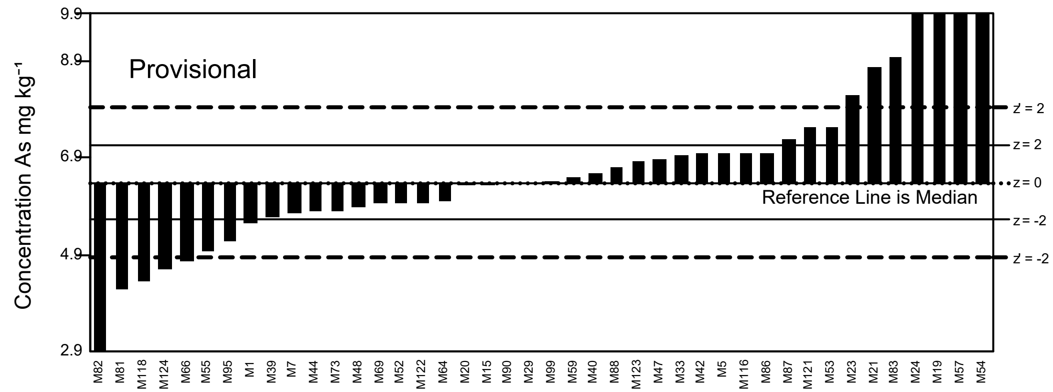
GeoPT50 - Barchart for P2O5

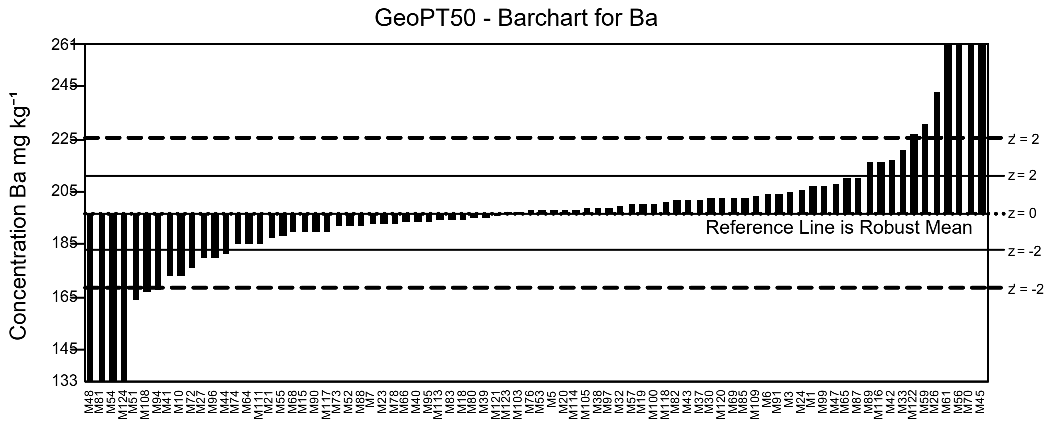


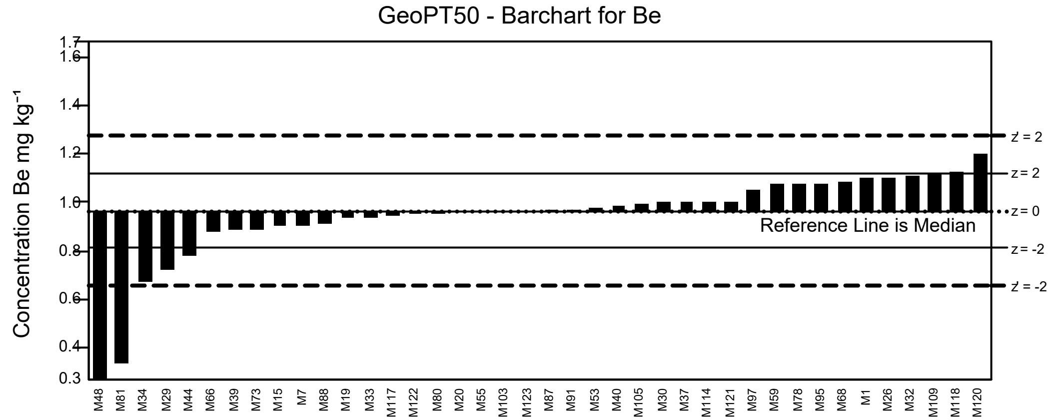
GeoPT50 - Barchart for LOI

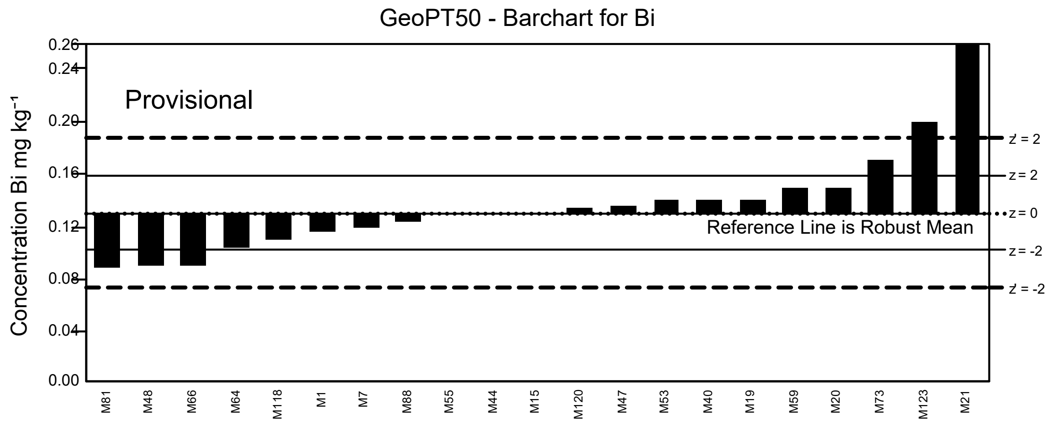


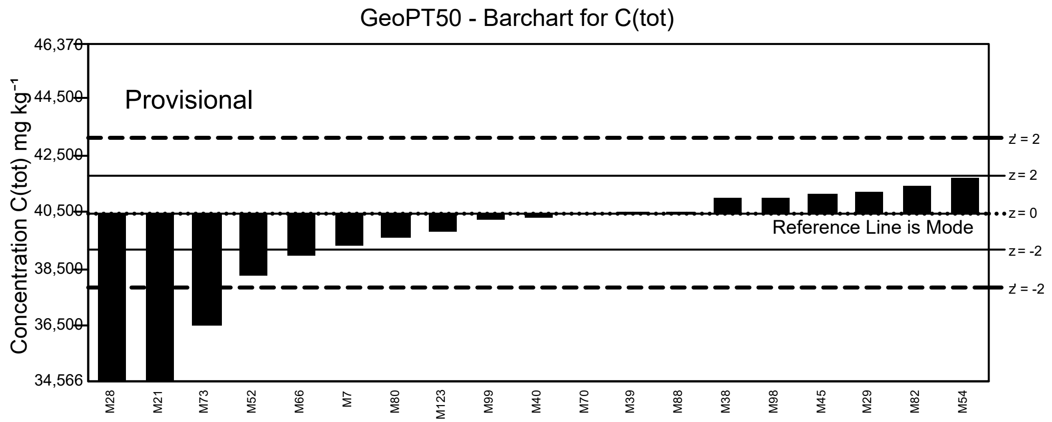
GeoPT50 - Barchart for As

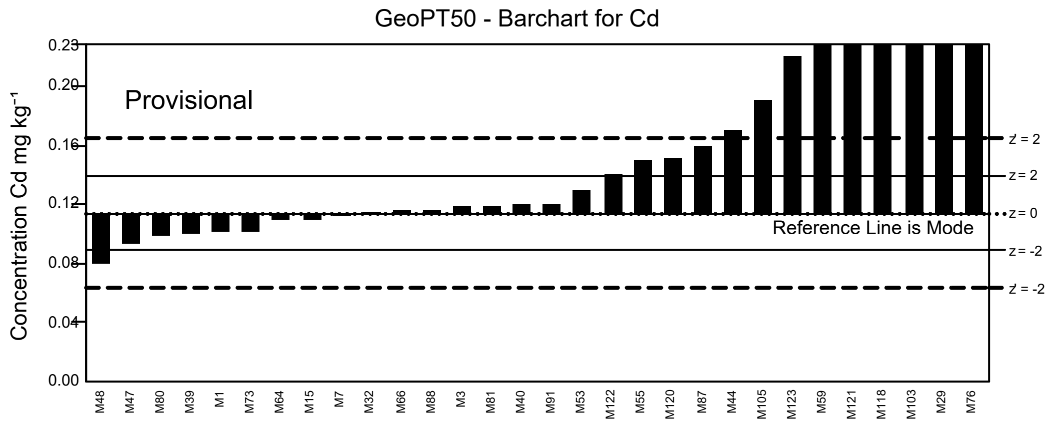


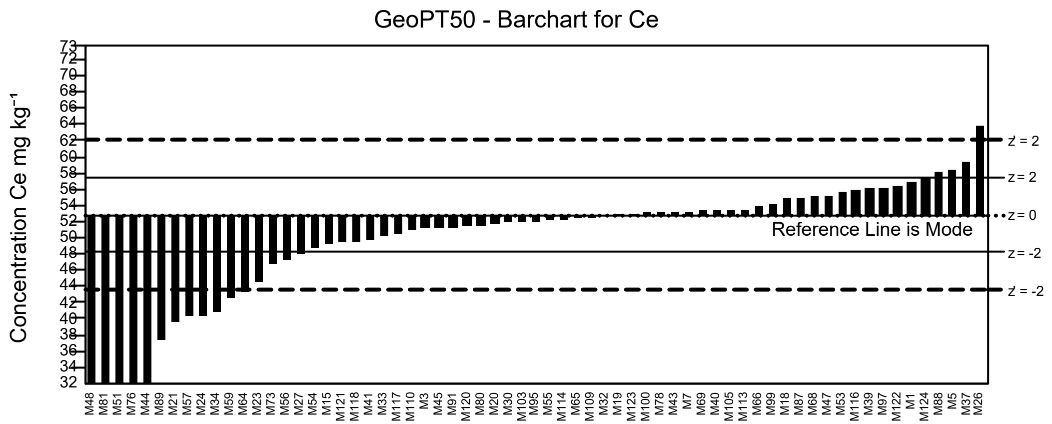

GeoPT50 - Barchart for Ba
Concentration Ba mg kg⁻¹
Reference Line is Robust Mean


GeoPT50 - Barchart for Be
Concentration Be mg kg⁻¹
Reference Line is Median

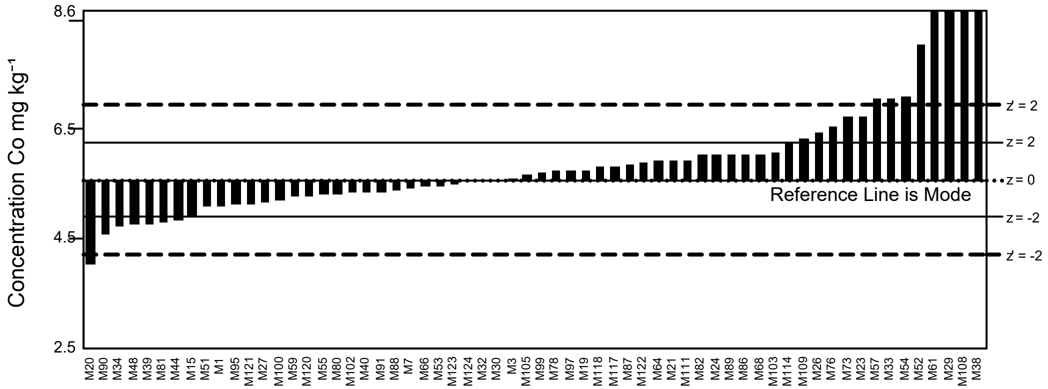

GeoPT50 - Barchart for Bi
Provisional
Concentration Bi mg kg⁻¹
Reference Line is Robust Mean


GeoPT50 - Barchart for C(tot)
Provisional
Concentration C(tot) mg kg⁻¹
Reference Line is Mode

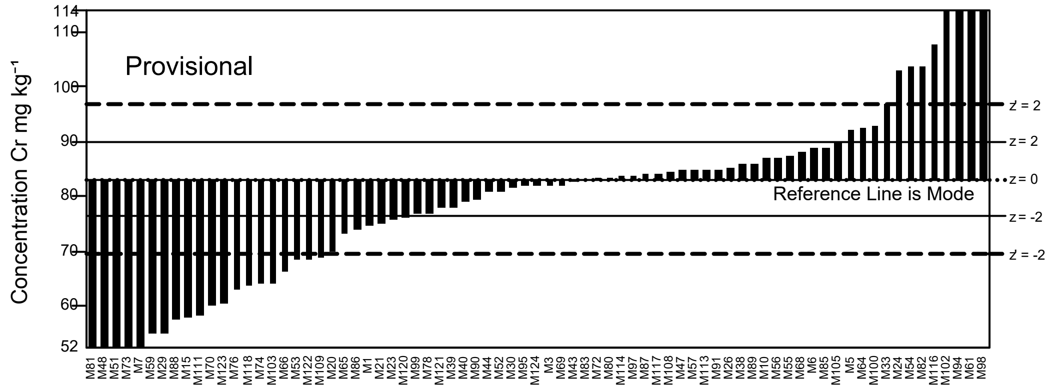

GeoPT50 - Barchart for Cd
Provisional
Concentration Cd mg kg⁻¹
Reference Line is Mode


GeoPT50 - Barchart for Ce
Concentration Ce mg kg⁻¹
Reference Line is Mode

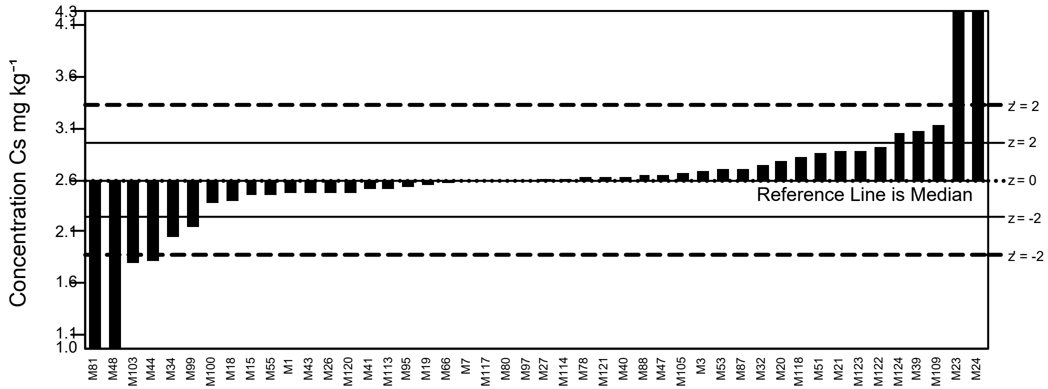
GeoPT50 - Barchart for Co



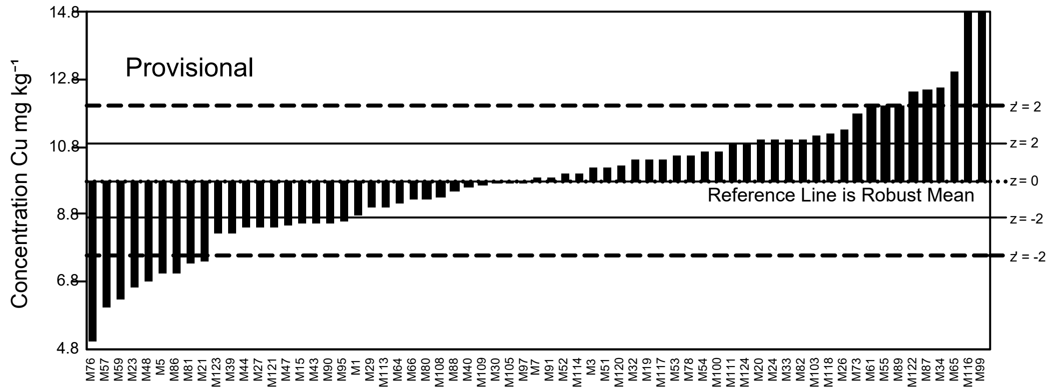
GeoPT50 - Barchart for Cr



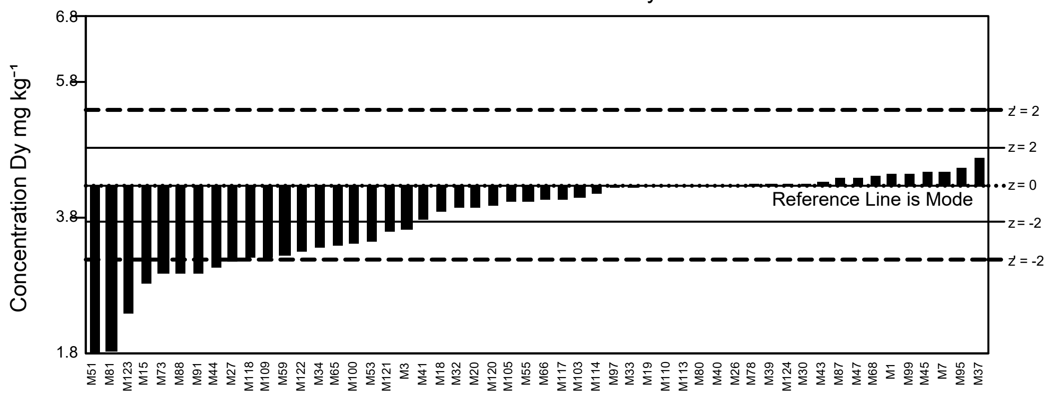
GeoPT50 - Barchart for Cs



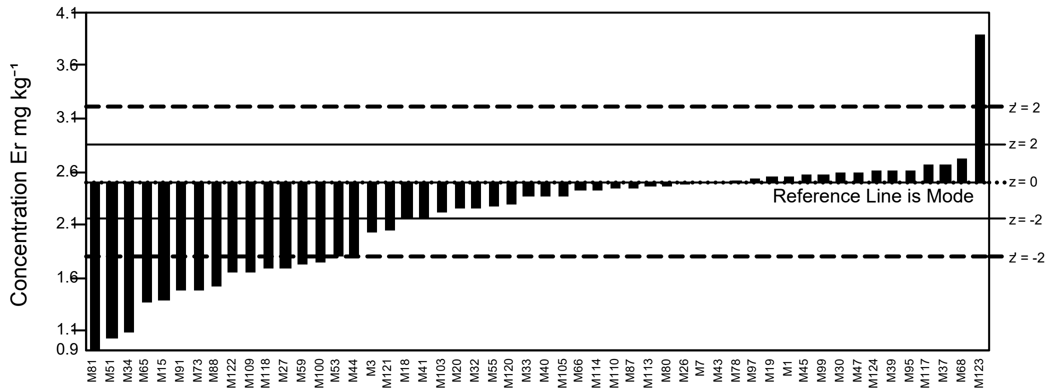
GeoPT50 - Barchart for Cu



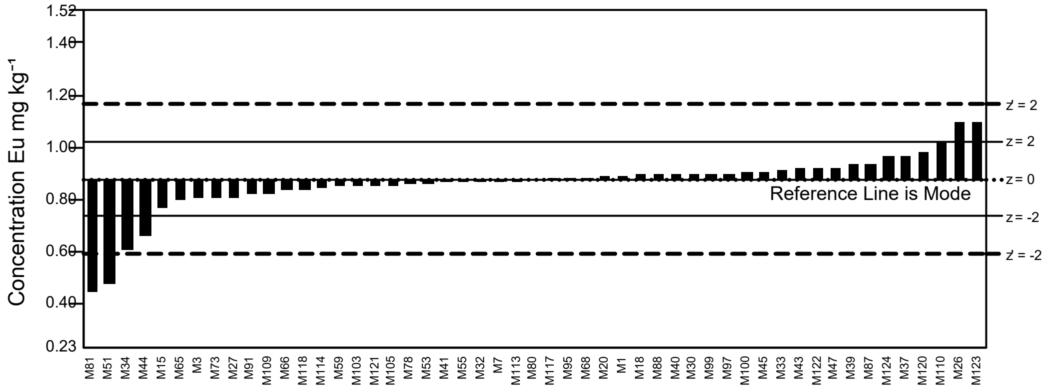
GeoPT50 - Barchart for Dy



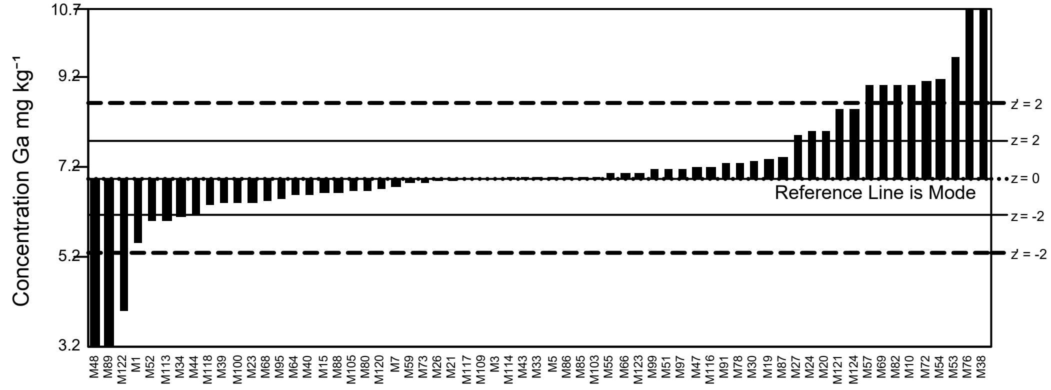
GeoPT50 - Barchart for Er



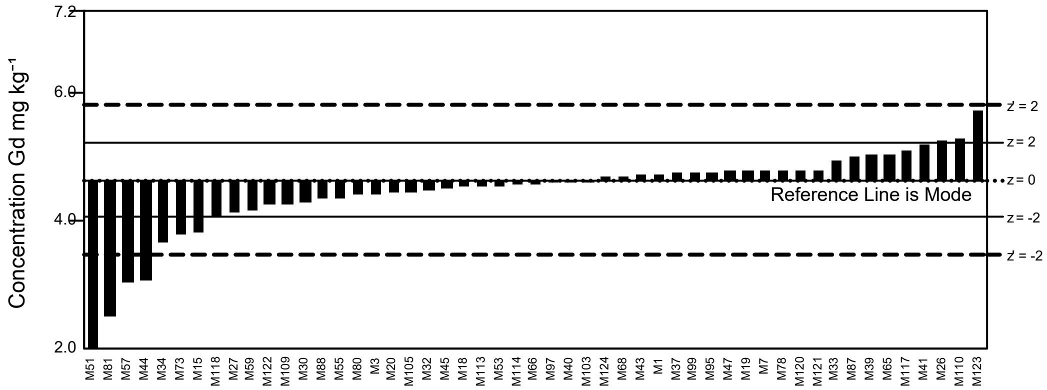
GeoPT50 - Barchart for Eu



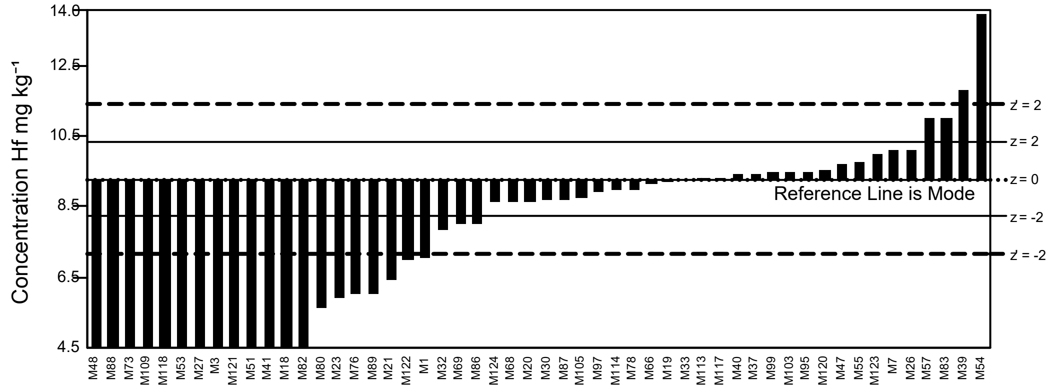
GeoPT50 - Barchart for Ga



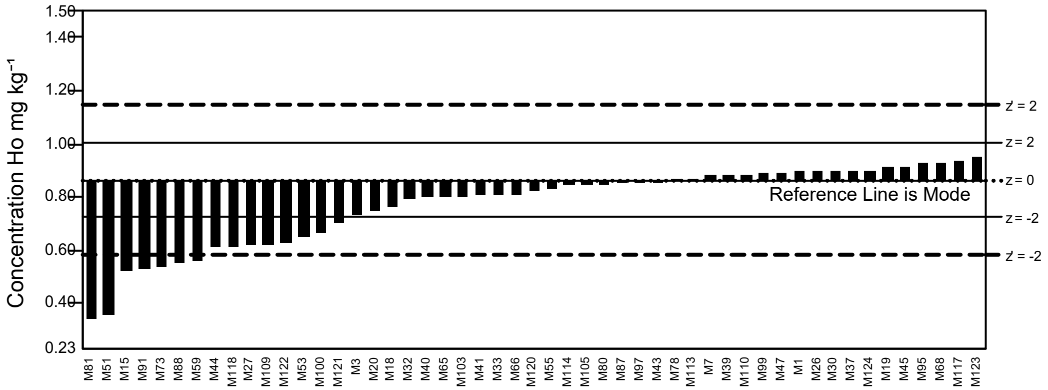
GeoPT50 - Barchart for Gd



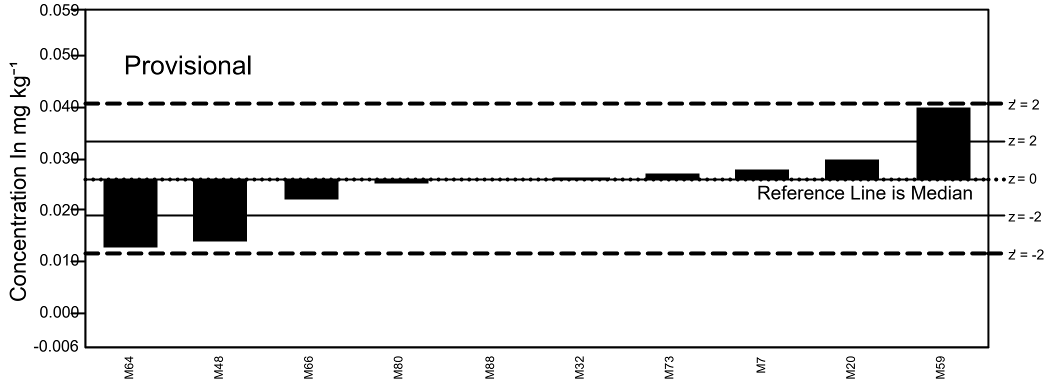
GeoPT50 - Barchart for Hf



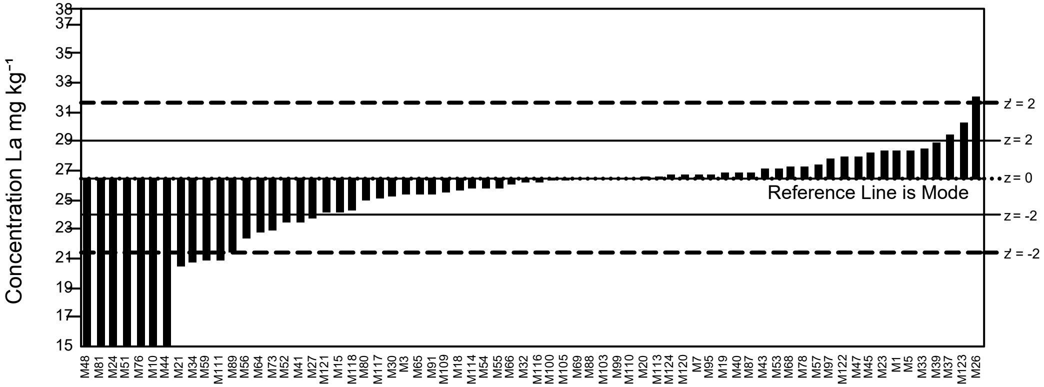
GeoPT50 - Barchart for Ho



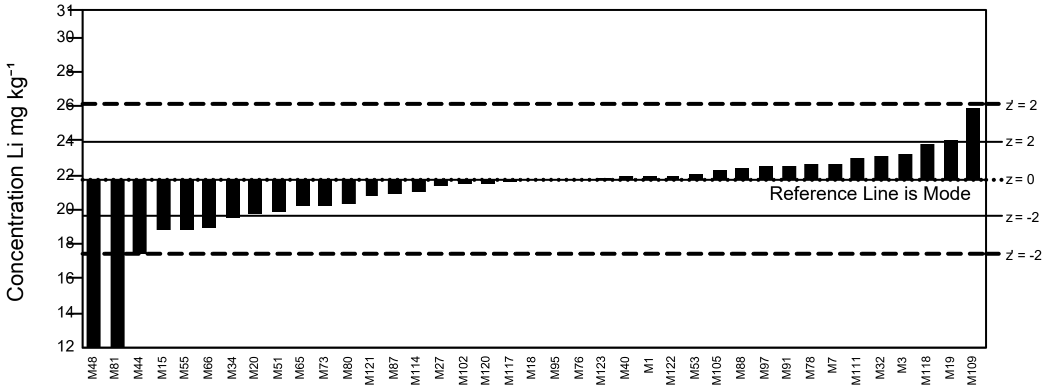
GeoPT50 - Barchart for In



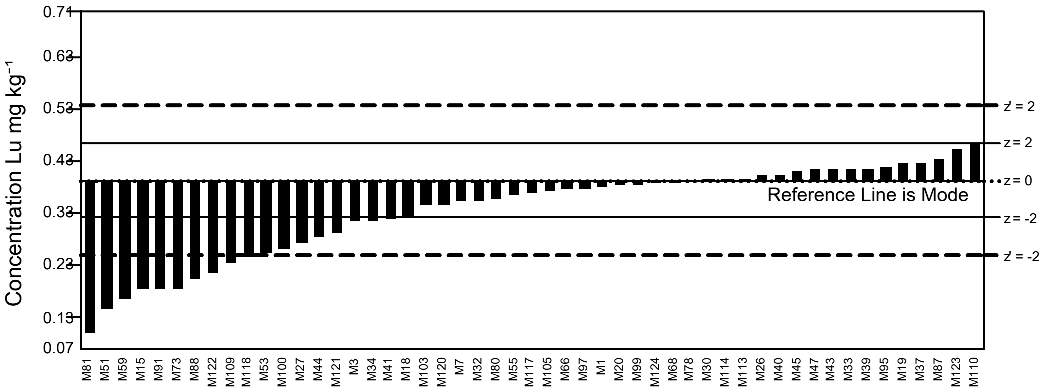
GeoPT50 - Barchart for La



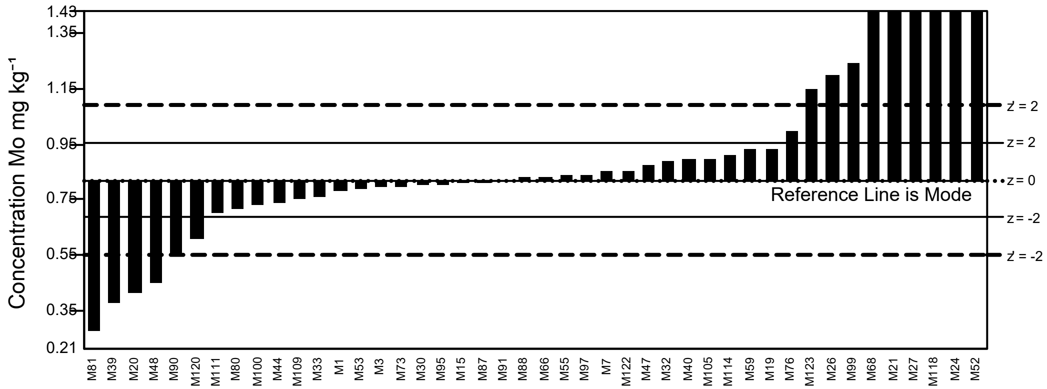
GeoPT50 - Barchart for Li



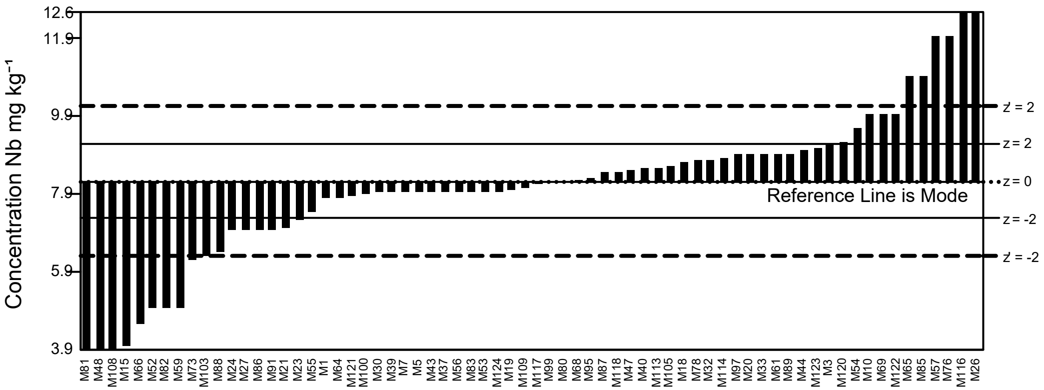
GeoPT50 - Barchart for Lu



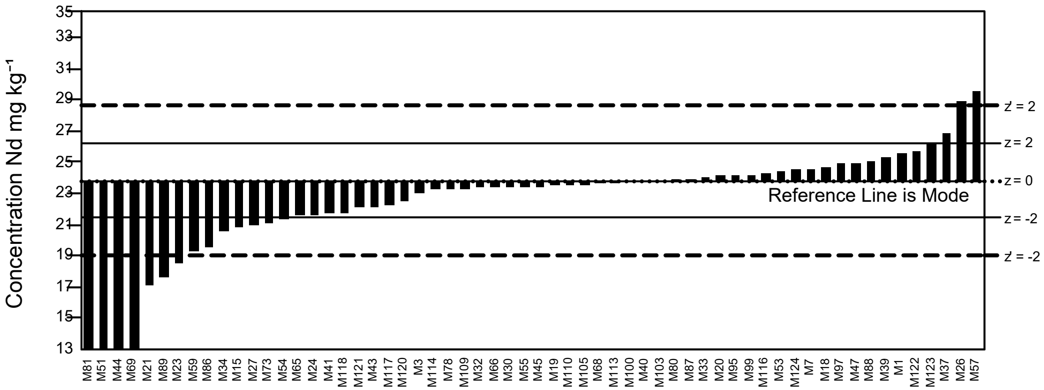
GeoPT50 - Barchart for Mo

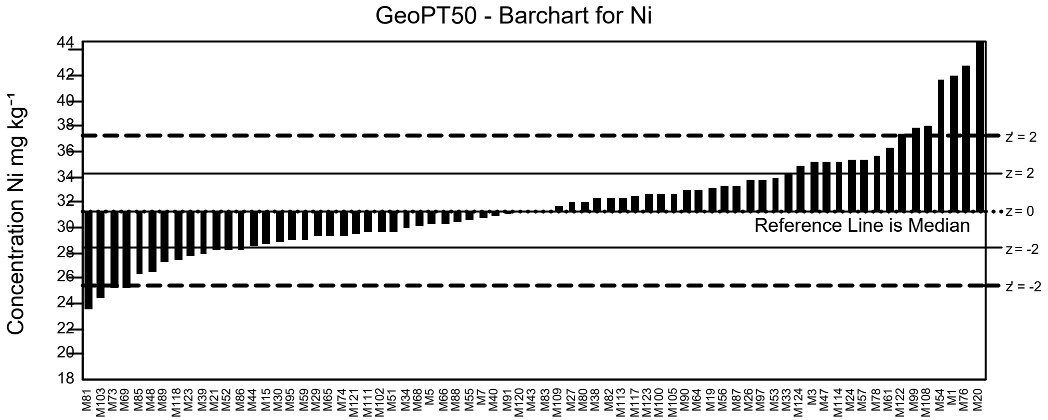


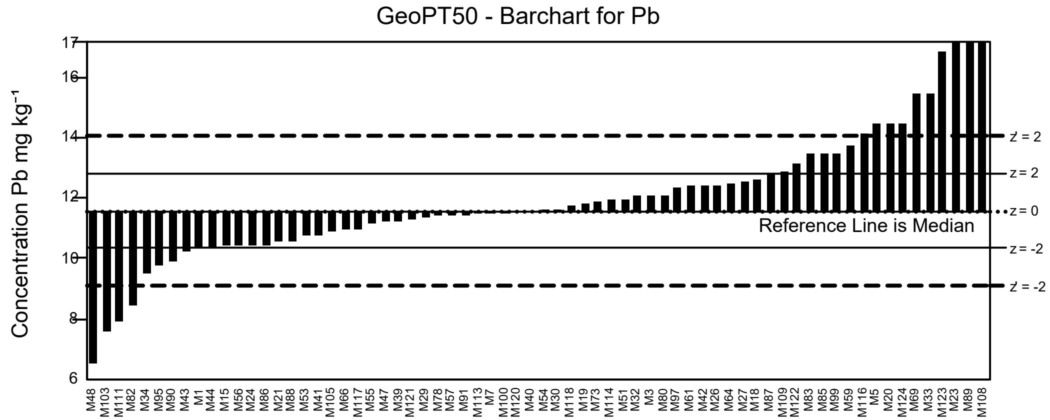
GeoPT50 - Barchart for Nb

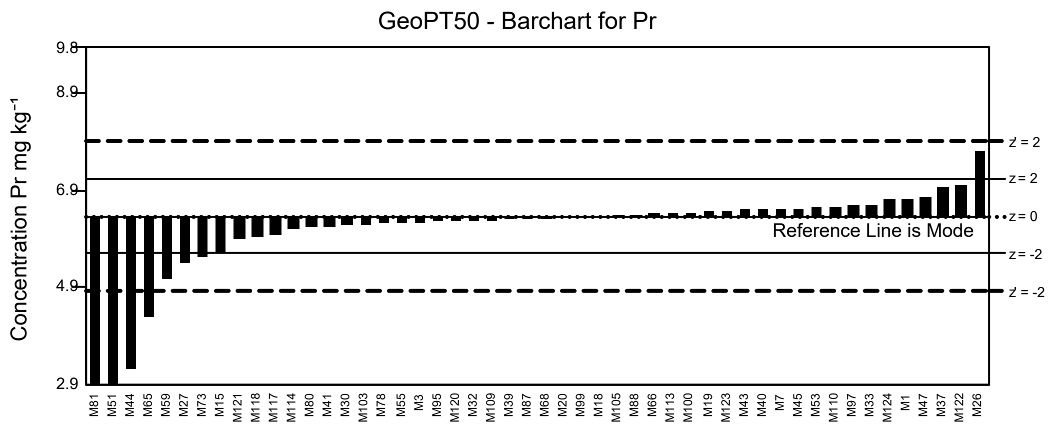


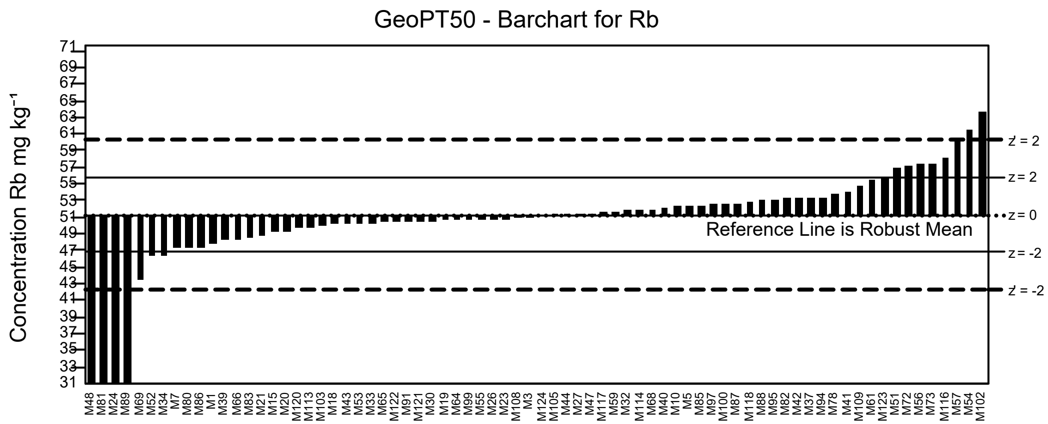
GeoPT50 - Barchart for Nd

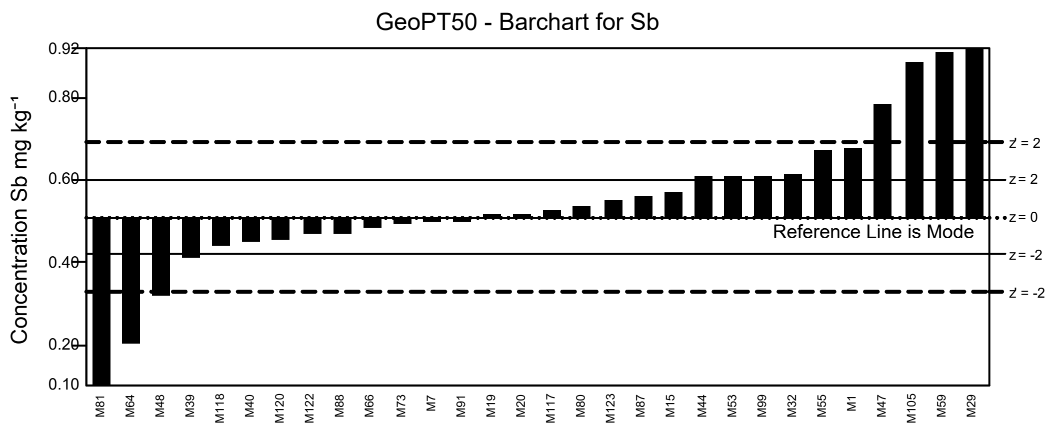


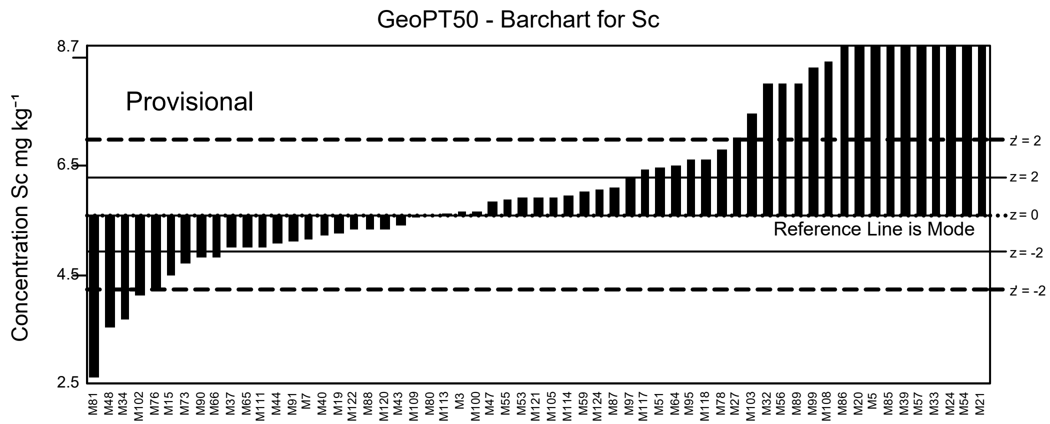

GeoPT50 - Barchart for Ni
Concentration Ni mg kg⁻¹
z' = 2
z = 2
z = 0
Reference Line is Median
z = -2
z' = -2

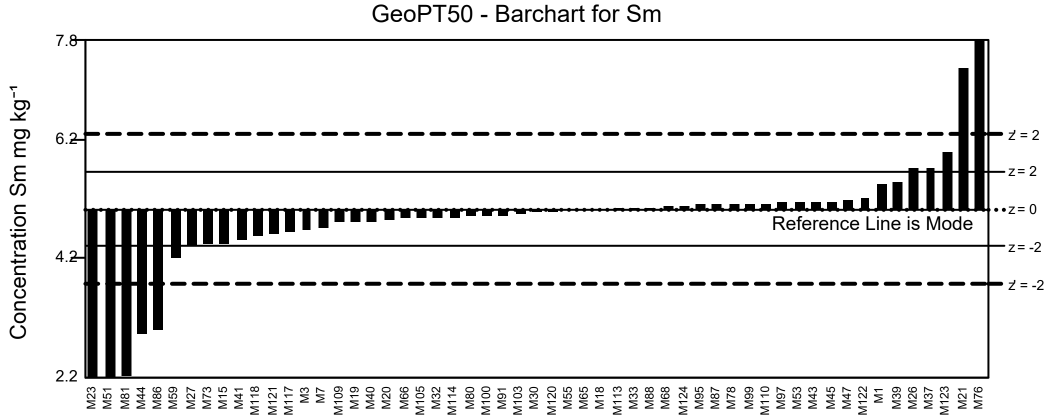

GeoPT50 - Barchart for Pb
Concentration Pb mg kg⁻¹
z' = 2
z = 2
z = 0
Reference Line is Median
z = -2
z' = -2

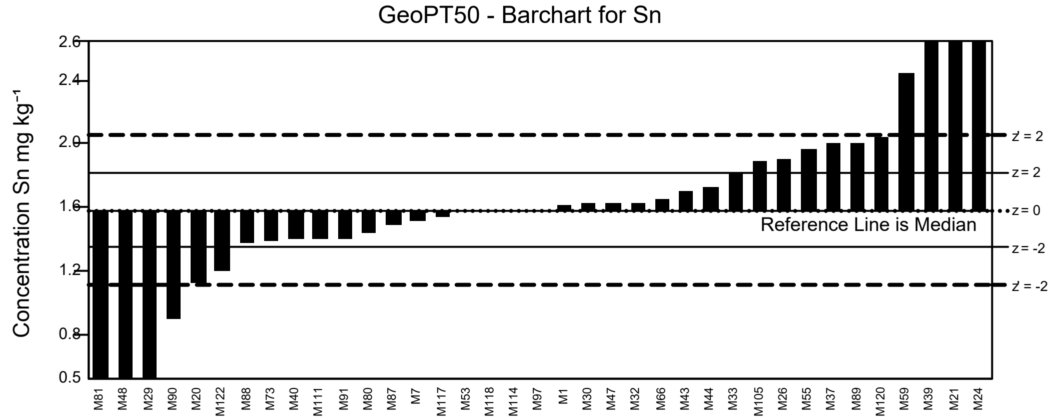

GeoPT50 - Barchart for Pr
Concentration Pr mg kg⁻¹
z' = 2
z = 2
z = 0
Reference Line is Mode
z = -2
z' = -2

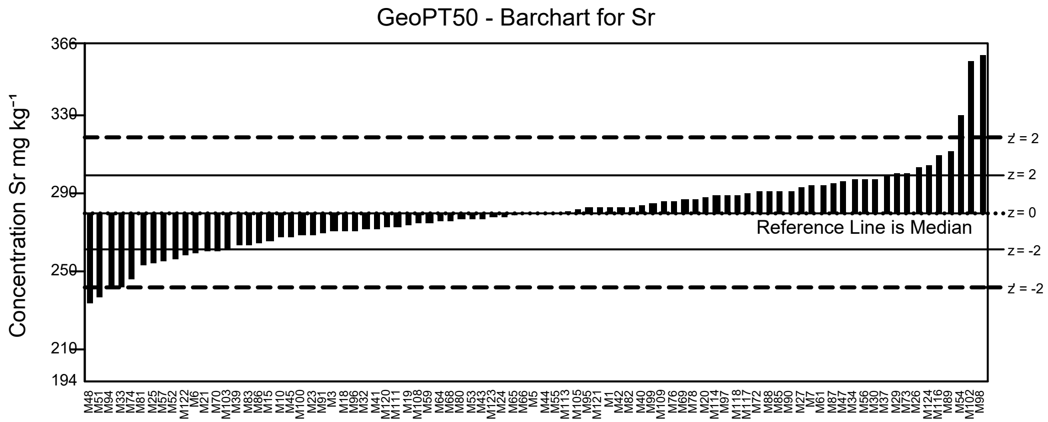

GeoPT50 - Barchart for Rb
Concentration Rb mg kg⁻¹
z' = 2
z = 2
z = 0
Reference Line is Robust Mean
z = -2
z' = -2

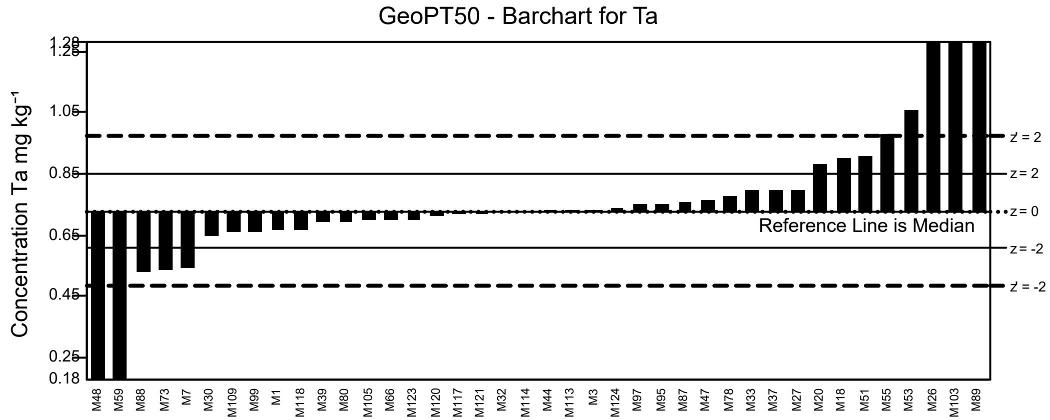

GeoPT50 - Barchart for Sb
Concentration Sb mg kg⁻¹
z' = 2
z = 2
z = 0
Reference Line is Mode
z = -2
z' = -2

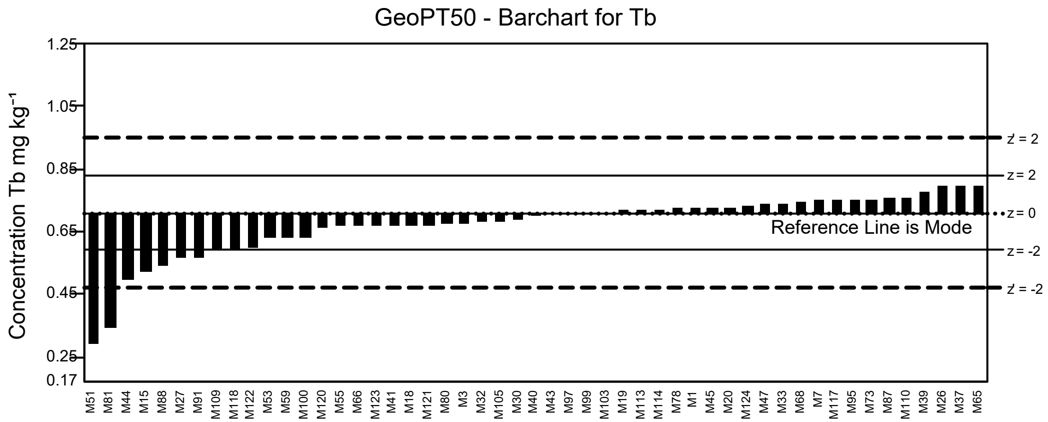

GeoPT50 - Barchart for Sc
Provisional
Concentration Sc mg kg⁻¹
z' = 2
z = 2
z = 0
Reference Line is Mode
z = -2
z' = -2

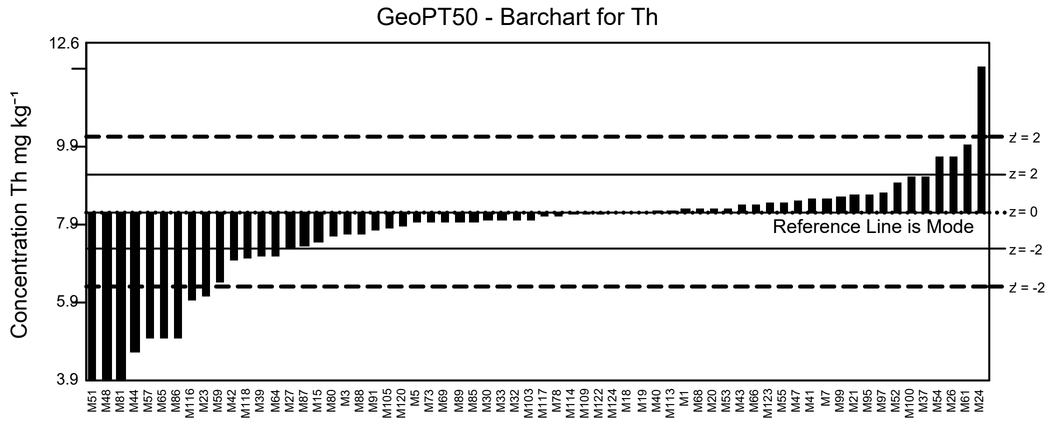

GeoPT50 - Barchart for Sm
Concentration Sm mg kg⁻¹
Reference Line is Mode


GeoPT50 - Barchart for Sn
Concentration Sn mg kg⁻¹
Reference Line is Median

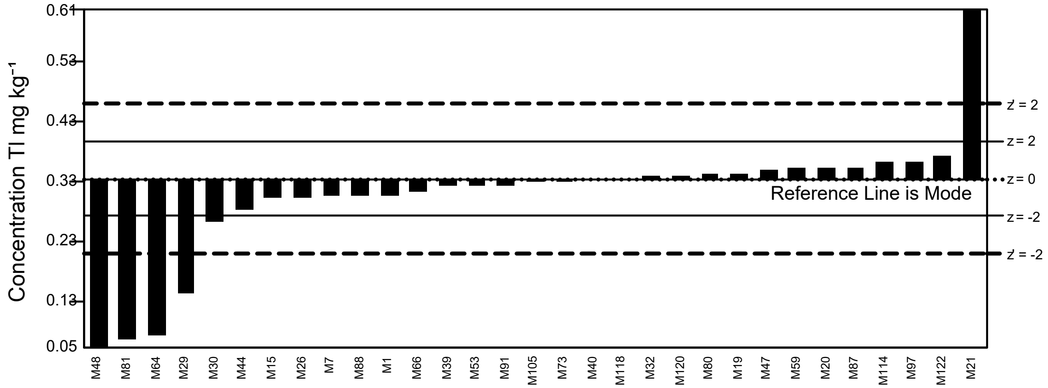

GeoPT50 - Barchart for Sr
Concentration Sr mg kg⁻¹
Reference Line is Median


GeoPT50 - Barchart for Ta
Concentration Ta mg kg⁻¹
Reference Line is Median

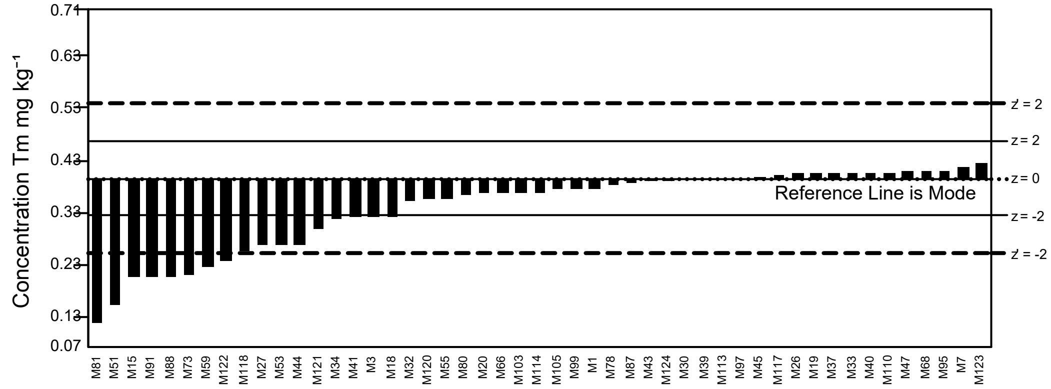

GeoPT50 - Barchart for Tb
Concentration Tb mg kg⁻¹
Reference Line is Mode


GeoPT50 - Barchart for Th
Concentration Th mg kg⁻¹
Reference Line is Mode

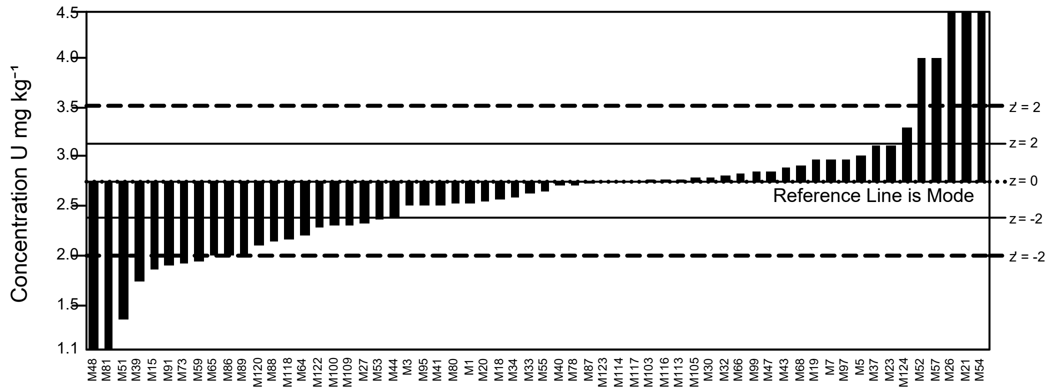
GeoPT50 - Barchart for Tl



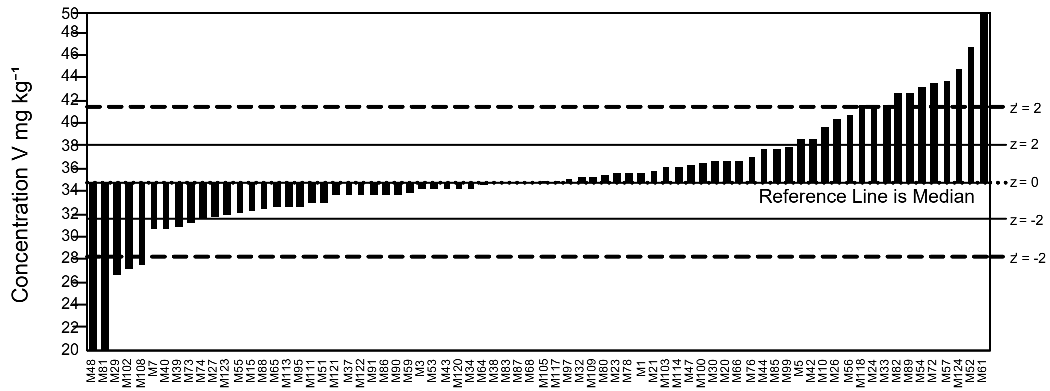
GeoPT50 - Barchart for Tm



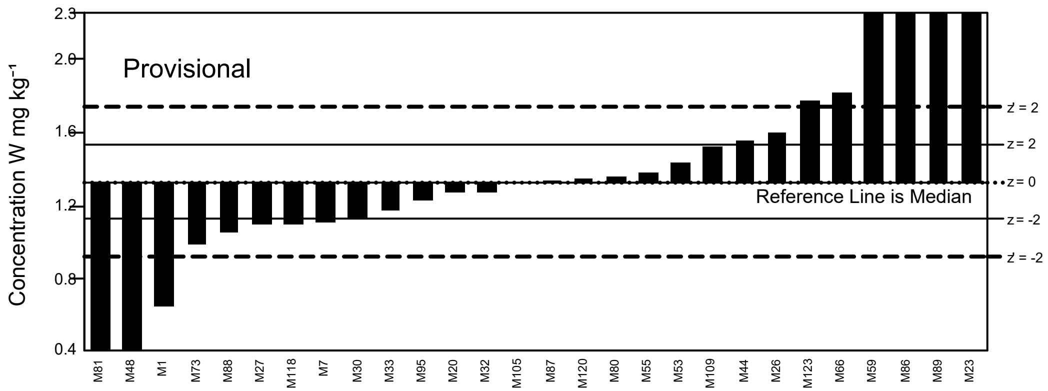
GeoPT50 - Barchart for U



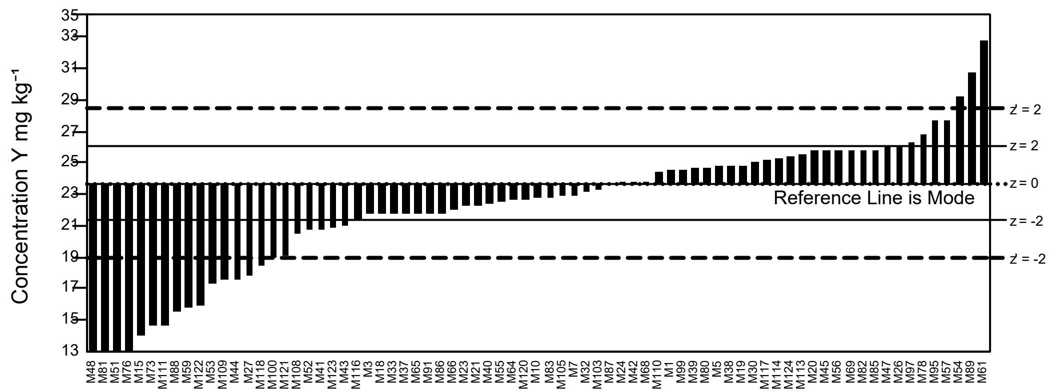
GeoPT50 - Barchart for V

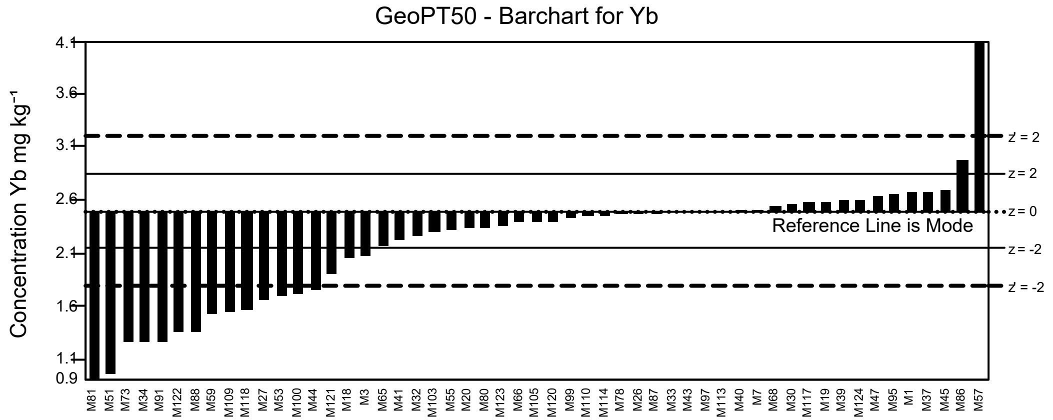


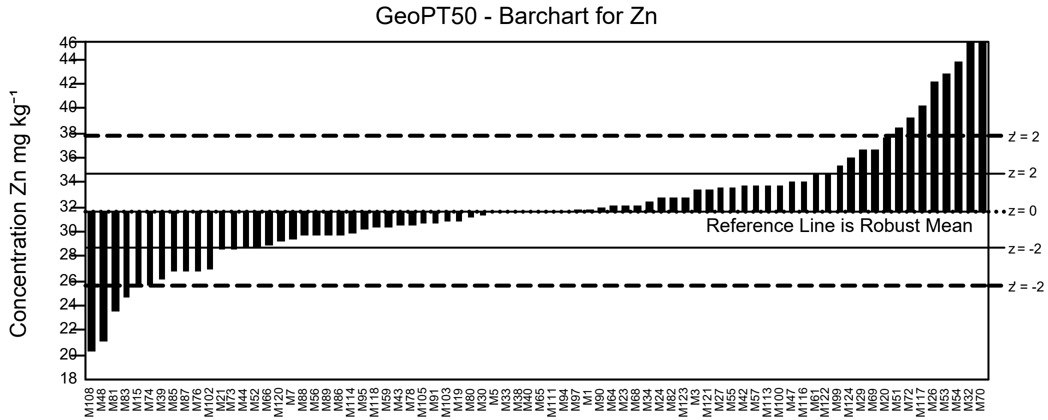
GeoPT50 - Barchart for W



GeoPT50 - Barchart for Y







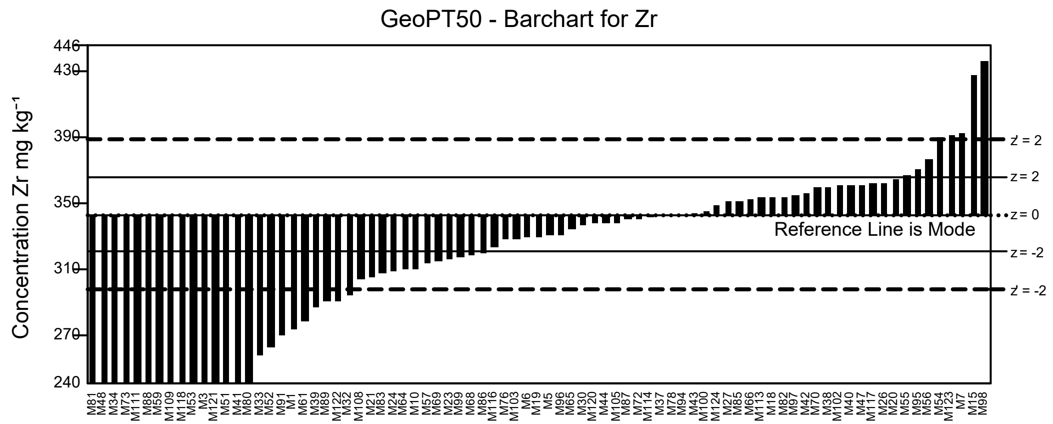
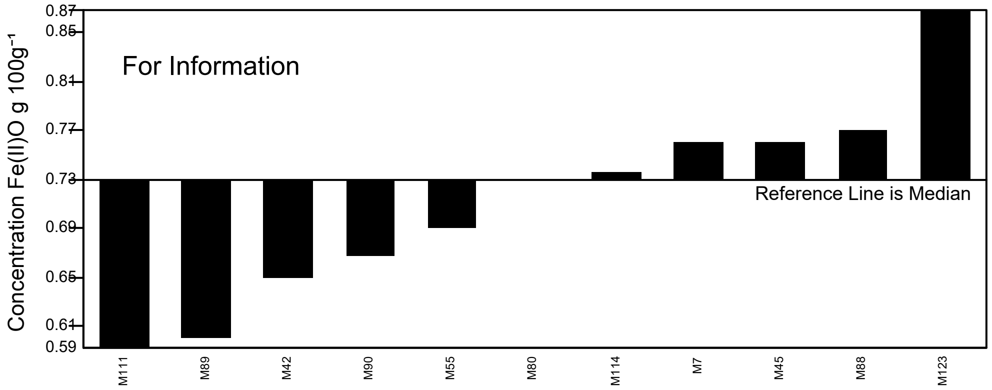
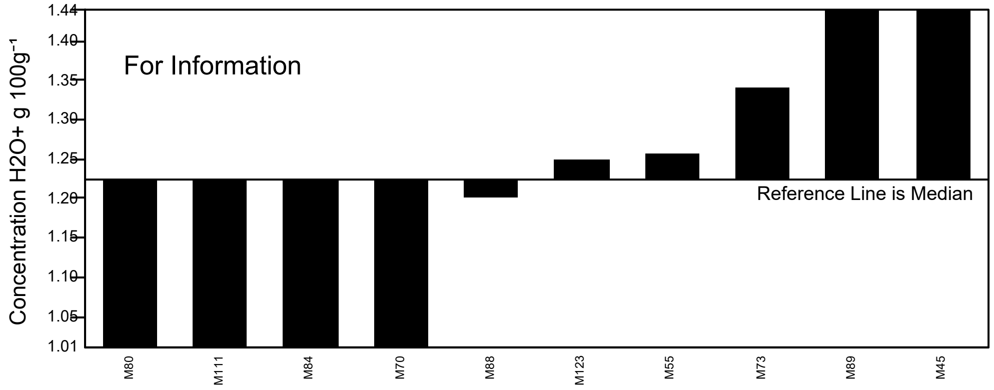


Figure 1: GeoPT50 - Calcified sediment, CSd-1. Data distribution charts for elements for which values were assigned or provisional values given for guidance. Horizontal lines show the limits for -2<z<2 for pure geochemistry labs (solid lines) and -2<z'<2 for applied geochemistry labs (pecked lines).

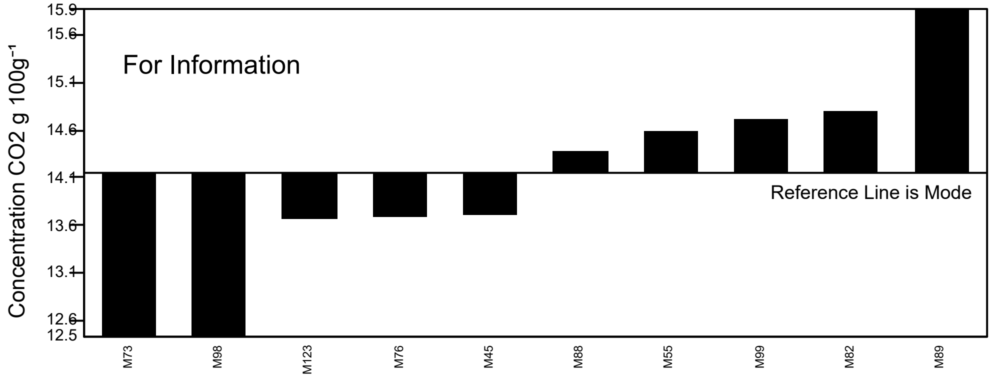
GeoPT50 - Barchart for Fe(II)O



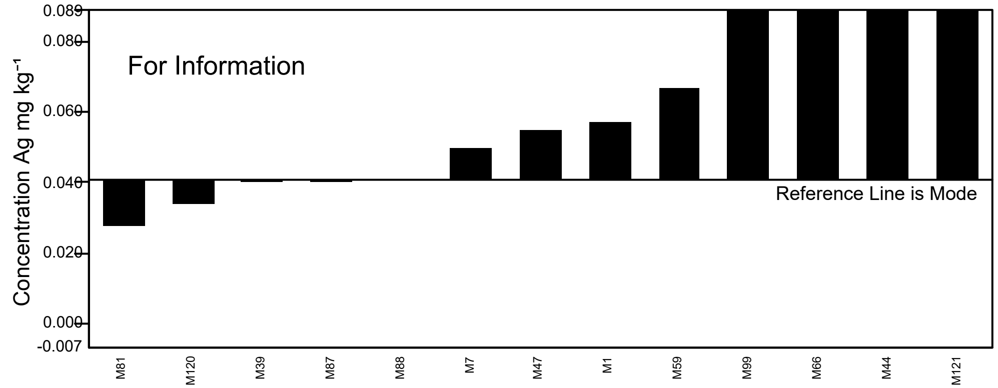
GeoPT50 - Barchart for H2O+



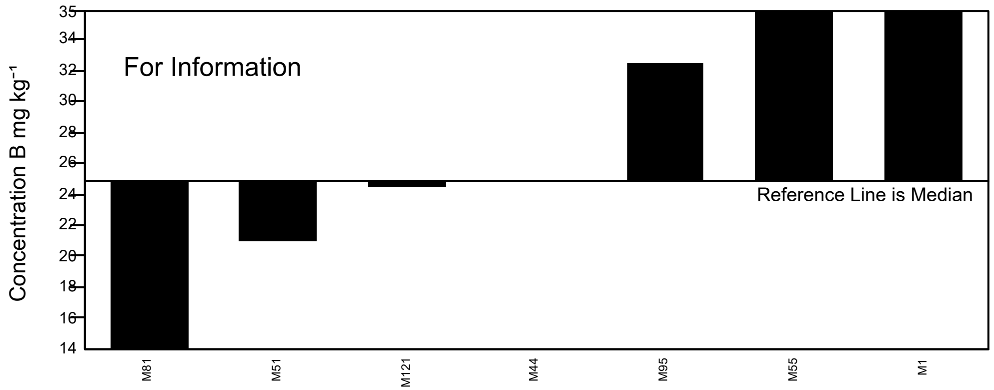
GeoPT50 - Barchart for CO2



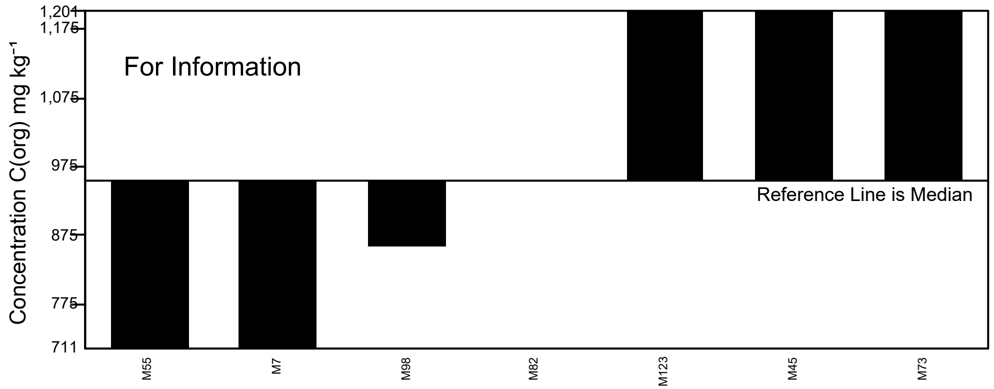
GeoPT50 - Barchart for Ag



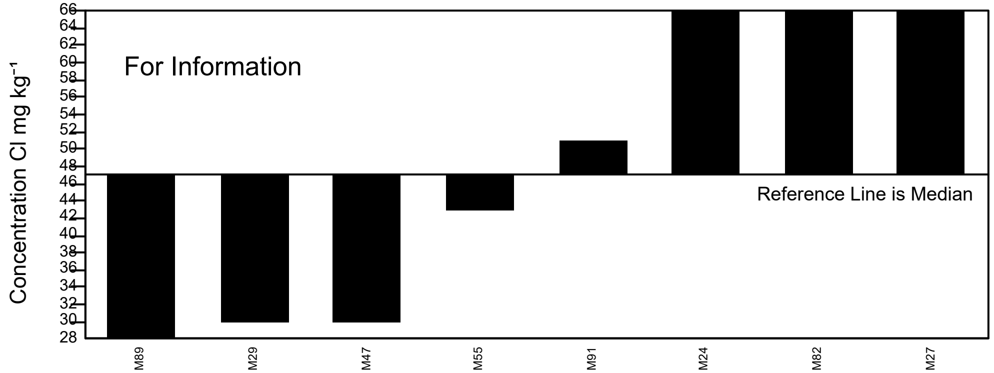
GeoPT50 - Barchart for B



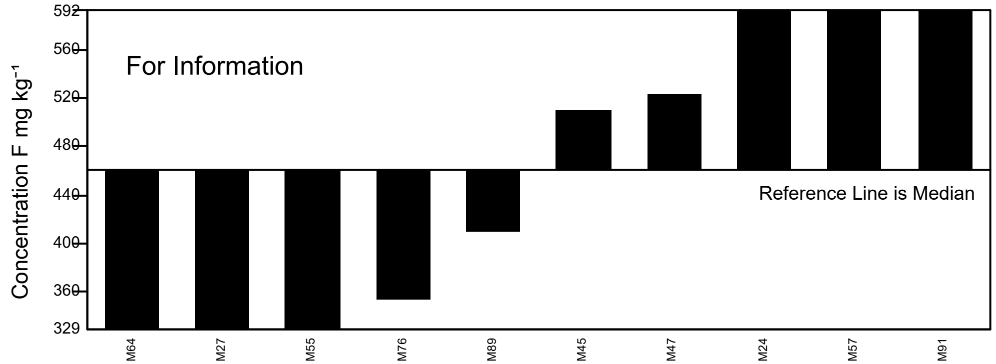
GeoPT50 - Barchart for C(org)



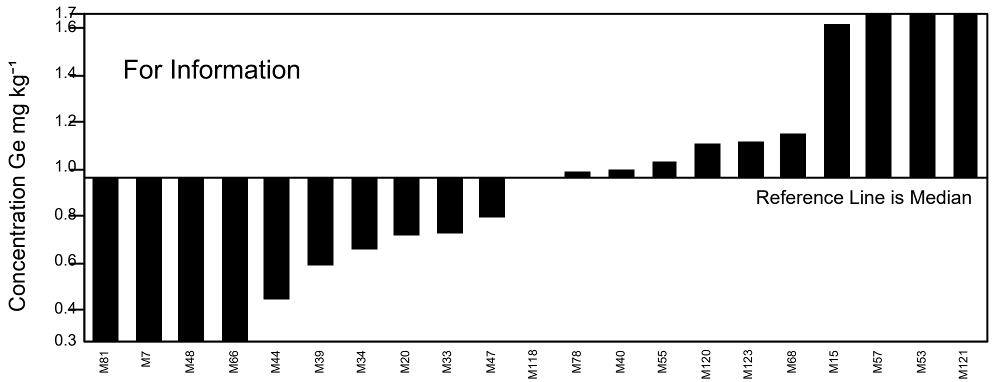
GeoPT50 - Barchart for Cl



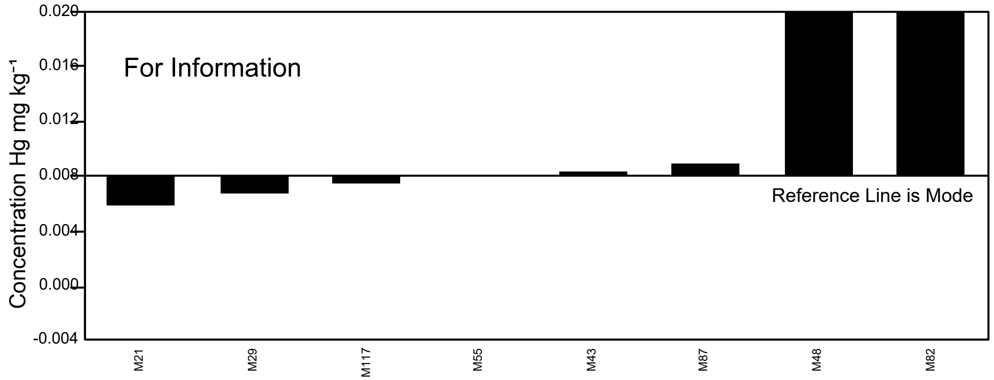
GeoPT50 - Barchart for F



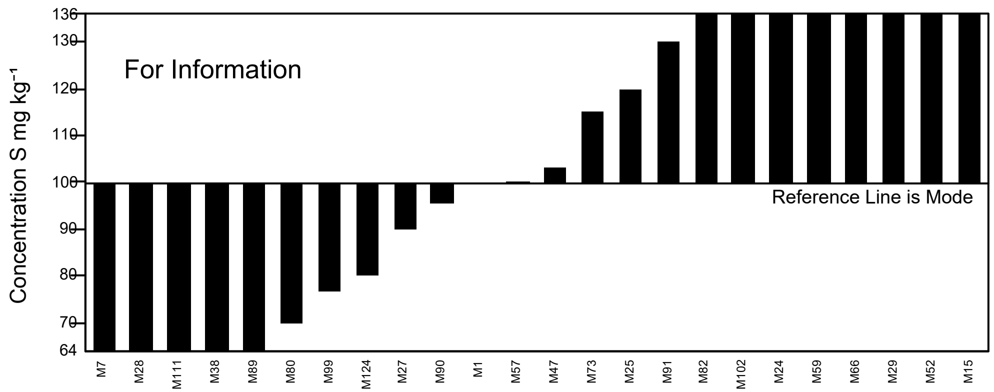
GeoPT50 - Barchart for Ge



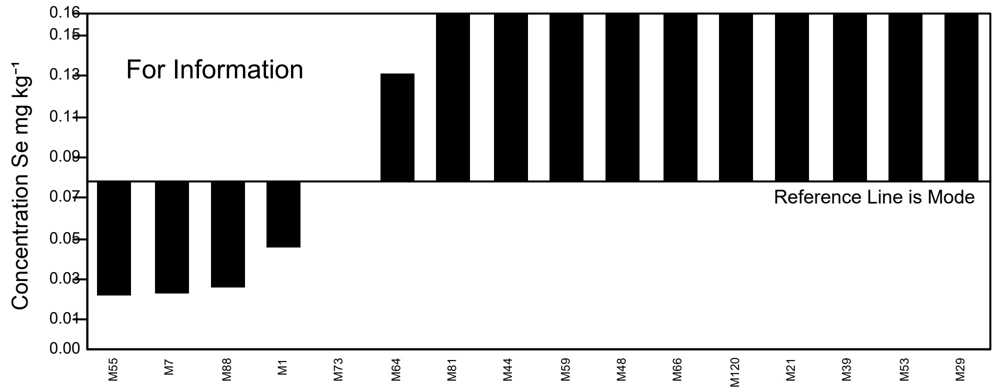
GeoPT50 - Barchart for Hg



GeoPT50 - Barchart for S



GeoPT50 - Barchart for Se



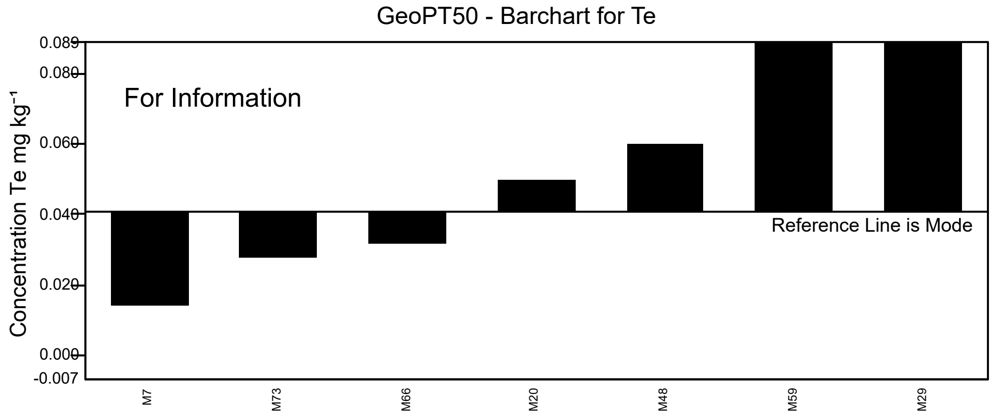
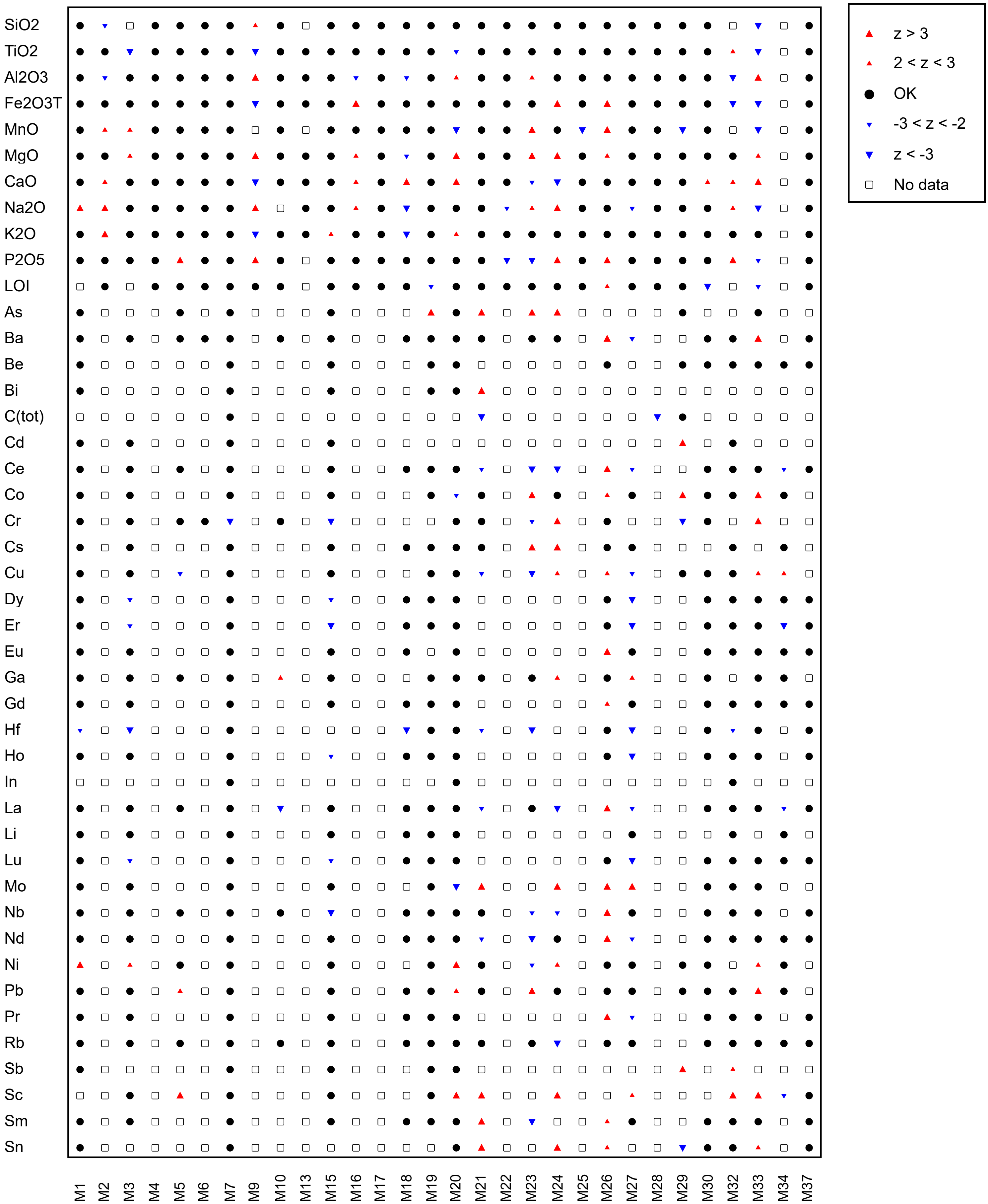


Figure 2: GeoPT50 - Calcified sediment, CSd-1. Data distribution charts provided for information only for elements for which values could not be assigned.

Multiple Z-Score Chart for GeoPT50



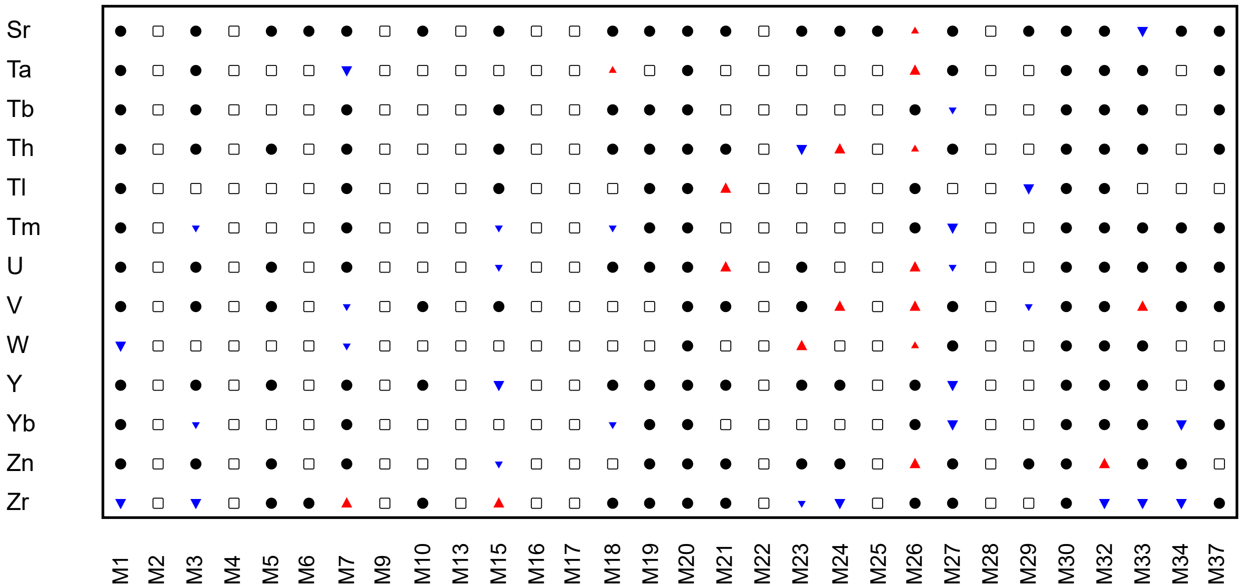
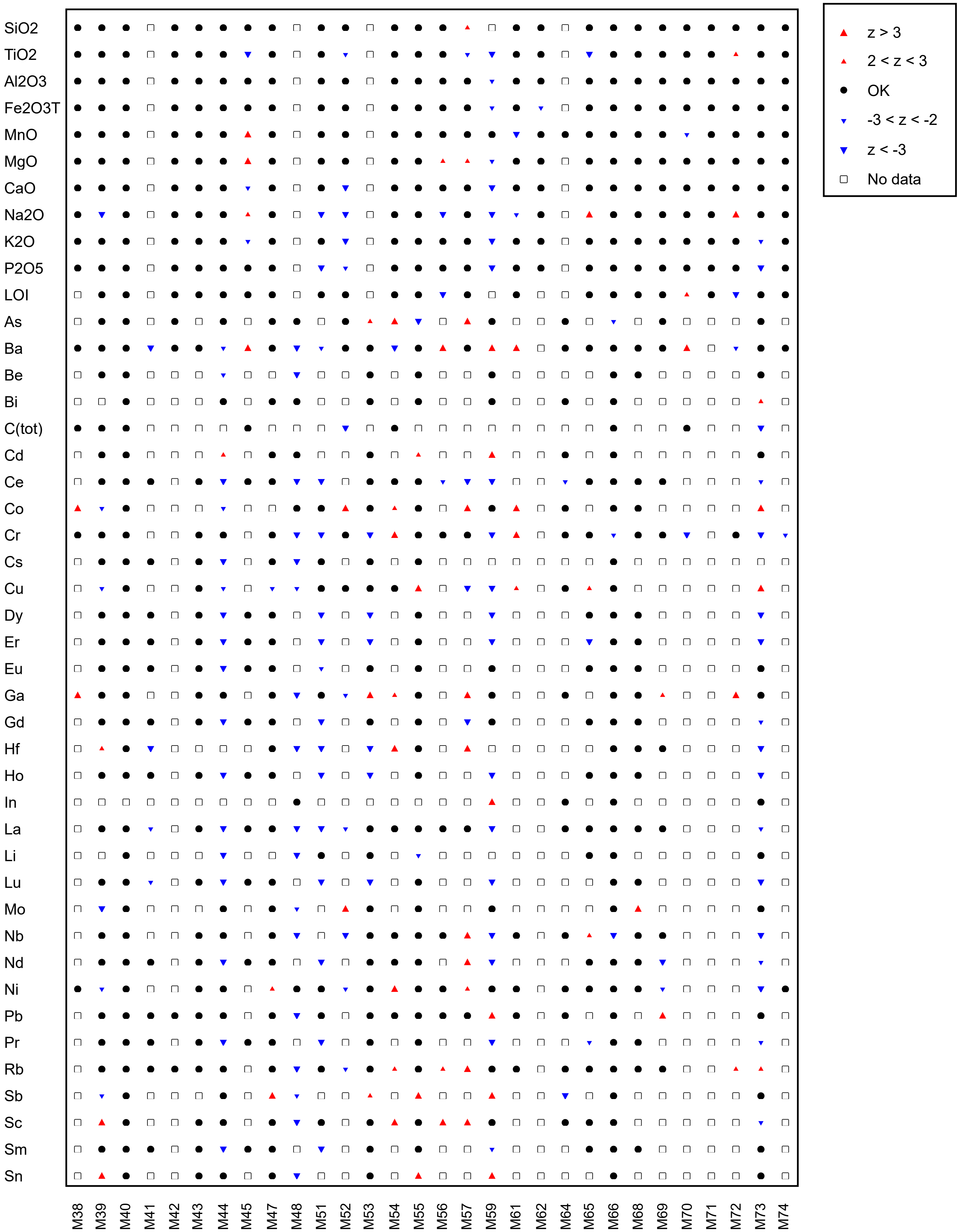
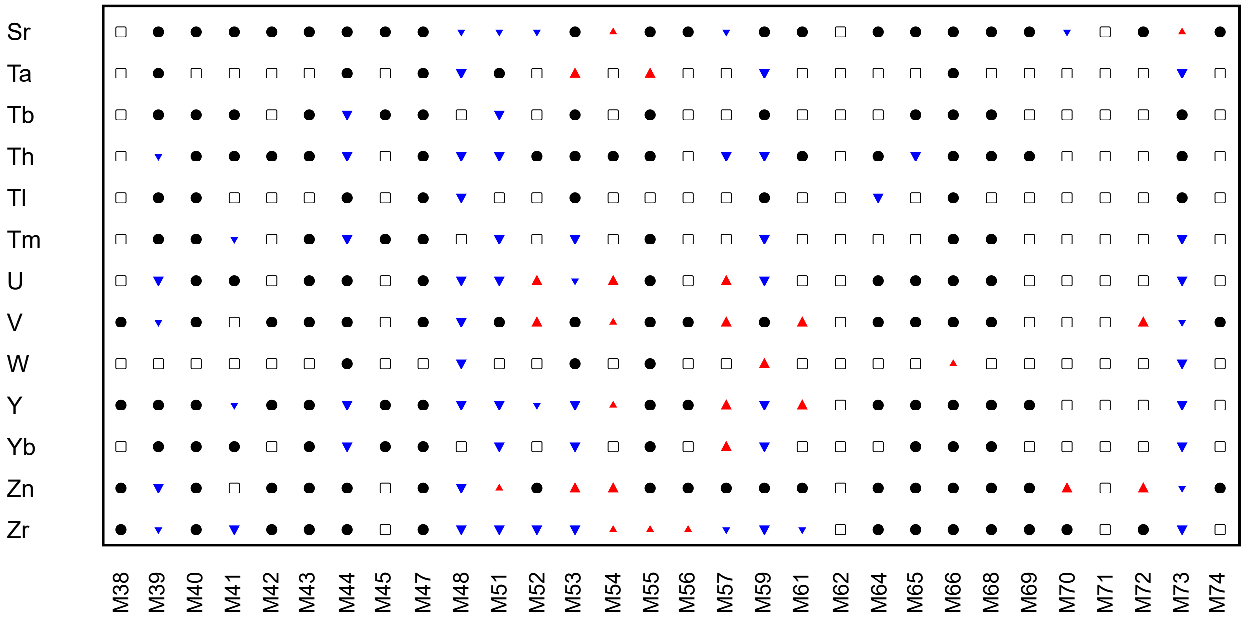


Figure 3: GeoPT50 - Calcified sediment, CSd-1. Multiple z-score charts for laboratories participating in the GeoPT50 round. Symbols indicate whether or not an elemental result complies with the -2<z<+2 criteria (see key).

Multiple Z-Score Chart for GeoPT50





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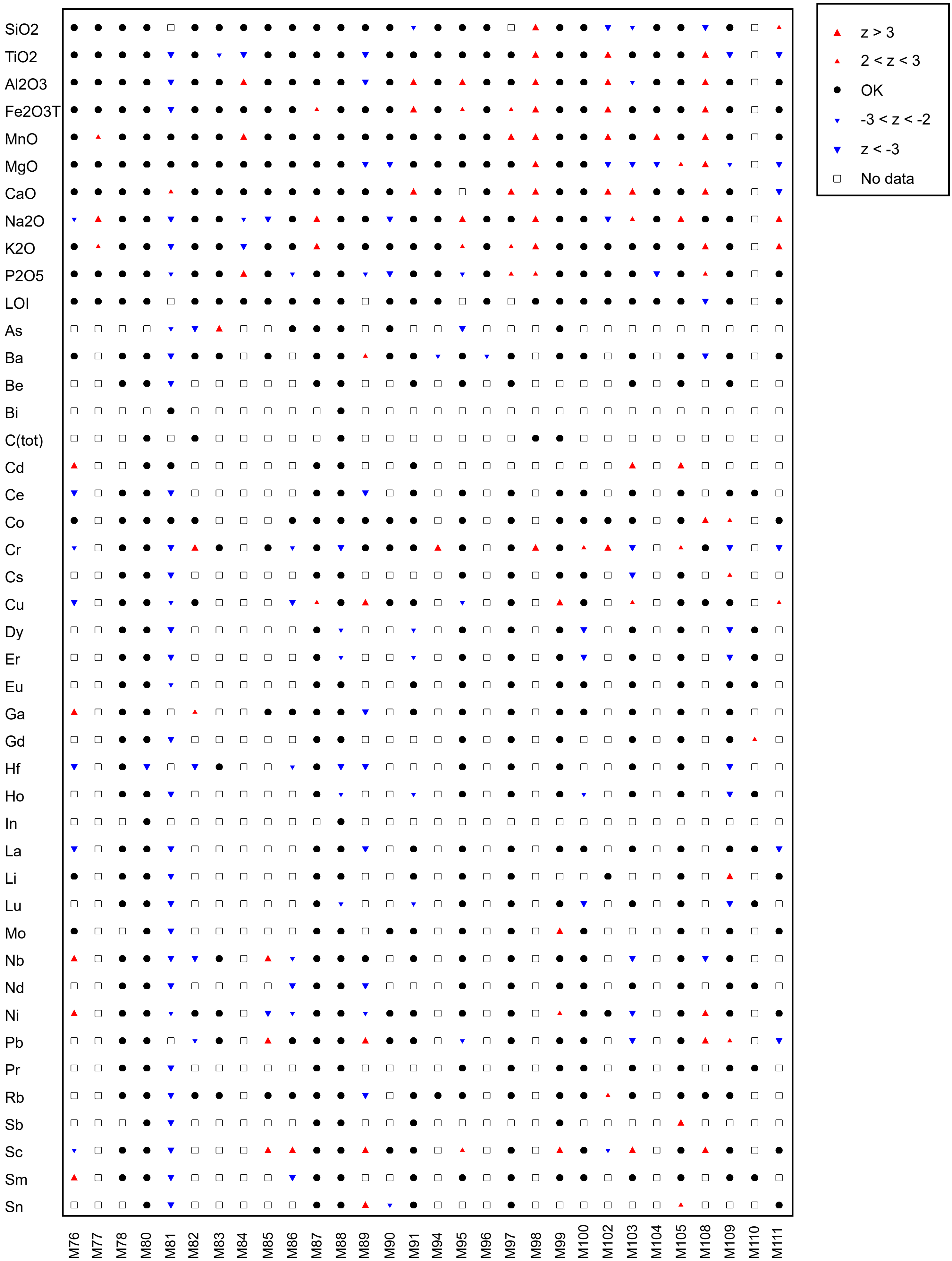
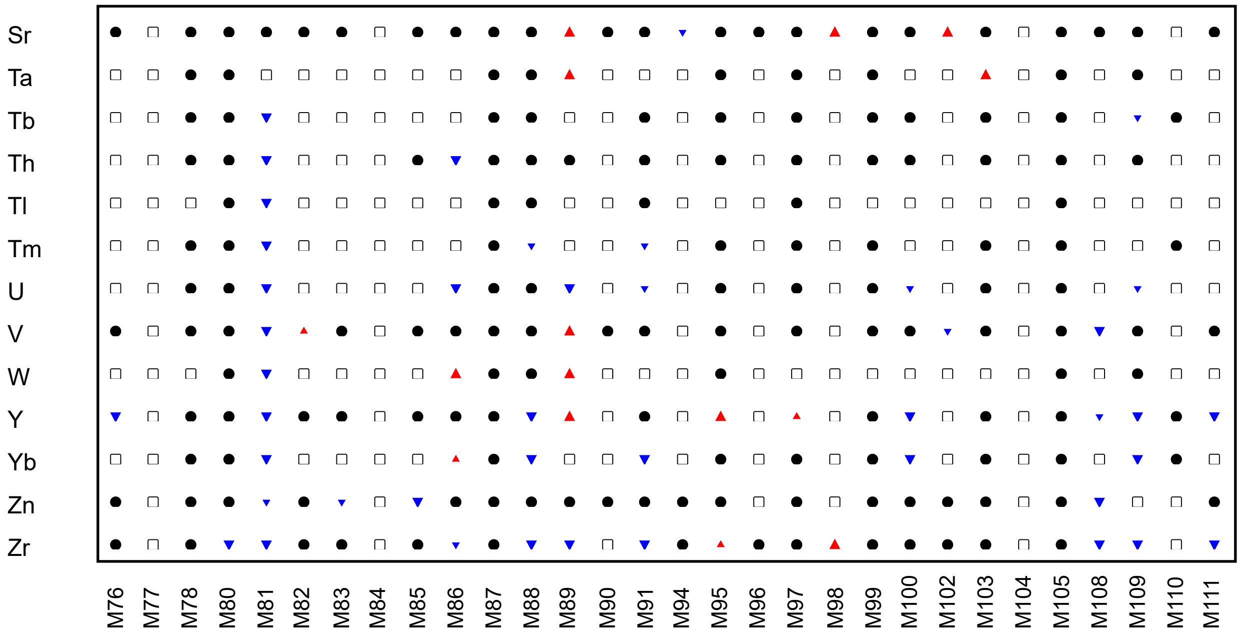
Multiple Z-Score Chart for GeoPT50





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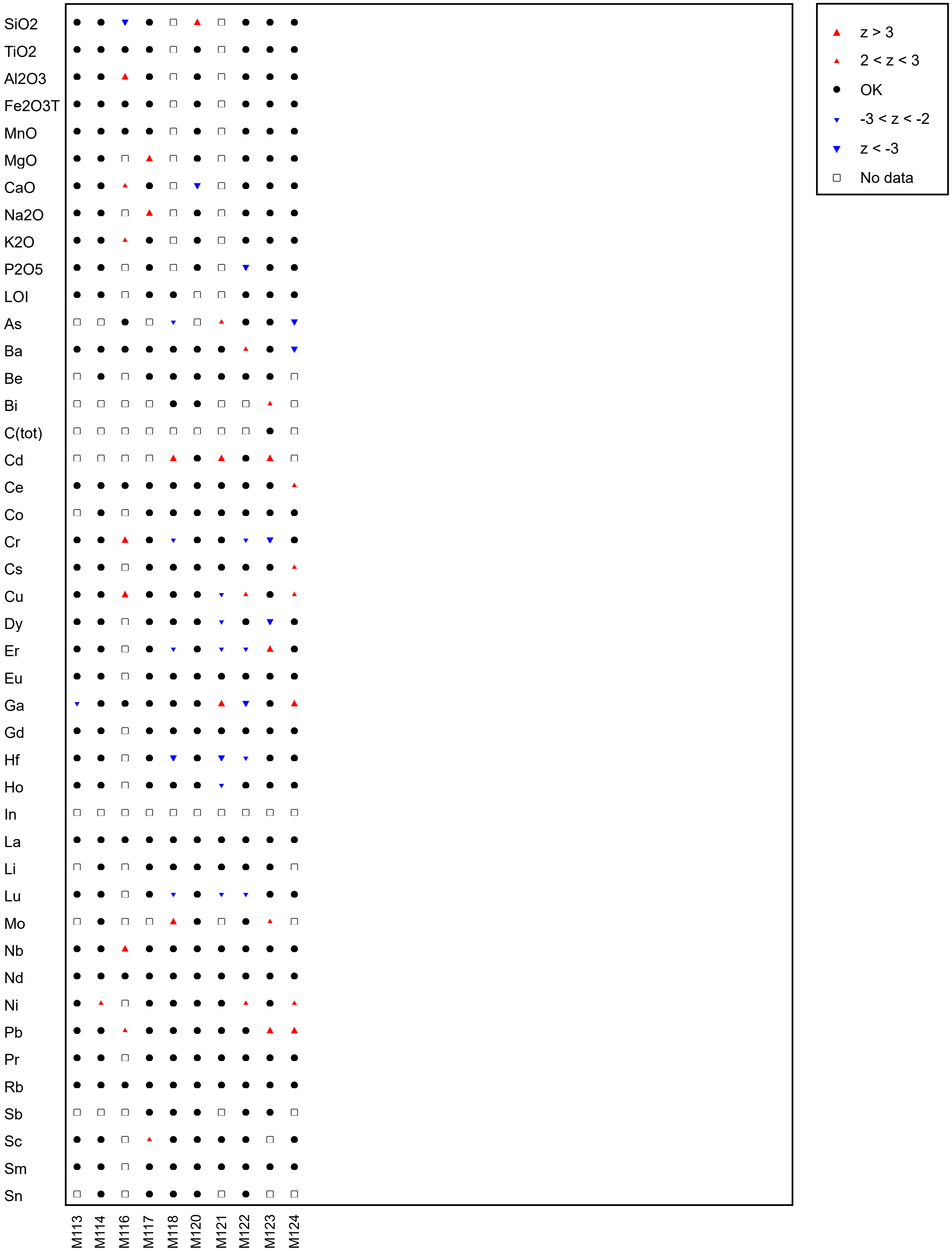
Multiple Z-Score Chart for GeoPT50



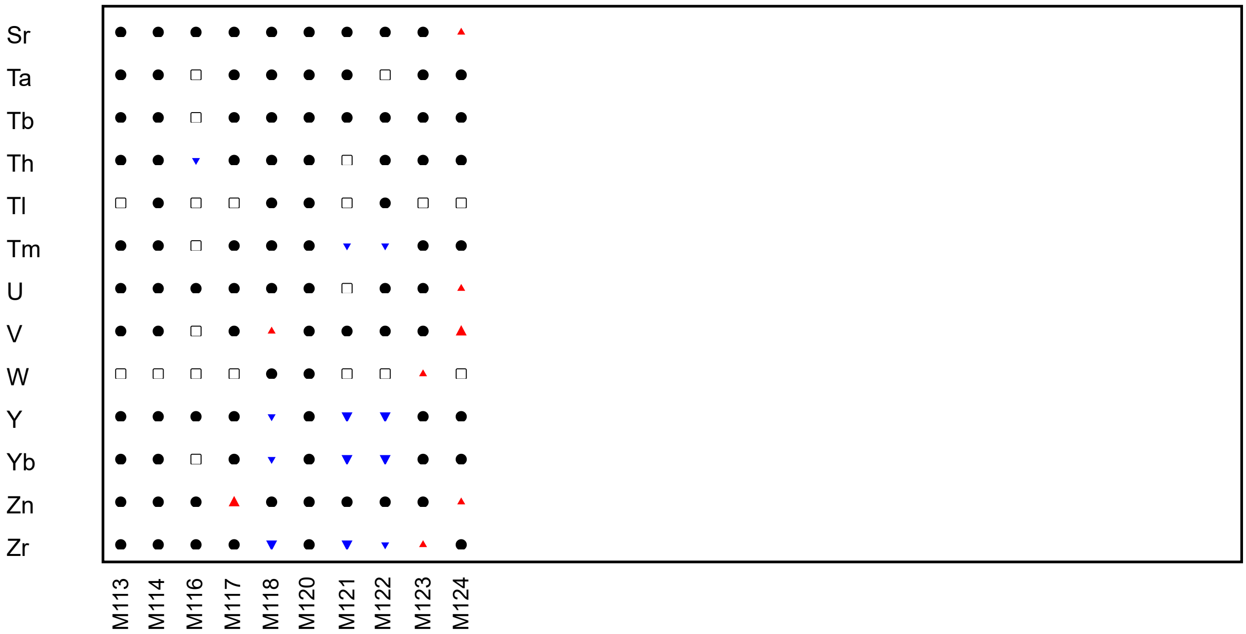


Figure 3: GeoPT50 - Calcified sediment, CSd-1. Multiple z-score charts for laboratories participating in the GeoPT50 round. Symbols indicate whether or not an elemental result complies with the -2<z<+2 criteria (see key).