

GeoPT38 — AN INTERNATIONAL PROFICIENCY TEST FOR ANALYTICAL GEOCHEMISTRY LABORATORIES — REPORT ON ROUND 38 (Ardnamurchan gabbro, OU-7) / January 2016

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Abstract

Results are presented for GeoPT38, the routine subject of round thirty-eight of the International Association of Geoanalysts' Proficiency Testing programme for analytical geochemistry laboratories. The test sample distributed in this round was a gabbro, OU-7, originally supplied by Dr J. Nicholas Walsh when at the Department of Geology, Royal Holloway, University of London and processed at The Open University. In this report, the data contributed from 104 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-eighth 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-](http://www.geoanalyst.org/documents/GeoPT-protocol.pdf)

[protocol.pdf](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 38: P.C. Webb (results coordinator), M. Thompson (statistical advisor), P.J. Potts and C.J.B. Gowing (analytical advisors), J. Nicholas Walsh (provision of OU-7).

Timetable for Round 38:

Distribution of sample: September 2015.

Results submission deadline: 11th December 2015.

Release of report: January 2016

Test Material details

GeoPT38: The gabbro test material, OU-7, was originally supplied by J. Nicholas Walsh and was subsequently prepared for use as a proficiency testing material by John S. Watson at The Open University. The test material was evaluated for homogeneity by XRF analysis at The Open University, and as a result, the sample was considered suitable for use in this proficiency test.

Submission of results

3553 results were submitted for GeoPT38 (OU-7) by 104 laboratories as listed in Table 1. Data were submitted using the online system. In Table 1 results

designated as data quality 1 are shown in bold: results of data quality 2 are shown underlined. Results from all laboratories submitting data were used to assess respective assigned values. Again, there were 2 laboratories reporting (16) 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 16 values were excluded from consideration.

Assigned values

Following procedures described in earlier rounds, a robust statistical procedure was used to derive assigned concentration values [X_a], these being judged to be the best available estimates of the true composition of this sample. Values were assigned on the basis that: (i) sufficient laboratories had contributed data for an element, and (ii) the statistical assessment gave confidence that the results distribution showed a central portion approximating to a normal distribution. Part of this assessment involved examining a bar chart of contributed data for each element to judge the distribution of results.

Table 2 lists assigned and provisional values for 10 major components and 41 trace elements in GeoPT38 (OU-7). Bar charts for the 51 elements/components of GeoPT38 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, Ba, Be, Cd*, Ce, Co, Cr, Cs, Cu, Dy, Er, Eu, Ga, Gd, Ge*, Hf*, Ho, La, Li, Lu, Mo, Nb, Nd, Ni, Pb, Pr, Rb, Sc, Sm, Sn, Sr, Ta, Tb, Th, Tl, Tm, U, V, Y, Yb, Zn and Zr*. Of these, only provisional values were given to the 4 marked '*'. Instances of provisional status were recorded because either i) a relatively small number of measurements contributed to the consensus, or ii) the results were significantly dispersed in relation to the target value or the distribution was in part non-symmetrical. In 20 cases the robust mean was used to define the consensus value, but in 28 cases the median value was preferred. In 3 cases a mode provided the most

satisfactory consensus value, two of which were suitable for the value to be assigned, the other was given provisional status (see Table 2). The procedure used to determine the mode was based on the analysis of mixed populations detailed in Thompson (2006) and used in several rounds of GeoPT since round GeoPT23.

Bar charts for the 14 elements/components: Fe(II)O, H₂O⁺, LOI, Ag, As, Bi, C(tot), Cl, F, Hg, S, Sb, Se and W are plotted in Figure 2 for information only, as the data were insufficient, 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 GeoPT38, 1473 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 GeoPT38, 2080 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 concentration of the element expressed as a *fraction*; the factor $k = 0.01$ for pure geochemistry labs and $k = 0.02$ for applied geochemistry labs.

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

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

where: X is the contributed result, X_a is the assigned value and H_a is the target standard deviation.

Z-score results for contributors to GeoPT38 are listed in Table 3. Results designated as data quality 1 are shown in bold: results of data quality 2 are shown underlined. Where z-scores are derived from provisional values, they are shown in italics.

Participating laboratories are invited to assess their performance using the following criterion:– 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 GeoPT39 round, the test sample for which will be distributed during March 2016.

Acknowledgements

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Reference

Thompson, M. (2006). Using mixture models for bump-hunting in the results of proficiency tests. *Accred. Qual. Assur.*, 10, 501-505.

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: Nanhonor 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 Leaton dolerite). International Association of Geoanalysts: Unpublished report.

GeoPT12

Potts P.J., Thompson M., Chenery S.R., Webb, P.C. and Batjargal B. (2003)
 GEOPT12 - an international proficiency test for analytical geochemistry laboratories - report on round 12 / January 2003 (GAS Serpentine). 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 / January 2014 (Granite, GRI-1). 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 / August 2014 (Tonalite, TLM-1). 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 / August 2014 (Metalliferous sediment, SdAR-H1). 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 / January 2015 (Gabbro, GSM-1). 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 / January 2015 (Metal-rich sediment, SdAR-M2). International Association of Geoanalysts: Unpublished report.

GeoPT37

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

GeoPT37A

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

Table 1 - GeoPT38 Contributed data for Ardnamurchan Gabbro, OU-7. 11/12/2015

Lab Code		S2	S3	S4	S5	S6	S7	S8	S10	S11	S13	S15	S16	S17
SiO2	g 100g ⁻¹	51.81	<u>51.68</u>	<u>51.318</u>	<u>51.2</u>	<u>51.47</u>		<u>51.27</u>	<u>50.97</u>	51.11	50.57	<u>51.02</u>	<u>50.45</u>	51.34
TiO2	g 100g ⁻¹	1.34	<u>1.3</u>	<u>1.304</u>	<u>1.33</u>	<u>1.28</u>	1.2	<u>1.32</u>	<u>1.35</u>	1.33	1.18	<u>1.334</u>	<u>1.31</u>	1.33
Al2O3	g 100g ⁻¹	17.26	<u>17.28</u>	<u>16.727</u>	<u>16.91</u>	<u>16.81</u>		<u>17.44</u>	<u>16.96</u>	16.81	18.31	<u>17.065</u>	<u>16.87</u>	17.12
Fe2O3T	g 100g ⁻¹	10.61	<u>9.7</u>	<u>10.776</u>	<u>10.41</u>	<u>10.58</u>	9.72	<u>10.35</u>	<u>10.55</u>	10.44	9.23	<u>10.33</u>	<u>10.38</u>	10.57
Fe(II)O	g 100g ⁻¹					<u>6.01</u>								5.67
MnO	g 100g ⁻¹	0.15	<u>0.13</u>	<u>0.143</u>	<u>0.15</u>	<u>0.14</u>	0.145	<u>0.143</u>	<u>0.156</u>	0.15	0.13	<u>0.147</u>	<u>0.15</u>	0.15
MgO	g 100g ⁻¹	5.23	<u>5.28</u>	<u>5.069</u>	<u>5.01</u>	<u>5.08</u>		<u>5.04</u>	<u>5.13</u>	5.13	4.65	<u>5.138</u>	<u>4.85</u>	5.07
CaO	g 100g ⁻¹	9.53	<u>9.87</u>	<u>9.228</u>	<u>9.32</u>	<u>9.3</u>		<u>9.11</u>	<u>9.338</u>	9.4	9.59	<u>9.337</u>	<u>9.18</u>	9.46
Na2O	g 100g ⁻¹	3.03	<u>2.52</u>	<u>3.162</u>	<u>3.22</u>	<u>3.18</u>		<u>3.02</u>	<u>3.13</u>	3.23	3.45	<u>3.239</u>	<u>3.32</u>	3.22
K2O	g 100g ⁻¹	1.15	<u>1.08</u>	<u>1.226</u>	<u>1.15</u>	<u>1.18</u>	1.03	<u>1.13</u>	<u>1.108</u>	1.17	1.37	<u>1.157</u>	<u>1.16</u>	1.17
P2O5	g 100g ⁻¹	0.2	<u>0.16</u>	<u>0.197</u>	<u>0.2</u>	<u>0.2</u>	0.16	<u>0.201</u>	<u>0.197</u>	0.21	0.31	<u>0.205</u>	<u>0.2</u>	0.21
H2O+	g 100g ⁻¹					<u>1.01</u>								
CO2	g 100g ⁻¹													
LOI	g 100g ⁻¹	0.77	<u>0.85</u>	<u>0.863</u>	<u>0.66</u>	<u>0.72</u>		<u>0.7</u>	<u>0.85</u>	0.71	1.025		<u>0.88</u>	0.85
Ag	mg kg ⁻¹					<u>0.091</u>								
As	mg kg ⁻¹													
Au	mg kg ⁻¹													
B	mg kg ⁻¹		<u>15</u>			<u>5</u>								
Ba	mg kg ⁻¹	389	<u>404</u>	<u>382</u>	<u>375</u>	<u>416</u>	394	<u>378</u>	<u>384</u>	457		<u>389.7</u>		390
Be	mg kg ⁻¹					<u>0.96</u>		<u>1.02</u>				<u>1.06</u>		
Bi	mg kg ⁻¹													
Br	mg kg ⁻¹													
C(org)	mg kg ⁻¹													
C(tot)	mg kg ⁻¹													
Cd	mg kg ⁻¹					<u>0.11</u>	0.113							
Ce	mg kg ⁻¹		<u>36.62</u>			<u>36.6</u>	37.5	<u>45.79</u>	<u>34</u>			<u>38.3</u>		
Cl	mg kg ⁻¹													
Co	mg kg ⁻¹	31	<u>10</u>	<u>41</u>		<u>35.8</u>	33.13	<u>30</u>	<u>33</u>			<u>37.2</u>		30
Cr	mg kg ⁻¹	190	<u>24.3</u>	<u>168</u>	<u>156</u>	<u>176</u>	169.4	<u>197</u>	<u>181</u>			<u>201</u>		172
Cs	mg kg ⁻¹					<u>0.34</u>	0.328		<u>2</u>			<u>0.88</u>		
Cu	mg kg ⁻¹	123	<u>21.79</u>	<u>101</u>	<u>90</u>	<u>113</u>	97.9	<u>84</u>	<u>107</u>	104	130	<u>110.8</u>		99
Dy	mg kg ⁻¹		<u>4.4</u>			<u>4.35</u>	4.45	<u>4.71</u>				<u>4.87</u>		
Er	mg kg ⁻¹		<u>2.52</u>			<u>2.5</u>	2.43	<u>3.16</u>				<u>2.66</u>		
Eu	mg kg ⁻¹		<u>1.51</u>			<u>1.54</u>	1.43	<u>1.83</u>				<u>1.52</u>		
F	mg kg ⁻¹			<u>329</u>										
Ga	mg kg ⁻¹	15		<u>15</u>	<u>22</u>	<u>20.3</u>		<u>17</u>	<u>20</u>			<u>21</u>		22
Gd	mg kg ⁻¹		<u>5.24</u>			<u>4.42</u>	5.92	<u>5.34</u>				<u>4.61</u>		
Ge	mg kg ⁻¹		<u>1</u>			<u>1.61</u>		<u>1.22</u>						
Hf	mg kg ⁻¹			<u>3</u>		<u>3</u>		<u>1.7</u>				<u>4</u>		
Hg	mg kg ⁻¹					<u>0.014</u>								
Ho	mg kg ⁻¹		<u>0.87</u>			<u>0.84</u>	0.855					<u>0.98</u>		
I	mg kg ⁻¹													
In	mg kg ⁻¹													
Ir	mg kg ⁻¹													
La	mg kg ⁻¹					<u>16.4</u>	17	<u>19.93</u>	<u>14</u>			<u>18</u>		20
Li	mg kg ⁻¹		<u>7</u>	<u>8</u>		<u>6.94</u>		<u>9.5</u>						
Lu	mg kg ⁻¹		<u>0.32</u>			<u>0.34</u>	0.31					<u>0.38</u>		
Mo	mg kg ⁻¹					<u>0.44</u>	0.38	<u>0.72</u>				<u>0.56</u>		
Nb	mg kg ⁻¹	7	<u>8</u>			<u>6.12</u>						<u>7.77</u>		5
Nd	mg kg ⁻¹		<u>20.43</u>			<u>20.5</u>	19.8	<u>21.35</u>	<u>21</u>			<u>21.6</u>		17
Ni	mg kg ⁻¹	63	<u>90</u>	<u>71</u>	<u>59</u>	<u>68</u>	65.7	<u>61</u>	<u>66</u>	<u>62</u>		<u>63.6</u>		67
Os	mg kg ⁻¹													
Pb	mg kg ⁻¹	7	<u>28</u>	<u>6</u>		<u>6.05</u>	5.66	<u>2.72</u>			85	<u>4.14</u>		
Pd	mg kg ⁻¹													
Pr	mg kg ⁻¹		<u>4.75</u>			<u>4.84</u>						<u>5.22</u>		
Pt	mg kg ⁻¹													
Rb	mg kg ⁻¹	28				<u>28.7</u>	26.1	<u>21</u>	<u>30</u>			<u>27.8</u>		25
Re	mg kg ⁻¹													
Rh	mg kg ⁻¹													
Ru	mg kg ⁻¹													
S	mg kg ⁻¹													
Sb	mg kg ⁻¹		<u>0.928</u>				0.03							
Sc	mg kg ⁻¹	27	<u>30.1</u>		<u>27</u>	<u>30.3</u>	26.1	<u>29</u>				<u>30.24</u>		
Se	mg kg ⁻¹													
Sm	mg kg ⁻¹		<u>4.57</u>			<u>4.44</u>	4.52	<u>4.78</u>	<u>4</u>			<u>4.94</u>		
Sn	mg kg ⁻¹					<u>1.45</u>		<u>1.55</u>	<u>1</u>			<u>1.13</u>		
Sr	mg kg ⁻¹	371		<u>362</u>	<u>325</u>	<u>364</u>	358.7	<u>349</u>	<u>362</u>	361		<u>360.7</u>		385
Ta	mg kg ⁻¹		<u>16.57</u>			<u>0.43</u>	2.89					<u>0.51</u>		
Tb	mg kg ⁻¹		<u>0.75</u>			<u>0.76</u>	0.74					<u>0.8</u>		
Te	mg kg ⁻¹													
Th	mg kg ⁻¹		<u>1.82</u>			<u>1.72</u>	1.51					<u>1.78</u>		
Tl	mg kg ⁻¹						0.136					<u>0.13</u>		
Tm	mg kg ⁻¹		<u>0.34</u>			<u>0.35</u>	0.344					<u>0.4</u>		
U	mg kg ⁻¹					<u>0.43</u>	0.35	<u>0.56</u>				<u>0.44</u>		
V	mg kg ⁻¹	260			<u>245</u>	<u>255</u>	236	<u>261</u>	<u>267</u>	250		<u>262.3</u>		260
W	mg kg ⁻¹					<u>0.71</u>	0.72					<u>1.44</u>		
Y	mg kg ⁻¹	24	<u>21.86</u>	<u>22</u>		<u>23.2</u>		<u>27.65</u>	<u>25</u>	<u>25</u>		<u>25</u>		24
Yb	mg kg ⁻¹		<u>2.22</u>			<u>2.27</u>	2.18	<u>2.56</u>				<u>2.52</u>		
Zn	mg kg ⁻¹	78	<u>110</u>	<u>84</u>	<u>72</u>	<u>76.1</u>	77.7	<u>84</u>	<u>85</u>	72		<u>65.3</u>		81
Zr	mg kg ⁻¹	136		<u>98</u>		<u>110</u>	57.8	<u>137</u>	<u>141</u>	136		<u>124.2</u>		144

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

Table 1 - GeoPT38 Contributed data for Ardnamurchan Gabbro, OU-7. 11/12/2015

Lab Code		S19	S20	S21	S22	S23	S24	S25	S26	S27	S28	S29	S30	S31
SiO2	g 100g ⁻¹	51.63	<u>51</u>	51.11	50.89	<u>50.04</u>		51.26	51.84	<u>45.2</u>		<u>51.44</u>	<u>50.672</u>	<u>51.31</u>
TiO2	g 100g ⁻¹	1.4	<u>1.33</u>	1.414	0.14	<u>1.349</u>		1.326	1.35	<u>1.01</u>		<u>1.31</u>	<u>1.269</u>	<u>1.33</u>
Al2O3	g 100g ⁻¹	17.3	<u>16.9</u>	16.216	12.12	<u>17.61</u>		17.08	17.23	<u>16</u>		<u>17.92</u>	<u>17.615</u>	<u>17.13</u>
Fe2O3T	g 100g ⁻¹	10.05	<u>10.4</u>	10	6.27	<u>10.57</u>		10.48	10.36	<u>9.55</u>		<u>9.94</u>	<u>10.448</u>	<u>10.45</u>
Fe(II)O	g 100g ⁻¹													
MnO	g 100g ⁻¹	0.15	<u>0.15</u>	0.147	0.28	<u>0.149</u>		0.148	0.15	<u>1.15</u>	<u>0.158</u>	<u>0.137</u>	<u>0.145</u>	<u>0.15</u>
MgO	g 100g ⁻¹	4.88	<u>5.25</u>	4.763	2.67	<u>5.26</u>		5.14	5.24	<u>7.24</u>		<u>4.78</u>	<u>6.123</u>	<u>5.05</u>
CaO	g 100g ⁻¹	9.58	<u>9.19</u>	8.791	7.98	<u>9.25</u>		9.27	9.44	<u>7.78</u>		<u>9.26</u>	<u>9.102</u>	<u>9.38</u>
Na2O	g 100g ⁻¹	3.18	<u>3.18</u>	3.195	4.34	<u>3.43</u>		3.29	3.3	<u>5.83</u>		<u>3.56</u>	<u>3.057</u>	<u>3.22</u>
K2O	g 100g ⁻¹	1.22	<u>1.11</u>	1.104	4.43	<u>1.17</u>		1.17	1.17	<u>1.08</u>		<u>1.1</u>	<u>1.358</u>	<u>1.16</u>
P2O5	g 100g ⁻¹	0.21	<u>0.19</u>	0.192	0.41	<u>0.208</u>		0.206	0.21			<u>0.215</u>	<u>0.208</u>	<u>0.2</u>
H2O+	g 100g ⁻¹			1.32										
CO2	g 100g ⁻¹			0.229										
LOI	g 100g ⁻¹	0.4	<u>1.13</u>		0.89			0.8	0.855			<u>0.67</u>	<u>0.752</u>	<u>0.92</u>
Ag	mg kg ⁻¹								0.89					
As	mg kg ⁻¹	0.86							0.9					
Au	mg kg ⁻¹													
B	mg kg ⁻¹													
Ba	mg kg ⁻¹	389.4	<u>392</u>	427.3				452	424	<u>464</u>	<u>413</u>	<u>401</u>		<u>405</u>
Be	mg kg ⁻¹	0.87							0.8		<u>1.06</u>	<u>0.95</u>		
Bi	mg kg ⁻¹													
Br	mg kg ⁻¹													
C(org)	mg kg ⁻¹													
C(tot)	mg kg ⁻¹		<u>800</u>											
Cd	mg kg ⁻¹			0.144					0.25		<u>0.11</u>			<u>0.4</u>
Ce	mg kg ⁻¹	37.98	<u>40.7</u>	40.27		<u>40.7</u>	38.93	35	65.53	<u>39.3</u>	<u>37.4</u>	<u>38.38</u>		
Cl	mg kg ⁻¹								114			<u>177</u>		
Co	mg kg ⁻¹	34	<u>37.8</u>	38.54		<u>29</u>		35			<u>38</u>	<u>32.13</u>		<u>32</u>
Cr	mg kg ⁻¹	171	<u>178</u>	194.3		<u>114</u>		171	175.360	<u>468</u>		<u>177</u>		<u>162</u>
Cs	mg kg ⁻¹	0.327	<u>4.46</u>	0.364					0.41		<u>0.34</u>			
Cu	mg kg ⁻¹	89.87	<u>112</u>	104.7				93	96.43	<u>125</u>	<u>98</u>	<u>103.5</u>		<u>102</u>
Dy	mg kg ⁻¹	4.985	<u>4.34</u>	5.181		<u>4.77</u>	4.56		4.35		<u>4.42</u>	<u>4.56</u>		
Er	mg kg ⁻¹	2.695	<u>2.61</u>	2.922		<u>2.67</u>	2.53		2.45		<u>2.49</u>	<u>2.66</u>		
Eu	mg kg ⁻¹	1.513	<u>1.42</u>	1.644		<u>1.65</u>	1.46		2.05		<u>1.54</u>	<u>1.5</u>		
F	mg kg ⁻¹		<u>353</u>									<u>295</u>		
Ga	mg kg ⁻¹		<u>20.9</u>	21.86				20	20.69	<u>15.5</u>	<u>22</u>			
Gd	mg kg ⁻¹	5.058	<u>4.99</u>	5.378		<u>5.05</u>	4.37		5.37		<u>4.9</u>	<u>4.96</u>		
Ge	mg kg ⁻¹								1.42					
Hf	mg kg ⁻¹	1.993	<u>4</u>	1.989					3.42		<u>1.6</u>	<u>3.6</u>		
Hg	mg kg ⁻¹													
Ho	mg kg ⁻¹	0.955	<u>0.87</u>	1.015		<u>0.95</u>	0.88		0.85		<u>0.89</u>	<u>0.91</u>		
I	mg kg ⁻¹													
In	mg kg ⁻¹													
Ir	mg kg ⁻¹													
La	mg kg ⁻¹	17.06	<u>19.6</u>	18.62		<u>18.8</u>	17.89	14	28.59	<u>15.7</u>	<u>17.7</u>	<u>17.05</u>		<u>17</u>
Li	mg kg ⁻¹	7.3										<u>8.7</u>		
Lu	mg kg ⁻¹	0.337	<u>0.36</u>	0.359		<u>0.31</u>	0.37		0.26		<u>0.32</u>	<u>0.36</u>		
Mo	mg kg ⁻¹											<u>0.45</u>		
Nb	mg kg ⁻¹	6.009	<u>6.2</u>	6.69				7	6.11	<u>4.5</u>	<u>6.2</u>	<u>6.56</u>		
Nd	mg kg ⁻¹	20.43	<u>20.4</u>	22.67		<u>22</u>	20.99	22	40.37	<u>28.4</u>	<u>20.7</u>	<u>20.28</u>		
Ni	mg kg ⁻¹	59	<u>73</u>	70.76		<u>60</u>		62	76.08		<u>70</u>	<u>63.56</u>		<u>57</u>
Os	mg kg ⁻¹													
Pb	mg kg ⁻¹	5.772	<u>7</u>	7.026		<u>7</u>		7	6.05	<u>18.3</u>	<u>6.4</u>			<u>6.2</u>
Pd	mg kg ⁻¹													
Pr	mg kg ⁻¹	4.787	<u>4.86</u>	5.215		<u>5.3</u>	4.88		8.49		<u>4.89</u>	<u>4.74</u>		
Pt	mg kg ⁻¹													
Rb	mg kg ⁻¹	25.24	<u>28.2</u>	27.93				30	27.32	<u>27.4</u>	<u>28</u>	<u>27.42</u>		<u>28</u>
Re	mg kg ⁻¹													
Rh	mg kg ⁻¹													
Ru	mg kg ⁻¹													
S	mg kg ⁻¹		<u>200</u>						120	<u>568</u>				
Sb	mg kg ⁻¹													
Sc	mg kg ⁻¹	27.1		32.76		<u>33.5</u>		29	33.91	<u>131</u>	<u>31</u>	<u>28.36</u>		
Se	mg kg ⁻¹													
Sm	mg kg ⁻¹	4.402	<u>4.57</u>	5.141		<u>4.86</u>	4.88				<u>4.64</u>	<u>4.62</u>		
Sn	mg kg ⁻¹		<u>1</u>	1.371							<u>1.2</u>			
Sr	mg kg ⁻¹	350.3	<u>382</u>	368.7				381	371	<u>387</u>	<u>363</u>	<u>370</u>		
Ta	mg kg ⁻¹	0.375	<u>0.3</u>	0.532					0.32		<u>0.37</u>	<u>0.42</u>		
Tb	mg kg ⁻¹	0.774	<u>0.76</u>	0.828		<u>0.78</u>	0.78		0.83		<u>0.77</u>	<u>0.76</u>		
Te	mg kg ⁻¹									<u>1.4</u>				
Th	mg kg ⁻¹	1.789	<u>5.91</u>	1.944		<u>1.85</u>			1.28			<u>1.73</u>		
Tl	mg kg ⁻¹			0.189							<u>0.16</u>			
Tm	mg kg ⁻¹	0.367	<u>0.35</u>	0.394		<u>0.35</u>	0.38				<u>0.35</u>	<u>0.37</u>		
U	mg kg ⁻¹	0.385	<u>0.52</u>	0.378					0.41		<u>0.37</u>	<u>0.4</u>		
V	mg kg ⁻¹	227	<u>256</u>	301.2		<u>181</u>		263	242	<u>190</u>	<u>277</u>	<u>257</u>		<u>222</u>
W	mg kg ⁻¹										<u>0.6</u>			
Y	mg kg ⁻¹	22.4	<u>25</u>	24.27		<u>25</u>	25.11	25	16.69	<u>21.2</u>	<u>23</u>	<u>22.78</u>		
Yb	mg kg ⁻¹	2.284	<u>2.28</u>	2.581		<u>2.16</u>	2.51	5	1.96		<u>2.21</u>	<u>2.38</u>		
Zn	mg kg ⁻¹	66	<u>93</u>	89.09		<u>69</u>		69	86.68	<u>69.7</u>	<u>85</u>	<u>79.38</u>		<u>67</u>
Zr	mg kg ⁻¹	66.09	<u>151</u>	206.9				137	137.180	<u>136</u>		<u>119</u>		

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

Table 1 - GeoPT38 Contributed data for Ardnamurchan Gabbro, OU-7. 11/12/2015

Lab Code		S33	S34	S35	S37	S40	S41	S44	S46	S47	S48	S49	S50	S51
SiO2	g 100g ⁻¹	<u>51.15</u>	<u>51.19</u>	50.97	50.39	51.24	<u>51.62</u>	51.461		<u>51.39</u>	<u>50.77</u>	<u>51.19</u>		<u>49.889</u>
TiO2	g 100g ⁻¹	<u>1.251</u>	<u>1.32</u>	1.36	1.188	1.33	<u>1.327</u>	1.343	<u>1.266</u>	<u>1.33</u>	<u>1.34</u>	<u>1.326</u>	1.33	<u>1.414</u>
Al2O3	g 100g ⁻¹	<u>16.78</u>	<u>17.07</u>	17.21	16.84	17.1	<u>17.07</u>	17.068	<u>15.76</u>	<u>17</u>	<u>16.87</u>	<u>17</u>		<u>17.603</u>
Fe2O3T	g 100g ⁻¹	<u>10.45</u>	<u>10.61</u>	10.39	9.654	10.44	<u>10.26</u>	10.567	<u>10.519</u>	<u>10.58</u>	<u>10.4</u>	<u>10.45</u>		<u>10.672</u>
Fe(II)O	g 100g ⁻¹													
MnO	g 100g ⁻¹	<u>0.148</u>	<u>0.14</u>	0.15	0.091	0.153	<u>0.154</u>	0.154	<u>0.147</u>	<u>0.16</u>	<u>0.148</u>	<u>0.147</u>	0.149	0.166
MgO	g 100g ⁻¹	<u>5.024</u>	<u>5.14</u>	5.17	5.13	5.13	<u>5</u>	5.198	<u>4.989</u>	<u>5.13</u>	<u>4.99</u>	<u>5.067</u>		<u>5.068</u>
CaO	g 100g ⁻¹	<u>9.21</u>	<u>9.31</u>	8.84	9.07	9.405	<u>9.15</u>	9.085	<u>8.915</u>	<u>9.48</u>	<u>9.26</u>	<u>9.34</u>		<u>9.153</u>
Na2O	g 100g ⁻¹	<u>3.24</u>	<u>3.23</u>	3.3	3.24	3.266	<u>3.24</u>	3.02	<u>3.193</u>	<u>2.64</u>	<u>3.1</u>	<u>3.303</u>		<u>3.254</u>
K2O	g 100g ⁻¹	<u>1.146</u>	<u>1.18</u>	1.14	1.2	1.166	<u>1.15</u>	1.188	<u>1.152</u>	<u>1.21</u>	<u>1.15</u>	<u>1.159</u>		<u>1.071</u>
P2O5	g 100g ⁻¹	<u>0.195</u>	<u>0.23</u>	0.19	0.2	2.13	<u>0.203</u>	0.197	<u>0.216</u>	<u>0.17</u>	<u>0.199</u>	<u>0.201</u>		<u>0.139</u>
H2O+	g 100g ⁻¹									<u>0.23</u>				
CO2	g 100g ⁻¹													<u>0.22</u>
LOI	g 100g ⁻¹		<u>0.79</u>	0.68	0.8	0.667	<u>0.7</u>	0.7		<u>0.68</u>		<u>0.678</u>		<u>1.05</u>
Ag	mg kg ⁻¹								<u>0.075</u>					<u>0.042</u>
As	mg kg ⁻¹			3.4				22	<u>0.299</u>					<u>0.683</u>
Au	mg kg ⁻¹													<u>0.001</u>
B	mg kg ⁻¹													
Ba	mg kg ⁻¹	<u>403</u>	<u>468</u>	446	387	402	<u>431</u>		<u>399.423</u>	<u>358</u>		<u>404</u>	394	<u>420.967</u>
Be	mg kg ⁻¹					1.04			<u>1.078</u>				0.92	
Bi	mg kg ⁻¹					0.011			<u>0.014</u>					
Br	mg kg ⁻¹													
C(org)	mg kg ⁻¹													
C(tot)	mg kg ⁻¹	<u>660</u>												<u>1647.770</u>
Cd	mg kg ⁻¹			1		0.156			<u>0.151</u>					<u>0.155</u>
Ce	mg kg ⁻¹		<u>34</u>	42	22.7	35.8	<u>26</u>		<u>41.36</u>				38.2	<u>37.547</u>
Cl	mg kg ⁻¹													
Co	mg kg ⁻¹	<u>35</u>		33	16.2	36.9	<u>38</u>		<u>34.583</u>	<u>44</u>		<u>205</u>	36.3	<u>35.7</u>
Cr	mg kg ⁻¹	<u>189</u>	<u>179</u>	157	157	178	<u>170</u>		<u>182.940</u>	<u>164</u>		<u>168</u>	177	<u>194.870</u>
Cs	mg kg ⁻¹				11.2	0.331			<u>0.352</u>				0.34	<u>0.376</u>
Cu	mg kg ⁻¹	<u>94</u>	<u>110</u>	95	97.6	104	<u>104</u>	97	<u>91.69</u>	<u>100</u>		<u>92.7</u>	94.2	<u>77.733</u>
Dy	mg kg ⁻¹					4.62			<u>4.785</u>				4.58	<u>4.747</u>
Er	mg kg ⁻¹					2.64			<u>2.588</u>				2.61	<u>2.763</u>
Eu	mg kg ⁻¹					1.53			<u>1.532</u>				1.51	<u>1.473</u>
F	mg kg ⁻¹													
Ga	mg kg ⁻¹		<u>20</u>	19	18.7	20.9	<u>20</u>	26	<u>20.238</u>				20.3	<u>93.4</u>
Gd	mg kg ⁻¹					4.72			<u>4.936</u>				4.82	<u>5.227</u>
Ge	mg kg ⁻¹													<u>5.013</u>
Hf	mg kg ⁻¹			3		2.93	<u>3.8</u>		<u>1.584</u>				3.25	<u>3.88</u>
Hg	mg kg ⁻¹													
Ho	mg kg ⁻¹					0.94			<u>0.942</u>				0.92	<u>0.936</u>
I	mg kg ⁻¹			2										
In	mg kg ⁻¹													<u>0.079</u>
Ir	mg kg ⁻¹													<u>0.000</u>
La	mg kg ⁻¹	<u>16</u>	<u>22</u>	54	12.5	14.5	<u>15</u>		<u>18.953</u>				17.6	<u>17.223</u>
Li	mg kg ⁻¹					6.59			<u>8.17</u>				7.3	
Lu	mg kg ⁻¹					0.357			<u>0.318</u>				0.35	<u>0.366</u>
Mo	mg kg ⁻¹					0.45		1	<u>0.477</u>					<u>1.063</u>
Nb	mg kg ⁻¹		<u>6</u>	5	7.2	5.87	<u>5</u>	13	<u>6.49</u>				6.6	<u>5.893</u>
Nd	mg kg ⁻¹			18		20.4	<u>18</u>		<u>23.107</u>				20.7	<u>21.92</u>
Ni	mg kg ⁻¹	<u>70</u>	<u>63</u>	55	51.5	62.2	<u>63</u>	60	<u>64.06</u>	<u>61</u>		<u>69.7</u>	63.2	<u>87.7</u>
Os	mg kg ⁻¹													<u>0.000</u>
Pb	mg kg ⁻¹		<u>10</u>	15	7.8	5.7	<u>3</u>		<u>6.13</u>			<u>17.7</u>	6.25	<u>6.167</u>
Pd	mg kg ⁻¹													<u>0.001</u>
Pr	mg kg ⁻¹					4.8	<u>4</u>		<u>5.212</u>				4.84	<u>4.573</u>
Pt	mg kg ⁻¹													<u>0.005</u>
Rb	mg kg ⁻¹		<u>31</u>	29	29.7	28	<u>26</u>	30	<u>28.829</u>				27.7	<u>24.263</u>
Re	mg kg ⁻¹													<u>0.018</u>
Rh	mg kg ⁻¹													<u>0.000</u>
Ru	mg kg ⁻¹													<u>0.000</u>
S	mg kg ⁻¹	<u>200</u>				0.018								<u>439</u>
Sb	mg kg ⁻¹			2		0.031			<u>0.036</u>					<u>0.803</u>
Sc	mg kg ⁻¹		<u>27</u>	26	25.4	29.7	<u>32</u>			<u>23</u>			31.1	<u>39.313</u>
Se	mg kg ⁻¹								<u>0.133</u>					
Sm	mg kg ⁻¹			8		4.76	<u>4</u>		<u>5.078</u>				4.63	<u>4.897</u>
Sn	mg kg ⁻¹			7		1.16			<u>1.175</u>				1.2	<u>1.743</u>
Sr	mg kg ⁻¹		<u>386</u>	369	362.6	384	<u>374</u>	377	<u>348.095</u>	<u>327</u>		<u>340</u>	372	<u>366</u>
Ta	mg kg ⁻¹					0.381			<u>0.454</u>				0.4	<u>0.310</u>
Tb	mg kg ⁻¹					0.785			<u>0.763</u>				0.75	<u>0.733</u>
Te	mg kg ⁻¹			6		0.017								
Th	mg kg ⁻¹		<u>2</u>	2		1.77		2	<u>2.02</u>				1.73	<u>1.808</u>
Tl	mg kg ⁻¹					0.136			<u>0.158</u>					
Tm	mg kg ⁻¹					0.386			<u>0.37</u>				0.37	<u>0.354</u>
U	mg kg ⁻¹		<u>2</u>	2.6	7.5	0.428			<u>0.298</u>				0.44	<u>0.482</u>
V	mg kg ⁻¹	<u>263</u>	<u>231</u>	239	186	257	<u>273</u>		<u>286.760</u>	<u>230</u>			269	<u>281</u>
W	mg kg ⁻¹			25		0.809		1	<u>0.572</u>					<u>2.4</u>
Y	mg kg ⁻¹	<u>22</u>	<u>26</u>	24	24.3	26	<u>25</u>	22	<u>24.474</u>	<u>22</u>			25.8	<u>23.837</u>
Yb	mg kg ⁻¹					2.44			<u>2.22</u>				2.38	<u>2.543</u>
Zn	mg kg ⁻¹	<u>84</u>	<u>67</u>	69	65.9	71.1	<u>68</u>	73	<u>83.8</u>			<u>91.7</u>	77.6	<u>72.267</u>
Zr	mg kg ⁻¹	<u>122</u>	<u>141</u>	130	126.4	137	<u>148</u>	148	<u>41.85</u>	<u>117</u>		<u>218</u>	121	<u>148.3</u>

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

Table 1 - GeoPT38 Contributed data for Ardnamurchan Gabbro, OU-7. 11/12/2015

Lab Code		S52	S53	S54	S56	S57	S58	S59	S60	S61	S62	S63	S64	S65
SiO2	g 100g ⁻¹		<u>51.5</u>	<u>51.26</u>	50.65		<u>50.93</u>	<u>50.9</u>	51.19	<u>51.09</u>	<u>50.97</u>	<u>52.004</u>	<u>51.4</u>	
TiO2	g 100g ⁻¹	<u>1.3</u>	<u>1.3</u>	<u>1.472</u>	1.3	1.33	<u>1.38</u>	<u>1.3</u>	1.34	<u>1.34</u>	<u>1.32</u>	<u>1.375</u>	<u>1.22</u>	
Al2O3	g 100g ⁻¹	<u>16.63</u>	<u>16.9</u>	<u>17.61</u>	16.89		<u>16.54</u>	<u>16.92</u>	17.07	<u>16.93</u>	<u>17.1</u>	<u>17.256</u>	<u>16.7</u>	
Fe2O3T	g 100g ⁻¹	<u>10.73</u>	<u>10.2</u>	<u>10.61</u>	10.27		<u>10.83</u>	<u>10.75</u>	10.45	<u>10.47</u>	<u>10.43</u>	<u>10.565</u>	<u>9.89</u>	
Fe(II)O	g 100g ⁻¹			<u>5.51</u>	5.93				5.26	<u>6.21</u>	<u>5.8</u>			
MnO	g 100g ⁻¹	<u>0.21</u>	<u>0.14</u>	<u>0.149</u>	0.151	0.512	<u>0.14</u>	<u>0.14</u>	0.148	<u>0.15</u>	<u>0.14</u>	<u>0.155</u>	<u>0.149</u>	
MgO	g 100g ⁻¹	<u>5.12</u>	<u>5.01</u>	<u>5.129</u>	5.06		<u>5.24</u>	<u>5.22</u>	5.12	<u>5.08</u>	<u>5.13</u>	<u>5.088</u>	<u>5.41</u>	
CaO	g 100g ⁻¹	<u>9.51</u>	<u>9.32</u>	<u>9.403</u>	9.26		<u>9.86</u>	<u>9.33</u>	9.12	<u>9.44</u>	<u>9.36</u>	<u>9.433</u>	<u>9.14</u>	
Na2O	g 100g ⁻¹	<u>3.24</u>	<u>3.25</u>	<u>3.121</u>	3.29		<u>3.25</u>	<u>3.2</u>	3.09	<u>3.19</u>	<u>3.21</u>	<u>3.309</u>	<u>3.61</u>	
K2O	g 100g ⁻¹	<u>1.08</u>	<u>1.18</u>	<u>1.164</u>	1.18		<u>1.17</u>	<u>1.16</u>	1.154	<u>1.16</u>	<u>1.15</u>	<u>1.18</u>	<u>1.24</u>	
P2O5	g 100g ⁻¹	<u>0.22</u>	<u>0.2</u>	<u>0.215</u>			<u>0.209</u>	<u>0.2</u>	0.213	<u>0.21</u>	<u>0.2</u>	<u>0.204</u>	<u>2.61</u>	
H2O+	g 100g ⁻¹				1.03					<u>1.2</u>				
CO2	g 100g ⁻¹									<u>0.13</u>				
LOI	g 100g ⁻¹		<u>0.78</u>		0.77		<u>0.62</u>	<u>0.8</u>	0.81	<u>0.86</u>	<u>0.66</u>	<u>0.75</u>	<u>0.84</u>	
Ag	mg kg ⁻¹			<u>0.05</u>	0.11		<u>4.3</u>							
As	mg kg ⁻¹			<u>0.48</u>	0.42		<u>0.7</u>			<u>0.9</u>				
Au	mg kg ⁻¹													
B	mg kg ⁻¹				4									
Ba	mg kg ⁻¹	<u>391</u>		<u>431</u>	408	394	<u>441.3</u>	<u>410</u>	408	<u>415.1</u>	<u>430</u>	<u>406.2</u>	<u>456</u>	<u>458.5</u>
Be	mg kg ⁻¹			<u>1.04</u>	0.93			<u>0.99</u>			<u>0.9</u>	<u>0.8</u>		
Bi	mg kg ⁻¹			<u>0.01</u>			<u>0.1</u>							
Br	mg kg ⁻¹						<u>0.4</u>							
C(org)	mg kg ⁻¹													
C(tot)	mg kg ⁻¹			<u>889</u>	530		<u>0.03</u>			<u>710</u>				
Cd	mg kg ⁻¹			<u>0.11</u>	0.13		<u>8.2</u>							
Ce	mg kg ⁻¹	<u>38.7</u>		<u>38</u>	38	37.9	<u>33.2</u>	<u>38.1</u>	45.5	<u>36.6</u>	<u>39</u>	<u>35.19</u>		<u>30</u>
Cl	mg kg ⁻¹				130								<u>183</u>	
Co	mg kg ⁻¹	<u>37.5</u>		<u>37.3</u>	35.4	35.6	<u>38.5</u>	<u>37</u>	41.6	<u>35.6</u>	<u>32</u>	<u>34.76</u>		<u>34.7</u>
Cr	mg kg ⁻¹	<u>152</u>		<u>198</u>	197	183	<u>156.8</u>	<u>175</u>	159	<u>167</u>	<u>152</u>	<u>184.3</u>	<u>205</u>	<u>179.7</u>
Cs	mg kg ⁻¹			<u>0.37</u>	0.39	0.339		<u>0.344</u>		<u>0.3</u>				
Cu	mg kg ⁻¹	<u>93.9</u>		<u>85.5</u>	101	103	<u>92.3</u>	<u>100</u>	108	<u>102.2</u>	<u>97</u>	<u>100.9</u>	<u>85</u>	<u>99.2</u>
Dy	mg kg ⁻¹	<u>4.61</u>		<u>4.6</u>	4.6	4.35		<u>4.57</u>	4.94	<u>4.38</u>	<u>4.25</u>	<u>4.58</u>		
Er	mg kg ⁻¹	<u>2.53</u>		<u>2.68</u>	2.59	2.48		<u>2.61</u>	2.77	<u>2.42</u>	<u>2.49</u>	<u>2.61</u>		
Eu	mg kg ⁻¹	<u>1.52</u>		<u>1.52</u>	1.54	1.52		<u>1.49</u>	1.78	<u>1.56</u>	<u>1.67</u>	<u>1.47</u>		
F	mg kg ⁻¹				281									
Ga	mg kg ⁻¹			<u>20.7</u>	20.8		<u>19.7</u>	<u>20.1</u>	2205	<u>21</u>	<u>20</u>	<u>19.37</u>		<u>20.4</u>
Gd	mg kg ⁻¹	<u>4.69</u>		<u>4.51</u>	4.57	4.61		<u>4.78</u>	5.52	<u>4.83</u>	<u>4.85</u>	<u>4.21</u>		
Ge	mg kg ⁻¹			<u>1.23</u>	1.38			<u>1.39</u>		<u>1</u>				
Hf	mg kg ⁻¹			<u>3.49</u>	3.53	1.72	<u>2.1</u>	<u>3.13</u>		<u>3</u>	<u>3.6</u>	<u>3.38</u>		
Hg	mg kg ⁻¹				0.01					<u>0.01</u>				
Ho	mg kg ⁻¹			<u>0.91</u>	0.971	0.915		<u>0.923</u>	0.98	<u>0.9</u>	<u>0.85</u>	<u>0.92</u>		
I	mg kg ⁻¹													
In	mg kg ⁻¹			<u>0.05</u>	0.07									
Ir	mg kg ⁻¹													
La	mg kg ⁻¹	<u>17.6</u>		<u>17.6</u>	17.9	17.5	<u>28.8</u>	<u>17.3</u>	21	<u>16.9</u>	<u>17.5</u>	<u>16.86</u>		<u>14</u>
Li	mg kg ⁻¹			<u>7.16</u>	7.5	7.84		<u>7.9</u>	10.5		<u>7</u>			
Lu	mg kg ⁻¹	<u>0.31</u>		<u>0.34</u>	0.371	0.323		<u>0.349</u>	0.38	<u>0.36</u>	<u>0.31</u>	<u>0.35</u>		
Mo	mg kg ⁻¹			<u>0.85</u>	0.54		<u>0.5</u>							
Nb	mg kg ⁻¹			<u>5.75</u>	5.53	6.49	<u>5.2</u>	<u>6.43</u>		<u>7</u>		<u>5.43</u>		<u>4.94</u>
Nd	mg kg ⁻¹	<u>21</u>		<u>21.1</u>	20.6	20.4	<u>27</u>	<u>20.8</u>	25	<u>19.2</u>	<u>22.1</u>	<u>20.06</u>		
Ni	mg kg ⁻¹	<u>64.5</u>		<u>61.4</u>	65	64.6	<u>54.8</u>	<u>65.5</u>	64.7	<u>67</u>	<u>60</u>	<u>64.7</u>	<u>68</u>	<u>63.1</u>
Os	mg kg ⁻¹													
Pb	mg kg ⁻¹	<u>5.21</u>		<u>5.82</u>	6.25	6.29	<u>4.6</u>	<u>6.27</u>		<u>6.1</u>		<u>5.73</u>		<u>5.7</u>
Pd	mg kg ⁻¹													
Pr	mg kg ⁻¹	<u>4.86</u>		<u>5.23</u>	4.88	4.95		<u>4.79</u>	5.85	<u>4.73</u>	<u>4.5</u>	<u>4.6</u>		
Pt	mg kg ⁻¹													
Rb	mg kg ⁻¹			<u>27.7</u>	29.1	28.3	<u>27</u>	<u>27</u>	30.7	<u>28.3</u>	<u>27</u>	<u>25.98</u>	<u>33</u>	<u>28.99</u>
Re	mg kg ⁻¹			<u>0.002</u>										
Rh	mg kg ⁻¹													
Ru	mg kg ⁻¹													
S	mg kg ⁻¹			<u>164</u>	218		<u>0.006</u>			<u>200</u>			<u>221</u>	
Sb	mg kg ⁻¹			<u>0.02</u>		0.031								
Sc	mg kg ⁻¹			<u>23.6</u>	31.89	30.2	<u>26.4</u>	<u>30.4</u>		<u>29</u>	<u>31.1</u>	<u>29.5</u>		<u>27.1</u>
Se	mg kg ⁻¹			<u>1.6</u>	0.09									
Sm	mg kg ⁻¹	<u>4.67</u>		<u>4.37</u>	4.77	4.63		<u>4.68</u>	5.57	<u>4.3</u>	<u>4.41</u>	<u>4.52</u>		
Sn	mg kg ⁻¹			<u>1.43</u>	1.42	1.29	<u>0.8</u>			<u>1</u>				
Sr	mg kg ⁻¹	<u>367</u>		<u>408</u>	385	370	<u>357.9</u>	<u>374</u>	350	<u>372.2</u>	<u>364</u>	<u>365.450</u>	<u>383</u>	<u>372.320</u>
Ta	mg kg ⁻¹			<u>0.4</u>	0.41	0.351	<u>0.6</u>	<u>0.375</u>		<u>1.2</u>	<u>0.33</u>			
Tb	mg kg ⁻¹	<u>0.72</u>		<u>0.75</u>	0.734	0.744		<u>0.754</u>	0.86	<u>0.77</u>	<u>0.76</u>	<u>0.75</u>		
Te	mg kg ⁻¹						<u>0.8</u>							
Th	mg kg ⁻¹	<u>2.73</u>		<u>1.94</u>	1.76	1.72	<u>3.7</u>	<u>1.7</u>	1.88	<u>1.7</u>	<u>1.9</u>	<u>1.71</u>		
Tl	mg kg ⁻¹			<u>0.14</u>							<u>0.17</u>			
Tm	mg kg ⁻¹	<u>0.35</u>		<u>0.37</u>	0.366			<u>0.373</u>	0.41	<u>0.37</u>	<u>0.33</u>	<u>0.37</u>		
U	mg kg ⁻¹	<u>0.37</u>		<u>0.48</u>	0.42	0.36	<u>1.8</u>	<u>0.424</u>	0.45	<u>0.43</u>	<u>0.29</u>			
V	mg kg ⁻¹	<u>264</u>		<u>271</u>	246	268	<u>205.4</u>	<u>265</u>	250	<u>253</u>	<u>255</u>	<u>264.3</u>		<u>250.9</u>
W	mg kg ⁻¹			<u>0.52</u>	0.89		<u>1.9</u>							
Y	mg kg ⁻¹	<u>26.8</u>		<u>25.1</u>	24.6	26	<u>23.3</u>	<u>25.6</u>	25.7	<u>24.4</u>	<u>24.5</u>	<u>21.84</u>		<u>25.31</u>
Yb	mg kg ⁻¹	<u>2.2</u>		<u>2.41</u>	2.47	2.22	<u>0.3</u>	<u>2.35</u>	2.5	<u>2.3</u>	<u>1.96</u>	<u>2.39</u>		
Zn	mg kg ⁻¹	<u>75.3</u>		<u>76.6</u>	91.5	81.4	<u>65.3</u>	<u>80.1</u>	76.7	<u>77</u>	<u>71</u>	<u>83.3</u>	<u>72</u>	<u>73.76</u>
Zr	mg kg ⁻¹			<u>128</u>	139	61	<u>118.3</u>	<u>122</u>	116	<u>127</u>	<u>139</u>	<u>124.410</u>	<u>217</u>	<u>134.2</u>

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

Table 1 - GeoPT38 Contributed data for Ardnamurchan Gabbro, OU-7. 11/12/2015

Lab Code		S66	S68	S69	S70	S71	S72	S73	S74	S75	S77	S78	S79	S80
SiO2	g 100g ⁻¹	51.392	<u>50.8</u>	<u>51.35</u>	51.6	<u>51.15</u>	<u>50.582</u>	<u>51.469</u>	50.8	<u>51.078</u>	50.01	51.359		<u>50.97</u>
TiO2	g 100g ⁻¹	1.321	<u>1.32</u>	<u>1.33</u>	1.34	<u>1.33</u>		<u>1.338</u>	1.34	<u>1.346</u>	1.35	1.441		<u>1.3</u>
Al2O3	g 100g ⁻¹	17.225	<u>18.4</u>	<u>16.83</u>	16.96	<u>17.13</u>		<u>17.28</u>	16.87	<u>16.909</u>	16.98	17.83		<u>16.93</u>
Fe2O3T	g 100g ⁻¹	10.37	<u>10.5</u>	<u>10.46</u>	10.14	<u>10.71</u>		<u>10.516</u>	10.46	<u>10.562</u>	10.71	1.492	23.212	<u>10.64</u>
Fe(II)O	g 100g ⁻¹													
MnO	g 100g ⁻¹	0.150	<u>0.15</u>	<u>0.151</u>	0.15	<u>0.16</u>		<u>0.157</u>	0.15	<u>0.156</u>	0.157	0.143	0.055	<u>0.145</u>
MgO	g 100g ⁻¹	5.177	<u>5.15</u>	<u>5.18</u>	5.25	<u>4.84</u>		<u>5.251</u>	5.1	<u>5.089</u>	5.24	5.771		<u>5.14</u>
CaO	g 100g ⁻¹	9.178	<u>9.3</u>	<u>9.36</u>	9.13	<u>9.28</u>		<u>9.336</u>	9.23	<u>9.328</u>	9.76	9.417	3.650	<u>9.47</u>
Na2O	g 100g ⁻¹	3.301	<u>2.97</u>	<u>3.15</u>	3.02	<u>2.99</u>		<u>3.253</u>	3.16	<u>3.217</u>	3.32	3.228	1.72	<u>3.26</u>
K2O	g 100g ⁻¹	1.172	<u>1.13</u>	<u>1.17</u>	1.14	<u>1.21</u>		<u>1.161</u>	1.16	<u>1.148</u>	1.21	1.165		<u>1.09</u>
P2O5	g 100g ⁻¹	0.217	<u>0.2</u>	<u>0.201</u>	0.19	<u>0.21</u>		<u>0.209</u>	0.2		0.21	0.235		<u>0.2</u>
H2O+	g 100g ⁻¹													
CO2	g 100g ⁻¹													
LOI	g 100g ⁻¹	0.72	<u>0.76</u>	<u>0.82</u>	0.75	<u>0.87</u>	<u>0.667</u>	<u>0.735</u>	<u>1.34</u>	<u>0.846</u>	0.62	0.47		<u>0.54</u>
Ag	mg kg ⁻¹													
As	mg kg ⁻¹												10.2	
Au	mg kg ⁻¹													
B	mg kg ⁻¹													
Ba	mg kg ⁻¹	424.1	<u>420</u>		396	<u>405</u>		<u>457</u>	429.2	<u>444.6</u>	419	423	70	<u>425</u>
Be	mg kg ⁻¹	0.892			0.86							1.2		<u>1.23</u>
Bi	mg kg ⁻¹	0.030												
Br	mg kg ⁻¹													
C(org)	mg kg ⁻¹													
C(tot)	mg kg ⁻¹													
Cd	mg kg ⁻¹	0.116			0.04							0.22	0.082	
Ce	mg kg ⁻¹	39.5			37.2			<u>42.65</u>	40.8		42	36.71		37.1
Cl	mg kg ⁻¹													
Co	mg kg ⁻¹	36.28			34.7	<u>32</u>			30.5		31	33.5	23.7	<u>37.6</u>
Cr	mg kg ⁻¹	156.250			167	<u>158</u>		<u>219</u>	157.1	<u>195</u>	157	185.2	47.8	<u>180</u>
Cs	mg kg ⁻¹	0.369			0.34							0.335		<u>0.34</u>
Cu	mg kg ⁻¹	103.450			101	<u>96</u>		<u>127</u>	97.2		98	79	74.9	<u>102</u>
Dy	mg kg ⁻¹	4.771			4.65							4.632		4.31
Er	mg kg ⁻¹	2.483			2.61							2.565		2.51
Eu	mg kg ⁻¹	1.522			1.47							1.474		1.41
F	mg kg ⁻¹													
Ga	mg kg ⁻¹	20.726			20			<u>20.95</u>	19		20	18.6		<u>20.5</u>
Gd	mg kg ⁻¹	4.548			4.63							4.59		4.68
Ge	mg kg ⁻¹								1.9					
Hf	mg kg ⁻¹	2.931			3.07				4.3		4.4	3.34		<u>2.95</u>
Hg	mg kg ⁻¹													<u>0.012</u>
Ho	mg kg ⁻¹	0.997			0.92							0.915		0.89
I	mg kg ⁻¹													
In	mg kg ⁻¹													
Ir	mg kg ⁻¹													
La	mg kg ⁻¹	19.435			17.4			<u>23.7</u>	21.3		15	17.13		17.7
Li	mg kg ⁻¹	7.824			7.42							6.86		<u>7.4</u>
Lu	mg kg ⁻¹	0.359			0.36							0.36		0.33
Mo	mg kg ⁻¹	0.526											0.37	<u>0.55</u>
Nb	mg kg ⁻¹	6.702			6.3			<u>5.45</u>	5.7			5.65		<u>7.5</u>
Nd	mg kg ⁻¹	21.45			21.5				22.3		21	19.347		20.2
Ni	mg kg ⁻¹	70.57			59.5	<u>58</u>		<u>59.55</u>	55.8		58	63.72	48.6	<u>64</u>
Os	mg kg ⁻¹													
Pb	mg kg ⁻¹	5.737			6.67			<u>8.3</u>	6.6			3.829	4.3	<u>6.5</u>
Pd	mg kg ⁻¹													
Pr	mg kg ⁻¹	5.248			4.93							4.802		4.95
Pt	mg kg ⁻¹													
Rb	mg kg ⁻¹	27			26.4	<u>27</u>		<u>27.9</u>	25.5		29	27.2		<u>28</u>
Re	mg kg ⁻¹													
Rh	mg kg ⁻¹													
Ru	mg kg ⁻¹													
S	mg kg ⁻¹													
Sb	mg kg ⁻¹	0.035										0.403	0.079	
Sc	mg kg ⁻¹	30.462			30.2	<u>27</u>			26.2		26	28		<u>36.7</u>
Se	mg kg ⁻¹													
Sm	mg kg ⁻¹	4.677			4.62							4.536		4.54
Sn	mg kg ⁻¹	1.21											0.88	<u>1.3</u>
Sr	mg kg ⁻¹	360.7	<u>350</u>		355	<u>366</u>		<u>1049</u>	354		343	366		<u>388</u>
Ta	mg kg ⁻¹	0.371			0.43				2.8			0.296		<u>1.1</u>
Tb	mg kg ⁻¹	0.749			0.79							0.699		0.73
Te	mg kg ⁻¹													
Th	mg kg ⁻¹	2.19			1.67							1.64		<u>1.87</u>
Tl	mg kg ⁻¹											0.133		<u>0.14</u>
Tm	mg kg ⁻¹	0.365			0.38							0.365		0.34
U	mg kg ⁻¹	0.473			0.41							0.13		<u>0.38</u>
V	mg kg ⁻¹	269.760			265	<u>227</u>		<u>466.6</u>	235.2		229	256	238.3	<u>250</u>
W	mg kg ⁻¹													
Y	mg kg ⁻¹	29.46			25	<u>24</u>		<u>24.65</u>	23.8			24.5		<u>25</u>
Yb	mg kg ⁻¹	2.354			2.41							2.404		2.22
Zn	mg kg ⁻¹	76.53			77.1	<u>66</u>		<u>72.1</u>	61.7		59	79.7	57.2	<u>74</u>
Zr	mg kg ⁻¹	128.7	<u>140</u>		110	<u>143</u>		<u>140.9</u>	132.7		127	134.5		<u>120</u>

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

Table 1 - GeoPT38 Contributed data for Ardnamurchan Gabbro, OU-7. 11/12/2015

Lab Code		S81	S82	S83	S84	S85	S86	S87	S88	S89	S90	S91	S92	S93
SiO2	g 100g ⁻¹	<u>51.21</u>	<u>48.6</u>	<u>50.2</u>	<u>49.561</u>	<u>51.54</u>	<u>50.7</u>	<u>50.55</u>	<u>50.98</u>			<u>57.07</u>	<u>51.66</u>	<u>50.76</u>
TiO2	g 100g ⁻¹	<u>1.33</u>	<u>1.35</u>	<u>1.29</u>	<u>1.235</u>	<u>1.32</u>	<u>1.32</u>	<u>1.32</u>	<u>1.32</u>	<u>0.186</u>		<u>1.33</u>	<u>1.327</u>	<u>1.3</u>
Al2O3	g 100g ⁻¹	<u>16.88</u>	<u>17.4</u>	<u>16.57</u>	<u>16.01</u>	<u>16.91</u>	<u>16.8</u>	<u>17.11</u>	<u>16.9</u>	<u>5.379</u>	<u>18.6</u>	<u>16.62</u>	<u>17.28</u>	<u>17.11</u>
Fe2O3T	g 100g ⁻¹	<u>10.4</u>	<u>9.74</u>	<u>10.45</u>	<u>9.808</u>	<u>10.45</u>	<u>10.3</u>	<u>9.53</u>	<u>10.42</u>	<u>4.49</u>	<u>10.47</u>	<u>10.6</u>	<u>10.4</u>	<u>10.49</u>
Fe(II)O	g 100g ⁻¹									<u>4.041</u>				<u>5.89</u>
MnO	g 100g ⁻¹	<u>0.15</u>	<u>0.14</u>	<u>0.15</u>	<u>0.13</u>	<u>0.15</u>	<u>0.152</u>	<u>0.14</u>	<u>0.15</u>	<u>0.043</u>	<u>0.16</u>	<u>0.15</u>	<u>0.146</u>	<u>0.15</u>
MgO	g 100g ⁻¹	<u>5.01</u>	<u>4.7</u>	<u>4.86</u>	<u>0.427</u>	<u>4.99</u>	<u>4.96</u>	<u>6.59</u>	<u>5.05</u>	<u>2.275</u>	<u>10.12</u>	<u>5.08</u>	<u>5.095</u>	<u>5.09</u>
CaO	g 100g ⁻¹	<u>9.14</u>	<u>9.44</u>	<u>8.69</u>	<u>8.626</u>	<u>9.21</u>	<u>9.05</u>	<u>9.11</u>	<u>9.28</u>	<u>2.498</u>	<u>9.51</u>	<u>8.91</u>	<u>9.365</u>	<u>9.22</u>
Na2O	g 100g ⁻¹	<u>3.3</u>	<u>3.48</u>	<u>3.15</u>	<u>2.771</u>	<u>3.17</u>	<u>3.19</u>	<u>3.45</u>	<u>3.28</u>	<u>0.613</u>	<u>3.59</u>	<u>3.21</u>	<u>3.203</u>	<u>3.39</u>
K2O	g 100g ⁻¹	<u>1.16</u>	<u>1.32</u>	<u>1.11</u>		<u>1.15</u>	<u>1.15</u>	<u>1.19</u>	<u>1.16</u>	<u>0.19</u>	<u>1.14</u>	<u>1.13</u>	<u>1.162</u>	<u>1.14</u>
P2O5	g 100g ⁻¹	<u>0.2</u>	<u>0.3</u>	<u>0.19</u>		<u>0.21</u>	<u>0.196</u>	<u>0.21</u>	<u>0.201</u>				<u>0.200</u>	<u>0.18</u>
H2O+	g 100g ⁻¹													<u>1.09</u>
CO2	g 100g ⁻¹										<u>0.23</u>			<u>0.29</u>
LOI	g 100g ⁻¹	<u>0.75</u>		<u>0.79</u>		<u>0.63</u>	<u>0.715</u>		<u>0.69</u>					
Ag	mg kg ⁻¹									<u>0.08</u>				
As	mg kg ⁻¹			<u>0.74</u>	<u>0.566</u>					<u>0.21</u>			<u>0.237</u>	
Au	mg kg ⁻¹												<u>0.003</u>	
B	mg kg ⁻¹									<u>0.49</u>				
Ba	mg kg ⁻¹		<u>495</u>	<u>389</u>			<u>395</u>	<u>352</u>	<u>398</u>	<u>65.74</u>	<u>421.229</u>	<u>440</u>	<u>400.5</u>	<u>391</u>
Be	mg kg ⁻¹			<u>0.9</u>						<u>0.12</u>	<u>1.07</u>		<u>0.86</u>	
Bi	mg kg ⁻¹			<u>2.1</u>						<u>0.01</u>				
Br	mg kg ⁻¹											<u>0.6</u>		
C(org)	mg kg ⁻¹													
C(tot)	mg kg ⁻¹					<u>713</u>					<u>0.06</u>			
Cd	mg kg ⁻¹				<u>0.176</u>					<u>0.06</u>	<u>0.298</u>		<u>0.13</u>	
Ce	mg kg ⁻¹			<u>36.5</u>	<u>11.831</u>		<u>31.5</u>	<u>33</u>	<u>35.7</u>	<u>22</u>		<u>36.23</u>	<u>38.35</u>	<u>43</u>
Cl	mg kg ⁻¹		<u>183</u>									<u>113</u>		<u>77</u>
Co	mg kg ⁻¹			<u>37.6</u>	<u>31.88</u>		<u>34.1</u>	<u>29</u>		<u>18.9</u>	<u>37.931</u>	<u>36.3</u>	<u>35.65</u>	<u>33</u>
Cr	mg kg ⁻¹		<u>125</u>	<u>186</u>	<u>71.314</u>		<u>154</u>	<u>136</u>	<u>180</u>	<u>18</u>	<u>175.678</u>	<u>182</u>	<u>178</u>	<u>172</u>
Cs	mg kg ⁻¹								<u>0.37</u>			<u>0.5</u>	<u>0.413</u>	
Cu	mg kg ⁻¹		<u>160</u>	<u>98.3</u>	<u>208.305</u>		<u>97</u>	<u>92</u>		<u>89.67</u>	<u>115.959</u>		<u>104</u>	<u>75</u>
Dy	mg kg ⁻¹			<u>4.61</u>				<u>4</u>	<u>4.2</u>	<u>1.9</u>		<u>5.22</u>	<u>3.877</u>	
Er	mg kg ⁻¹			<u>2.77</u>				<u>2.5</u>	<u>2.42</u>	<u>1.05</u>			<u>2.213</u>	
Eu	mg kg ⁻¹			<u>1.48</u>				<u>1.4</u>	<u>1.5</u>	<u>0.44</u>		<u>1.54</u>	<u>1.435</u>	
F	mg kg ⁻¹													<u>386</u>
Ga	mg kg ⁻¹			<u>20.8</u>			<u>17.6</u>		<u>19.7</u>		<u>22.205</u>	<u>13.1</u>	<u>19.7</u>	<u>20</u>
Gd	mg kg ⁻¹			<u>4.92</u>				<u>4.5</u>	<u>4.76</u>	<u>2.81</u>			<u>3.847</u>	
Ge	mg kg ⁻¹			<u>2</u>						<u>0.08</u>				
Hf	mg kg ⁻¹			<u>6.1</u>					<u>3.9</u>			<u>3.382</u>	<u>3.515</u>	<u>6</u>
Hg	mg kg ⁻¹										<u>0.012</u>		<u>0.01</u>	
Ho	mg kg ⁻¹			<u>0.95</u>					<u>0.88</u>	<u>0.37</u>			<u>0.969</u>	
I	mg kg ⁻¹													
In	mg kg ⁻¹													
Ir	mg kg ⁻¹													
La	mg kg ⁻¹			<u>16.7</u>			<u>15.8</u>	<u>16</u>	<u>15.8</u>	<u>9</u>		<u>16.73</u>	<u>17.15</u>	<u>16</u>
Li	mg kg ⁻¹			<u>6</u>				<u>19</u>		<u>2.67</u>	<u>9.676</u>			
Lu	mg kg ⁻¹			<u>0.36</u>				<u>0.4</u>	<u>0.37</u>	<u>0.1</u>		<u>0.368</u>	<u>0.364</u>	
Mo	mg kg ⁻¹				<u>0.442</u>					<u>0.26</u>	<u>0.473</u>			
Nb	mg kg ⁻¹			<u>6.1</u>			<u>7.41</u>	<u>16</u>	<u>5.9</u>	<u>0.06</u>				<u>80</u>
Nd	mg kg ⁻¹			<u>20</u>			<u>22.3</u>	<u>20</u>	<u>19.7</u>	<u>13.1</u>		<u>17.5</u>	<u>20.3</u>	<u>26</u>
Ni	mg kg ⁻¹		<u>52.3</u>	<u>73</u>			<u>61.7</u>	<u>50</u>		<u>44.11</u>	<u>70.969</u>		<u>57.45</u>	<u>59</u>
Os	mg kg ⁻¹													
Pb	mg kg ⁻¹			<u>3.9</u>			<u>5.49</u>			<u>3.46</u>	<u>6.65</u>		<u>6.507</u>	<u>7</u>
Pd	mg kg ⁻¹													
Pr	mg kg ⁻¹			<u>4.76</u>				<u>4.5</u>	<u>4.83</u>	<u>3.08</u>			<u>4.423</u>	
Pt	mg kg ⁻¹													
Rb	mg kg ⁻¹		<u>34.9</u>	<u>27.5</u>	<u>23.934</u>		<u>24.6</u>	<u>26</u>	<u>25.5</u>	<u>5</u>	<u>29.303</u>	<u>33.8</u>	<u>26.95</u>	<u>26</u>
Re	mg kg ⁻¹													
Rh	mg kg ⁻¹													
Ru	mg kg ⁻¹													
S	mg kg ⁻¹		<u>244</u>								<u>0.02</u>			<u>95</u>
Sb	mg kg ⁻¹			<u>0.24</u>	<u>0.716</u>								<u>0.048</u>	<u>8</u>
Sc	mg kg ⁻¹			<u>32.4</u>	<u>10.176</u>		<u>20.7</u>	<u>19</u>		<u>2.29</u>		<u>30.53</u>	<u>30.4</u>	<u>331</u>
Se	mg kg ⁻¹			<u>2.31</u>						<u>0.04</u>			<u>0.173</u>	
Sm	mg kg ⁻¹			<u>4.57</u>	<u>0.973</u>			<u>6</u>	<u>4.49</u>	<u>2.63</u>		<u>4.552</u>	<u>4.93</u>	
Sn	mg kg ⁻¹				<u>1.759</u>					<u>0.19</u>				<u>3</u>
Sr	mg kg ⁻¹	<u>370</u>	<u>408</u>	<u>355.5</u>	<u>365.211</u>		<u>340</u>	<u>330</u>	<u>367</u>	<u>84</u>	<u>401.245</u>	<u>424</u>	<u>361.5</u>	<u>347</u>
Ta	mg kg ⁻¹											<u>0.35</u>	<u>0.393</u>	
Tb	mg kg ⁻¹			<u>0.78</u>					<u>0.7</u>	<u>0.37</u>		<u>0.667</u>	<u>0.728</u>	
Te	mg kg ⁻¹										<u>0.03</u>			
Th	mg kg ⁻¹			<u>2.5</u>	<u>0.447</u>				<u>1.82</u>	<u>1.36</u>		<u>1.723</u>	<u>1.825</u>	<u>5</u>
Tl	mg kg ⁻¹									<u>0.06</u>	<u>0.13</u>			
Tm	mg kg ⁻¹			<u>0.4</u>					<u>0.34</u>	<u>0.13</u>			<u>0.313</u>	
U	mg kg ⁻¹			<u>0.48</u>	<u>0.17</u>					<u>0.12</u>	<u>0.394</u>		<u>0.438</u>	
V	mg kg ⁻¹		<u>312</u>	<u>268</u>	<u>309.769</u>		<u>223</u>		<u>279</u>	<u>58</u>	<u>301.058</u>	<u>271</u>	<u>263.7</u>	<u>273</u>
W	mg kg ⁻¹				<u>2.387</u>					<u>0.11</u>			<u>1.001</u>	
Y	mg kg ⁻¹			<u>22.4</u>	<u>7.563</u>		<u>23.9</u>	<u>20</u>	<u>22.9</u>	<u>10</u>			<u>21.4</u>	<u>21</u>
Yb	mg kg ⁻¹			<u>2.5</u>				<u>2.2</u>	<u>2.23</u>	<u>0.77</u>		<u>2.485</u>	<u>2.445</u>	
Zn	mg kg ⁻¹		<u>75.8</u>	<u>71.9</u>	<u>60.574</u>		<u>62.3</u>	<u>84</u>	<u>25.28</u>	<u>15.418</u>		<u>86.1</u>	<u>88.5</u>	<u>71</u>
Zr	mg kg ⁻¹		<u>120</u>	<u>124.8</u>	<u>156.064</u>		<u>124</u>	<u>105</u>	<u>150</u>	<u>4.73</u>			<u>128</u>	<u>124</u>

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

Table 1 - GeoPT38 Contributed data for Ardnamurchan Gabbro, OU-7. 11/12/2015

Lab Code		S94	S96	S97	S98	S99	S100	S101	S102	S103	S104	S105	S108	S109
SiO2	g 100g ⁻¹	52.82	51.4	<u>53.26</u>	<u>51.103</u>	<u>50.298</u>	<u>51.28</u>	<u>51.25</u>	<u>51.011</u>	52.7	<u>51.81</u>	51.25	<u>51.05</u>	51.16
TiO2	g 100g ⁻¹	1.39	1.39	<u>1.272</u>	<u>1.321</u>	<u>1.278</u>	<u>1.3</u>	<u>1.31</u>	<u>1.301</u>	1.24	<u>1.35</u>	1.29	<u>1.34</u>	1.345
Al2O3	g 100g ⁻¹	16.5	16.4	<u>16.691</u>	<u>17.12</u>	<u>17.336</u>	<u>17</u>	<u>17.12</u>	<u>16.941</u>	16.26	<u>16.77</u>	16.81	<u>17.06</u>	16.99
Fe2O3T	g 100g ⁻¹	9.34	10.8	<u>10.469</u>	<u>10.406</u>	<u>10.531</u>	<u>10.22</u>	<u>10.36</u>	<u>10.509</u>	9.31	<u>10.31</u>	10.54	<u>10.51</u>	10.63
Fe(II)O	g 100g ⁻¹								<u>5.837</u>		<u>5.98</u>			
MnO	g 100g ⁻¹	0.13	0.083	<u>0.153</u>	<u>0.16</u>	<u>0.153</u>	<u>0.15</u>	<u>0.148</u>	<u>0.154</u>	0.14	<u>0.146</u>	0.15	<u>0.15</u>	0.152
MgO	g 100g ⁻¹	4.88	4.74	<u>4.945</u>	<u>5.123</u>	<u>6.015</u>	<u>5.11</u>	<u>5.06</u>	<u>5.077</u>	5.39	<u>5.17</u>	5.1	<u>5.05</u>	5.09
CaO	g 100g ⁻¹	8.72	8.95	<u>8.872</u>	<u>9.32</u>	<u>9.031</u>	<u>9.31</u>	<u>9.26</u>	<u>9.150</u>	9.2	<u>9.28</u>	9.36	<u>9.31</u>	9.32
Na2O	g 100g ⁻¹	3.06	3.55	<u>3.153</u>	<u>3.258</u>	<u>3.235</u>	<u>3.15</u>	<u>3.23</u>	<u>3.184</u>	3.28	<u>3.01</u>	3.15	<u>3.19</u>	3.13
K2O	g 100g ⁻¹	1.12	1.32	<u>1.183</u>	<u>1.171</u>	<u>1.182</u>	<u>1.16</u>	<u>1.16</u>	<u>1.151</u>	1.21	<u>1.17</u>	1.15	<u>1.16</u>	1.16
P2O5	g 100g ⁻¹	0.23	0.23	<u>0.198</u>	<u>0.206</u>	<u>0.214</u>	<u>0.2</u>	<u>0.202</u>	<u>0.201</u>	0.24	<u>0.195</u>	0.2	<u>0.211</u>	0.199
H2O+	g 100g ⁻¹								<u>1.033</u>					
CO2	g 100g ⁻¹													
LOI	g 100g ⁻¹	1.8	0.9	<u>0.821</u>	<u>0.67</u>	<u>0.911</u>	<u>0.89</u>	<u>0.706</u>	<u>0.658</u>	0.68	<u>0.66</u>	0.55	<u>0.61</u>	0.39
Ag	mg kg ⁻¹													
As	mg kg ⁻¹	0.7	0.401							3.28				
Au	mg kg ⁻¹													
B	mg kg ⁻¹													
Ba	mg kg ⁻¹	421.220		<u>366.4</u>	<u>429</u>		<u>291</u>		<u>408.680</u>	260	<u>421</u>	453	<u>404</u>	393
Be	mg kg ⁻¹	1.06							<u>1.013</u>				<u>1</u>	
Bi	mg kg ⁻¹													
Br	mg kg ⁻¹											5		
C(org)	mg kg ⁻¹													
C(tot)	mg kg ⁻¹								<u>516</u>				<u>700</u>	
Cd	mg kg ⁻¹		0.11						<u>0.124</u>		<u>0.138</u>		<u>0.12</u>	
Ce	mg kg ⁻¹	38.14		<u>38.79</u>	<u>39</u>		<u>20</u>		<u>40.03</u>	37.71	<u>42.6</u>	56	<u>40.7</u>	38.1
Cl	mg kg ⁻¹											54		
Co	mg kg ⁻¹	30.81	19	<u>36.5</u>	<u>40.6</u>				<u>36.42</u>	15.3	<u>43.7</u>	42	<u>34.8</u>	
Cr	mg kg ⁻¹	179.2	17	<u>133.6</u>	<u>167.1</u>		114		<u>186.5</u>	241	<u>152</u>	190	<u>215</u>	183
Cs	mg kg ⁻¹	0.29							<u>0.345</u>	0.01	<u>0.368</u>		<u>0.4</u>	
Cu	mg kg ⁻¹	96.72	97	<u>90.54</u>	<u>95.9</u>		<u>42</u>		<u>105.7</u>	84	<u>94</u>	92	<u>98</u>	101
Dy	mg kg ⁻¹	4.31		<u>4.47</u>					<u>4.565</u>	4.45	<u>4.82</u>		<u>4.2</u>	4.89
Er	mg kg ⁻¹	2.25		<u>2.64</u>					<u>2.612</u>	2.69	<u>2.64</u>		<u>2.8</u>	2.69
Eu	mg kg ⁻¹	1.68		<u>1.56</u>					<u>1.507</u>	1.56	<u>1.83</u>		<u>1.6</u>	1.56
F	mg kg ⁻¹											218		
Ga	mg kg ⁻¹	22.09		<u>18.19</u>	<u>19.4</u>		<u>7</u>		<u>20.208</u>		<u>22.8</u>	19	<u>20.6</u>	20
Gd	mg kg ⁻¹	4.62		<u>4.97</u>					<u>4.693</u>	4.98	<u>5.07</u>	5	<u>5</u>	
Ge	mg kg ⁻¹	1.01										1	<u>1</u>	
Hf	mg kg ⁻¹	2.83		<u>4.87</u>	<u>2.6</u>				<u>2.78</u>	2.72		4	<u>3.8</u>	3.59
Hg	mg kg ⁻¹													
Ho	mg kg ⁻¹	0.74		<u>0.8</u>					<u>0.915</u>	0.98	<u>0.945</u>		<u>1</u>	0.99
I	mg kg ⁻¹													
In	mg kg ⁻¹								<u>0.063</u>		<u>0.061</u>		<u>0.07</u>	
Ir	mg kg ⁻¹													
La	mg kg ⁻¹	17.79		<u>18.67</u>	<u>19</u>		<u>11</u>		<u>17.581</u>	17.77	<u>19.8</u>	17	<u>18.2</u>	17.68
Li	mg kg ⁻¹	8.44		<u>16.59</u>					<u>7.62</u>				<u>7.9</u>	
Lu	mg kg ⁻¹	0.37		<u>0.31</u>					<u>0.347</u>	0.301	<u>0.325</u>		<u>0.4</u>	0.36
Mo	mg kg ⁻¹								<u>0.521</u>	0.72			<u>0.4</u>	
Nb	mg kg ⁻¹	11.93		<u>5.04</u>	<u>5</u>				<u>6.122</u>	9.7	<u>4.9</u>	5	<u>6.6</u>	6.09
Nd	mg kg ⁻¹	22.85		<u>21.59</u>	<u>26.5</u>				<u>20.439</u>	20.64	<u>24.1</u>	24	<u>20.4</u>	20.52
Ni	mg kg ⁻¹	57.14	47	<u>44.71</u>	<u>59.7</u>		45		<u>66.89</u>	99.3	<u>80.1</u>	70	<u>65.2</u>	69
Os	mg kg ⁻¹													
Pb	mg kg ⁻¹	5.86	4		<u>7.5</u>		<u>7</u>		<u>5.82</u>	7.8	<u>6.39</u>	2	<u>7</u>	6.63
Pd	mg kg ⁻¹													
Pr	mg kg ⁻¹	5.45		<u>4.04</u>					<u>4.799</u>	4.7	<u>5.63</u>		<u>5.2</u>	4.91
Pt	mg kg ⁻¹													
Rb	mg kg ⁻¹	26.14		<u>21.03</u>	<u>27.2</u>		<u>17</u>		<u>27.85</u>	25.88	<u>28.3</u>	33	<u>28.6</u>	26.8
Re	mg kg ⁻¹													
Rh	mg kg ⁻¹													
Ru	mg kg ⁻¹													
S	mg kg ⁻¹								218			105	<u>214</u>	
Sb	mg kg ⁻¹	0.05	0.15	<u>17.59</u>					<u>0.04</u>					
Sc	mg kg ⁻¹	32.79		<u>28.92</u>	<u>28.3</u>				<u>31.2</u>	10.9	<u>31.2</u>	27	<u>30</u>	29.9
Se	mg kg ⁻¹		0.127							15				
Sm	mg kg ⁻¹	4.9		<u>4.75</u>					<u>4.74</u>	4.711	<u>5.51</u>		<u>5.3</u>	4.68
Sn	mg kg ⁻¹	1.25			<u>1.45</u>				<u>1.43</u>				<u>1.2</u>	
Sr	mg kg ⁻¹	367.380		<u>387.5</u>	<u>370</u>		<u>174</u>		<u>366.650</u>	318	<u>403</u>	354	<u>380</u>	362
Ta	mg kg ⁻¹	1.5		<u>0.41</u>					<u>0.327</u>	0.55			<u>0.38</u>	0.55
Tb	mg kg ⁻¹	0.69		<u>0.76</u>					<u>0.721</u>	0.81	<u>0.815</u>		<u>0.8</u>	0.81
Te	mg kg ⁻¹		0.047											
Th	mg kg ⁻¹	1.89		<u>1.89</u>	<u>2.2</u>				<u>1.813</u>	1.79	<u>1.59</u>		<u>1.8</u>	1.94
Tl	mg kg ⁻¹		0.044						<u>0.146</u>		<u>0.157</u>		<u>0.16</u>	
Tm	mg kg ⁻¹	0.37		<u>0.35</u>					<u>0.369</u>	0.37	<u>0.361</u>			0.38
U	mg kg ⁻¹	0.32		<u>0.45</u>					<u>0.42</u>	0.397	<u>0.31</u>		<u>0.35</u>	0.45
V	mg kg ⁻¹	262.090	75	<u>229.2</u>	<u>231.2</u>		<u>151</u>		<u>268.770</u>	232	<u>224</u>	283	<u>266</u>	269
W	mg kg ⁻¹				<u>8.5</u>				<u>0.521</u>				<u>0.6</u>	
Y	mg kg ⁻¹	24.47		<u>23.02</u>	<u>22.8</u>		<u>9</u>		<u>25.092</u>	33	<u>24.7</u>	25	<u>23.5</u>	24.55
Yb	mg kg ⁻¹	2.44		<u>1.75</u>	<u>1.2</u>				<u>2.341</u>	2.38	<u>2.24</u>		<u>2.9</u>	2.35
Zn	mg kg ⁻¹	75.38	91	<u>56.82</u>	<u>71.1</u>		<u>96</u>		<u>78.2</u>	65	<u>98.6</u>	81	<u>82.7</u>	83
Zr	mg kg ⁻¹	91.4		<u>71.56</u>	<u>134.5</u>		<u>91</u>		<u>103.3</u>	159	<u>128</u>	106	<u>147</u>	138

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

Table 1 - GeoPT38 Contributed data for Ardnamurchan Gabbro, OU-7. 11/12/2015

Lab Code		S110	S111	S114	S115	S116	S117	S118	S119	S120	S121	S122	S123	S124
SiO2	g 100g ⁻¹	<u>51.59</u>	51.4	49.562	<u>50.49</u>	<u>50.968</u>	51.1	<u>51.35</u>			51.14			<u>50.74</u>
TiO2	g 100g ⁻¹	<u>1.37</u>	1.36	1.273	<u>1.32</u>	<u>1.377</u>	1.35	<u>1.33</u>			1.35			<u>1.23</u>
Al2O3	g 100g ⁻¹	<u>17.15</u>	17.18	17.257	<u>16.92</u>	<u>16.917</u>	17.6	<u>17.1</u>			17.26			<u>17.5</u>
Fe2O3T	g 100g ⁻¹	<u>10.55</u>	10.54	10.046	<u>10.24</u>	<u>10.707</u>	10.5	<u>10.2</u>			10.55			<u>9.92</u>
Fe(II)O	g 100g ⁻¹						5.65							
MnO	g 100g ⁻¹	<u>0.16</u>	<u>0.49</u>	0.145	<u>0.15</u>	<u>0.153</u>	0.14	<u>0.15</u>			0.15			<u>0.13</u>
MgO	g 100g ⁻¹	<u>5.14</u>	<u>5.18</u>	4.68	<u>5.37</u>	<u>5.169</u>	4.97	<u>5.04</u>			5.07			<u>5.56</u>
CaO	g 100g ⁻¹	<u>9.39</u>	<u>9.33</u>	8.294	<u>9.28</u>	<u>9.382</u>	8.98	<u>8.93</u>			9.11			8.88
Na2O	g 100g ⁻¹	<u>3.3</u>	3.25	3.517	<u>3.32</u>	<u>3.242</u>	2.73	<u>3.23</u>			3.26			<u>3.33</u>
K2O	g 100g ⁻¹	<u>1.17</u>	1.17	1.224	<u>1.15</u>	<u>1.169</u>	1.1	<u>1.16</u>			1.22			<u>1.3</u>
P2O5	g 100g ⁻¹	<u>0.206</u>	0.2	0.179	<u>0.2</u>	<u>0.206</u>	0.18	<u>0.2</u>			0.2			<u>0.23</u>
H2O+	g 100g ⁻¹													
CO2	g 100g ⁻¹													
LOI	g 100g ⁻¹	<u>0.7</u>	<u>0.66</u>	0.843		<u>0.71</u>	1.18	<u>0.85</u>			0.69			<u>0.98</u>
Ag	mg kg ⁻¹		<u>0.11</u>				0.29							
As	mg kg ⁻¹		<u>1.2</u>											
Au	mg kg ⁻¹						0.008							
B	mg kg ⁻¹		<u>3.2</u>											
Ba	mg kg ⁻¹	<u>402</u>	<u>436</u>	408.4	<u>380</u>	<u>408.4</u>	341	<u>434</u>		396.360	380		<u>395.581</u>	<u>407</u>
Be	mg kg ⁻¹		<u>0.9</u>	1.006	<u>0.4</u>		0.82	<u>0.96</u>			0.95			<u>0.989</u>
Bi	mg kg ⁻¹		<u>0.01</u>											
Br	mg kg ⁻¹													
C(org)	mg kg ⁻¹		0.08											
C(tot)	mg kg ⁻¹	<u>0.000</u>												
Cd	mg kg ⁻¹						0.21							
Ce	mg kg ⁻¹	<u>41.6</u>	<u>45.92</u>	37.53	<u>36.27</u>		37.76	<u>37.5</u>	<u>38.83</u>	38.75	37.9	5.48	<u>0.402</u>	<u>34.653</u>
Cl	mg kg ⁻¹													
Co	mg kg ⁻¹		<u>36</u>	31.34	<u>52</u>	<u>35.9</u>	44.7	<u>35.8</u>		34.95	35.9			<u>54</u>
Cr	mg kg ⁻¹	<u>190</u>	<u>170</u>	173	<u>180</u>	<u>184.7</u>	147	<u>176.6</u>		178.7	176			<u>177</u>
Cs	mg kg ⁻¹	<u>0.34</u>	<u>0.38</u>	0.406				<u>0.4</u>		0.327	0.33			
Cu	mg kg ⁻¹		<u>96</u>	93.16	<u>103</u>	<u>103.6</u>	95.6	<u>84.3</u>		94.26	101			<u>102</u>
Dy	mg kg ⁻¹	<u>4.47</u>	<u>4.93</u>	4.486	<u>3.98</u>		3.29	<u>4.4</u>	<u>4.47</u>	4.56	4.57		<u>4.413</u>	<u>4.279</u>
Er	mg kg ⁻¹	<u>2.65</u>	<u>2.86</u>	2.534	<u>2.58</u>		2.79	<u>2.5</u>	<u>2.7</u>	2.47	2.66		<u>2.618</u>	<u>2.616</u>
Eu	mg kg ⁻¹	<u>1.4</u>	<u>1.58</u>	1.476	<u>1.49</u>		1.29	<u>1.5</u>	<u>1.5</u>	1.427	1.5		<u>1.593</u>	<u>1.526</u>
F	mg kg ⁻¹		<u>200</u>											
Ga	mg kg ⁻¹	<u>17.6</u>	<u>21.19</u>	19.245	<u>20</u>			<u>18.3</u>		20	20.4		<u>20.954</u>	<u>20</u>
Gd	mg kg ⁻¹	<u>4.93</u>	<u>5.36</u>	4.74	<u>4.54</u>		5.11	<u>4.5</u>	<u>4.95</u>	4.98	4.85		<u>3.751</u>	<u>5.093</u>
Ge	mg kg ⁻¹		<u>1.44</u>		<u>1.18</u>									<u>1.076</u>
Hf	mg kg ⁻¹	<u>4.1</u>	<u>1.67</u>	1.554	<u>2.49</u>			<u>3.3</u>		1.76	3.1		<u>3.869</u>	<u>3.679</u>
Hg	mg kg ⁻¹		<u>0.02</u>											
Ho	mg kg ⁻¹	<u>0.92</u>	<u>0.99</u>	0.925	<u>0.84</u>		1.63	<u>0.9</u>	<u>0.87</u>	0.908	0.93		<u>0.855</u>	<u>0.836</u>
I	mg kg ⁻¹													
In	mg kg ⁻¹													
Ir	mg kg ⁻¹													
La	mg kg ⁻¹	<u>18.7</u>	<u>20.76</u>	16.929	<u>16.49</u>		15.7	<u>17.7</u>	<u>17.94</u>	17.91	17.4	2.57	<u>18.094</u>	<u>15.813</u>
Li	mg kg ⁻¹		6	7.769							7.27			
Lu	mg kg ⁻¹	<u>0.37</u>	<u>0.33</u>	0.317	<u>0.36</u>		1.01	<u>0.35</u>	<u>0.35</u>	0.343	0.35		<u>0.383</u>	<u>0.367</u>
Mo	mg kg ⁻¹		<u>0.54</u>	0.556	<u>0.68</u>			<u>0.5</u>						
Nb	mg kg ⁻¹	<u>6.3</u>	<u>6.93</u>	6.759	<u>7</u>	<u>6.4</u>		<u>6.5</u>		6.62	6.74		<u>7.954</u>	<u>8</u>
Nd	mg kg ⁻¹	<u>20.6</u>	<u>23</u>	20.45	<u>18.1</u>		21.8	<u>20.2</u>	<u>20.32</u>	21.14	20.7	3.83	<u>19.974</u>	<u>20.185</u>
Ni	mg kg ⁻¹		<u>68</u>	63.647	<u>70</u>	<u>66.1</u>	59.4	<u>63.6</u>		67.61	66			<u>65</u>
Os	mg kg ⁻¹													
Pb	mg kg ⁻¹		<u>9.3</u>	6.158	<u>15</u>	<u>13.9</u>	5.19	<u>10.3</u>		6.19	6.03			<u>15</u>
Pd	mg kg ⁻¹													
Pr	mg kg ⁻¹	<u>5.15</u>	<u>5.48</u>	4.824	<u>4.48</u>			<u>4.8</u>	<u>4.92</u>	5	4.82	2.78	<u>5.012</u>	<u>4.298</u>
Pt	mg kg ⁻¹						0.003							
Rb	mg kg ⁻¹	<u>28.6</u>	<u>23</u>	27.321	<u>37</u>	<u>27.9</u>		<u>27.3</u>		27.12	26.9		<u>30.207</u>	<u>35</u>
Re	mg kg ⁻¹													
Rh	mg kg ⁻¹													
Ru	mg kg ⁻¹													
S	mg kg ⁻¹						214							
Sb	mg kg ⁻¹		<u>0.06</u>				0.1							
Sc	mg kg ⁻¹		<u>28</u>	30.15	<u>28</u>		29.7	<u>29.9</u>		29.46	30.6		<u>22.169</u>	<u>28</u>
Se	mg kg ⁻¹													
Sm	mg kg ⁻¹	<u>4.41</u>	<u>5.07</u>	4.586	<u>4.74</u>		4.66	<u>4.5</u>	<u>4.38</u>	4.5	4.63	3	<u>4.768</u>	<u>4.704</u>
Sn	mg kg ⁻¹	<u>1</u>	<u>1.26</u>		<u>1.24</u>			<u>1.1</u>			1.21		<u>4.171</u>	<u>1.153</u>
Sr	mg kg ⁻¹	<u>409</u>	<u>368</u>	371.9	<u>405</u>	<u>377.1</u>	363	<u>353.8</u>		369.020	374		<u>349.936</u>	<u>395</u>
Ta	mg kg ⁻¹	<u>0.4</u>	<u>0.4</u>	0.371	<u>0.38</u>			<u>0.3</u>		0.349	0.38		<u>0.671</u>	<u>0.277</u>
Tb	mg kg ⁻¹	<u>0.79</u>	<u>0.8</u>	0.748	<u>0.79</u>		1.27	<u>0.7</u>	<u>0.77</u>	0.77	0.76		<u>0.716</u>	<u>0.785</u>
Te	mg kg ⁻¹													
Th	mg kg ⁻¹		<u>1.87</u>	1.622	<u>15</u>	<u>0.5</u>		<u>1.7</u>	<u>1.8</u>	1.83	1.76		<u>1.841</u>	<u>17</u>
Tl	mg kg ⁻¹		<u>0.15</u>					<u>0.2</u>						
Tm	mg kg ⁻¹	<u>0.36</u>	<u>0.39</u>		<u>0.39</u>		0.51	<u>0.3</u>	<u>0.38</u>	0.365	0.39		<u>0.405</u>	<u>0.397</u>
U	mg kg ⁻¹	<u>0.53</u>	<u>0.33</u>	0.322	<u>0.39</u>			<u>0.4</u>	<u>0.4</u>	0.396	0.45		<u>1.01</u>	<u>0.39</u>
V	mg kg ⁻¹	<u>272</u>	<u>250</u>	260.420	<u>233</u>	<u>256.4</u>	252	<u>264.2</u>		260.280	267			<u>241</u>
W	mg kg ⁻¹		<u>0.69</u>		<u>0.18</u>			<u>0.7</u>					<u>1.905</u>	
Y	mg kg ⁻¹		<u>25</u>	26.05	<u>38</u>	<u>25.9</u>	22.2	<u>25.1</u>	<u>23.2</u>	25.19	25.9		<u>25.157</u>	<u>40</u>
Yb	mg kg ⁻¹		<u>2.44</u>	2.22	<u>2.22</u>		2.26	<u>2.3</u>	<u>2.42</u>	2.25	2.39		<u>2.261</u>	<u>2.317</u>
Zn	mg kg ⁻¹		<u>83</u>	79.292	<u>85</u>	<u>72.6</u>	78.7	<u>76.7</u>		74.74	79.3			<u>85</u>
Zr	mg kg ⁻¹		<u>143</u>	55.24	<u>137</u>	<u>139.7</u>	64	<u>127.7</u>		58.75	117		<u>146.759</u>	<u>134</u>

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

Table 2 - GeoPT38 Assigned values and statistical summary for Ardnamurchan Gabbro, OU-7.

	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	s_{dm}	H_a	s_{dm}/H_a	n					
	g 100g ⁻¹	g 100g ⁻¹	g 100g ⁻¹			g 100g ⁻¹	g 100g ⁻¹	g 100g ⁻¹		
SiO ₂	51.15	0.03929	0.5658	0.06943	89	51.12	0.4727	51.15	Assigned	Median
TiO ₂	1.329	0.003288	0.02546	0.1291	94	1.322	0.03809	1.329	Assigned	Median
Al ₂ O ₃	17.02	0.03402	0.2221	0.1531	92	17.02	0.3263	17	Assigned	Robust Mean
Fe ₂ O ₃ T	10.45	0.01835	0.1468	0.125	94	10.39	0.2734	10.45	Assigned	Median
MnO	0.15	0.0006021	0.003991	0.1509	97	0.1488	0.00741	0.15	Assigned	Median
MgO	5.097	0.01627	0.07978	0.204	92	5.097	0.1561	5.098	Assigned	Robust Mean
CaO	9.27	0.01999	0.1326	0.1507	93	9.232	0.222	9.27	Assigned	Median
Na ₂ O	3.23	0.01076	0.05415	0.1987	93	3.217	0.1281	3.23	Assigned	Median
K ₂ O	1.162	0.003767	0.02272	0.1658	92	1.162	0.03613	1.16	Assigned	Robust Mean
P ₂ O ₅	0.201	0.001119	0.005118	0.2187	86	0.2041	0.01111	0.201	Assigned	Median
	mg kg ⁻¹	mg kg ⁻¹	mg kg ⁻¹			mg kg ⁻¹	mg kg ⁻¹	mg kg ⁻¹		
Ba	405	2.573	13.12	0.1961	85	408.3	27.45	405	Assigned	Median
Be	0.9551	0.01893	0.07692	0.2461	33	0.9551	0.1087	0.96	Assigned	Robust Mean
Cd	0.134	0.006978	0.0145	0.4811	26	0.1541	0.07143	0.134	Provisional	Median
Ce	37.77	0.414	1.749	0.2367	73	37.77	3.537	37.98	Assigned	Robust Mean
Co	35.6	0.4165	1.663	0.2504	73	35.05	4.222	35.6	Assigned	Median
Cr	175.8	1.82	6.46	0.2817	84	172.6	19.43	175.8	Assigned	Median
Cs	0.352	0.00585	0.03294	0.1776	37	0.3638	0.04485	0.352	Assigned	Median
Cu	98.21	0.9794	3.938	0.2487	83	98.21	8.923	98	Assigned	Robust Mean
Dy	4.522	0.03584	0.2882	0.1243	54	4.522	0.2634	4.56	Assigned	Robust Mean
Er	2.61	0.01731	0.1807	0.0958	53	2.596	0.13	2.61	Assigned	Median
Eu	1.518	0.01046	0.114	0.09171	54	1.518	0.07686	1.517	Assigned	Robust Mean
Ga	20.1	0.1811	1.023	0.1769	64	20.1	1.448	20	Assigned	Robust Mean
Gd	4.833	0.0461	0.3049	0.1512	53	4.833	0.3356	4.85	Assigned	Robust Mean
Ge	1.225	0.07688	0.09503	0.809	18	1.288	0.3567	1.225	Provisional	Median
Hf	3.173	0.1261	0.2133	0.5913	52	3.173	0.9096	3.275	Provisional	Robust Mean
Ho	0.9154	0.008272	0.0742	0.1115	50	0.9154	0.05849	0.9175	Assigned	Robust Mean
La	17.44	0.2196	0.9073	0.2421	74	17.44	1.889	17.5	Assigned	Robust Mean
Li	7.56	0.1516	0.446	0.3399	30	7.691	1.098	7.56	Assigned	Median
Lu	0.35	0.004073	0.03279	0.1242	53	0.3479	0.02773	0.35	Assigned	Median
Mo	0.521	0.02105	0.04597	0.458	25	0.5339	0.1389	0.521	Assigned	Median
Nb	6.351	0.1383	0.3846	0.3597	61	6.351	1.08	6.3	Assigned	Robust Mean
Nd	20.67	0.1327	1.048	0.1266	68	20.96	1.517	20.67	Assigned	Median
Ni	63.6	0.6754	2.723	0.248	81	63.47	6.359	63.6	Assigned	Median
Pb	6.25	0.1358	0.3794	0.3581	67	6.469	1.708	6.25	Assigned	Median
Pr	4.84	0.03084	0.3053	0.101	52	4.869	0.3302	4.84	Assigned	Median
Rb	27.61	0.2337	1.34	0.1744	75	27.61	2.024	27.7	Assigned	Robust Mean
Sc	29.5	0.3126	1.418	0.2205	65	29.01	3.137	29.5	Assigned	Median
Sm	4.659	0.03542	0.2956	0.1198	58	4.659	0.2698	4.635	Assigned	Robust Mean
Sn	1.225	0.05085	0.09503	0.5351	34	1.269	0.2696	1.225	Assigned	Median
Sr	367.2	1.912	12.07	0.1584	83	367.2	17.42	367	Assigned	Robust Mean
Ta	0.3798	0.009241	0.03514	0.263	43	0.4282	0.1176	0.4	Assigned	Mode
Tb	0.7617	0.005464	0.06347	0.08609	52	0.7617	0.0394	0.76	Assigned	Robust Mean
Th	1.817	0.02209	0.1328	0.1663	56	1.838	0.2036	1.817	Assigned	Median
Tl	0.1462	0.004938	0.01562	0.3162	18	0.1462	0.02095	0.1432	Assigned	Robust Mean
Tm	0.37	0.004325	0.03437	0.1258	47	0.3675	0.02323	0.37	Assigned	Median
U	0.41	0.008224	0.0375	0.2193	52	0.414	0.08151	0.41	Assigned	Median
V	262	2.449	9.065	0.2702	80	253.8	22.75	257	Assigned	Mode
Y	24.5	0.2027	1.211	0.1674	77	24.16	1.814	24.5	Assigned	Median
Yb	2.327	0.0211	0.1639	0.1288	56	2.327	0.1579	2.329	Assigned	Robust Mean
Zn	76.6	1.09	3.189	0.3419	83	76.17	9.57	76.6	Assigned	Median
Zr	133.6	2.469	5.115	0.4828	77	127.3	20.21	128	Provisional	Mode

Table 3 - GeoPT38 Z-scores for Ardnamurchan Gabbro, OU-7. 11/12/2015

Lab Code	S2	S3	S4	S5	S6	S7	S8	S10	S11	S13	S15	S16	S17
SiO2	1.17	0.47	0.15	0.04	0.28	*	0.11	-0.16	-0.07	-1.03	-0.11	-0.62	0.34
TiO2	0.45	-0.56	-0.48	0.03	-0.95	-5.05	-0.17	0.42	0.06	-5.83	0.11	-0.36	0.06
Al2O3	1.10	0.60	-0.65	-0.24	-0.46	*	0.96	-0.13	-0.93	5.83	0.11	-0.33	0.47
Fe2O3T	1.09	-2.55	1.11	-0.14	0.44	-4.97	-0.34	0.34	-0.07	-8.31	-0.41	-0.24	0.82
MnO	0.00	-2.51	-0.88	0.00	-1.25	-1.25	-0.88	0.75	0.00	-5.01	-0.38	0.00	0.00
MgO	1.67	1.15	-0.18	-0.55	-0.11	*	-0.36	0.21	0.41	-5.60	0.26	-1.55	-0.34
CaO	1.96	2.26	-0.16	0.19	0.11	*	-0.60	0.26	0.98	2.41	0.25	-0.34	1.43
Na2O	-3.69	-6.56	-0.63	-0.09	-0.46	*	-1.94	-0.92	0.00	4.06	0.08	0.83	-0.18
K2O	-0.53	-1.80	1.41	-0.26	0.40	-5.81	-0.70	-1.19	0.35	9.15	-0.11	-0.04	0.35
P2O5	-0.20	-4.01	-0.39	-0.10	-0.10	-8.01	0.00	-0.39	1.76	21.30	0.39	-0.10	1.76
Ba	-1.22	-0.04	-0.88	-1.14	0.42	-0.84	-1.03	-0.80	3.96	*	-0.58	*	-1.14
Be	*	*	*	*	0.03	*	0.42	*	*	*	0.68	*	*
Cd	*	*	*	*	-0.83	-1.45	*	*	*	*	*	*	*
Ce	*	-0.33	*	*	-0.34	-0.16	2.29	-1.08	*	*	0.15	*	*
Co	-2.77	-7.70	1.62	*	0.06	-1.49	-1.68	-0.78	*	*	0.48	*	-3.37
Cr	2.19	-11.73	-0.61	-1.54	0.01	-1.00	1.64	0.40	*	*	1.95	*	-0.59
Cs	*	*	*	*	-0.18	-0.73	*	25.01	*	*	8.01	*	*
Cu	6.29	-9.70	0.35	-1.04	1.88	-0.08	-1.80	1.12	1.47	8.07	1.60	*	0.20
Dy	*	-0.21	*	*	-0.30	-0.25	0.33	*	*	*	0.60	*	*
Er	*	-0.25	*	*	-0.30	-1.00	1.52	*	*	*	0.14	*	*
Eu	*	-0.04	*	*	0.10	-0.77	1.37	*	*	*	0.01	*	*
Ga	-4.98	*	-2.49	0.93	0.10	*	-1.51	-0.05	*	*	0.44	*	1.86
Gd	*	0.67	*	*	-0.68	3.57	0.83	*	*	*	-0.36	*	*
Ge	*	-1.18	*	*	2.03	*	-0.03	*	*	*	*	*	*
Hf	*	*	-0.41	*	-0.41	*	-3.45	*	*	*	1.94	*	*
Ho	*	-0.31	*	*	-0.51	-0.81	*	*	*	*	0.44	*	*
La	*	*	*	*	-0.57	-0.49	1.37	-1.90	*	*	0.31	*	2.82
Li	*	-0.63	0.49	*	-0.70	*	2.18	*	*	*	*	*	*
Lu	*	-0.46	*	*	-0.15	-1.22	*	*	*	*	0.46	*	*
Mo	*	*	*	*	-0.88	-3.07	2.16	*	*	*	0.42	*	*
Nb	1.69	2.14	*	*	-0.30	*	*	*	*	*	1.84	*	-3.51
Nd	*	-0.11	*	*	-0.08	-0.83	0.32	0.16	*	*	0.44	*	-3.50
Ni	-0.22	4.85	1.36	-0.84	0.81	0.77	-0.48	0.44	-0.29	*	0.00	*	1.25
Pb	1.98	28.66	-0.33	*	-0.26	-1.56	-4.65	*	*	207.56	-2.78	*	*
Pr	*	-0.15	*	*	0.00	*	*	*	*	*	0.62	*	*
Rb	0.29	*	*	*	0.41	-1.13	-2.47	0.89	*	*	0.07	*	-1.95
Sc	-1.76	0.21	*	-0.88	0.28	-2.40	-0.18	*	*	*	0.26	*	*
Sm	*	-0.15	*	*	-0.37	-0.47	0.20	-1.11	*	*	0.48	*	*
Sn	*	*	*	*	1.18	*	1.71	-1.18	*	*	-0.50	*	*
Sr	0.31	*	-0.22	-1.75	-0.13	-0.70	-0.75	-0.22	-0.51	*	-0.27	*	1.47
Ta	*	230.35	*	*	0.71	71.43	*	*	*	*	1.85	*	*
Tb	*	-0.09	*	*	-0.01	-0.34	*	*	*	*	0.30	*	*
Th	*	0.01	*	*	-0.36	-2.31	*	*	*	*	-0.14	*	*
Tl	*	*	*	*	*	-0.65	*	*	*	*	-0.52	*	*
Tm	*	-0.44	*	*	-0.29	-0.76	*	*	*	*	0.44	*	*
U	*	*	*	*	0.27	-1.60	2.00	*	*	*	0.40	*	*
V	-0.22	*	*	-0.94	-0.39	-2.87	-0.06	0.28	-1.32	*	0.02	*	-0.22
Y	-0.41	-1.09	-1.03	*	-0.54	*	1.30	0.21	0.21	*	0.21	*	-0.41
Yb	*	-0.33	*	*	-0.17	-0.90	0.71	*	*	*	0.59	*	*
Zn	0.44	5.24	1.16	-0.72	-0.08	0.34	1.16	1.32	-0.72	*	-1.77	*	1.38
Zr	0.47	*	-3.48	*	-2.31	-14.82	0.33	0.73	0.47	*	-0.92	*	2.04

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

Table 3 - GeoPT38 Z-scores for Ardnamurchan Gabbro, OU-7. 11/12/2015

Lab Code	S19	S20	S21	S22	S23	S24	S25	S26	S27	S28	S29	S30	S31
SiO2	0.85	<u>-0.13</u>	-0.07	-0.46	<u>-0.98</u>	*	0.19	1.22	<u>-5.26</u>	*	<u>0.26</u>	<u>-0.42</u>	0.14
TiO2	2.81	<u>0.03</u>	3.36	-46.68	<u>0.40</u>	*	-0.10	0.84	<u>-6.26</u>	*	<u>-0.36</u>	<u>-1.17</u>	0.03
Al2O3	1.28	<u>-0.26</u>	-3.60	-22.04	<u>1.34</u>	*	0.29	0.97	<u>-2.29</u>	*	<u>2.04</u>	<u>1.35</u>	<u>0.26</u>
Fe2O3T	-2.72	<u>-0.17</u>	-3.07	-28.47	<u>0.41</u>	*	0.20	-0.61	<u>-3.07</u>	*	<u>-1.74</u>	<u>-0.01</u>	0.00
MnO	0.00	<u>0.00</u>	-0.68	32.57	<u>-0.13</u>	*	-0.50	0.00	<u>125.27</u>	<u>1.00</u>	<u>-1.63</u>	<u>-0.63</u>	0.00
MgO	-2.72	<u>0.96</u>	-4.19	-30.42	<u>1.02</u>	*	0.54	1.79	<u>13.43</u>	*	<u>-1.99</u>	<u>6.43</u>	<u>-0.29</u>
CaO	2.34	<u>-0.30</u>	-3.61	-9.73	<u>-0.08</u>	*	0.00	1.28	<u>-5.62</u>	*	<u>-0.04</u>	<u>-0.63</u>	0.41
Na2O	-0.92	<u>-0.46</u>	-0.65	20.50	<u>1.85</u>	*	1.11	1.29	<u>24.01</u>	*	<u>3.05</u>	<u>-1.60</u>	<u>-0.09</u>
K2O	2.55	<u>-1.14</u>	-2.55	143.83	<u>0.18</u>	*	0.35	0.35	<u>-1.80</u>	*	<u>-1.36</u>	<u>4.31</u>	<u>-0.04</u>
P2O5	1.76	<u>-1.07</u>	-1.84	40.84	<u>0.68</u>	*	0.98	1.76	*	*	<u>1.37</u>	<u>0.68</u>	<u>-0.10</u>
Ba	-1.19	<u>-0.50</u>	1.70	*	*	*	3.58	1.45	<u>2.25</u>	<u>0.30</u>	<u>-0.15</u>	*	0.00
Be	-1.11	*	*	*	*	*	*	-2.02	*	<u>0.68</u>	<u>-0.03</u>	*	*
Cd	*	*	0.72	*	*	*	*	8.00	*	<u>-0.83</u>	*	*	<u>9.17</u>
Ce	0.12	<u>0.84</u>	1.43	*	<u>0.84</u>	0.66	-1.59	15.87	<u>0.44</u>	<u>-0.11</u>	<u>0.17</u>	*	*
Co	-0.96	<u>0.66</u>	1.77	*	<u>-1.98</u>	*	-0.36	*	*	<u>0.72</u>	<u>-1.04</u>	*	<u>-1.08</u>
Cr	-0.75	<u>0.17</u>	2.86	*	<u>-4.79</u>	*	-0.75	-0.07	<u>22.61</u>	*	<u>0.09</u>	*	<u>-1.07</u>
Cs	-0.76	<u>62.35</u>	0.36	*	*	*	*	1.76	*	<u>-0.18</u>	*	*	*
Cu	-2.12	<u>1.75</u>	1.65	*	*	*	-1.32	-0.45	<u>3.40</u>	<u>-0.03</u>	<u>0.67</u>	*	<u>0.48</u>
Dy	1.61	<u>-0.32</u>	2.29	*	<u>0.43</u>	0.13	*	-0.60	*	<u>-0.18</u>	<u>0.07</u>	*	*
Er	0.47	<u>0.00</u>	1.73	*	<u>0.17</u>	-0.44	*	-0.89	*	<u>-0.33</u>	<u>0.14</u>	*	*
Eu	-0.05	<u>-0.43</u>	1.10	*	<u>0.58</u>	-0.51	*	4.66	*	<u>0.10</u>	<u>-0.08</u>	*	*
Ga	*	<u>0.39</u>	1.72	*	*	*	-0.09	0.58	<u>-2.25</u>	<u>0.93</u>	*	*	*
Gd	0.74	<u>0.26</u>	1.79	*	<u>0.36</u>	-1.52	*	1.76	*	<u>0.11</u>	<u>0.21</u>	*	*
Ge	*	*	*	*	*	*	*	2.05	*	*	*	*	*
Hf	-5.53	<u>1.94</u>	-5.55	*	*	*	*	1.16	*	<u>-3.69</u>	<u>1.00</u>	*	*
Ho	0.53	<u>-0.31</u>	1.34	*	<u>0.23</u>	-0.48	*	-0.88	*	<u>-0.17</u>	<u>-0.04</u>	*	*
La	-0.42	<u>1.19</u>	1.30	*	<u>0.75</u>	0.49	-3.79	12.29	<u>-0.96</u>	<u>0.14</u>	<u>-0.22</u>	*	<u>-0.24</u>
Li	-0.58	*	*	*	*	*	*	*	*	*	<u>1.28</u>	*	*
Lu	-0.40	<u>0.15</u>	0.29	*	<u>-0.61</u>	0.61	*	-2.75	*	<u>-0.46</u>	<u>0.15</u>	*	*
Mo	*	*	*	*	*	*	*	*	*	<u>-0.77</u>	*	*	*
Nb	-0.89	<u>-0.20</u>	0.88	*	*	*	1.69	-0.63	<u>-2.41</u>	<u>-0.20</u>	<u>0.27</u>	*	*
Nd	-0.23	<u>-0.13</u>	1.91	*	<u>0.63</u>	0.31	1.27	18.80	<u>3.69</u>	<u>0.01</u>	<u>-0.19</u>	*	*
Ni	-1.69	<u>1.73</u>	2.63	*	<u>-0.66</u>	*	-0.59	4.58	*	<u>1.18</u>	<u>-0.01</u>	*	<u>-1.21</u>
Pb	-1.26	<u>0.99</u>	2.05	*	<u>0.99</u>	*	1.98	-0.53	<u>15.88</u>	<u>0.20</u>	*	*	<u>-0.07</u>
Pr	-0.17	<u>0.03</u>	1.23	*	<u>0.75</u>	0.13	*	11.95	*	<u>0.08</u>	<u>-0.16</u>	*	*
Rb	-1.77	<u>0.22</u>	0.24	*	*	*	1.78	-0.22	<u>-0.08</u>	<u>0.14</u>	<u>-0.07</u>	*	<u>0.14</u>
Sc	-1.69	*	2.30	*	<u>1.41</u>	*	-0.35	3.11	<u>35.79</u>	<u>0.53</u>	<u>-0.40</u>	*	*
Sm	-0.87	<u>-0.15</u>	1.63	*	<u>0.34</u>	0.75	*	*	*	<u>-0.03</u>	<u>-0.07</u>	*	*
Sn	*	<u>-1.18</u>	1.54	*	*	*	*	*	*	<u>-0.13</u>	*	*	*
Sr	-1.40	<u>0.61</u>	0.12	*	*	*	1.14	0.31	<u>0.82</u>	<u>-0.17</u>	<u>0.12</u>	*	*
Ta	-0.14	<u>-1.14</u>	4.33	*	*	*	*	-1.70	*	<u>-0.14</u>	<u>0.57</u>	*	*
Tb	0.19	<u>-0.01</u>	1.04	*	<u>0.14</u>	0.29	*	1.08	*	<u>0.07</u>	<u>-0.01</u>	*	*
Th	-0.21	<u>15.41</u>	0.96	*	<u>0.13</u>	*	*	-4.04	*	*	<u>-0.33</u>	*	*
Tl	*	*	2.74	*	*	*	*	*	*	<u>0.44</u>	*	*	*
Tm	-0.09	<u>-0.29</u>	0.71	*	<u>-0.29</u>	0.29	*	*	*	<u>-0.29</u>	<u>0.00</u>	*	*
U	-0.67	<u>1.47</u>	-0.85	*	*	*	*	0.00	*	<u>-0.53</u>	<u>-0.13</u>	*	*
V	-3.86	<u>-0.33</u>	4.32	*	<u>-4.47</u>	*	0.11	-2.21	<u>-3.97</u>	<u>0.83</u>	<u>-0.28</u>	*	<u>-2.21</u>
Y	-1.73	<u>0.21</u>	-0.19	*	<u>0.21</u>	0.50	0.41	-6.45	<u>-1.36</u>	<u>-0.62</u>	<u>-0.71</u>	*	*
Yb	-0.26	<u>-0.14</u>	1.55	*	<u>-0.51</u>	1.12	16.31	-2.24	*	<u>-0.36</u>	<u>0.16</u>	*	*
Zn	-3.32	<u>2.57</u>	3.92	*	<u>-1.19</u>	*	-2.38	3.16	<u>-1.08</u>	<u>1.32</u>	<u>0.44</u>	*	<u>-1.51</u>
Zr	<u>-13.20</u>	<u>1.70</u>	<u>14.34</u>	*	*	*	0.67	0.70	<u>0.24</u>	*	<u>-1.43</u>	*	*

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

Table 3 - GeoPT38 Z-scores for Ardnamurchan Gabbro, OU-7. 11/12/2015

Lab Code	S33	S34	S35	S37	S40	S41	S44	S46	S47	S48	S49	S50	S51
SiO2	<u>0.00</u>	<u>0.04</u>	-0.32	-1.34	0.16	<u>0.42</u>	0.55	*	<u>0.21</u>	-0.34	<u>0.04</u>	*	-1.11
TiO2	-1.52	-0.17	1.24	-5.52	0.06	-0.03	0.57	-1.23	<u>0.03</u>	<u>0.23</u>	-0.05	0.06	1.68
Al2O3	-0.53	<u>0.12</u>	0.88	-0.79	0.38	<u>0.12</u>	0.24	-2.83	-0.04	-0.33	-0.04	*	1.32
Fe2O3T	<u>0.00</u>	<u>0.54</u>	-0.41	-5.42	-0.07	-0.65	0.80	<u>0.23</u>	<u>0.44</u>	-0.17	<u>0.00</u>	*	0.76
MnO	-0.25	-1.25	0.00	-14.78	0.75	<u>0.50</u>	1.00	-0.38	<u>1.25</u>	-0.25	-0.41	-0.25	2.05
MgO	-0.46	<u>0.27</u>	0.92	0.41	0.41	-0.61	1.27	-0.68	<u>0.21</u>	-0.67	-0.19	*	-0.18
CaO	-0.23	<u>0.15</u>	-3.24	-1.51	1.02	-0.45	-1.40	-1.34	<u>0.79</u>	-0.04	<u>0.26</u>	*	-0.44
Na2O	<u>0.09</u>	<u>0.00</u>	1.29	0.18	0.66	<u>0.09</u>	-3.88	-0.34	-5.45	-1.20	<u>0.67</u>	*	0.22
K2O	-0.35	<u>0.40</u>	-0.97	1.67	0.18	-0.26	1.14	-0.22	<u>1.06</u>	-0.26	-0.07	*	-2.01
P2O5	-0.59	<u>2.83</u>	-2.15	-0.20	376.91	<u>0.20</u>	-0.78	<u>1.47</u>	-3.03	-0.20	<u>0.03</u>	*	-6.06
Ba	-0.08	<u>2.40</u>	3.12	-1.37	-0.23	<u>0.99</u>	*	-0.21	-1.79	*	-0.04	-0.84	0.61
Be	*	*	*	*	1.10	*	*	<u>0.80</u>	*	*	*	-0.46	*
Cd	*	*	59.71	*	1.52	*	*	<u>0.59</u>	*	*	*	*	0.72
Ce	*	-1.08	2.42	-8.62	-1.13	-3.37	*	<u>1.03</u>	*	*	*	0.24	-0.06
Co	-0.18	*	-1.56	-11.66	0.78	<u>0.72</u>	*	-0.31	<u>2.53</u>	*	<u>50.92</u>	0.42	0.03
Cr	<u>1.02</u>	<u>0.24</u>	-2.92	-2.92	0.33	-0.45	*	<u>0.55</u>	-0.92	*	-0.61	0.18	1.47
Cs	*	*	*	329.28	-0.64	*	*	<u>0.00</u>	*	*	*	-0.36	0.36
Cu	-0.53	<u>1.50</u>	-0.81	-0.15	1.47	<u>0.74</u>	-0.31	-0.83	<u>0.23</u>	*	-0.70	-1.02	-2.60
Dy	*	*	*	*	0.34	*	*	<u>0.46</u>	*	*	*	0.20	0.39
Er	*	*	*	*	0.17	*	*	-0.06	*	*	*	0.00	0.42
Eu	*	*	*	*	0.10	*	*	<u>0.06</u>	*	*	*	-0.07	-0.20
Ga	*	-0.05	-1.07	-1.36	0.79	-0.05	5.77	<u>0.07</u>	*	*	*	0.20	35.82
Gd	*	*	*	*	-0.37	*	*	<u>0.17</u>	*	*	*	-0.04	0.65
Ge	*	*	*	*	*	*	*	*	*	*	*	*	19.93
Hf	*	*	-0.81	*	-1.14	<u>1.47</u>	*	-3.73	*	*	*	0.36	1.66
Ho	*	*	*	*	0.33	*	*	<u>0.18</u>	*	*	*	0.06	0.14
La	-0.80	<u>2.51</u>	40.29	-5.45	-3.24	-1.35	*	<u>0.83</u>	*	*	*	0.17	-0.12
Li	*	*	*	*	-2.18	*	*	<u>0.68</u>	*	*	*	-0.58	*
Lu	*	*	*	*	0.21	*	*	-0.49	*	*	*	0.00	0.24
Mo	*	*	*	*	-1.54	*	10.42	-0.48	*	*	*	*	5.90
Nb	*	-0.46	-3.51	2.21	-1.25	-1.76	17.29	<u>0.18</u>	*	*	*	0.65	-0.60
Nd	*	*	-2.55	*	-0.26	-1.27	*	<u>1.16</u>	*	*	*	0.03	0.60
Ni	<u>1.18</u>	-0.11	-3.16	-4.44	-0.51	-0.11	-1.32	<u>0.08</u>	-0.48	*	<u>1.12</u>	-0.15	4.43
Pb	*	<u>4.94</u>	23.06	4.09	-1.45	-4.28	*	-0.16	*	*	<u>15.09</u>	0.00	-0.11
Pr	*	*	*	*	-0.13	-1.38	*	<u>0.61</u>	*	*	*	0.00	-0.44
Rb	*	<u>1.26</u>	1.04	1.56	0.29	-0.60	1.78	<u>0.45</u>	*	*	*	0.07	-1.25
Sc	*	-0.88	-2.47	-2.89	0.14	<u>0.88</u>	*	*	-2.29	*	*	1.13	3.46
Sm	*	*	11.30	*	0.34	-1.11	*	<u>0.71</u>	*	*	*	-0.10	0.40
Sn	*	*	60.77	*	-0.68	*	*	-0.26	*	*	*	-0.26	2.73
Sr	*	<u>0.78</u>	0.15	-0.38	1.39	<u>0.28</u>	0.81	-0.79	-1.66	*	-1.13	0.40	-0.05
Ta	*	*	*	*	0.03	*	*	<u>1.06</u>	*	*	*	0.57	-0.99
Tb	*	*	*	*	0.37	*	*	<u>0.01</u>	*	*	*	-0.18	-0.23
Th	*	<u>0.69</u>	1.38	*	-0.35	*	1.38	<u>0.77</u>	*	*	*	-0.65	-0.03
Tl	*	*	*	*	-0.65	*	*	<u>0.38</u>	*	*	*	*	*
Tm	*	*	*	*	0.47	*	*	<u>0.00</u>	*	*	*	0.00	-0.23
U	*	<u>21.20</u>	58.40	189.05	0.48	*	*	-1.49	*	*	*	0.80	0.96
V	<u>0.06</u>	-1.71	-2.54	-8.38	-0.55	<u>0.61</u>	*	<u>1.37</u>	-1.77	*	*	0.77	1.05
Y	-1.03	<u>0.62</u>	-0.41	-0.17	1.24	<u>0.21</u>	-2.06	-0.01	-1.03	*	*	1.07	-0.27
Yb	*	*	*	*	0.69	*	*	-0.33	*	*	*	0.32	0.66
Zn	<u>1.16</u>	-1.51	-2.38	-3.36	-1.72	-1.35	-1.13	<u>1.13</u>	*	*	<u>2.37</u>	0.31	-0.68
Zr	-1.13	<u>0.73</u>	-0.70	-1.40	0.67	<u>1.41</u>	2.82	-8.97	-1.62	*	<u>8.25</u>	-2.46	1.44

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

Table 3 - GeoPT38 Z-scores for Ardnamurchan Gabbro, OU-7. 11/12/2015

Lab Code	S52	S53	S54	S56	S57	S58	S59	S60	S61	S62	S63	S64	S65
SiO2	*	<u>0.31</u>	<u>0.10</u>	-0.88	*	<u>-0.19</u>	<u>-0.22</u>	0.07	<u>-0.05</u>	<u>-0.16</u>	<u>0.75</u>	<u>0.22</u>	*
TiO2	<u>-0.56</u>	<u>-0.56</u>	<u>2.82</u>	-1.12	0.06	<u>1.01</u>	<u>-0.56</u>	0.45	<u>0.23</u>	<u>-0.17</u>	<u>0.91</u>	<u>-2.13</u>	*
Al2O3	<u>-0.87</u>	<u>-0.26</u>	<u>1.34</u>	-0.57	*	<u>-1.07</u>	<u>-0.22</u>	0.24	<u>-0.19</u>	<u>0.19</u>	<u>0.54</u>	<u>-0.71</u>	*
Fe2O3T	<u>0.95</u>	<u>-0.85</u>	<u>0.54</u>	-1.23	*	<u>1.29</u>	<u>1.02</u>	0.00	<u>0.07</u>	<u>-0.07</u>	<u>0.39</u>	<u>-1.91</u>	*
MnO	<u>7.52</u>	<u>-1.25</u>	<u>-0.13</u>	0.25	90.70	<u>-1.25</u>	<u>-1.25</u>	-0.50	<u>0.00</u>	<u>-1.25</u>	<u>0.63</u>	<u>-0.13</u>	*
MgO	<u>0.14</u>	<u>-0.55</u>	<u>0.20</u>	-0.46	*	<u>0.90</u>	<u>0.77</u>	0.29	<u>-0.11</u>	<u>0.21</u>	<u>-0.06</u>	<u>1.96</u>	*
CaO	<u>0.90</u>	<u>0.19</u>	<u>0.50</u>	-0.08	*	<u>2.22</u>	<u>0.23</u>	-1.13	<u>0.64</u>	<u>0.34</u>	<u>0.61</u>	<u>-0.49</u>	*
Na2O	<u>0.09</u>	<u>0.18</u>	<u>-1.01</u>	1.11	*	<u>0.18</u>	<u>-0.28</u>	-2.59	<u>-0.37</u>	<u>-0.18</u>	<u>0.73</u>	<u>3.51</u>	*
K2O	<u>-1.80</u>	<u>0.40</u>	<u>0.04</u>	0.79	*	<u>0.18</u>	<u>-0.04</u>	-0.35	<u>-0.04</u>	<u>-0.26</u>	<u>0.40</u>	<u>1.72</u>	*
P2O5	<u>1.86</u>	<u>-0.10</u>	<u>1.37</u>	*	*	<u>0.78</u>	<u>-0.10</u>	2.34	<u>0.88</u>	<u>-0.10</u>	<u>0.29</u>	<u>235.35</u>	*
Ba	<u>-0.53</u>	*	<u>0.99</u>	0.23	-0.84	<u>1.38</u>	<u>0.19</u>	0.23	<u>0.38</u>	<u>0.95</u>	<u>0.05</u>	<u>1.94</u>	<u>2.04</u>
Be	*	*	<u>0.55</u>	-0.33	*	*	<u>0.23</u>	*	*	<u>-0.36</u>	<u>-1.01</u>	*	*
Cd	*	*	<u>-0.83</u>	-0.28	*	<u>278.07</u>	*	*	*	*	*	*	*
Ce	<u>0.26</u>	*	<u>0.06</u>	0.13	0.07	<u>-1.31</u>	<u>0.09</u>	4.42	<u>-0.34</u>	<u>0.35</u>	<u>-0.74</u>	*	<u>-2.22</u>
Co	<u>0.57</u>	*	<u>0.51</u>	-0.12	0.00	<u>0.87</u>	<u>0.42</u>	3.61	<u>0.00</u>	<u>-1.08</u>	<u>-0.25</u>	*	<u>-0.27</u>
Cr	<u>-1.85</u>	*	<u>1.72</u>	3.28	1.11	<u>-1.47</u>	<u>-0.06</u>	-2.61	<u>-0.68</u>	<u>-1.85</u>	<u>0.65</u>	<u>2.26</u>	<u>0.30</u>
Cs	*	*	<u>0.27</u>	1.15	-0.39	*	<u>-0.12</u>	*	<u>-0.79</u>	*	*	*	*
Cu	<u>-0.55</u>	*	<u>-1.61</u>	0.71	1.22	<u>-0.75</u>	<u>0.23</u>	2.49	<u>0.51</u>	<u>-0.15</u>	<u>0.34</u>	<u>-1.68</u>	<u>0.13</u>
Dy	<u>0.15</u>	*	<u>0.13</u>	0.27	-0.60	*	<u>0.08</u>	1.45	<u>-0.25</u>	<u>-0.47</u>	<u>0.10</u>	*	*
Er	<u>-0.22</u>	*	<u>0.19</u>	-0.11	-0.72	*	<u>0.00</u>	0.89	<u>-0.53</u>	<u>-0.33</u>	<u>0.00</u>	*	*
Eu	<u>0.01</u>	*	<u>0.01</u>	0.19	0.01	*	<u>-0.12</u>	2.29	<u>0.18</u>	<u>0.67</u>	<u>-0.21</u>	*	*
Ga	*	*	<u>0.29</u>	0.69	*	<u>-0.19</u>	<u>0.00</u>	2135.15	<u>0.44</u>	<u>-0.05</u>	<u>-0.36</u>	*	<u>0.15</u>
Gd	<u>-0.23</u>	*	<u>-0.53</u>	-0.86	-0.73	*	<u>-0.09</u>	2.25	<u>-0.00</u>	<u>0.03</u>	<u>-1.02</u>	*	*
Ge	*	*	<u>0.03</u>	1.63	*	*	<u>0.87</u>	*	<u>-1.18</u>	*	*	*	*
Hf	*	*	<u>0.74</u>	1.67	-6.81	<u>-2.52</u>	<u>-0.10</u>	*	<u>-0.41</u>	<u>1.00</u>	<u>0.48</u>	*	*
Ho	*	*	<u>-0.04</u>	0.75	-0.01	*	<u>0.05</u>	0.87	<u>-0.10</u>	<u>-0.44</u>	<u>0.03</u>	*	*
La	<u>0.09</u>	*	<u>0.09</u>	0.50	0.06	<u>6.26</u>	<u>-0.08</u>	3.92	<u>-0.30</u>	<u>0.03</u>	<u>-0.32</u>	*	<u>-1.90</u>
Li	*	*	<u>-0.45</u>	-0.13	0.63	*	<u>0.38</u>	6.59	*	<u>-0.63</u>	*	*	*
Lu	<u>-0.61</u>	*	<u>-0.15</u>	0.64	-0.82	*	<u>-0.02</u>	0.92	<u>0.15</u>	<u>-0.61</u>	<u>0.00</u>	*	*
Mo	*	*	<u>3.58</u>	0.41	*	<u>-0.23</u>	*	*	*	*	*	*	*
Nb	*	*	<u>-0.78</u>	-2.13	0.36	<u>-1.50</u>	<u>0.10</u>	*	<u>0.84</u>	*	<u>-1.20</u>	*	<u>-1.83</u>
Nd	<u>0.16</u>	*	<u>0.21</u>	-0.07	-0.26	<u>3.02</u>	<u>0.06</u>	4.13	<u>-0.70</u>	<u>0.68</u>	<u>-0.29</u>	*	*
Ni	<u>0.17</u>	*	<u>-0.40</u>	0.51	0.37	<u>-1.62</u>	<u>0.35</u>	0.40	<u>0.62</u>	<u>-0.66</u>	<u>0.20</u>	<u>0.81</u>	<u>-0.09</u>
Pb	<u>-1.37</u>	*	<u>-0.57</u>	0.00	0.11	<u>-2.17</u>	<u>0.03</u>	*	<u>-0.20</u>	*	<u>-0.69</u>	*	<u>-0.72</u>
Pr	<u>0.03</u>	*	<u>0.64</u>	0.13	0.36	*	<u>-0.08</u>	3.31	<u>-0.18</u>	<u>-0.56</u>	<u>-0.39</u>	*	*
Rb	*	*	<u>0.03</u>	1.11	0.51	<u>-0.23</u>	<u>-0.23</u>	2.30	<u>0.26</u>	<u>-0.23</u>	<u>-0.61</u>	<u>2.01</u>	<u>0.51</u>
Sc	*	*	<u>-2.08</u>	1.69	0.49	<u>-1.09</u>	<u>0.32</u>	*	<u>-0.18</u>	<u>0.56</u>	<u>0.00</u>	*	<u>-0.85</u>
Sm	<u>0.02</u>	*	<u>-0.49</u>	0.38	-0.10	*	<u>0.04</u>	3.08	<u>-0.61</u>	<u>-0.42</u>	<u>-0.23</u>	*	*
Sn	*	*	<u>1.08</u>	2.05	0.68	<u>-2.24</u>	*	*	<u>-1.18</u>	*	*	*	*
Sr	<u>-0.01</u>	*	<u>1.69</u>	1.47	0.23	<u>-0.39</u>	<u>0.28</u>	-1.42	<u>0.21</u>	<u>-0.13</u>	<u>-0.07</u>	<u>0.65</u>	<u>0.21</u>
Ta	*	*	<u>0.29</u>	0.86	-0.82	<u>3.13</u>	<u>-0.07</u>	*	*	<u>11.67</u>	<u>-0.71</u>	*	*
Tb	<u>-0.33</u>	*	<u>-0.09</u>	-0.44	-0.28	*	<u>-0.06</u>	1.55	<u>0.07</u>	<u>-0.01</u>	<u>-0.09</u>	*	*
Th	<u>3.44</u>	*	<u>0.46</u>	-0.43	-0.73	<u>7.09</u>	<u>-0.44</u>	0.48	<u>-0.44</u>	<u>0.31</u>	<u>-0.40</u>	*	*
Tl	*	*	<u>-0.20</u>	*	*	*	*	*	*	<u>0.76</u>	*	*	*
Tm	<u>-0.29</u>	*	<u>0.00</u>	-0.12	*	*	<u>0.04</u>	1.16	<u>0.00</u>	<u>-0.58</u>	<u>0.00</u>	*	*
U	<u>-0.53</u>	*	<u>0.93</u>	0.27	-1.33	<u>18.53</u>	<u>0.19</u>	1.07	<u>0.27</u>	<u>-1.60</u>	*	*	*
V	<u>0.11</u>	*	<u>0.50</u>	-1.77	0.66	<u>-3.12</u>	<u>0.17</u>	-1.32	<u>-0.50</u>	<u>-0.39</u>	<u>0.13</u>	*	<u>-0.61</u>
Y	<u>0.95</u>	*	<u>0.25</u>	0.08	1.24	<u>-0.50</u>	<u>0.45</u>	0.99	<u>-0.04</u>	<u>0.00</u>	<u>-1.10</u>	*	<u>0.33</u>
Yb	<u>-0.39</u>	*	<u>0.25</u>	0.87	-0.65	<u>-6.18</u>	<u>0.07</u>	1.06	<u>-0.08</u>	<u>-1.12</u>	<u>0.19</u>	*	*
Zn	<u>-0.20</u>	*	<u>0.00</u>	4.67	1.51	<u>-1.77</u>	<u>0.55</u>	0.03	<u>0.06</u>	<u>-0.88</u>	<u>1.05</u>	<u>-0.72</u>	<u>-0.45</u>
Zr	*	*	<u>-0.55</u>	1.06	-14.19	<u>-1.49</u>	<u>-1.13</u>	-3.44	<u>-0.64</u>	<u>0.53</u>	<u>-0.90</u>	<u>8.15</u>	<u>0.06</u>

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

Table 3 - GeoPT38 Z-scores for Ardnamurchan Gabbro, OU-7. 11/12/2015

Lab Code	S66	S68	S69	S70	S71	S72	S73	S74	S75	S77	S78	S79	S80
SiO2	0.43	<u>-0.31</u>	<u>0.18</u>	0.80	<u>0.00</u>	<u>-0.50</u>	<u>0.28</u>	-0.62	<u>-0.06</u>	-2.01	0.37	*	-0.16
TiO2	-0.30	<u>-0.17</u>	<u>0.03</u>	0.45	<u>0.03</u>	*	<u>0.19</u>	0.45	<u>0.34</u>	0.84	4.42	*	-0.56
Al2O3	0.94	<u>3.12</u>	<u>-0.42</u>	-0.25	<u>0.26</u>	*	<u>0.60</u>	-0.66	<u>-0.24</u>	-0.16	3.67	*	-0.19
Fe2O3T	-0.54	<u>0.17</u>	<u>0.03</u>	-2.11	<u>0.89</u>	*	<u>0.22</u>	0.07	<u>0.38</u>	1.77	-61.02	86.93	<u>0.65</u>
MnO	0.10	<u>0.00</u>	<u>0.13</u>	0.00	<u>1.25</u>	*	<u>0.88</u>	0.00	<u>0.75</u>	1.75	-1.75	-23.75	-0.63
MgO	1.00	<u>0.33</u>	<u>0.52</u>	1.92	<u>-1.61</u>	*	<u>0.97</u>	0.04	<u>-0.05</u>	1.79	8.45	*	<u>0.27</u>
CaO	-0.69	<u>0.11</u>	<u>0.34</u>	-1.06	<u>0.04</u>	*	<u>0.25</u>	-0.30	<u>0.22</u>	3.70	1.11	-42.38	<u>0.75</u>
Na2O	1.31	<u>-2.40</u>	<u>-0.74</u>	-3.88	<u>-2.22</u>	*	<u>0.21</u>	-1.29	<u>-0.12</u>	1.66	-0.04	-27.89	<u>0.28</u>
K2O	0.44	<u>-0.70</u>	<u>0.18</u>	-0.97	<u>1.06</u>	*	<u>-0.02</u>	-0.09	<u>-0.31</u>	2.11	0.13	*	-1.58
P2O5	3.20	<u>-0.10</u>	<u>0.00</u>	-2.15	<u>0.88</u>	*	<u>0.78</u>	-0.20	*	1.76	6.64	*	-0.10
Ba	1.46	<u>0.57</u>	*	-0.69	<u>0.00</u>	*	<u>1.98</u>	1.84	<u>1.51</u>	1.07	1.37	-25.53	<u>0.76</u>
Be	-0.82	*	*	-1.24	*	*	*	*	*	*	3.18	*	<u>1.79</u>
Cd	-1.28	*	*	-6.48	*	*	*	*	*	*	5.93	-3.59	*
Ce	0.99	*	*	-0.33	*	*	<u>1.39</u>	1.73	*	2.42	-0.61	*	-0.39
Co	0.41	*	*	-0.54	<u>-1.08</u>	*	*	-3.07	*	-2.77	-1.26	-7.15	<u>0.60</u>
Cr	-3.03	*	*	-1.37	<u>-1.38</u>	*	<u>3.34</u>	-2.90	<u>1.48</u>	-2.92	1.45	-19.82	<u>0.32</u>
Cs	0.50	*	*	-0.36	*	*	*	*	*	*	-0.52	*	-0.18
Cu	1.33	*	*	0.71	<u>-0.28</u>	*	<u>3.66</u>	-0.26	*	-0.05	-4.88	-5.92	<u>0.48</u>
Dy	0.86	*	*	0.44	*	*	*	*	*	*	0.38	*	-0.74
Er	-0.70	*	*	0.00	*	*	*	*	*	*	-0.25	*	-0.55
Eu	0.03	*	*	-0.42	*	*	*	*	*	*	-0.39	*	-0.95
Ga	0.61	*	*	-0.09	*	*	<u>0.42</u>	-1.07	*	-0.09	-1.46	*	<u>0.20</u>
Gd	-0.93	*	*	-0.66	*	*	*	*	*	*	-0.80	*	-0.50
Ge	*	*	*	*	*	*	*	7.10	*	*	*	*	*
Hf	-1.14	*	*	-0.48	*	*	*	5.28	*	5.75	0.78	*	-0.52
Ho	1.10	*	*	0.06	*	*	*	*	*	*	-0.01	*	-0.34
La	2.20	*	*	-0.05	*	*	<u>3.45</u>	4.25	*	-2.69	-0.35	*	0.28
Li	0.59	*	*	-0.31	*	*	*	*	*	*	-1.57	*	-0.18
Lu	0.27	*	*	0.31	*	*	*	*	*	*	0.31	*	-0.61
Mo	0.11	*	*	*	*	*	*	*	*	*	*	-3.28	<u>0.32</u>
Nb	0.91	*	*	-0.13	*	*	<u>-1.17</u>	-1.69	*	*	-1.82	*	<u>1.49</u>
Nd	0.74	*	*	0.79	*	*	*	1.56	*	0.31	-1.26	*	-0.45
Ni	2.56	*	*	-1.51	<u>-1.03</u>	*	<u>-0.74</u>	-2.86	*	-2.06	0.04	-5.51	<u>0.07</u>
Pb	-1.35	*	*	1.11	*	*	<u>2.70</u>	0.92	*	*	-6.38	-5.14	<u>0.33</u>
Pr	1.34	*	*	0.29	*	*	*	*	*	*	-0.12	*	0.36
Rb	-0.46	*	*	-0.90	<u>-0.23</u>	*	<u>0.11</u>	-1.58	*	1.04	-0.31	*	<u>0.14</u>
Sc	0.68	*	*	0.49	<u>-0.88</u>	*	*	-2.33	*	-2.47	-1.06	*	<u>2.54</u>
Sm	0.06	*	*	-0.13	*	*	*	*	*	*	-0.42	*	-0.40
Sn	-0.16	*	*	*	*	*	*	*	*	*	*	-3.63	<u>0.39</u>
Sr	-0.54	<u>-0.71</u>	*	-1.01	<u>-0.05</u>	*	<u>28.23</u>	-1.09	*	-2.00	-0.10	*	<u>0.86</u>
Ta	-0.25	*	*	1.43	*	*	*	68.87	*	*	-2.38	*	<u>10.25</u>
Tb	-0.20	*	*	0.45	*	*	*	*	*	*	-0.99	*	-0.50
Th	2.81	*	*	-1.10	*	*	*	*	*	*	-1.33	*	<u>0.20</u>
Tl	*	*	*	*	*	*	*	*	*	*	-0.84	*	-0.20
Tm	-0.15	*	*	0.29	*	*	*	*	*	*	-0.15	*	-0.87
U	1.68	*	*	0.00	*	*	*	*	*	*	-7.47	*	-0.40
V	0.86	*	*	0.33	<u>-1.93</u>	*	<u>11.29</u>	-2.96	*	-3.64	-0.66	-2.61	-0.66
Y	4.10	*	*	0.41	<u>-0.21</u>	*	<u>0.06</u>	-0.58	*	*	0.00	*	<u>0.21</u>
Yb	0.17	*	*	0.51	*	*	*	*	*	*	0.47	*	-0.65
Zn	-0.02	*	*	0.16	<u>-1.66</u>	*	<u>-0.71</u>	-4.67	*	-5.52	0.97	-6.08	-0.41
Zr	-0.95	<u>0.63</u>	*	-4.61	<u>0.92</u>	*	<u>0.72</u>	-0.17	*	-1.29	0.18	*	-1.33

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

Table 3 - GeoPT38 Z-scores for Ardnamurchan Gabbro, OU-7. 11/12/2015

Lab Code	S81	S82	S83	S84	S85	S86	S87	S88	S89	S90	S91	S92	S93
SiO2	<u>0.05</u>	<u>-2.25</u>	<u>-1.68</u>	<u>-1.40</u>	<u>0.69</u>	<u>-0.40</u>	<u>-1.06</u>	<u>-0.15</u>	*	*	<u>5.23</u>	<u>0.90</u>	<u>-0.69</u>
TiO2	<u>0.03</u>	<u>0.42</u>	<u>-1.51</u>	<u>-1.84</u>	<u>-0.33</u>	<u>-0.17</u>	<u>-0.33</u>	<u>-0.17</u>	<u>-22.44</u>	*	<u>0.06</u>	<u>-0.06</u>	<u>-1.12</u>
Al2O3	<u>-0.31</u>	<u>0.87</u>	<u>-2.01</u>	<u>-2.26</u>	<u>-0.48</u>	<u>-0.49</u>	<u>0.42</u>	<u>-0.26</u>	<u>-26.19</u>	<u>3.57</u>	<u>-1.78</u>	<u>1.19</u>	<u>0.42</u>
Fe2O3T	<u>-0.17</u>	<u>-2.42</u>	<u>0.00</u>	<u>-2.19</u>	<u>0.00</u>	<u>-0.51</u>	<u>-6.27</u>	<u>-0.10</u>	<u>-20.30</u>	<u>0.07</u>	<u>1.02</u>	<u>-0.34</u>	<u>0.27</u>
MnO	<u>0.00</u>	<u>-1.25</u>	<u>0.00</u>	<u>-2.51</u>	<u>0.00</u>	<u>0.25</u>	<u>-2.51</u>	<u>0.00</u>	<u>-13.40</u>	<u>1.25</u>	<u>0.00</u>	<u>-1.13</u>	<u>0.00</u>
MgO	<u>-0.55</u>	<u>-2.49</u>	<u>-2.97</u>	<u>-29.27</u>	<u>-1.34</u>	<u>-0.86</u>	<u>18.71</u>	<u>-0.29</u>	<u>-17.69</u>	<u>31.48</u>	<u>-0.21</u>	<u>-0.02</u>	<u>-0.09</u>
CaO	<u>-0.49</u>	<u>0.64</u>	<u>-4.37</u>	<u>-2.43</u>	<u>-0.45</u>	<u>-0.83</u>	<u>-1.21</u>	<u>0.04</u>	<u>-25.53</u>	<u>0.90</u>	<u>-2.71</u>	<u>0.72</u>	<u>-0.38</u>
Na2O	<u>0.65</u>	<u>2.31</u>	<u>-1.48</u>	<u>-4.24</u>	<u>-1.11</u>	<u>-0.37</u>	<u>4.06</u>	<u>0.46</u>	<u>-24.16</u>	<u>3.32</u>	<u>-0.37</u>	<u>-0.50</u>	<u>2.95</u>
K2O	<u>-0.04</u>	<u>3.48</u>	<u>-2.29</u>	*	<u>-0.53</u>	<u>-0.26</u>	<u>1.23</u>	<u>-0.04</u>	<u>-21.39</u>	<u>-0.48</u>	<u>-1.41</u>	<u>-0.00</u>	<u>-0.97</u>
P2O5	<u>-0.10</u>	<u>9.67</u>	<u>-2.15</u>	*	<u>1.76</u>	<u>-0.49</u>	<u>1.76</u>	<u>0.00</u>	*	*	*	<u>-0.29</u>	<u>-4.10</u>
Ba	*	<u>3.43</u>	<u>-1.22</u>	*	*	<u>-0.38</u>	<u>-4.04</u>	<u>-0.27</u>	<u>-12.93</u>	<u>0.62</u>	<u>2.67</u>	<u>-0.34</u>	<u>-1.07</u>
Be	*	*	<u>-0.72</u>	*	*	*	*	*	<u>-5.43</u>	<u>0.75</u>	*	<u>-1.24</u>	*
Cd	*	*	*	<u>1.45</u>	*	*	*	*	<u>-2.55</u>	<u>5.65</u>	*	<u>-0.28</u>	*
Ce	*	*	<u>-0.73</u>	<u>-7.42</u>	*	<u>-1.79</u>	<u>-2.73</u>	<u>-0.59</u>	<u>-4.51</u>	*	<u>-0.88</u>	<u>0.33</u>	<u>2.99</u>
Co	*	*	<u>0.60</u>	<u>-1.12</u>	*	<u>-0.45</u>	<u>-3.97</u>	*	<u>-5.02</u>	<u>0.70</u>	<u>0.42</u>	<u>0.03</u>	<u>-1.56</u>
Cr	*	<u>-3.93</u>	<u>1.57</u>	<u>-8.09</u>	*	<u>-1.69</u>	<u>-6.17</u>	<u>0.32</u>	<u>-12.22</u>	<u>-0.01</u>	<u>0.95</u>	<u>0.33</u>	<u>-0.59</u>
Cs	*	*	*	*	*	*	*	<u>0.27</u>	*	*	<u>2.25</u>	<u>1.85</u>	*
Cu	*	<u>7.84</u>	<u>0.01</u>	<u>13.98</u>	*	<u>-0.15</u>	<u>-1.58</u>	*	<u>-1.08</u>	<u>2.25</u>	*	<u>1.47</u>	<u>-5.89</u>
Dy	*	*	<u>0.30</u>	*	*	*	<u>-1.81</u>	<u>-0.56</u>	<u>-4.55</u>	*	<u>2.42</u>	<u>-2.24</u>	*
Er	*	*	<u>0.89</u>	*	*	*	<u>-0.61</u>	<u>-0.53</u>	<u>-4.32</u>	*	*	<u>-2.20</u>	*
Eu	*	*	<u>-0.34</u>	*	*	*	<u>-1.04</u>	<u>-0.08</u>	<u>-4.73</u>	*	<u>0.19</u>	<u>-0.73</u>	*
Ga	*	*	<u>0.34</u>	*	*	<u>-1.22</u>	*	<u>-0.19</u>	*	<u>1.03</u>	<u>-6.84</u>	<u>-0.39</u>	<u>-0.09</u>
Gd	*	*	<u>0.29</u>	*	*	*	<u>-1.09</u>	<u>-0.12</u>	<u>-3.32</u>	*	*	<u>-3.23</u>	*
Ge	*	*	<u>4.08</u>	*	*	*	*	*	<u>-6.02</u>	*	*	*	*
Hf	*	*	<u>6.86</u>	*	*	*	*	<u>1.70</u>	*	*	<u>0.98</u>	<u>1.60</u>	<u>13.25</u>
Ho	*	*	<u>0.47</u>	*	*	*	*	<u>-0.24</u>	<u>-3.68</u>	*	*	<u>0.72</u>	*
La	*	*	<u>-0.82</u>	*	*	<u>-0.91</u>	<u>-1.59</u>	<u>-0.91</u>	<u>-4.65</u>	*	<u>-0.79</u>	<u>-0.32</u>	<u>-1.59</u>
Li	*	*	<u>-1.75</u>	*	*	*	<u>25.65</u>	*	<u>-5.48</u>	<u>2.37</u>	*	*	*
Lu	*	*	<u>0.31</u>	*	*	*	<u>1.53</u>	<u>0.31</u>	<u>-3.81</u>	*	<u>0.55</u>	<u>0.43</u>	*
Mo	*	*	*	<u>-0.86</u>	*	*	*	*	<u>-2.84</u>	<u>-0.52</u>	*	*	*
Nb	*	*	<u>-0.33</u>	*	*	<u>1.38</u>	<u>25.09</u>	<u>-0.59</u>	<u>-8.18</u>	*	*	*	<u>191.49</u>
Nd	*	*	<u>-0.64</u>	*	*	<u>0.78</u>	<u>-0.64</u>	<u>-0.46</u>	<u>-3.61</u>	*	<u>-3.02</u>	<u>-0.35</u>	<u>5.09</u>
Ni	*	<u>-2.07</u>	<u>1.73</u>	*	*	<u>-0.35</u>	<u>-4.99</u>	*	<u>-3.58</u>	<u>1.35</u>	*	<u>-2.26</u>	<u>-1.69</u>
Pb	*	*	<u>-3.10</u>	*	*	<u>-1.00</u>	*	*	<u>-3.68</u>	<u>0.53</u>	*	<u>0.68</u>	<u>1.98</u>
Pr	*	*	<u>-0.26</u>	*	*	*	<u>-1.11</u>	<u>-0.02</u>	<u>-2.88</u>	*	*	<u>-1.37</u>	*
Rb	*	<u>2.72</u>	<u>-0.04</u>	<u>-1.37</u>	*	<u>-1.12</u>	<u>-1.20</u>	<u>-0.79</u>	<u>-8.44</u>	<u>0.63</u>	<u>4.62</u>	<u>-0.49</u>	<u>-1.20</u>
Sc	*	*	<u>1.02</u>	<u>-6.81</u>	*	<u>-3.10</u>	<u>-7.41</u>	*	<u>-9.60</u>	*	<u>0.73</u>	<u>0.63</u>	<u>212.65</u>
Sm	*	*	<u>-0.30</u>	<u>-6.23</u>	*	*	<u>4.54</u>	<u>-0.29</u>	<u>-3.43</u>	*	<u>-0.36</u>	<u>0.92</u>	*
Sn	*	*	*	<u>2.81</u>	*	*	*	*	<u>-5.45</u>	*	*	*	<u>18.68</u>
Sr	<u>0.12</u>	<u>1.69</u>	<u>-0.48</u>	<u>-0.08</u>	*	<u>-1.13</u>	<u>-3.08</u>	<u>-0.01</u>	<u>-11.73</u>	<u>1.41</u>	<u>4.70</u>	<u>-0.47</u>	<u>-1.67</u>
Ta	*	*	*	*	*	*	*	*	*	*	<u>-0.42</u>	<u>0.36</u>	*
Tb	*	*	<u>0.29</u>	*	*	*	*	<u>-0.49</u>	<u>-3.09</u>	*	<u>-1.49</u>	<u>-0.53</u>	*
Th	*	*	<u>5.15</u>	<u>-5.16</u>	*	*	*	<u>0.01</u>	<u>-1.72</u>	*	<u>-0.70</u>	<u>0.06</u>	<u>23.97</u>
Tl	*	*	*	*	*	*	*	*	<u>-2.76</u>	<u>-0.52</u>	*	*	*
Tm	*	*	<u>0.87</u>	*	*	*	*	<u>-0.44</u>	<u>-3.49</u>	*	*	<u>-1.65</u>	*
U	*	*	<u>1.87</u>	<u>-3.20</u>	*	*	*	*	<u>-3.87</u>	<u>-0.21</u>	*	<u>0.75</u>	*
V	*	<u>2.76</u>	<u>0.66</u>	<u>2.63</u>	*	<u>-2.15</u>	*	<u>0.94</u>	<u>-11.25</u>	<u>2.15</u>	<u>0.99</u>	<u>0.19</u>	<u>1.21</u>
Y	*	*	<u>-0.87</u>	<u>-6.99</u>	*	<u>-0.25</u>	<u>-3.72</u>	<u>-0.66</u>	<u>-5.99</u>	*	*	<u>-2.56</u>	<u>-2.89</u>
Yb	*	*	<u>1.06</u>	*	*	*	<u>-0.77</u>	<u>-0.30</u>	<u>-4.75</u>	*	<u>0.96</u>	<u>0.72</u>	*
Zn	*	<u>-0.13</u>	<u>-1.47</u>	<u>-2.51</u>	*	<u>-2.24</u>	<u>2.32</u>	*	<u>-8.05</u>	<u>-9.59</u>	<u>2.98</u>	<u>3.73</u>	<u>-1.76</u>
Zr	*	<u>-1.33</u>	<u>-0.86</u>	<u>2.20</u>	*	<u>-0.94</u>	<u>-5.59</u>	<u>1.61</u>	<u>-12.60</u>	*	*	<u>-1.09</u>	<u>-1.87</u>

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

Table 3 - GeoPT38 Z-scores for Ardnamurchan Gabbro, OU-7. 11/12/2015

Lab Code	S94	S96	S97	S98	S99	S100	S101	S102	S103	S104	S105	S108	S109
SiO2	2.95	0.44	<u>1.86</u>	<u>-0.04</u>	<u>-0.75</u>	<u>0.11</u>	<u>0.09</u>	<u>-0.12</u>	2.74	<u>0.58</u>	0.18	<u>-0.09</u>	0.02
TiO2	2.42	2.42	<u>-1.11</u>	<u>-0.15</u>	<u>-0.99</u>	<u>-0.56</u>	<u>-0.36</u>	<u>-0.54</u>	-3.48	<u>0.42</u>	-1.51	<u>0.23</u>	0.65
Al2O3	-2.32	-2.77	<u>-0.73</u>	<u>0.23</u>	<u>0.72</u>	<u>-0.04</u>	<u>0.23</u>	<u>-0.17</u>	-3.40	<u>-0.55</u>	-0.93	<u>0.10</u>	-0.12
Fe2O3T	-7.56	2.38	<u>0.06</u>	<u>-0.15</u>	<u>0.28</u>	<u>-0.78</u>	<u>-0.31</u>	<u>0.20</u>	-7.76	<u>-0.48</u>	0.61	<u>0.20</u>	1.23
MnO	-5.01	-16.79	<u>0.38</u>	<u>1.25</u>	<u>0.38</u>	<u>0.00</u>	<u>-0.25</u>	<u>0.54</u>	-2.51	<u>-0.50</u>	0.00	<u>0.00</u>	0.50
MgO	-2.72	-4.47	<u>-0.95</u>	<u>0.16</u>	<u>5.75</u>	<u>0.08</u>	<u>-0.23</u>	<u>-0.13</u>	3.67	<u>0.46</u>	0.04	<u>-0.29</u>	-0.09
CaO	-4.15	-2.41	<u>-1.50</u>	<u>0.19</u>	<u>-0.90</u>	<u>0.15</u>	<u>-0.04</u>	<u>-0.45</u>	-0.53	<u>0.04</u>	0.68	<u>0.15</u>	0.38
Na2O	-3.14	5.91	<u>-0.71</u>	<u>0.26</u>	<u>0.05</u>	<u>-0.74</u>	<u>0.00</u>	<u>-0.42</u>	0.92	<u>-2.03</u>	-1.48	<u>-0.37</u>	-1.85
K2O	-1.85	6.95	<u>0.46</u>	<u>0.20</u>	<u>0.44</u>	<u>-0.04</u>	<u>-0.04</u>	<u>-0.24</u>	2.11	<u>0.18</u>	-0.53	<u>-0.04</u>	-0.09
P2O5	5.67	5.67	<u>-0.29</u>	<u>0.49</u>	<u>1.27</u>	<u>-0.10</u>	<u>0.10</u>	<u>0.01</u>	7.62	<u>-0.59</u>	-0.20	<u>0.98</u>	-0.39
Ba	1.24	*	<u>-1.47</u>	<u>0.91</u>	*	<u>-4.34</u>	*	<u>0.14</u>	-11.05	<u>0.61</u>	3.66	<u>-0.04</u>	-0.91
Be	1.36	*	*	*	*	*	*	<u>0.38</u>	*	*	*	<u>0.29</u>	*
Cd	*	-1.65	*	*	*	*	*	<u>-0.34</u>	*	<u>0.14</u>	*	<u>-0.48</u>	*
Ce	0.21	*	<u>0.29</u>	<u>0.35</u>	*	<u>-5.08</u>	*	<u>0.64</u>	-0.04	<u>1.38</u>	10.42	<u>0.84</u>	0.19
Co	-2.88	-9.98	<u>0.27</u>	<u>1.50</u>	*	*	*	<u>0.25</u>	-12.21	<u>2.43</u>	3.85	<u>-0.24</u>	*
Cr	0.52	-24.59	<u>-3.27</u>	<u>-0.68</u>	*	<u>-4.79</u>	*	<u>0.83</u>	10.09	<u>-1.85</u>	2.19	<u>3.03</u>	1.11
Cs	-1.88	*	*	*	*	*	*	<u>-0.11</u>	-10.38	<u>0.24</u>	*	<u>0.73</u>	*
Cu	-0.38	-0.31	<u>-0.97</u>	<u>-0.29</u>	*	<u>-7.14</u>	*	<u>0.95</u>	-3.61	<u>-0.53</u>	-1.58	<u>-0.03</u>	0.71
Dy	-0.74	*	<u>-0.09</u>	*	*	*	*	<u>0.07</u>	-0.25	<u>0.52</u>	*	<u>-0.56</u>	1.28
Er	-1.99	*	<u>0.08</u>	*	*	*	*	<u>0.00</u>	0.44	<u>0.08</u>	*	<u>0.53</u>	0.44
Eu	1.42	*	<u>0.18</u>	*	*	*	*	<u>-0.05</u>	0.37	<u>1.37</u>	*	<u>0.36</u>	0.37
Ga	1.95	*	<u>-0.93</u>	<u>-0.34</u>	*	<u>-6.40</u>	*	<u>0.05</u>	*	<u>1.32</u>	-1.07	<u>0.25</u>	-0.09
Gd	-0.70	*	<u>0.23</u>	*	*	*	*	<u>-0.23</u>	0.48	<u>0.39</u>	0.55	<u>0.27</u>	*
Ge	-2.26	*	*	*	*	*	*	*	*	*	-2.37	<u>-1.18</u>	*
Hf	-1.61	*	<u>3.98</u>	<u>-1.34</u>	*	*	*	<u>-0.92</u>	-2.13	*	3.88	<u>1.47</u>	1.95
Ho	-2.36	*	<u>-0.78</u>	*	*	*	*	<u>-0.01</u>	0.87	<u>0.20</u>	*	<u>0.57</u>	1.01
La	0.38	*	<u>0.68</u>	<u>0.86</u>	*	<u>-3.55</u>	*	<u>0.08</u>	0.36	<u>1.30</u>	-0.49	<u>0.42</u>	0.26
Li	1.97	*	<u>10.12</u>	*	*	*	*	<u>0.07</u>	*	*	*	<u>0.38</u>	*
Lu	0.61	*	<u>-0.61</u>	*	*	*	*	<u>-0.05</u>	-1.49	<u>-0.38</u>	*	<u>0.76</u>	0.31
Mo	*	*	*	*	*	*	*	<u>0.00</u>	4.33	*	*	<u>-1.32</u>	*
Nb	14.51	*	<u>-1.70</u>	<u>-1.76</u>	*	*	*	<u>-0.30</u>	8.71	<u>-1.89</u>	-3.51	<u>0.32</u>	-0.68
Nd	2.08	*	<u>0.44</u>	<u>2.78</u>	*	*	*	<u>-0.11</u>	-0.03	<u>1.64</u>	3.18	<u>-0.13</u>	-0.14
Ni	-2.37	-6.10	<u>-3.47</u>	<u>-0.72</u>	*	<u>-3.42</u>	*	<u>0.60</u>	13.11	<u>3.03</u>	2.35	<u>0.29</u>	1.98
Pb	-1.03	-5.93	*	<u>1.65</u>	*	<u>0.99</u>	*	<u>-0.57</u>	4.09	<u>0.18</u>	-11.20	<u>0.99</u>	1.00
Pr	2.00	*	<u>-1.31</u>	*	*	*	*	<u>-0.07</u>	-0.46	<u>1.29</u>	*	<u>0.59</u>	0.23
Rb	-1.10	*	<u>-2.46</u>	<u>-0.15</u>	*	<u>-3.96</u>	*	<u>0.09</u>	-1.29	<u>0.26</u>	4.02	<u>0.37</u>	-0.61
Sc	2.32	*	<u>-0.20</u>	<u>-0.42</u>	*	*	*	<u>0.60</u>	-13.12	<u>0.60</u>	-1.76	<u>0.18</u>	0.28
Sm	0.82	*	<u>0.15</u>	*	*	*	*	<u>0.14</u>	0.18	<u>1.44</u>	*	<u>1.08</u>	0.07
Sn	0.26	*	*	<u>1.18</u>	*	*	*	<u>1.08</u>	*	*	*	<u>-0.13</u>	*
Sr	0.01	*	<u>0.84</u>	<u>0.12</u>	*	<u>-8.00</u>	*	<u>-0.02</u>	-4.07	<u>1.48</u>	-1.09	<u>0.53</u>	-0.43
Ta	31.88	*	<u>0.43</u>	*	*	*	*	<u>-0.75</u>	4.84	*	*	<u>0.00</u>	4.84
Tb	-1.13	*	<u>-0.01</u>	*	*	*	*	<u>-0.32</u>	0.76	<u>0.42</u>	*	<u>0.30</u>	0.76
Th	0.55	*	<u>0.28</u>	<u>1.44</u>	*	*	*	<u>-0.01</u>	-0.20	<u>-0.85</u>	*	<u>-0.06</u>	0.93
Tl	*	-6.54	*	*	*	*	*	<u>0.01</u>	*	<u>0.35</u>	*	<u>0.44</u>	*
Tm	0.00	*	<u>-0.29</u>	*	*	*	*	<u>-0.01</u>	0.00	<u>-0.13</u>	*	*	0.29
U	-2.40	*	<u>0.53</u>	*	*	*	*	<u>0.13</u>	-0.35	<u>-1.33</u>	*	<u>-0.80</u>	1.07
V	0.01	-20.63	<u>-1.81</u>	<u>-1.70</u>	*	<u>-6.12</u>	*	<u>0.37</u>	-3.31	<u>-2.10</u>	2.32	<u>0.22</u>	0.77
Y	-0.02	*	<u>-0.61</u>	<u>-0.70</u>	*	<u>-6.40</u>	*	<u>0.24</u>	7.02	<u>0.08</u>	0.41	<u>-0.41</u>	0.04
Yb	0.69	*	<u>-1.76</u>	<u>-3.44</u>	*	*	*	<u>0.04</u>	0.32	<u>-0.27</u>	*	<u>1.75</u>	0.14
Zn	-0.38	4.52	<u>-3.10</u>	<u>-0.86</u>	*	<u>3.04</u>	*	<u>0.25</u>	-3.64	<u>3.45</u>	1.38	<u>0.96</u>	2.01
Zr	-8.25	*	<u>-6.06</u>	<u>0.09</u>	*	<u>-4.16</u>	*	<u>-2.96</u>	4.97	<u>-0.55</u>	-5.39	<u>1.31</u>	0.86

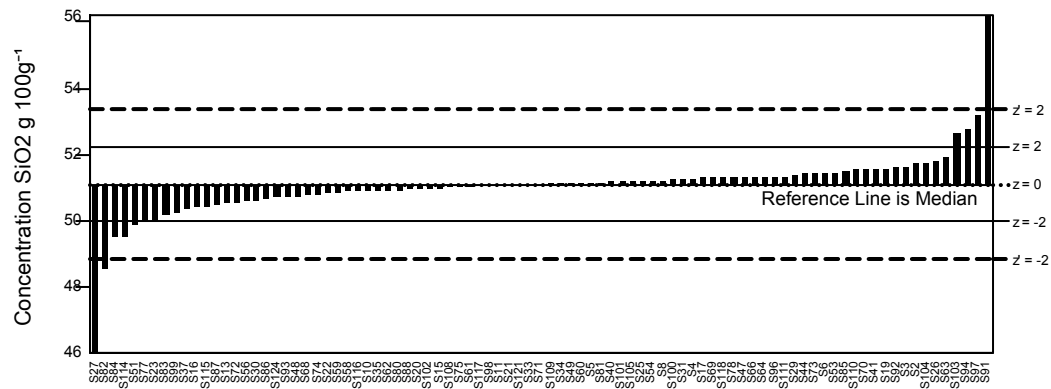
Bold entries are Data Quality 1 - Underlined entries are Data Quality 2 - Entries in italics are derived from Provisional Values.

Table 3 - GeoPT38 Z-scores for Ardnamurchan Gabbro, OU-7. 11/12/2015

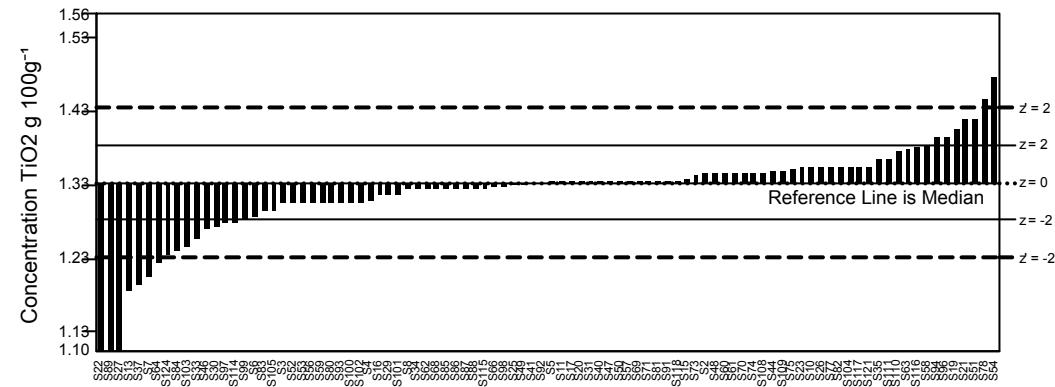
Lab Code	S110	S111	S114	S115	S116	S117	S118	S119	S120	S121	S122	S123	S124
SiO2	<u>0.39</u>	<u>0.44</u>	-2.81	<u>-0.58</u>	<u>-0.16</u>	-0.09	<u>0.18</u>	*	*	-0.02	*	*	-0.36
TiO2	<u>0.82</u>	<u>1.24</u>	-2.18	<u>-0.17</u>	<u>0.95</u>	<u>0.84</u>	<u>0.03</u>	*	*	<u>0.84</u>	*	*	-1.93
Al2O3	<u>0.30</u>	<u>0.74</u>	<u>1.09</u>	<u>-0.22</u>	<u>-0.22</u>	<u>2.63</u>	<u>0.19</u>	*	*	<u>1.10</u>	*	*	<u>1.09</u>
Fe2O3T	<u>0.34</u>	<u>0.61</u>	-2.75	<u>-0.72</u>	<u>0.88</u>	<u>0.34</u>	<u>-0.85</u>	*	*	<u>0.68</u>	*	*	-1.80
MnO	<u>1.25</u>	<u>42.59</u>	-1.25	<u>0.00</u>	<u>0.38</u>	-2.51	<u>0.00</u>	*	*	<u>0.00</u>	*	*	-2.51
MgO	<u>0.27</u>	<u>0.52</u>	-5.23	<u>1.71</u>	<u>0.45</u>	-1.59	<u>-0.36</u>	*	*	-0.34	*	*	<u>2.90</u>
CaO	<u>0.45</u>	<u>0.23</u>	-7.36	<u>0.04</u>	<u>0.42</u>	-2.19	<u>-1.28</u>	*	*	-1.21	*	*	-1.47
Na2O	<u>0.65</u>	<u>0.37</u>	<u>5.30</u>	<u>0.83</u>	<u>0.11</u>	-9.23	<u>0.00</u>	*	*	<u>0.55</u>	*	*	<u>0.92</u>
K2O	<u>0.18</u>	<u>0.35</u>	<u>2.73</u>	<u>-0.26</u>	<u>0.15</u>	-2.73	<u>-0.04</u>	*	*	<u>2.55</u>	*	*	<u>3.04</u>
P2O5	<u>0.49</u>	<u>-0.20</u>	-4.30	<u>-0.10</u>	<u>0.49</u>	-4.10	<u>-0.10</u>	*	*	-0.20	*	*	<u>2.83</u>
Ba	<u>-0.11</u>	<u>1.18</u>	<u>0.26</u>	<u>-0.95</u>	<u>0.13</u>	-4.88	<u>1.10</u>	*	-0.66	-1.91	*	<u>-0.36</u>	<u>0.08</u>
Be	*	<u>-0.36</u>	<u>0.66</u>	<u>-3.61</u>	*	-1.76	<u>0.03</u>	*	*	-0.07	*	*	<u>0.22</u>
Cd	*	*	*	*	*	<u>5.24</u>	*	*	*	*	*	*	*
Ce	<u>1.09</u>	<u>2.33</u>	-0.14	<u>-0.43</u>	*	-0.01	<u>-0.08</u>	<u>0.30</u>	<u>0.56</u>	<u>0.07</u>	-18.46	<u>-10.68</u>	-0.89
Co	*	<u>0.12</u>	-2.56	<u>4.93</u>	<u>0.09</u>	<u>5.47</u>	<u>0.06</u>	*	-0.39	<u>0.18</u>	*	*	<u>5.53</u>
Cr	<u>1.10</u>	<u>-0.45</u>	-0.44	<u>0.32</u>	<u>0.69</u>	-4.46	<u>0.06</u>	*	<u>0.44</u>	<u>0.02</u>	*	*	<u>0.09</u>
Cs	<u>-0.18</u>	<u>0.42</u>	<u>1.64</u>	*	*	*	<u>0.73</u>	*	-0.76	-0.67	*	*	*
Cu	*	<u>-0.28</u>	-1.28	<u>0.61</u>	<u>0.68</u>	-0.66	<u>-1.77</u>	*	-1.00	<u>0.71</u>	*	*	<u>0.48</u>
Dy	<u>-0.09</u>	<u>0.71</u>	-0.13	<u>-0.94</u>	*	-4.28	<u>-0.21</u>	<u>-0.09</u>	<u>0.13</u>	<u>0.17</u>	*	<u>-0.19</u>	-0.42
Er	<u>0.11</u>	<u>0.69</u>	-0.42	<u>-0.08</u>	*	<u>1.00</u>	<u>-0.30</u>	<u>0.25</u>	-0.77	<u>0.28</u>	*	<u>0.02</u>	<u>0.02</u>
Eu	<u>-0.52</u>	<u>0.27</u>	-0.37	<u>-0.12</u>	*	-2.00	<u>-0.08</u>	<u>-0.08</u>	-0.80	-0.16	*	<u>0.33</u>	<u>0.03</u>
Ga	<u>-1.22</u>	<u>0.53</u>	-0.83	<u>-0.05</u>	*	*	<u>-0.88</u>	*	-0.09	<u>0.30</u>	*	<u>0.42</u>	-0.05
Gd	<u>0.16</u>	<u>0.86</u>	-0.30	<u>-0.48</u>	*	<u>0.91</u>	<u>-0.55</u>	<u>0.19</u>	<u>0.48</u>	<u>0.06</u>	*	<u>-1.77</u>	<u>0.43</u>
Ge	*	<u>1.13</u>	*	<u>-0.24</u>	*	*	*	*	*	*	*	*	<u>-0.78</u>
Hf	<u>2.17</u>	<u>-3.52</u>	-7.59	<u>-1.60</u>	*	*	<u>0.30</u>	*	-6.63	-0.34	*	<u>1.63</u>	<u>1.19</u>
Ho	<u>0.03</u>	<u>0.50</u>	<u>0.13</u>	<u>-0.51</u>	*	<u>9.63</u>	<u>-0.10</u>	<u>-0.31</u>	-0.10	<u>0.20</u>	*	<u>-0.41</u>	-0.54
La	<u>0.69</u>	<u>1.83</u>	-0.57	<u>-0.53</u>	*	-1.92	<u>0.14</u>	<u>0.27</u>	<u>0.51</u>	-0.05	-16.39	<u>0.36</u>	-0.90
Li	*	-3.50	<u>0.47</u>	*	*	*	*	*	*	-0.65	*	*	*
Lu	<u>0.31</u>	<u>-0.31</u>	-1.01	<u>0.15</u>	*	<u>20.13</u>	<u>0.00</u>	<u>0.00</u>	-0.21	<u>0.00</u>	*	<u>0.50</u>	<u>0.26</u>
Mo	*	<u>0.21</u>	<u>0.76</u>	<u>1.73</u>	*	*	<u>-0.23</u>	*	*	*	*	*	*
Nb	<u>-0.07</u>	<u>0.75</u>	<u>1.06</u>	<u>0.84</u>	<u>0.06</u>	*	<u>0.19</u>	*	<u>0.70</u>	<u>1.01</u>	*	<u>2.08</u>	<u>2.14</u>
Nd	<u>-0.03</u>	<u>1.11</u>	-0.21	<u>-1.23</u>	*	<u>1.08</u>	<u>-0.22</u>	<u>-0.17</u>	<u>0.45</u>	<u>0.03</u>	-16.07	<u>-0.33</u>	-0.23
Ni	*	<u>0.81</u>	<u>0.02</u>	<u>1.18</u>	<u>0.46</u>	-1.54	<u>0.00</u>	*	<u>1.47</u>	<u>0.88</u>	*	*	<u>0.26</u>
Pb	*	<u>4.02</u>	-0.24	<u>11.53</u>	<u>10.08</u>	-2.79	<u>5.34</u>	*	-0.16	-0.58	*	*	<u>11.53</u>
Pr	<u>0.51</u>	<u>1.05</u>	-0.05	<u>-0.59</u>	*	*	<u>-0.07</u>	<u>0.13</u>	<u>0.52</u>	-0.07	-6.75	<u>0.28</u>	-0.89
Rb	<u>0.37</u>	-3.44	-0.22	<u>3.50</u>	<u>0.11</u>	*	<u>-0.12</u>	*	-0.37	-0.53	*	<u>0.97</u>	<u>2.76</u>
Sc	*	<u>-0.53</u>	<u>0.46</u>	<u>-0.53</u>	*	<u>0.14</u>	<u>0.14</u>	*	-0.03	<u>0.78</u>	*	<u>-2.59</u>	-0.53
Sm	<u>-0.42</u>	<u>0.70</u>	-0.25	<u>0.14</u>	*	<u>0.00</u>	<u>-0.27</u>	<u>-0.47</u>	-0.54	-0.10	-5.61	<u>0.18</u>	<u>0.08</u>
Sn	-1.18	<u>0.18</u>	*	<u>0.08</u>	*	*	<u>-0.66</u>	*	*	-0.16	*	<u>15.50</u>	-0.38
Sr	<u>1.73</u>	<u>0.03</u>	<u>0.39</u>	<u>1.57</u>	<u>0.41</u>	-0.35	<u>-0.55</u>	*	<u>0.15</u>	<u>0.56</u>	*	<u>-0.71</u>	<u>1.15</u>
Ta	<u>0.29</u>	<u>0.29</u>	-0.25	<u>0.00</u>	*	*	-1.14	*	-0.88	<u>0.01</u>	*	<u>4.14</u>	-1.46
Tb	<u>0.22</u>	<u>0.30</u>	-0.22	<u>0.22</u>	*	<u>8.01</u>	<u>-0.49</u>	<u>0.07</u>	<u>0.13</u>	-0.03	*	<u>-0.36</u>	<u>0.18</u>
Th	*	<u>0.20</u>	-1.46	<u>49.63</u>	<u>-4.96</u>	*	<u>-0.44</u>	<u>-0.06</u>	<u>0.10</u>	-0.43	*	<u>0.09</u>	<u>57.16</u>
Tl	*	<u>0.12</u>	*	*	*	*	<u>1.72</u>	*	*	*	*	*	*
Tm	<u>-0.15</u>	<u>0.29</u>	*	<u>0.29</u>	*	<u>4.07</u>	<u>-1.02</u>	<u>0.15</u>	-0.15	<u>0.58</u>	*	<u>0.51</u>	<u>0.39</u>
U	<u>1.60</u>	<u>-1.07</u>	-2.35	<u>-0.27</u>	*	*	<u>-0.13</u>	<u>-0.13</u>	-0.37	<u>1.07</u>	*	<u>8.00</u>	-0.27
V	<u>0.55</u>	<u>-0.66</u>	-0.17	<u>-1.60</u>	<u>-0.31</u>	-1.10	<u>0.12</u>	*	-0.19	<u>0.55</u>	*	*	-1.16
Y	*	<u>0.21</u>	<u>1.28</u>	<u>5.57</u>	<u>0.58</u>	-1.90	<u>0.25</u>	<u>-0.54</u>	<u>0.57</u>	<u>1.16</u>	*	<u>0.27</u>	<u>6.40</u>
Yb	*	<u>0.35</u>	-0.65	<u>-0.33</u>	*	-0.41	<u>-0.08</u>	<u>0.28</u>	-0.47	<u>0.39</u>	*	<u>-0.20</u>	-0.03
Zn	*	<u>1.00</u>	<u>0.84</u>	<u>1.32</u>	<u>-0.63</u>	<u>0.66</u>	<u>0.02</u>	*	-0.58	<u>0.85</u>	*	*	<u>1.32</u>
Zr	*	<u>0.92</u>	-15.32	<u>0.33</u>	<u>0.60</u>	-13.60	<u>-0.57</u>	*	-14.63	-3.24	*	<u>1.29</u>	<u>0.04</u>

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

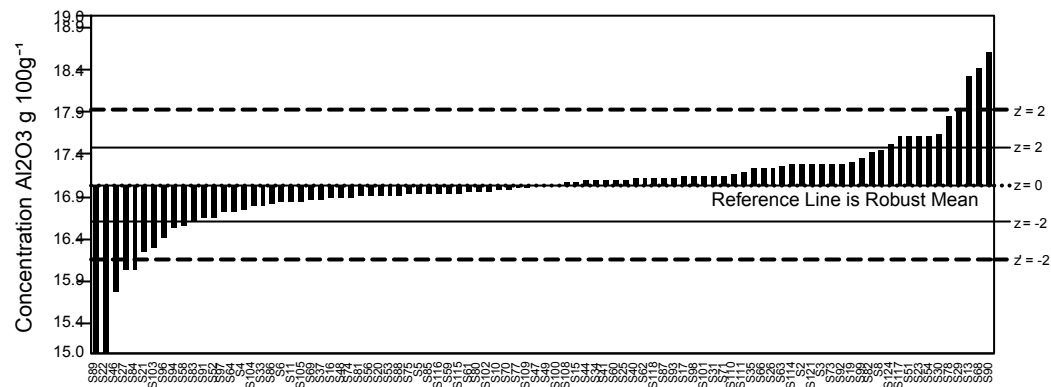
GeoPT38 - Barchart for SiO₂



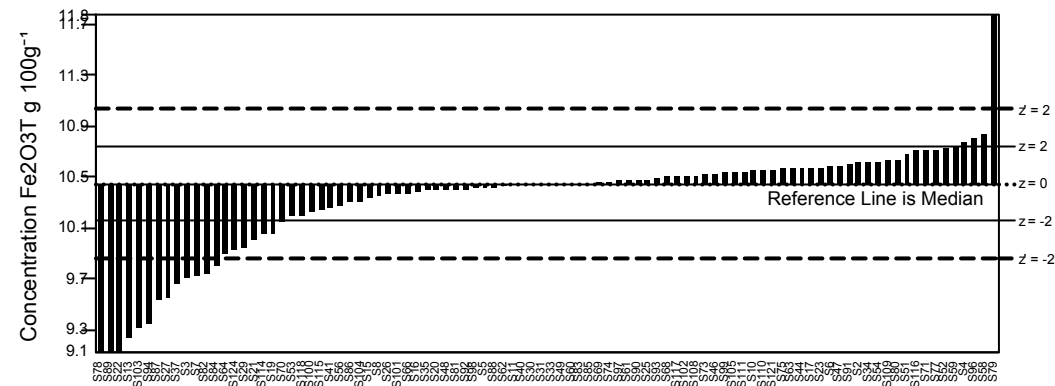
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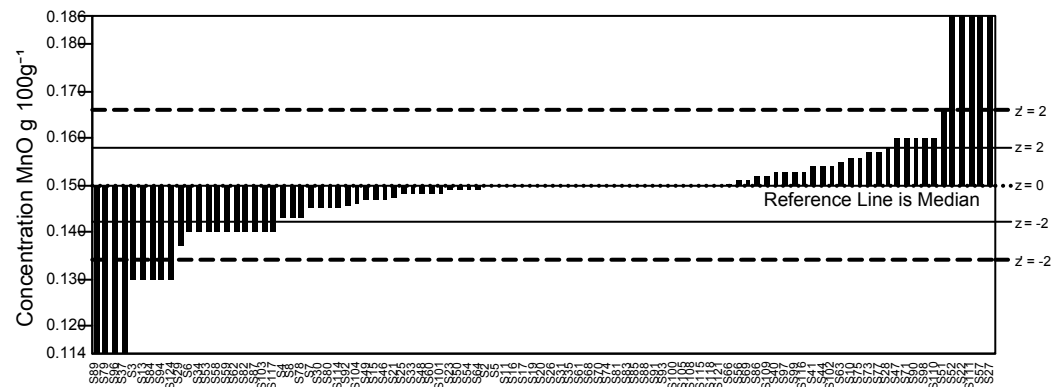
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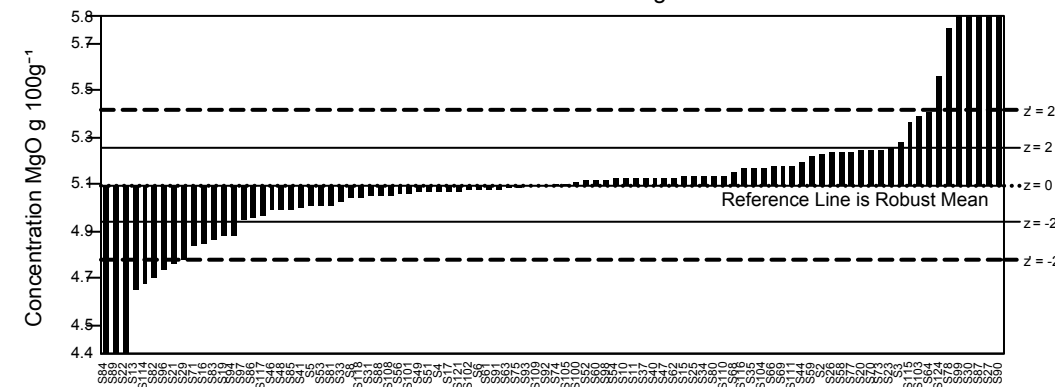
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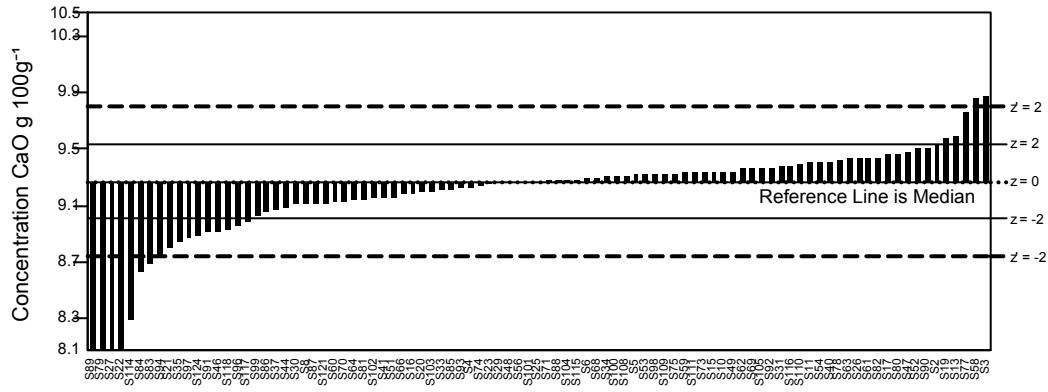
GeoPT38 - Barchart for MnO



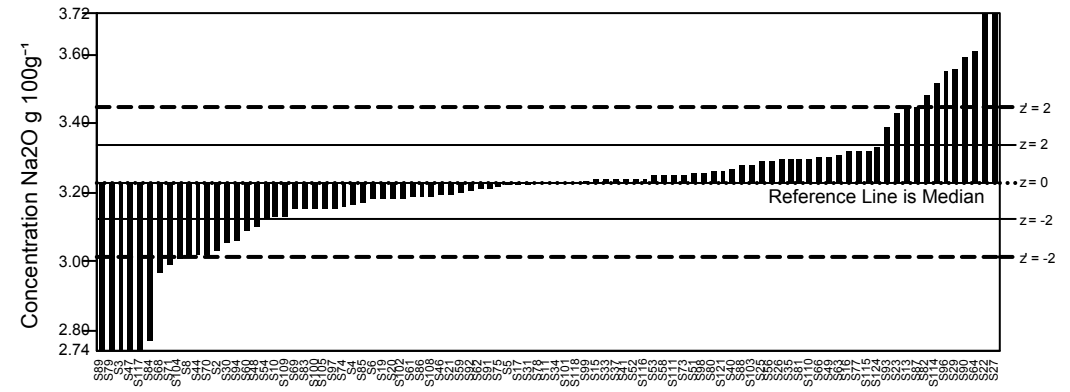
GeoPT38 - Barchart for MgO



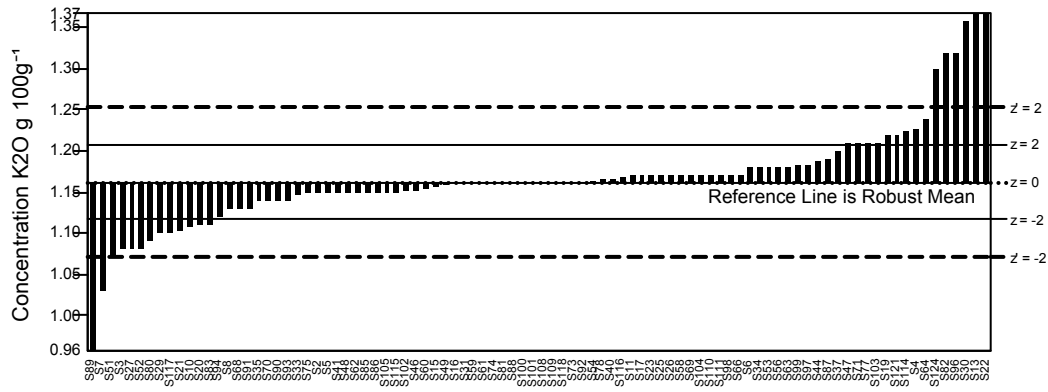
GeoPT38 - Barchart for CaO



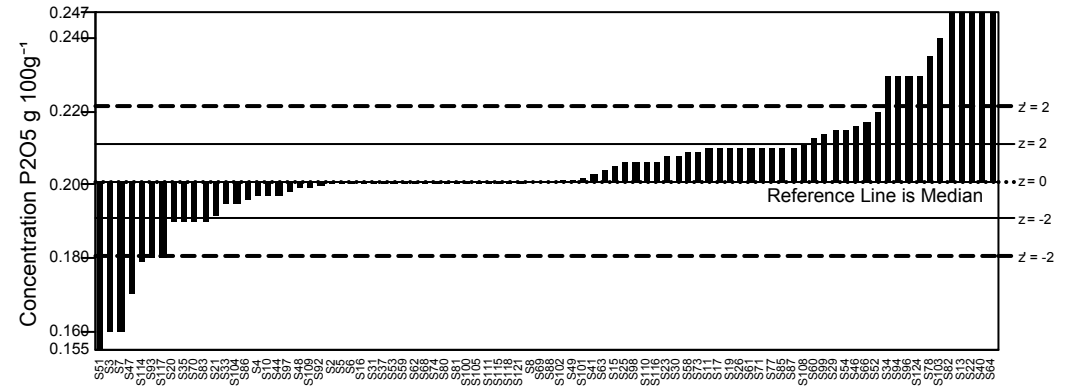
GeoPT38 - Barchart for Na2O



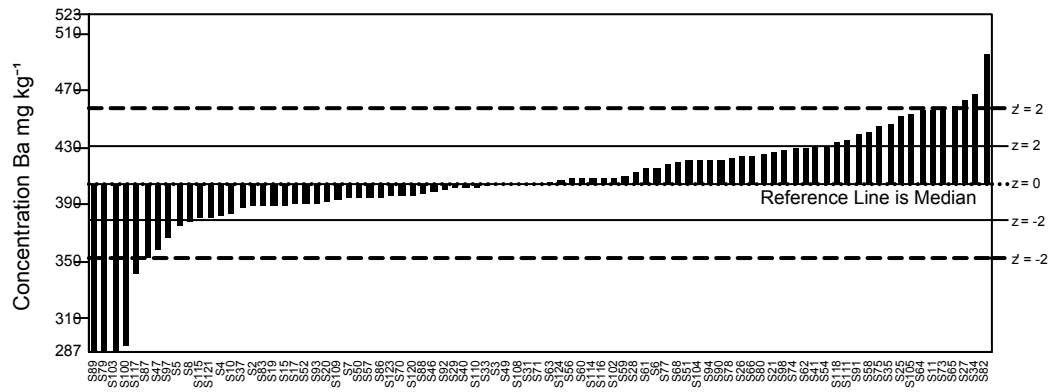
GeoPT38 - Barchart for K2O



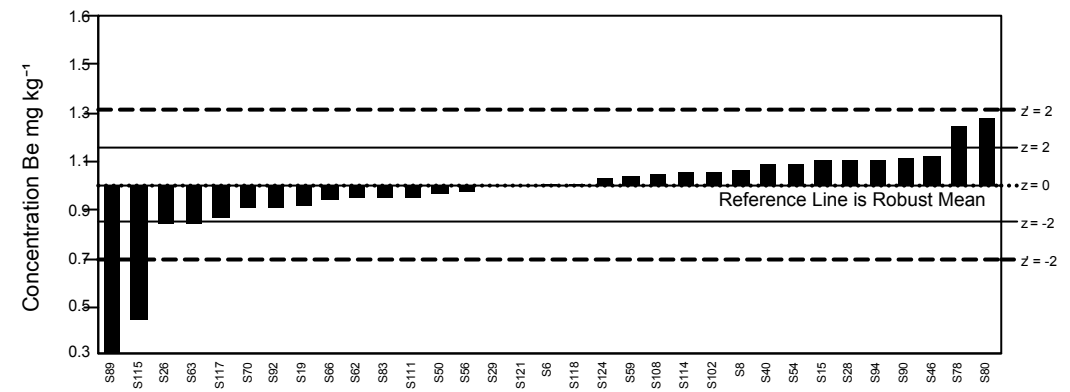
GeoPT38 - Barchart for P2O5

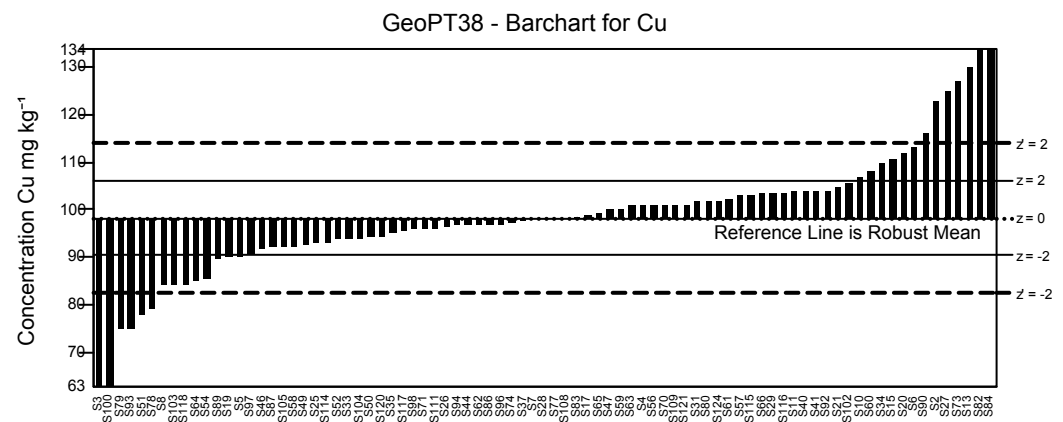
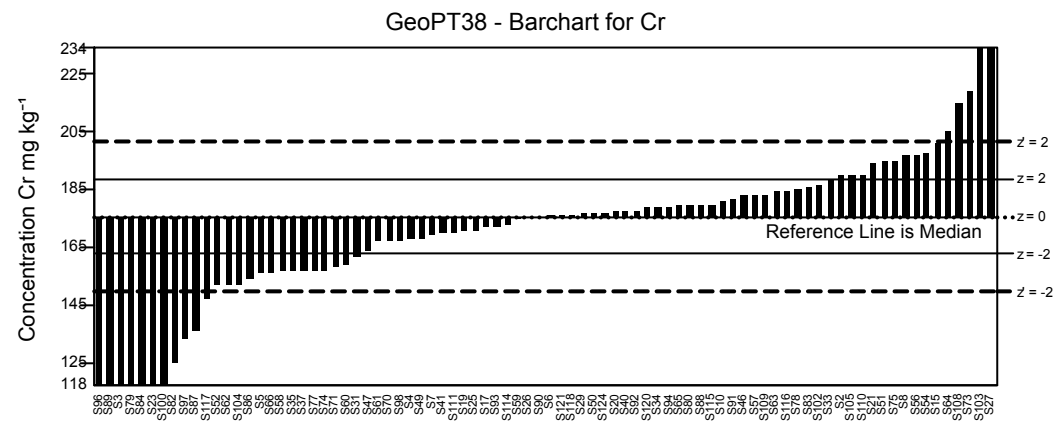
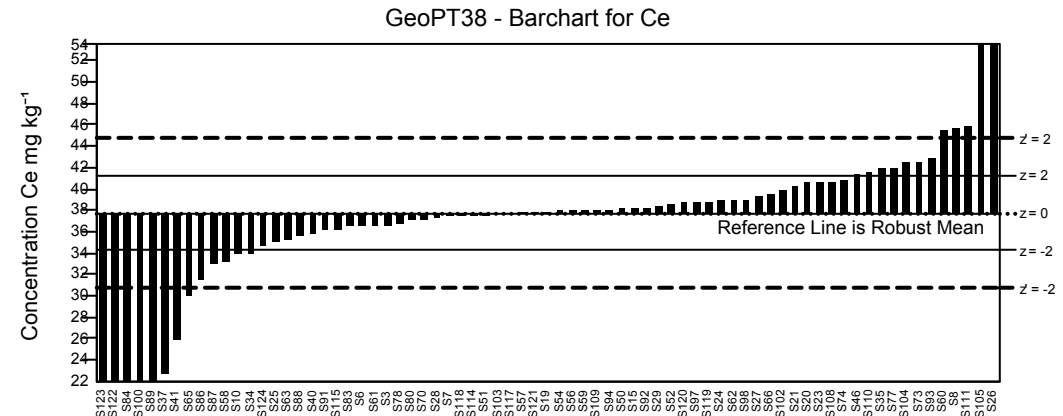


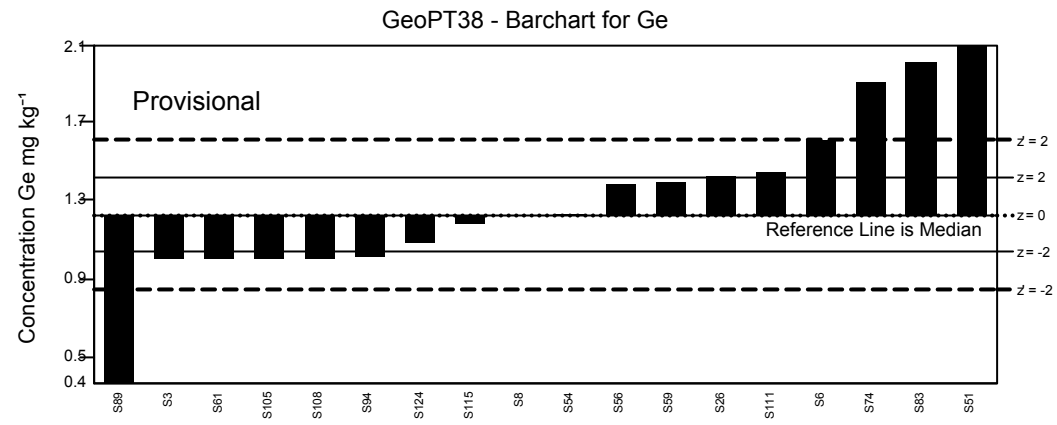
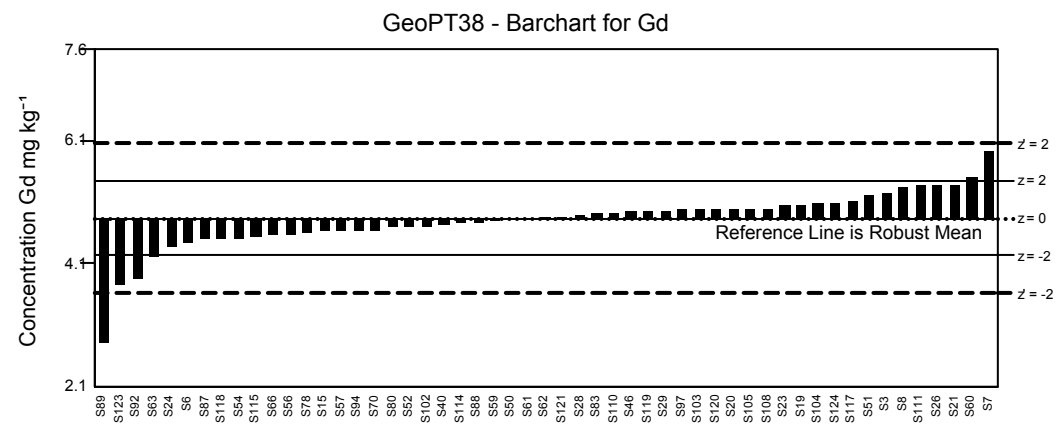
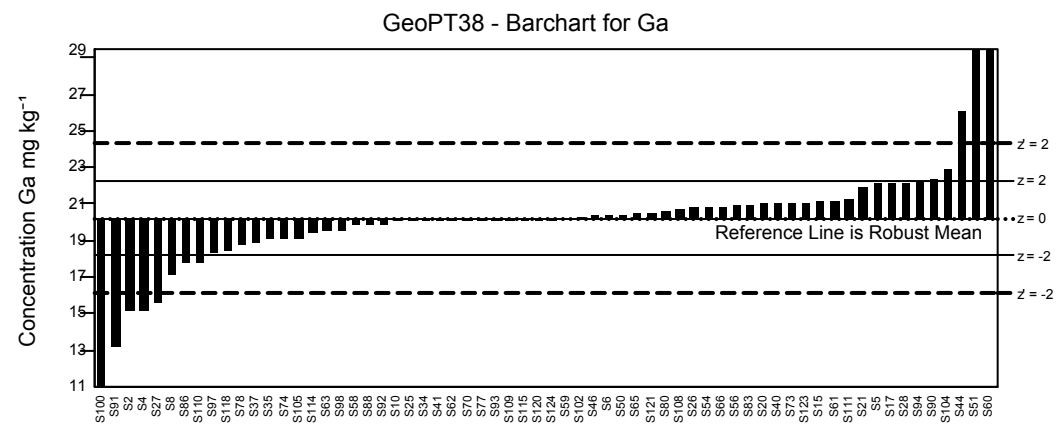
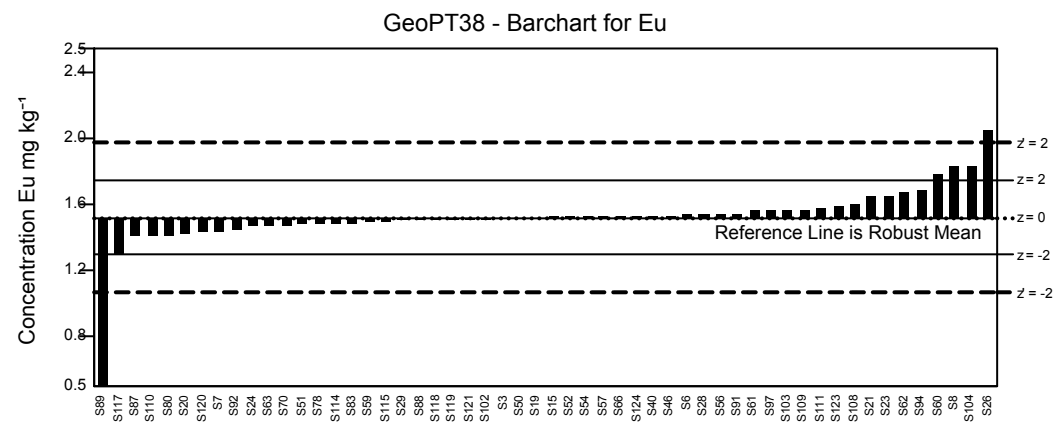
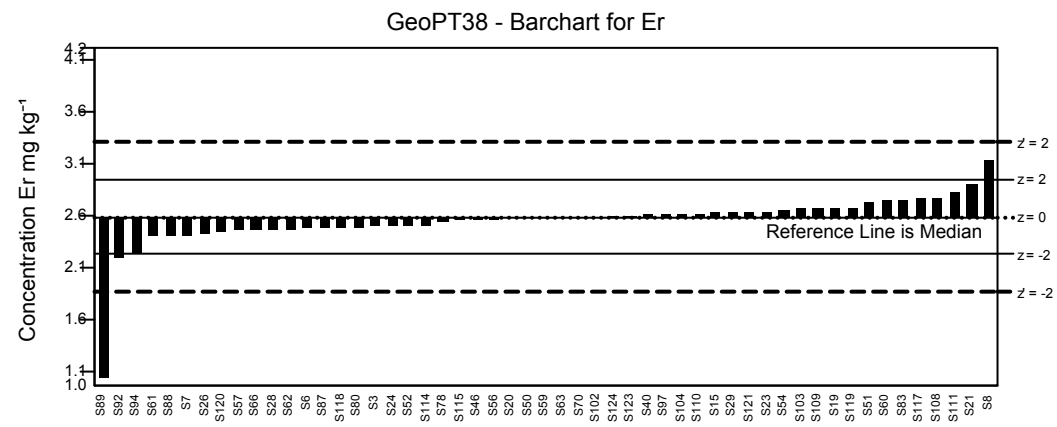
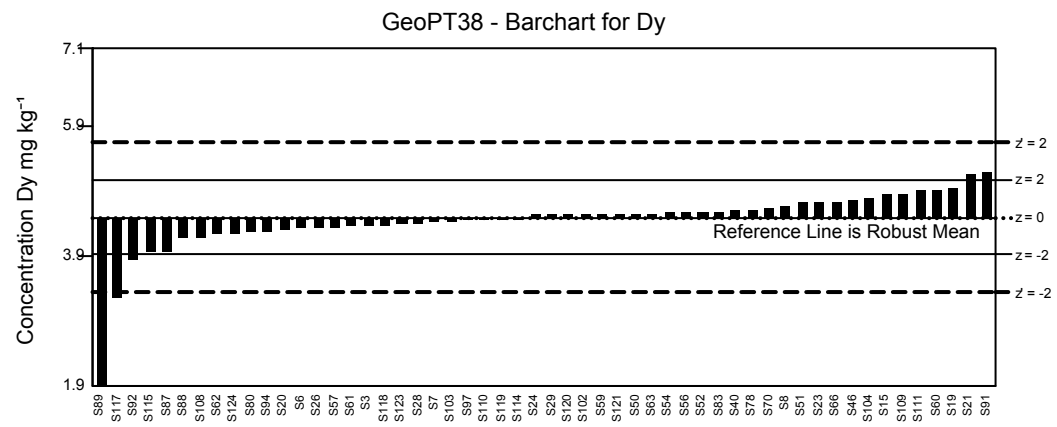
GeoPT38 - Barchart for Ba

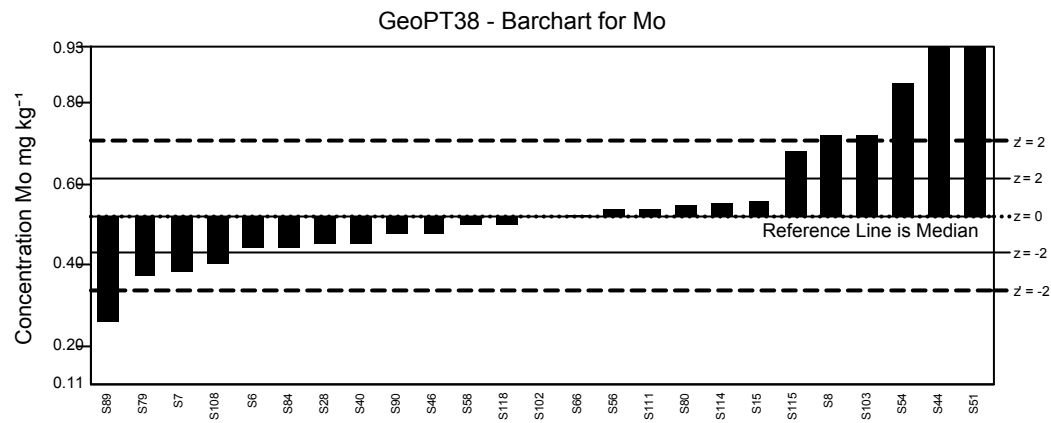
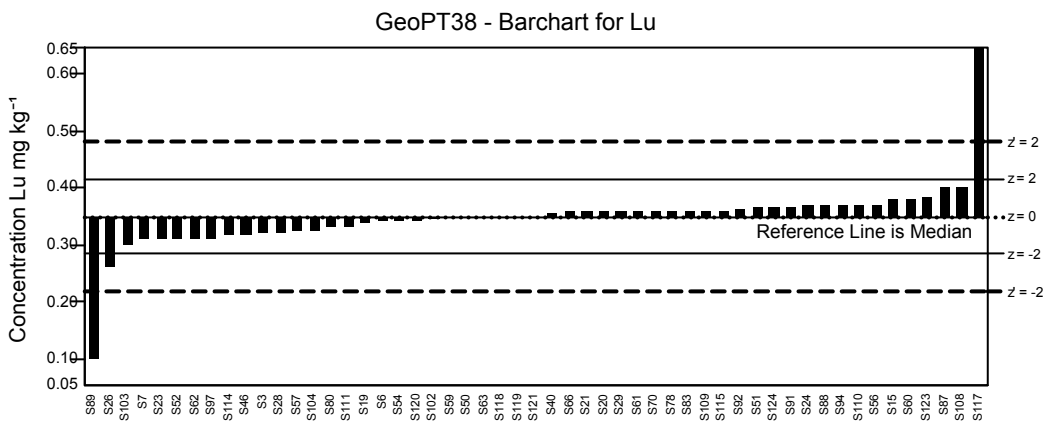
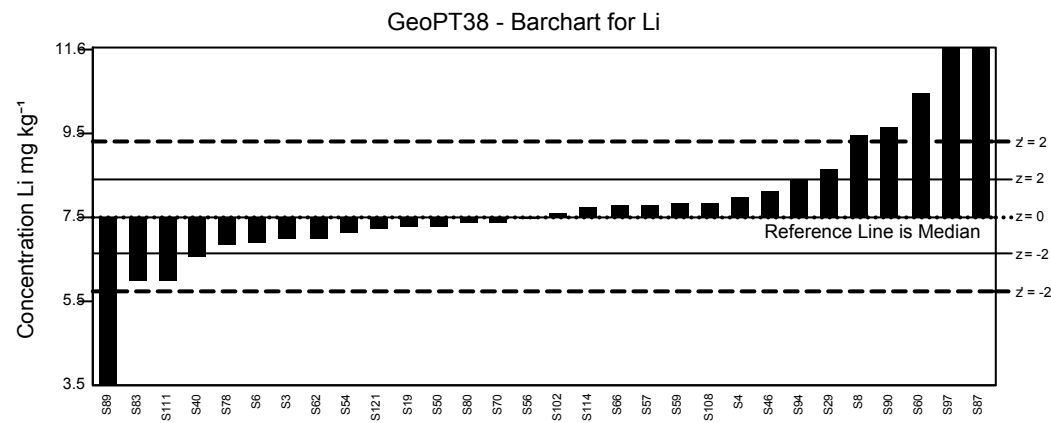
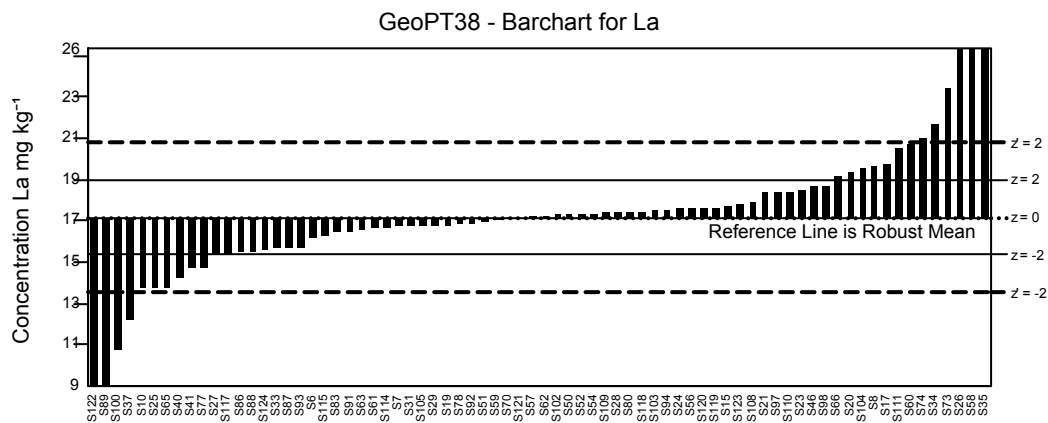
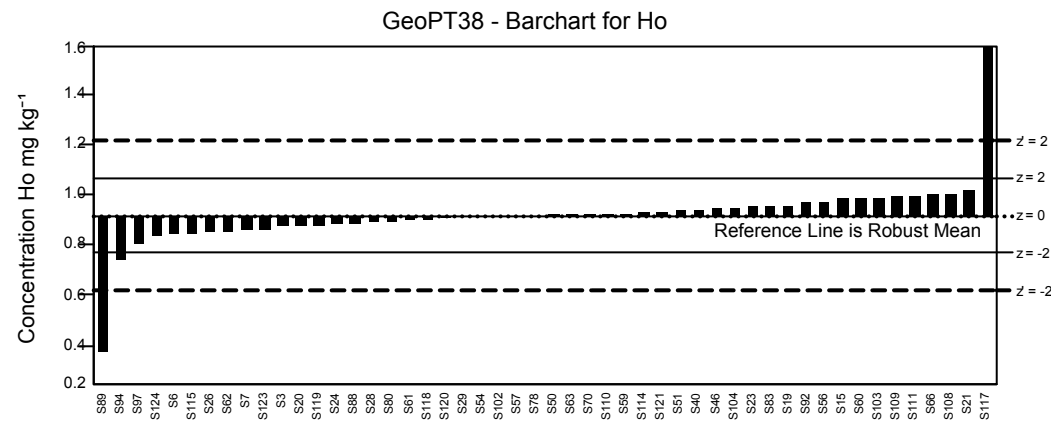
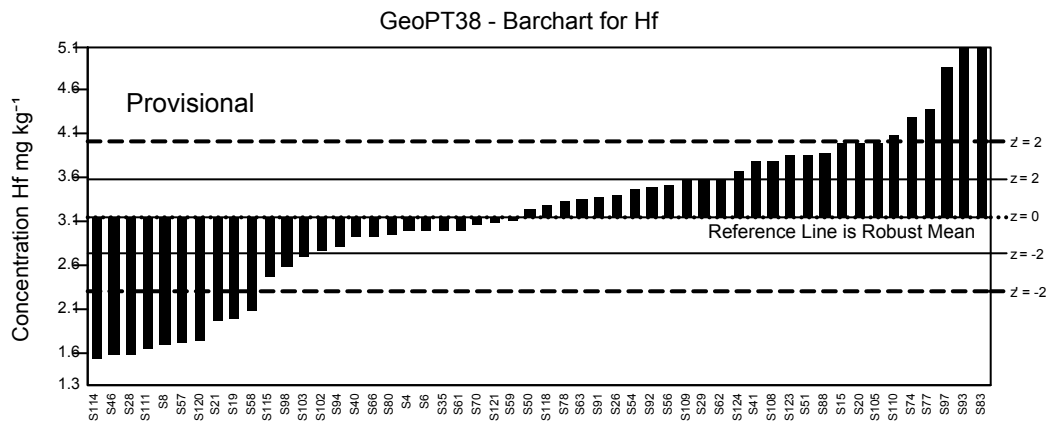


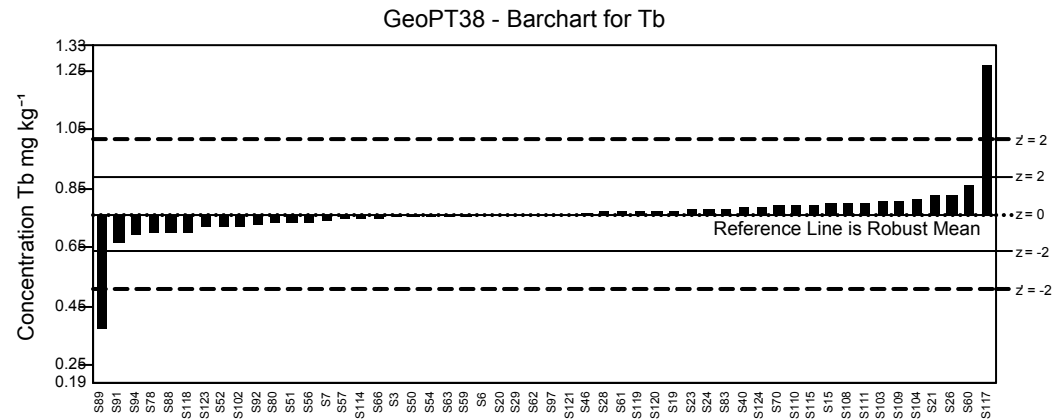
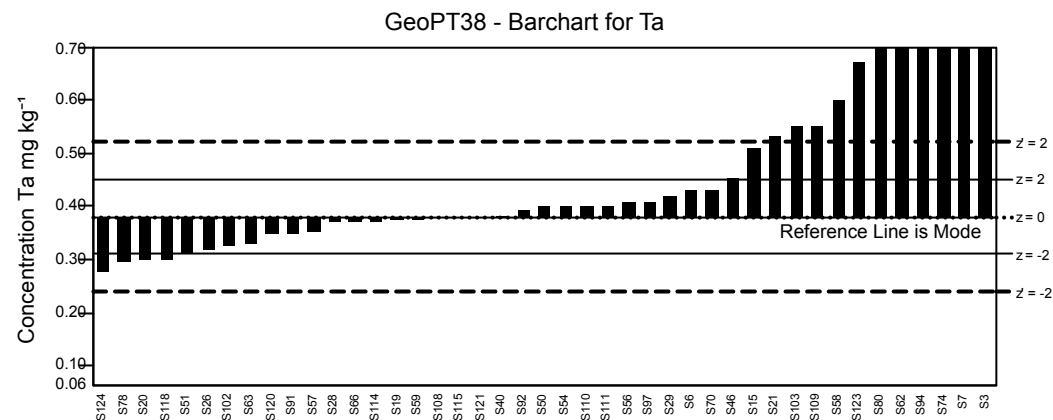
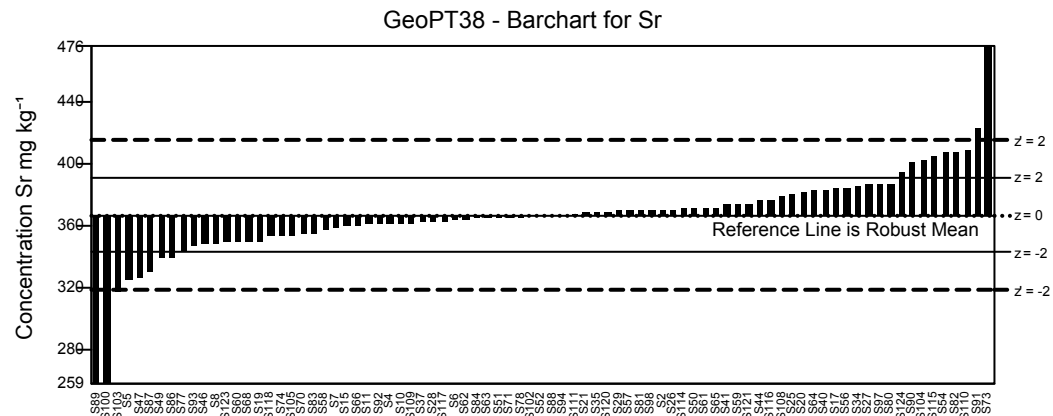
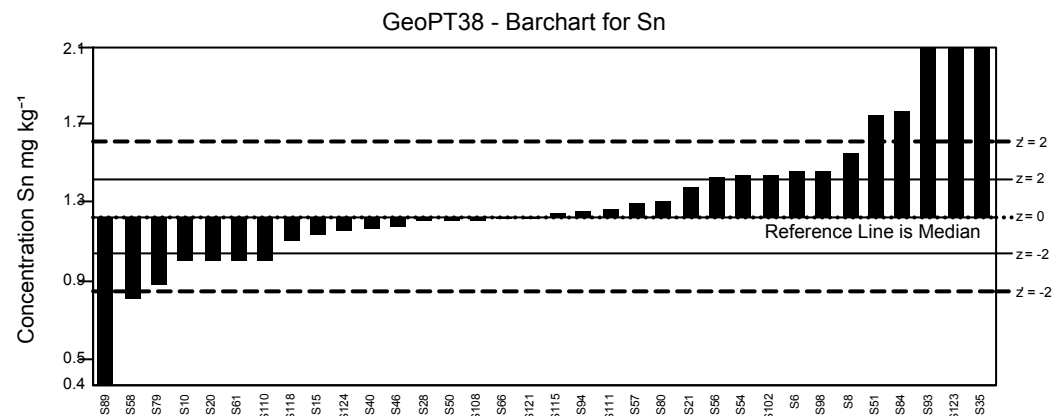
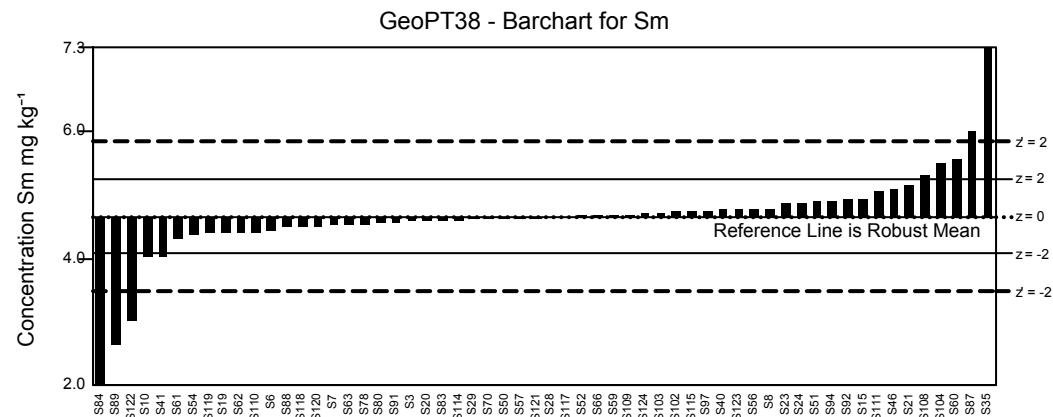
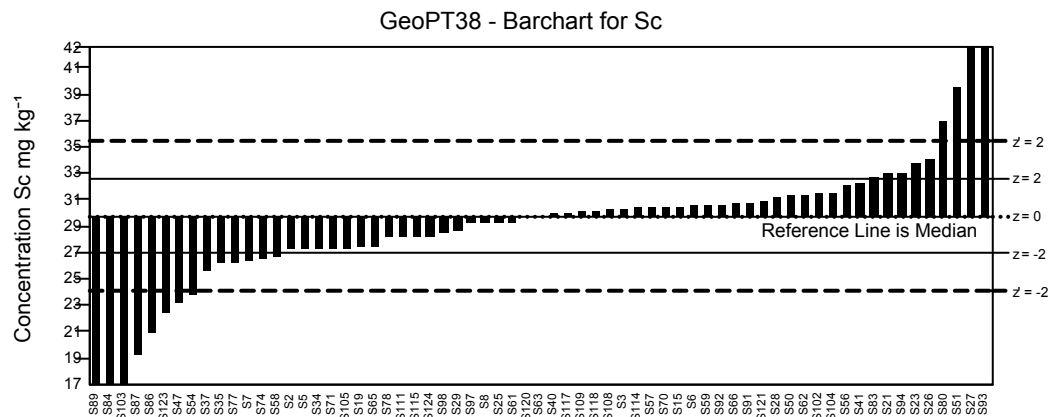
GeoPT38 - Barchart for Be

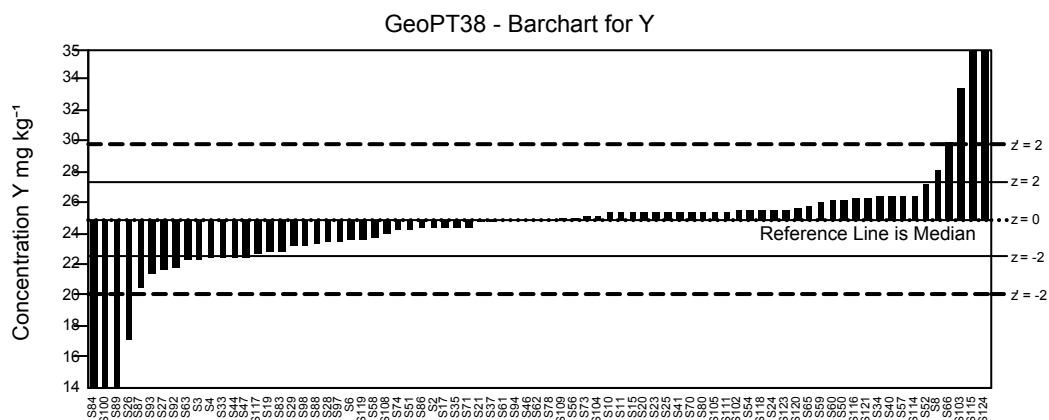
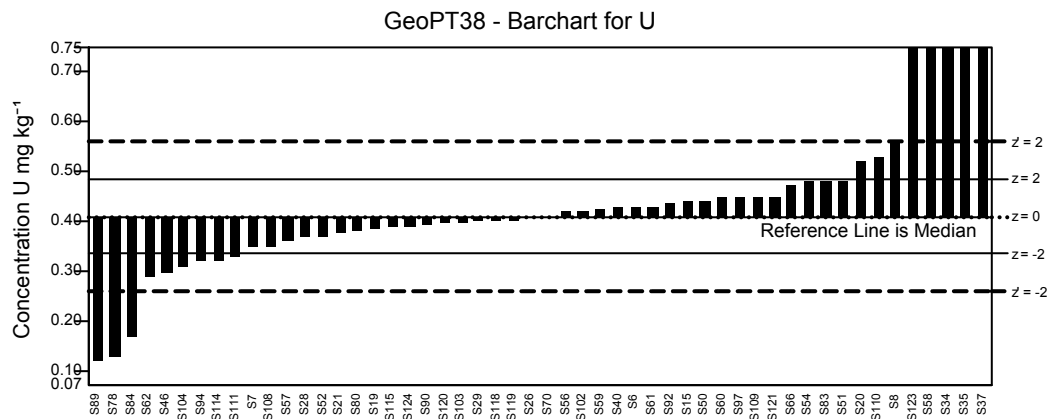
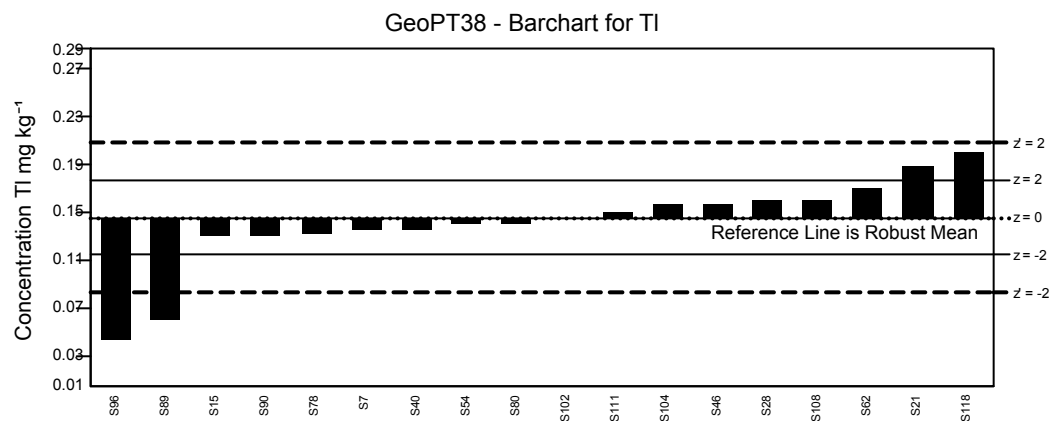












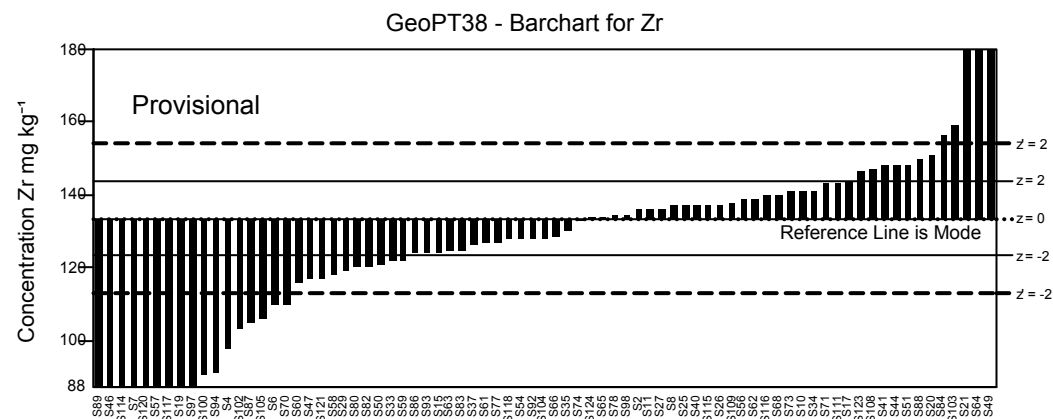
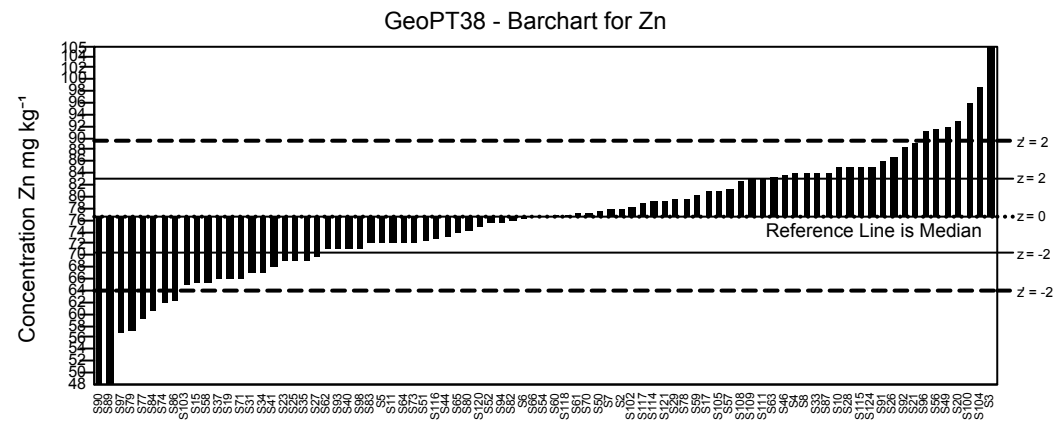
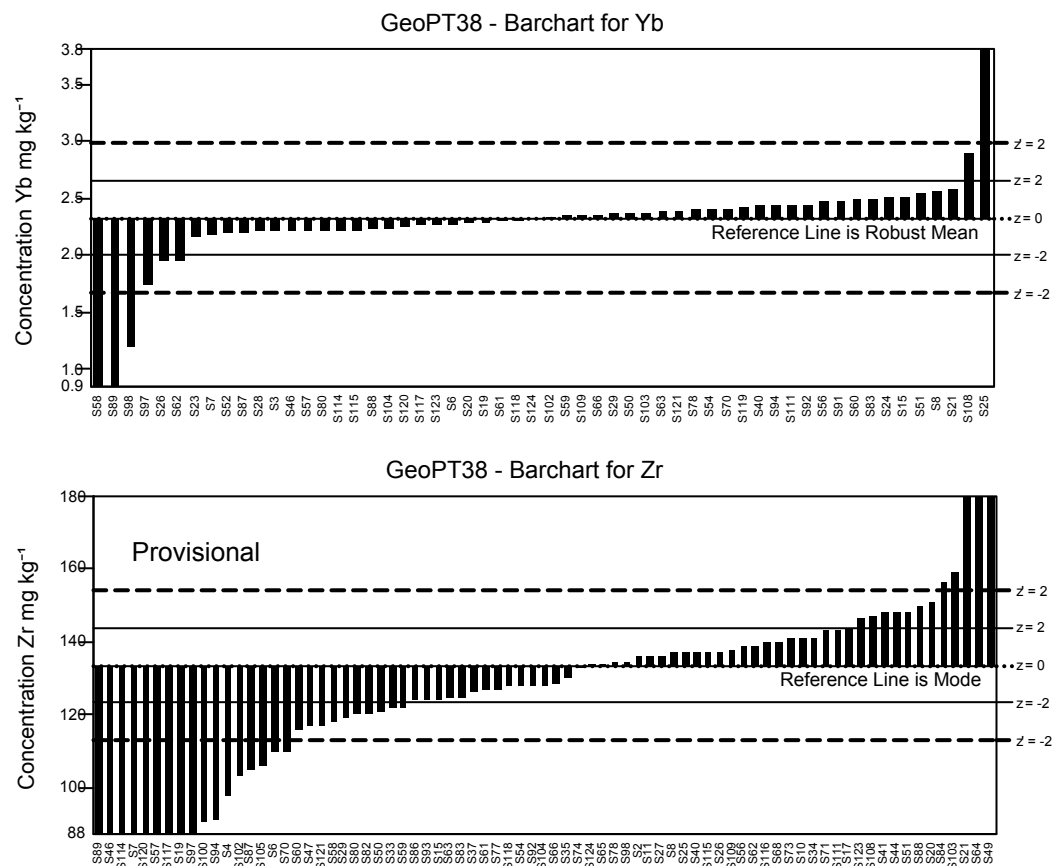
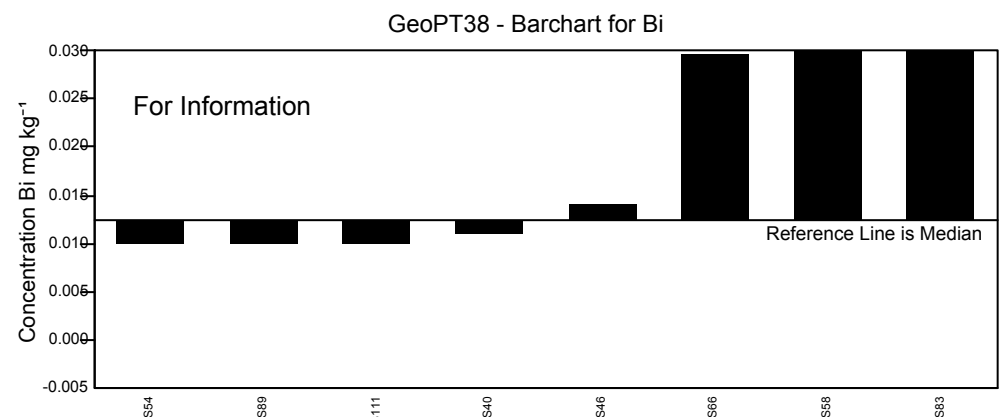
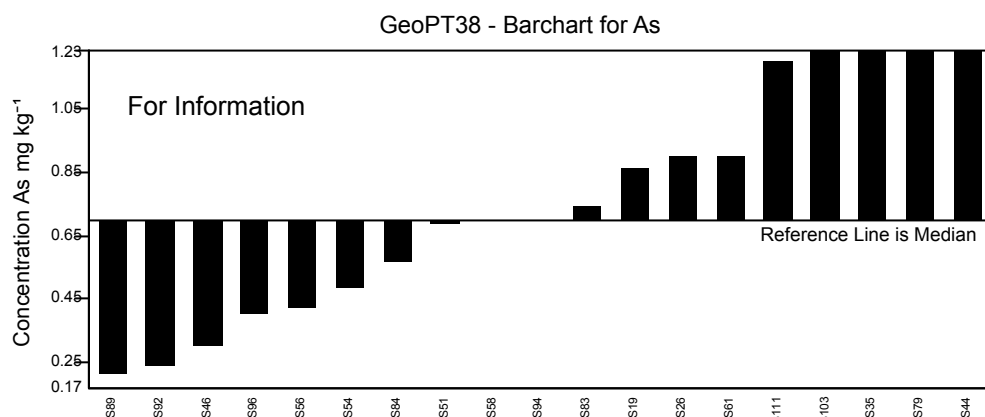
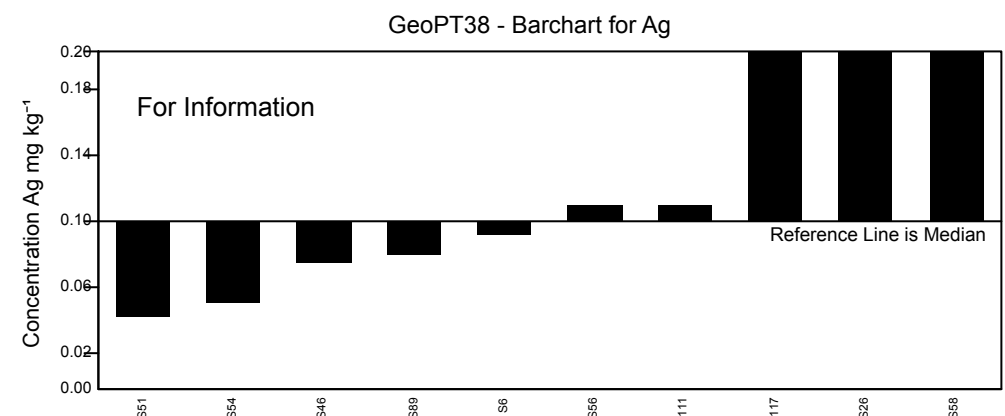
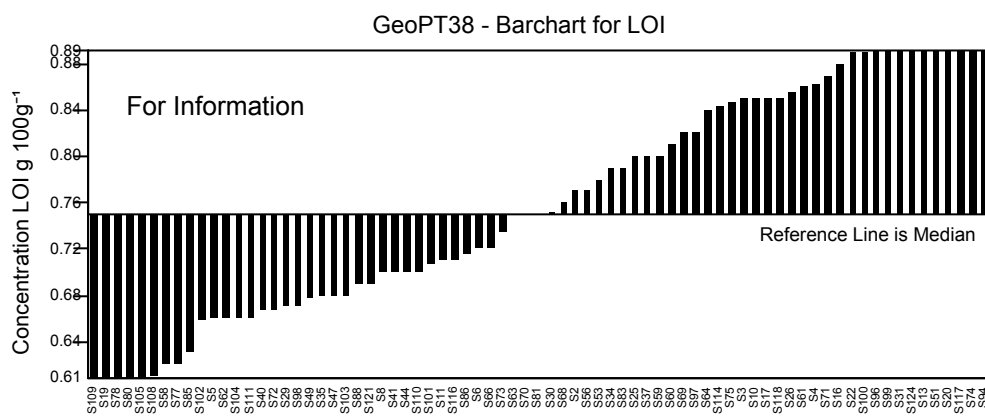
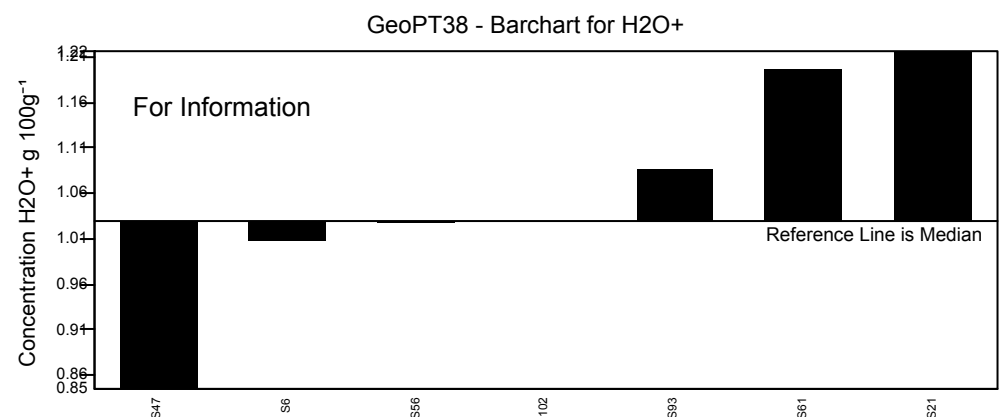
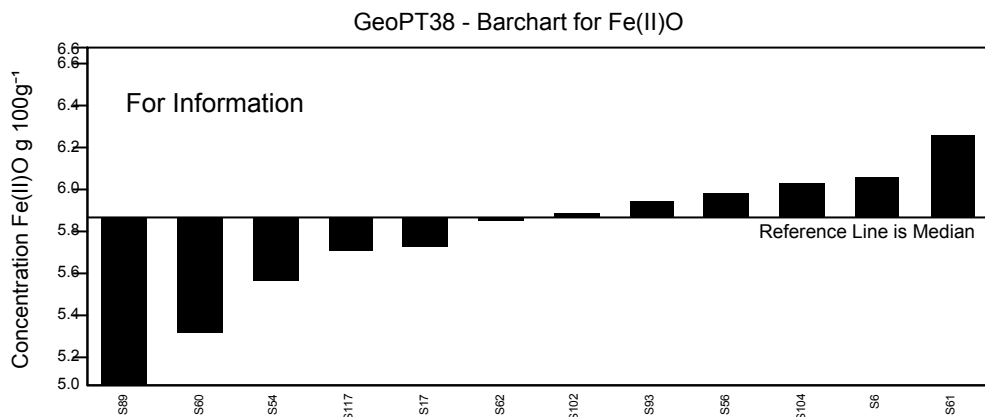
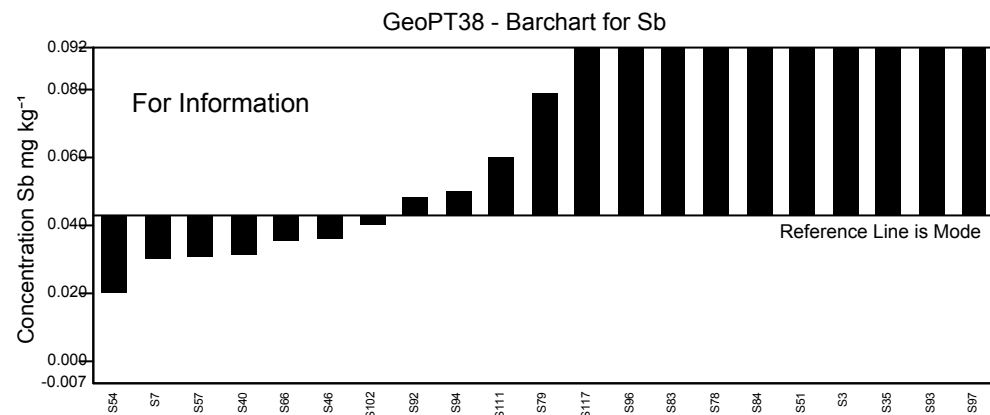
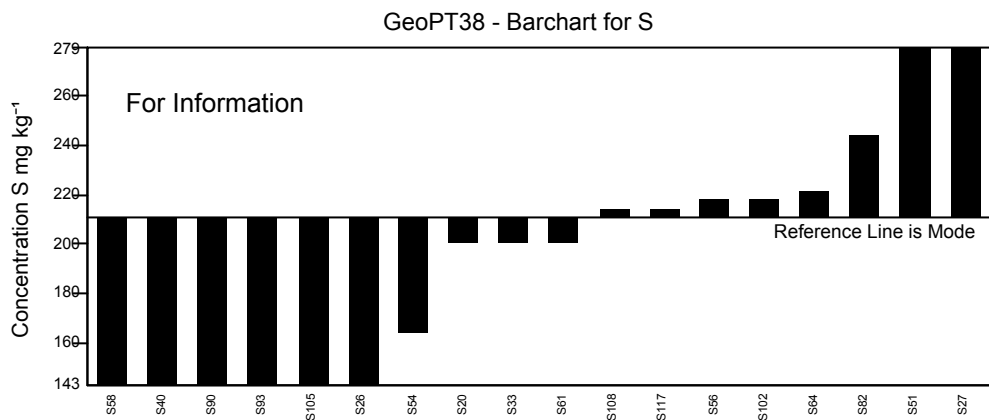
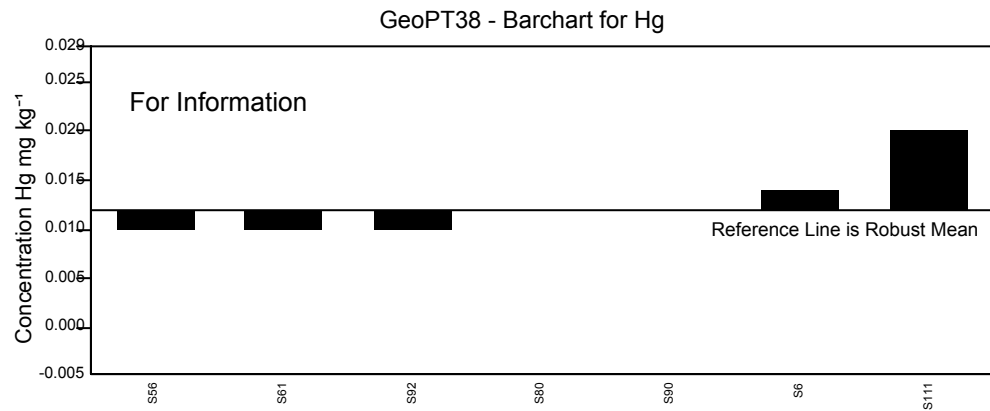
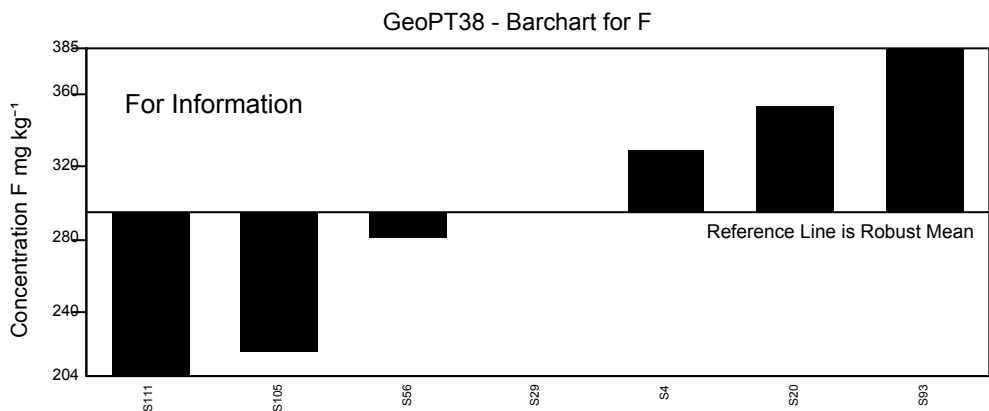
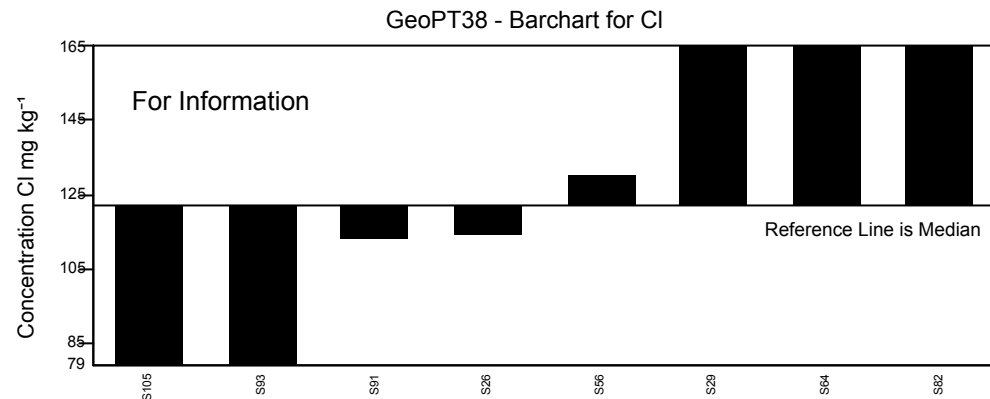
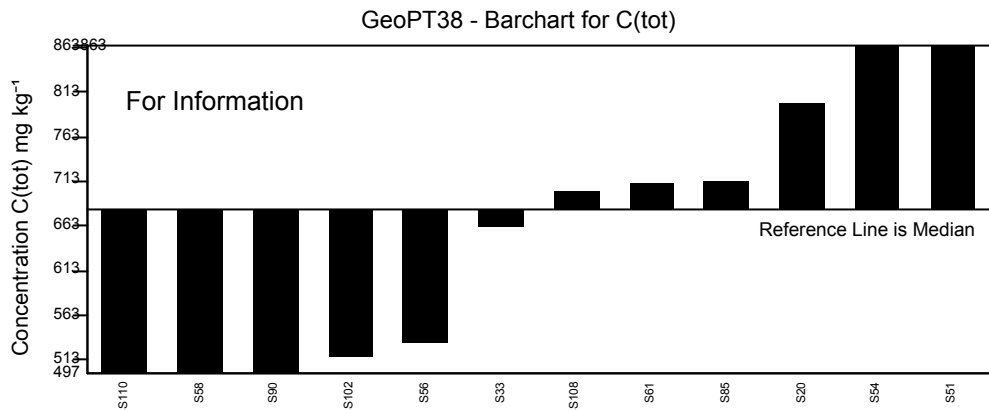


Figure 1: GeoPT38 - Ardnamurchan Gabbro, OU-7. Data distribution charts for elements for which values were assigned or provisional values given for guidance. Horizontal lines show the limits for $-2 < z < 2$ for pure geochemistry labs (solid lines) and $-2 < z' < 2$ for applied geochemistry labs (pecked lines).





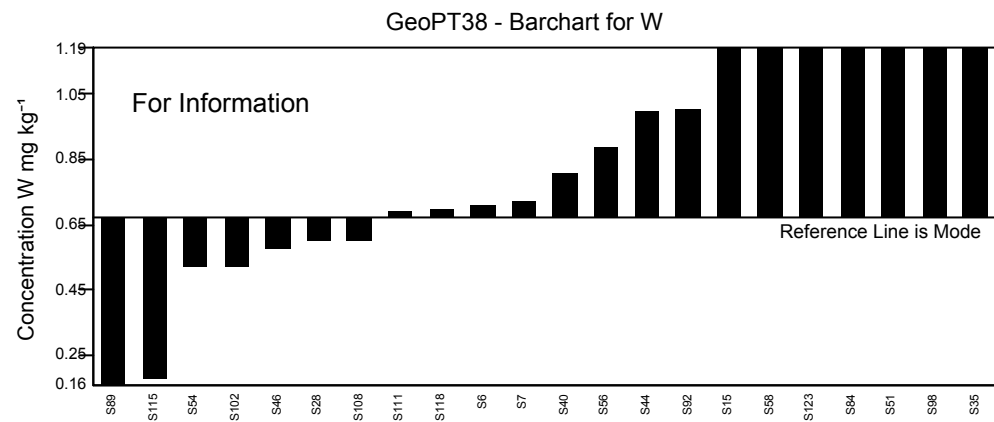
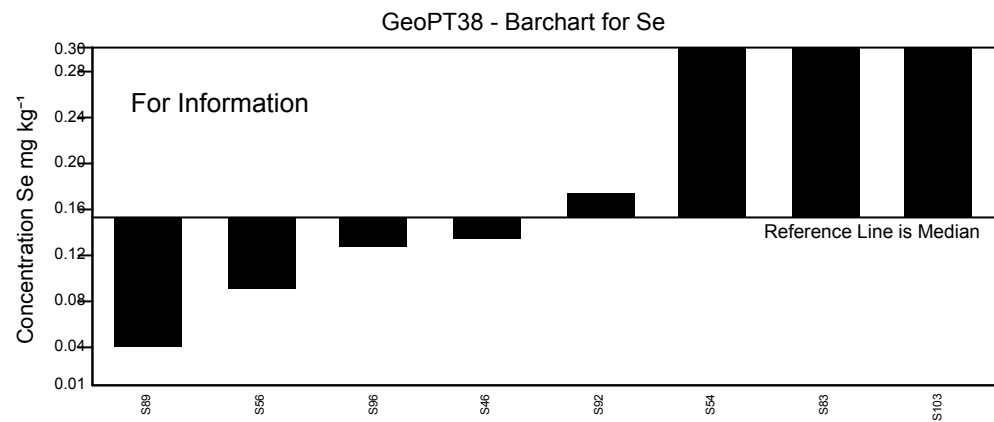


Figure 2: GeoPT38 - Ardnamurchan Gabbro, OU-7. Data distribution charts provided for information only for elements for which values could not be assigned.

Multiple Z-Score Chart for GeoPT38

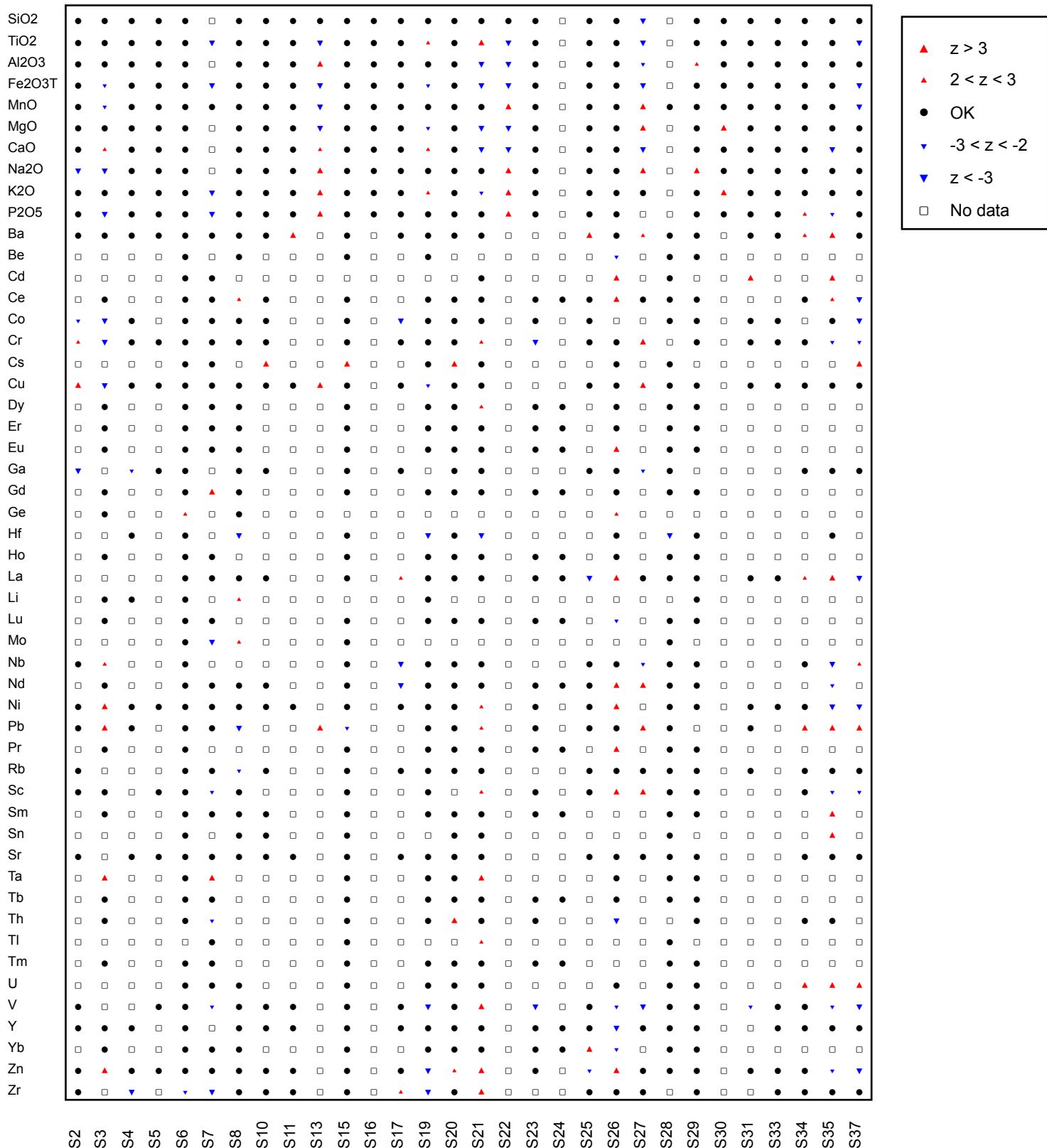


Figure 3: GeoPT38 - Ardnamurchan Gabbro, OU-7. Multiple z-score charts for laboratories participating in the GeoPT38 round. Symbols indicate whether or not an elemental result complies with the $-2 < z < +2$ criteria (see key).

Report Date: 28-January-2016

Multiple Z-Score Chart for GeoPT38

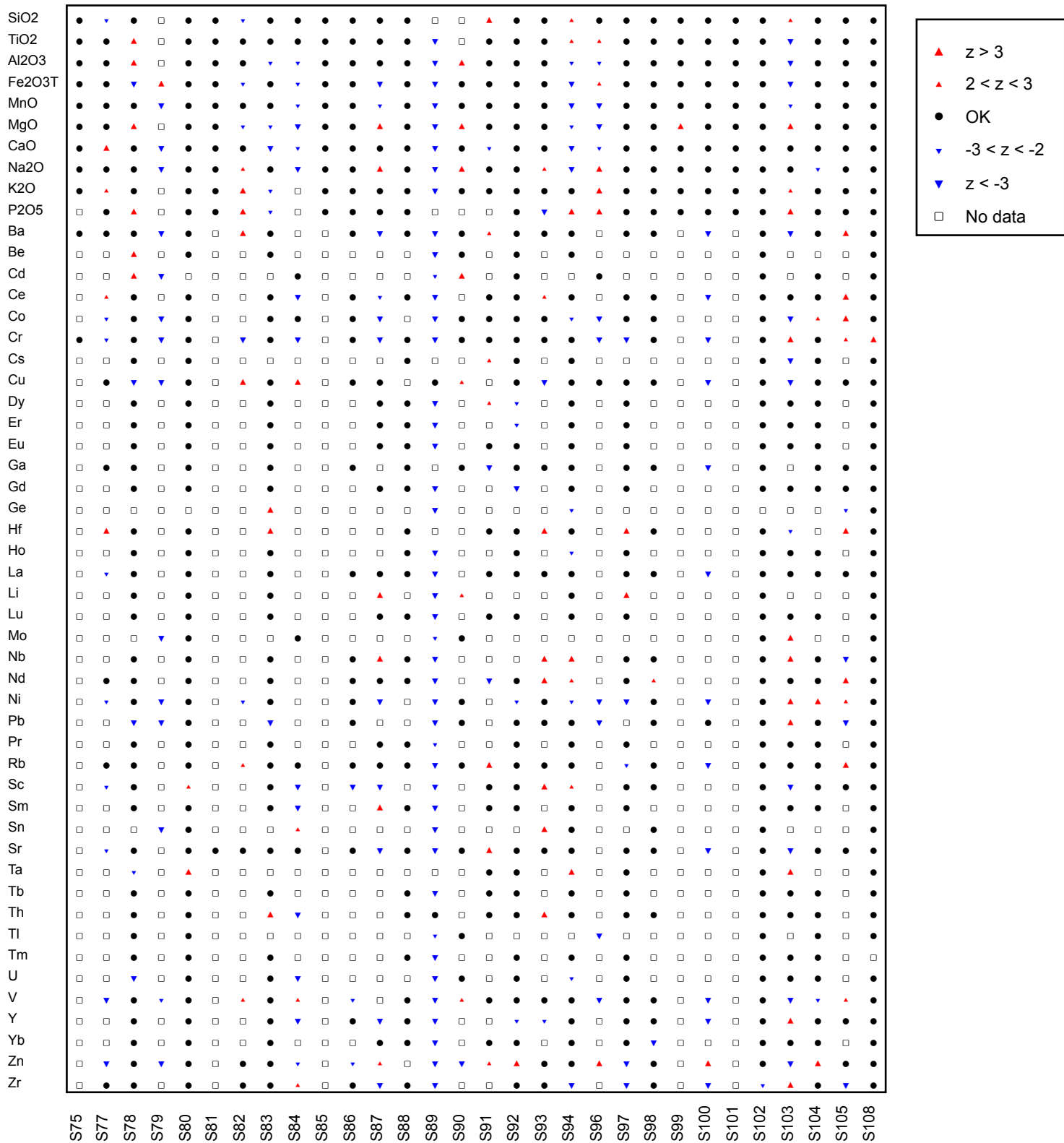


Figure 3: GeoPT38 - Ardnamurchan Gabbro, OU-7. Multiple z-score charts for laboratories participating in the GeoPT38 round. Symbols indicate whether or not an elemental result complies with the -2<z<+2 criteria (see key).

Multiple Z-Score Chart for GeoPT38

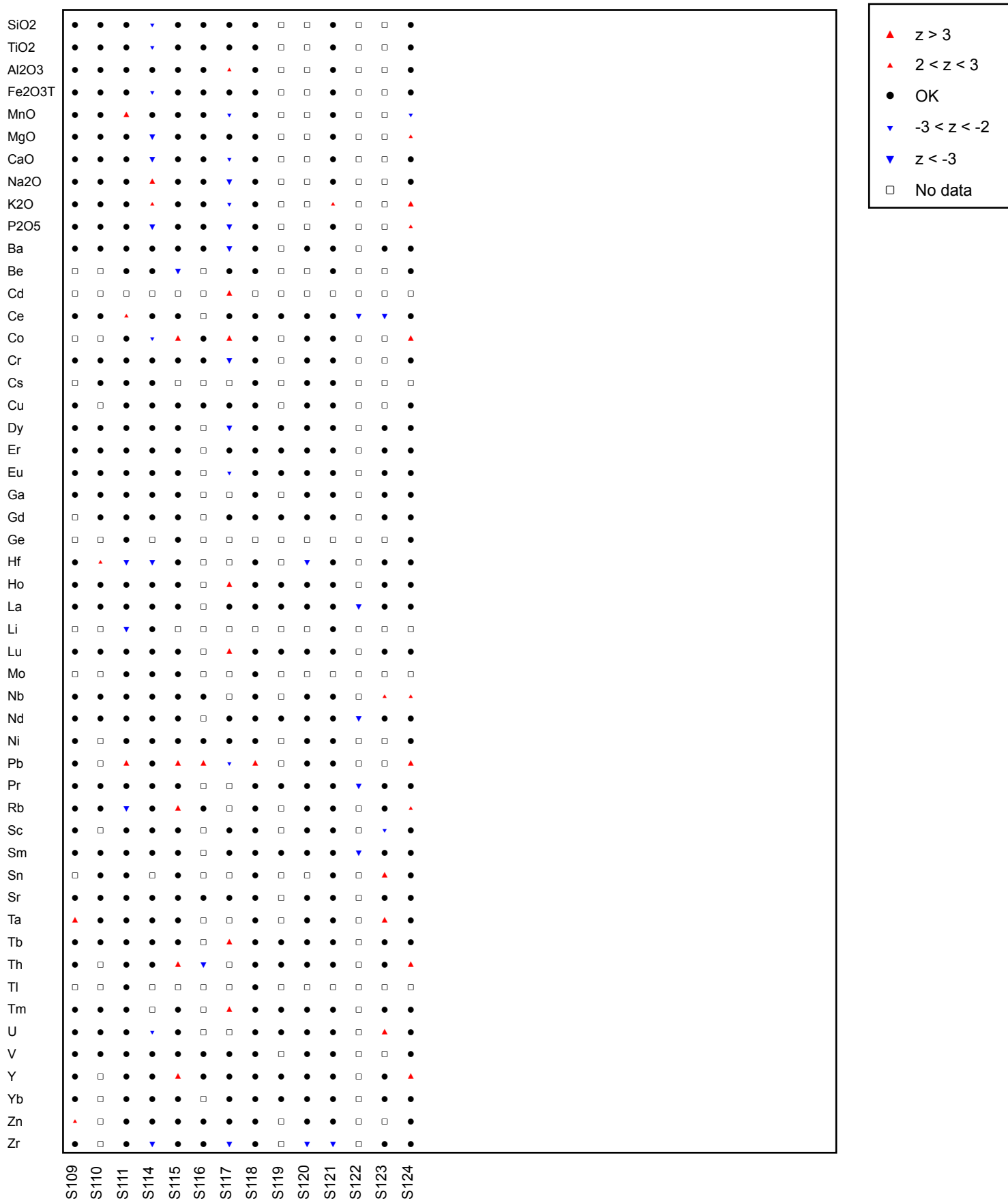


Figure 3: GeoPT38 - Ardnamurchan Gabbro, OU-7. Multiple z-score charts for laboratories participating in the GeoPT38 round. Symbols indicate whether or not an elemental result complies with the -2<z<+2 criteria (see key).