

GeoPT39 — AN INTERNATIONAL PROFICIENCY TEST FOR ANALYTICAL GEOCHEMISTRY LABORATORIES — REPORT ON ROUND 39 (Syenite, SyMP-1) / July 2016

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Abstract

Results are presented for GeoPT39, the routine test material supplied in round thirty-nine of the International Association of Geoanalysts' Proficiency Testing programme for analytical geochemistry laboratories. The test material distributed in this round was a syenite, SyMP-1, supplied by Dr Stephen Wilson of the U.S. Geological Survey. In this report, the data contributed from 102 laboratories are listed, together with an assessment of consensus values, consequent *z*-scores and charts to show the distribution of contributed results and the overall performance of participating laboratories.

Introduction

This thirty-ninth round of the international proficiency testing programme, GeoPT, was conducted in a similar manner to earlier rounds. The programme is designed to be part of the routine quality assurance procedures employed by analytical geochemistry laboratories. The programme is organised by the International Association of Geoanalysts and is conducted in accordance with a published protocol available at (<http://www.geoanalyst.org/documents/GeoPT-protocol.pdf>). The overall aim of the programme is to provide participating laboratories with *z*-score information for reported elemental determinations from which the laboratory can decide whether the quality of their data is satisfactory in relation both to their chosen

fitness-for-purpose criteria and to the results submitted by other laboratories contributing to the round and can choose to take corrective action if this appears justified.

Steering Committee for Round 39: P.C. Webb (results coordinator), M. Thompson (statistical advisor), P.J. Potts and C.J.B. Gowing (analytical advisors), S.A. Wilson (provision of SyMP-1).

Timetable for Round 39:

Distribution of sample: March 2016.

Results submission deadline: 10th June 2016.

Release of report: July 2016

Test Material details

GeoPT39: The syenite test material, SyMP-1, was supplied by Dr Stephen Wilson. The test material was evaluated for homogeneity by the originator, and as a result, the sample was considered suitable for use in this proficiency test.

Submission of results

3655 results were submitted for GeoPT39 (SyMP-1) by 102 laboratories as listed in Table 1, where results designated as data quality 1 (see **Z-score analysis** section below) are shown in bold and results of data quality 2 are shown underlined. Results from all laboratories submitting data were used to assess respective assigned values. Regrettably there were three

laboratories reporting 15 values of '0' (i.e. zero), for this round. We should emphasise that as stated in the **Instructions to Analysts**, such values should not be reported. These 15 values were excluded from further consideration in the data assessment process.

Assigned values

Following procedures described in earlier rounds, robust statistical procedures were used to derive assigned mass fraction values [X_a] for this test sample, these being judged to be the best available estimates of its true composition. Values were assigned on the basis that: i) sufficient laboratories had contributed data for an element, and ii) visual assessment gave confidence that the results distribution, outliers aside, was symmetrically disposed. Part of this assessment involved examining a bar chart of contributed data for each element to judge the distribution of results (presented in Figures 1 and 2).

A few instances of possible multimodal data distribution were noted and these datasets were investigated further, taking account of the analytical procedures employed. As a result it was necessary to examine the contributed data for Co and Ni differently from normal. The distributions of data for Co and Ni are shown in Figures 0.1 and 0.2. In both cases there is evidence of analytical

bias. For Co, the distribution of contributed XRF results does not coincide with measurements by other techniques: 24 XRF values are below 20 mg/kg, but only two are above, whereas for other analytical techniques there are 13 values below 20 mg/kg, and 27 values above. Our conclusion is that these data distributions demonstrate a clear bias in the Co XRF data, and therefore the decision was taken to omit these data when estimating the consensus value for Co, which was then based on the 40 remaining values. This underestimate in the XRF Co data is thought to be a result of systematic overestimation of the Fe K β line interference on Co K α or in the background correction for Co due to significant levels of Fe in this sample. For Ni the discrepancy is even greater (Figure 0.2), but relates specifically to XRF powder pellet measurements: 21 XRF values obtained from powder pellets are below 180 mg/kg, but only five are above, whereas for other analytical procedures, there are just 5 values below 180 mg/kg, but 46 values above, including 8 XRF values obtained from fusion discs. We interpret this as bias in the Ni XRF powder pellet data, and therefore the decision was taken to omit these data when estimating the consensus value for Ni, which was then based on the 46 remaining values. This underestimate in XRF powder pellet measurements is thought to be a result of Ni being present within iron

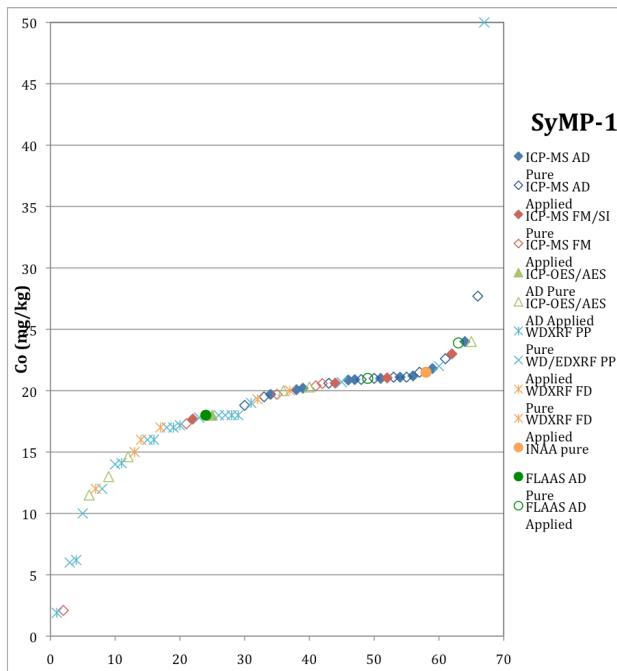


Figure 0.1 Ordered Co results distinguished by analytical procedure. See Appendix 2 for explanation of key.

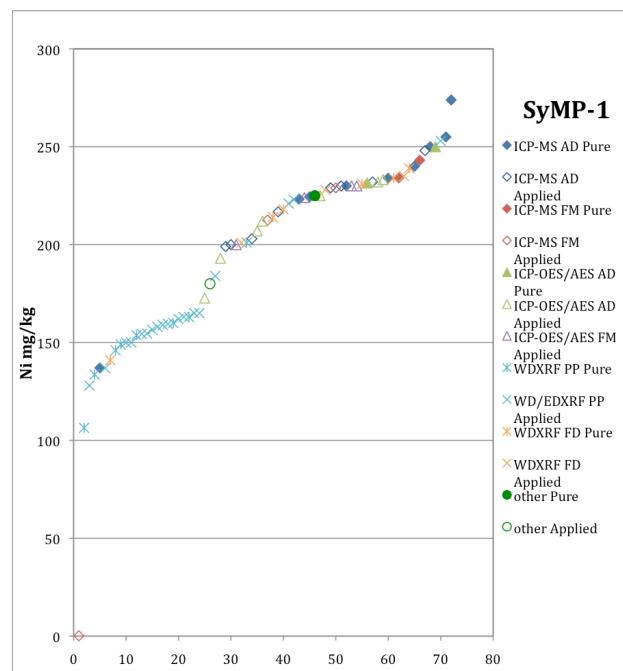


Figure 0.2 Ordered Ni results distinguished by analytical procedure. See Appendix 2 for explanation of key.

sulphide grains, where the absorption correction applied to characteristic Ni X-rays calculated on the basis of the average matrix composition would significantly underestimate the attenuation of Ni X-rays within these grains.

Table 2 lists assigned and provisional values for 11 major components and 44 trace elements in GeoPT39 (SyMP-1). Bar charts for the 55 elements/components of GeoPT39 that were judged to have satisfactory distributions for consensus values to be designated as assigned or provisional values are shown in Figure 1. These are: SiO₂, TiO₂, Al₂O₃, Fe₂O₃T, MnO, MgO, CaO, Na₂O, K₂O, P₂O₅, LOI*, Ag*, Ba, Be, Bi, 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, provisional values were given to the 13 components/elements marked ‘*’. Instances of provisional status were recorded because either i) a relatively small number of results contributed to the consensus, or ii) the results were unduly dispersed in relation to the target value, or iii) the distribution of values was notably skewed, or iv) the dataset was reduced after the exclusion of data judged to be biased.

In 15 cases the robust mean was used to define the consensus value, but in 33 cases the median value was preferred. In 7 cases a mode was judged to provide the most satisfactory consensus value, two of which (TiO₂, Hf) were suitable for the value to be assigned, the other 5 being given provisional status (see Table 2). The procedure used to determine the mode involved the estimation of the mass fraction that corresponds to the maximum value of the kernel density distribution for the dataset in order to obtain a consensus value that represents the most coherent part of the data distribution.

Bar charts for the 14 elements/components: Fe(II)O, H₂O⁺, As, B, C(org), C(tot), Cd, Cl, F, Ge, Hg, S, Se and Te are plotted in Figure 2 for information only, as the data were insufficient in number, the distribution too highly skewed or too variable for the reliable determination of a consensus.

Z-score analysis

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

Data quality 1 for laboratories working to a 'pure geochemistry' standard of performance, where analytical results are designed for geochemical research and where care is taken to provide data of high precision and accuracy, sometimes at the expense of a reduced sample throughput rate. For GeoPT39, 1487 results of data quality 1 were submitted.

Data quality 2 for laboratories working to an 'applied geochemistry' standard of performance, where, although precision and accuracy are still important, the main objective is to provide results on large numbers of samples collected, for example, as part of geochemical mapping projects or geochemical exploration programmes. For GeoPT39, 2172 results of data quality 2 were submitted.

The target standard deviation (H_a) for each element assessed was calculated from a modified form of the Horwitz function as follows:

$$H_a = k \cdot X_a^{0.8495}$$

Where X_a is the mass fraction of the element; the factor $k = 0.01$ for pure geochemistry labs and $k = 0.02$ for applied geochemistry labs.

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

$$z = [X - X_a] / H_a$$

Where X is the contributed measurement, X_a is the assigned value and H_a is the target standard deviation (all as mass fractions). Z-score values for results contributed to GeoPT39 are listed in Table 3. Results designated as data quality 1 are shown in bold: results of data quality 2 are shown underlined. Z-scores derived from provisional values 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 participant). If the z -score for any element falls outside this range, especially if it is outside the range $-3 < z < 3$, it would be advisable for the contributing laboratory to examine its procedures, and if necessary, take action to ensure that determinations are not subject to unsuspected analytical bias.

Overall performance

A summary of the overall performance of individual laboratories 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 simple to identify whether the results were satisfactory or gave z -scores that exceeded

the action limits. This chart is designed to help individual laboratories to judge their overall performance in this proficiency testing round. Participants should always review their z -scores in accord with their own fitness-for-purpose criteria.

Participation in future rounds

The benefit from proficiency testing arises from regular participation and laboratories are invited to contribute to the GeoPT40 round, the test sample for which will be distributed during September 2016.

Acknowledgements

The authors thank Liz Lomas for much-valued assistance in distributing this sample.

Appendix 1

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

GeoPT1

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

GeoPT2

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

GeoPT3

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

GeoPT4

Thompson M., Potts P.J., Kane J.S., Webb P.C. and Watson J.S. (1999b) GeoPT4. International proficiency test for analytical geochemistry laboratories - Report on round 4. Published in the electronic version of Geostandards Newsletter: The Journal of Geostandards and Geoanalysis (Summer 2000).

GeoPT5

Thompson M., Potts P.J., Kane J.S., and Wilson S. (1999c) GeoPT5. International proficiency test for analytical geochemistry laboratories - Report on round 5. Published in the electronic version of Geostandards Newsletter: The Journal of Geostandards and Geoanalysis (Summer 2000).

GeoPT6

Potts P.J., Thompson M., Kane J.S., Webb P.C. and Carignan J. (2000) GEOPT6 - an international proficiency test for analytical geochemistry laboratories - report on round 6 (OU-3: Nanhoron microgranite) and 6A (CAL-S: CRPG limestone). International Association of Geoanalysts: Unpublished report.

GeoPT7

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

GeoPT8

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

GeoPT9

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

GeoPT10

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

GeoPT11

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

GeoPT12

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

GeoPT13

Potts P.J., Thompson M., Chenery S.R., Webb, P.C. and Kaspar H.U. (2003)
GeoPT13 - an international proficiency test for analytical geochemistry laboratories - report on round 13 / July 2003 (Köln Loess). International Association of Geoanalysts: Unpublished report.

GeoPT14

Potts P.J., Thompson M., Chenery S.R., Webb, P.C. and B. Batjargal (2004)
GeoPT14 - an international proficiency test for analytical geochemistry laboratories - report on round 14 / January 2004 (OShBO - alkaline granite). International Association of Geoanalysts: Unpublished report.

GeoPT15

Potts P.J., Thompson M., Chenery S.R., Webb, P.C. and Wang Yimin (2004)
GeoPT15 - an international proficiency test for analytical geochemistry laboratories - report on round 15 / June 2004 (Ocean floor sediment MSAN). International Association of Geoanalysts: Unpublished report.

GeoPT16

Potts P.J., Thompson M., Webb, P.C. and S. Wilson (2005)
GeoPT16 - an international proficiency test for analytical geochemistry laboratories - report on round 16 / February 2005 (Nevada basalt, BNV-1). International Association of Geoanalysts: Unpublished report.

GeoPT17

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

GeoPT18

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

GeoPT19

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

GeoPT20

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

GeoPT21

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

GeoPT22

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

GeoPT23

Webb, P.C., Thompson, M., Potts, P.J., Watson, J.S. and Kriete, C. (2008)
GeoPT23 - an international proficiency test for analytical geochemistry laboratories - report on round 23 / September 2008 (Separation Lake pegmatite, OU-9) and 23A (Manganese nodule, FeMn-1). International Association of Geoanalysts: Unpublished report.

GeoPT24

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

GeoPT25

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

GeoPT26

Webb, P.C., Thompson, M., Potts, P.J. and Loubser, M. (2010)
GeoPT26 - an international proficiency test for analytical geochemistry laboratories - report on round 26 / January 2010 (Ordinary Portland cement, OPC-1). International Association of Geoanalysts: Unpublished report.

GeoPT27

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

GeoPT28

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

GeoPT29

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

GeoPT30

Webb, P.C., Thompson, M., Potts, P.J., Long, D. and Batjargal, B. (2012)
GeoPT30 - an international proficiency test for analytical geochemistry laboratories - report on round 30 / January 2012 (Syenite, CG-2) and 30A (Limestone, ML-2). International Association of Geoanalysts: Unpublished report.

GeoPT31

Webb, P.C., Thompson, M., Potts, P.J and Wilson, S. (2012)
GeoPT31 - an international proficiency test for analytical geochemistry laboratories - report on round 31 / July 2012 (Modified river sediment, SdAR-1). International Association of Geoanalysts: Unpublished report.

GeoPT32

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

GeoPT33

Webb, P.C., Thompson, M., Potts, P.J., Prusisz, B., and Young, K. (2013)
GeoPT33 - an international proficiency test for analytical geochemistry laboratories - report on round 33 / July-August 2013 (Ball Clay, DBC-1). International Association of Geoanalysts: Unpublished report.

GeoPT34

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

GeoPT35

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

GeoPT35A

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

GeoPT36

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

GeoPT36A

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

GeoPT37

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

GeoPT37A

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

GeoPT38

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

GeoPT38A

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

Appendix 2. Explanation of keys to plots in Figures 0.1 and 0.2.***Analytical technique***

ICP-MS — Inductively coupled plasma – mass spectrometry
ICP-OES/AES — Inductively coupled plasma – optical emission spectrometry
WD(ED)XRF — Wavelength dispersive (energy dispersive) X-ray fluorescence spectrometry
INAA — Instrumental neutron activation analysis
FLAAS — Flame atomic absorption spectrometry
Other — Unspecified

Sample preparation

AD — Acid digestion including special digestion
FM — Fusion of material before digestion or of residual material after digestion in combination and sintering
PP — Powder pellet
FD — Fusion disc

Fitness for purpose

Pure — Quality 1 data
Applied — Quality 2 data

Table 1 - GeoPT39 Contributed data for Syenite, SyMP-1. 10/06/2016

Lab Code	U1	U2	U3	U4	U6	U7	U9	U10	U11	U13	U14	U17	U18
SiO ₂	g 100g ⁻¹	<u>55.5</u>	<u>54.82</u>	<u>56.05</u>	<u>55.74</u>	<u>55.83</u>	<u>57.05</u>	<u>56.11</u>	<u>57.979</u>	<u>55.077</u>	<u>55.8</u>	<u>54.08</u>	<u>54.78</u>
TiO ₂	g 100g ⁻¹	<u>0.82</u>	<u>0.82</u>	<u>0.8</u>	<u>0.79</u>	<u>0.86</u>	<u>0.79</u>	<u>0.79</u>	<u>0.846</u>	<u>0.759</u>	<u>0.79</u>	<u>0.75</u>	<u>0.663</u>
Al ₂ O ₃	g 100g ⁻¹	<u>12.9</u>	<u>13.1</u>	<u>12.99</u>	<u>13.01</u>	<u>13.22</u>	<u>12.54</u>	<u>13.03</u>	<u>13.565</u>	<u>13.203</u>	<u>13.1</u>	<u>12.84</u>	<u>12.94</u>
Fe ₂ O _{3T}	g 100g ⁻¹	<u>7.8</u>	<u>8</u>	<u>7.84</u>	<u>7.75</u>	<u>7.62</u>	<u>7.23</u>	<u>7.91</u>	<u>8.297</u>	<u>8.027</u>	<u>7.87</u>	<u>7.79</u>	<u>7.541</u>
Fe(II)O	g 100g ⁻¹												<u>3.27</u>
MnO	g 100g ⁻¹	<u>0.1</u>	<u>0.102</u>	<u>0.104</u>	<u>0.1</u>	<u>0.109</u>	<u>0.09</u>	<u>0.11</u>	<u>0.108</u>	<u>0.089</u>	<u>0.101</u>	<u>0.098</u>	<u>0.1</u>
MgO	g 100g ⁻¹	<u>3.38</u>	<u>3.34</u>	<u>3.31</u>	<u>3.32</u>	<u>3.44</u>	<u>4.05</u>	<u>3.18</u>	<u>3.41</u>	<u>3.321</u>	<u>3.28</u>	<u>3.508</u>	<u>3.283</u>
CaO	g 100g ⁻¹	<u>3.14</u>	<u>3.18</u>	<u>3.32</u>	<u>3.14</u>	<u>3.15</u>	<u>3.27</u>	<u>3.15</u>	<u>3.38</u>	<u>3.161</u>	<u>3.2</u>	<u>3.081</u>	<u>2.977</u>
Na ₂ O	g 100g ⁻¹	<u>1.73</u>	<u>1.88</u>	<u>1.74</u>	<u>1.66</u>	<u>1.63</u>	<u>1.55</u>	<u>1.58</u>	<u>1.874</u>	<u>1.719</u>	<u></u>	<u>1.906</u>	<u>1.667</u>
K ₂ O	g 100g ⁻¹	<u>10.4</u>	<u>10.42</u>	<u>10.7</u>	<u>10.52</u>	<u>10.25</u>	<u>10.35</u>	<u>10.47</u>	<u>11.03</u>	<u>10.487</u>	<u>10.9</u>	<u>10.226</u>	<u>10.49</u>
P ₂ O ₅	g 100g ⁻¹	<u>0.72</u>	<u>0.726</u>	<u>0.753</u>	<u>0.66</u>	<u>0.696</u>	<u>0.75</u>	<u>0.7</u>	<u>0.77</u>	<u>0.711</u>	<u>0.8</u>	<u>0.697</u>	<u>0.703</u>
H ₂ O+	g 100g ⁻¹												
CO ₂	g 100g ⁻¹												
LOI	g 100g ⁻¹	<u>2.38</u>		<u>2.33</u>	<u>2.38</u>	<u>1.83</u>		<u>2.49</u>	<u>2.27</u>	<u>3.17</u>	<u>2.1</u>		<u>2.406</u>
Ag	mg kg ⁻¹												<u>0.246</u>
As	mg kg ⁻¹	<u>18</u>		<u>16</u>									<u>4.391</u>
B	mg kg ⁻¹												<u>3.607</u>
Ba	mg kg ⁻¹	<u>4503</u>	<u>346</u>	<u>5311</u>	<u>5143</u>	<u>3928</u>	<u>5186</u>	<u>5616</u>	<u>5313.810</u>		<u>54.08</u>	<u>5633.300</u>	<u>5162</u>
Be	mg kg ⁻¹				<u>22.2</u>	<u>22.6</u>	<u>21.71</u>		<u>22.3</u>	<u>19.27</u>	<u>21.9</u>	<u>21.896</u>	
Bi	mg kg ⁻¹				<u>0.84</u>	<u>0.673</u>				<u>0.85</u>		<u>0.76</u>	
Br	mg kg ⁻¹			<u>1</u>									
C(org)	mg kg ⁻¹												
C(tot)	mg kg ⁻¹												<u>0.55</u>
Cd	mg kg ⁻¹												<u>0.286</u>
Ce	mg kg ⁻¹		<u>559.9</u>	<u>225</u>	<u>513</u>	<u>467</u>	<u>480.020</u>		<u>481.760</u>	<u>519.860</u>	<u>457</u>	<u>469.360</u>	<u>511.3</u>
Cl	mg kg ⁻¹												
Co	mg kg ⁻¹	<u>17</u>	<u>1.9</u>	<u>20.9</u>	<u>27.7</u>	<u>10</u>	<u>14</u>	<u>20.58</u>	<u>20.08</u>	<u>21</u>	<u>19.7</u>	<u>20.87</u>	<u>13</u>
Cr	mg kg ⁻¹	<u>265</u>	<u>30</u>	<u>330</u>	<u>260</u>	<u>221</u>	<u>273</u>	<u>306.620</u>	<u>286.3</u>		<u>272.5</u>	<u>312</u>	<u>295</u>
Cs	mg kg ⁻¹		<u>18</u>	<u>10.6</u>	<u>10.83</u>				<u>10.8</u>	<u>10.73</u>		<u>6.86</u>	<u>10.37</u>
Cu	mg kg ⁻¹	<u>80</u>	<u>3</u>	<u>119</u>	<u>105</u>	<u>93</u>	<u>109</u>	<u>124.9</u>	<u>110.2</u>	<u>114</u>	<u>113.270</u>	<u>120.3</u>	<u>86</u>
Dy	mg kg ⁻¹	<u>13.41</u>		<u>12.4</u>	<u>11.92</u>	<u>11.85</u>			<u>11.97</u>	<u>13.2</u>		<u>11.918</u>	<u>11.93</u>
Er	mg kg ⁻¹	<u>4.51</u>		<u>4.07</u>	<u>6.38</u>	<u>4.76</u>			<u>4.27</u>	<u>4.87</u>		<u>3.84</u>	<u>3.483</u>
Eu	mg kg ⁻¹	<u>10.33</u>			<u>8.95</u>	<u>15</u>	<u>11.85</u>		<u>8.96</u>	<u>9.98</u>		<u>8.379</u>	<u>4.533</u>
F	mg kg ⁻¹												<u>3876</u>
Ga	mg kg ⁻¹	<u>20</u>	<u>20</u>	<u>25.2</u>	<u>21.5</u>	<u>21</u>	<u>20</u>	<u>25.55</u>	<u>21.4</u>		<u>16.3</u>	<u>25.1</u>	<u>27</u>
Gd	mg kg ⁻¹	<u>31.3</u>		<u>26.7</u>	<u>40</u>	<u>27.82</u>		<u>26.66</u>	<u>24.4</u>		<u>24.775</u>	<u>26.6</u>	
Ge	mg kg ⁻¹					<u>1.37</u>							
Hf	mg kg ⁻¹	<u>11</u>	<u>16</u>	<u>23.4</u>	<u>20</u>	<u>22.62</u>	<u>23</u>	<u>23.78</u>	<u>26.42</u>	<u>39.3</u>	<u>23.49</u>	<u>15.67</u>	<u>6</u>
Hg	mg kg ⁻¹						<u>0.015</u>						<u>0.013</u>
Ho	mg kg ⁻¹	<u>1.88</u>			<u>1.82</u>	<u>1.8</u>	<u>1.94</u>		<u>1.82</u>	<u>1.93</u>		<u>1.749</u>	<u>1.54</u>
I	mg kg ⁻¹												
In	mg kg ⁻¹					<u>0.113</u>							
La	mg kg ⁻¹		<u>250.1</u>	<u>137</u>	<u>236</u>	<u>219</u>	<u>237.510</u>		<u>215.430</u>	<u>241.110</u>	<u>217</u>	<u>213.349</u>	<u>211</u>
Li	mg kg ⁻¹					<u>29.8</u>	<u>30.5</u>		<u>32.7</u>		<u>28.45</u>	<u>30.6</u>	<u>29.43</u>
Lu	mg kg ⁻¹	<u>0.37</u>			<u>0.43</u>	<u>0.565</u>	<u>0.47</u>		<u>0.44</u>	<u>0.46</u>		<u>0.409</u>	<u>0.4</u>
Mo	mg kg ⁻¹	<u>35</u>	<u>3.9</u>	<u>36.8</u>	<u>30</u>	<u>32.13</u>		<u>35.32</u>	<u>32.75</u>		<u>32.02</u>		<u>25.53</u>
Nb	mg kg ⁻¹	<u>23</u>	<u>33</u>	<u>30.2</u>	<u>25</u>	<u>25</u>	<u>24</u>	<u>24.39</u>	<u>23.84</u>		<u>26.51</u>		<u>25.63</u>
Nd	mg kg ⁻¹	<u>248</u>	<u>69</u>	<u>229</u>	<u>226</u>	<u>222.590</u>		<u>224.190</u>	<u>239.180</u>		<u>217.280</u>		<u>196.7</u>
Ni	mg kg ⁻¹	<u>163</u>			<u>255</u>	<u>162</u>	<u>137</u>	<u>158</u>	<u>230</u>	<u>106.4</u>		<u>212.510</u>	<u>223.3</u>
Pb	mg kg ⁻¹	<u>243</u>	<u>85</u>	<u>259</u>	<u>232</u>	<u>245</u>	<u>244</u>	<u>250.790</u>	<u>273.760</u>	<u>248</u>	<u>257.110</u>	<u>263.7</u>	<u>100</u>
Pd	mg kg ⁻¹												
Pr	mg kg ⁻¹	<u>64</u>			<u>58.4</u>	<u>56.5</u>	<u>54.3</u>		<u>57.28</u>	<u>58.63</u>		<u>57.037</u>	<u>56.93</u>
Rb	mg kg ⁻¹	<u>624</u>	<u>171</u>	<u>665</u>	<u>627</u>	<u>636</u>	<u>629</u>	<u>637.210</u>	<u>641.5</u>	<u>637</u>	<u>580.2</u>	<u>645</u>	
Re	mg kg ⁻¹												
S	mg kg ⁻¹							<u>1064.900</u>				<u>1441</u>	
Sb	mg kg ⁻¹									<u>0.2</u>		<u>0.204</u>	
Sc	mg kg ⁻¹		<u>17.6</u>		<u>16</u>	<u>16.9</u>	<u>14</u>	<u>16</u>	<u>15.4</u>		<u>16.5</u>		
Se	mg kg ⁻¹											<u>0.465</u>	<u>0.25</u>
Sm	mg kg ⁻¹	<u>45.05</u>	<u>11</u>	<u>41.9</u>	<u>40</u>	<u>39.08</u>		<u>40.36</u>	<u>41.83</u>			<u>39.57</u>	<u>38.83</u>
Sn	mg kg ⁻¹				<u>8.68</u>		<u>7.5</u>	<u>15</u>	<u>8.54</u>	<u>9.18</u>		<u>8.73</u>	
Sr	mg kg ⁻¹	<u>720</u>	<u>1515</u>	<u>800</u>	<u>710</u>	<u>753</u>	<u>762</u>	<u>854.6</u>	<u>776.2</u>	<u>760</u>	<u>754.960</u>	<u>777.7</u>	<u>721</u>
Ta	mg kg ⁻¹				<u>1.45</u>		<u>1.36</u>		<u>1.38</u>	<u>1.34</u>		<u>2.07</u>	
Tb	mg kg ⁻¹	<u>3.25</u>		<u>2.97</u>	<u>4.41</u>	<u>3.37</u>		<u>2.97</u>	<u>3.43</u>		<u>2.689</u>	<u>2.703</u>	
Te	mg kg ⁻¹												
Th	mg kg ⁻¹		<u>133.940</u>	<u>58</u>	<u>143</u>	<u>120</u>	<u>105</u>	<u>116</u>	<u>124.750</u>	<u>101</u>		<u>114.640</u>	<u>134.3</u>
Tl	mg kg ⁻¹					<u>4.2</u>	<u>3.5</u>		<u>2.97</u>			<u>2.88</u>	<u>4.083</u>
Tm	mg kg ⁻¹		<u>0.46</u>		<u>0.5</u>	<u>0.537</u>	<u>0.54</u>		<u>0.49</u>	<u>0.51</u>		<u>0.474</u>	<u>0.383</u>
U	mg kg ⁻¹		<u>9</u>	<u>2.7</u>	<u>14.1</u>	<u>10.7</u>	<u>12.48</u>	<u>14</u>	<u>13.67</u>	<u>15.09</u>		<u>12.835</u>	<u>12.47</u>
V	mg kg ⁻¹	<u>157</u>	<u>19</u>	<u>160</u>	<u>163</u>	<u>186</u>	<u>165</u>	<u>163.2</u>	<u>144.250</u>	<u>149</u>	<u>142.5</u>	<u>158.3</u>	
W	mg kg ⁻¹				<u>4.5</u>		<u>3.66</u>			<u>5.03</u>		<u>4.092</u>	
Y	mg kg ⁻¹	<u>50</u>	<u>24</u>	<u>52</u>	<u>48</u>	<u>50</u>	<u>48</u>	<u>45.97</u>	<u>51.94</u>	<u>48</u>	<u>45.51</u>		<u>40</u>
Yb	mg kg ⁻¹	<u>2.47</u>			<u>2.92</u>	<u>3.55</u>	<u>3.33</u>		<u>3.08</u>	<u>3.25</u>		<u>2.902</u>	<u>2.27</u>
Zn	mg kg ⁻¹	<u>115</u>	<u>66</u>	<u>109</u>	<u>109</u>	<u>121</u>	<u>112</u>	<u>116.3</u>	<u>122.5</u>	<u>108</u>	<u>107.8</u>	<u>114.3</u>	<u>93</u>
Zr	mg kg ⁻¹	<u>786</u>	<u>510</u>	<u>984</u>	<u>858</u>	<u>770</u>	<u>907</u>	<u>971.970</u>	<u>1002.550</u>	<u>1059</u>	<u>847</u>	<u>612.3</u>	<u>385</u>

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

Table 1 - GeoPT39 Contributed data for Syenite, SyMP-1. 10/06/2016

Lab Code	U19	U20	U21	U22	U23	U24	U25	U26	U27	U28	U30	U32	U33
SiO ₂	g 100g ⁻¹	55.34	55.17	<u>56.88</u>	<u>55.3</u>	<u>55.395</u>	56	56.1	55.5	55.96		<u>56.42</u>	<u>54.28</u>
TiO ₂	g 100g ⁻¹	0.8	0.8	<u>0.75</u>	<u>0.79</u>	<u>0.79</u>	0.75	0.79	<u>0.747</u>	0.8	0.789	<u>0.79</u>	<u>0.794</u>
Al ₂ O ₃	g 100g ⁻¹	12.77	12.95	<u>12.98</u>	<u>13.15</u>	<u>12.885</u>	13.15	<u>12.1</u>	<u>12.5</u>	13.09		<u>13.17</u>	<u>12.66</u>
Fe ₂ O ₃ T	g 100g ⁻¹	7.74	7.77	<u>7.32</u>	<u>7.78</u>	<u>7.789</u>	8.11	<u>8.14</u>	<u>7.61</u>	7.78		<u>7.63</u>	<u>7.9</u>
Fe(II)O	g 100g ⁻¹		3			2.74							
MnO	g 100g ⁻¹		0.101	0.09	<u>0.102</u>	<u>0.103</u>	0.095	0.107	0.099	0.127	0.102	0.094	0.103
MgO	g 100g ⁻¹	3.36	3.29	<u>3.33</u>	<u>3.27</u>	<u>3.245</u>	3.02	<u>3.86</u>	<u>3.29</u>	3.28		<u>3.32</u>	<u>3.29</u>
CaO	g 100g ⁻¹	3.22	3.21	<u>2.9</u>	<u>3.16</u>	<u>3.116</u>	3.03	3.7	<u>3.13</u>	3.21		<u>3.14</u>	<u>3.06</u>
Na ₂ O	g 100g ⁻¹	1.76	1.82	<u>1.89</u>	<u>1.78</u>	<u>1.715</u>	2.07	<u>1.58</u>	<u>1.61</u>	1.75		<u>1.84</u>	<u>1.74</u>
K ₂ O	g 100g ⁻¹	10.29	10.42	<u>10.59</u>	<u>10.39</u>	<u>10.55</u>	10.1	<u>9.86</u>	<u>10.3</u>	11.16		<u>10.44</u>	<u>10.18</u>
P ₂ O ₅	g 100g ⁻¹	0.71	0.71	<u>0.73</u>	<u>0.706</u>		0.68	<u>0.741</u>	<u>0.694</u>	0.71		<u>0.73</u>	<u>0.71</u>
H ₂ O+	g 100g ⁻¹												
CO ₂	g 100g ⁻¹												
LOI	g 100g ⁻¹	<u>2.23</u>	2.11	<u>2.29</u>	<u>2.37</u>	<u>3.21</u>	2.45	1.9	<u>2.63</u>	2.34		<u>2.43</u>	<u>2.13</u>
Ag	mg kg ⁻¹						0.71						
As	mg kg ⁻¹		7							1			
B	mg kg ⁻¹												
Ba	mg kg ⁻¹	5060	4987	<u>6317</u>	<u>5067</u>	<u>5289</u>	4915	<u>5330</u>	<u>5160</u>	3800	5149		<u>5230</u>
Be	mg kg ⁻¹			<u>16.57</u>			20.4		<u>22</u>			<u>22.8</u>	
Bi	mg kg ⁻¹											<u>0.85</u>	
Br	mg kg ⁻¹				<u>18</u>								
C(org)	mg kg ⁻¹												
C(tot)	mg kg ⁻¹				<u>4995</u>								<u>7018</u>
Cd	mg kg ⁻¹				<u>15</u>		0.08			3			
Ce	mg kg ⁻¹	449	372	<u>517.620</u>	<u>419</u>		441	<u>387</u>	<u>472</u>		495		<u>471</u>
Cl	mg kg ⁻¹				<u>190</u>			<u>218</u>					
Co	mg kg ⁻¹		17		<u>6</u>		18		<u>11.5</u>	16	20.2		<u>22</u>
Cr	mg kg ⁻¹	407	320		<u>276</u>		329.7	<u>221</u>	<u>238</u>	264	305		<u>321</u>
Cs	mg kg ⁻¹								<u>10.4</u>		10.8		
Cu	mg kg ⁻¹	<u>121</u>	118		<u>121</u>		118.8	<u>169</u>	<u>121</u>	120	117		<u>111</u>
Dy	mg kg ⁻¹			<u>12.63</u>			10.39		<u>12.1</u>			<u>12.6</u>	
Er	mg kg ⁻¹			<u>4.86</u>			3.83		<u>3.82</u>		4.6		
Eu	mg kg ⁻¹			<u>10.26</u>			8.24		<u>8.63</u>		9.09		
F	mg kg ⁻¹				<u>4380</u>			<u>1830</u>					
Ga	mg kg ⁻¹		20	<u>26</u>	<u>18</u>						23		
Gd	mg kg ⁻¹			<u>34.33</u>			23.3		<u>28.9</u>		26		
Ge	mg kg ⁻¹			<u>1.57</u>					<u>3.55</u>				
Hf	mg kg ⁻¹			<u>17.85</u>	21				25		25		
Hg	mg kg ⁻¹												
Ho	mg kg ⁻¹			<u>1.75</u>			1.62		<u>1.65</u>		1.93		
I	mg kg ⁻¹				<u>18</u>								
In	mg kg ⁻¹												
La	mg kg ⁻¹	<u>203</u>	257	<u>221.060</u>	<u>243</u>		181.4		<u>213</u>		225		<u>222</u>
Li	mg kg ⁻¹											<u>31.1</u>	
Lu	mg kg ⁻¹			<u>0.5</u>			0.38		<u>0.41</u>		0.45		
Mo	mg kg ⁻¹				<u>25</u>		36.8		<u>35.1</u>		31.3		<u>34</u>
Nb	mg kg ⁻¹	22	27	<u>15</u>	<u>8</u>			23	<u>26.1</u>		30.6		<u>29</u>
Nd	mg kg ⁻¹		160	<u>222.190</u>	<u>205</u>		192.3	<u>293</u>	<u>228</u>		236		
Ni	mg kg ⁻¹	165	234	<u>184</u>	<u>221</u>		231.5	<u>223</u>	<u>207</u>	160	234		<u>230</u>
Pb	mg kg ⁻¹	244	249	<u>239</u>	<u>245</u>		267.5	<u>250</u>	<u>263</u>	241	273		<u>257</u>
Pd	mg kg ⁻¹												
Pr	mg kg ⁻¹			<u>55.23</u>	43		46.9		<u>54.8</u>		61		
Rb	mg kg ⁻¹	687	630	<u>589</u>	<u>627</u>	<u>754</u>		645	<u>1600</u>		643		<u>675</u>
Re	mg kg ⁻¹												
S	mg kg ⁻¹			<u>893</u>	<u>1660</u>	<u>1772</u>	1010	<u>1800</u>					<u>1512</u>
Sb	mg kg ⁻¹				<u>16</u>								
Sc	mg kg ⁻¹			<u>8</u>	<u>4</u>		16.4		<u>8.9</u>		15.4		
Se	mg kg ⁻¹						1.08						
Sm	mg kg ⁻¹			<u>44.19</u>	<u>23</u>		35.14		<u>40.4</u>		42		
Sn	mg kg ⁻¹			<u>10.42</u>								<u>9.03</u>	
Sr	mg kg ⁻¹	763	818	<u>669</u>	<u>782</u>	<u>905</u>	718	<u>776</u>	<u>800</u>		802		<u>774</u>
Ta	mg kg ⁻¹			<u>4</u>	<u>8</u>							<u>1.48</u>	
Tb	mg kg ⁻¹			<u>3.63</u>			4.01		<u>2.85</u>		2.94		
Te	mg kg ⁻¹								<u>4.3</u>				
Th	mg kg ⁻¹		127	<u>125</u>	<u>73</u>				<u>117</u>		145		<u>112</u>
Tl	mg kg ⁻¹								<u>3.95</u>	2	4.95		
Tm	mg kg ⁻¹				<u>0.56</u>		0.5		<u>0.44</u>		0.52		
U	mg kg ⁻¹			21	<u>13.25</u>	<u>12</u>			<u>12.9</u>	10	14.6		
V	mg kg ⁻¹	174	145	<u>138</u>	<u>154</u>		155.8		<u>124</u>	160	157		<u>158</u>
W	mg kg ⁻¹								<u>3</u>				
Y	mg kg ⁻¹	47	43	<u>65</u>	<u>65</u>		44.1		<u>45.6</u>		52.9		<u>48</u>
Yb	mg kg ⁻¹				<u>3.28</u>			2.8		<u>3.07</u>		3.18	
Zn	mg kg ⁻¹	152	107	<u>117</u>	<u>113</u>		133	<u>116</u>	<u>100</u>	114	107		<u>115</u>
Zr	mg kg ⁻¹	888	1022	<u>740</u>	<u>868</u>	<u>999</u>	742	<u>917</u>	<u>899</u>		1064		<u>922</u>
													<u>955</u>

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

Table 1 - GeoPT39 Contributed data for Syenite, SyMP-1. 10/06/2016

Lab Code	U34	U35	U36	U37	U38	U39	U40	U41	U43	U44	U45	U47	U48
SiO ₂	g 100g ⁻¹		55.49		55.14	55.26	55.66	56.38	56.2	55.08	54.05	57.79	55.35
TiO ₂	g 100g ⁻¹	0.809	0.801		0.8	0.81	0.8	0.74	0.82	0.8	0.73	0.71	0.809
Al ₂ O ₃	g 100g ⁻¹		13.04		12.88	12.85	13.12	12.92	13.06	13.23	13.06	12.75	12.95
Fe ₂ O ₃ T	g 100g ⁻¹		7.8	7.93	7.71	7.85	7.77	7.36	7.84	7.87	7.42	6.11	7.759
Fe(II)O	g 100g ⁻¹				3			2.94					7.653
MnO	g 100g ⁻¹		0.101	0.105	0.1	0.104	0.1	0.094	0.1	0.09	0.1	0.08	0.098
MgO	g 100g ⁻¹		3.34	3.56	3.35	3.295	3.32	3.25	3.4	3.24	3.59	3.53	3.308
CaO	g 100g ⁻¹		3.17	3.32	3.13	3.18	3.14	2.98	3.2	3.04	2.79	3.02	3.135
Na ₂ O	g 100g ⁻¹		1.74		1.75	1.72	1.65	1.67	1.74	1.71	1.7	1.47	1.757
K ₂ O	g 100g ⁻¹		10.41		10.4	10.53	10.4	10.7	10.52	10.38	10.29	10.01	10.56
P ₂ O ₅	g 100g ⁻¹		0.723		0.7	0.74	0.723	0.713	0.74	0.73	0.73	0.69	0.715
H ₂ O+	g 100g ⁻¹				0.1	0.7	0.15		0.39	0.18			0.7
CO ₂	g 100g ⁻¹				2.57								
LOI	g 100g ⁻¹		2		2.38	2.5	2.06	2.41	2.24	2.56	2.05	0.32	2.388
Ag	mg kg ⁻¹								0.15				
As	mg kg ⁻¹			7.23		4.197	8.51		4.07		5		
B	mg kg ⁻¹					41			38.6		83		
Ba	mg kg ⁻¹	5150	5687	5326.100		5038.018	4933	5820	4810		4508	5330	5180
Be	mg kg ⁻¹					20.68	26		21.3		20	20.38	
Bi	mg kg ⁻¹					0.780			0.87		3		
Br	mg kg ⁻¹												
C(org)	mg kg ⁻¹				0.15	1724							
C(tot)	mg kg ⁻¹				0.7	6823		6940		0.68			6797
Cd	mg kg ⁻¹					0.193	0.78		0.12				
Ce	mg kg ⁻¹	484	439	504.1		477.619	509		433			820.1	410.8
Cl	mg kg ⁻¹					145							215
Co	mg kg ⁻¹	21.8	18	19.7		20.616	23		19.5		20	50	17.69
Cr	mg kg ⁻¹	336	281	379.6		353.935	393		290		290	137	320
Cs	mg kg ⁻¹	10.9		11.21		10.216	10.1		11.1				
Cu	mg kg ⁻¹	123		107.8		108.223	102		122		117	85	103.5
Dy	mg kg ⁻¹	11.4		11.73		12.201	11.8		13.3			12.76	11.06
Er	mg kg ⁻¹	3.87		3.84		3.972	4.5		4.88			3.95	3.746
Eu	mg kg ⁻¹	8.52		8.48		8.947	8.96		9.69			9.3	8.039
F	mg kg ⁻¹					3914							3798
Ga	mg kg ⁻¹		19	26.33		23.726	20		21.5			24	21
Gd	mg kg ⁻¹	25.4		30.88		25.826	24.86		30.3			27.78	24.6
Ge	mg kg ⁻¹					2.506			1.67			1.57	
Hf	mg kg ⁻¹	15.2		23.56		22.344	16.4		25.4			23.3	21.29
Hg	mg kg ⁻¹								0.017				
Ho	mg kg ⁻¹	1.76		1.805		1.827	1.716		2.17			1.76	1.617
I	mg kg ⁻¹												
In	mg kg ⁻¹					0.100							
La	mg kg ⁻¹	219	185	234.5		211.033	229		224			225.3	192.6
Li	mg kg ⁻¹	34.1				30	28.8		27.5		28		26.66
Lu	mg kg ⁻¹	0.426		0.45		0.436	0.448		0.54			0.48	0.394
Mo	mg kg ⁻¹	42.9				36.349			36.3		38	36.8	
Nb	mg kg ⁻¹	29.3	27	28.93		25.034	21		27			19	23.96
Nd	mg kg ⁻¹	232	217	233.4		222.043	209		231			230.1	200.2
Ni	mg kg ⁻¹	250	163	224.4		234.181	218		200		193	159	137
Pb	mg kg ⁻¹	270	257	250.3		245.237	290		259		224	184	309
Pd	mg kg ⁻¹												
Pr	mg kg ⁻¹	56.9		60.4		57.192	52.9		64.1			60.24	50.11
Rb	mg kg ⁻¹	664	681	649.9		621.942	633		746			560	632
Re	mg kg ⁻¹												
S	mg kg ⁻¹					1722		1930					1750
Sb	mg kg ⁻¹	0.2				0.188							
Sc	mg kg ⁻¹	16.3	16	15.57		16.23	12		15.4			20	18.97
Se	mg kg ⁻¹					0.15							
Sm	mg kg ⁻¹	39.9		42.41		41.277	38.43		43.5			41.66	37.51
Sn	mg kg ⁻¹	20.8				10.595			9.94			6.17	
Sr	mg kg ⁻¹	817	802	774.3		798.662	741	880	668		842	675	740
Ta	mg kg ⁻¹	1.92		1.426		1.535	0.85		1.47			1.32	1.188
Tb	mg kg ⁻¹	2.77		3.43		2.778	2.85		3.58			3.3	2.49
Te	mg kg ⁻¹												
Th	mg kg ⁻¹	130	115	131.7		125.916			138			16	115.1
Tl	mg kg ⁻¹	4.79				3.4			3.59				
Tm	mg kg ⁻¹			0.499		0.458	0.475		0.6			0.52	0.442
U	mg kg ⁻¹	13.8	17	12.68		13.607	14.3		12.7			13.86	12.37
V	mg kg ⁻¹	156	182	150.2		146.775	200		156		139	137	148
W	mg kg ⁻¹					4.445			2.85			3.9	
Y	mg kg ⁻¹	57.1	50	50.66		49.028	49		50.4		31	43	45.19
Yb	mg kg ⁻¹	2.83		3		2.905	2.94		3.54			3.09	2.586
Zn	mg kg ⁻¹	115	117	94.3		123.620	108		116		80	124	126
Zr	mg kg ⁻¹	633	940	959.9		945.970	967		954			790	992

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

Table 1 - GeoPT39 Contributed data for Syenite, SyMP-1. 10/06/2016

Lab Code	U49	U50	U51	U52	U53	U54	U55	U56	U57	U58	U59	U60	U61	
SiO ₂	g 100g ⁻¹	56.07	55.58	54.99	55.504	55.36	55.177	55.02	56.09	56.01			54.87	
TiO ₂	g 100g ⁻¹	0.84	0.81	0.81	0.803	0.64	0.753	0.753	0.79	0.839			0.78	
Al ₂ O ₃	g 100g ⁻¹	12.645	12.94	13.05	13.074	13.17	12.925	12.64	12.95	13.19			12.73	
Fe ₂ O ₃ T	g 100g ⁻¹	8.015	7.86	7.75	7.772	7.874	7.74	7.679	7.73	7.14			7.72	
Fe(II)O	g 100g ⁻¹					3.14	3.052			3.439				
MnO	g 100g ⁻¹	0.115	0.09	0.1	0.097	0.105	0.101	0.098	0.1	0.089			0.1	
MgO	g 100g ⁻¹	3.385	3.22	3.29	3.206	3.23	3.286	3.306	3.37	3.252			3.26	
CaO	g 100g ⁻¹	3.35	3.16	3.04	3.185	3.28	3.159	2.941	3.2	2.95			3.16	
Na ₂ O	g 100g ⁻¹	1.745	1.75	1.77	1.816	1.71	1.72	1.659	1.68	1.62			1.67	
K ₂ O	g 100g ⁻¹	10.91	10.53	10.3	10.47	10.43	10.352	10.35	10.42	10.32			10.36	
P ₂ O ₅	g 100g ⁻¹	0.775	1.01	0.7	0.743	0.712	0.733	0.705	0.7	0.694			0.69	
H ₂ O+	g 100g ⁻¹					0.77	0.274							
CO ₂	g 100g ⁻¹					1.866								
LOI	g 100g ⁻¹	2.26	2.46	2.41	2.2	2.55	1.994	2.45	2.51	3.24	2.54		2.25	
Ag	mg kg ⁻¹	2.7								0.214				
As	mg kg ⁻¹			2.6						8.803	23.557	6.1	14	
B	mg kg ⁻¹													
Ba	mg kg ⁻¹	5499		5485	5118	6037	5293.120	4467	5248	4824	3575.667	5580.600	5450	5508
Be	mg kg ⁻¹						22.065			24.55	16.993			20.2
Bi	mg kg ⁻¹	0.8					0.77			0.689				
Br	mg kg ⁻¹							5						
C(org)	mg kg ⁻¹					1719								
C(tot)	mg kg ⁻¹	5900				6809	7325			6150				
Cd	mg kg ⁻¹	0.6		7			0.126			0.067				
Ce	mg kg ⁻¹	491.1		429	423.8		448.840	377		400.640	352.260	456	406	465
Cl	mg kg ⁻¹						103							
Co	mg kg ⁻¹	20.7		18			20.91	12	16	17.3	14.623	17.8		
Cr	mg kg ⁻¹	274.3		247	226.8		316.4	291	310	275.6	253.433		309	
Cs	mg kg ⁻¹	31.3		14			10.914			9.963		11.9		10.79
Cu	mg kg ⁻¹	110.6		106	148.7		120.9	113	134	101.370	124.733	114.8	115	100.1
Dy	mg kg ⁻¹						11.798			9.916	12.545			12.1
Er	mg kg ⁻¹						3.923			3.383	4.591			4
Eu	mg kg ⁻¹						8.409			7.764	13.788			9.29
F	mg kg ⁻¹					3271	4545							
Ga	mg kg ⁻¹	19.9		18			21.346	18	17	28.43	21.322	17.9	21	
Gd	mg kg ⁻¹						24.894	17		26.77	38.326			25.5
Ge	mg kg ⁻¹									4.058				
Hf	mg kg ⁻¹	25.1		21			23.31	19	17	17.1	30.413			23
Hg	mg kg ⁻¹													
Ho	mg kg ⁻¹						1.703			1.525	1.918			1.711
I	mg kg ⁻¹													
In	mg kg ⁻¹						0.104			0.143				
La	mg kg ⁻¹	216.8		233	192.3		205.499	192		194.170	211.723	249.9	237	217
Li	mg kg ⁻¹						29.45			24.22				28.1
Lu	mg kg ⁻¹						0.421			0.384	0.339			0.445
Mo	mg kg ⁻¹	26.6		24			37.827	36		31.18	26.633	28.86		
Nb	mg kg ⁻¹	24.9		26	24.6		27.891	16	20	25.78	61.056	27.37	26	19.9
Nd	mg kg ⁻¹	207.3		194	125.2		217.459	202		212.630	213.058			223.3
Ni	mg kg ⁻¹	154.4		146	156.5		229.940	231	214	216.770	172.7		165	
Pb	mg kg ⁻¹	231.8		245	235.4		253.440	205	212	242.970	190.767	262.3	257	258.6
Pd	mg kg ⁻¹													
Pr	mg kg ⁻¹				35.8		55.743			51.57	62.911			55.7
Rb	mg kg ⁻¹	628.3		656	667.6		654.520	660	633	551.4	475.688	650.330	671	631
Re	mg kg ⁻¹									0.011				
S	mg kg ⁻¹				998	1511	1174	792		1705				
Sb	mg kg ⁻¹	3.4		8			0.215			0.126				
Sc	mg kg ⁻¹	14.4		20	35		16	15	15	18.59		17	18	21.7
Se	mg kg ⁻¹	0.5								6.038				
Sm	mg kg ⁻¹	38.8		25			39.506			32.31	44.753			39.1
Sn	mg kg ⁻¹	12		23			9.92			7.125	5.25			
Sr	mg kg ⁻¹	752.9		778	780.7	829	778.060	670	788	724.490	83.078	764.070	789	795
Ta	mg kg ⁻¹						1.392			1.322				0.99
Tb	mg kg ⁻¹						2.617			2.605	3.405			3.09
Te	mg kg ⁻¹	4.8								0.427				
Th	mg kg ⁻¹	115		124	126.5			129	117	114.370	135.030	122.4	129	146
Tl	mg kg ⁻¹						3.618			3.415				
Tm	mg kg ⁻¹						0.471			0.46	0.494			0.47
U	mg kg ⁻¹	14.1		14.4	14.9		13.65	8	17	12.2	15.975	8.3	12	13.1
V	mg kg ⁻¹	146.8		174			157.420	179	167	136.2	128.4	158.8	162	
W	mg kg ⁻¹	3.7		21			3.871			3.157				
Y	mg kg ⁻¹	44.6		48	50.1		47.087	58	46	45.25	42.881	44.51	50	47.7
Yb	mg kg ⁻¹						2.795			2.401	3.091			2.8
Zn	mg kg ⁻¹	110.3		110	118.5		115	107	104	93.93	82.293	118.030	112	
Zr	mg kg ⁻¹	886.5		975	934.9		998.7	827	1000	856.680		933.1	892	1059

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

Table 1 - GeoPT39 Contributed data for Syenite, SyMP-1. 10/06/2016

Lab Code	U62	U63	U64	U65	U66	U67	U69	U72	U74	U75	U76	U77	U78		
SiO ₂	g 100g ⁻¹	<u>55.53</u>	54.73	<u>55.53</u>	56.16			54.833	<u>54.962</u>	57.46	54.97	55.5	<u>55.12</u>	55.28	
TiO ₂	g 100g ⁻¹	<u>0.809</u>	0.79	<u>0.81</u>	0.69			<u>0.816</u>	<u>0.827</u>	0.63	0.96	<u>0.79</u>	<u>0.706</u>	0.78	
Al ₂ O ₃	g 100g ⁻¹	<u>12.96</u>	12.74	<u>12.94</u>	11.86		<u>13</u>	<u>12.1</u>	13.66	13.36	12.64	<u>12.8</u>	12.68	<u>12.86</u>	
Fe ₂ O ₃ T	g 100g ⁻¹	<u>7.72</u>	7.72	<u>7.77</u>	7.49		<u>7.87</u>	<u>7.64</u>	7.978	7.38	7.62	<u>7.6</u>	7.934	<u>7.7</u>	
Fe(II)O	g 100g ⁻¹			<u>3.5</u>									<u>2.64</u>		
MnO	g 100g ⁻¹	<u>0.099</u>	0.1	<u>0.1</u>	0.1		<u>0.106</u>	<u>0.096</u>	0.102	0.09	0.1	<u>0.1</u>	0.105		
MgO	g 100g ⁻¹	<u>3.23</u>	3.27	<u>3.33</u>	5.29		<u>3.41</u>	<u>3.74</u>	3.425	3.31	3.26	<u>3.19</u>	3.187	<u>3.4</u>	
CaO	g 100g ⁻¹	<u>3.16</u>	3.12	<u>3.19</u>	3.78		<u>3.15</u>	<u>3.8</u>	3.35	3.31	3.1	<u>3.14</u>	3.138	<u>3.13</u>	
Na ₂ O	g 100g ⁻¹	<u>1.69</u>	1.6	<u>1.72</u>	1.51		<u>1.71</u>	<u>1.53</u>	1.806	1.67	1.7	<u>1.85</u>	1.693	<u>1.75</u>	
K ₂ O	g 100g ⁻¹	<u>10.31</u>	10.33	<u>10.42</u>	9.71		<u>10.8</u>	<u>10.4</u>	10.479	10.15	10.21	<u>10.4</u>	10.31	<u>10.35</u>	
P ₂ O ₅	g 100g ⁻¹	<u>0.711</u>	0.71	<u>0.74</u>	0.69			<u>0.826</u>	0.763	0.69	0.7	<u>0.723</u>	0.724	<u>0.71</u>	
H ₂ O+	g 100g ⁻¹			<u>0.7</u>									<u>8.86</u>		
CO ₂	g 100g ⁻¹			<u>1.85</u>		<u>1.209</u>									
LOI	g 100g ⁻¹			<u>2.44</u>	<u>2.55</u>	2.46		<u>2.702</u>		2.03	<u>2.41</u>	<u>2.07</u>	2.53	<u>2.31</u>	
Ag	mg kg ⁻¹			<u>0.3</u>		0.21						<u>0.4</u>		<u>0.21</u>	
As	mg kg ⁻¹			<u>13.6</u>	<u>4.2</u>	10						<u>6</u>		<u>4.1</u>	
B	mg kg ⁻¹											<u>32</u>			
Ba	mg kg ⁻¹			<u>5222</u>	<u>5464</u>	6138		<u>5220</u>	<u>5230</u>	<u>5039.600</u>	<u>5365</u>	<u>5392</u>	<u>4800</u>	<u>5987.800</u>	<u>5960</u>
Be	mg kg ⁻¹			<u>22.9</u>	<u>19.2</u>	20						<u>22.4</u>	<u>20.2</u>	<u>25.8</u>	<u>22.1</u>
Bi	mg kg ⁻¹				<u>0.7</u>			<u>0.87</u>						<u>1.94</u>	<u>0.78</u>
Br	mg kg ⁻¹			<u>0.46</u>											
C(org)	mg kg ⁻¹				<u>1100</u>									<u>0.06</u>	
C(tot)	mg kg ⁻¹				<u>6770</u>		<u>3300</u>							<u>0.69</u>	
Cd	mg kg ⁻¹					<u>0.04</u>			<u>0.025</u>		<u>0.17</u>			<u>0.14</u>	
Ce	mg kg ⁻¹			<u>488</u>	<u>471</u>	380		<u>484</u>			<u>501</u>	<u>446.9</u>	<u>492</u>	<u>489</u>	<u>503</u>
Cl	mg kg ⁻¹				<u>160</u>			<u>189</u>							
Co	mg kg ⁻¹			<u>21.2</u>	<u>20.4</u>	19		<u>21.1</u>	<u>23.89</u>		<u>21.1</u>	<u>14.1</u>	<u>21</u>	<u>24</u>	<u>22.6</u>
Cr	mg kg ⁻¹			<u>339</u>	<u>299</u>	322			<u>211.140</u>		<u>308</u>	<u>268.1</u>	<u>296</u>	<u>364.3</u>	<u>299</u>
Cs	mg kg ⁻¹				<u>11.4</u>	10.8		<u>10.5</u>			<u>11.6</u>		<u>9.77</u>	<u>13.83</u>	<u>11.25</u>
Cu	mg kg ⁻¹			<u>116</u>	<u>120.6</u>	104		<u>111</u>	<u>149.8</u>		<u>120</u>	<u>123.1</u>	<u>132</u>	<u>126.020</u>	<u>126</u>
Dy	mg kg ⁻¹			<u>12.5</u>	<u>12.83</u>	11.6		<u>11.6</u>			<u>13</u>		<u>12.1</u>	<u>12.73</u>	<u>13.5</u>
Er	mg kg ⁻¹			<u>4.31</u>	<u>4.12</u>	3.45		<u>3.7</u>			<u>4.67</u>		<u>4.17</u>	<u>4.19</u>	<u>4.61</u>
Eu	mg kg ⁻¹			<u>9.13</u>	<u>9.12</u>	8.1		<u>8.6</u>			<u>11.2</u>		<u>9.85</u>	<u>8.48</u>	<u>9.13</u>
F	mg kg ⁻¹											<u>10525</u>	<u>0.39</u>		
Ga	mg kg ⁻¹			<u>21.1</u>	<u>20</u>	282		<u>24</u>			<u>23.9</u>	<u>16.5</u>	<u>25</u>	<u>22.54</u>	<u>23.1</u>
Gd	mg kg ⁻¹			<u>29.7</u>	<u>26.3</u>	25.5		<u>26.8</u>			<u>35.3</u>		<u>31.5</u>	<u>27.36</u>	<u>28.7</u>
Ge	mg kg ⁻¹				<u>1</u>	12					<u>2.64</u>		<u>1.1</u>		
Hf	mg kg ⁻¹			<u>22.9</u>	<u>27</u>	7.2					<u>30.3</u>	<u>10.4</u>	<u>7.47</u>	<u>14.5</u>	<u>25.5</u>
Hg	mg kg ⁻¹				<u>0.016</u>		<u>0.014</u>								
Ho	mg kg ⁻¹			<u>1.84</u>	<u>2.03</u>	1.68		<u>1.73</u>			<u>1.89</u>		<u>1.94</u>	<u>1.89</u>	<u>1.93</u>
I	mg kg ⁻¹														
In	mg kg ⁻¹												<u>0.1</u>		<u>0.12</u>
La	mg kg ⁻¹			<u>226</u>	<u>226</u>	170		<u>219</u>			<u>231</u>	<u>205</u>	<u>250</u>	<u>229.6</u>	<u>250</u>
Li	mg kg ⁻¹			<u>25.2</u>	<u>31</u>			<u>29.8</u>	<u>31.59</u>		<u>31.9</u>		<u>33</u>	<u>43.1</u>	<u>31.8</u>
Lu	mg kg ⁻¹			<u>0.44</u>	<u>0.47</u>	0.35		<u>0.4</u>			<u>0.47</u>		<u>0.58</u>	<u>0.4</u>	<u>0.46</u>
Mo	mg kg ⁻¹			<u>35</u>	<u>38</u>	35.2		<u>35</u>			<u>29.4</u>	<u>27.9</u>	<u>31.2</u>	<u>51.84</u>	<u>36.9</u>
Nb	mg kg ⁻¹			<u>26.3</u>	<u>29</u>	21.2		<u>16</u>			<u>33.2</u>	<u>27</u>	<u>26.1</u>	<u>31.58</u>	<u>29.4</u>
Nd	mg kg ⁻¹			<u>236</u>	<u>228</u>	185		<u>223</u>			<u>261</u>	<u>203.2</u>		<u>227.2</u>	<u>242</u>
Ni	mg kg ⁻¹			<u>230</u>	<u>229</u>	201		<u>232</u>	<u>233.2</u>		<u>240</u>	<u>153.7</u>	<u>199</u>	<u>273.9</u>	<u>248</u>
Pb	mg kg ⁻¹			<u>250</u>	<u>253.1</u>	168		<u>277</u>	<u>306</u>		<u>280</u>	<u>235.8</u>	<u>194</u>	<u>207</u>	<u>272</u>
Pd	mg kg ⁻¹														
Pr	mg kg ⁻¹			<u>60</u>	<u>61.3</u>	47.5		<u>58</u>			<u>65.3</u>		<u>57.7</u>	<u>59.9</u>	<u>59.6</u>
Rb	mg kg ⁻¹			<u>622</u>	<u>642</u>	610		<u>559</u>			<u>673</u>	<u>635.3</u>	<u>626</u>	<u>695.1</u>	<u>700</u>
Re	mg kg ⁻¹														
S	mg kg ⁻¹				<u>1550</u>		<u>1400</u>		<u>1180</u>			<u>810</u>	<u>0.14</u>		<u>0.19</u>
Sb	mg kg ⁻¹			<u>0.21</u>	<u>0.2</u>	0.33		<u>0.19</u>					<u>1.04</u>		
Sc	mg kg ⁻¹			<u>17.3</u>	<u>15</u>	17.1					<u>16.3</u>	<u>18.1</u>	<u>15.7</u>	<u>17.62</u>	<u>15.5</u>
Se	mg kg ⁻¹			<u>20.4</u>		12.8									
Sm	mg kg ⁻¹			<u>42.5</u>	<u>42.08</u>	38.4		<u>41</u>			<u>48.5</u>	<u>29.7</u>	<u>40.7</u>	<u>41.68</u>	<u>43.6</u>
Sn	mg kg ⁻¹			<u>8.7</u>	<u>9</u>	8.3		<u>8.2</u>				<u>12.3</u>	<u>6.2</u>		<u>8.5</u>
Sr	mg kg ⁻¹			<u>748</u>	<u>786.7</u>	812		<u>781</u>	<u>838</u>	<u>814.1</u>	<u>802</u>	<u>742.4</u>	<u>870</u>	<u>851.6</u>	<u>849</u>
Ta	mg kg ⁻¹			<u>1.2</u>	<u>1.3</u>	0.01					<u>1.86</u>	<u>2.9</u>	<u>0.88</u>	<u>1.59</u>	
Tb	mg kg ⁻¹			<u>3.01</u>	<u>3.04</u>	2.6		<u>2.8</u>			<u>3.58</u>		<u>3.48</u>	<u>2.93</u>	<u>3.1</u>
Te	mg kg ⁻¹							<u>0.33</u>					<u>0.39</u>		
Th	mg kg ⁻¹			<u>155</u>	<u>137</u>	115					<u>147</u>	<u>119</u>	<u>139</u>	<u>122</u>	<u>133</u>
Tl	mg kg ⁻¹			<u>3.98</u>	<u>3.9</u>	2.5		<u>4.1</u>					<u>2.7</u>		<u>3.85</u>
Tm	mg kg ⁻¹			<u>0.52</u>	<u>0.51</u>	0.43		<u>0.43</u>			<u>0.53</u>		<u>0.6</u>		<u>0.5</u>
U	mg kg ⁻¹			<u>15.4</u>	<u>14.4</u>	12.8		<u>13</u>			<u>15.6</u>	<u>12.6</u>	<u>12.2</u>	<u>13.67</u>	<u>15</u>
V	mg kg ⁻¹			<u>165</u>	<u>152</u>	173		<u>149</u>	<u>57.31</u>		<u>157</u>	<u>173.8</u>	<u>163</u>	<u>176.6</u>	<u>165</u>
W	mg kg ⁻¹			<u>4.5</u>	<u>5</u>			<u>2.2</u>				<u>2.5</u>	<u>2.1</u>		
Y	mg kg ⁻¹			<u>43.7</u>	<u>50.3</u>	107					<u>52.1</u>	<u>51.1</u>	<u>49.4</u>	<u>61.08</u>	<u>51.1</u>
Yb	mg kg ⁻¹			<u>3.06</u>	<u>3.16</u>	2.2		<u>2.8</u>			<u>3.13</u>		<u>3.3</u>	<u>2.99</u>	<u>3.26</u>
Zn	mg kg ⁻¹			<u>108</u>	<u>101.3</u>	102		<u>111</u>	<u>93.83</u>		<u>105</u>	<u>97.2</u>	<u>140</u>	<u>121.3</u>	<u>116</u>
Zr	mg kg ⁻¹			<u>853</u>	<u>1083</u>	786			<u>850</u>	<u>977.5</u>	<u>1064</u>	<u>905.5</u>	<u>226</u>	<u>616</u>	<u>1065</u>

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

Table 1 - GeoPT39 Contributed data for Syenite, SyMP-1. 10/06/2016

Lab Code	U79	U82	U83	U84	U85	U86	U87	U88	U92	U93	U94	U95	U96		
SiO ₂	g 100g ⁻¹	<u>55.25</u>	55.66	<u>55.517</u>	56.05		55.18	55.45	56.05		<u>55.324</u>	55.53	<u>56.96</u>	55.9	
TiO ₂	g 100g ⁻¹		<u>0.73</u>	0.786	<u>0.75</u>		0.81	0.81	<u>0.79</u>	0.767	0.79	0.811	0.75	0.81	
Al ₂ O ₃	g 100g ⁻¹		<u>12.89</u>	13.03	<u>13.03</u>		<u>12.97</u>	12.8	<u>13.45</u>	12.773	12.898	<u>13.01</u>	12.68	<u>12.75</u>	
Fe ₂ O ₃ T	g 100g ⁻¹		<u>7.55</u>	7.737	<u>7.31</u>		<u>7.79</u>	7.7	7.46	<u>8.006</u>	8.52	<u>7.88</u>	7.82	<u>8.03</u>	
Fe(II)O	g 100g ⁻¹														
MnO	g 100g ⁻¹		<u>0.09</u>	0.103	<u>0.09</u>			0.1	0.087	0.104	0.11	<u>0.106</u>	0.1	<u>0.098</u>	
MgO	g 100g ⁻¹		<u>3.33</u>	3.354	3.26		<u>3.34</u>	<u>3.25</u>	3.35	3.531	3.37	3.36	3.29	3.27	
CaO	g 100g ⁻¹		<u>3.04</u>	3.159	<u>2.97</u>		<u>3.14</u>	3.16	<u>3.25</u>	3.078	3.101	<u>3.223</u>	2.95	3.6	
Na ₂ O	g 100g ⁻¹		<u>1.81</u>	1.719	1.63		<u>1.65</u>	1.71	1.73	1.75	1.695	<u>1.65</u>	1.51	1.66	
K ₂ O	g 100g ⁻¹		<u>10.1</u>	10.406	<u>10.4</u>		<u>10.14</u>	10.68	9.96	10.239	10.465	<u>10</u>	11.35	9.81	
P ₂ O ₅	g 100g ⁻¹		<u>0.71</u>	0.743	<u>0.743</u>		<u>0.73</u>	0.72	0.79		0.87	<u>0.721</u>	0.74	<u>0.73</u>	
H ₂ O+	g 100g ⁻¹														
CO ₂	g 100g ⁻¹							2.26							
LOI	g 100g ⁻¹	<u>2.4</u>	<u>2.42</u>	2.414	<u>2.42</u>		<u>2.37</u>	<u>2.32</u>	<u>2.53</u>		2.404	<u>2.28</u>	1.87	<u>2</u>	
Ag	mg kg ⁻¹											<u>6.5</u>			
As	mg kg ⁻¹	<u>5</u>		8.615					<u>8.9</u>	4.2	24				
B	mg kg ⁻¹														
Ba	mg kg ⁻¹		<u>5198</u>	5185.552		4334.330		<u>5450</u>	<u>5030</u>	5130		<u>5386</u>	5501	<u>6900</u>	
Be	mg kg ⁻¹		<u>23.6</u>	23.229					<u>22.4</u>					<u>24</u>	
Bi	mg kg ⁻¹			0.647											
Br	mg kg ⁻¹														
C(org)	mg kg ⁻¹							975							
C(tot)	mg kg ⁻¹							<u>7148</u>							
Cd	mg kg ⁻¹														
Ce	mg kg ⁻¹		<u>472</u>	432.948		<u>510.480</u>			<u>440</u>	500		<u>463</u>	475	<u>490</u>	
Cl	mg kg ⁻¹								<u>221</u>	120					
Co	mg kg ⁻¹		<u>20.6</u>	17.180				<u>24</u>	20.3	21.5		<u>19.3</u>	18	21.1	
Cr	mg kg ⁻¹		<u>303</u>	270.125				<u>278</u>	<u>282</u>	329		<u>322</u>	307	310	
Cs	mg kg ⁻¹		<u>10.1</u>	9.993		11.36				11.2		6.98		<u>11.6</u>	
Cu	mg kg ⁻¹	<u>108</u>	<u>115</u>	119.195				<u>106</u>	113		<u>106</u>	<u>131</u>	114	<u>120</u>	
Dy	mg kg ⁻¹		<u>12.7</u>	11.513		12.2			<u>10.98</u>	13.8			11.2	<u>12.1</u>	
Er	mg kg ⁻¹		<u>4.33</u>	3.898		4.56			<u>4.02</u>				4.2	<u>3.95</u>	
Eu	mg kg ⁻¹		<u>9</u>	8.762		10.26			<u>8.12</u>	8.87			8.7	<u>8.77</u>	
F	mg kg ⁻¹							<u>3540</u>							
Ga	mg kg ⁻¹		<u>25.6</u>	18.939		24.41		<u>24</u>			<u>30</u>	<u>21.5</u>	21	<u>19.8</u>	
Gd	mg kg ⁻¹		<u>29.3</u>	25.531		29.47			<u>25.8</u>				25	<u>29.7</u>	
Ge	mg kg ⁻¹		<u>2.2</u>												
Hf	mg kg ⁻¹		<u>24.2</u>	24.220		25.49			<u>23.25</u>	24.8		<u>24.8</u>		<u>22.6</u>	
Hg	mg kg ⁻¹											<u>0.028</u>			
Ho	mg kg ⁻¹		<u>1.83</u>	1.768		1.9			<u>1.66</u>				1.9	<u>1.73</u>	
I	mg kg ⁻¹														
In	mg kg ⁻¹														
La	mg kg ⁻¹		<u>216</u>	194.454		229.030			<u>202.9</u>	223		<u>218</u>	229	<u>220</u>	
Li	mg kg ⁻¹		<u>33.4</u>	26.426					<u>29.7</u>				28	<u>32</u>	
Lu	mg kg ⁻¹		<u>0.45</u>	0.455		0.47			<u>0.393</u>	0.28			0.4	<u>0.44</u>	
Mo	mg kg ⁻¹			32.754					<u>34.1</u>			<u>35</u>	<u>34.3</u>	33	<u>37</u>
Nb	mg kg ⁻¹		<u>30.4</u>	25.531		27.17			<u>28.5</u>			<u>27</u>	<u>28.5</u>	198	<u>14</u>
Nd	mg kg ⁻¹		<u>233</u>	211.227		235.2			<u>208</u>	221		<u>242</u>	211	<u>231</u>	
Ni	mg kg ⁻¹		<u>229</u>					<u>212</u>	<u>232</u>		<u>149</u>	<u>235</u>	225		
Pb	mg kg ⁻¹		<u>269</u>	167.998				<u>246</u>	<u>237.9</u>		<u>282</u>	<u>262</u>		<u>240</u>	
Pd	mg kg ⁻¹														
Pr	mg kg ⁻¹		<u>58.2</u>	54.044		60.71			<u>53</u>				50	<u>58</u>	
Rb	mg kg ⁻¹		<u>633</u>	679.400		650.350			<u>622</u>	646	663	<u>598</u>	569	<u>660</u>	
Re	mg kg ⁻¹														
S	mg kg ⁻¹			<u>0.17</u>					<u>1544</u>				<u>0.8</u>		
Sb	mg kg ⁻¹			<u>0.170</u>											
Sc	mg kg ⁻¹		<u>16.7</u>	16.011		5		<u>14</u>	<u>15.02</u>	15.46			13	<u>16.3</u>	
Se	mg kg ⁻¹														
Sm	mg kg ⁻¹		<u>41.1</u>	39.332		43.68			<u>37.86</u>	41.7		<u>45.6</u>	46	<u>42.5</u>	
Sn	mg kg ⁻¹			7.501		8.64						<u>7</u>		<u>8.9</u>	
Sr	mg kg ⁻¹		<u>794</u>	791.590		867.5		<u>746</u>	<u>801</u>	850	768	<u>775</u>	725	<u>825</u>	
Ta	mg kg ⁻¹		<u>1.49</u>	1.516		1.69			<u>1.2</u>	1.41					
Tb	mg kg ⁻¹		<u>3.01</u>	2.768		3.68			<u>2.73</u>	2.78			2.96	<u>3.11</u>	
Te	mg kg ⁻¹			0.344											
Th	mg kg ⁻¹		<u>127</u>	121.570		138.440			<u>116</u>	136.5	141	<u>139</u>	113	<u>135</u>	
Tl	mg kg ⁻¹			3.190										<u>3.46</u>	
Tm	mg kg ⁻¹		<u>0.51</u>	0.492		0.52			<u>0.444</u>				0.5	<u>0.46</u>	
U	mg kg ⁻¹		<u>13.8</u>	13.375		14.98			<u>12.1</u>	13.3	14	<u>17</u>	11	<u>14.2</u>	
V	mg kg ⁻¹		<u>156</u>	148.097				<u>150</u>	<u>157</u>	163		<u>161</u>	149	<u>170</u>	
W	mg kg ⁻¹			3.470		3.36					5.4	10		<u>5.2</u>	
Y	mg kg ⁻¹		<u>51.3</u>	50.219		47.73			<u>46.7</u>		80	<u>52.5</u>	42	<u>46.5</u>	
Yb	mg kg ⁻¹		<u>3.05</u>	2.930		3.07			<u>2.69</u>	3			2.9	<u>2.76</u>	
Zn	mg kg ⁻¹		<u>55</u>	105	117.469			<u>100</u>	113	108	112	<u>111</u>	112	<u>95</u>	
Zr	mg kg ⁻¹			983	893.138		1040.250		<u>1016</u>	1001	1000	904	<u>1026</u>	849	860

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

Table 1 - GeoPT39 Contributed data for Syenite, SyMP-1. 10/06/2016

Lab Code	U97	U98	U99	U100	U101	U102	U103	U105	U106	U108	U109	U110	U111
SiO ₂	g 100g ⁻¹	55.08	49.8	55.55	29.1	55.484	57.67	54.74	55.6		53.7	55.6	55.66
TiO ₂	g 100g ⁻¹	0.68	<u>0.674</u>	0.8	4.42	<u>0.819</u>	0.77	0.78	0.8	<u>0.82</u>	0.37	<u>0.79</u>	0.796
Al ₂ O ₃	g 100g ⁻¹	12.96	<u>13.81</u>	13.01	<u>17.05</u>	<u>13.278</u>	<u>12.73</u>	14.89	12.94	<u>13.6</u>	<u>21.9</u>	14.9	13.08
Fe ₂ O ₃ T	g 100g ⁻¹	7.19	<u>7.34</u>	7.72	<u>2.3</u>	<u>7.989</u>	<u>6.91</u>	7.6	7.85	<u>8.58</u>	<u>2.88</u>	<u>7.8</u>	7.79
Fe(II)O	g 100g ⁻¹												
MnO	g 100g ⁻¹	0.09	<u>1.07</u>	0.102	0.42	<u>0.102</u>	<u>0.11</u>	0.1	0.11	<u>0.11</u>	<u>0.15</u>	<u>0.1</u>	0.103
MgO	g 100g ⁻¹	3.24	<u>6.25</u>	3.37	<u>1.33</u>	<u>3.394</u>	<u>3.51</u>	<u>3.24</u>	<u>3.3</u>	<u>3.66</u>	<u>0.31</u>	<u>3.56</u>	3.28
CaO	g 100g ⁻¹	3.03	<u>3.05</u>	3.13	<u>2.97</u>	<u>3.204</u>	<u>3.13</u>	3	<u>3.18</u>	<u>3.36</u>	<u>2.46</u>	<u>2.88</u>	3.18
Na ₂ O	g 100g ⁻¹	1.61		1.76		<u>1.759</u>	<u>1.78</u>	<u>1.43</u>	<u>1.75</u>	<u>1.85</u>	<u>6.8</u>	<u>1.42</u>	1.73
K ₂ O	g 100g ⁻¹	10.29	<u>9.13</u>	10.74	20.4	<u>10.519</u>	<u>10.557</u>	<u>10.53</u>	<u>10.34</u>	<u>11.4</u>	<u>8.76</u>		10.44
P ₂ O ₅	g 100g ⁻¹	0.7	<u>0.903</u>	0.72	<u>1.03</u>	<u>0.748</u>	<u>0.75</u>	0.7	<u>0.733</u>		<u>0.06</u>		0.726
H ₂ O+	g 100g ⁻¹												
CO ₂	g 100g ⁻¹												
LOI	g 100g ⁻¹	2.27		1.95		<u>2.244</u>	<u>2.02</u>	2.4	<u>2.04</u>		<u>3.12</u>	<u>1.99</u>	2.08
Ag	mg kg ⁻¹					<u>6.89</u>				<u>0.22</u>			
As	mg kg ⁻¹					<u>28</u>				<u>17</u>	<u>4.2</u>		
B	mg kg ⁻¹									<u>248</u>	<u>68</u>		
Ba	mg kg ⁻¹	4742	<u>5800</u>	4254.700	<u>393</u>	<u>5556</u>	<u>4950</u>	<u>6042</u>	<u>5364</u>	<u>5273</u>	<u>340</u>		5184
Be	mg kg ⁻¹						<u>18.61</u>	<u>10.23</u>	21		<u>7.7</u>		
Bi	mg kg ⁻¹						<u>0.79</u>		<u>0.76</u>				
Br	mg kg ⁻¹												
C(org)	mg kg ⁻¹												
C(tot)	mg kg ⁻¹					<u>6680</u>				<u>0.71</u>			
Cd	mg kg ⁻¹					<u>4.78</u>				<u>0.05</u>			
Ce	mg kg ⁻¹	395	<u>509</u>	324.1			<u>483.170</u>		<u>488</u>	<u>378</u>	<u>293.5</u>		489.420
Cl	mg kg ⁻¹					<u>39.89</u>							
Co	mg kg ⁻¹	17	<u>543</u>	6.2			<u>12</u>		<u>21.5</u>	<u>18.8</u>	<u>2.1</u>		
Cr	mg kg ⁻¹		497	<u>212</u>	<u>351</u>		<u>228</u>	<u>265.8</u>	<u>324</u>	<u>296</u>	<u>45.4</u>		316
Cs	mg kg ⁻¹				<u>55.12</u>		<u>11.03</u>		<u>11.1</u>	<u>9.78</u>	<u>11.62</u>		10.89
Cu	mg kg ⁻¹	51	<u>140</u>	119.9	<u>120</u>		<u>95</u>	<u>88</u>	<u>118</u>	<u>107</u>	<u>6.2</u>		119
Dy	mg kg ⁻¹						<u>11.72</u>	<u>10.9</u>	<u>12.2</u>	<u>10.2</u>	<u>4.1</u>		13.13
Er	mg kg ⁻¹						<u>4.94</u>	<u>3.87</u>	<u>4.1</u>	<u>3.27</u>	<u>2.1</u>		4.19
Eu	mg kg ⁻¹						<u>10.45</u>	<u>8.6</u>	<u>9</u>	<u>7.41</u>	<u>2.5</u>		9.42
F	mg kg ⁻¹												
Ga	mg kg ⁻¹	15	<u>24.9</u>	20.3			<u>19</u>		<u>23</u>		<u>19.9</u>		20
Gd	mg kg ⁻¹		42.3				<u>27.9</u>	<u>29.56</u>	<u>26.1</u>	<u>24.9</u>	<u>8.5</u>		27.32
Ge	mg kg ⁻¹						<u>1.74</u>	<u>3.56</u>	<u>2</u>				
Hf	mg kg ⁻¹						<u>26.35</u>		<u>24</u>		<u>9.5</u>		24.24
Hg	mg kg ⁻¹								<u>0.2</u>				
Ho	mg kg ⁻¹						<u>1.71</u>	<u>1.55</u>	<u>1.8</u>	<u>1.46</u>	<u>0.8</u>		1.97
I	mg kg ⁻¹		23.3										
In	mg kg ⁻¹						<u>0.13</u>		<u>0.11</u>				
La	mg kg ⁻¹	125	<u>218</u>	179.4			<u>239.570</u>	<u>211.4</u>	<u>227</u>	<u>193</u>	<u>161</u>		226.510
Li	mg kg ⁻¹							<u>20</u>	<u>30</u>	<u>31.4</u>			
Lu	mg kg ⁻¹						<u>0.41</u>	<u>0.37</u>	<u>0.4</u>	<u>0.3</u>	<u>0.3</u>		0.44
Mo	mg kg ⁻¹			26.5			<u>32.05</u>	<u>11</u>	<u>33.9</u>		<u>3.7</u>		
Nb	mg kg ⁻¹	30	<u>20.7</u>	27.5	<u>1</u>			<u>24</u>	<u>33</u>	<u>29.5</u>	<u>42.3</u>		27.62
Nd	mg kg ⁻¹		294				<u>236.980</u>	<u>210.3</u>	<u>240</u>	<u>205</u>	<u>86.7</u>		229.380
Ni	mg kg ⁻¹	201	<u>128</u>	133.6	<u>253</u>		<u>150</u>	<u>224</u>	<u>225</u>	<u>203</u>	<u>0.2</u>		239
Pb	mg kg ⁻¹	218	<u>257</u>	243.2	<u>9.84</u>		<u>240</u>	<u>230</u>	<u>266.5</u>	<u>199</u>	<u>70.7</u>		263.780
Pd	mg kg ⁻¹				<u>2.5</u>								
Pr	mg kg ⁻¹		91.9				<u>57.88</u>	<u>56.14</u>	<u>59.7</u>	<u>53</u>	<u>26.9</u>		60.05
Rb	mg kg ⁻¹	644	<u>664</u>	648.4	<u>682</u>		<u>630</u>		<u>672</u>	<u>655</u>	<u>182.5</u>	<u>580</u>	648.3
Re	mg kg ⁻¹								<u>0.003</u>				
S	mg kg ⁻¹				<u>1113.910</u>	<u>1966</u>		<u>1500</u>	<u>1700</u>				
Sb	mg kg ⁻¹				<u>30.34</u>		<u>0.07</u>		<u>0.17</u>				
Sc	mg kg ⁻¹			12.4			<u>15</u>	<u>12.52</u>	<u>15.4</u>		<u>0.3</u>		15.5
Se	mg kg ⁻¹								<u>0.8</u>				
Sm	mg kg ⁻¹		22.3				<u>40.73</u>	<u>37.8</u>	<u>43.5</u>		<u>12.5</u>		42.95
Sn	mg kg ⁻¹				<u>11.72</u>		<u>8.35</u>	<u>15</u>	<u>9</u>		<u>0.77</u>		
Sr	mg kg ⁻¹	744	<u>784</u>	766.4	<u>7.02</u>		<u>797</u>	<u>477</u>	<u>815</u>	<u>808</u>	<u>1357.500</u>	<u>720</u>	794
Ta	mg kg ⁻¹						<u>0.48</u>		<u>1.35</u>		<u>1.77</u>		1.41
Tb	mg kg ⁻¹						<u>3.25</u>		<u>2.9</u>	<u>2.36</u>			3.09
Te	mg kg ⁻¹				<u>62.06</u>		<u>0.45</u>						
Th	mg kg ⁻¹		106	127.6	<u>68</u>		<u>129</u>	<u>139.9</u>	<u>132.8</u>	<u>106</u>	<u>61.1</u>		133.560
Tl	mg kg ⁻¹				<u>6062</u>		<u>4.11</u>		<u>3.9</u>		<u>1.1</u>		
Tm	mg kg ⁻¹						<u>0.49</u>	<u>0.39</u>	<u>0.5</u>	<u>0.36</u>			0.51
U	mg kg ⁻¹		11.1	12.2	<u>2.02</u>		<u>11.18</u>		<u>14.4</u>	<u>9.79</u>	<u>12.4</u>		13.86
V	mg kg ⁻¹	122		115	1792		<u>190</u>	<u>105</u>	<u>146</u>	<u>137</u>	<u>29.2</u>		158
W	mg kg ⁻¹				<u>121</u>		<u>2.14</u>	<u>30</u>	<u>5</u>		<u>5.1</u>		
Y	mg kg ⁻¹	79	<u>54.9</u>	48	<u>30</u>		<u>45</u>	<u>49.6</u>	<u>48.9</u>	<u>44.1</u>	<u>25.6</u>		50.59
Yb	mg kg ⁻¹						<u>2.9</u>	<u>2.47</u>	<u>3.1</u>	<u>2.15</u>	<u>2.1</u>		2.99
Zn	mg kg ⁻¹	116	<u>120</u>	108.2	<u>127.610</u>		<u>120</u>	<u>46</u>	<u>107</u>	<u>112</u>	<u>154.9</u>		111
Zr	mg kg ⁻¹	709	<u>977</u>	910	<u>914</u>	<u>1283</u>	<u>941</u>		<u>1086</u>		<u>571.1</u>	<u>900</u>	1000

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

Table 1 - GeoPT39 Contributed data for Syenite, SyMP-1. 10/06/2016

Lab Code	U112	U116	U117	U118	U119	U120	U122	U123	U124	U125	U126	-	-
SiO ₂	g 100g ⁻¹	56.31	<u>53.93</u>	<u>54.51</u>	53.3	57.37		56.32		55.83	53.93	55.6	
TiO ₂	g 100g ⁻¹	0.816	<u>0.82</u>	<u>0.77</u>	0.64	0.71		0.81		<u>0.795</u>	0.82	<u>0.831</u>	
Al ₂ O ₃	g 100g ⁻¹	13.29	<u>13.56</u>	<u>12.76</u>	11.9	13.67		13.05		<u>13.35</u>	12.45	<u>13</u>	
Fe ₂ O ₃ T	g 100g ⁻¹	7.7	<u>8.64</u>	<u>7.59</u>	7.58	5.88		7.7		<u>7.74</u>	7.71	<u>7.78</u>	
Fe(II)O	g 100g ⁻¹					2.72		3.045			3.61		
MnO	g 100g ⁻¹	<u>0.100</u>	<u>0.13</u>	<u>0.093</u>	0.09	0.087		0.11		<u>0.14</u>	0.1	<u>0.101</u>	
MgO	g 100g ⁻¹	3.411	<u>5.84</u>	<u>3.24</u>	4.83	2.51		3.34		<u>3.22</u>	3.14	<u>3.27</u>	
CaO	g 100g ⁻¹	<u>3.207</u>	3.48	3.05	<u>2.83</u>	2.87		3.19		<u>3.12</u>	3.13	<u>3.11</u>	
Na ₂ O	g 100g ⁻¹	1.84	<u>1.24</u>	<u>1.83</u>	1.33	1.73		1.76		<u>1.43</u>	1.76	<u>1.72</u>	
K ₂ O	g 100g ⁻¹	10.23	<u>11.99</u>	<u>10.4</u>	8.59	10.42		10.55		<u>9.93</u>	10.4	<u>10.4</u>	
P ₂ O ₅	g 100g ⁻¹	0.707	<u>1.12</u>	<u>0.7</u>	<u>0.63</u>	0.7		0.72		<u>0.721</u>	0.67	<u>0.718</u>	
H ₂ O+	g 100g ⁻¹										0.72		
CO ₂	g 100g ⁻¹										2.44		
LOI	g 100g ⁻¹	<u>1.56</u>	<u>2.29</u>	<u>2.49</u>	<u>2.02</u>	2.45		2.474		<u>2.4</u>		<u>2.06</u>	
Ag	mg kg ⁻¹	<u>0.21</u>		<u>6.57</u>				0.57					
As	mg kg ⁻¹	<u>7.2</u>						3.88			<u>47</u>		
B	mg kg ⁻¹	<u>27</u>											
Ba	mg kg ⁻¹	5158		5900		5220		5358			5293	4879	
Be	mg kg ⁻¹	<u>24.54</u>				<u>29</u>		21.23				<u>20.9</u>	
Bi	mg kg ⁻¹			<u>1.4</u>		1		0.71					
Br	mg kg ⁻¹												
C(org)	mg kg ⁻¹		2900									5820	
C(tot)	mg kg ⁻¹												
Cd	mg kg ⁻¹					1.11	0.4	0.23				<u>19</u>	
Ce	mg kg ⁻¹	657.070		<u>506.1</u>		470	<u>487</u>	497.6	360.2	<u>486</u>	459	451	
Cl	mg kg ⁻¹							95			<u>79</u>		
Co	mg kg ⁻¹	<u>18</u>		<u>16</u>		21		21.04		<u>15</u>	20	18	
Cr	mg kg ⁻¹	320.570		<u>268.3</u>		340		326.1		<u>322</u>	65	256	
Cs	mg kg ⁻¹	<u>10</u>		<u>11.3</u>		10.7	<u>11.2</u>	11.04		<u>11</u>	12	<u>10.5</u>	
Cu	mg kg ⁻¹	<u>100</u>		<u>107.9</u>		116		111.3		<u>121</u>	112	<u>119</u>	
Dy	mg kg ⁻¹	14.07				11.3	<u>12.2</u>	12.53	11.51	11.84		<u>6</u>	
Er	mg kg ⁻¹	<u>4.92</u>				3.72	<u>4.1</u>	4.13	3.4			<u>3.27</u>	
Eu	mg kg ⁻¹	<u>10.01</u>				8.32	<u>8.7</u>	9.08	8.54			<u>8.44</u>	
F	mg kg ⁻¹	3000						2855			<u>4143</u>	<u>0.291</u>	
Ga	mg kg ⁻¹	<u>24.53</u>		<u>19.3</u>		24.7	<u>43.2</u>	21.12		<u>19</u>	23	<u>17.7</u>	
Gd	mg kg ⁻¹	<u>30.6</u>				22.7	<u>23.4</u>	26.89	27.3			<u>22.3</u>	
Ge	mg kg ⁻¹	<u>1.8</u>		<u>1.3</u>			<u>5.5</u>	<u>1.34</u>			<u>1.81</u>		
Hf	mg kg ⁻¹	<u>30.38</u>		<u>22</u>				26.44			<u>11.4</u>		<u>21.1</u>
Hg	mg kg ⁻¹	<u>0.032</u>											
Ho	mg kg ⁻¹	<u>2.12</u>				1.7	<u>1.9</u>	1.81	1.59	<u>1.79</u>		<u>1.56</u>	
I	mg kg ⁻¹			<u>5.71</u>									
In	mg kg ⁻¹												
La	mg kg ⁻¹	300.890		<u>233.1</u>		216	<u>220</u>	230.6	186.9	<u>223</u>	145	208	
Li	mg kg ⁻¹	<u>28</u>				30.1				<u>28.46</u>			
Lu	mg kg ⁻¹	<u>0.51</u>				0.42	<u>0.5</u>	0.46	0.37			<u>0.391</u>	
Mo	mg kg ⁻¹	43.65		<u>26.6</u>		30.8		36.93			<u>18</u>	<u>25.7</u>	
Nb	mg kg ⁻¹	<u>33.73</u>		<u>25.7</u>		30.8	<u>27.8</u>	27.48		<u>23</u>	28	<u>27.2</u>	
Nd	mg kg ⁻¹	285.270		<u>205.4</u>		216	<u>230</u>	257	189	<u>269</u>	194	202	
Ni	mg kg ⁻¹	<u>180</u>		<u>159.5</u>		250		243.1		<u>228</u>	141	<u>154.6</u>	
Pb	mg kg ⁻¹	<u>264.3</u>		<u>249.1</u>		220		264.2		<u>253</u>	250	<u>237</u>	
Pd	mg kg ⁻¹												
Pr	mg kg ⁻¹	72.85				56.9	<u>60.1</u>	58.49	42.84	<u>65.66</u>		<u>50.1</u>	
Rb	mg kg ⁻¹	<u>660</u>		<u>643.2</u>		671	<u>619</u>	665.4		<u>624</u>	647	<u>625</u>	
Re	mg kg ⁻¹												
S	mg kg ⁻¹		<u>0.07</u>	1200				1682			<u>371</u>	<u>977</u>	
Sb	mg kg ⁻¹	<u>0.17</u>		<u>2.61</u>		0.58	<u>0.4</u>	0.27					
Sc	mg kg ⁻¹	<u>12</u>		<u>16.3</u>		15.8	<u>23.6</u>	3.89		<u>15.22</u>	16	<u>13.3</u>	
Se	mg kg ⁻¹												
Sm	mg kg ⁻¹	52.53		<u>32.5</u>		39.1	<u>42.8</u>	41.22	31.96	<u>39</u>		<u>40.2</u>	
Sn	mg kg ⁻¹	<u>9.64</u>		<u>6.99</u>		9.87	<u>8.8</u>	9.19			<u>3</u>	<u>8.1</u>	
Sr	mg kg ⁻¹	<u>755</u>		<u>768.9</u>		789		812.6		<u>708</u>	745	<u>756</u>	
Ta	mg kg ⁻¹	<u>1.59</u>					1.9	1.4				<u>1.25</u>	
Tb	mg kg ⁻¹	<u>3.24</u>				2.65	<u>3.6</u>	2.85	3.48	<u>3.55</u>		<u>2.56</u>	
Te	mg kg ⁻¹												
Th	mg kg ⁻¹	<u>81</u>		<u>119.4</u>		113	<u>122</u>	138.3		<u>134</u>	123	<u>120</u>	
Tl	mg kg ⁻¹	<u>1.25</u>		<u>3</u>		3.4							
Tm	mg kg ⁻¹	<u>0.6</u>				0.46	<u>0.5</u>		0.39			<u>0.413</u>	
U	mg kg ⁻¹	<u>16.07</u>		<u>10.4</u>		12.2	<u>13.8</u>	14.32		<u>23</u>	10	<u>12.6</u>	
V	mg kg ⁻¹	<u>160</u>		<u>164.4</u>		147		161.2		<u>180</u>	182	<u>176</u>	
W	mg kg ⁻¹	<u>3.95</u>		<u>4.1</u>		4	<u>4.1</u>	4.37			<u>2</u>	<u>3.55</u>	
Y	mg kg ⁻¹	<u>42</u>		<u>45.2</u>		52.8	<u>47.5</u>	47.98	51.61	<u>30</u>	52	<u>34.5</u>	
Yb	mg kg ⁻¹	<u>3.45</u>		<u>1.2</u>		2.82	<u>4.2</u>	3.04	2.44	<u>2.77</u>		<u>2.38</u>	
Zn	mg kg ⁻¹	<u>117</u>		<u>111.3</u>		115		111.2		<u>112</u>	100	<u>109</u>	
Zr	mg kg ⁻¹	<u>834</u>		<u>878.9</u>		949		1061		<u>989</u>	876	<u>875</u>	

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

Table 2 - GeoPT39 Assigned values and statistical summary for Syenite, SyMP-1.

	Assigned Value	Uncertainty of assigned value	Horwitz Target Value	Uncertainty/Target	Number of reported results	Robust Mean of results	Robust SD of results	Median of results	Status of consensus value	Type of consensus value
	X_a	sdm	H_a	sdm/H_a	n					
	$g\ 100g^{-1}$	$g\ 100g^{-1}$	$g\ 100g^{-1}$			$g\ 100g^{-1}$	$g\ 100g^{-1}$	$g\ 100g^{-1}$		
SiO ₂	55.52	0.07513	0.6066	0.1238	89	55.52	0.7088	55.5	Assigned	Robust Mean
TiO ₂	0.7994	0.002613	0.01654	0.158	92	0.7886	0.03557	0.792	Assigned	Mode
Al ₂ O ₃	12.99	0.02812	0.1766	0.1593	91	12.99	0.2683	12.98	Assigned	Robust Mean
Fe ₂ O ₃ T	7.755	0.01886	0.1139	0.1655	92	7.738	0.2248	7.755	Assigned	Median
MnO	0.1006	0.0007216	0.002843	0.2538	90	0.1006	0.006845	0.1	Assigned	Robust Mean
MgO	3.312	0.009506	0.05531	0.1719	92	3.328	0.1081	3.312	Assigned	Median
CaO	3.14	0.009429	0.05287	0.1784	92	3.138	0.121	3.14	Assigned	Median
Na ₂ O	1.72	0.007902	0.0317	0.2493	88	1.713	0.0971	1.72	Assigned	Median
K ₂ O	10.4	0.02419	0.1463	0.1654	90	10.4	0.2295	10.4	Assigned	Robust Mean
P ₂ O ₅	0.7206	0.002915	0.01514	0.1926	86	0.7206	0.02704	0.72	Assigned	Robust Mean
LOI	2.391	0.02265	0.04194	0.54	79	2.312	0.2363	2.38	Provisional	Mode
	$mg\ kg^{-1}$	$mg\ kg^{-1}$	$mg\ kg^{-1}$			$mg\ kg^{-1}$	$mg\ kg^{-1}$	$mg\ kg^{-1}$		
Ag	0.2156	0.0092	0.02172	0.4235	15	1.003	1.31	0.3	Provisional	Mode
Ba	5220	37.92	115.1	0.3294	83	5194	455.6	5220	Assigned	Median
Be	21.9	0.3552	1.101	0.3227	39	21.54	2.209	21.9	Assigned	Median
Bi	0.79	0.02588	0.06547	0.3953	21	0.8162	0.1229	0.79	Assigned	Median
Ce	471	5.279	14.92	0.3538	71	462.3	48.3	471	Assigned	Median
Co	20.81	0.146	1.054	0.1385	68	18.87	3.642	19.7	Provisional	Mode
Cr	296	4.512	10.05	0.4487	73	292.6	43.78	296	Provisional	Median
Cs	10.92	0.1146	0.6096	0.188	47	10.92	0.7856	10.9	Assigned	Robust Mean
Cu	115	1.014	4.504	0.2251	77	114	11.01	115	Assigned	Median
Dy	12.05	0.1234	0.6629	0.1861	51	12.05	0.881	12.1	Assigned	Robust Mean
Er	4.122	0.07479	0.2664	0.2807	49	4.122	0.5235	4.1	Assigned	Robust Mean
Eu	8.948	0.09855	0.5146	0.1915	50	8.997	0.8859	8.948	Assigned	Median
Ga	21.32	0.4337	1.076	0.4031	63	21.78	3.299	21.32	Provisional	Median
Gd	26.77	0.4007	1.306	0.3069	51	27.21	3.158	26.77	Assigned	Median
Hf	23.75	0.3845	1.179	0.3261	55	21.72	5.277	23	Assigned	Mode
Ho	1.78	0.02137	0.1306	0.1637	50	1.78	0.1511	1.795	Assigned	Robust Mean
In	0.1115	0.005189	0.01241	0.4183	8	0.114	0.01422	0.1115	Provisional	Median
La	219	2.041	7.784	0.2622	71	217.4	21.16	219	Assigned	Median
Li	30	0.3875	1.438	0.2695	37	29.82	2.375	30	Assigned	Median
Lu	0.4332	0.006951	0.03929	0.1769	50	0.4277	0.05173	0.4332	Assigned	Median
Mo	33.45	0.6888	1.578	0.4366	52	32.44	5.399	33.45	Provisional	Median
Nb	26.51	0.4416	1.295	0.3411	71	26.26	4.321	26.51	Assigned	Median
Nd	222.4	2.522	7.886	0.3198	64	220.2	21.28	222.4	Assigned	Median
Ni	230	1.775	8.115	0.2187	72	199.2	43.39	212.3	Provisional	Mode
Pb	248.5	2.321	8.666	0.2679	76	245.5	24.88	248.5	Assigned	Median
Pr	57.28	0.6028	2.491	0.242	53	56.95	5.265	57.28	Assigned	Median
Rb	641.8	3.595	19.4	0.1853	75	641.8	31.14	643	Assigned	Robust Mean
Sb	0.1937	0.00764	0.01983	0.3852	24	0.498	0.4972	0.2125	Provisional	Mode
Sc	15.75	0.201	0.8319	0.2416	60	15.59	2.347	15.75	Assigned	Median
Sm	40.55	0.3796	1.858	0.2043	58	40.24	3.687	40.55	Assigned	Median
Sn	8.765	0.2731	0.5057	0.5401	40	8.962	2.114	8.765	Assigned	Median
Sr	778.1	5.476	22.85	0.2396	84	778.1	50.19	778	Assigned	Robust Mean
Ta	1.41	0.04089	0.1071	0.3818	38	1.45	0.3404	1.41	Assigned	Median
Tb	3.01	0.0593	0.204	0.2908	49	3.067	0.4048	3.01	Assigned	Median
Th	124.2	1.729	4.807	0.3597	67	124.2	14.15	124.8	Provisional	Robust Mean
Tl	3.532	0.1487	0.2336	0.6367	28	3.532	0.787	3.545	Provisional	Robust Mean
Tm	0.494	0.005746	0.04394	0.1308	45	0.486	0.04673	0.494	Assigned	Median
U	13.19	0.2369	0.7157	0.331	69	13.19	1.968	13.3	Assigned	Robust Mean
V	156.5	2.013	5.851	0.344	74	156.5	17.31	157	Assigned	Robust Mean
W	4.046	0.2343	0.2622	0.8935	34	4.074	1.306	4.046	Provisional	Median
Y	48	0.5307	2.144	0.2475	75	48.31	4.87	48	Assigned	Median
Yb	2.935	0.03392	0.1996	0.1699	52	2.912	0.3564	2.935	Assigned	Median
Zn	111.7	0.7708	4.392	0.1755	80	110.9	9.419	111.7	Assigned	Median
Zr	917	11.34	26.27	0.4317	79	916.8	111	917	Provisional	Median

Table 3 - GeoPT39 Z-scores for Syenite, SyMP-1. 10/06/2016

Lab Code	U1	U2	U3	U4	U6	U7	U9	U10	U11	U13	U14	U17	U18
SiO ₂	-0.01	-0.57	0.88	0.37	0.26	1.26	0.49	2.03	-0.73	0.23	-1.18	-1.22	0.10
TiO ₂	0.62	0.62	0.03	-0.57	1.83	-0.29	-0.29	1.41	-2.44	-0.29	-1.49	-8.23	0.23
Al ₂ O ₃	-0.24	0.32	0.02	0.14	0.66	-1.26	0.12	1.64	1.23	0.32	-0.41	-0.26	-0.01
Fe ₂ O _{3T}	0.20	1.08	0.75	-0.04	-0.59	-2.30	0.68	2.38	2.39	0.51	0.16	-1.87	0.30
MnO	-0.11	0.24	1.19	-0.22	1.47	-1.87	1.65	1.30	-4.06	0.07	-0.46	-0.22	0.94
MgO	0.62	0.26	-0.03	0.15	1.16	6.68	-1.19	0.89	0.17	-0.28	1.78	-0.52	-0.44
CaO	0.00	0.38	3.40	0.00	0.09	1.23	0.09	2.27	0.40	0.57	-0.56	-3.08	-0.23
Na ₂ O	0.17	2.53	0.65	-1.88	-1.41	-2.67	-2.20	2.44	-0.02	*	2.94	-1.66	-0.35
K ₂ O	-0.01	0.05	2.02	0.79	-0.53	-0.19	0.22	2.14	0.57	1.69	-0.61	0.59	1.07
P ₂ O ₅	-0.02	0.18	2.14	-4.00	-0.81	0.97	-0.68	1.63	-0.65	2.62	-0.78	-1.14	-3.95
LOI	-0.13	*	-1.46	-0.26	-6.69	*	1.18	-1.44	18.57	-3.47	*	*	0.18
Ag	*	*	*	*	*	*	*	*	*	*	0.70	*	*
Ba	*	-3.11	-42.34	0.79	-0.33	-5.61	-0.15	1.72	0.81	*	-22.44	3.59	-0.25
Be	*	*	*	0.28	0.32	-0.08	*	0.18	-2.39	0.00	0.00	*	*
Bi	*	*	*	0.76	-0.89	*	*	*	0.92	*	-0.23	*	*
Ce	*	2.98	-16.49	2.82	-0.13	0.30	*	0.36	3.28	-0.47	-0.05	2.70	*
Co	*	-1.81	-17.94	0.08	3.27	-5.13	-3.23	-0.11	-0.69	0.09	-0.53	0.06	-3.70
Cr	*	-1.54	-26.46	3.38	-1.79	-3.73	-1.14	0.53	-0.96	*	-1.17	1.59	-0.05
Cs	*	*	11.61	-0.53	-0.08	*	*	-0.10	-0.32	*	-3.33	-0.91	*
Cu	*	-3.89	-24.87	0.89	-1.11	-2.44	-0.67	1.10	-1.07	-0.11	-0.19	1.18	-3.22
Dy	*	1.02	*	0.52	-0.10	-0.15	*	-0.06	1.73	*	-0.10	-0.19	*
Er	*	0.73	*	-0.20	4.24	1.20	*	0.28	2.81	*	-0.53	-2.40	*
Eu	*	1.34	*	0.00	5.88	2.82	*	0.01	2.00	*	-0.55	-8.58	*
Ga	*	-0.61	-1.23	3.60	0.08	-0.15	-0.61	1.96	0.07	*	-2.33	3.51	2.64
Gd	*	1.73	*	-0.05	5.07	0.40	*	-0.04	-1.82	*	-0.76	-0.13	*
Hf	*	-5.41	-6.57	-0.30	-1.59	-0.48	-0.32	0.01	2.26	6.59	-0.11	-6.85	-7.53
Ho	*	0.38	*	0.30	0.08	0.61	*	0.15	1.15	*	-0.12	-1.84	*
In	*	*	*	*	0.06	*	*	*	*	*	*	*	*
La	*	2.00	-10.53	2.18	0.00	1.19	*	-0.23	2.84	-0.13	-0.36	-1.03	*
Li	*	*	*	-0.14	0.17	*	0.94	*	-1.08	0.21	-0.20	0.02	0.00
Lu	*	-0.80	*	-0.08	1.68	0.47	*	0.09	0.68	*	-0.31	-0.84	*
Mo	*	0.49	-18.73	2.12	-1.09	-0.42	*	0.59	-0.44	*	-0.45	-5.02	*
Nb	*	-1.36	5.01	2.85	-0.58	-0.58	-0.97	-0.82	-2.06	*	0.00	-0.68	*
Nd	*	1.62	-19.45	0.84	0.23	0.01	*	0.11	2.13	*	-0.32	-3.26	*
Ni	*	-4.13	*	3.08	-4.19	-5.73	-4.44	-0.00	-15.23	*	-1.08	-0.83	-1.85
Pb	*	-0.32	-18.87	1.21	-0.95	-0.20	-0.26	0.13	2.91	-0.03	0.50	1.75	-8.57
Pr	*	1.35	*	0.45	-0.16	-0.60	*	0.00	0.54	*	-0.05	-0.14	*
Rb	*	-0.46	-24.26	1.20	-0.38	-0.15	-0.33	-0.12	-0.01	-0.12	-1.59	0.17	*
Sb	*	*	*	*	*	*	*	*	*	0.32	*	0.26	*
Sc	*	1.11	*	0.30	0.69	-1.05	0.15	-0.21	*	0.45	*	*	*
Sm	*	1.21	-15.91	0.73	-0.15	-0.40	*	-0.05	0.69	*	-0.26	-0.93	*
Sn	*	*	*	-0.17	*	-1.25	6.17	-0.22	0.82	*	-0.03	*	*
Sr	*	-1.27	32.25	0.96	-1.49	-0.55	-0.35	1.67	-0.08	-0.40	-0.51	-0.02	-1.25
Ta	*	*	*	0.37	*	-0.23	*	-0.14	-0.65	*	3.08	*	*
Tb	*	0.59	*	-0.20	3.43	0.88	*	-0.10	2.06	*	-0.79	-1.51	*
Th	*	1.02	-13.77	3.92	-0.43	-1.99	-0.85	0.06	-4.82	*	-0.99	2.11	*
Tl	*	*	*	2.86	-0.07	*	*	-1.20	*	*	-1.39	2.36	*
Tm	*	-0.39	*	0.14	0.49	0.52	*	-0.05	0.36	*	-0.23	-2.52	*
U	*	-2.93	-14.66	1.27	-1.74	-0.50	0.56	0.33	2.65	*	-0.25	-1.01	*
V	*	0.04	-23.50	0.60	0.56	2.52	0.73	0.57	-2.09	-0.64	-1.20	0.31	*
W	*	*	1.73	*	*	-0.74	*	*	3.75	*	0.09	*	*
Y	*	0.47	-11.19	1.87	0.00	0.47	0.00	-0.47	1.84	0.00	-0.58	*	-1.87
Yb	*	-1.16	*	-0.08	1.54	0.99	*	0.36	1.58	*	-0.08	-3.33	*
Zn	*	0.38	-10.39	-0.60	-0.30	1.06	0.04	0.53	2.47	-0.42	-0.44	0.60	-2.12
Zr	*	-2.49	-15.49	2.55	-1.12	-2.80	-0.19	1.05	3.26	2.70	-1.33	-11.60	-10.12

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

Table 3 - GeoPT39 Z-scores for Syenite, SyMP-1. 10/06/2016

Lab Code	U19	U20	U21	U22	U23	U24	U25	U26	U27	U28	U30	U32	U33
SiO ₂	-0.29	-0.57	<u>1.12</u>	-0.18	<u>-0.10</u>	0.80	<u>0.48</u>	-0.01	0.73	*	0.74	-1.02	0.40
TiO ₂	0.03	0.03	<u>-1.49</u>	-0.29	<u>-0.29</u>	-2.99	<u>-0.29</u>	-1.59	0.03	-0.63	-0.29	-0.16	0.80
Al ₂ O ₃	-1.22	-0.20	<u>-0.02</u>	<u>0.46</u>	<u>-0.29</u>	0.93	<u>-2.51</u>	-1.38	0.59	*	0.52	-0.92	0.09
Fe ₂ O ₃ T	-0.13	0.14	<u>-1.91</u>	<u>0.11</u>	<u>0.15</u>	3.12	<u>1.69</u>	-0.63	0.22	*	-0.55	<u>0.64</u>	1.37
MnO	*	0.13	<u>-1.87</u>	<u>0.24</u>	<u>0.42</u>	-1.98	<u>1.12</u>	-0.29	9.27	0.48	-1.17	<u>0.42</u>	0.59
MgO	0.88	-0.39	<u>0.17</u>	<u>-0.38</u>	<u>-0.60</u>	-5.27	<u>4.96</u>	<u>-0.19</u>	-0.57	*	<u>0.08</u>	-0.19	0.83
CaO	1.51	1.32	<u>-2.27</u>	<u>0.19</u>	<u>-0.23</u>	-2.08	<u>5.30</u>	<u>-0.09</u>	1.32	*	<u>0.00</u>	-0.76	-1.10
Na ₂ O	1.28	3.17	<u>2.69</u>	<u>0.95</u>	<u>-0.07</u>	11.06	<u>-2.20</u>	-1.73	0.96	*	<u>1.90</u>	<u>0.32</u>	-0.02
K ₂ O	-0.78	0.11	<u>0.63</u>	<u>-0.05</u>	<u>0.50</u>	-2.08	<u>-1.86</u>	-0.36	5.17	*	<u>0.12</u>	-0.77	2.17
P ₂ O ₅	-0.70	-0.70	<u>0.31</u>	<u>-0.48</u>	*	-2.68	<u>0.68</u>	<u>-0.88</u>	-0.70	*	<u>0.31</u>	-0.35	-0.02
LOI	<u>-1.92</u>	-6.70	<u>-1.20</u>	<u>-0.25</u>	<u>9.76</u>	1.41	<u>-5.85</u>	<u>2.85</u>	<u>-1.22</u>	*	<u>0.46</u>	*	<u>-3.11</u>
Ag	*	*	*	*	*	22.76	*	*	*	*	*	*	*
Ba	-1.39	-2.02	<u>4.76</u>	<u>-0.66</u>	<u>0.30</u>	-2.65	<u>0.48</u>	<u>-0.26</u>	-12.33	-0.62	*	<u>0.04</u>	-0.13
Be	*	*	<u>-2.42</u>	*	*	-1.36	*	<u>0.05</u>	*	0.82	*	*	*
Bi	*	*	*	*	*	*	*	*	*	0.92	*	*	*
Ce	-1.47	-6.64	<u>1.56</u>	<u>-1.74</u>	*	-2.01	<u>-2.82</u>	<u>0.03</u>	*	1.61	*	<u>0.00</u>	*
Co	*	-3.62	*	<u>-7.03</u>	*	-2.67	*	<u>-4.42</u>	4.56	-0.58	*	*	<u>0.56</u>
Cr	11.04	2.39	*	<u>-0.99</u>	*	3.35	<u>-3.73</u>	<u>-2.88</u>	<u>-3.18</u>	0.90	*	<u>1.24</u>	<u>0.35</u>
Cs	*	*	*	*	*	*	*	-0.43	*	-0.20	*	*	*
Cu	<u>0.67</u>	0.67	*	<u>0.67</u>	*	0.84	<u>6.00</u>	<u>0.67</u>	1.11	0.44	*	<u>-0.44</u>	0.22
Dy	*	*	<u>0.43</u>	*	*	-2.51	*	<u>0.03</u>	*	0.82	*	*	*
Er	*	*	<u>1.38</u>	*	*	-1.10	*	<u>-0.57</u>	*	1.79	*	*	*
Eu	*	*	<u>1.27</u>	*	*	-1.38	*	<u>-0.31</u>	*	0.28	*	*	*
Ga	*	-1.23	<u>2.17</u>	<u>-1.54</u>	*	*	*	*	*	1.56	*	*	*
Gd	*	*	<u>2.90</u>	*	*	-2.66	*	<u>0.82</u>	*	-0.59	*	*	*
Hf	*	*	<u>-2.50</u>	<u>-1.17</u>	*	*	*	<u>0.53</u>	*	1.06	*	*	*
Ho	*	*	<u>-0.12</u>	*	*	-1.23	*	<u>-0.50</u>	*	1.15	*	*	*
In	*	*	*	*	*	*	*	*	*	*	*	*	*
La	<u>-1.03</u>	4.88	<u>0.13</u>	<u>1.54</u>	*	-4.83	*	<u>-0.39</u>	*	0.77	*	<u>0.19</u>	*
Li	*	*	*	*	*	*	*	*	*	0.76	*	*	*
Lu	*	*	<u>0.85</u>	*	*	-1.35	*	<u>-0.29</u>	*	0.43	*	*	*
Mo	*	*	*	<u>-2.68</u>	*	2.12	*	<u>0.52</u>	*	-1.36	*	*	<u>0.17</u>
Nb	-3.48	0.38	<u>-4.44</u>	<u>-7.15</u>	*	*	<u>-1.36</u>	<u>-0.16</u>	*	3.16	*	*	<u>0.96</u>
Nd	*	-7.91	<u>-0.01</u>	<u>-1.10</u>	*	-3.82	<u>4.48</u>	<u>0.36</u>	*	1.73	*	*	*
Ni	-4.01	0.49	<u>-2.83</u>	<u>-0.56</u>	*	0.18	<u>-0.43</u>	<u>-1.42</u>	<u>-8.63</u>	0.49	*	<u>-0.00</u>	<u>-4.93</u>
Pb	-0.52	0.06	<u>-0.55</u>	<u>-0.20</u>	*	2.19	<u>0.09</u>	<u>0.84</u>	<u>-0.87</u>	2.83	*	*	<u>0.49</u>
Pr	*	*	<u>-0.41</u>	<u>-2.87</u>	*	-4.17	*	<u>-0.50</u>	*	1.49	*	*	*
Rb	2.33	-0.61	<u>-1.36</u>	<u>-0.38</u>	<u>2.89</u>	*	<u>0.08</u>	<u>24.69</u>	*	0.06	*	*	<u>0.86</u>
Sb	*	*	*	<u>398.46</u>	*	*	*	*	*	*	*	*	*
Sc	*	*	<u>-4.66</u>	<u>-7.06</u>	*	0.78	*	<u>-4.12</u>	*	-0.42	*	*	*
Sm	*	*	<u>0.98</u>	<u>-4.72</u>	*	-2.91	*	<u>-0.04</u>	*	0.78	*	*	*
Sn	*	*	<u>1.64</u>	*	*	*	*	*	*	0.52	*	*	*
Sr	-0.66	1.75	<u>-2.39</u>	<u>0.09</u>	<u>2.78</u>	-2.63	<u>-0.05</u>	<u>0.48</u>	*	1.05	*	*	<u>-0.09</u>
Ta	*	*	<u>12.09</u>	<u>30.77</u>	*	*	*	*	*	0.65	*	*	*
Tb	*	*	<u>1.52</u>	*	*	4.90	*	<u>-0.39</u>	*	-0.34	*	*	*
Th	*	0.59	<u>0.09</u>	<u>-5.32</u>	*	*	*	<u>-0.75</u>	*	4.33	*	*	<u>-1.27</u>
Tl	*	*	*	*	*	*	*	<u>0.90</u>	<u>-6.56</u>	6.07	*	*	*
Tm	*	*	<u>0.75</u>	*	*	0.14	*	<u>-0.61</u>	*	0.59	*	*	*
U	*	10.91	<u>0.04</u>	<u>-0.83</u>	*	*	*	<u>-0.21</u>	<u>-4.46</u>	1.97	*	*	*
V	2.99	-1.96	<u>-1.58</u>	<u>-0.21</u>	*	-0.12	*	<u>-2.78</u>	0.60	0.09	*	<u>0.13</u>	<u>2.69</u>
W	*	*	*	*	*	*	*	<u>-1.99</u>	*	*	*	*	*
Y	-0.47	-2.33	<u>3.96</u>	<u>3.96</u>	*	-1.82	*	<u>-0.56</u>	*	2.29	*	<u>0.00</u>	<u>1.17</u>
Yb	*	*	<u>0.86</u>	*	*	-0.68	*	<u>0.34</u>	*	1.23	*	*	*
Zn	9.19	-1.06	<u>0.61</u>	<u>0.15</u>	*	4.86	<u>0.50</u>	<u>-1.33</u>	0.54	-1.06	*	<u>0.38</u>	<u>0.27</u>
Zr	-1.10	4.00	<u>-3.37</u>	<u>-0.93</u>	<u>1.56</u>	-6.66	<u>0.00</u>	<u>-0.34</u>	*	5.59	*	<u>0.10</u>	<u>0.72</u>

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

Table 3 - GeoPT39 Z-scores for Syenite, SyMP-1. 10/06/2016

Lab Code	U34	U35	U36	U37	U38	U39	U40	U41	U43	U44	U45	U47	U48
SiO ₂	*	-0.05	*	<u>-0.31</u>	-0.42	0.23	1.42	<u>0.56</u>	-0.72	<u>-1.21</u>	<u>1.87</u>	<u>-0.14</u>	<u>-0.58</u>
TiO ₂	0.58	0.09	*	<u>0.02</u>	0.64	0.03	<u>-3.59</u>	<u>0.62</u>	0.03	<u>-2.10</u>	<u>-2.70</u>	<u>0.29</u>	<u>-0.57</u>
Al ₂ O ₃	*	0.31	*	<u>-0.30</u>	-0.77	0.76	<u>-0.37</u>	<u>0.21</u>	1.38	<u>0.21</u>	<u>-0.67</u>	<u>-0.10</u>	<u>-0.64</u>
Fe ₂ O _{3T}	*	0.40	1.54	<u>-0.20</u>	0.84	0.14	<u>-3.46</u>	<u>0.38</u>	1.01	<u>-1.47</u>	<u>-7.22</u>	<u>0.02</u>	<u>-0.89</u>
MnO	*	0.13	1.54	<u>-0.11</u>	1.19	-0.22	<u>-2.33</u>	<u>-0.11</u>	<u>-3.74</u>	<u>-0.11</u>	<u>-3.63</u>	<u>-0.46</u>	<u>-0.22</u>
MgO	*	0.52	4.49	<u>0.35</u>	-0.30	0.15	-1.11	<u>0.80</u>	-1.29	<u>2.52</u>	<u>1.98</u>	<u>-0.03</u>	<u>0.03</u>
CaO	*	0.57	3.40	<u>-0.09</u>	0.76	0.00	-3.03	<u>0.57</u>	-1.89	<u>-3.31</u>	<u>-1.13</u>	<u>-0.05</u>	<u>0.81</u>
Na ₂ O	*	0.65	*	<u>0.48</u>	0.02	-2.19	-1.56	<u>0.32</u>	-0.30	<u>-0.31</u>	<u>-3.94</u>	<u>0.59</u>	<u>-0.30</u>
K ₂ O	*	0.04	*	<u>-0.01</u>	0.86	-0.03	2.02	<u>0.40</u>	-0.17	<u>-0.39</u>	<u>-1.35</u>	<u>0.53</u>	<u>-0.23</u>
P ₂ O ₅	*	0.16	*	<u>-0.68</u>	1.28	0.16	<u>-0.50</u>	<u>0.64</u>	0.62	<u>0.31</u>	<u>-1.01</u>	<u>-0.18</u>	<u>-1.36</u>
LOI	*	-9.32	*	<u>-0.13</u>	2.60	-7.89	0.45	<u>-1.80</u>	4.03	<u>-4.07</u>	<u>-24.69</u>	<u>-0.04</u>	<u>0.33</u>
Ag	*	*	*	*	*	*	*	<u>-1.51</u>	*	*	*	*	*
Ba	-0.61	4.06	0.92	*	-1.58	-2.49	5.21	<u>-2.65</u>	*	<u>-3.09</u>	<u>0.48</u>	<u>-0.17</u>	<u>-4.36</u>
Be	*	*	*	*	-1.10	3.73	*	<u>-0.27</u>	*	<u>-0.86</u>	<u>-0.69</u>	*	*
Bi	*	*	*	*	-0.15	*	*	<u>0.61</u>	*	<u>16.88</u>	*	*	*
Ce	0.87	-2.14	2.22	*	0.44	2.55	*	<u>-1.27</u>	*	*	11.70	*	<u>-4.04</u>
Co	0.94	-2.67	-1.05	*	-0.18	2.08	*	<u>-0.62</u>	*	<u>-0.38</u>	13.85	*	<u>-2.96</u>
Cr	3.98	-1.49	8.31	*	5.76	9.65	*	<u>-0.30</u>	*	<u>-0.30</u>	-7.91	1.19	<u>-1.93</u>
Cs	-0.04	*	0.47	*	-1.16	-1.35	*	<u>0.15</u>	*	*	*	*	*
Cu	1.78	*	-1.60	*	-1.50	-2.89	*	<u>0.78</u>	*	<u>0.22</u>	<u>-3.33</u>	*	<u>-2.55</u>
Dy	-0.99	*	-0.49	*	0.22	-0.38	*	<u>0.94</u>	*	*	<u>0.53</u>	*	<u>-1.50</u>
Er	-0.95	*	-1.06	*	-0.56	1.42	*	<u>1.42</u>	*	*	<u>-0.32</u>	*	<u>-1.41</u>
Eu	-0.83	*	-0.91	*	-0.00	0.02	*	<u>0.72</u>	*	*	<u>0.34</u>	*	<u>-1.77</u>
Ga	*	-2.16	4.65	*	2.23	-1.23	*	<u>0.08</u>	*	*	<u>1.24</u>	*	<u>-0.30</u>
Gd	-1.05	*	3.15	*	-0.72	-1.46	*	<u>1.35</u>	*	*	<u>0.39</u>	*	<u>-1.66</u>
Hf	-7.25	*	-0.16	*	-1.19	-6.23	*	<u>0.70</u>	*	*	<u>-0.19</u>	*	<u>-2.09</u>
Ho	-0.16	*	0.19	*	0.36	-0.49	*	<u>1.49</u>	*	*	<u>-0.08</u>	*	<u>-1.25</u>
In	*	*	*	*	-0.91	*	*	*	*	*	*	*	*
La	0.00	-4.37	1.99	*	-1.02	1.28	*	<u>0.32</u>	*	*	0.40	*	<u>-3.39</u>
Li	2.85	*	*	*	0.00	-0.83	*	<u>-0.87</u>	*	<u>-0.70</u>	*	*	<u>-2.32</u>
Lu	-0.18	*	0.43	*	0.08	0.38	*	<u>1.36</u>	*	*	<u>0.60</u>	*	<u>-0.99</u>
Mo	5.99	*	*	*	1.84	*	*	<u>0.90</u>	*	<u>1.44</u>	<u>1.06</u>	*	*
Nb	2.15	0.38	1.87	*	-1.14	-4.26	*	<u>0.19</u>	*	*	<u>-2.90</u>	*	<u>-1.97</u>
Nd	1.22	-0.68	1.40	*	-0.04	-1.70	*	<u>0.55</u>	*	*	<u>0.49</u>	*	<u>-2.81</u>
Ni	2.46	-8.26	-0.69	*	0.51	-1.48	*	<u>-1.85</u>	*	<u>-2.28</u>	<u>-4.38</u>	*	<u>-11.46</u>
Pb	2.48	0.98	0.21	*	-0.38	4.79	*	<u>0.61</u>	*	<u>-1.41</u>	<u>-3.72</u>	*	6.98
Pr	-0.15	*	1.25	*	-0.04	-1.76	*	<u>1.37</u>	*	*	<u>0.59</u>	*	<u>-2.88</u>
Rb	1.14	2.02	0.42	*	-1.02	-0.45	*	<u>2.69</u>	*	*	<u>-2.11</u>	*	<u>-0.50</u>
Sb	0.32	*	*	*	-0.28	*	*	*	*	*	*	*	*
Sc	0.66	0.30	-0.22	*	0.58	-4.51	*	<u>-0.21</u>	*	*	<u>2.55</u>	*	3.87
Sm	-0.35	*	1.00	*	0.39	-1.14	*	<u>0.79</u>	*	*	<u>0.30</u>	*	<u>-1.64</u>
Sn	23.80	*	*	*	3.62	*	*	<u>1.16</u>	*	*	<u>-2.57</u>	*	*
Sr	1.70	1.05	-0.16	*	0.90	-1.62	4.46	<u>-2.41</u>	*	<u>1.40</u>	<u>-2.26</u>	<u>-0.83</u>	<u>-1.71</u>
Ta	4.76	*	0.15	*	1.17	-5.23	*	<u>0.28</u>	*	*	<u>-0.42</u>	*	<u>-2.07</u>
Tb	-1.18	*	2.06	*	-1.14	-0.78	*	<u>1.40</u>	*	*	<u>0.71</u>	*	<u>-2.55</u>
Th	1.21	-1.91	1.57	*	0.36	*	*	<u>1.44</u>	*	*	<u>-11.25</u>	*	<u>-1.89</u>
Tl	5.39	*	*	*	*	<u>-0.28</u>	*	<u>0.12</u>	*	*	*	*	*
Tm	*	*	0.11	*	-0.83	<u>-0.43</u>	*	<u>1.21</u>	*	*	<u>0.30</u>	*	<u>-1.19</u>
U	0.85	5.32	-0.72	*	0.58	1.55	*	<u>-0.34</u>	*	*	<u>0.47</u>	*	<u>-1.15</u>
V	-0.08	4.36	-1.07	*	-1.66	7.44	*	<u>-0.04</u>	*	<u>-1.49</u>	<u>-1.67</u>	<u>-0.73</u>	<u>-2.29</u>
W	*	*	*	*	1.52	*	*	<u>-2.28</u>	*	*	<u>-0.28</u>	*	*
Y	4.24	0.93	1.24	*	0.48	0.47	*	<u>0.56</u>	*	<u>-3.96</u>	<u>-1.17</u>	*	<u>-1.31</u>
Yb	-0.53	*	0.33	*	-0.15	0.02	*	<u>1.52</u>	*	*	<u>0.39</u>	*	<u>-1.75</u>
Zn	0.76	1.22	-3.95	*	2.73	-0.83	*	<u>0.50</u>	*	<u>-3.60</u>	<u>1.41</u>	<u>1.63</u>	<u>-0.49</u>
Zr	-10.81	0.88	1.63	*	1.10	1.90	*	<u>0.70</u>	*	*	<u>-2.42</u>	<u>1.43</u>	<u>-1.99</u>

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

Table 3 - GeoPT39 Z-scores for Syenite, SyMP-1. 10/06/2016

Lab Code	U49	U50	U51	U52	U53	U54	U55	U56	U57	U58	U59	U60	U61
SiO ₂	0.46	0.10	-0.87	-0.01	-0.26	-0.28	-0.82	0.94	0.41	*	*	-0.53	*
TiO ₂	1.23	0.64	0.64	<u>0.11</u>	-9.64	-1.42	-2.81	-0.57	1.20	*	*	-0.59	*
Al ₂ O ₃	-0.97	-0.26	0.36	<u>0.25</u>	1.04	-0.17	-1.96	-0.20	0.58	*	*	-0.72	*
Fe ₂ O _{3T}	<u>1.14</u>	0.93	-0.04	<u>0.08</u>	1.05	-0.06	-0.66	-0.22	-2.70	*	*	-0.15	*
MnO	<u>2.53</u>	-3.74	-0.22	-0.60	1.54	<u>0.12</u>	-0.93	-0.22	-2.10	*	*	-0.11	*
MgO	<u>0.66</u>	-1.65	-0.39	-0.95	-1.47	-0.23	-0.10	1.06	-0.54	*	*	-0.47	*
CaO	<u>1.99</u>	0.38	-1.89	<u>0.43</u>	2.65	<u>0.18</u>	-3.76	1.13	-1.80	*	*	0.19	*
Na ₂ O	<u>0.40</u>	0.96	1.59	<u>1.52</u>	-0.30	<u>0.01</u>	-1.91	-1.25	-1.57	*	*	-0.78	*
K ₂ O	<u>1.73</u>	0.86	-0.71	<u>0.22</u>	0.18	-0.18	-0.37	0.11	-0.29	*	*	-0.15	*
P ₂ O ₅	<u>1.80</u>	19.12	-1.36	<u>0.74</u>	-0.57	<u>0.42</u>	-1.03	-1.36	-0.89	*	*	-1.01	*
LOI	-1.56	<u>0.82</u>	0.45	-2.28	3.79	-4.73	1.41	2.84	10.12	1.78	*	-1.68	*
Ag	57.18	*	*	*	*	*	*	*	-0.04	*	*	*	*
Ba	<u>1.21</u>	*	2.30	-0.44	<u>3.55</u>	<u>0.32</u>	-6.54	0.24	-1.72	-7.14	1.57	1.00	2.50
Be	*	*	*	*	*	<u>0.08</u>	*	*	1.21	-2.23	*	*	-1.54
Bi	<u>0.08</u>	*	*	*	*	-0.15	*	*	-0.77	*	*	*	*
Ce	<u>0.67</u>	*	-2.82	-1.58	*	-0.74	-6.30	*	-2.36	-3.98	-0.50	-2.18	-0.40
Co	-0.05	*	-2.67	*	*	<u>0.05</u>	-8.36	-4.56	-1.67	-2.94	-1.43	*	*
Cr	-1.08	*	-4.87	<u>-3.44</u>	*	<u>1.01</u>	-0.50	1.39	-1.01	-2.12	*	<u>0.65</u>	*
Cs	16.71	*	5.05	*	*	-0.01	*	*	-0.79	*	0.80	*	-0.22
Cu	-0.49	*	-2.00	<u>3.74</u>	*	0.66	-0.44	4.22	-1.51	1.08	-0.02	0.00	-3.31
Dy	*	*	*	*	*	-0.19	*	*	-1.61	0.37	*	*	0.07
Er	*	*	*	*	*	-0.37	*	*	-1.39	0.88	*	*	-0.46
Eu	*	*	*	*	*	<u>-0.52</u>	*	*	-1.15	4.70	*	*	<u>0.66</u>
Ga	-0.66	*	-3.09	*	*	<u>0.01</u>	-3.09	-4.02	3.30	<u>0.00</u>	-1.59	-0.15	*
Gd	*	*	*	*	*	-0.72	-7.48	*	0.00	4.43	*	*	-0.97
Hf	<u>0.57</u>	*	-2.33	*	*	-0.19	-4.03	-5.72	-2.82	2.83	*	*	-0.64
Ho	*	*	*	*	*	-0.30	*	*	-0.98	<u>0.53</u>	*	*	-0.53
In	*	*	*	*	*	<u>-0.31</u>	*	*	1.27	*	*	*	*
La	-0.14	*	1.80	-1.72	*	-0.87	-3.47	*	-1.59	-0.47	1.98	1.16	-0.26
Li	*	*	*	*	*	-0.19	*	*	-2.01	*	*	*	-1.32
Lu	*	*	*	*	*	-0.15	*	*	-0.63	-1.20	*	*	0.30
Mo	-2.17	*	-5.99	*	*	<u>1.39</u>	1.62	*	-0.72	-2.16	-1.45	*	*
Nb	-0.62	*	-0.39	<u>-0.74</u>	*	<u>0.53</u>	-8.12	-5.03	-0.28	13.34	0.33	-0.20	-5.11
Nd	-0.96	*	-3.60	<u>-6.16</u>	*	-0.31	-2.59	*	-0.62	-0.59	*	*	0.12
Ni	-4.66	*	-10.35	<u>-4.53</u>	*	-0.00	0.12	-1.97	-0.82	-3.53	*	-4.01	*
Pb	-0.96	*	-0.40	<u>-0.76</u>	*	<u>0.29</u>	-5.02	-4.21	-0.32	-3.33	0.80	0.49	1.17
Pr	*	*	*	<u>-4.31</u>	*	-0.31	*	*	-1.15	1.13	*	*	-0.63
Rb	-0.35	*	0.73	<u>0.67</u>	*	<u>0.33</u>	0.94	-0.45	-2.33	-4.28	0.22	<u>0.75</u>	-0.56
Sb	<u>80.83</u>	*	393.58	*	*	<u>0.54</u>	*	*	-1.71	*	*	*	*
Sc	-0.81	*	5.11	<u>11.57</u>	*	<u>0.15</u>	-0.90	-0.90	1.71	*	0.75	1.35	7.15
Sm	-0.47	*	-8.37	*	*	-0.28	*	*	-2.22	1.13	*	*	-0.78
Sn	<u>3.20</u>	*	28.15	*	*	<u>1.14</u>	*	*	-1.62	-3.48	*	*	*
Sr	-0.55	*	-0.00	<u>0.06</u>	2.23	-0.00	-4.73	0.43	-1.17	-15.21	-0.31	<u>0.24</u>	0.74
Ta	*	*	*	*	*	-0.09	*	*	-0.41	*	*	*	-3.92
Tb	*	*	*	*	*	-0.96	*	*	-0.99	<u>0.97</u>	*	*	0.39
Th	-0.95	*	-0.04	<u>0.24</u>	*	*	1.00	-1.49	-1.02	1.13	-0.18	0.50	4.54
Tl	*	*	*	*	*	<u>0.18</u>	*	*	-0.25	*	*	*	*
Tm	*	*	*	*	*	-0.26	*	*	-0.39	0.00	*	*	-0.55
U	<u>0.63</u>	*	1.69	<u>1.19</u>	*	<u>0.32</u>	-7.26	5.32	-0.69	1.94	-3.42	-0.83	-0.13
V	<u>-0.83</u>	*	2.99	*	*	<u>0.08</u>	3.85	1.80	-1.73	-2.40	<u>0.20</u>	<u>0.47</u>	*
W	-0.66	*	64.66	*	*	<u>-0.33</u>	*	*	-1.70	*	*	*	*
Y	-0.79	*	0.00	<u>0.49</u>	*	-0.21	4.66	-0.93	-0.64	-1.19	-0.81	<u>0.47</u>	-0.14
Yb	*	*	*	*	*	-0.35	*	*	-1.34	<u>0.39</u>	*	*	-0.68
Zn	-0.15	*	-0.38	<u>0.78</u>	*	<u>0.38</u>	-1.06	-1.74	-2.02	-3.34	0.73	0.04	*
Zr	-0.58	*	2.21	<u>0.34</u>	*	<u>1.55</u>	-3.43	3.16	-1.15	*	<u>0.31</u>	-0.48	5.40

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

Table 3 - GeoPT39 Z-scores for Syenite, SyMP-1. 10/06/2016

Lab Code	U62	U63	U64	U65	U67	U69	U72	U74	U75	U76	U77	U78	U79
SiO ₂	0.01	-1.30	0.01	1.06	*	-0.56	-0.92	3.20	-0.90	-0.01	-0.66	-0.20	-0.22
TiO ₂	0.29	-0.57	0.32	-6.62	*	0.50	1.64	-10.25	9.71	-0.29	-5.65	-0.59	*
Al ₂ O ₃	-0.07	-1.39	-0.13	-6.38	0.04	-2.51	3.82	2.12	-1.96	-0.53	-1.73	-0.36	*
Fe ₂ O _{3T}	-0.15	-0.30	0.07	-2.32	0.51	-0.50	1.96	-3.29	-1.18	-0.68	1.58	-0.24	*
MnO	-0.29	-0.22	-0.11	-0.22	0.94	-0.74	0.48	-3.74	-0.22	-0.11	1.54	*	*
MgO	-0.74	-0.75	0.17	35.77	0.89	3.87	2.05	-0.03	-0.93	-1.10	-2.25	0.80	*
CaO	0.19	-0.38	0.47	12.11	0.09	6.24	3.97	3.22	-0.76	0.00	-0.04	-0.09	*
Na ₂ O	-0.47	-3.77	0.01	-6.61	-0.15	-2.99	2.73	-1.56	-0.62	2.06	-0.84	0.48	*
K ₂ O	-0.32	-0.51	0.05	-4.75	1.35	-0.01	0.51	-1.74	-1.33	-0.01	-0.64	-0.19	*
P ₂ O ₅	-0.32	-0.70	0.64	-2.02	*	3.48	2.82	-2.02	-1.36	0.08	0.23	-0.35	*
LOI	*	1.17	1.89	1.64	*	3.71	*	-8.61	0.23	-3.83	3.31	-0.97	0.11
Ag	*	3.89	*	-0.26	*	*	*	*	*	4.24	*	-0.13	*
Ba	*	0.02	1.06	7.97	0.00	0.04	-1.57	1.26	0.75	-1.82	6.67	3.21	*
Be	*	0.91	-1.22	-1.72	*	*	*	0.46	*	-0.77	3.55	0.09	*
Bi	*	*	-0.69	*	0.61	*	*	*	*	8.78	*	-0.08	*
Ce	*	1.14	0.00	-6.10	0.44	*	*	2.01	-1.62	0.70	1.21	1.07	*
Co	*	0.37	-0.19	-1.72	0.14	1.46	*	0.27	-6.37	0.09	3.03	0.85	*
Cr	*	4.28	0.15	2.59	*	-4.22	*	1.19	-2.77	0.00	6.79	0.15	*
Cs	*	*	0.39	-0.20	-0.35	*	*	1.11	*	-0.95	4.77	0.27	*
Cu	*	0.22	0.62	-2.44	-0.44	3.86	*	1.11	1.80	1.89	2.45	1.22	-0.78
Dy	*	0.67	0.59	-0.69	-0.34	*	*	1.43	*	0.03	1.02	1.09	*
Er	*	0.70	-0.00	-2.52	-0.79	*	*	2.06	*	0.09	0.25	0.92	*
Eu	*	0.35	0.17	-1.65	-0.34	*	*	4.38	*	0.88	-0.91	0.18	*
Ga	*	-0.10	-0.61	242.25	1.24	*	*	2.40	-4.48	1.71	1.13	0.83	*
Gd	*	2.24	-0.18	-0.97	0.01	*	*	6.53	*	1.81	0.45	0.74	*
Hf	*	-0.36	1.38	-14.03	*	*	*	5.56	-11.32	-6.90	-7.84	0.74	*
Ho	*	0.46	0.96	-0.77	-0.19	*	*	0.84	*	0.61	0.84	0.57	*
In	*	*	*	*	*	*	*	*	*	-0.46	*	0.34	*
La	*	0.90	0.45	-6.29	0.00	*	*	1.54	-1.80	1.99	1.36	1.99	*
Li	*	-3.34	0.35	*	-0.07	0.55	*	1.32	*	1.04	9.11	0.63	*
Lu	*	0.17	0.47	-2.12	-0.42	*	*	0.94	*	1.87	-0.84	0.34	*
Mo	*	0.98	1.44	1.11	0.49	*	*	-2.57	-3.52	-0.71	11.66	1.09	*
Nb	*	-0.08	0.96	-4.10	-4.06	*	*	5.17	0.38	-0.16	3.92	1.12	*
Nd	*	1.73	0.36	-4.74	0.04	*	*	4.90	-2.43	*	0.61	1.24	*
Ni	*	-0.00	-0.06	-3.57	0.12	0.20	*	1.23	-9.40	-1.91	5.41	1.11	*
Pb	*	0.09	0.27	-9.29	1.64	3.32	*	3.63	-1.47	-3.14	-4.79	1.36	*
Pr	*	1.09	0.81	-3.93	0.14	*	*	3.22	*	0.08	1.05	0.47	*
Rb	*	-0.51	0.01	-1.64	-2.13	*	*	1.61	-0.33	-0.41	2.75	1.50	*
Sb	*	0.82	0.16	6.87	-0.09	*	*	*	*	21.33	*	*	*
Sc	*	0.93	-0.45	1.62	*	*	*	0.66	2.82	-0.03	2.25	-0.15	*
Sm	*	1.05	0.41	-1.16	0.12	*	*	4.28	-5.84	0.04	0.61	0.82	*
Sn	*	-0.06	0.23	-0.92	-0.56	*	*	*	6.99	-2.54	*	-0.26	*
Sr	*	-0.66	0.19	1.49	0.06	1.31	1.58	1.05	-1.56	2.01	3.22	1.55	*
Ta	*	-0.98	-0.51	-13.07	*	*	*	4.20	13.91	-2.47	1.68	*	*
Tb	*	0.00	0.07	-2.01	-0.51	*	*	2.79	*	1.15	-0.39	0.22	*
Th	*	6.41	1.33	-1.91	*	*	*	4.75	-1.08	1.54	-0.45	0.92	*
Tl	*	1.92	0.79	-4.42	1.22	*	*	*	*	-1.78	*	0.68	*
Tm	*	0.59	0.18	-1.46	-0.73	*	*	0.82	*	1.21	*	0.07	*
U	*	3.08	0.84	-0.55	-0.14	*	*	3.36	-0.83	-0.69	0.67	1.26	*
V	*	0.73	-0.38	2.82	-0.64	-8.48	*	0.09	2.96	0.56	3.44	0.73	*
W	*	0.87	1.82	*	-3.52	*	*	*	-5.90	-3.71	*	*	*
Y	*	-1.00	0.54	27.52	*	*	*	1.91	1.45	0.33	6.10	0.72	*
Yb	*	0.63	0.56	-3.68	-0.34	*	*	0.98	*	0.91	0.28	0.81	*
Zn	*	-0.83	-1.18	-2.20	-0.07	-2.03	*	-1.51	-3.29	3.23	2.20	0.50	-6.45
Zr	*	-1.22	3.16	-4.99	*	-1.28	2.30	5.59	-0.44	-13.15	-11.46	2.82	*

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

Table 3 - GeoPT39 Z-scores for Syenite, SyMP-1. 10/06/2016

Lab Code	U82	U83	U84	U85	U86	U87	U88	U92	U93	U94	U95	U96	U97
SiO ₂	<u>0.12</u>	-0.00	0.44	*	-0.28	-0.06	0.44	*	-0.32	0.01	2.38	0.32	-0.36
TiO ₂	-2.10	-0.81	-1.49	*	0.32	0.32	-0.29	-1.94	-0.57	0.35	-2.99	0.32	-3.61
Al ₂ O ₃	-0.27	0.25	0.12	*	-0.05	-0.53	1.31	-1.21	-0.50	0.07	-1.73	-0.67	-0.07
Fe ₂ O _{3T}	<u>-0.90</u>	-0.15	-1.95	*	0.16	-0.24	-1.29	2.21	6.72	0.55	0.57	1.21	-2.48
MnO	-1.87	0.83	-1.87	*	*	-0.11	-2.40	1.15	3.30	0.94	-0.22	-0.46	-1.87
MgO	0.17	0.77	-0.47	*	0.26	-0.56	0.35	3.97	1.06	0.44	-0.39	-0.38	-0.65
CaO	-0.95	0.36	-1.61	*	0.00	0.19	1.04	-1.17	-0.74	0.79	-3.59	4.35	-1.04
Na ₂ O	1.43	-0.02	-1.41	*	-1.10	-0.15	0.17	0.96	-0.77	-1.10	-6.61	-0.94	-1.73
K ₂ O	-1.04	0.01	-0.01	*	-0.90	0.94	-1.52	-1.13	0.42	-1.38	6.47	-2.03	-0.39
P ₂ O ₅	<u>-0.35</u>	1.48	0.74	*	0.31	-0.02	2.29	*	9.87	0.01	1.28	0.31	-0.68
LOI	<u>0.35</u>	0.55	<u>0.35</u>	*	-0.25	-0.85	1.66	*	0.31	-1.32	-12.42	-4.66	-1.44
Ag	*	*	*	*	*	*	*	*	*	144.64	*	*	*
Ba	-0.10	-0.30	*	-7.69	*	1.00	-0.83	-0.78	*	0.72	2.44	7.30	-2.08
Be	0.77	1.21	*	*	*	*	0.23	*	*	*	*	0.96	*
Bi	*	-2.19	*	*	*	*	*	*	*	*	*	*	*
Ce	<u>0.03</u>	-2.55	*	2.65	*	*	-1.04	1.94	*	-0.27	0.27	0.64	-2.55
Co	<u>-0.10</u>	-3.44	*	*	*	<u>1.51</u>	-0.24	0.65	*	-0.72	-2.67	0.14	-1.81
Cr	<u>0.35</u>	-2.57	*	*	*	<u>-0.90</u>	-0.70	3.28	*	1.29	1.09	0.70	*
Cs	-0.67	-1.52	*	0.72	*	*	*	0.46	*	-3.23	*	0.56	*
Cu	<u>0.00</u>	0.93	*	*	*	-1.00	-0.22	*	-2.00	1.78	-0.22	0.56	-7.11
Dy	<u>0.49</u>	-0.82	*	0.22	*	*	-0.81	2.63	*	*	-1.29	0.03	*
Er	<u>0.39</u>	-0.84	*	1.64	*	*	-0.19	*	*	*	0.29	-0.32	*
Eu	<u>0.05</u>	-0.36	*	2.55	*	*	-0.80	-0.15	*	*	-0.48	-0.17	*
Ga	<u>1.99</u>	-2.21	*	2.87	*	<u>1.24</u>	*	*	8.06	<u>0.08</u>	-0.30	-0.71	-2.94
Gd	<u>0.97</u>	-0.95	*	2.07	*	*	-0.37	*	*	*	-1.36	1.12	*
Hf	<u>0.19</u>	0.40	*	1.48	*	*	-0.21	0.89	*	<u>0.45</u>	*	-0.49	*
Ho	<u>0.19</u>	-0.10	*	0.92	*	*	-0.46	*	*	*	0.92	-0.19	*
In	*	*	*	*	*	*	*	*	*	*	*	*	*
La	-0.19	-3.15	*	1.29	*	*	-1.03	0.51	*	-0.06	1.28	0.06	-6.04
Li	1.18	-2.48	*	*	*	*	-0.10	*	*	*	-1.39	0.70	*
Lu	<u>0.21</u>	0.56	*	0.94	*	*	-0.51	-3.90	*	*	-0.84	0.09	*
Mo	*	-0.44	*	*	*	*	<u>0.21</u>	*	0.98	<u>0.27</u>	-0.29	1.13	*
Nb	<u>1.50</u>	-0.76	*	0.51	*	*	<u>0.77</u>	*	0.38	<u>0.77</u>	132.45	-4.83	1.35
Nd	<u>0.67</u>	-1.42	*	1.62	*	*	-0.91	-0.18	*	<u>1.24</u>	-1.44	0.55	*
Ni	-0.06	*	*	*	*	<u>-1.11</u>	<u>0.12</u>	*	-9.98	<u>0.31</u>	-0.62	*	-1.79
Pb	<u>1.18</u>	-9.29	*	*	*	<u>-0.14</u>	-0.61	*	3.87	<u>0.78</u>	*	-0.49	-1.76
Pr	<u>0.18</u>	-1.30	*	1.38	*	*	-0.86	*	*	*	-2.92	0.14	*
Rb	<u>-0.23</u>	1.94	*	0.44	*	*	-0.51	0.22	1.09	-1.13	-3.75	0.47	0.06
Sb	*	-1.20	*	*	*	*	*	*	*	<u>15.28</u>	*	*	*
Sc	<u>0.57</u>	0.31	*	-12.92	*	<u>-1.05</u>	-0.44	-0.35	*	*	-3.31	0.33	*
Sm	<u>0.15</u>	-0.66	*	1.68	*	*	<u>-0.72</u>	0.62	*	1.36	2.93	0.52	*
Sn	*	-2.50	*	-0.25	*	*	*	*	*	*	-1.75	*	0.13
Sr	<u>0.35</u>	0.59	*	3.91	*	<u>-0.70</u>	<u>0.50</u>	3.15	-0.44	<u>-0.07</u>	-2.32	1.03	-0.75
Ta	<u>0.37</u>	0.99	*	2.61	*	*	-0.98	0.00	*	*	*	*	*
Tb	<u>0.00</u>	-1.19	*	3.28	*	*	-0.69	-1.13	*	*	-0.25	0.25	*
Th	<u>0.29</u>	-0.54	*	2.97	*	*	<u>-0.85</u>	2.56	3.50	<u>1.54</u>	-2.32	1.13	*
Tl	*	-1.46	*	*	*	*	*	*	*	*	*	-0.15	*
Tm	<u>0.18</u>	-0.04	*	0.59	*	*	<u>-0.57</u>	*	*	*	0.14	-0.39	*
U	<u>0.42</u>	0.25	*	2.50	*	*	<u>-0.76</u>	0.15	1.13	<u>2.66</u>	-3.06	0.70	*
V	<u>-0.04</u>	-1.43	*	*	*	<u>-0.55</u>	<u>0.04</u>	1.11	*	<u>0.39</u>	-1.28	1.16	-2.95
W	*	-2.20	*	-2.62	*	*	*	5.16	22.71	*	*	2.20	*
Y	0.77	1.04	*	-0.13	*	*	-0.30	*	14.93	<u>1.05</u>	-2.80	-0.35	7.23
Yb	<u>0.29</u>	-0.02	*	0.68	*	*	-0.61	0.33	*	*	-0.18	-0.44	*
Zn	-0.76	1.32	*	*	*	<u>-1.33</u>	<u>0.15</u>	-0.83	0.08	<u>-0.07</u>	0.08	-1.90	0.50
Zr	<u>1.26</u>	-0.91	*	4.69	*	<u>1.88</u>	<u>1.60</u>	3.16	<u>-0.49</u>	<u>2.07</u>	-2.59	-1.08	-3.96

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

Table 3 - GeoPT39 Z-scores for Syenite, SyMP-1. 10/06/2016

Lab Code	U98	U99	U100	U101	U102	U103	U105	U106	U108	U109	U110	U111	U112
SiO ₂	-4.71	0.05	-21.77	-0.03	1.77	-0.64	0.07	*	-1.50	0.07	0.23	2.88	1.31
TiO ₂	-3.79	0.03	109.47	0.59	-0.89	-0.59	0.02	0.62	-12.98	-0.29	-0.21	0.02	1.00
Al ₂ O ₃	2.33	0.14	11.51	0.83	-0.72	5.39	-0.13	1.74	25.24	5.42	0.53	-0.19	1.72
Fe ₂ O _{3T}	-1.82	-0.30	-23.93	1.03	-3.71	-0.68	0.42	3.62	-21.39	0.20	0.31	0.68	-0.48
MnO	170.46	0.48	56.16	0.24	1.65	-0.11	1.65	1.65	8.68	-0.11	0.83	-1.87	-0.20
MgO	26.56	1.06	-17.91	0.75	1.79	-0.65	-0.10	3.15	-27.13	2.25	-0.57	-0.56	0.89
CaO	-0.85	-0.19	-1.61	0.61	-0.09	-1.32	0.38	2.08	-6.43	-2.46	0.76	-0.57	0.63
Na ₂ O	*	1.28	*	0.62	0.95	-4.57	0.48	2.06	80.14	-4.72	0.33	3.48	3.80
K ₂ O	-4.36	2.30	34.17	0.39	0.52	0.43	-0.22	3.40	-5.62	*	0.24	-0.32	-1.19
P ₂ O ₅	6.03	-0.04	10.22	0.91	0.97	-0.68	0.41	*	-21.82	*	0.36	0.64	-0.90
LOI	*	-10.52	*	-1.75	-4.42	0.11	-4.19	*	8.69	-4.78	-7.42	*	-9.91
Ag	*	*	153.62	*	*	*	0.10	*	*	*	*	*	-0.13
Ba	2.52	-8.38	-20.96	1.46	-1.17	3.57	0.63	0.23	-21.19	*	-0.31	*	-0.27
Be	*	*	*	*	-1.49	-5.30	-0.41	*	-6.45	*	*	*	1.20
Bi	*	*	*	*	0.00	*	-0.23	*	*	*	*	*	*
Ce	1.27	-9.85	*	*	0.41	*	0.57	-3.12	-5.95	*	1.23	*	6.24
Co	247.69	-13.86	*	*	-4.18	*	0.33	-0.95	-8.88	*	*	*	-1.33
Cr	10.00	-8.35	2.74	*	-3.38	-1.50	1.39	0.00	-12.46	*	1.99	*	1.22
Cs	*	*	36.25	*	0.09	*	0.15	-0.94	0.57	*	-0.05	*	-0.76
Cu	2.78	1.09	0.56	*	-2.22	-3.00	0.33	-0.89	-12.08	*	0.89	*	-1.67
Dy	*	*	*	*	-0.25	-0.87	0.11	-1.40	-6.00	*	1.62	*	1.52
Er	*	*	*	*	1.53	-0.47	-0.04	-1.60	-3.80	*	0.25	*	1.50
Eu	*	*	*	*	1.46	-0.34	0.05	-1.49	-6.26	*	0.92	*	1.03
Ga	1.66	-0.95	*	*	-1.08	*	0.78	*	-0.66	*	-1.23	*	1.49
Gd	5.95	*	*	*	0.43	1.07	-0.26	-0.72	-7.00	*	0.42	*	1.47
Hf	*	*	*	*	1.10	*	0.11	*	-6.04	*	0.42	*	2.81
Ho	*	*	*	*	-0.27	-0.88	0.08	-1.23	-3.75	*	1.45	*	1.30
In	*	*	*	*	0.75	*	-0.06	*	*	*	*	*	*
La	-0.06	-5.09	*	*	1.32	-0.49	0.51	-1.67	-3.73	*	0.96	*	5.26
Li	*	*	*	*	*	-3.48	0.00	0.49	*	*	*	*	-0.70
Lu	*	*	*	*	-0.29	-0.80	-0.42	-1.69	-1.69	*	0.17	*	0.98
Mo	*	-4.41	*	*	-0.44	-7.12	0.14	*	-9.43	*	*	*	3.23
Nb	-2.24	0.76	-9.85	*	-0.97	2.51	1.15	*	6.10	*	0.86	*	2.79
Nd	4.54	*	*	*	0.93	-0.77	1.12	-1.10	-8.60	*	0.89	*	3.99
Ni	-6.29	-11.88	1.42	*	-4.93	-0.37	-0.31	-1.66	-14.16	*	1.11	*	-3.08
Pb	0.49	-0.61	-13.77	*	-0.49	-1.07	1.04	-2.86	-10.26	*	1.76	*	0.91
Pr	6.95	*	*	*	0.12	-0.23	0.49	-0.86	-6.10	*	1.11	*	3.12
Rb	0.57	0.34	1.04	*	-0.30	*	0.78	0.34	-11.84	-1.59	0.34	*	0.47
Sb	*	*	759.95	*	-3.12	*	-0.60	*	*	*	*	*	-0.60
Sc	*	-4.03	*	*	-0.45	-1.94	-0.21	*	-9.29	*	-0.30	*	-2.25
Sm	-4.91	*	*	*	0.05	-0.74	0.79	*	-7.55	*	1.29	*	3.22
Sn	*	*	2.92	*	-0.41	6.17	0.23	*	-7.91	*	*	*	0.87
Sr	0.13	-0.51	-16.87	*	0.41	-6.59	0.81	0.66	12.68	-1.27	0.70	*	-0.50
Ta	*	*	*	*	4.34	*	-0.28	*	1.68	*	0.00	*	0.84
Tb	*	*	*	*	0.59	*	-0.27	-1.59	*	*	0.39	*	0.56
Th	-1.89	0.71	-5.84	*	0.50	1.64	0.90	-1.89	-6.56	*	1.95	*	-4.49
TI	*	*	12966.62	*	1.24	*	0.79	*	-5.20	*	*	*	-4.88
Tm	*	*	*	*	-0.05	-1.18	0.07	-1.52	*	*	0.36	*	1.21
U	-1.46	-1.39	-7.81	*	-1.41	*	0.84	-2.38	-0.55	*	0.93	*	2.01
V	*	-7.09	139.77	*	2.86	-4.40	-0.90	-1.67	-10.88	*	0.26	*	0.30
W	*	*	223.01	*	-3.63	49.49	1.82	*	2.01	*	*	*	-0.18
Y	1.61	0.00	-4.20	*	-0.70	0.37	0.21	-0.91	-5.22	*	1.21	*	-1.40
Yb	*	*	*	*	-0.09	-1.16	0.41	-1.97	-2.09	*	0.28	*	1.29
Zn	0.95	-0.79	1.82	*	0.95	-7.47	-0.53	0.04	4.92	*	-0.15	*	0.61
Zr	1.14	-0.27	-0.06	6.96	0.46	*	3.22	*	-6.58	-0.32	3.16	*	-1.58

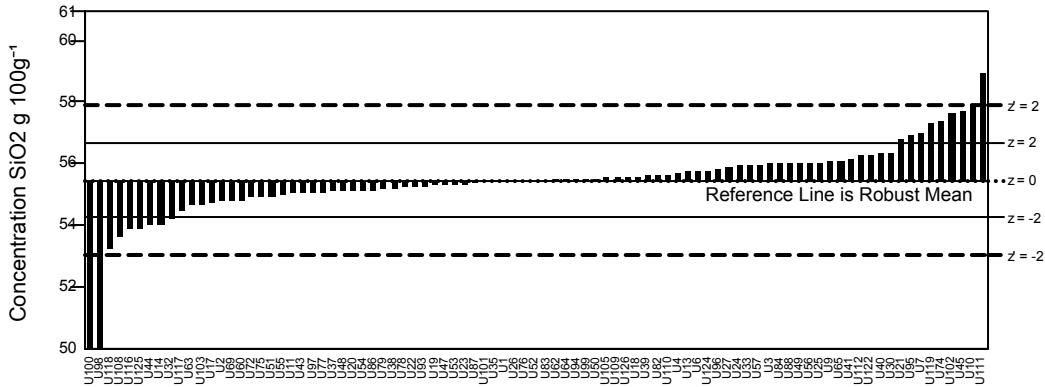
Bold entries are Data Quality 1 - Underlined entries are Data Quality 2 - Entries in italics are derived from Provisional Values.

Table 3 - GeoPT39 Z-scores for Syenite, SyMP-1. 10/06/2016

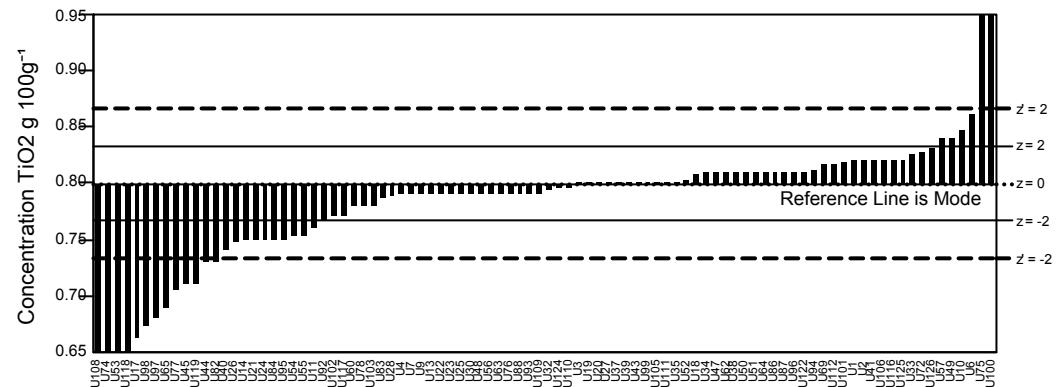
Lab Code	U116	U117	U118	U119	U120	U122	U123	U124	U125	U126
SiO ₂	-1.31	<u>-0.83</u>	<u>-1.83</u>	3.05	*	1.32	*	0.26	-2.62	<u>0.07</u>
TiO ₂	<u>0.62</u>	<u>-0.89</u>	<u>-4.82</u>	-5.41	*	0.64	*	-0.13	1.24	<u>0.95</u>
Al ₂ O ₃	<u>1.63</u>	<u>-0.64</u>	<u>-3.07</u>	3.87	*	0.36	*	<u>1.03</u>	-3.04	<u>0.04</u>
Fe ₂ O _{3T}	<u>3.89</u>	<u>-0.72</u>	<u>-0.77</u>	-16.45	*	-0.48	*	-0.06	-0.39	<u>0.11</u>
MnO	<u>5.16</u>	<u>-1.34</u>	<u>-1.87</u>	-4.79	*	3.30	*	<u>6.92</u>	-0.22	<u>0.07</u>
MgO	<u>22.86</u>	<u>-0.65</u>	<u>13.73</u>	-14.49	*	0.52	*	-0.83	-3.10	<u>-0.38</u>
CaO	<u>3.22</u>	<u>-0.85</u>	<u>-2.93</u>	-5.11	*	0.95	*	-0.19	-0.19	<u>-0.28</u>
Na ₂ O	<u>-7.56</u>	<u>1.74</u>	<u>-6.14</u>	0.33	*	1.28	*	-4.57	1.28	<u>0.01</u>
K ₂ O	<u>5.42</u>	<u>-0.01</u>	<u>-6.20</u>	0.11	*	1.00	*	-1.62	-0.03	<u>-0.01</u>
P ₂ O ₅	<u>13.19</u>	<u>-0.68</u>	<u>-2.99</u>	-1.36	*	-0.04	*	<u>0.01</u>	-3.34	<u>-0.08</u>
LOI	<u>-1.20</u>	<u>1.18</u>	<u>-4.42</u>	<u>1.41</u>	*	<u>1.98</u>	*	<u>0.11</u>	*	<u>-3.95</u>
Ag	*	<u>146.25</u>	*	*	*	<u>16.31</u>	*	*	*	*
Ba	*	<u>2.95</u>	*	<u>0.00</u>	*	1.20	*	*	<u>0.63</u>	<u>-1.48</u>
Be	*	*	*	<u>6.45</u>	*	-0.61	*	*	*	<u>-0.45</u>
Bi	*	<u>4.66</u>	*	3.21	*	-1.22	*	*	*	*
Ce	*	<u>1.18</u>	*	-0.07	<u>0.54</u>	1.78	<u>-7.43</u>	<u>0.50</u>	-0.80	<u>-0.67</u>
Co	*	<u>-2.28</u>	*	<u>0.18</u>	*	0.22	*	<u>-2.76</u>	<u>-0.77</u>	<u>-1.33</u>
Cr	*	<u>-1.38</u>	*	<u>4.38</u>	*	2.99	*	<u>1.29</u>	-22.97	<u>-1.99</u>
Cs	*	<u>0.31</u>	*	-0.36	<u>0.23</u>	0.19	*	<u>0.06</u>	1.77	<u>-0.35</u>
Cu	*	<u>-0.79</u>	*	0.22	*	-0.82	*	<u>0.67</u>	-0.67	<u>0.44</u>
Dy	*	*	*	-1.14	<u>0.11</u>	0.72	<u>-0.82</u>	<u>-0.16</u>	*	<u>-4.57</u>
Er	*	*	*	<u>-1.51</u>	<u>-0.04</u>	0.03	<u>-2.71</u>	*	*	<u>-1.60</u>
Eu	*	*	*	<u>-1.22</u>	<u>-0.24</u>	0.26	<u>-0.79</u>	*	*	<u>-0.49</u>
Ga	*	<u>-0.94</u>	*	<u>3.14</u>	<u>10.17</u>	<u>-0.19</u>	*	<u>-1.08</u>	<u>1.56</u>	<u>-1.68</u>
Gd	*	*	*	<u>-3.12</u>	<u>-1.29</u>	0.09	<u>0.41</u>	*	*	<u>-1.71</u>
Hf	*	<u>-0.74</u>	*	*	*	2.28	*	<u>-5.24</u>	*	<u>-1.12</u>
Ho	*	*	*	<u>-0.61</u>	<u>0.46</u>	<u>0.23</u>	<u>-1.46</u>	<u>0.04</u>	*	<u>-0.84</u>
In	*	*	*	*	*	*	*	*	*	*
La	*	<u>0.91</u>	*	-0.39	<u>0.06</u>	1.49	<u>-4.12</u>	<u>0.26</u>	<u>-9.51</u>	<u>-0.71</u>
Li	*	*	*	0.07	*	*	*	<u>-0.54</u>	*	*
Lu	*	*	*	-0.33	<u>0.85</u>	0.68	<u>-1.61</u>	*	*	<u>-0.54</u>
Mo	*	<u>-2.17</u>	*	<u>-1.68</u>	*	2.21	*	*	<u>-9.79</u>	<u>-2.46</u>
Nb	*	<u>-0.31</u>	*	3.31	<u>0.50</u>	0.75	*	<u>-1.36</u>	1.15	<u>0.27</u>
Nd	*	<u>-1.08</u>	*	<u>-0.81</u>	<u>0.48</u>	4.39	<u>-4.23</u>	<u>2.96</u>	-3.60	<u>-1.29</u>
Ni	*	<u>-4.34</u>	*	<u>2.46</u>	*	<u>1.61</u>	*	<u>-0.12</u>	-10.97	<u>-4.65</u>
Pb	*	<u>0.03</u>	*	<u>-3.29</u>	*	1.81	*	<u>0.26</u>	<u>0.17</u>	<u>-0.66</u>
Pr	*	*	*	-0.15	<u>0.57</u>	0.49	<u>-5.80</u>	<u>1.68</u>	*	<u>-1.44</u>
Rb	*	<u>0.04</u>	*	<u>1.51</u>	<u>-0.59</u>	1.22	*	<u>-0.46</u>	<u>0.27</u>	<u>-0.43</u>
Sb	*	<u>60.91</u>	*	<u>19.48</u>	<u>5.20</u>	3.85	*	*	*	*
Sc	*	<u>0.33</u>	*	<u>0.06</u>	<u>4.72</u>	<u>-14.26</u>	*	<u>-0.32</u>	<u>0.30</u>	<u>-1.47</u>
Sm	*	<u>-2.17</u>	*	<u>-0.78</u>	<u>0.61</u>	0.36	<u>-4.62</u>	<u>-0.42</u>	*	<u>-0.09</u>
Sn	*	<u>-1.76</u>	*	<u>2.19</u>	<u>0.03</u>	0.84	*	*	-11.40	<u>-0.66</u>
Sr	*	<u>-0.20</u>	*	<u>0.48</u>	*	1.51	*	<u>-1.53</u>	<u>-1.45</u>	<u>-0.48</u>
Ta	*	*	*	*	<u>2.29</u>	<u>-0.09</u>	*	*	*	<u>-0.75</u>
Tb	*	*	*	<u>-1.77</u>	<u>1.45</u>	-0.78	<u>2.30</u>	<u>1.32</u>	*	<u>-1.10</u>
Th	*	<u>-0.50</u>	*	<u>-2.32</u>	<u>-0.23</u>	2.94	*	<u>1.02</u>	<u>-0.24</u>	<u>-0.43</u>
Tl	*	<u>-1.14</u>	*	<u>-0.56</u>	*	*	*	*	*	*
Tm	*	*	*	<u>-0.77</u>	<u>0.07</u>	*	<u>-2.37</u>	*	*	<u>-0.92</u>
U	*	<u>-1.95</u>	*	<u>-1.39</u>	<u>0.42</u>	<u>1.57</u>	*	<u>6.85</u>	<u>-4.46</u>	<u>-0.41</u>
V	*	<u>0.68</u>	*	<u>-1.62</u>	*	0.81	*	<u>2.01</u>	<u>4.36</u>	<u>1.67</u>
W	*	<u>0.10</u>	*	<u>-0.18</u>	<u>0.10</u>	1.24	*	*	<u>-7.80</u>	<u>-0.95</u>
Y	*	<u>-0.65</u>	*	<u>2.24</u>	<u>-0.12</u>	-0.01	<u>1.68</u>	<u>-4.20</u>	<u>1.87</u>	<u>-3.15</u>
Yb	*	<u>-4.35</u>	*	<u>-0.58</u>	<u>3.17</u>	0.53	<u>-2.48</u>	<u>-0.41</u>	*	<u>-1.39</u>
Zn	*	<u>-0.04</u>	*	<u>0.76</u>	*	<u>-0.10</u>	*	<u>0.04</u>	<u>-2.65</u>	<u>-0.30</u>
Zr	*	<u>-0.73</u>	*	<u>1.22</u>	*	<u>5.48</u>	*	<u>1.37</u>	<u>-1.56</u>	<u>-0.80</u>

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

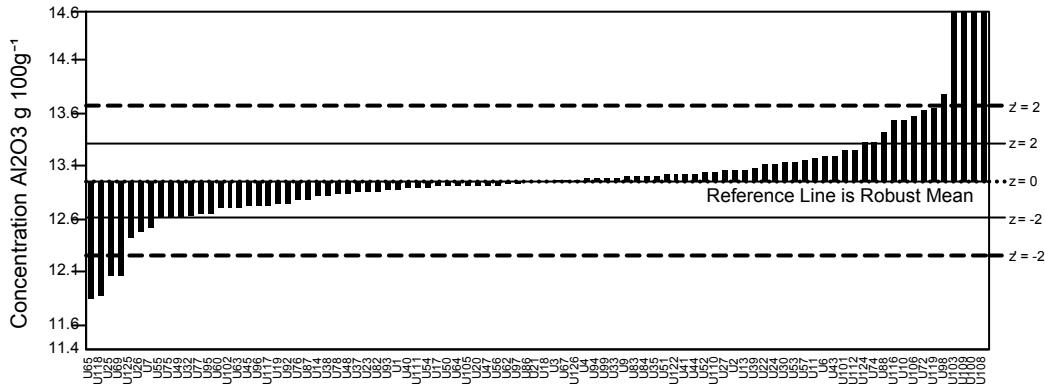
GeoPT39 - Barchart for SiO₂



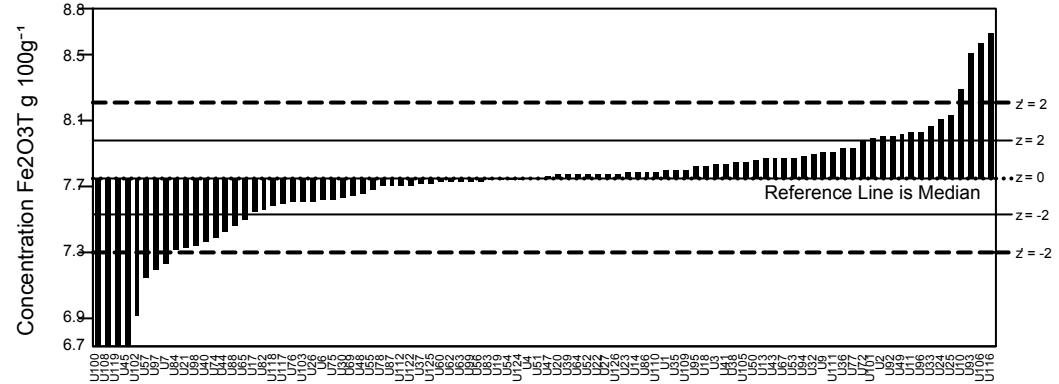
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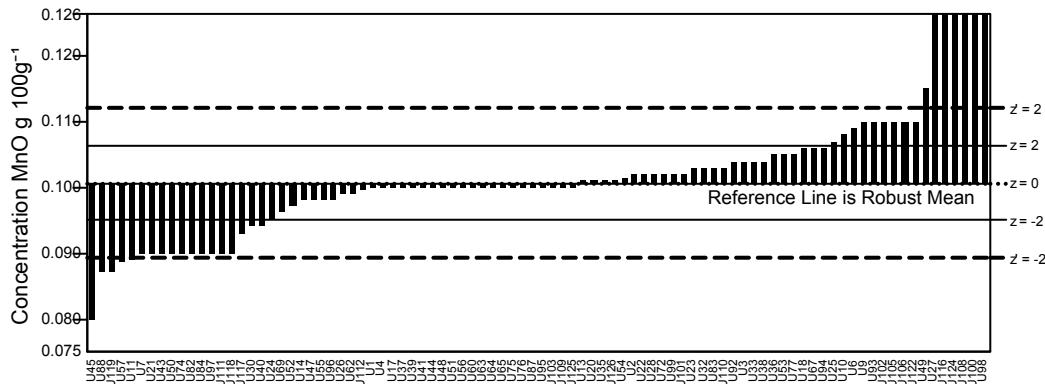
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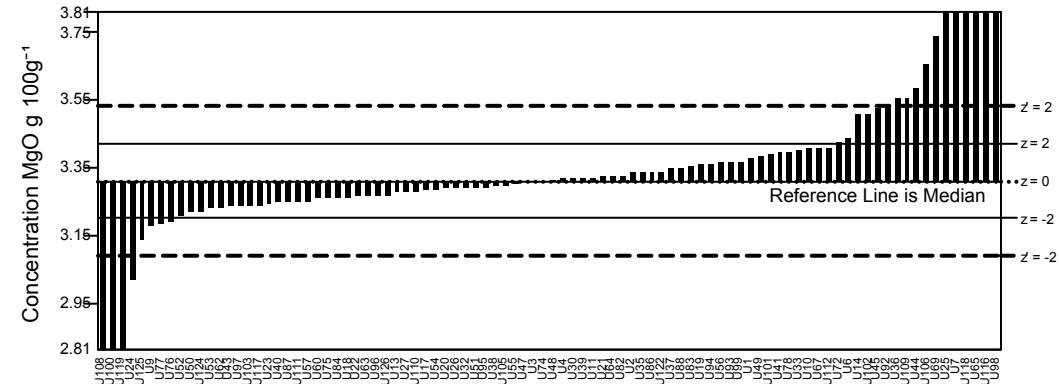
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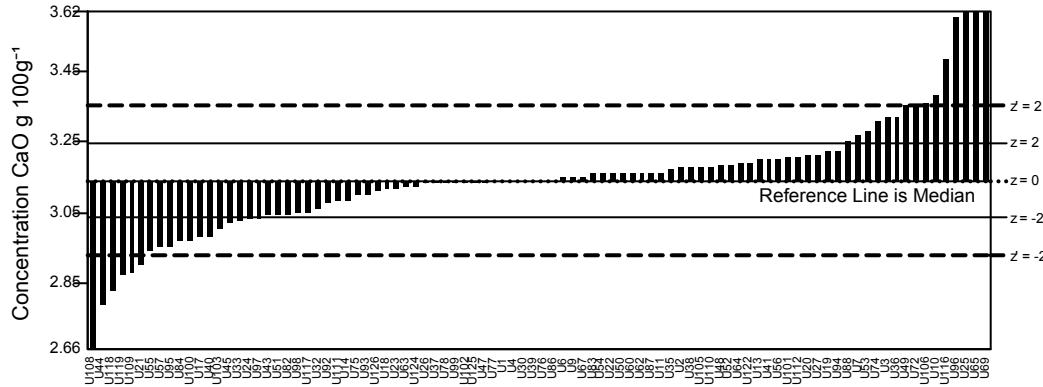
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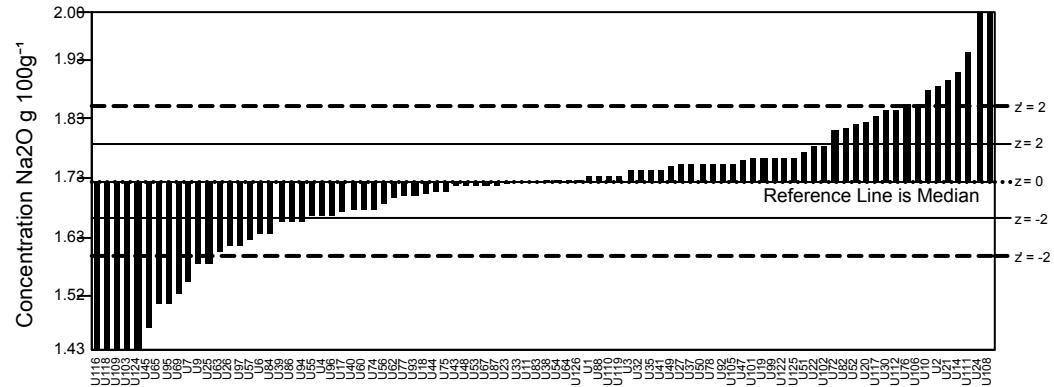
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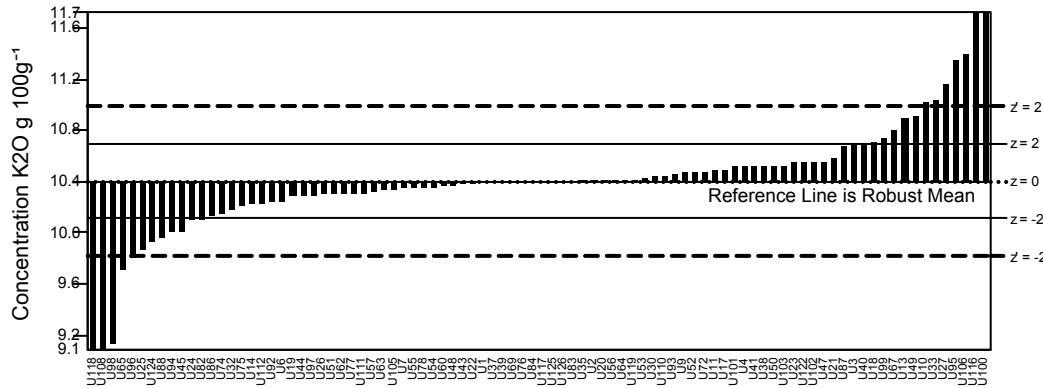
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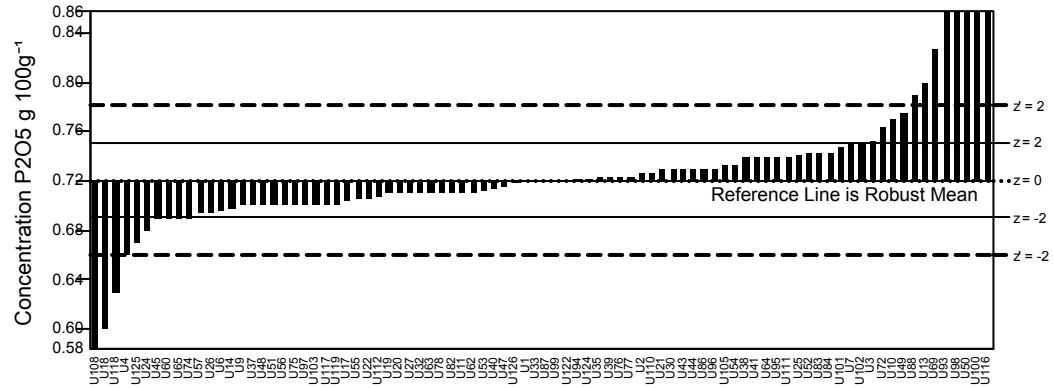
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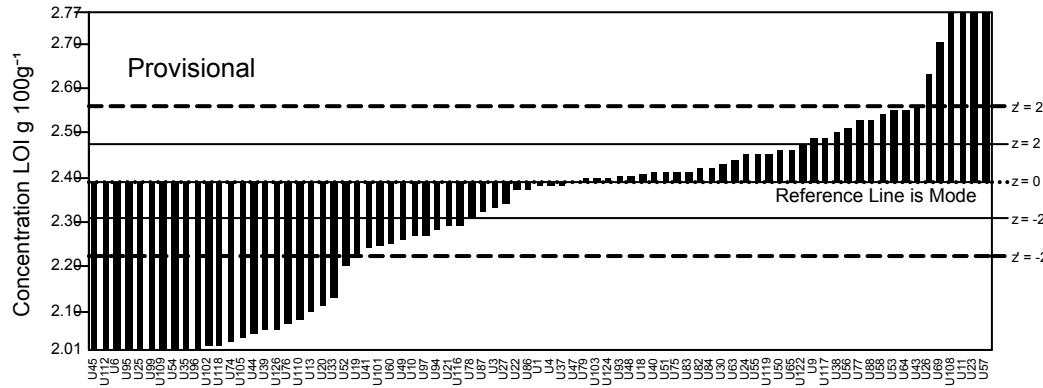
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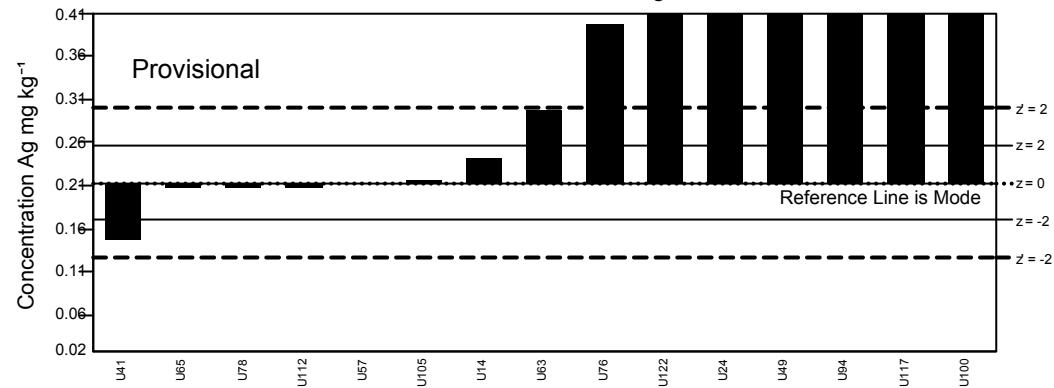
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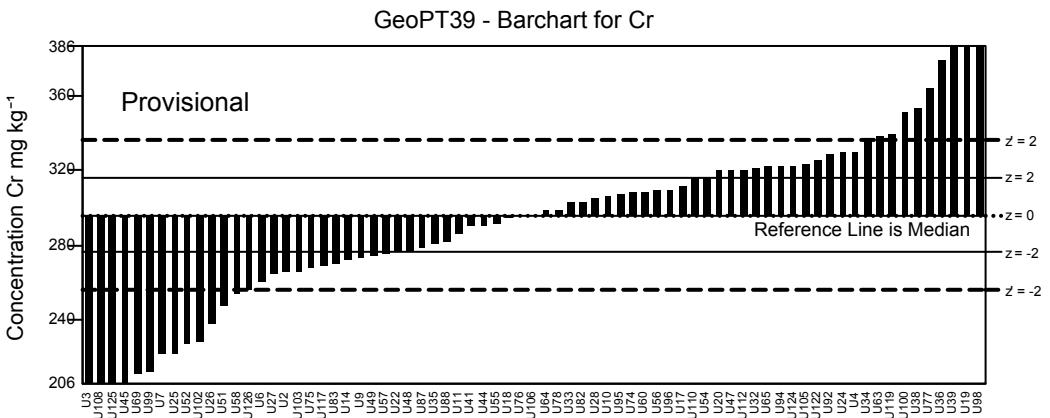
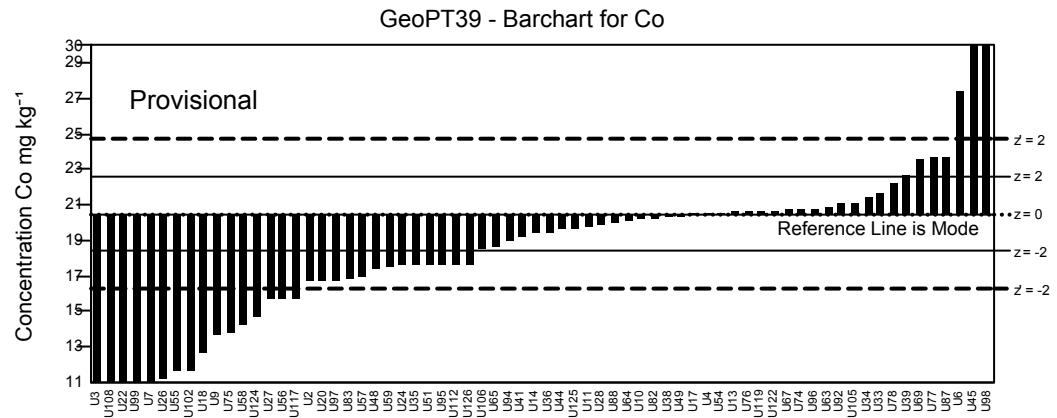
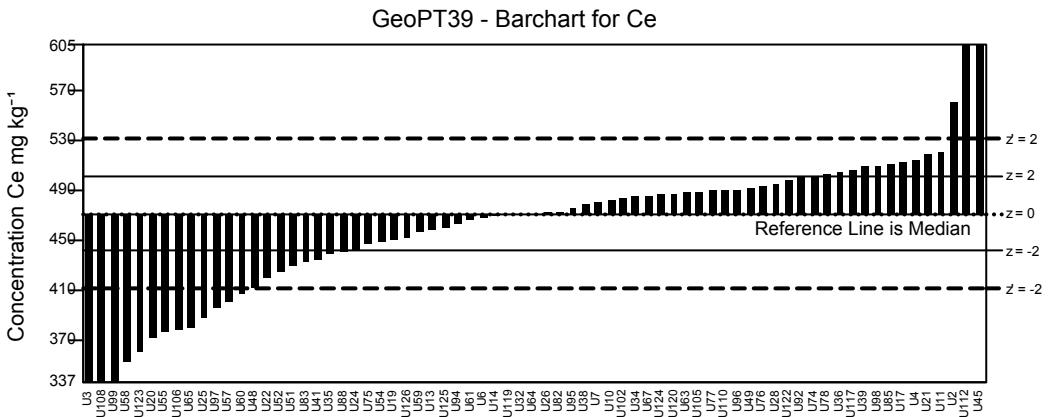
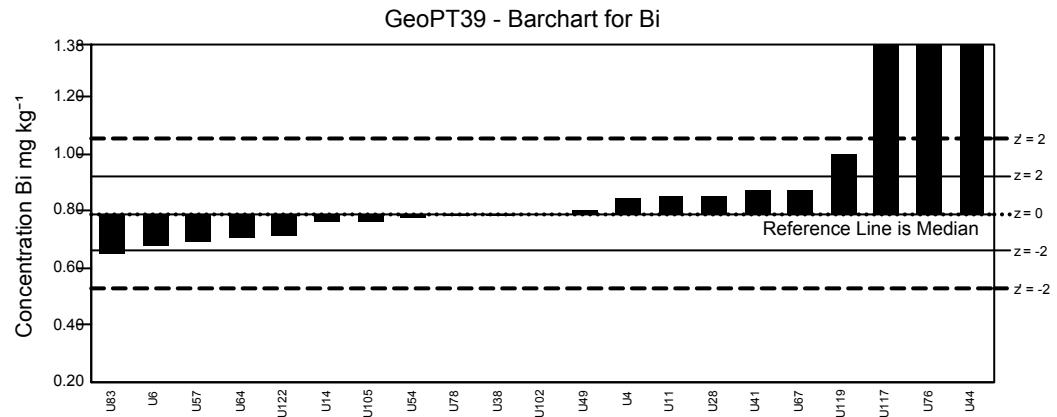
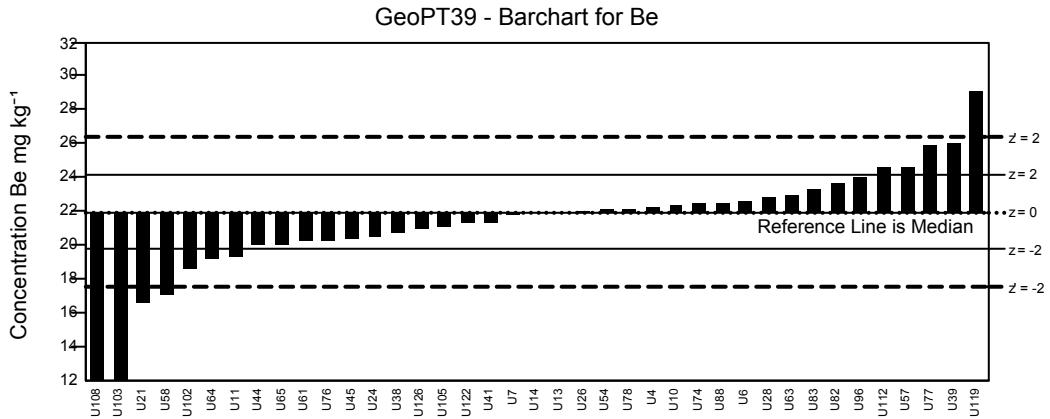
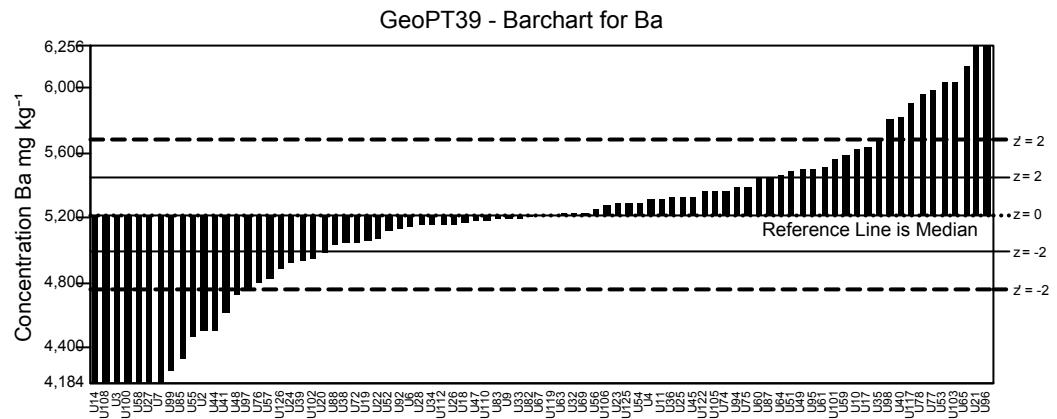


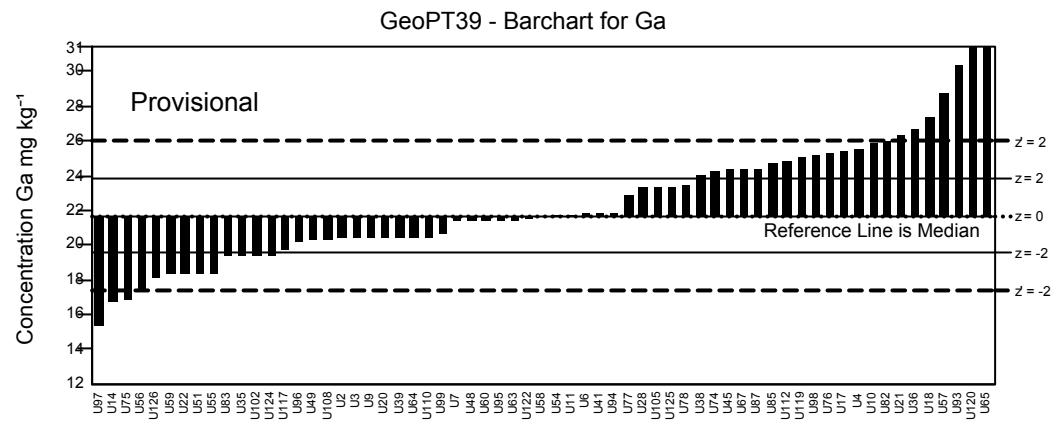
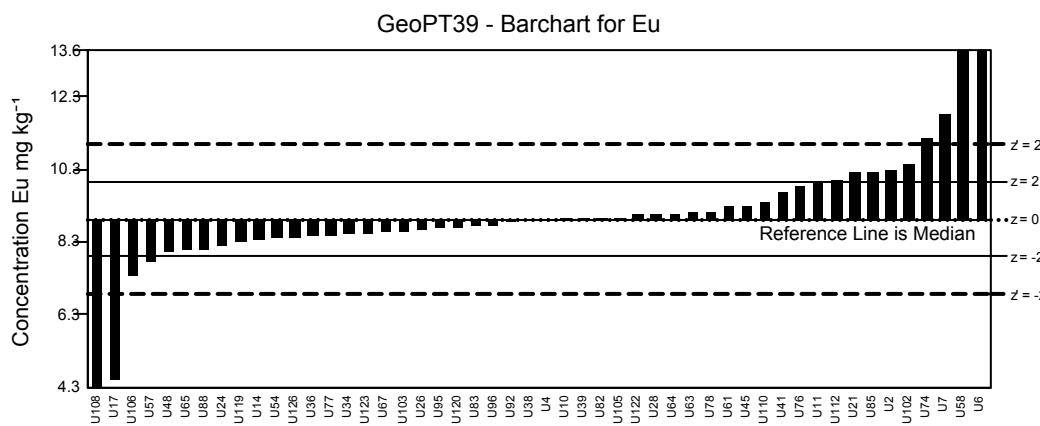
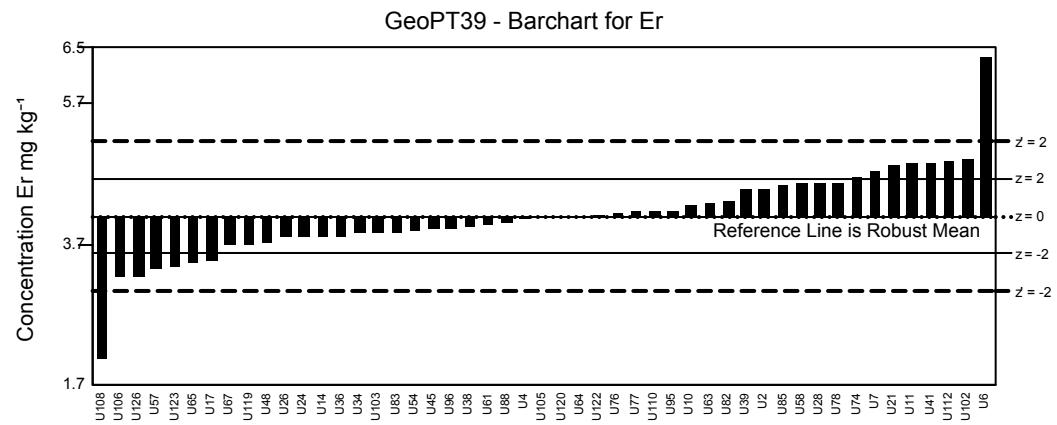
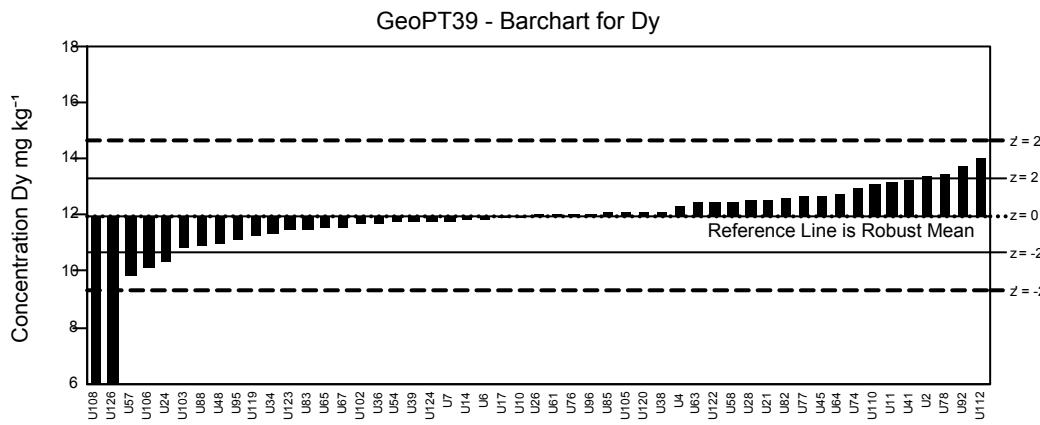
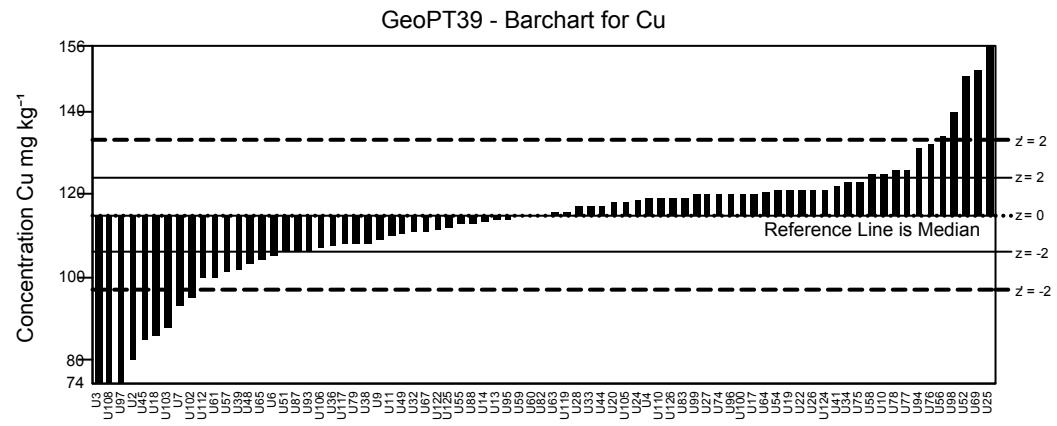
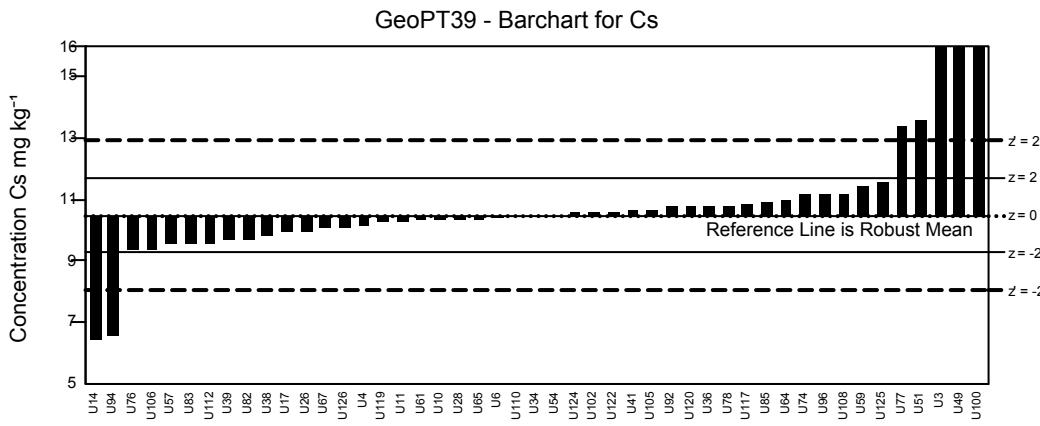
GeoPT39 - Barchart for LOI

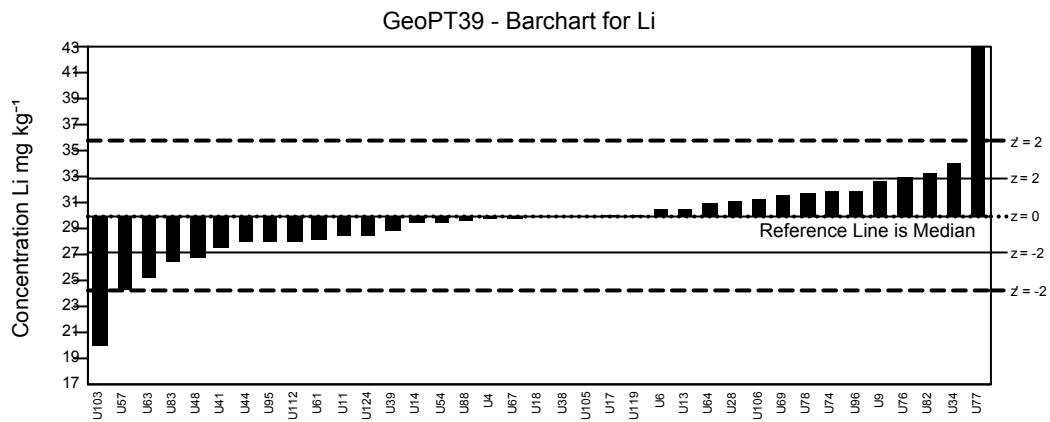
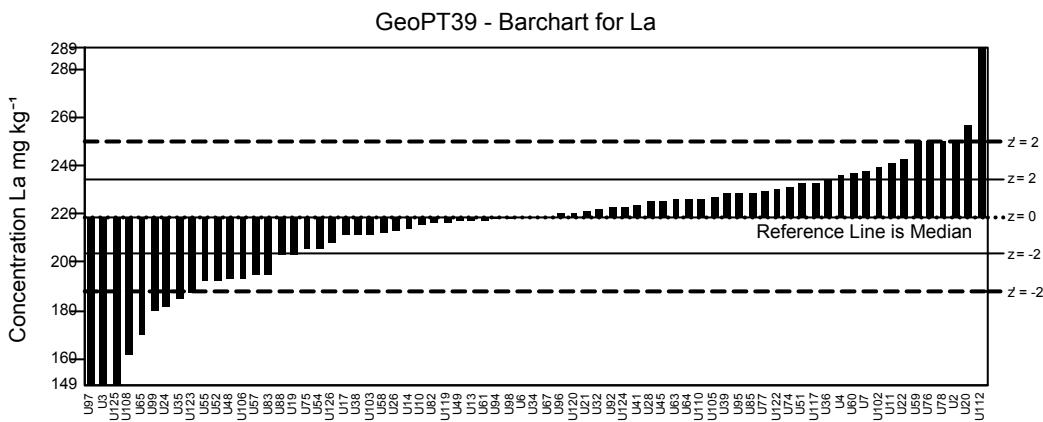
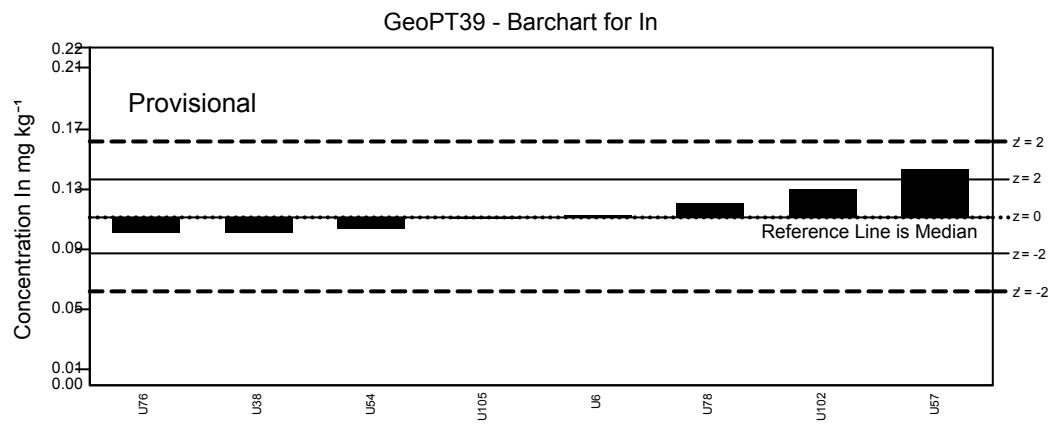
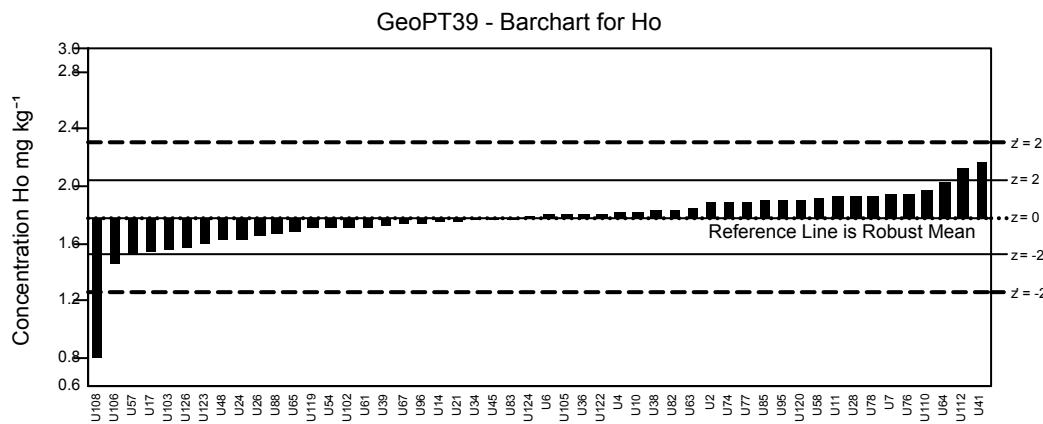
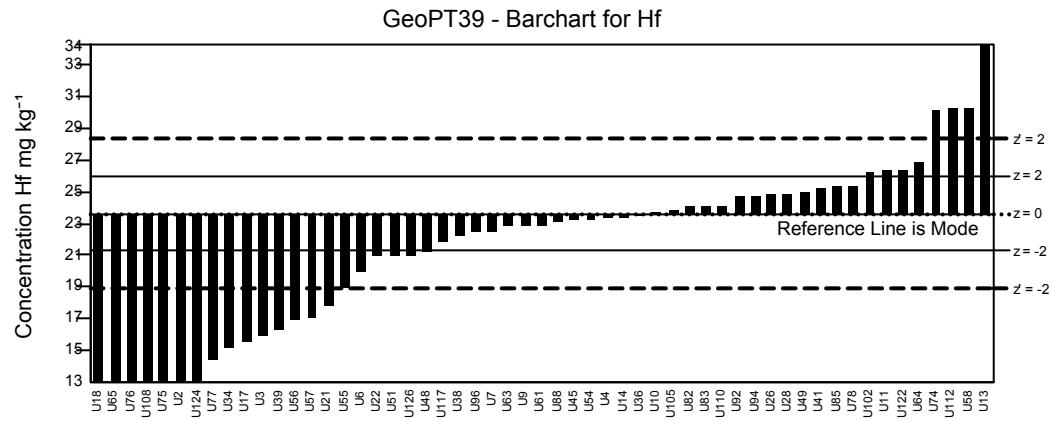
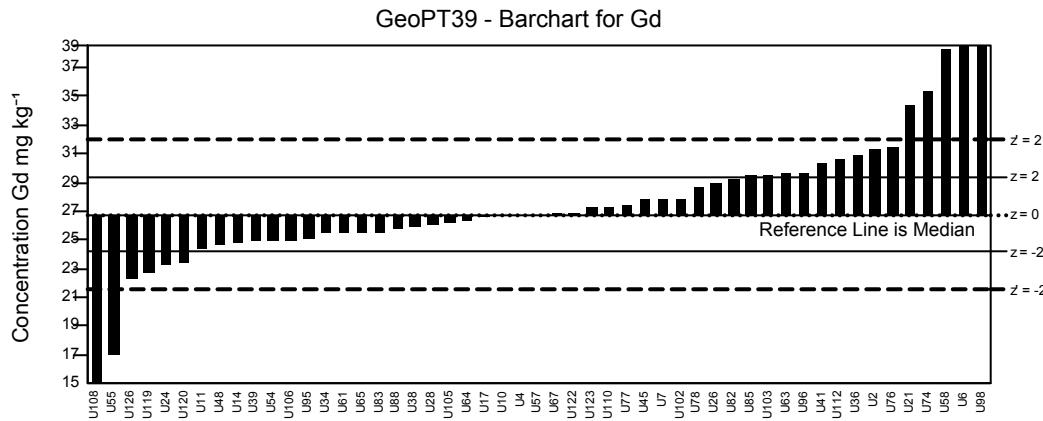


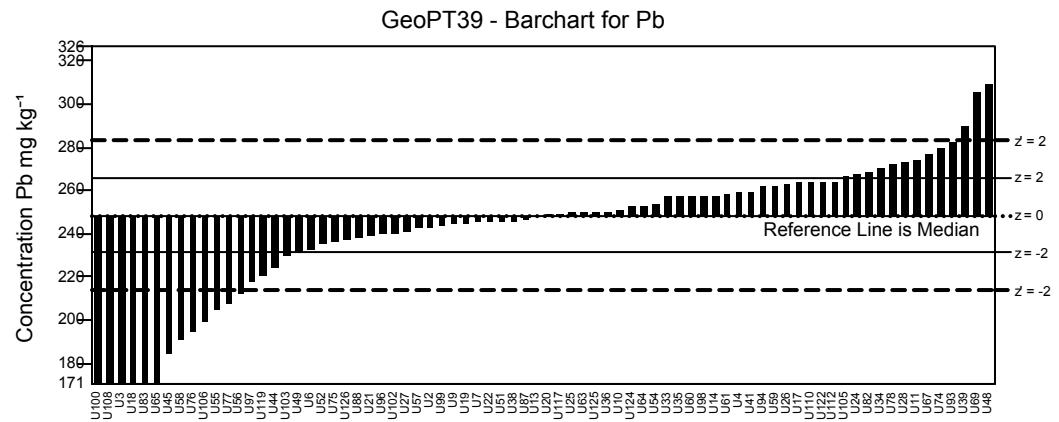
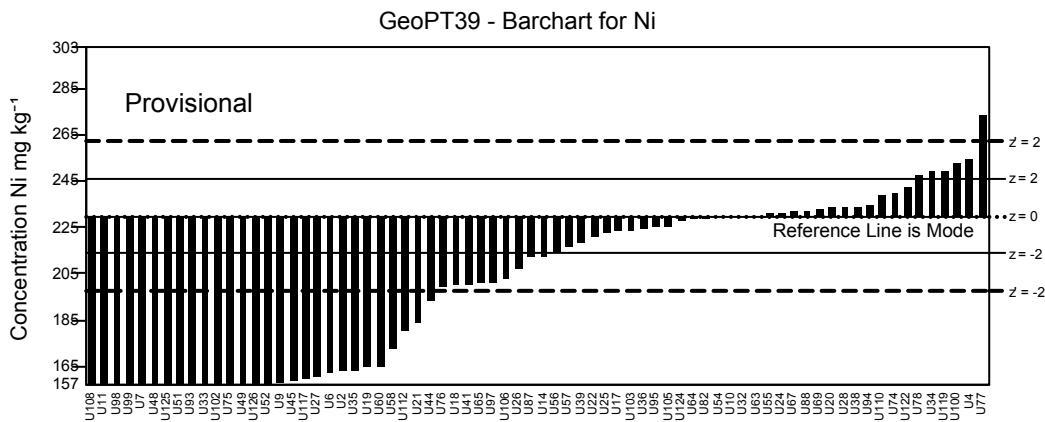
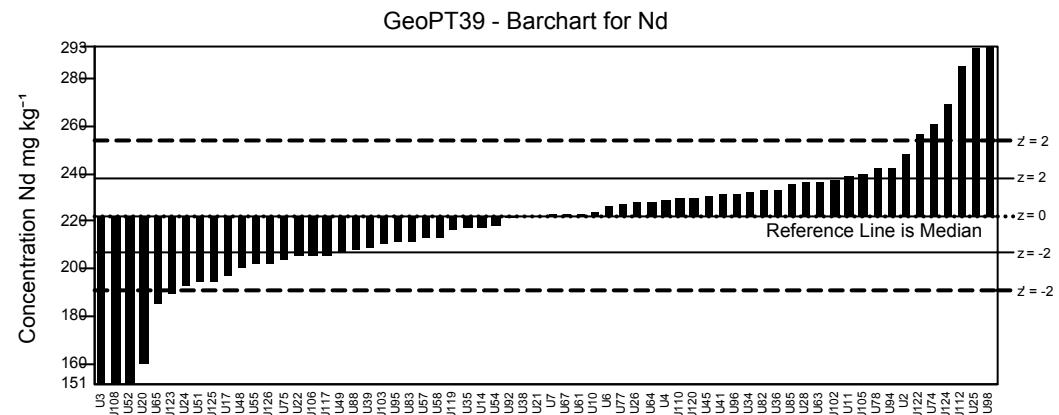
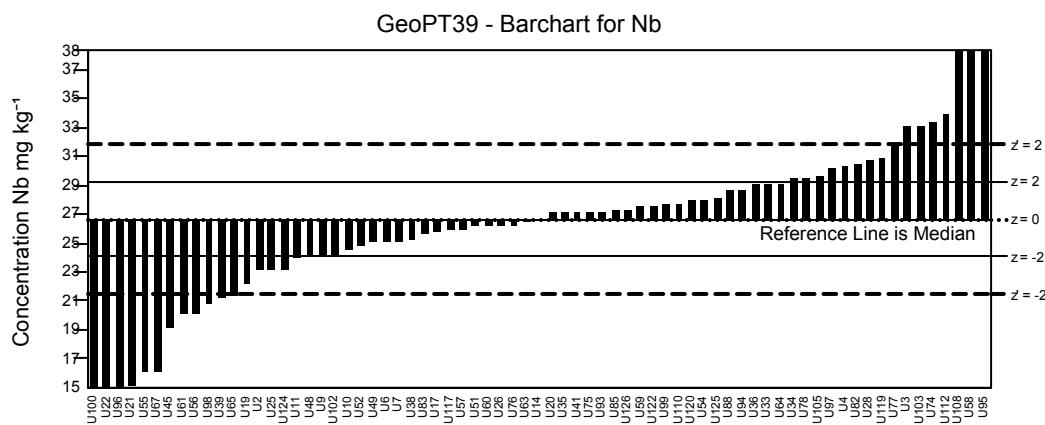
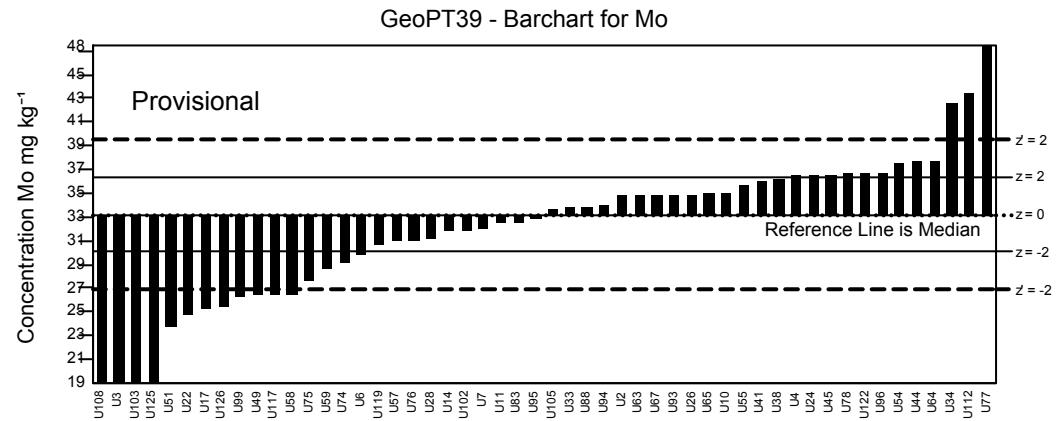
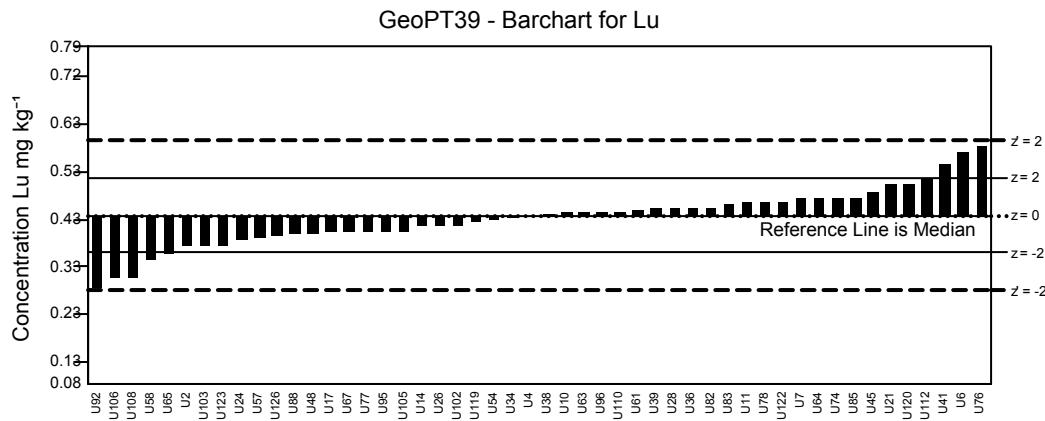
GeoPT39 - Barchart for Ag

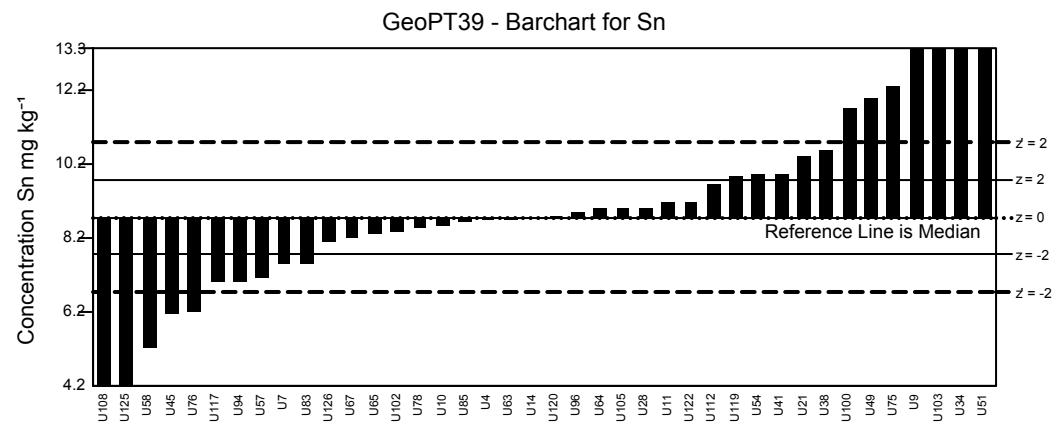
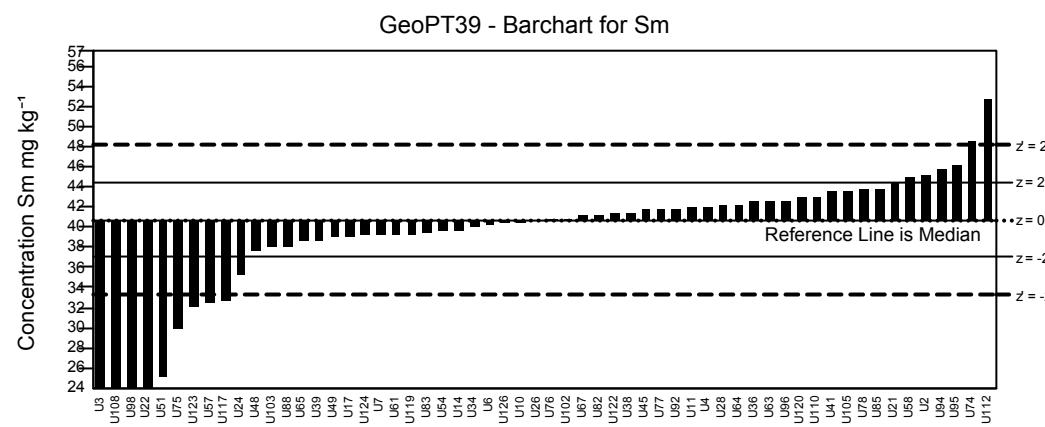
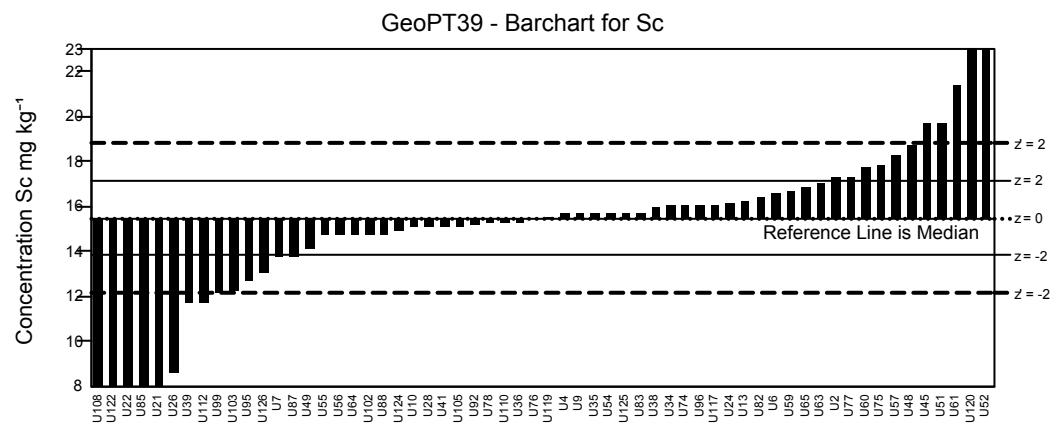
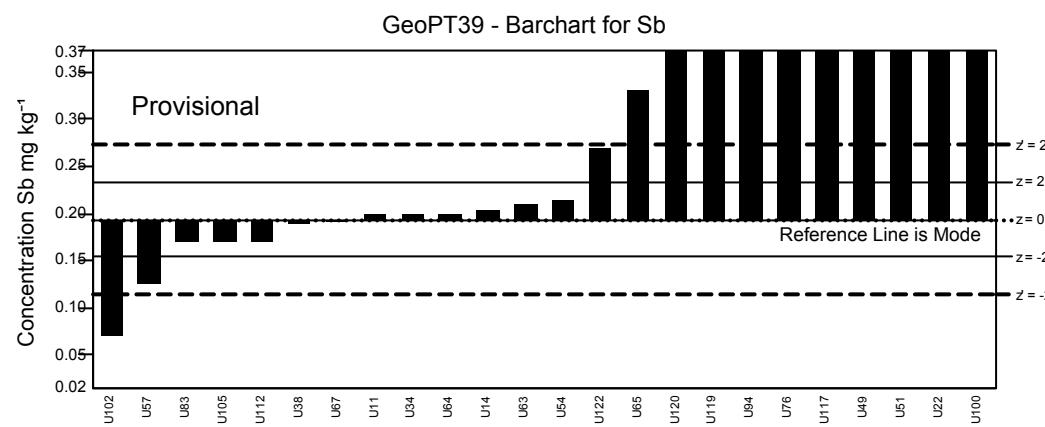
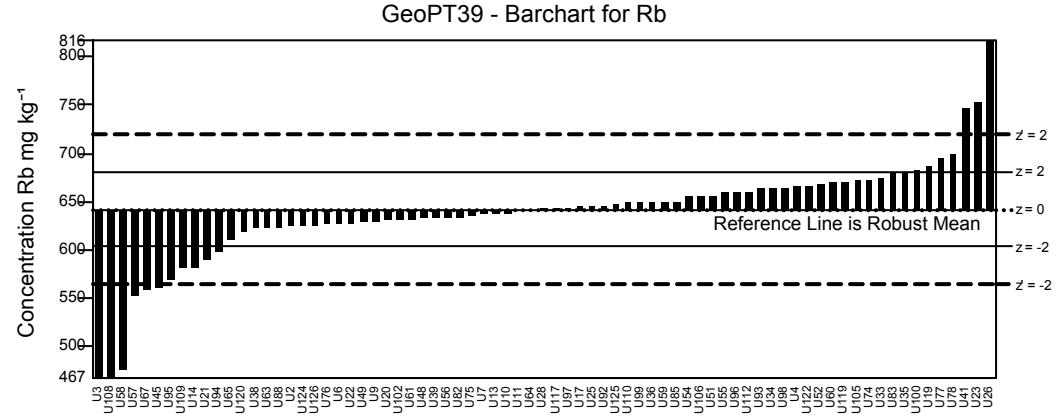
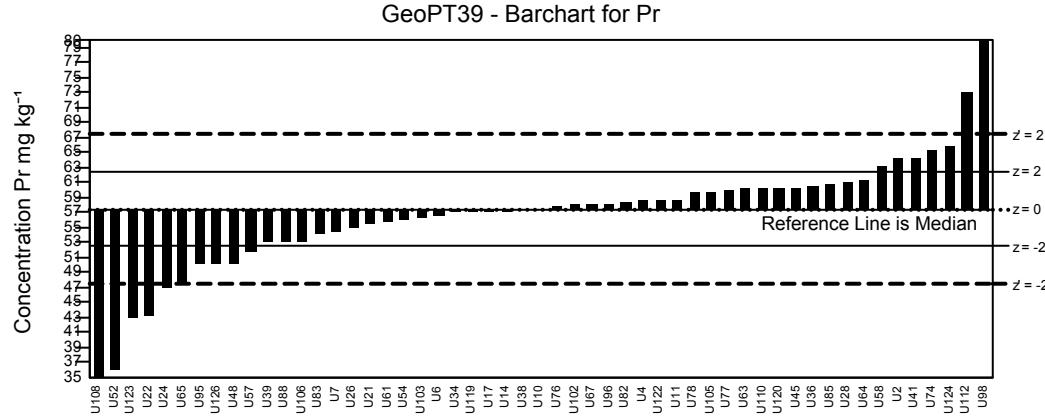


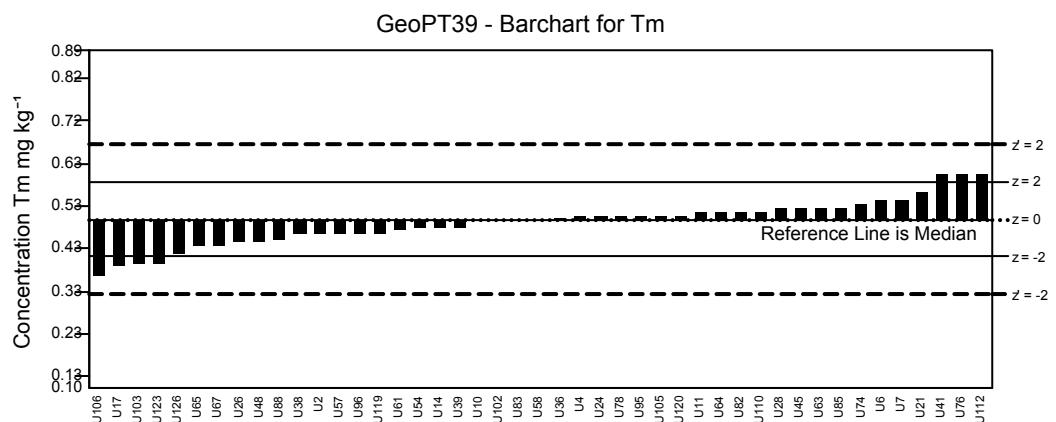
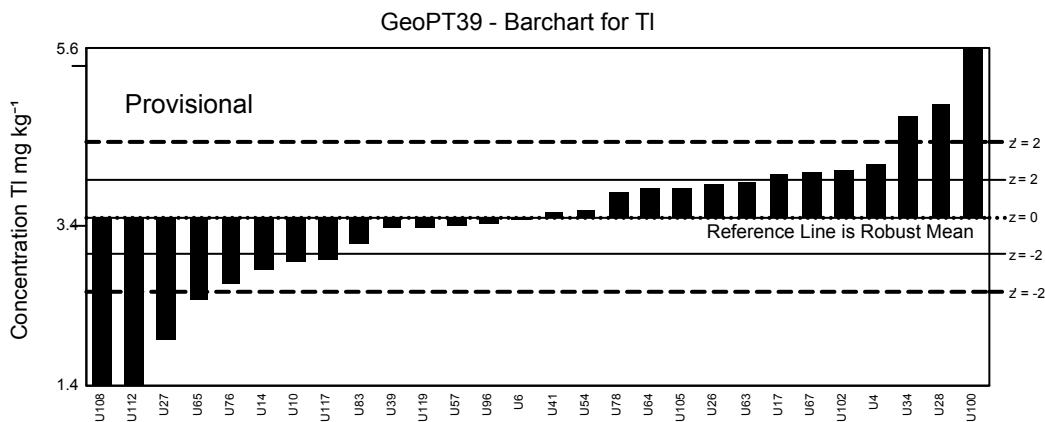
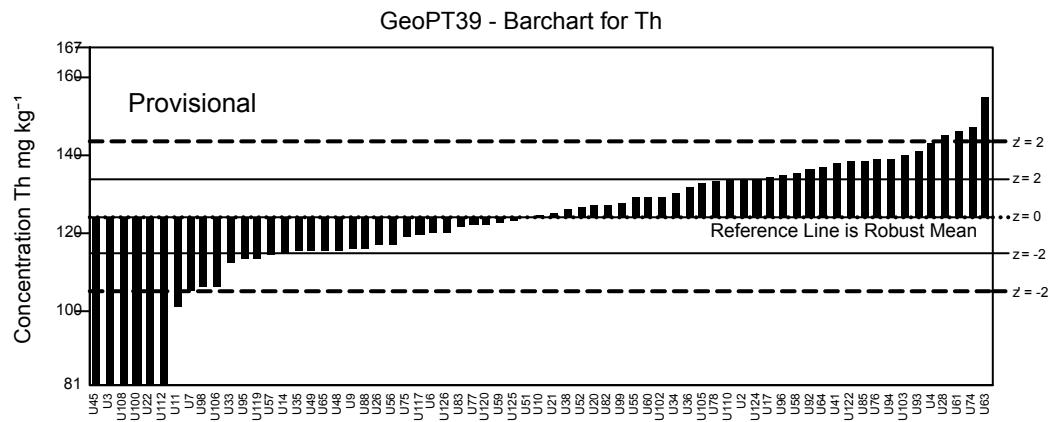
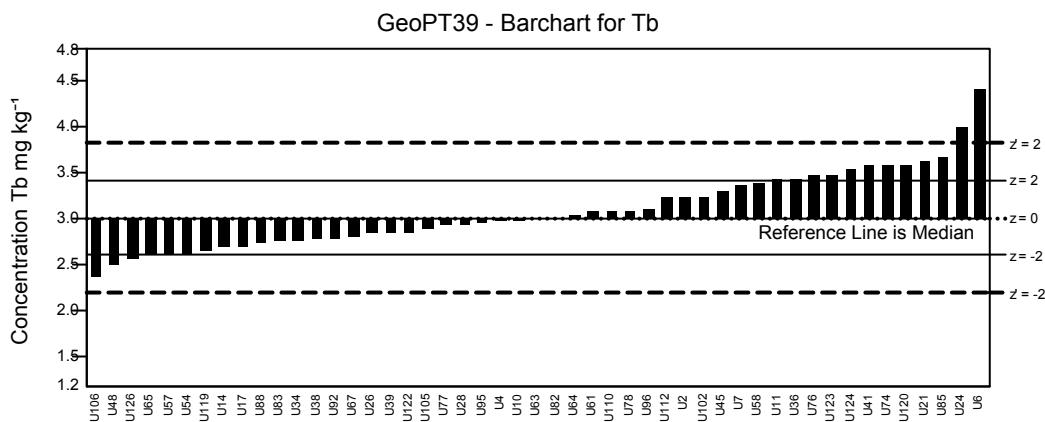
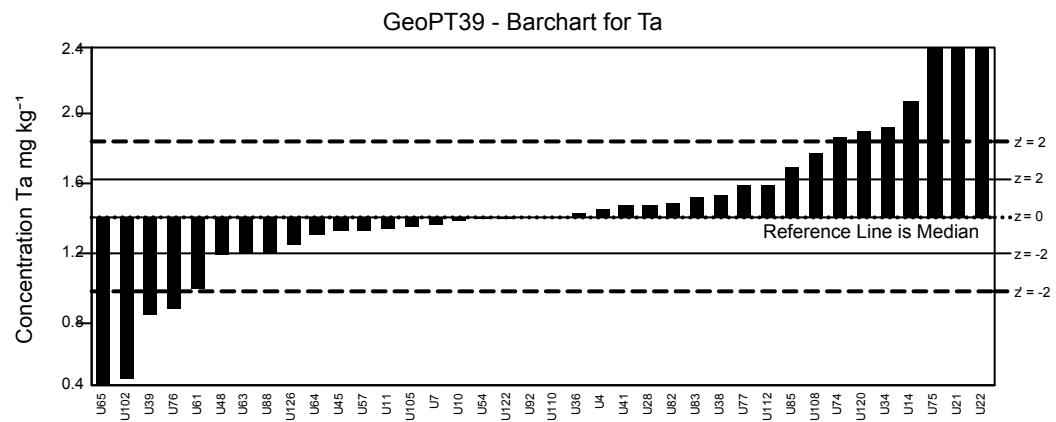
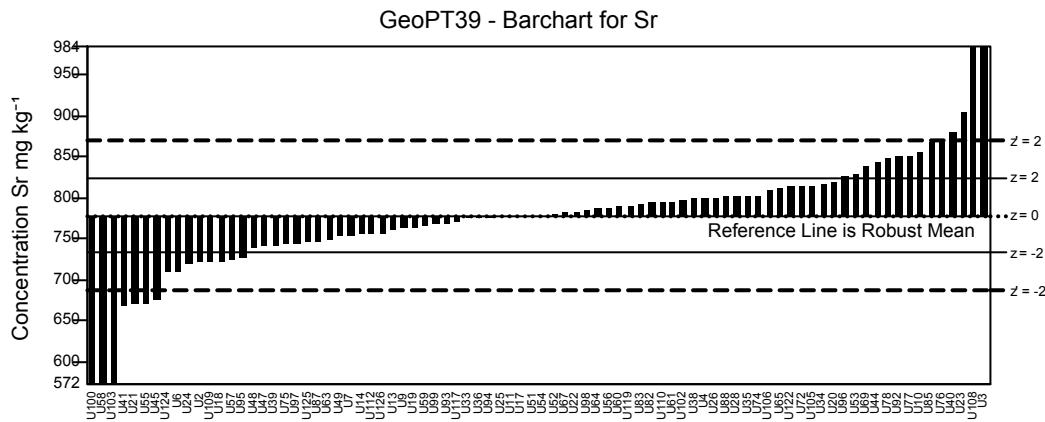


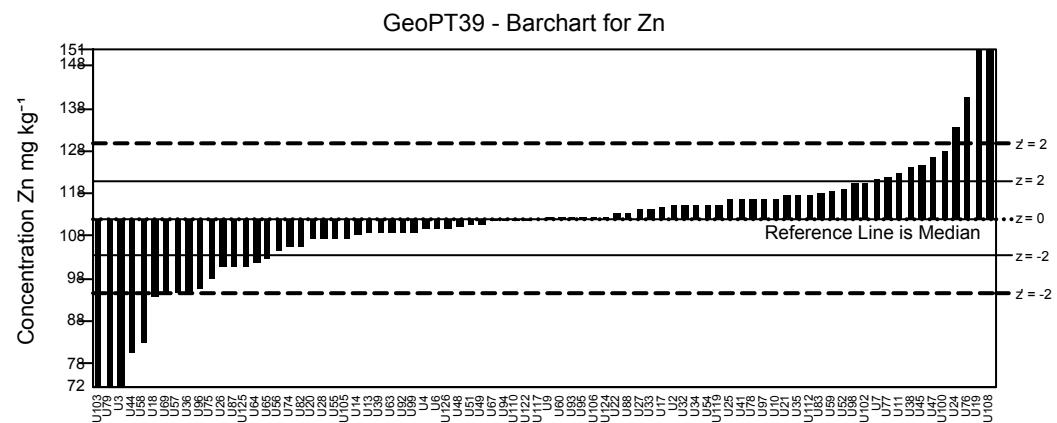
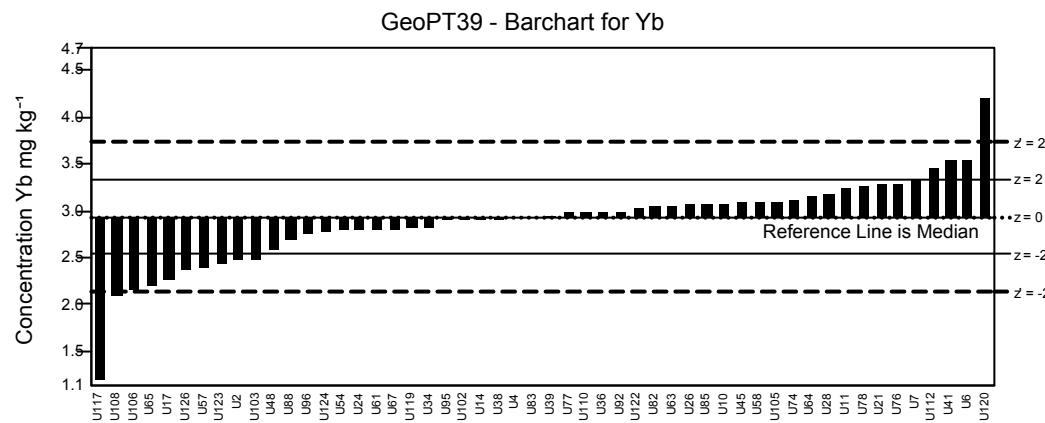
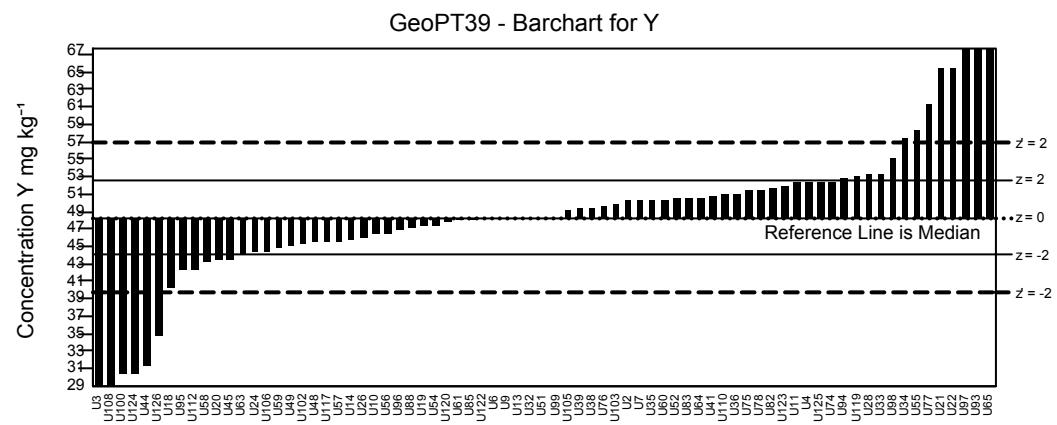
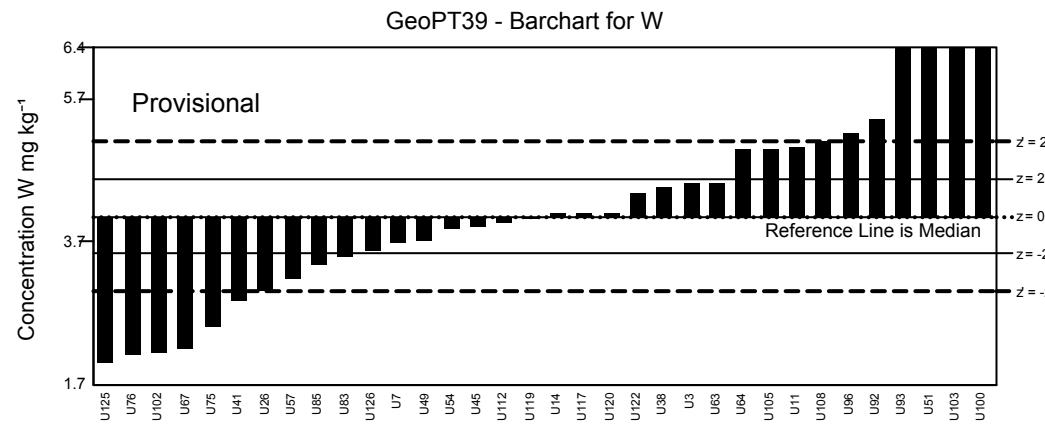
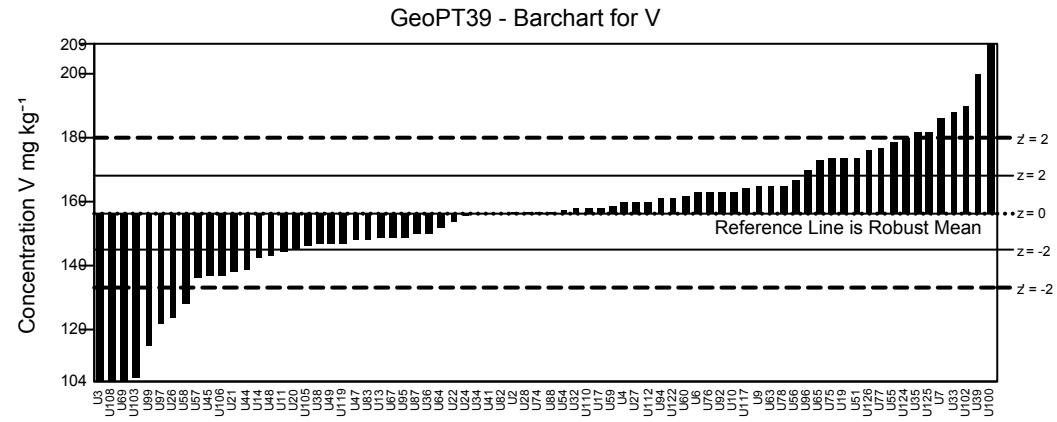
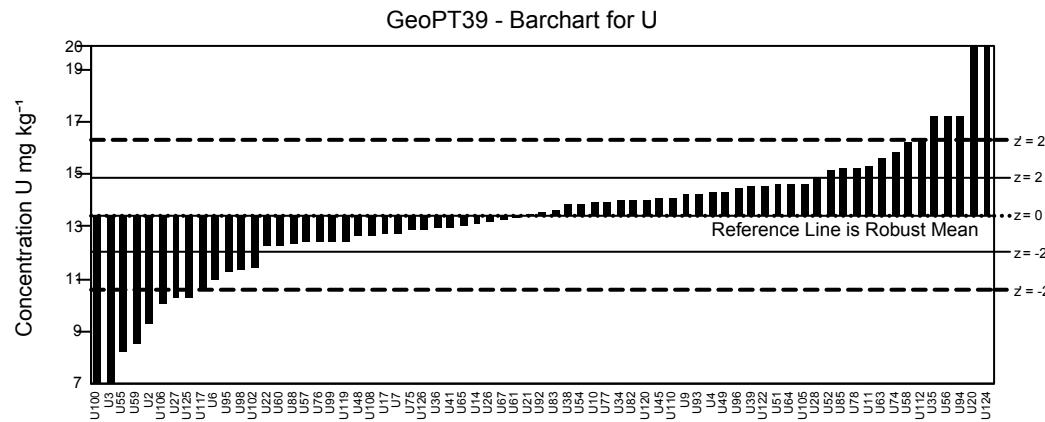












GeoPT39 - Barchart for Zr

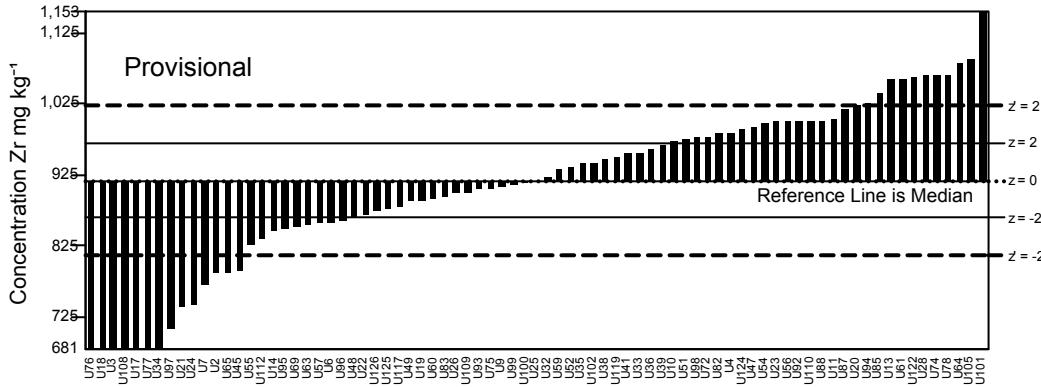
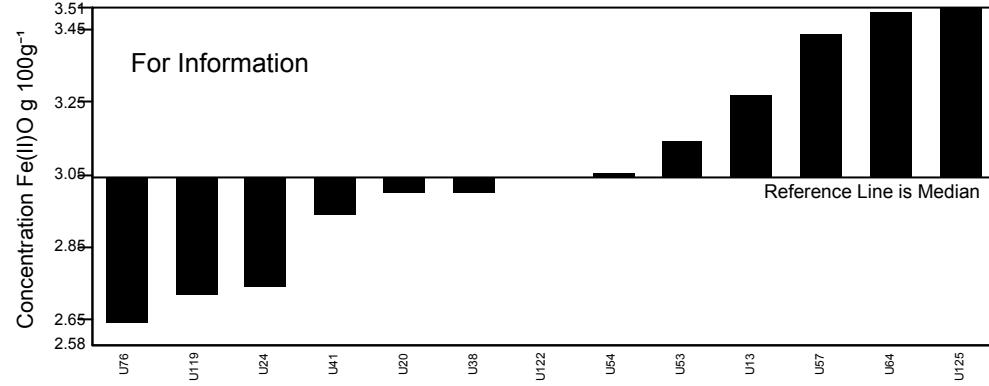
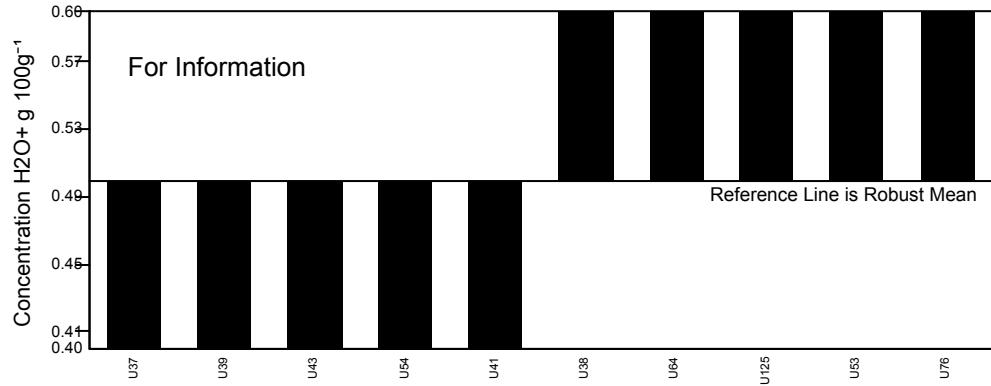


Figure 1: GeoPT39 - Syenite, SyMP-1. Data distribution charts for elements for which values were assigned or provisional values given for guidance. Horizontal lines show the limits for $-2 < z < 2$ for pure geochemistry labs (solid lines) and $-2 < z' < 2$ for applied geochemistry labs (pecked lines).

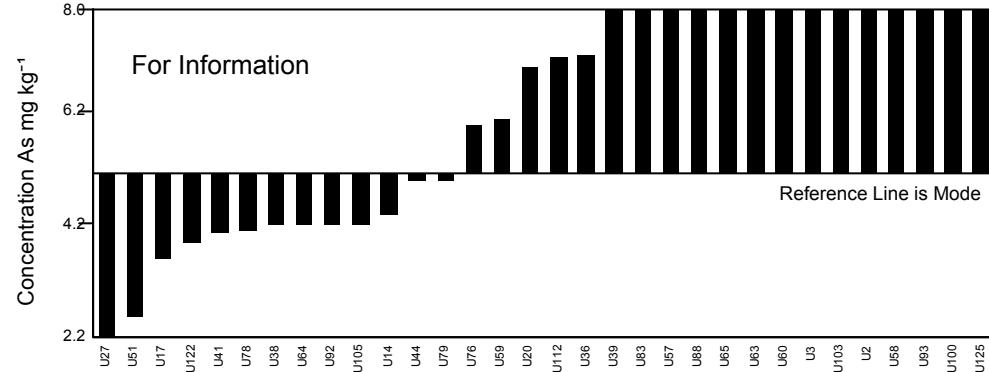
GeoPT39 - Barchart for Fe(II)O



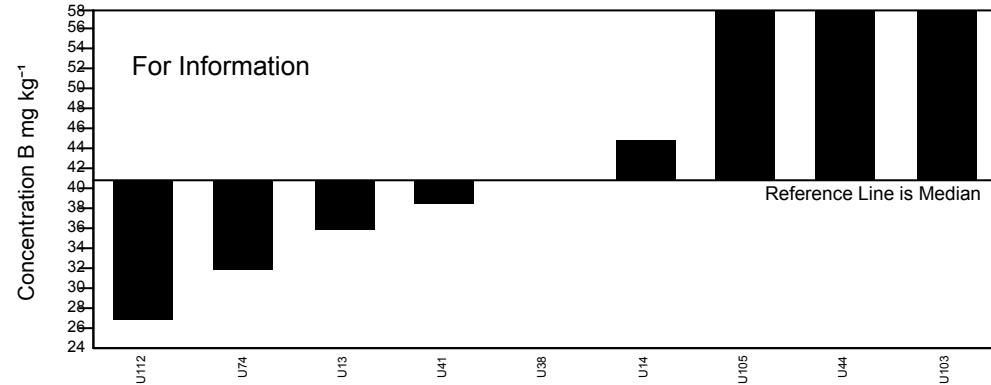
GeoPT39 - Barchart for H2O+



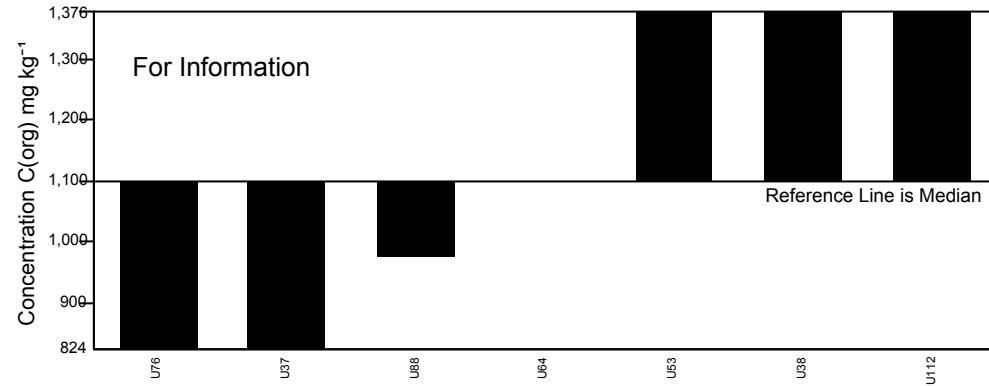
GeoPT39 - Barchart for As



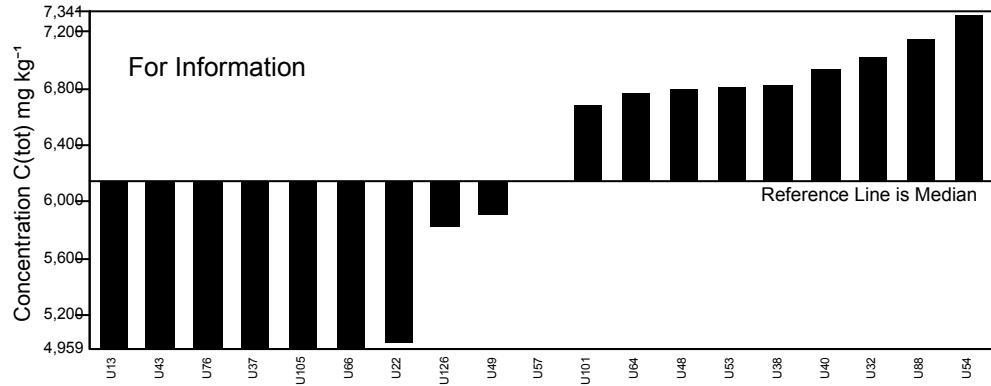
GeoPT39 - Barchart for B

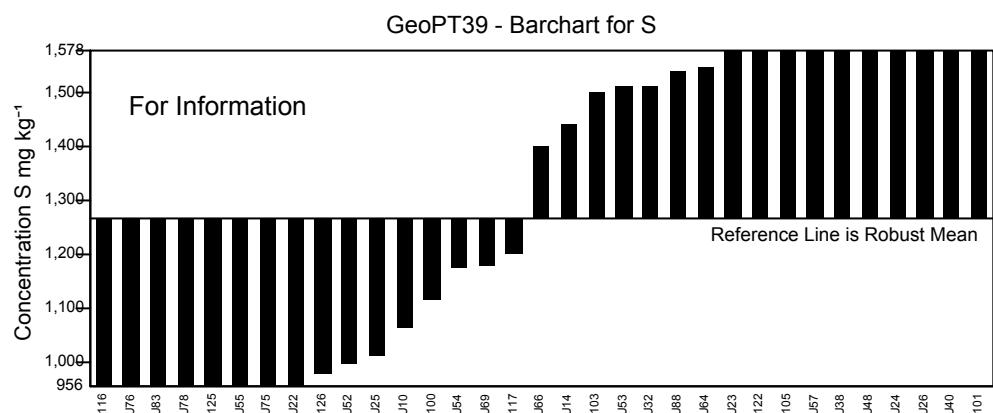
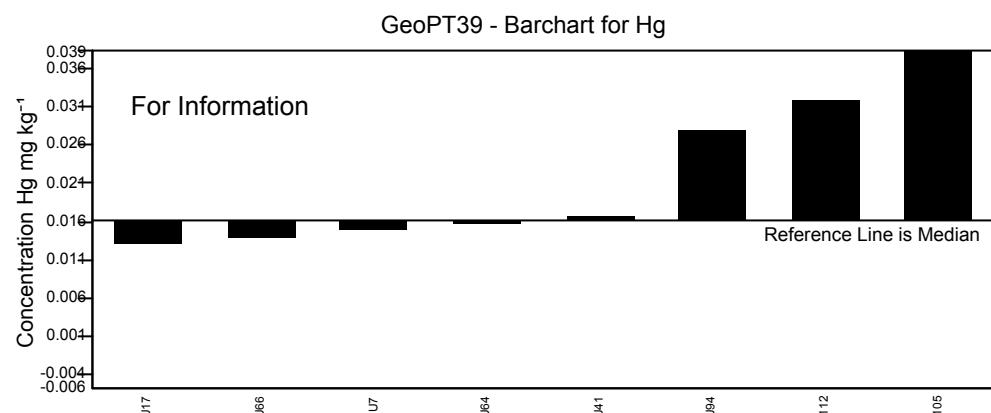
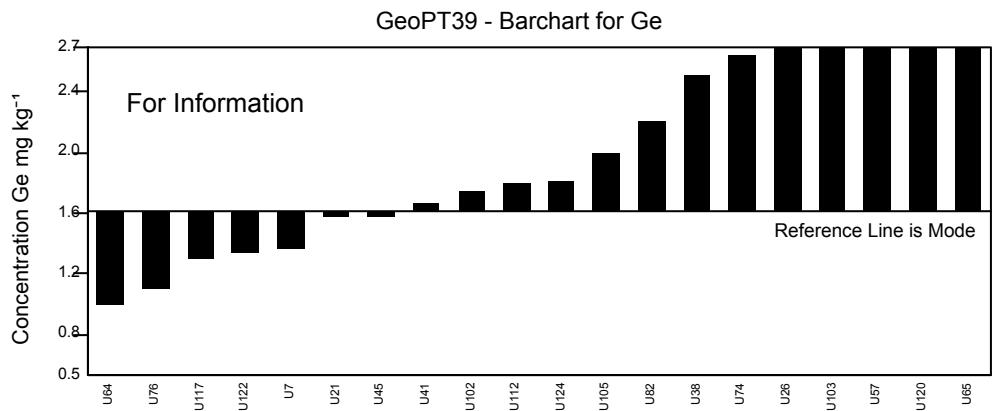
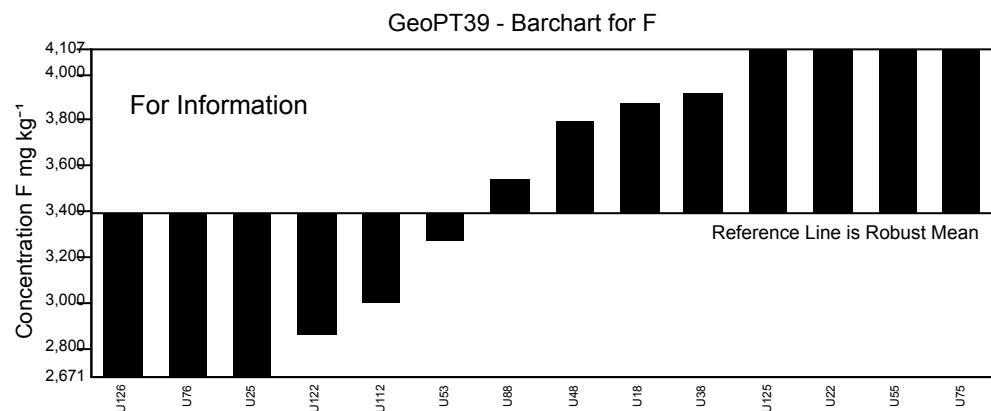
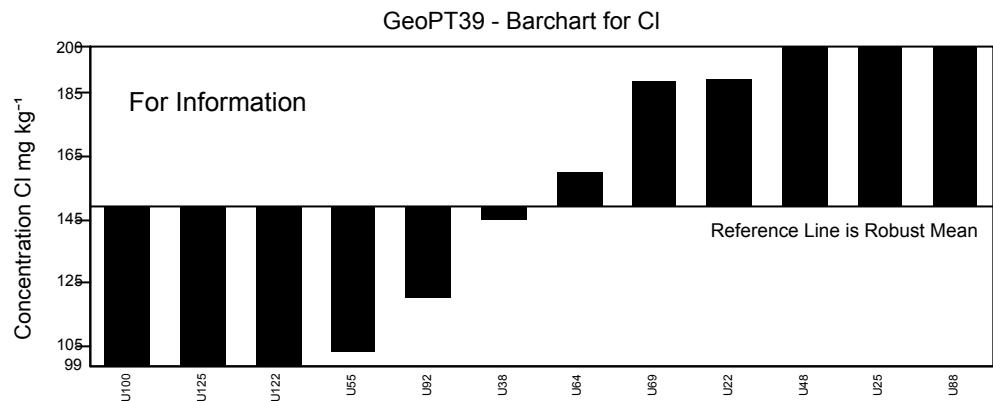
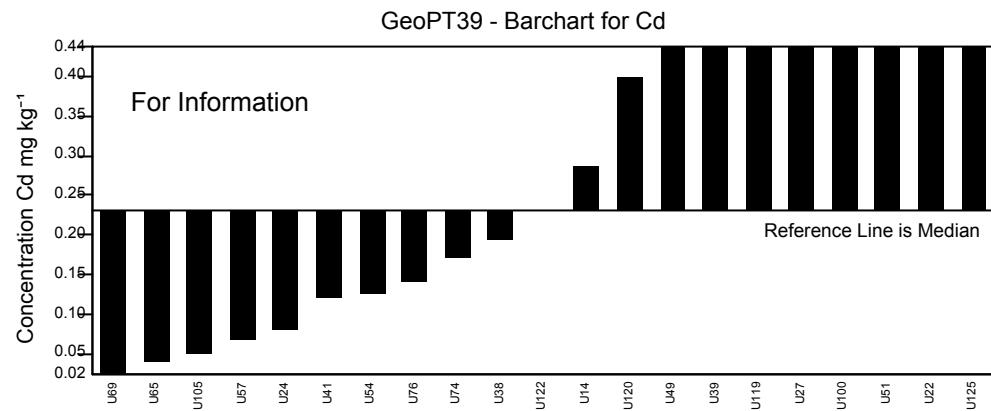


GeoPT39 - Barchart for C(org)



GeoPT39 - Barchart for C(tot)





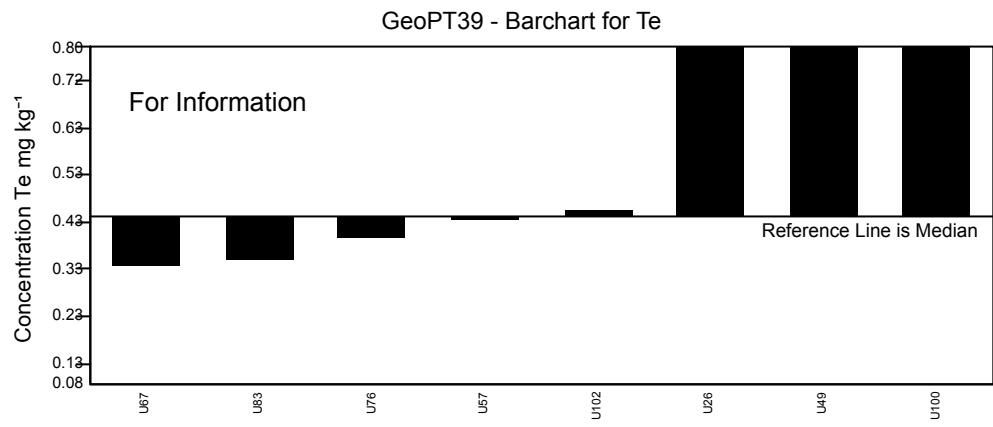
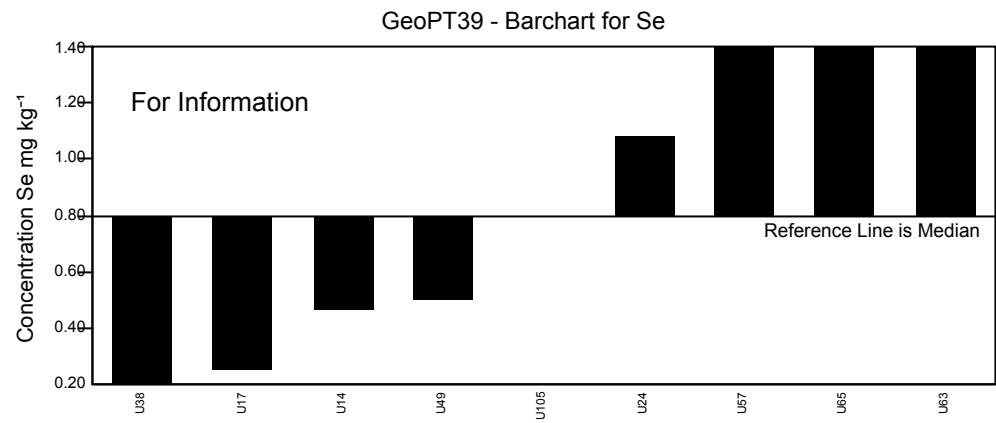


Figure 2: GeoPT39 - Syenite, SyMP-1. Data distribution charts provided for information only for elements for which values could not be assigned.

Multiple Z-Score Chart for GeoPT39

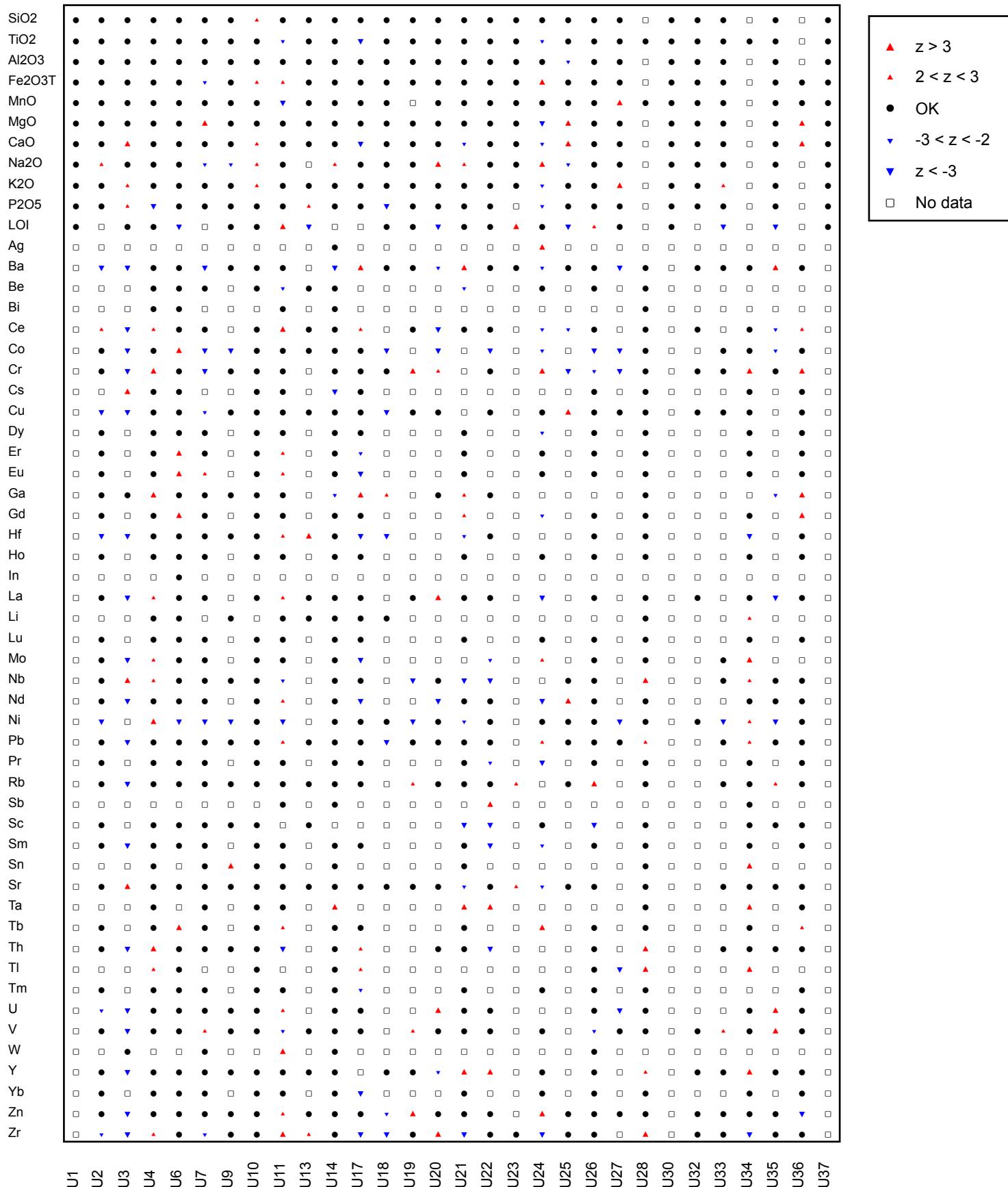


Figure 3: GeoPT39 - Syenite, SyMP-1. Multiple z-score charts for laboratories participating in the GeoPT39 round. Symbols indicate whether or not an elemental result complies with the $-2 < z < +2$ criteria (see key).

Multiple Z-Score Chart for GeoPT39

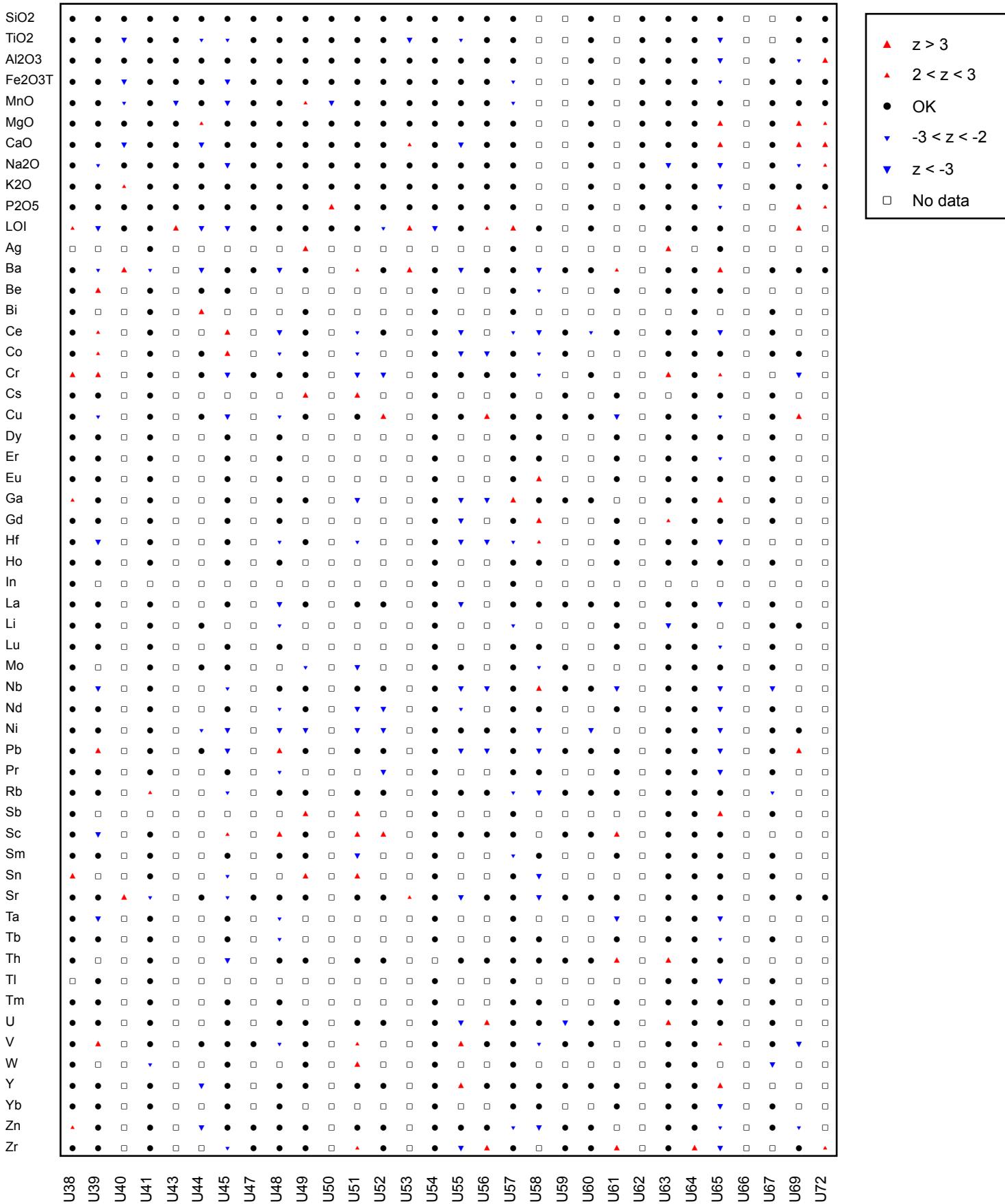


Figure 3: GeoPT39 - Syenite, SyMP-1. Multiple z-score charts for laboratories participating in the GeoPT39 round. Symbols indicate whether or not an elemental result complies with the $-2 < z < +2$ criteria (see key).

Multiple Z-Score Chart for GeoPT39

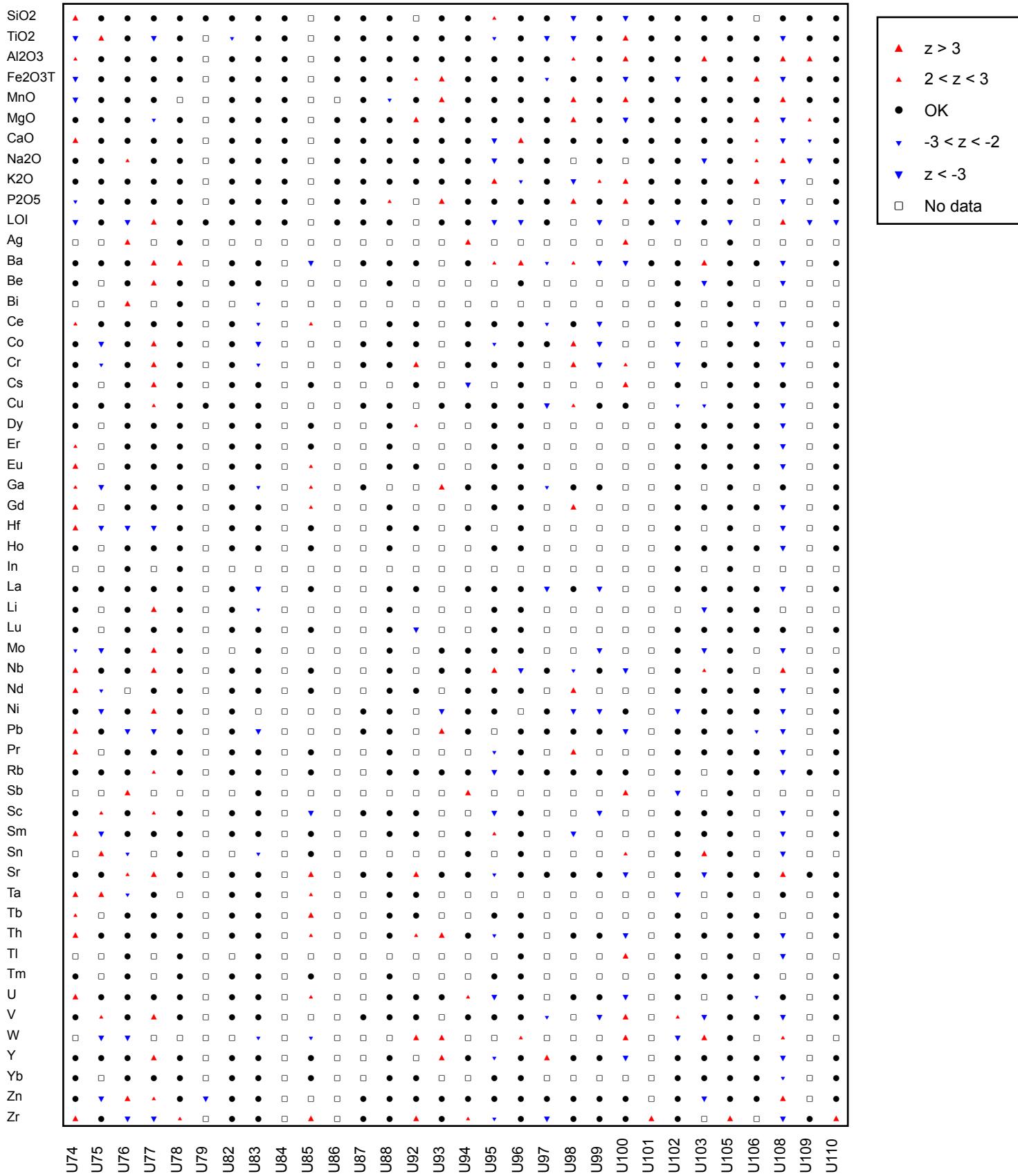


Figure 3: GeoPT39 - Syenite, SyMP-1. Multiple z-score charts for laboratories participating in the GeoPT39 round. Symbols indicate whether or not an elemental result complies with the $-2 < z < +2$ criteria (see key).

Multiple Z-Score Chart for GeoPT39

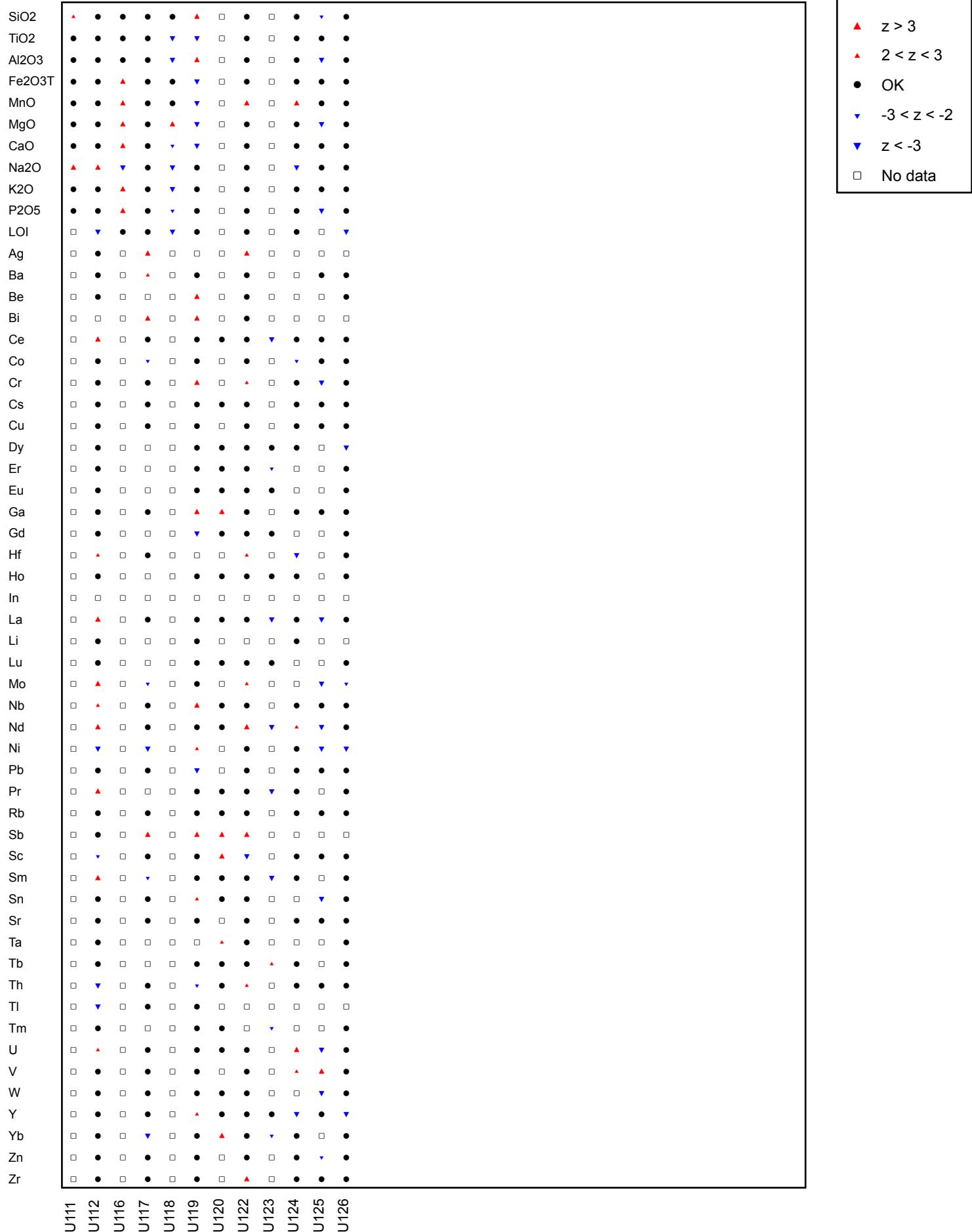


Figure 3: GeoPT39 - Syenite, SyMP-1. Multiple z-score charts for laboratories participating in the GeoPT39 round. Symbols indicate whether or not an elemental result complies with the -2 < z < +2 criteria (see key).