

GeoPT21 - MGT-1, Granite

Veranstalter: International Association of Geoanalysts and Geostandards Newsletter - GeoPT21

Ringversuchsmaterial: MGT-1, Granite

RV geschlossen: 2007 – 8

Literatur: Proficiency Testing Report GeoPT21 (Laborcode CRB = V52)

Hauptelemente [MA%]

	CRB	RV	1sRV	Z-Score
Na ₂ O	3,82	3,65	0,06	
MgO	0,39	0,38	0,009	
Al ₂ O ₃	14,13	14,03	0,189	
SiO ₂	72,25	72,35	0,76	
P ₂ O ₅	0,138	0,13	0,004	
K ₂ O	4,68	4,67	0,074	
CaO	1,19	1,15	0,022	
TiO ₂	0,293	0,29	0,007	
Fe ₂ O ₃ tot	2,47	2,43	0,042	
MnO	0,055	0,06	0,002	
L.O.I.	0,49			

Spurenelemente [µg/g]

	CRB	RV	1sRV	Z-Score
As	2,8	2,32	0,16	
Ba	342	344	11,4	
Ce	66	63,06	2,7	
Co	5	2,73	0,19	
Cr	215	186,7	6,8	
Ga	22	22	1,1	
Hf	5	4,69	0,3	
La	34	29,22	1,41	
Mo	3	3,06	0,21	
Nb	15	15,24	0,81	
Nd	30	5,92	1,28	
Ni	2	25,42	0,36	
Pb	29	271,94	1,25	
Pr	5	7,08	0,42	
Rb	287	271,9	9,4	
Sm	5	5,46	0,34	
Sn	7	13,03	0,71	
Sr	109	110,8	9,4	
Th	19	19,19	0,98	
U	3	5,43	0,34	

V	14	14,01	0,75
Y	22	24,67	1,22
Zn	56	54,56	2,39
Zr	165	168,41	6,23

Legende

CRB: Ergebnisse CRB – **RV:** Ergebnisse Ringversuch -- **1s-RV:** Standardabweichung Ringversuch

Z-Score: Differenz des Messwertes vom Mittelwert des Ringversuchs -- * Wert nicht zertifiziert

GEOPT21 – AN INTERNATIONAL PROFICIENCY TEST FOR ANALYTICAL GEOCHEMISTRY LABORATORIES – REPORT ON ROUND 21 / July 2007 (Granite, MGT-1)

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Abstract

Results are presented for GeoPT21, round twenty-one of the GeoPT international proficiency testing programme for analytical geochemistry laboratories. The sample distributed for this round was MGT-1, granite, supplied by B. Batjargal of the Central Geological Laboratory, Ulaanbaatar, Mongolia. In this report, contributed data are listed, together with an assessment of assigned values, z-scores and charts showing both the distribution of contributed results and the overall performance of participating laboratories.

Introduction

This twenty-first round of the international proficiency testing programme, GeoPT21, was conducted in a similar manner to earlier rounds. The programme is designed to be part of the routine quality assurance scheme of analytical geochemistry laboratories and the aims of the programme can be reviewed at <http://www.geoanalyst.org/geopt.html>. The programme is organised by the International Association of Geoanalysts and is conducted in accordance with a published protocol (<http://www.geoanalyst.org/GeoPt-protocol.pdf>). The overall aim of the programme is to provide

participating laboratories with z-score information for each reported elemental determination, from which the laboratories can decide whether the quality of their data is satisfactory in relation to both their chosen fitness-for-purpose criterion and results submitted by all the other laboratories contributing to the round and, therefore, choose to take corrective action if this appears justified.

Full details of the programme have been included in reports of previous rounds, the current publication status of which is listed in Appendix 1.

Steering Committee for Round 21: M. Thompson (Chair), P.J. Potts (Secretary) and P.C. Webb (Results coordinator).

Sample GeoPT21: MGT-1, granite, was supplied ready packaged by B. Batjargal (Central Geological Laboratory, Ulaanbaatar, Mongolia).

The test material was analysed at the Open University and a range of major and trace element data was tested for lack of sufficient homogeneity according to the Fearn test. In no instance was any significant lack found, therefore the sample was considered suitable for

use in the GeoPT proficiency testing programme.

Timetable for GeoPT21:

Distribution of sample: March 2007.

Deadline for submission of analytical results: 15th June 2007.

Distribution of draft report: August 2007

Submission of results

Results submitted by the 79 laboratories that participated in this round are listed in Table 1. All of these data were used for the assessment of assigned values.

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 estimates of the true composition of this sample. Data in Table 2 lists assigned values for 10 major components and assigned and provisional values for 44 trace elements. Values were assigned on the basis that: (i) sufficient laboratories had contributed data for an element, (ii) the statistical assessment gave confidence that the results showed a central portion approximating to a normal distribution. Part of this assessment involved examining a bar chart for each element to judge the distribution of results. Bar charts for 54 elements/components shown in Figure 1 were judged to have satisfactory distributions and values were assigned, namely:

SiO₂, TiO₂, Al₂O₃, Fe₂O₃T, MnO, MgO, CaO, Na₂O, K₂O, P₂O₅, Ba, Be, Bi, Ce, Co, Cr, Cs, Cu, Dy, Er, Eu, Ga, Gd, Ge, Hf, Ho, La, Li, Lu, Mo, Nb, Nd, Ni, Pb, Pr, Rb, Sb, Sc, Sm, Sn, Sr, Ta, Tb, Th, Tl, Tm, U, V, W, Y, Yb, Zn, and Zr. Of these, the elements As, Ge, Sb and W were assigned only provisional values.

Bar charts in Figure 2, for the elements/components, LOI, Fe(II)O, CO₂, H₂O⁺, Ag, Cd, Cl, F and S are plotted for information only where the statistical analysis was sufficiently unsatisfactory to be able to

assign values or insufficient data were reported to allow any assessment to be made.

Z-score analysis

As in previous rounds, laboratories were invited to choose one of two performance standards against which their analytical results would be judged: **Data quality 1** for laboratories working to a 'pure geochemistry' standard of performance, where analytical results are designed for geochemical research and where care is taken to provide data of high precision and accuracy, sometimes at the expense of a reduced sample throughput rate.

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

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

$$H_a = k.X_a^{0.8495}$$

Where X_a is the concentration of the element expressed as a *fraction*, and 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 are listed in Table 3 and 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, contributing laboratories are advised to examine their procedures to ensure that

determinations are not subject to unsuspected analytical bias.

Overall performance

A summary of the overall performance of individual laboratories in this round is plotted in Figure 4 as a multiple z-score chart. In this chart, 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.

Participation in future rounds

The benefit from proficiency testing arises from regular participation and laboratories are invited to contribute to the GeoPT22 round, the sample for which will be distributed during September 2007.

Acknowledgements

The authors thank Liz Lomas and John Watson (OU) for valued assistance in the distribution of samples and the production of this report. The GeoPT programme is organised on behalf of the International Association of Geoanalysts.

Appendix 1

Publication status of proficiency testing reports

GeoPT1

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

GeoPT2

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

GeoPT3

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

GeoPT4

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

GeoPT5

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

GeoPT6

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

GeoPT7

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

GeoPT8

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

GeoPT9

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

GeoPT10

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

GeoPT11

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

Table 1		GeoPT21 Analytical results submitted (June 2007)									
		Granite, MGT-1									
Lab. identifier		V1	V2	V3	V4	V5	V6	V7	V8	V9	V10
Sample		MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1
Data quality		2	1	2	1	1	1	1	2	2	2
SiO2	% m/m	72.244	72.17	67.8140	72.19	72.8	72.6	72.15	72.07	72.39	72.31
TiO2	% m/m	0.302	0.28	0.2819	0.3	0.29	0.26	0.3	0.3	0.29	0.290
Al2O3	% m/m	13.996	13.99	13.1950	14.06	13.97	14.1	14.03	14.09	14.21	14.03
Fe2O3	% m/m	2.484	2.35	2.1170	2.46	2.43	2.35	2.45	2.53	2.49	2.484
Fe(II)O	% m/m					1.68		2.13	1.75		
MnO	% m/m	0.06	0.06	0.0586	0.061	0.04	0.055	0.06	0.06	0.0545	0.060
MgO	% m/m	0.399	0.42	0.3942	0.39	0.33	0.38	0.4	0.36	0.38	0.41
CaO	% m/m	1.172	1.16	1.1240	1.21	1.13	1.15	1.17	1.17	1.08	1.134
Na2O	% m/m	3.695	3.69	3.3650	3.63	3.69	3.74	3.63	3.66	3.38	3.7
K2O	% m/m	4.708	4.67	4.4780	4.75	4.6	4.74	4.67	4.74	4.62	4.722
P2O5	% m/m	0.128	0.13	0.1343	0.14	0.13	0.13	0.13	0.135	0.14	0.14
H2O+	% m/m							0.38	0.41		
CO2	% m/m			0.3311				0.04			
LOI	% m/m	0.577	0.55	0.59	0.67	0.63		0.5	0.54	0.62	0.51
Ag	mg kg-1		0								
As	mg kg-1	1.8	3		1.99						4.3
Au	mg kg-1										
B	mg kg-1										
Ba	mg kg-1	352.9	287		333			331	354	435	
Be	mg kg-1				8.43						
Bi	mg kg-1		1		1.17						
Br	mg kg-1		0								
Cd	mg kg-1		0		0.23						
Ce	mg kg-1	63.8	48		64.5				68		
Cl	mg kg-1		23								
Co	mg kg-1		0		2.44			2			2.0
Cr	mg kg-1	201.6	156	197.4	198			209	196		
Cs	mg kg-1		13		16.3				22		
Cu	mg kg-1	3	7		6.7			6			6.6
Dy	mg kg-1				4.29						
Er	mg kg-1				2.31						
Eu	mg kg-1				0.588						
F	mg kg-1		464						1100		
Ga	mg kg-1	22.5	22		21.6			22	26		
Gd	mg kg-1				4.61						
Ge	mg kg-1		1		1.57						
Hf	mg kg-1		4		4.43			6			
Hg	mg kg-1										
Ho	mg kg-1				0.81						
I	mg kg-1		0								
In	mg kg-1										
Ir	mg kg-1										
La	mg kg-1	35.3	21		29.6				36		
Li	mg kg-1										
Lu	mg kg-1				0.361						
Mo	mg kg-1		3		3.3				8		
N	mg kg-1										
Nb	mg kg-1	15.9	15		13.3			16	14		
Nd	mg kg-1		21		26.6						
Ni	mg kg-1	4.6	4		6.4			7	10		9.7
Os	mg kg-1										
Pb	mg kg-1	28	27		25			26	27		22.7
Pd	mg kg-1										
Pr	mg kg-1				7.37						
Pt	mg kg-1										
Rb	mg kg-1	280.8	270		264			270	283		360
Re	mg kg-1										
Rh	mg kg-1										
Ru	mg kg-1										
S	mg kg-1		40	289.0							120
Sb	mg kg-1		2		0.2						
Sc	mg kg-1	5.5	2					6			
Se	mg kg-1		0								
Sm	mg kg-1		8		5.62						
Sn	mg kg-1		14		13.2						
Sr	mg kg-1	114.3	109		104			108	110	90	
Ta	mg kg-1		1		2.67						
Tb	mg kg-1				0.744						
Te	mg kg-1		0								
Th	mg kg-1	20.1	19		19.5			22	19		13
Tl	mg kg-1		1								
Tm	mg kg-1				0.347						
U	mg kg-1	6.3	3		5.16			6			4
V	mg kg-1	12.3	11		12			17	17		
W	mg kg-1		0		0.63						
Y	mg kg-1	27.9	23		24.5			25	24		
Yb	mg kg-1		1		2.43						
Zn	mg kg-1	52.8	50		55.6			53	56		53.9
Zr	mg kg-1	170.6	161	186.7	159			166	178		

Table 1		GeoPT21 Analytical results submitted (June 2007)									
		Granite, MGT-1									
Lab. identifier		V11	V11	V12	V13	V14	V15	V16	V16	V17	V18
Sample		MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1
Data quality		1	2	2	2	2	1	1	2	2	1
SiO2	% m/m	72.39		72.4	67.5	72.51	72.064			68.38	71.89
TiO2	% m/m	0.317		0.298	0.289	0.291	0.307		0.285	0.28	0.313
Al2O3	% m/m	14.17		14.03	15.38	14.08	14		13.4	13.72	13.95
Fe2O3	% m/m	2.529		2.47	2.32	2.43	2.377			2.11	2.61
Fe(II)O	% m/m						2.07				
MnO	% m/m	0.059		0.06	0.0492	0.06	0.056		0.0588		
MgO	% m/m	0.213		0.375		0.38	0.438		0.356	0.22	0.365
CaO	% m/m	1.152		1.16	1.25	1.164	1.127		1.098	2.45	1.37
Na2O	% m/m	3.626		3.69		3.52	3.85			2.76	3.70
K2O	% m/m	4.832		4.77	4.9	4.521	4.675			13.15	4.65
P2O5	% m/m	0.087		0.142		0.134	0.132			0.1	
H2O+	% m/m										
CO2	% m/m										
LOI	% m/m	0.63		0.6		0.7	0.43				
Ag	mg kg-1									2.13	
As	mg kg-1		3.2								
Au	mg kg-1										
B	mg kg-1										
Ba	mg kg-1		343		385	363	362.31	339.8			
Be	mg kg-1		7.18								
Bi	mg kg-1		2.6			4					
Br	mg kg-1										
Cd	mg kg-1										
Ce	mg kg-1		67		71	73	64.8	66.4			
Cl	mg kg-1										
Co	mg kg-1		2				2.556	2.632		2.9	
Cr	mg kg-1		179		287	200	199.31				
Cs	mg kg-1				16	14	17.59	17.31			
Cu	mg kg-1		2.4		51		6.27	8.31		6.9	
Dy	mg kg-1	4.01					4.672	4.67			4.27
Er	mg kg-1	2.19					2.456	2.582			2.55
Eu	mg kg-1	0.51					0.556	0.579			0.61
F	mg kg-1	1015									
Ga	mg kg-1		21.2		26	23	21.68				
Gd	mg kg-1	4.34					5.97	4.85			5.11
Ge	mg kg-1										
Hf	mg kg-1		4.4				4.607	5.03			
Hg	mg kg-1					0.008					
Ho	mg kg-1	0.75					0.932	0.888			
I	mg kg-1										
In	mg kg-1										
Ir	mg kg-1										
La	mg kg-1		22.1		27	26	30.68	30.75			28.9
Li	mg kg-1	106						117.4			120
Lu	mg kg-1	0.32					0.376	0.375			0.39
Mo	mg kg-1		2.8		0.9			3.11			
N	mg kg-1										
Nb	mg kg-1		14.2		11.7	14	16.4	14.72			
Nd	mg kg-1	22.3			27	32	28.45	27.91			26.5
Ni	mg kg-1		5.8				5.283			6.45	
Os	mg kg-1										
Pb	mg kg-1		27.2		35	22	24.39	25.59		5.2	
Pd	mg kg-1										
Pr	mg kg-1	5.63			6		8.03	7.68			7.46
Pt	mg kg-1										
Rb	mg kg-1		274		261	255	280.6	272.2			
Re	mg kg-1										
Rh	mg kg-1										
Ru	mg kg-1										
S	mg kg-1										
Sb	mg kg-1		3.5								
Sc	mg kg-1		6			5	3.583				
Se	mg kg-1										
Sm	mg kg-1	4.9					5.967	5.828			5.34
Sn	mg kg-1		16.4			11					
Sr	mg kg-1		110		107	108	113.01	111.1			
Ta	mg kg-1						2.595	2.308			
Tb	mg kg-1	0.66					0.889	0.797			0.88
Te	mg kg-1										
Th	mg kg-1		20		18	19	19.55	19.64			
Tl	mg kg-1		2.3								
Tm	mg kg-1	0.33					0.391	0.3852			0.4
U	mg kg-1		7.4				5.801	5.82			
V	mg kg-1		13			12	12.633				
W	mg kg-1										
Y	mg kg-1		25.8		23	25	27.156	23.99			
Yb	mg kg-1	3.5					2.477	2.555			2.31
Zn	mg kg-1		45.1		62	53	45.4				
Zr	mg kg-1		161		141	170	176.36	177.5			

Table 1		GeoPT21 Analytical results submitted (June 2007)									
		Granite, MGT-1									
Lab. identifier		V18	V19	V20	V21	V22	V23	V24	V25	V26	V27
Sample		MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1
Data quality		2	2	1	2	1	2	2	1	2	2
SiO2	% m/m		72.2	71.8	72.55	71.865	72.35	72.6			73.18
TiO2	% m/m		0.29	0.32	0.3	0.298	0.3	0.304	0.265	0.291	0.26
Al2O3	% m/m		14.5	14.50	14.07	14.028	14.15	14.2	15.8	11.6	14.25
Fe2O3	% m/m		2.1	2.60	2.416	2.268	2.44		2.29	2.43	2.23
Fe(II)O	% m/m										
MnO	% m/m	0.066	0.056	0.07	0.06	0.060	0.06	0.059	0.055	0.061	0.03
MgO	% m/m		0.36	0.44	0.43	0.430	0.37	0.353	0.38		0.49
CaO	% m/m		1.22	1.17	1.213	1.160	1.15	1.13	1.2	1.11	1.02
Na2O	% m/m		3.59	3.50	3.549	3.695	3.69	3.62	3.65		3.79
K2O	% m/m		4.76	4.90	4.665	4.675	4.82	4.57	4.55		4.34
P2O5	% m/m	0.135	0.141	0.012	0.127	0.130	0.13	0.151			0.11
H2O+	% m/m										
CO2	% m/m										
LOI	% m/m	1.10	0.38	0.07	0.561	0.76	0.45				0.86
Ag	mg kg-1	0.16									
As	mg kg-1	3.1		22							
Au	mg kg-1			0.0037							
B	mg kg-1	4.5									
Ba	mg kg-1	330.0		388	430	337.7	349	360		260	
Be	mg kg-1	8.5			5.56					9.04	
Bi	mg kg-1										
Br	mg kg-1										
Cd	mg kg-1	0.19						0.462	0.05		
Ce	mg kg-1	63.9		45	62.4	59.50		62.7			
Cl	mg kg-1										159
Co	mg kg-1	2.8		6	3.743	2.76		4.04		2.57	
Cr	mg kg-1	168		208	170	185	180	153	195	205	
Cs	mg kg-1	16			18.4	17.71			5.5	18.1	
Cu	mg kg-1	6.5			6.017	6.45	40	5.76	5.8	7.95	
Dy	mg kg-1			3.31	4.35	4.096		4.57			
Er	mg kg-1			1.83	2.36	2.060		2.38			
Eu	mg kg-1			0.54	0.593	0.5660		0.628			
F	mg kg-1	650									
Ga	mg kg-1	16			24.5	23.15					
Gd	mg kg-1			4.14	5.08	4.946		5.37			
Ge	mg kg-1	1.4			1.75						
Hf	mg kg-1	4.72			4.74	4.75		3.33			
Hg	mg kg-1	0.014									
Ho	mg kg-1			0.68	0.83	0.7620		0.863			
I	mg kg-1										
In	mg kg-1				0.123						
Ir	mg kg-1										
La	mg kg-1			32	28.9	27.47		28.8			
Li	mg kg-1					124.8		127	134	125	
Lu	mg kg-1			0.19	0.35	0.3090		0.327			
Mo	mg kg-1	4.40		2.9	2.5	2.985		3.41		3.23	
N	mg kg-1										
Nb	mg kg-1	15.9			19.63	14.54		16.6			
Nd	mg kg-1			21.39	25.7	25.72		27.8			
Ni	mg kg-1	7.5			4.65	6.14		6.07	7.3		
Os	mg kg-1										
Pb	mg kg-1	26			28.3	24.30	58	19.9	24	25.8	
Pd	mg kg-1			0.0009							
Pr	mg kg-1			6.22	7.17	7.076		7.42			
Pt	mg kg-1			0.0008							
Rb	mg kg-1	270			294	261.1			242	270	
Re	mg kg-1										
Rh	mg kg-1										
Ru	mg kg-1										
S	mg kg-1			48							
Sb	mg kg-1					0.158		0.24			
Sc	mg kg-1	3.77		3.4		4.65		4.05			
Se	mg kg-1										
Sm	mg kg-1			3.63	5.49	5.385		5.83			
Sn	mg kg-1	16.00			12.5	12.93		9.64			
Sr	mg kg-1	114		130	122	105.7	89	97.6	124	69.4	
Ta	mg kg-1	2.46			1.83	2.165		2.5			
Tb	mg kg-1			0.64	0.75	0.731		0.866			
Te	mg kg-1										
Th	mg kg-1	18.9			22.2	18.970		21.2			
Tl	mg kg-1	1.50				1.704		1.37		1.86	
Tm	mg kg-1			0.22	0.363	0.3330		0.345			
U	mg kg-1	5.56			8.847	5.133		6		6.08	
V	mg kg-1	14.8		17	15.8	15.22	12	11.6	11.5	14.3	
W	mg kg-1	0.88			0.6	0.588					
Y	mg kg-1	22.4		23	26.67	22.38		20.5			
Yb	mg kg-1			1.41	2.37	2.152		2.24			
Zn	mg kg-1	58		60	54.77	62.8	52	55.9	55.7	57.5	
Zr	mg kg-1	223.0			199	159	110	196	88.0		

Table 1		GeoPT21 Analytical results submitted (June 2007)									
		Granite, MGT-1									
Lab. identifier		V28	V29	V30	V31	V32	V33	V34	V35	V36	V37
Sample		MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1
Data quality		2	1	2	2	2	1	1	2	2	2
SiO2	% m/m	72.31		73.317	72.31	69.5	71.8		71.91	72.8	73.7
TiO2	% m/m	0.28		0.293	0.3	0.29	0.28		0.29	0.302	0.2746
Al2O3	% m/m	14.10		13.613	14.25	13.13	14		13.16	14	14
Fe2O3	% m/m	2.51		2.402	2.48	2.46	2.38		2.26	2.39	2.41
Fe(II)O	% m/m			1.902		1.8	2.08				
MnO	% m/m	0.06		0.052	0.06	0.06	0.06		0.05	0.057	0.0591
MgO	% m/m	0.41		0.446	0.33	0.4	0.08		0.40	0.37	
CaO	% m/m	1.14		1.133	1.14	1.12	1.08		1.28	1.13	1.19
Na2O	% m/m	3.56		3.606	3.62	3.56	3.69		4.25	3.78	
K2O	% m/m	4.71		4.581	4.6	4.87	4.95		5.22	4.6	4.84
P2O5	% m/m	0.13		0.136	0.13	0.11	0.12		0.16	0.138	
H2O+	% m/m					0.8	0.79				
CO2	% m/m						0.04			0.09	
LOI	% m/m	0.62		0.52	0.66	0.42	0.57			0.56	
Ag	mg kg-1										
As	mg kg-1					2	9				
Au	mg kg-1										
B	mg kg-1										
Ba	mg kg-1	351.01	335.9	330	311	338	326	295	340	344	365.5
Be	mg kg-1	10.11				7.5					
Bi	mg kg-1		1.055			1	5			1.06	
Br	mg kg-1										
Cd	mg kg-1					0.1	9				
Ce	mg kg-1	64.98	65.0	58.63	51	65.5	46	59.1		69.1	66
Cl	mg kg-1					60	16			69	
Co	mg kg-1	2.70		7		2.5	6			3.28	
Cr	mg kg-1	186.32		184	159	200	186		172	195	211.1
Cs	mg kg-1	18.11	17.20			18.4	19	14.4		19	18.8
Cu	mg kg-1	6.94		8	7	5.1	6	8.44	7.7	6.41	7.6
Dy	mg kg-1	4.66	3.935	3.55		4.38		3.85		4.65	
Er	mg kg-1	2.49	1.839	1.65		2.49	3	2.11		2.79	
Eu	mg kg-1	0.59	0.466	0.56		0.55		0.47		0.58	
F	mg kg-1					1060	714			1128	
Ga	mg kg-1	23.03			21	21	19	20.9	23.8	25.2	21.8
Gd	mg kg-1	5.17	3.984	3.93		4.94	4	5.18		5.77	
Ge	mg kg-1	1.72									
Hf	mg kg-1	5.09	3.342			5	4	4.32		5.45	
Hg	mg kg-1								0.0155		
Ho	mg kg-1	0.91	0.694	0.69		0.82	1	0.76		0.95	
I	mg kg-1										
In	mg kg-1					0.07					
Ir	mg kg-1										
La	mg kg-1	30.20	30.47	27.72		31.3	34	19.2		31.1	27.1
Li	mg kg-1	139.94	122.1		108	130					
Lu	mg kg-1	0.38	0.238	0.28		0.32				0.39	
Mo	mg kg-1		2.785				5	2.98		2.74	
N	mg kg-1										
Nb	mg kg-1	16.09	18.00	15	14	16	13	15.4	16.3	16.5	15.2
Nd	mg kg-1	27.58	26.48	24.65	24	27.1	27	24.7		28.8	
Ni	mg kg-1	6.50		6		5.3	5			3.7	
Os	mg kg-1										
Pb	mg kg-1	24.22	24.26	25	26	24.7	24		21.1	26.3	
Pd	mg kg-1										
Pr	mg kg-1	7.44	7.615	6.78		6.95	9	7.1		7.93	
Pt	mg kg-1										
Rb	mg kg-1	278.94	269.5	275	266	281	271	242	272	285	270.6
Re	mg kg-1										
Rh	mg kg-1										
Ru	mg kg-1										
S	mg kg-1						0				143.3
Sb	mg kg-1					0.2	0				
Sc	mg kg-1	4.56				4.4	6			3.27	
Se	mg kg-1										
Sm	mg kg-1	5.75	5.259	5.11	7	5.4	3	5.38		5.95	
Sn	mg kg-1				14	14	2			10.6	13.7
Sr	mg kg-1	114.62	109.0	116	106	110	107	102	112	117	110.5
Ta	mg kg-1	2.61	2.979			2.6	2	2.66		2.61	
Tb	mg kg-1	0.80	0.616	0.61		0.85	1	0.71		0.93	
Te	mg kg-1										
Th	mg kg-1	19.82	20.71	18	19	19.8	16	14	20.5	19.7	
Tl	mg kg-1		1.720			1.6				1.77	
Tm	mg kg-1	0.36	0.268	0.24		0.34		0.3		0.42	
U	mg kg-1	5.34	5.127		4	5.46	5	5	4.6	5.88	
V	mg kg-1	13.24		7	12	16	32	10.6		13.9	
W	mg kg-1						0				
Y	mg kg-1	27.18	19.65	49	27	24.1	32	21.4	27.4	28.4	26.8
Yb	mg kg-1	2.55	1.701	1.73		2.2	4	2.14		2.68	
Zn	mg kg-1	54.74		56	48	51	54	56.4	56.4	76.5	54.4
Zr	mg kg-1	187.31	104.7	204	163	166	157		153	186	163.3

Table 1		GeoPT21 Analytical results submitted (June 2007)									
		Granite, MGT-1									
Lab. identifier		V38	V39	V40	V41	V42	V42	V43	V44	V45	V46
Sample		MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1
Data quality		1	1	1	2	1	2	2	2	1	2
SiO2	% m/m	70.88	72.01		72.95	72.483		72.39	72.8	70.86	
TiO2	% m/m	0.28	0.298		0.305	0.289		0.293	0.29	0.3	
Al2O3	% m/m	13.02	14.29		14.29	13.902		13.94	14.1	13.87	
Fe2O3	% m/m	2.28	2.44		2.547	2.395		2.40	2.49	2.45	
Fe(II)O	% m/m										
MnO	% m/m	0.5281	0.061			0.061		0.058	0.06	0.06	
MgO	% m/m	0.28	0.42		0.398	0.371		0.37	0.3	0.41	
CaO	% m/m	1.17	1.14		1.119	1.152		1.15	1.2	1.06	
Na2O	% m/m	2.32	3.63		3.658	3.734		3.48	3.4	3.66	
K2O	% m/m	4.58	4.71		4.525	4.664		4.74	4.4	4.69	
P2O5	% m/m	0.1085	0.138			0.136		0.131	0.15	0.13	
H2O+	% m/m										
CO2	% m/m								0.05		
LOI	% m/m		0.59		0.55	0.63		0.60	0.52	1.02	
Ag	mg kg-1								0.8		
As	mg kg-1	1.0						1.9	2.3		
Au	mg kg-1										
B	mg kg-1										
Ba	mg kg-1	366.8	336.7	356	295.5		334.4	356	306		359
Be	mg kg-1			11.7				9.73	8.3		
Bi	mg kg-1	1.3		1.04				1.47	0.9		
Br	mg kg-1										
Cd	mg kg-1	2.2		0.53	43.0			0.103	0.2		
Ce	mg kg-1	72.8		66.7				64.7	63		59.1
Cl	mg kg-1							82			
Co	mg kg-1			4.63			3.2	2.98	2.6		
Cr	mg kg-1	160.4	191.5	200	157.1		171.2	157	180		
Cs	mg kg-1	28.9		18.9				17.9	16		17.53
Cu	mg kg-1	6.8	7.4	7.78	7.8	6.3		8.38	5.6		
Dy	mg kg-1			4.15				4.28	3.1		3.86
Er	mg kg-1			2.3				2.16	1.6		2.11
Eu	mg kg-1			0.54				0.642	0.6		0.55
F	mg kg-1							1136	940		
Ga	mg kg-1	20.5	21.6	19.9			21.4	25.7	23		
Gd	mg kg-1			5.37				5.71	4.2		4.61
Ge	mg kg-1			2.08					1.4		
Hf	mg kg-1	1.1		4.43					2.8		5.11
Hg	mg kg-1										
Ho	mg kg-1			0.87				0.812	0.6		0.78
I	mg kg-1										
In	mg kg-1			0.12							
Ir	mg kg-1										
La	mg kg-1	42.3		29.3				29.8	30		27.03
Li	mg kg-1			140				123.6	103		
Lu	mg kg-1			0.34				0.324	0.2		0.32
Mo	mg kg-1			3.52				3.26	2.9		
N	mg kg-1										
Nb	mg kg-1	13.0	15.3	17.9		16		14	22		14.9
Nd	mg kg-1			25.5				28.4	21		23.9
Ni	mg kg-1	4.2				7.3		6.0	4.4		
Os	mg kg-1										
Pb	mg kg-1	24.2	26.1	20.4	24.8			28.3	23		28.68
Pd	mg kg-1										
Pr	mg kg-1			6.98				7.81	6		6.62
Pt	mg kg-1										
Rb	mg kg-1	253.8	269.2	273		273.8		276	229		292
Re	mg kg-1										
Rh	mg kg-1										
Ru	mg kg-1										
S	mg kg-1	34.0						145			
Sb	mg kg-1	2.0						0.150	0.2		
Sc	mg kg-1			9.69			6.4	4.44	3.3		3.83
Se	mg kg-1										
Sm	mg kg-1			5.11				5.73	4.4		4.97
Sn	mg kg-1	14.6		14.5				15.0	12		
Sr	mg kg-1	99.8	112.9	133	104.5	112.8		105	107		99.4
Ta	mg kg-1			2.34					2.5		3.07
Tb	mg kg-1			0.79				0.879	0.6		0.66
Te	mg kg-1										
Th	mg kg-1	22.2	18.2	16.9				23.4	15		17.25
Tl	mg kg-1	1.1		1.42				1.96	1.6		
Tm	mg kg-1			0.34				0.329	0.2		0.33
U	mg kg-1	4.8		4.77				6.00	3.4		4.85
V	mg kg-1	19.5	15.5	15.8			20.2	17.3			
W	mg kg-1			0.52				0.69	0.5		
Y	mg kg-1	23.9	26.8	26.3		25.2		19.3	15		22.5
Yb	mg kg-1			2.31				2.13	1.6		2.1
Zn	mg kg-1	53.1	54.2	49.9	50.0	50.9		65.1	64		
Zr	mg kg-1	153.0	164.3	176		179		165.0	178		180

Table 1		GeoPT21 Analytical results submitted (June 2007)									
		Granite, MGT-1									
Lab. identifier		V47	V48	V49	V50	V51	V52	V53	V54	V55	V56
Sample		MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1
Data quality		1	1	2	2	1	2	2	2	1	2
SiO2	% m/m		72.733	72.59	71.86	71.93	72.25	74.6	75.33	70.79	71.548
TiO2	% m/m	0.28	0.307	0.300	0.28	0.305	0.293	0.377	0.297	0.328	0.291
Al2O3	% m/m	14.3	13.967	14.48	13.94	14.13	14.31	13.9	13.89	14.85	13.952
Fe2O3	% m/m	2.41	2.437	2.41	2.44	2.47	2.47	2.438	2.38	2.88	2.376
Fe(II)O	% m/m				1.46					1.6	
MnO	% m/m	0.059	0.06	0.0587	0.06	0.058	0.055	0.0537	0.06	0.07	0.059
MgO	% m/m		0.383	0.42	0.39	0.44	0.39	0.356	0.313	0.51	0.363
CaO	% m/m		1.18	1.16	1.2	1.14	1.19	1.08	1.156	1.15	1.139
Na2O	% m/m	3.6	3.572	3.61	3.86	3.59	3.82	3.925	3.545	3.7	3.645
K2O	% m/m	4.7	4.717	4.76	4.76	4.73	4.68	2.67	4.176	4.72	4.698
P2O5	% m/m		0.127	0.145	0.14	0.14	0.138	0.12	0.138	0.11	0.128
H2O+	% m/m				0.65						
CO2	% m/m	0.053									
LOI	% m/m		0.633	0.54	0.73	0.69	0.49			0.83	0.723
Ag	mg kg-1					0.135				0.418	0.391
As	mg kg-1		1.883	2			2.8			2.315	2.3
Au	mg kg-1									0.701	
B	mg kg-1									5.445	
Ba	mg kg-1	348	361.92	343	351	352	342	328	332	267.972	350.1
Be	mg kg-1		8.667	9	9.56	8.84			8.7	9.686	8.58
Bi	mg kg-1		0.93	0.93	1.06	1.061				1.143	
Br	mg kg-1										
Cd	mg kg-1		0.07		0.072	0.107	0.2			0.167	0.216
Ce	mg kg-1		65.93	60.6	66.77	65.7	66	30.5	65.68	55.710	57.5
Cl	mg kg-1										
Co	mg kg-1	2.4	2.6	3	2.57	2.88	5	2.24	2.85	3.125	2.33
Cr	mg kg-1	196	192.33	213	186.7	202	215	183	191	221.017	179.9
Cs	mg kg-1	17.7	17.13	15.78	17.307	17.36	12	13.96	17.31	17.902	17.1
Cu	mg kg-1		7.833	14	6.83	6.87		5.63	7.2	9.319	6.9
Dy	mg kg-1	4.2	4.05	4.6	4.682	4.637		2.82	4.57	4.382	4.20
Er	mg kg-1		2.077	2.3	2.552	2.487		1.71	2.54	2.256	2.192
Eu	mg kg-1	0.6	0.577	0.6	0.568	0.602		0.3	0.61	0.622	0.508
F	mg kg-1										
Ga	mg kg-1		23.2	22.4	21.1	22.7	22		22.29	26.046	22.4
Gd	mg kg-1		6.423	4.6	4.908	5.05		2.61	4.75	4.971	4.390
Ge	mg kg-1			1.5						1.717	1.1
Hf	mg kg-1	5.05	4.94	4.6	4.9	5.18	5		4.42	4.357	4.460
Hg	mg kg-1									0.147	
Ho	mg kg-1		0.981	0.9	0.865	0.864		0.57	0.89	0.808	0.794
I	mg kg-1										
In	mg kg-1			0.06							
Ir	mg kg-1									0.019	
La	mg kg-1	30.2	30.23	29.2	30.38	29.3	34	14.3	28.3	23.938	26.4
Li	mg kg-1		129.73	125.9	130.7	129				153.876	113.2
Lu	mg kg-1	0.39	0.375	0.34	0.365	0.376		0.28	0.36	0.323	0.544
Mo	mg kg-1		2.7	3.1	3.447	2.85	3			3.352	2.5
N	mg kg-1										
Nb	mg kg-1		13.33	17	14.9	16.8	15		13.51	19.675	15.2
Nd	mg kg-1	31.1	28.87	22.9	28.1	28.1	30	13.8	27.61	29.931	24.67
Ni	mg kg-1		5.767	6	5.499	5.42	2	4.89	5.08	6.588	4.6
Os	mg kg-1										
Pb	mg kg-1		25.93	21	25.654	24.2	29	20.5		26.927	25.0
Pd	mg kg-1									5.278	
Pr	mg kg-1		5.887	6.89	7.745	7.59	5	3.53	7.45	8.076	6.53
Pt	mg kg-1									0.050	
Rb	mg kg-1	270	289	270	270.7	277	287	196	270.9	236.455	282.3
Re	mg kg-1										
Rh	mg kg-1									0.004	
Ru	mg kg-1									0.007	
S	mg kg-1			64							
Sb	mg kg-1		0.204	0.16	0.21	0.126	4	0.19		0.176	0.128
Sc	mg kg-1	4.3	4.183	5	4.294	4.596	11	2.62	3.6	4.834	4.9
Se	mg kg-1										
Sm	mg kg-1	6.15	6.22	4.9	5.74	5.713	5	2.91	5.76	5.952	5.20
Sn	mg kg-1		11.7	14		14.4	7		12.89	15.195	12.9
Sr	mg kg-1		120.33	129	110.1	116	109	127	108.1	132.828	114.2
Ta	mg kg-1	2.7	2.813	2.69	2.33	2.543			2.49	4.456	2.0
Tb	mg kg-1	0.81	0.803	0.77	0.788	0.845		0.46	0.79	0.738	0.683
Te	mg kg-1									0.036	
Th	mg kg-1	20.4	19.73	18.3	20.23	20.04	19	9.398	19.03	17.566	17.71
Tl	mg kg-1		1.763	1.56	2.011	1.638				1.850	1.97
Tm	mg kg-1		0.421	0.4	0.379	0.382		0.26	0.38	0.336	0.328
U	mg kg-1	6	5.863	5.2	5.79	5.28	3	3.34	5.54	5.927	5.15
V	mg kg-1		13.27	16	13.306	13.32	14	12.96	9.35	16.056	13.9
W	mg kg-1			0.5	0.487	0.507			3.54	0.625	
Y	mg kg-1		26.83	23.2	24.28	24.9	22	14.5	27.2	20.681	25.7
Yb	mg kg-1	2.55	2.58	2.3	2.52	2.462		1.83	2.52	2.306	2.297
Zn	mg kg-1		49.32	45	49.98	52.5	56	52.7	52.6	53.346	55.0
Zr	mg kg-1		177.33	187	165.8	168.5	165	178	174.8	126.713	164.3

Table 1		GeoPT21 Analytical results submitted (June 2007)									
		Granite, MGT-1									
Lab. identifier		V57	V58	V59	V59	V60	V61	V62	V63	V64	V65
Sample		MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1
Data quality		1	2	1	2	2	2	2	2	2	1
SiO2	% m/m	72.09	72.34		62.04	72.69	73.49	72.06		72.08	72.57
TiO2	% m/m	0.295	0.30	0.27		0.29	0.288	0.3		0.28	0.29
Al2O3	% m/m	13.97	14.10	13.79		14.19	13.65	14.49		14.141	13.95
Fe2O3	% m/m	2.48	2.47	2.4		2.43	2.25	2.36		2.553	2.39
Fe(II)O	% m/m	1.84								2.253	1.46
MnO	% m/m	0.062	0.05	0.057		0.058	0.055			0.050	0.06
MgO	% m/m	0.38	0.38	0.68		0.4	0.341	0.37		0.473	0.38
CaO	% m/m	1.21	1.15	1.04		1.12	1.08	1.08		1.381	1.12
Na2O	% m/m	3.57	3.62	3.65		3.8	3.61	3.61		3.71	3.71
K2O	% m/m	4.55	4.87	4.81		4.65	4.47	4.53		4.42	4.72
P2O5	% m/m	0.125	0.13			0.13				0.131	0.14
H2O+	% m/m	0.84									
CO2	% m/m										
LOI	% m/m	0.64				0.64	0.657	0.77		0.526	
Ag	mg kg-1							0.12			
As	mg kg-1	1.57		1.8				2.5	2.35		4.2
Au	mg kg-1										
B	mg kg-1										
Ba	mg kg-1	412		346		310	322	346		295	328
Be	mg kg-1	9.2								9	
Bi	mg kg-1	1.11						1.02			1
Br	mg kg-1										
Cd	mg kg-1							0.11	0.13		
Ce	mg kg-1			62.6				71.2		54	57.5
Cl	mg kg-1									115	
Co	mg kg-1			2.56				2.8		2.6	2
Cr	mg kg-1	193		202			173	220	209.5	154	179
Cs	mg kg-1	16		16.8				16.6		14.41	14
Cu	mg kg-1	9					24	7.1	7.42	10	7
Dy	mg kg-1			4.4				4.64		4.79	
Er	mg kg-1							2.56		2.78	
Eu	mg kg-1			0.63				0.59		0.59	
F	mg kg-1	1070								1180	826
Ga	mg kg-1			21			30	24.2		29	21.9
Gd	mg kg-1							5.38		4.96	
Ge	mg kg-1							0.14		1.46	
Hf	mg kg-1			4.87			7	5		8.13	
Hg	mg kg-1										
Ho	mg kg-1							0.86		0.92	
I	mg kg-1										
In	mg kg-1							0.069			
Ir	mg kg-1										
La	mg kg-1			30.1				29.8		24	29.5
Li	mg kg-1	116					110	125.5		120	
Lu	mg kg-1			0.34						0.38	
Mo	mg kg-1	2.5						3.39			3
N	mg kg-1										
Nb	mg kg-1	15						16.6		15.28	15
Nd	mg kg-1			26				27.4		22	25.5
Ni	mg kg-1	12						5.4		6.6	6
Os	mg kg-1										
Pb	mg kg-1	23.5						24	25.8	28	26.5
Pd	mg kg-1										
Pr	mg kg-1							7.34		8.18	
Pt	mg kg-1										
Rb	mg kg-1	268		277		270		282		201	272.3
Re	mg kg-1										
Rh	mg kg-1										
Ru	mg kg-1										
S	mg kg-1									55	54
Sb	mg kg-1	0.15						0.24			
Sc	mg kg-1			4.13				4.3		9	5
Se	mg kg-1										
Sm	mg kg-1			5.63				5.54		5.96	
Sn	mg kg-1	6.5						13		14	
Sr	mg kg-1	118		112		100	101	112.5		110.96	109.1
Ta	mg kg-1			2.53				2.5		2.33	
Tb	mg kg-1			0.73				0.8		0.80	
Te	mg kg-1										
Th	mg kg-1	20.5		19.7				18.25		20.9	20
Tl	mg kg-1							1.61			
Tm	mg kg-1							0.39		0.41	
U	mg kg-1	6		5.3				5.66		7.4	6.8
V	mg kg-1	12		13.6				14		10.5	13
W	mg kg-1										4
Y	mg kg-1						23	24.1		27.62	29.5
Yb	mg kg-1			2.11				2.59		2.60	
Zn	mg kg-1	54.1		56			81	61		51	55
Zr	mg kg-1	163		182		170	136	176		135	166.5

Table 1		GeoPT21 Analytical results submitted (June 2007)									
		Granite, MGT-1									
Lab. identifier		V66	V67	V68	V69	V70	V71	V72	V73	V74	V74
Sample		MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1
Data quality		1	1	1	2	2	2	2	1	1	2
SiO2	% m/m	72.471	71.670	73.2	72.36	72.51	73.56	69.9	73.4	73.03	
TiO2	% m/m	0.293	0.2964	0.286	0.301	0.302	0.314	0.26	0.31	0.30	
Al2O3	% m/m	13.857	13.971	14.03	14.12	14.01	13.85	13.6	13.7	14.15	
Fe2O3	% m/m	2.352	2.498	2.38	2.44	2.46	2.496	2.04	2.4	2.69	
Fe(II)O	% m/m					1.92				2.08	
MnO	% m/m	0.059	0.0603	0.061	0.059	0.056	0.0614	0.05	0.06	0.065	
MgO	% m/m	0.380	0.361	0.32	0.41	0.34	0.334		0.23	0.38	
CaO	% m/m	1.094	1.137	1.14	1.18	1.08	1.198	1.06	1.18	1.07	
Na2O	% m/m	3.621	3.632	4.12	3.79	3.76	3.25		2.81	3.59	
K2O	% m/m	4.654	4.724	4.48	4.31	4.88	4.152	4.42	4.8	4.79	
P2O5	% m/m	0.130	0.1335	0.150	0.137	0.14	0.138		0.11	0.125	
H2O+	% m/m										
CO2	% m/m								0.07		
LOI	% m/m	0.500	0.638	0.7		0.34	0.14		0.81	0.61	
Ag	mg kg-1										
As	mg kg-1			22							
Au	mg kg-1								0.04		
B	mg kg-1					5					
Ba	mg kg-1		353.3	285	376	355	342.50	398	390	337	
Be	mg kg-1					9.3			7.7		6.7
Bi	mg kg-1										
Br	mg kg-1				3						
Cd	mg kg-1										
Ce	mg kg-1		67.279			67		69		61.9	
Cl	mg kg-1										
Co	mg kg-1			10			2.50				
Cr	mg kg-1		187.7	168	177	172	185.50	140		186	
Cs	mg kg-1		17.524							16.2	
Cu	mg kg-1		5.6	14			6.87		20		7
Dy	mg kg-1		5.240			4.74				4.10	
Er	mg kg-1		2.749			2.4				2.25	
Eu	mg kg-1		0.649			0.55				0.57	
F	mg kg-1									1225	
Ga	mg kg-1		21.6		22	21	21.50	22		23	
Gd	mg kg-1		5.375			4.64				4.69	
Ge	mg kg-1										
Hf	mg kg-1		4.789			4.1				4.81	
Hg	mg kg-1										
Ho	mg kg-1		1.011			0.89				0.84	
I	mg kg-1										
In	mg kg-1										
Ir	mg kg-1										
La	mg kg-1		31.394			31	27.70	38		28.8	
Li	mg kg-1					109			110		
Lu	mg kg-1		0.387			0.4				0.34	
Mo	mg kg-1										
N	mg kg-1										
Nb	mg kg-1		15.058	16	13	16	11.75	16		13.9	
Nd	mg kg-1		28.614			28.1		27		25.8	
Ni	mg kg-1		5.9	9	3		6.70				6
Os	mg kg-1										
Pb	mg kg-1		25.214	30	25	27	28.50	26		21.8	
Pd	mg kg-1								0.04		
Pr	mg kg-1		7.856			7.08				7.21	
Pt	mg kg-1								0.06		
Rb	mg kg-1		278.93	290	260	274	245.50	292		268	
Re	mg kg-1										
Rh	mg kg-1										
Ru	mg kg-1										
S	mg kg-1			90							
Sb	mg kg-1										
Sc	mg kg-1		4.00			4				4.27	
Se	mg kg-1										
Sm	mg kg-1		6.209			5.5				5.21	
Sn	mg kg-1					13					
Sr	mg kg-1		117.4	147	106	111	110.5	116	100	109	
Ta	mg kg-1		2.570							4.65	
Tb	mg kg-1		0.889			0.83				0.74	
Te	mg kg-1										
Th	mg kg-1		20.527				20.5			18.5	
Tl	mg kg-1										
Tm	mg kg-1		0.408			0.42				0.35	
U	mg kg-1		5.183		6		6.5			4.94	
V	mg kg-1		14.0		16				11		15
W	mg kg-1										
Y	mg kg-1		26.907			26	28.50	28	17	22.8	
Yb	mg kg-1		2.524			2.5				2.31	
Zn	mg kg-1		55.6	51	56	56	57.50	75	67	55	
Zr	mg kg-1		171.5	161	163	167	175.40	170	100	177	

Table 1		GeoPT21 Analytical results submitted (June 2007)					
		Granite, MGT-1					
Lab. identifier		V75	V76	V76	V77	V78	V79
Sample		MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1
Data quality		1	1	2	2	2	2
SiO2	% m/m	72.80	73.26		73.367	72.36	72.6
TiO2	% m/m	0.313	0.29		0.303	0.32	0.3
Al2O3	% m/m	13.99	13.84		14.147	14.69	14.1
Fe2O3	% m/m	2.59	2.28		2.482	2.55	2.46
Fe(II)O	% m/m						
MnO	% m/m	0.064	0.058		0.071	0.07	0.06
MgO	% m/m	0.40	0.33		0.465	0.44	0.39
CaO	% m/m	1.15	1.09		1.19	1.14	1.18
Na2O	% m/m	3.75	3.68		3.680	2.78	3.78
K2O	% m/m	4.75	4.590		4.736	4.85	4.48
P2O5	% m/m	0.131	0.135		0.127	0.16	0.13
H2O+	% m/m						
CO2	% m/m						
LOI	% m/m	0.55	0.20		0.610	0.79	0.49
Ag	mg kg-1						
As	mg kg-1						
Au	mg kg-1						
B	mg kg-1						
Ba	mg kg-1	362	335		342	377	340
Be	mg kg-1					7	6.9
Bi	mg kg-1						1
Br	mg kg-1						
Cd	mg kg-1						
Ce	mg kg-1	61	55.97				64
Cl	mg kg-1						
Co	mg kg-1				5.74		
Cr	mg kg-1	196	183		174	195	76
Cs	mg kg-1			17.9		7	
Cu	mg kg-1	7.0			9.31		
Dy	mg kg-1		3.55				3.6
Er	mg kg-1		1.86				2
Eu	mg kg-1		0.52				0.5
F	mg kg-1						
Ga	mg kg-1	22		18.8			
Gd	mg kg-1		4.16				4.5
Ge	mg kg-1						
Hf	mg kg-1		5.11				
Hg	mg kg-1						
Ho	mg kg-1		0.66				0.7
I	mg kg-1						
In	mg kg-1						
Ir	mg kg-1						
La	mg kg-1	30	24.86				30
Li	mg kg-1					106	85
Lu	mg kg-1		0.24				
Mo	mg kg-1						
N	mg kg-1						
Nb	mg kg-1	14	15.97				
Nd	mg kg-1		23.73				23
Ni	mg kg-1	4.7		18.7	7.69		
Os	mg kg-1						
Pb	mg kg-1	29	28				24
Pd	mg kg-1						
Pr	mg kg-1		6.51				6.2
Pt	mg kg-1						
Rb	mg kg-1	275	278				
Re	mg kg-1						
Rh	mg kg-1						
Ru	mg kg-1						
S	mg kg-1					300	
Sb	mg kg-1						
Sc	mg kg-1	4.6	4.12				
Se	mg kg-1						
Sm	mg kg-1		4.82				4.9
Sn	mg kg-1						
Sr	mg kg-1	111	116				115
Ta	mg kg-1		2.65				
Tb	mg kg-1		0.63				0.7
Te	mg kg-1						
Th	mg kg-1	12		21.9			17
Tl	mg kg-1						2
Tm	mg kg-1		0.26				
U	mg kg-1	4.3	6.21				5.4
V	mg kg-1	16	20.3		16.0		11
W	mg kg-1						
Y	mg kg-1	24	33.5			23	17
Yb	mg kg-1		1.7				1.8
Zn	mg kg-1	55	52.8			46	53
Zr	mg kg-1	158	191				

Table 2 GeoPT21 Assigned values and robust statistical analysis of contributed data (Granite, MGT-1)

	X_a	H_a	sdm	sdm/ H_a	status		X_a	H_a	sdm	sdm/ H_a	status
	% m/m	% m/m	% m/m				% m/m	% m/m	% m/m		
SiO2	72.35	0.760	0.085	0.111	Assigned	La	29.22	1.407	0.439	0.312	Assigned
TiO2	0.29	0.007	0.001	0.204	Assigned	Li	121.00	4.702	2.441	0.519	Assigned
Al2O3	14.03	0.189	0.028	0.150	Assigned	Lu	0.34	0.032	0.008	0.260	Assigned
Fe2O3	2.42	0.042	0.011	0.264	Assigned	Mo	3.06	0.207	0.078	0.376	Assigned
MnO	0.06	0.002	0.000	0.221	Assigned	Nb	15.24	0.809	0.213	0.263	Assigned
MgO	0.38	0.009	0.006	0.625	Assigned	Nd	26.18	1.281	0.429	0.335	Assigned
CaO	1.15	0.022	0.006	0.262	Assigned	Ni	5.92	0.362	0.219	0.606	Assigned
Na2O	3.65	0.060	0.014	0.240	Assigned	Pb	25.42	1.249	0.346	0.277	Assigned
K2O	4.67	0.074	0.019	0.252	Assigned	Pr	7.08	0.422	0.137	0.326	Assigned
P2O5	0.13	0.004	0.001	0.322	Assigned	Rb	271.94	9.356	1.621	0.173	Assigned
	mg/kg	mg/kg	mg/kg			Sb	0.20	0.020	0.014	0.667	Provisional
As	2.32	0.163	0.159	0.976	Provisional	Sc	4.35	0.279	0.136	0.487	Assigned
Ba	344.08	11.426	3.105	0.272	Assigned	Sm	5.46	0.338	0.091	0.269	Assigned
Be	8.68	0.502	0.226	0.450	Assigned	Sn	13.03	0.708	0.393	0.555	Assigned
Bi	1.06	0.084	0.019	0.231	Assigned	Sr	110.75	4.362	0.974	0.223	Assigned
Ce	63.06	2.703	0.832	0.308	Assigned	Ta	2.53	0.176	0.055	0.315	Assigned
Co	2.73	0.188	0.073	0.387	Assigned	Tb	0.76	0.064	0.018	0.275	Assigned
Cr	186.70	6.797	2.532	0.372	Assigned	Th	19.19	0.984	0.258	0.263	Assigned
Cs	17.31	0.901	0.247	0.274	Assigned	Tl	1.69	0.125	0.060	0.480	Assigned
Cu	7.00	0.418	0.165	0.394	Assigned	Tm	0.35	0.033	0.010	0.315	Assigned
Dy	4.25	0.273	0.079	0.288	Assigned	U	5.43	0.337	0.123	0.366	Assigned
Er	2.29	0.162	0.059	0.364	Assigned	V	14.01	0.753	0.368	0.489	Assigned
Eu	0.57	0.050	0.008	0.161	Assigned	W	0.59	0.051	0.034	0.661	Provisional
Ga	22.00	1.105	0.216	0.196	Assigned	Y	24.67	1.218	0.441	0.362	Assigned
Gd	4.83	0.305	0.105	0.345	Assigned	Yb	2.31	0.163	0.051	0.310	Assigned
Ge	1.46	0.110	0.109	0.988	Provisional	Zn	54.56	2.391	0.553	0.231	Assigned
Hf	4.69	0.297	0.093	0.313	Assigned	Zr	168.41	6.227	2.015	0.324	Assigned
Ho	0.83	0.068	0.019	0.283	Assigned						

Table 3 GeoPT21 Z-scores for analytical results submitted (June 2007)
MGT-1, Granite

Lab. identifier	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10
Sample	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1
Data quality	2	1	2	1	1	1	1	2	2	2
SiO2	-0.07	-0.23	-2.98	-0.20	0.60	0.34	-0.26	-0.18	0.03	-0.02
TiO2	0.53	-2.05	-0.89	0.77	-0.64	-4.88	0.77	0.39	-0.32	-0.32
Al2O3	-0.09	-0.22	-2.22	0.15	-0.33	0.36	-0.01	0.16	0.47	0.00
Fe2O3	0.70	-1.76	-3.62	0.83	0.13	-1.76	0.60	1.24	0.77	0.70
MnO	0.30	0.60	-0.09	1.16	-10.48	-2.17	0.60	0.30	-1.22	0.30
MgO	0.93	4.24	0.66	0.84	-5.94	-0.29	1.97	-1.28	-0.14	1.55
CaO	0.53	0.53	-0.54	2.75	-0.81	0.08	0.97	0.49	-1.51	-0.31
Na2O	0.41	0.74	-2.34	-0.26	0.74	1.58	-0.26	0.12	-2.21	0.46
K2O	0.24	-0.03	-1.31	1.05	-0.97	0.91	-0.03	0.46	-0.35	0.34
P2O5	-0.60	-0.64	0.28	2.15	-0.64	-0.64	-0.64	0.38	1.07	1.07
As	-1.58	4.20	*	-1.99	*	*	*	*	*	6.08
Ba	0.39	-5.00	*	-0.97	*	*	-1.14	0.43	3.98	*
Be	*	*	*	-0.51	*	*	*	*	*	*
Bi	*	-0.71	*	1.31	*	*	*	*	*	*
Ce	0.14	-5.57	*	0.53	*	*	*	0.91	*	*
Co	*	-14.54	*	-1.54	*	*	-3.89	*	*	-1.94
Cr	1.10	-4.52	0.79	1.66	*	*	3.28	0.68	*	*
Cs	*	-4.78	*	-1.12	*	*	*	2.60	*	*
Cu	-4.79	0.00	*	-0.72	*	*	-2.39	*	*	-0.48
Dy	*	*	*	0.15	*	*	*	*	*	*
Er	*	*	*	0.13	*	*	*	*	*	*
Eu	*	*	*	0.34	*	*	*	*	*	*
Ga	0.23	0.00	*	-0.36	*	*	0.00	1.81	*	*
Gd	*	*	*	-0.73	*	*	*	*	*	*
Ge	*	-4.18	*	0.98	*	*	*	*	*	*
Hf	*	-2.33	*	-0.89	*	*	4.39	*	*	*
Ho	*	*	*	-0.23	*	*	*	*	*	*
La	2.16	-5.85	*	0.27	*	*	*	2.41	*	*
Li	*	*	*	*	*	*	*	*	*	*
Lu	*	*	*	0.56	*	*	*	*	*	*
Mo	*	-0.29	*	1.16	*	*	*	11.94	*	*
Nb	0.41	-0.29	*	-2.40	*	*	0.94	-0.77	*	*
Nd	*	-4.04	*	0.33	*	*	*	*	*	*
Ni	-1.82	-5.30	*	1.33	*	*	2.98	5.63	*	5.22
Pb	1.03	1.27	*	-0.34	*	*	0.47	0.63	*	-1.09
Pr	*	*	*	0.68	*	*	*	*	*	*
Rb	0.47	-0.21	*	-0.85	*	*	-0.21	0.59	*	4.71
Sb	*	88.32	*	0.00	*	*	*	*	*	*
Sc	2.06	-8.43	*	*	*	*	5.92	*	*	*
Sm	*	7.50	*	0.47	*	*	*	*	*	*
Sn	*	1.37	*	0.24	*	*	*	*	*	*
Sr	0.41	-0.40	*	-1.55	*	*	-0.63	-0.09	-2.38	*
Ta	*	-8.69	*	0.81	*	*	*	*	*	*
Tb	*	*	*	-0.32	*	*	*	*	*	*
Th	0.46	-0.20	*	0.31	*	*	2.85	-0.10	*	-3.15
Tl	*	-5.55	*	*	*	*	*	*	*	*
Tm	*	*	*	-0.03	*	*	*	*	*	*
U	1.29	-7.22	*	-0.80	*	*	1.69	*	*	-2.12
V	-1.13	-3.99	*	-2.66	*	*	3.98	1.99	*	*
W	*	-11.54	*	0.82	*	*	*	*	*	*
Y	1.33	-1.37	*	-0.14	*	*	0.27	-0.27	*	*
Yb	*	-8.04	*	0.74	*	*	*	*	*	*
Zn	-0.37	-1.91	*	0.43	*	*	-0.65	0.30	*	-0.14
Zr	0.18	-1.19	1.47	-1.51	*	*	-0.39	0.77	*	*

Table 3 GeoPT21 Z-scores for analytical results submitted (June 2007)
MGT-1, Granite

Lab. identifier	V11	V11	V12	V13	V14	V15	V16	V16	V17	V18
Sample	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1
Data quality	1	2	2	2	2	1	1	2	2	1
SiO2	0.06	*	0.04	-3.19	0.11	-0.37	*	*	-2.61	-0.60
TiO2	3.18	*	0.25	-0.39	-0.25	1.76	*	-0.67	-1.03	2.61
Al2O3	0.73	*	0.00	3.58	0.13	-0.17	*	-1.67	-0.83	-0.43
Fe2O3	2.46	*	0.53	-1.23	0.06	-1.12	*	*	-3.71	4.37
MnO	0.05	*	0.30	-2.69	0.30	-1.62	*	-0.03	*	*
MgO	-19.18	*	-0.43	*	-0.14	6.27	*	-1.50	-9.19	-1.99
CaO	0.17	*	0.26	2.27	0.35	-0.94	*	-1.11	28.95	9.87
Na2O	-0.32	*	0.37	*	-1.04	3.41	*	*	-7.38	0.91
K2O	2.16	*	0.66	1.54	-1.02	0.04	*	*	57.21	-0.30
P2O5	-12.63	*	1.35	*	0.24	-0.08	*	*	-4.50	*
As	*	2.71	*	*	*	*	*	*	*	*
Ba	*	-0.05	*	1.79	0.83	1.60	-0.37	*	*	*
Be	*	-1.50	*	*	*	*	*	*	*	*
Bi	*	9.16	*	*	17.49	*	*	*	*	*
Ce	*	0.73	*	1.47	1.84	0.64	1.23	*	*	*
Co	*	-1.94	*	*	*	-0.93	-0.52	*	0.45	*
Cr	*	-0.57	*	7.38	0.98	1.86	*	*	*	*
Cs	*	*	*	-0.73	-1.83	0.31	0.00	*	*	*
Cu	*	-5.51	*	52.66	*	-1.75	3.14	*	-0.12	*
Dy	-0.87	*	*	*	*	1.55	1.54	*	*	0.08
Er	-0.61	*	*	*	*	1.03	1.81	*	*	1.61
Eu	-1.23	*	*	*	*	-0.30	0.16	*	*	0.78
Ga	*	-0.36	*	1.81	0.45	-0.29	*	*	*	*
Gd	-1.61	*	*	*	*	3.73	0.06	*	*	0.91
Ge	*	*	*	*	*	*	*	*	*	*
Hf	*	-0.49	*	*	*	-0.29	1.13	*	*	*
Ho	-1.11	*	*	*	*	1.56	0.92	*	*	*
La	*	-2.53	*	-0.79	-1.15	1.04	1.09	*	*	-0.23
Li	-3.19	*	*	*	*	*	-0.76	*	*	-0.21
Lu	-0.71	*	*	*	*	1.03	1.00	*	*	1.46
Mo	*	-0.63	*	-5.22	*	*	0.24	*	*	*
Nb	*	-0.64	*	-2.19	-0.77	1.44	-0.64	*	*	*
Nd	-3.03	*	*	0.32	2.27	1.77	1.35	*	*	0.25
Ni	*	-0.16	*	*	*	-1.76	*	*	0.73	*
Pb	*	0.71	*	3.83	-1.37	-0.82	0.14	*	-8.09	*
Pr	-3.44	*	*	-1.28	*	2.25	1.42	*	*	0.90
Rb	*	0.11	*	-0.58	-0.91	0.93	0.03	*	*	*
Sb	*	80.96	*	*	*	*	*	*	*	*
Sc	*	2.96	*	*	1.17	-2.75	*	*	*	*
Sm	-1.66	*	*	*	*	1.49	1.08	*	*	-0.36
Sn	*	2.38	*	*	-1.44	*	*	*	*	*
Sr	*	-0.09	*	-0.43	-0.32	0.52	0.08	*	*	*
Ta	*	*	*	*	*	0.38	-1.25	*	*	*
Tb	-1.64	*	*	*	*	1.96	0.52	*	*	1.82
Th	*	0.41	*	-0.61	-0.10	0.36	0.45	*	*	*
Tl	*	2.42	*	*	*	*	*	*	*	*
Tm	-0.55	*	*	*	*	1.32	1.14	*	*	1.59
U	*	2.92	*	*	*	1.10	1.16	*	*	*
V	*	-0.67	*	*	-1.33	-1.82	*	*	*	*
W	*	*	*	*	*	*	*	*	*	*
Y	*	0.46	*	-0.69	0.14	2.04	-0.56	*	*	*
Yb	7.31	*	*	*	*	1.03	1.50	*	*	0.00
Zn	*	-1.98	*	1.56	-0.33	-3.83	*	*	*	*
Zr	*	-0.60	*	-2.20	0.13	1.28	1.46	*	*	*

Table 3 GeoPT21 Z-scores for analytical results submitted (June 2007)
MGT-1, Granite

Lab. identifier	V18	V19	V20	V21	V22	V23	V24	V25	V26	V27
Sample	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1
Data quality	2	2	1	2	1	2	2	1	2	2
SiO2	*	-0.10	-0.72	0.13	-0.63	0.00	0.17	*	*	0.55
TiO2	*	-0.32	3.60	0.39	0.49	0.39	0.67	-4.17	-0.25	-2.44
Al2O3	*	1.24	2.48	0.10	-0.02	0.31	0.45	9.38	-6.45	0.58
Fe2O3	*	-3.82	4.13	-0.10	-3.69	0.18	*	-3.17	0.06	-2.29
MnO	1.96	-0.81	6.14	0.30	0.60	0.30	0.02	-2.17	0.58	-8.01
MgO	*	-1.28	6.50	2.68	5.37	-0.71	-1.67	-0.29	*	6.08
CaO	*	1.60	0.97	1.44	0.53	0.04	-0.40	2.31	-0.85	-2.85
Na2O	*	-0.46	-2.42	-0.80	0.83	0.37	-0.21	0.08	*	1.21
K2O	*	0.59	3.07	-0.05	0.04	1.00	-0.69	-1.65	*	-2.24
P2O5	0.38	1.21	-33.53	-0.74	-0.64	-0.32	2.61	*	*	-3.11
As	2.41	*	120.63	*	*	*	*	*	*	*
Ba	-0.62	*	3.84	3.76	-0.56	0.22	0.70	*	-3.68	*
Be	-0.18	*	*	-3.11	*	*	*	*	0.36	*
Bi	*	*	*	*	*	*	*	*	*	*
Ce	0.15	*	-6.68	-0.12	-1.32	*	-0.07	*	*	*
Co	0.19	*	17.42	2.70	0.16	*	3.49	*	-0.43	*
Cr	-1.38	*	3.13	-1.23	-0.25	-0.49	-2.48	1.22	1.35	*
Cs	-0.73	*	*	0.61	0.45	*	*	-13.10	0.44	*
Cu	-0.60	*	*	-1.18	-1.32	39.50	-1.48	-2.87	1.14	*
Dy	*	*	-3.43	0.18	-0.56	*	0.59	*	*	*
Er	*	*	-2.84	0.22	-1.42	*	0.28	*	*	*
Eu	*	*	-0.63	0.22	-0.10	*	0.57	*	*	*
Ga	-2.71	*	*	1.13	1.04	*	*	*	*	*
Gd	*	*	-2.27	0.41	0.38	*	0.88	*	*	*
Ge	-0.28	*	*	1.31	*	*	*	*	*	*
Hf	0.04	*	*	0.08	0.19	*	-2.29	*	*	*
Ho	*	*	-2.14	0.03	-0.94	*	0.27	*	*	*
La	*	*	1.97	-0.12	-1.25	*	-0.15	*	*	*
Li	*	*	*	*	0.81	*	0.64	2.77	0.43	*
Lu	*	*	-4.75	0.11	-1.05	*	-0.25	*	*	*
Mo	3.24	*	-0.78	-1.36	-0.37	*	0.84	*	0.41	*
Nb	0.41	*	*	2.72	-0.86	*	0.84	*	*	*
Nd	*	*	-3.74	-0.19	-0.36	*	0.63	*	*	*
Ni	2.18	*	*	-1.75	0.61	*	0.21	3.81	*	*
Pb	0.23	*	*	1.15	-0.90	13.04	-2.21	-1.14	0.15	*
Pr	*	*	-2.04	0.10	-0.01	*	0.40	*	*	*
Rb	-0.10	*	*	1.18	-1.16	*	*	-3.20	-0.10	*
Sb	*	*	*	*	-2.06	*	0.98	*	*	*
Sc	-1.04	*	-3.41	*	1.08	*	-0.54	*	*	*
Sm	*	*	-5.41	0.04	-0.23	*	0.54	*	*	*
Sn	2.09	*	*	-0.38	-0.15	*	-2.40	*	*	*
Sr	0.37	*	4.41	1.29	-1.16	-2.49	-1.51	3.04	-4.74	*
Ta	-0.19	*	*	-1.99	-2.07	*	-0.08	*	*	*
Tb	*	*	-1.95	-0.11	-0.52	*	0.80	*	*	*
Th	-0.15	*	*	1.53	-0.23	*	1.02	*	*	*
Tl	-0.78	*	*	*	0.08	*	-1.29	*	0.66	*
Tm	*	*	-3.92	0.23	-0.46	*	-0.05	*	*	*
U	0.19	*	*	5.07	-0.88	*	0.85	*	0.96	*
V	0.53	*	3.98	1.19	1.61	-1.33	-1.60	-3.33	0.20	*
W	2.87	*	*	0.12	0.00	*	*	*	*	*
Y	-0.93	*	-1.37	0.82	-1.88	*	-1.71	*	*	*
Yb	*	*	-5.53	0.18	-0.97	*	-0.21	*	*	*
Zn	0.72	*	2.27	0.04	3.45	-0.54	0.28	0.48	0.61	*
Zr	4.38	*	*	2.46	-1.51	-4.69	2.22	-12.91	*	*

Table 3 GeoPT21 Z-scores for analytical results submitted (June 2007)
MGT-1, Granite

Lab. identifier	V28	V29	V30	V31	V32	V33	V34	V35	V36	V37
Sample	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1
Data quality	2	1	2	2	2	1	1	2	2	2
SiO2	-0.02	*	0.64	-0.02	-1.87	-0.72	*	-0.29	0.30	0.89
TiO2	-1.03	*	-0.11	0.39	-0.32	-2.05	*	-0.32	0.53	-1.41
Al2O3	0.18	*	-1.11	0.58	-2.39	-0.17	*	-2.31	-0.08	-0.08
Fe2O3	1.01	*	-0.27	0.65	0.42	-1.05	*	-1.94	-0.41	-0.17
MnO	0.30	*	-1.92	0.30	0.30	0.60	*	-2.47	-0.53	0.05
MgO	1.55	*	3.59	-2.97	0.99	-34.22	*	0.99	-0.71	*
CaO	-0.18	*	-0.34	-0.18	-0.63	-3.03	*	2.93	-0.40	0.93
Na2O	-0.71	*	-0.33	-0.21	-0.71	0.74	*	5.04	1.12	*
K2O	0.25	*	-0.62	-0.49	1.33	3.75	*	3.70	-0.49	1.13
P2O5	-0.32	*	0.52	-0.32	-3.11	-3.43	*	3.86	0.80	*
As	*	*	*	*	-0.97	40.97	*	*	*	*
Ba	0.30	-0.72	-0.62	-1.45	-0.27	-1.58	-4.30	-0.18	0.00	0.94
Be	1.42	*	*	*	-1.18	*	*	*	*	*
Bi	*	-0.06	*	*	-0.36	46.88	*	*	0.00	*
Ce	0.35	0.72	-0.82	-2.23	0.45	-6.31	-1.47	*	1.12	0.54
Co	-0.08	*	11.37	*	-0.61	17.42	*	*	1.46	*
Cr	-0.03	*	-0.20	-2.04	0.98	-0.10	*	-1.08	0.61	1.79
Cs	0.45	-0.12	*	*	0.61	1.88	-3.23	*	0.94	0.83
Cu	-0.07	*	1.20	0.00	-2.27	-2.39	3.45	0.84	-0.71	0.72
Dy	0.75	-1.15	-1.28	*	0.24	*	-1.46	*	0.73	*
Er	0.62	-2.79	-1.98	*	0.62	4.40	-1.11	*	1.55	*
Eu	0.19	-2.11	-0.11	*	-0.21	*	-2.03	*	0.09	*
Ga	0.47	*	*	-0.45	-0.45	-2.71	-1.00	0.81	1.45	-0.09
Gd	0.55	-2.78	-1.48	*	0.18	-2.73	1.14	*	1.54	*
Ge	1.17	*	*	*	*	*	*	*	*	*
Hf	0.67	-4.54	*	*	0.51	-2.33	-1.26	*	1.27	*
Ho	0.62	-1.94	-1.00	*	-0.04	2.56	-0.97	*	0.91	*
La	0.35	0.89	-0.53	*	0.74	3.40	-7.13	*	0.67	-0.76
Li	2.01	0.23	*	-1.38	0.96	*	*	*	*	*
Lu	0.58	-3.26	-0.98	*	-0.36	*	*	*	0.73	*
Mo	*	-1.33	*	*	*	9.37	-0.39	*	-0.78	*
Nb	0.53	3.41	-0.15	-0.77	0.47	-2.77	0.20	0.66	0.78	-0.02
Nd	0.55	0.23	-0.60	-0.85	0.36	0.64	-1.16	*	1.02	*
Ni	0.80	*	0.11	*	-0.85	-2.54	*	*	-3.06	*
Pb	-0.48	-0.93	-0.17	0.23	-0.29	-1.14	*	-1.73	0.35	*
Pr	0.42	1.26	-0.36	*	-0.16	4.55	0.04	*	1.01	*
Rb	0.37	-0.26	0.16	-0.32	0.48	-0.10	-3.20	0.00	0.70	-0.07
Sb	*	*	*	*	0.00	-9.81	*	*	*	*
Sc	0.38	*	*	*	0.09	5.92	*	*	-1.94	*
Sm	0.43	-0.60	-0.52	2.27	-0.09	-7.28	-0.24	*	0.72	*
Sn	*	*	*	0.68	0.68	-15.58	*	*	-1.72	0.47
Sr	0.44	-0.40	0.60	-0.54	-0.09	-0.86	-2.01	0.14	0.72	-0.03
Ta	0.23	2.56	*	*	0.20	-3.00	0.75	*	0.23	*
Tb	0.28	-2.33	-1.21	*	0.67	3.71	-0.85	*	1.30	*
Th	0.32	1.54	-0.61	-0.10	0.31	-3.25	-5.28	0.66	0.26	*
Tl	*	0.21	*	*	-0.38	*	*	*	0.30	*
Tm	0.18	-2.45	-1.65	*	-0.12	*	-1.47	*	1.10	*
U	-0.13	-0.90	*	-2.12	0.04	-1.28	-1.28	-1.23	0.67	*
V	-0.51	*	-4.65	-1.33	1.32	23.90	-4.52	*	-0.07	*
W	*	*	*	*	*	-11.54	*	*	*	*
Y	1.03	-4.12	9.99	0.96	-0.23	6.02	-2.68	1.12	1.53	0.87
Yb	0.74	-3.74	-1.78	*	-0.34	10.38	-1.04	*	1.14	*
Zn	0.04	*	0.30	-1.37	-0.75	-0.24	0.77	0.38	4.59	-0.03
Zr	1.52	-10.23	2.86	-0.43	-0.19	-1.83	*	-1.24	1.41	-0.41

Table 3 GeoPT21 Z-scores for analytical results submitted (June GeoPT21 Z-sc MGT-1, Granite MGT-1, Granite

Lab. identifier	V38	V39	V40	V41	V42	V42	V43	V44	V45	V46
Sample	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1
Data quality	1	1	1	2	1	2	2	2	1	2
SiO2	-1.93	-0.44	*	0.40	0.18	*	0.03	0.30	-1.96	*
TiO2	-2.05	0.49	*	0.74	-0.78	*	-0.11	-0.32	0.77	*
Al2O3	-5.36	1.37	*	0.69	-0.69	*	-0.24	0.18	-0.86	*
Fe2O3	-3.41	0.36	*	1.44	-0.70	*	-0.29	0.77	0.60	*
MnO	260.04	1.16	*	*	1.16	*	-0.25	0.30	0.60	*
MgO	-11.60	4.24	*	0.87	-1.31	*	-0.71	-4.67	3.10	*
CaO	0.97	-0.36	*	-0.65	0.17	*	0.04	1.15	-3.92	*
Na2O	-22.09	-0.26	*	0.11	1.48	*	-1.38	-2.04	0.24	*
K2O	-1.24	0.51	*	-0.99	-0.11	*	0.46	-1.84	0.24	*
P2O5	-6.63	1.59	*	*	1.03	*	-0.18	2.47	-0.64	*
As	-8.06	*	*	*	*	*	-1.27	-0.05	*	*
Ba	1.99	-0.65	1.04	-2.13	*	-0.42	0.52	-1.67	*	0.65
Be	*	*	6.01	*	*	*	1.04	-0.38	*	*
Bi	2.86	*	-0.24	*	*	*	2.44	-0.95	*	*
Ce	3.60	*	1.34	*	*	*	0.30	-0.01	*	-0.73
Co	*	*	10.12	*	*	1.25	0.67	-0.35	*	*
Cr	-3.87	0.71	1.96	-2.18	*	-1.14	-2.18	-0.49	*	*
Cs	12.86	*	1.77	*	*	*	0.33	-0.73	*	0.12
Cu	-0.48	0.96	1.87	0.96	-1.68	*	1.65	-1.68	*	*
Dy	*	*	-0.36	*	*	*	0.06	-2.10	*	-0.71
Er	*	*	0.07	*	*	*	-0.40	-2.13	*	-0.55
Eu	*	*	-0.63	*	*	*	0.71	0.29	*	-0.21
Ga	-1.36	-0.36	-1.90	*	*	-0.27	1.67	0.45	*	*
Gd	*	*	1.77	*	*	*	1.44	-1.04	*	-0.36
Ge	*	*	5.60	*	*	*	*	-0.28	*	*
Hf	-12.08	*	-0.89	*	*	*	*	-3.18	*	0.70
Ho	*	*	0.65	*	*	*	-0.10	-1.66	*	-0.34
La	9.30	*	0.05	*	*	*	0.20	0.28	*	-0.78
Li	*	*	4.04	*	*	*	0.28	-1.91	*	*
Lu	*	*	-0.09	*	*	*	-0.29	-2.22	*	-0.36
Mo	*	*	2.22	*	*	*	0.48	-0.39	*	*
Nb	-2.77	0.08	3.29	*	0.94	*	-0.77	4.18	*	-0.21
Nd	*	*	-0.53	*	*	*	0.87	-2.02	*	-0.89
Ni	-4.75	*	*	*	3.81	*	0.11	-2.10	*	*
Pb	-0.98	0.55	-4.02	-0.25	*	*	1.15	-0.97	*	1.31
Pr	*	*	-0.24	*	*	*	0.86	-1.28	*	-0.55
Rb	-1.94	-0.29	0.11	*	0.20	*	0.22	-2.29	*	1.07
Sb	88.32	*	*	*	*	*	-1.23	0.00	*	*
Sc	*	*	19.15	*	*	3.68	0.16	-1.88	*	-0.93
Sm	*	*	-1.04	*	*	*	0.40	-1.57	*	-0.73
Sn	2.21	*	2.07	*	*	*	1.39	-0.73	*	*
Sr	-2.51	0.49	5.10	-0.72	0.47	*	-0.66	-0.43	*	-1.30
Ta	*	*	-1.07	*	*	*	*	-0.08	*	1.54
Tb	*	*	0.41	*	*	*	0.90	-1.29	*	-0.82
Th	3.05	-1.01	-2.33	*	*	*	2.14	-2.13	*	-0.99
Tl	-4.75	*	-2.19	*	*	*	1.06	-0.38	*	*
Tm	*	*	-0.24	*	*	*	-0.29	-2.27	*	-0.28
U	-1.87	*	-1.96	*	*	*	0.85	-3.02	*	-0.86
V	7.30	1.99	2.38	*	*	4.11	2.19	*	*	*
W	*	*	-1.33	*	*	*	1.00	-0.86	*	*
Y	-0.63	1.75	1.34	*	0.44	*	-2.20	-3.97	*	-0.89
Yb	*	*	0.00	*	*	*	-0.55	-2.18	*	-0.64
Zn	-0.61	-0.15	-1.95	-0.95	-1.53	*	2.20	1.97	*	*
Zr	-2.47	-0.66	1.22	*	1.70	*	-0.27	0.77	*	0.93

Table 3 Scores for analytical results submitted (June 2007)

Lab. identifier	V47	V48	V49	V50	V51	V52	V53	V54	V55	V56
Sample	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1
Data quality	1	1	2	2	1	2	2	2	1	2
SiO2	*	0.51	0.16	-0.32	-0.55	-0.06	1.48	1.96	-2.05	-0.52
TiO2	-2.05	1.76	0.39	-1.03	1.48	-0.11	5.83	0.18	4.73	-0.25
Al2O3	1.42	-0.34	1.19	-0.24	0.52	0.74	-0.35	-0.38	4.34	-0.21
Fe2O3	-0.34	0.29	-0.17	0.18	1.07	0.53	0.16	-0.53	10.73	-0.57
MnO	0.05	0.60	-0.06	0.30	-0.51	-1.09	-1.45	0.30	6.14	0.02
MgO	*	0.05	2.12	0.42	6.50	0.42	-1.50	-3.93	14.42	-1.11
CaO	*	1.42	0.26	1.15	-0.36	0.93	-1.51	0.18	0.08	-0.20
Na2O	-0.76	-1.22	-0.29	1.79	-0.92	1.46	2.33	-0.84	0.91	0.00
K2O	0.37	0.60	0.59	0.59	0.78	0.05	-13.51	-3.35	0.64	0.17
P2O5	*	-1.47	1.77	1.07	2.15	0.80	-1.71	0.80	-6.21	-0.60
As	*	-2.65	-0.97	*	*	1.49	*	*	0.00	-0.05
Ba	0.34	1.56	-0.05	0.30	0.69	-0.09	-0.70	-0.53	-6.66	0.26
Be	*	-0.03	0.32	0.87	0.31	*	*	0.02	2.00	-0.10
Bi	*	-1.55	-0.77	0.00	0.01	*	*	*	0.99	*
Ce	*	1.06	-0.46	0.69	0.98	0.54	-6.02	0.48	-2.72	-1.03
Co	-1.76	-0.69	0.72	-0.43	0.80	6.05	-1.31	0.32	2.10	-1.07
Cr	1.37	0.83	1.93	0.00	2.25	2.08	-0.27	0.32	5.05	-0.50
Cs	0.44	-0.20	-0.85	0.00	0.06	-2.94	-1.86	0.00	0.66	-0.11
Cu	*	1.99	8.38	-0.20	-0.31	*	-1.64	0.24	5.55	-0.12
Dy	-0.18	-0.73	0.64	0.79	1.42	*	-2.61	0.59	0.49	-0.09
Er	*	-1.31	0.03	0.81	1.22	*	-1.79	0.78	-0.21	-0.30
Eu	0.58	0.12	0.29	-0.03	0.62	*	-2.73	0.39	1.02	-0.63
Ga	*	1.09	0.18	-0.41	0.63	0.00	*	0.13	3.66	0.18
Gd	*	5.22	-0.38	0.13	0.72	*	-3.64	-0.13	0.46	-0.72
Ge	*	*	0.17	*	*	*	*	*	2.31	-1.64
Hf	1.20	0.83	-0.16	0.35	1.63	0.51	*	-0.46	-1.13	-0.39
Ho	*	2.28	0.55	0.29	0.56	*	-1.88	0.47	-0.26	-0.23
La	0.69	0.72	-0.01	0.41	0.05	1.70	-5.31	-0.33	-3.76	-1.00
Li	*	1.86	0.52	1.03	1.70	*	*	*	6.99	-0.83
Lu	1.46	1.00	-0.04	0.34	1.03	*	-0.98	0.27	-0.62	3.12
Mo	*	-1.74	0.10	0.93	-1.02	-0.15	*	*	1.41	-1.36
Nb	*	-2.36	1.09	-0.21	1.93	-0.15	*	-1.07	5.49	-0.02
Nd	3.84	2.10	-1.28	0.75	1.50	1.49	-4.83	0.56	2.93	-0.59
Ni	*	-0.42	0.11	-0.58	-1.38	-5.41	-1.42	-1.16	1.85	-1.82
Pb	*	0.41	-1.77	0.09	-0.98	1.43	-1.97	*	1.21	-0.17
Pr	*	-2.83	-0.23	0.79	1.21	-2.47	-4.21	0.44	2.36	-0.65
Rb	-0.21	1.82	-0.10	-0.07	0.54	0.80	-4.06	-0.06	-3.79	0.55
Sb	*	0.20	-0.98	0.25	-3.63	93.22	-0.25	*	-1.18	-1.77
Sc	-0.18	-0.60	1.17	-0.10	0.88	11.92	-3.10	-1.34	1.74	0.99
Sm	2.03	2.24	-0.83	0.41	0.74	-0.68	-3.77	0.44	1.45	-0.39
Sn	*	-1.88	0.68	*	1.93	-4.26	*	-0.10	3.05	-0.09
Sr	*	2.20	2.09	-0.07	1.20	-0.20	1.86	-0.30	5.06	0.40
Ta	0.98	1.62	0.46	-0.56	0.08	*	*	-0.11	10.96	-1.50
Tb	0.72	0.61	0.05	0.19	1.27	*	-2.39	0.20	-0.41	-0.64
Th	1.22	0.54	-0.45	0.53	0.86	-0.10	-4.98	-0.08	-1.66	-0.75
Tl	*	0.55	-0.54	1.27	-0.45	*	*	*	1.25	1.10
Tm	*	2.24	0.80	0.48	1.04	*	-1.35	0.49	-0.37	-0.31
U	1.69	1.28	-0.34	0.53	-0.45	-3.61	-3.10	0.16	1.47	-0.42
V	*	-0.98	1.32	-0.46	-0.91	0.00	-0.69	-3.09	2.72	-0.07
W	*	*	-0.86	-0.99	-1.59	*	*	28.97	0.73	*
Y	*	1.77	-0.60	-0.16	0.19	-1.10	-4.17	1.04	-3.27	0.42
Yb	1.47	1.66	-0.03	0.64	0.93	*	-1.47	0.64	-0.02	-0.04
Zn	*	-2.19	-2.00	-0.96	-0.86	0.30	-0.39	-0.41	-0.51	0.09
Zr	*	1.43	1.49	-0.21	0.01	-0.27	0.77	0.51	-6.70	-0.33

Table 3 GeoPT21 Z-scores for analytical results submitted (June 2007)
MGT-1, Granite

Lab. identifier	V57	V58	V59	V59	V60	V61	V62	V63	V64	V65
Sample	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1
Data quality	1	2	1	2	2	2	2	2	2	1
SiO2	-0.34	0.00	*	-6.78	0.23	0.75	-0.19	*	-0.17	0.30
TiO2	0.07	0.39	-3.46	*	-0.32	-0.46	0.39	*	-1.03	-0.64
Al2O3	-0.33	0.18	-1.28	*	0.42	-1.01	1.22	*	0.29	-0.43
Fe2O3	1.31	0.53	-0.58	*	0.06	-2.06	-0.76	*	1.51	-0.82
MnO	1.71	-2.47	-1.06	*	-0.25	-1.09	*	*	-2.47	0.60
MgO	-0.29	-0.14	33.64	*	0.99	-2.35	-0.71	*	5.12	-0.29
CaO	2.75	0.04	-4.81	*	-0.63	-1.51	-1.51	*	5.18	-1.25
Na2O	-1.26	-0.21	0.08	*	1.29	-0.29	-0.29	*	0.54	1.08
K2O	-1.65	1.33	1.86	*	-0.15	-1.36	-0.96	*	-1.70	0.64
P2O5	-2.03	-0.32	*	*	-0.32	*	*	*	-0.18	2.15
As	-4.57	*	-3.16	*	*	*	0.57	0.11	*	11.55
Ba	5.94	*	0.17	*	-1.49	-0.97	0.08	*	-2.15	-1.41
Be	1.03	*	*	*	*	*	*	*	0.32	*
Bi	0.59	*	*	*	*	*	-0.24	*	*	-0.71
Ce	*	*	-0.17	*	*	*	1.50	*	-1.68	-2.06
Co	*	*	-0.91	*	*	*	0.19	*	-0.35	-3.89
Cr	0.93	*	2.25	*	*	-1.01	2.45	1.68	-2.41	-1.13
Cs	-1.45	*	-0.56	*	*	*	-0.39	*	-1.61	-3.67
Cu	4.79	*	*	*	*	20.35	0.12	0.50	3.59	0.00
Dy	*	*	0.55	*	*	*	0.72	*	0.99	*
Er	*	*	*	*	*	*	0.84	*	1.52	*
Eu	*	*	1.19	*	*	*	0.19	*	0.19	*
Ga	*	*	-0.90	*	*	3.62	1.00	*	3.17	-0.09
Gd	*	*	*	*	*	*	0.90	*	0.21	*
Ge	*	*	*	*	*	*	-5.98	*	-0.01	*
Hf	*	*	0.59	*	*	3.88	0.51	*	5.78	*
Ho	*	*	*	*	*	*	0.25	*	0.69	*
La	*	*	0.62	*	*	*	0.20	*	-1.86	0.20
Li	-1.06	*	*	*	*	-1.17	0.48	*	-0.11	*
Lu	*	*	-0.09	*	*	*	*	*	0.58	*
Mo	-2.71	*	*	*	*	*	0.80	*	*	-0.29
Nb	-0.29	*	*	*	*	*	0.84	*	0.03	-0.29
Nd	*	*	-0.14	*	*	*	0.48	*	-1.63	-0.53
Ni	16.78	*	*	*	*	*	-0.72	*	0.94	0.22
Pb	-1.54	*	*	*	*	*	-0.57	0.15	1.03	0.87
Pr	*	*	*	*	*	*	0.31	*	1.30	*
Rb	-0.42	*	0.54	*	-0.10	*	0.54	*	-3.79	0.04
Sb	-2.45	*	*	*	*	*	0.98	*	*	*
Sc	*	*	-0.79	*	*	*	-0.09	*	8.34	2.33
Sm	*	*	0.50	*	*	*	0.12	*	0.74	*
Sn	-9.22	*	*	*	*	*	-0.02	*	0.68	*
Sr	1.66	*	0.29	*	-1.23	-1.12	0.20	*	0.02	-0.38
Ta	*	*	0.01	*	*	*	-0.08	*	-0.56	*
Tb	*	*	-0.54	*	*	*	0.28	*	0.28	*
Th	1.33	*	0.51	*	*	*	-0.48	*	0.87	0.82
Tl	*	*	*	*	*	*	-0.34	*	*	*
Tm	*	*	*	*	*	*	0.64	*	0.95	*
U	1.69	*	-0.39	*	*	*	0.34	*	2.92	4.07
V	-2.66	*	-0.54	*	*	*	0.00	*	-2.33	-1.33
W	*	*	*	*	*	*	*	*	*	66.98
Y	*	*	*	*	*	-0.69	-0.23	*	1.21	3.97
Yb	*	*	-1.23	*	*	*	0.86	*	0.89	*
Zn	-0.19	*	0.60	*	*	5.53	1.35	*	-0.75	0.18
Zr	-0.87	*	2.18	*	0.13	-2.60	0.61	*	-2.68	-0.31

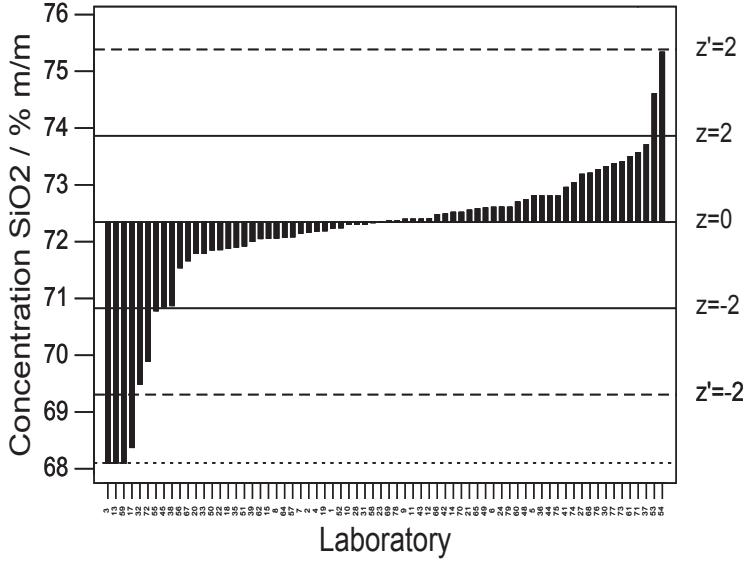
Table 3 GeoPT21 Z-scores for analytical results submitted (June 2007)
MGT-1, Granite

Lab. identifier	V66	V67	V68	V69	V70	V71	V72	V73	V74	V74
Sample	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1
Data quality	1	1	1	2	2	2	2	1	1	2
SiO2	0.17	-0.89	1.13	0.01	0.11	0.80	-1.61	1.39	0.90	*
TiO2	-0.21	0.27	-1.20	0.46	0.53	1.38	-2.44	2.19	0.77	*
Al2O3	-0.93	-0.32	-0.01	0.23	-0.06	-0.48	-1.14	-1.76	0.63	*
Fe2O3	-1.71	1.73	-1.05	0.18	0.42	0.84	-4.53	-0.58	6.25	*
MnO	0.05	0.77	1.16	0.02	-0.81	0.69	-2.47	0.60	3.37	*
MgO	-0.29	-2.44	-7.08	1.55	-2.41	-2.75	*	-17.26	-0.29	*
CaO	-2.41	-0.49	-0.36	0.71	-1.51	1.11	-1.96	1.42	-3.47	*
Na2O	-0.41	-0.22	7.91	1.21	0.96	-3.29	*	-13.92	-0.92	*
K2O	-0.25	0.70	-2.59	-2.44	1.40	-3.51	-1.70	1.72	1.59	*
P2O5	-0.64	0.34	4.94	0.66	1.07	0.80	*	-6.21	-2.03	*
As	*	*	120.63	*	*	*	*	*	*	*
Ba	*	0.81	-5.17	1.40	0.48	-0.07	2.36	4.02	-0.62	*
Be	*	*	*	*	0.61	*	*	-1.96	*	-1.98
Bi	*	*	*	*	*	*	*	*	*	*
Ce	*	1.56	*	*	0.73	*	1.10	*	-0.43	*
Co	*	*	38.73	*	*	-0.61	*	*	*	*
Cr	*	0.15	-2.75	-0.71	-1.08	-0.09	-3.44	*	-0.10	*
Cs	*	0.24	*	*	*	*	*	*	-1.23	*
Cu	*	-3.35	16.76	*	*	-0.16	*	31.12	*	0.00
Dy	*	3.63	*	*	0.90	*	*	*	-0.54	*
Er	*	2.84	*	*	0.34	*	*	*	-0.24	*
Eu	*	1.57	*	*	-0.21	*	*	*	-0.02	*
Ga	*	-0.36	*	0.00	-0.45	-0.23	0.00	*	0.90	*
Gd	*	1.78	*	*	-0.31	*	*	*	-0.46	*
Ge	*	*	*	*	*	*	*	*	*	*
Hf	*	0.32	*	*	-1.00	*	*	*	0.39	*
Ho	*	2.72	*	*	0.47	*	*	*	0.21	*
La	*	1.54	*	*	0.63	-0.54	3.12	*	-0.30	*
Li	*	*	*	*	-1.28	*	*	-2.34	*	*
Lu	*	1.37	*	*	0.89	*	*	*	-0.09	*
Mo	*	*	*	*	*	*	*	*	*	*
Nb	*	-0.22	0.94	-1.38	0.47	-2.16	0.47	*	-1.65	*
Nd	*	1.90	*	*	0.75	*	0.32	*	-0.30	*
Ni	*	-0.05	8.50	-4.03	*	1.08	*	*	*	0.11
Pb	*	-0.16	3.67	-0.17	0.63	1.23	0.23	*	-2.90	*
Pr	*	1.84	*	*	0.00	*	*	*	0.30	*
Rb	*	0.75	1.93	-0.64	0.11	-1.41	1.07	*	-0.42	*
Sb	*	*	*	*	*	*	*	*	*	*
Sc	*	-1.26	*	*	-0.63	*	*	*	-0.29	*
Sm	*	2.21	*	*	0.06	*	*	*	-0.74	*
Sn	*	*	*	*	-0.02	*	*	*	*	*
Sr	*	1.52	8.31	-0.54	0.03	-0.03	0.60	-2.47	-0.40	*
Ta	*	0.24	*	*	*	*	*	*	12.06	*
Tb	*	1.96	*	*	0.52	*	*	*	-0.38	*
Th	*	1.35	*	*	*	0.66	*	*	-0.71	*
Tl	*	*	*	*	*	*	*	*	*	*
Tm	*	1.84	*	*	1.10	*	*	*	0.06	*
U	*	-0.74	*	0.85	*	1.59	*	*	-1.46	*
V	*	-0.01	*	1.32	*	*	*	-3.99	*	0.66
W	*	*	*	*	*	*	*	*	*	*
Y	*	1.84	*	*	0.55	1.57	1.37	-6.30	-1.53	*
Yb	*	1.31	*	*	0.58	*	*	*	0.00	*
Zn	*	0.43	-1.49	0.30	0.30	0.61	4.27	5.20	0.18	*
Zr	*	0.50	-1.19	-0.43	-0.11	0.56	0.13	-10.99	1.38	*

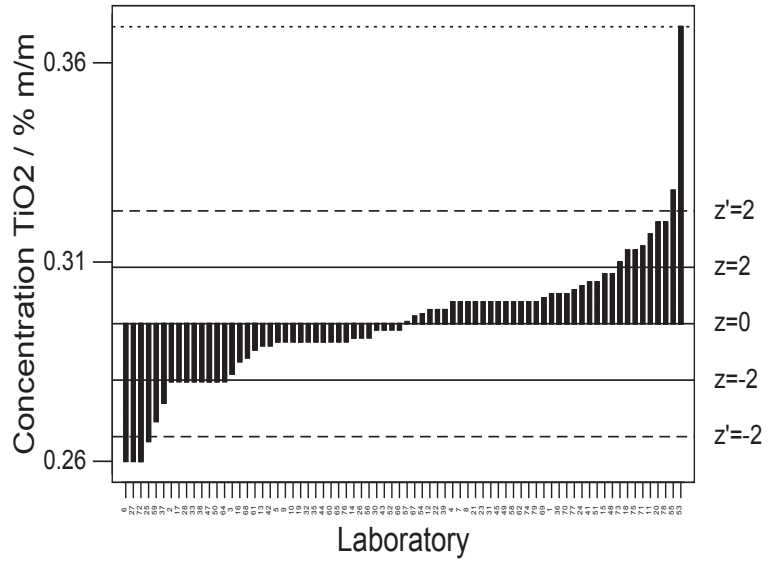
**Table 3 GeoPT21 Z-scores for analytical results submitted (June 2007)
MGT-1, Granite**

Lab. identifier	V75	V76	V76	V77	V78	V79
Sample	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1	MGT-1
Data quality	1	1	2	2	2	2
SiO2	0.60	1.20	*	0.67	0.01	0.17
TiO2	2.61	-0.64	*	0.60	1.80	0.39
Al2O3	-0.22	-1.02	*	0.31	1.75	0.18
Fe2O3	3.90	-3.41	*	0.68	1.48	0.42
MnO	2.82	-0.51	*	3.35	3.07	0.30
MgO	1.97	-5.94	*	4.66	3.25	0.42
CaO	0.08	-2.58	*	0.93	-0.18	0.71
Na2O	1.74	0.58	*	0.29	-7.21	1.12
K2O	1.05	-1.11	*	0.43	1.20	-1.30
P2O5	-0.36	0.76	*	-0.74	3.86	-0.32
As	*	*	*	*	*	*
Ba	1.57	-0.79	*	-0.09	1.44	-0.18
Be	*	*	*	*	-1.68	-1.78
Bi	*	*	*	*	*	-0.36
Ce	-0.76	-2.62	*	*	*	0.17
Co	*	*	*	8.02	*	*
Cr	1.37	-0.54	*	-0.93	0.61	-8.14
Cs	*	*	0.33	*	-5.72	*
Cu	0.00	*	*	2.76	*	*
Dy	*	-2.56	*	*	*	-1.19
Er	*	-2.66	*	*	*	-0.89
Eu	*	-1.03	*	*	*	-0.72
Ga	0.00	*	-1.45	*	*	*
Gd	*	-2.20	*	*	*	-0.54
Ge	*	*	*	*	*	*
Hf	*	1.40	*	*	*	*
Ho	*	-2.44	*	*	*	-0.93
La	0.55	-3.10	*	*	*	0.28
Li	*	*	*	*	-1.59	-3.83
Lu	*	-3.19	*	*	*	*
Mo	*	*	*	*	*	*
Nb	-1.53	0.91	*	*	*	*
Nd	*	-1.91	*	*	*	-1.24
Ni	-3.37	*	17.64	2.44	*	*
Pb	2.87	2.07	*	*	*	-0.57
Pr	*	-1.35	*	*	*	-1.04
Rb	0.33	0.65	*	*	*	*
Sb	*	*	*	*	*	*
Sc	0.90	-0.82	*	*	*	*
Sm	*	-1.90	*	*	*	-0.83
Sn	*	*	*	*	*	*
Sr	0.06	1.20	*	*	*	0.49
Ta	*	0.69	*	*	*	*
Tb	*	-2.11	*	*	*	-0.50
Th	-7.31	*	1.37	*	*	-1.12
Tl	*	*	*	*	*	1.22
Tm	*	-2.70	*	*	*	*
U	-3.36	2.31	*	*	*	-0.05
V	2.65	8.36	*	1.32	*	-2.00
W	*	*	*	*	*	*
Y	-0.55	7.25	*	*	-0.69	-3.15
Yb	*	-3.74	*	*	*	-1.57
Zn	0.18	-0.74	*	*	-1.79	-0.33
Zr	-1.67	3.63	*	*	*	*

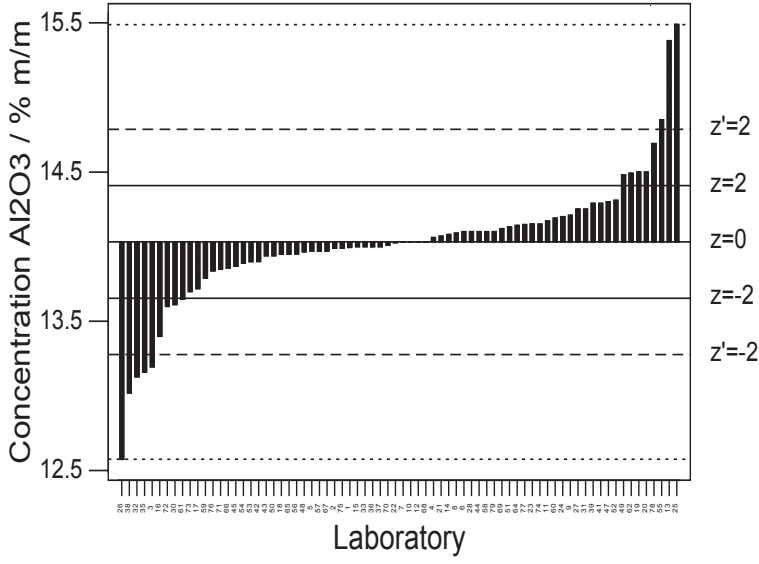
GeoPT 21 - Barchart for SiO2



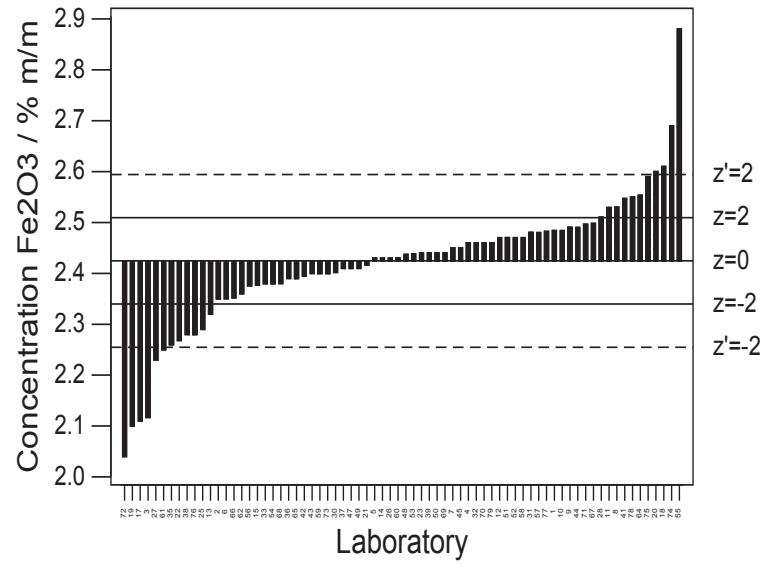
GeoPT 21 - Barchart for TiO2



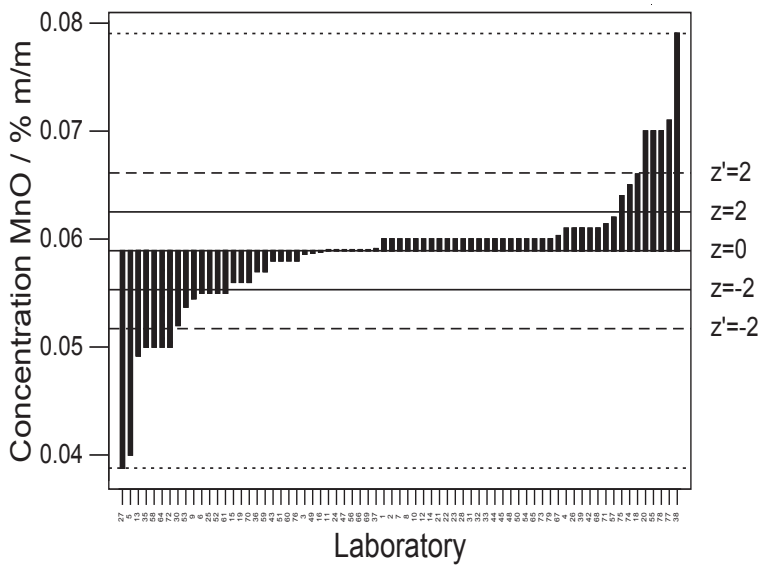
GeoPT 21 - Barchart for Al2O3



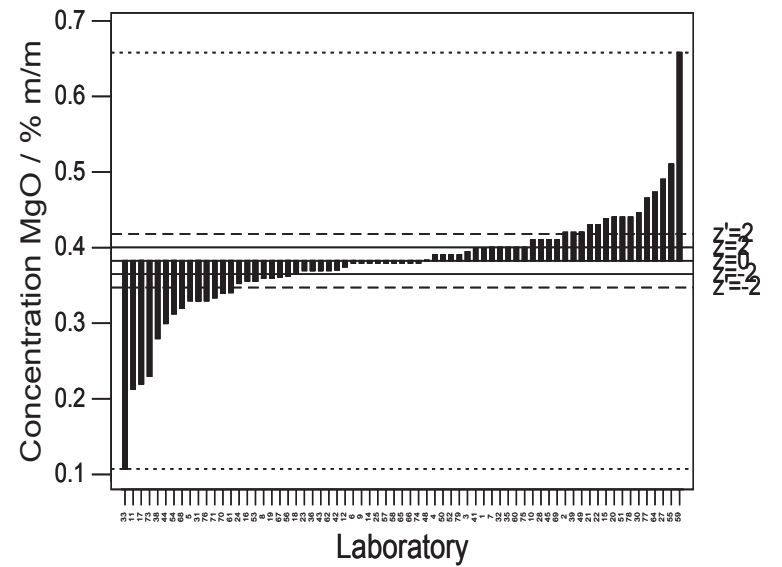
GeoPT 21 - Barchart for Fe2O3



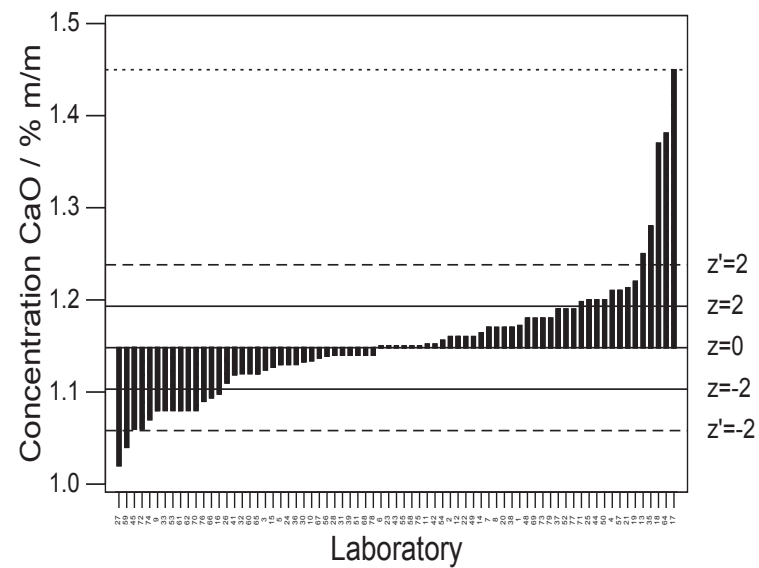
GeoPT 21 - Barchart for MnO



GeoPT 21 - Barchart for MgO



GeoPT 21 - Barchart for CaO



GeoPT 21 - Barchart for Na2O

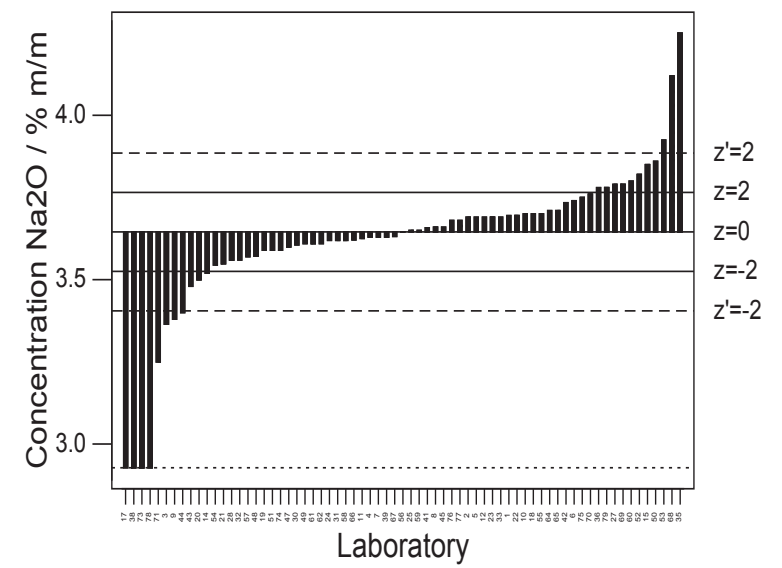
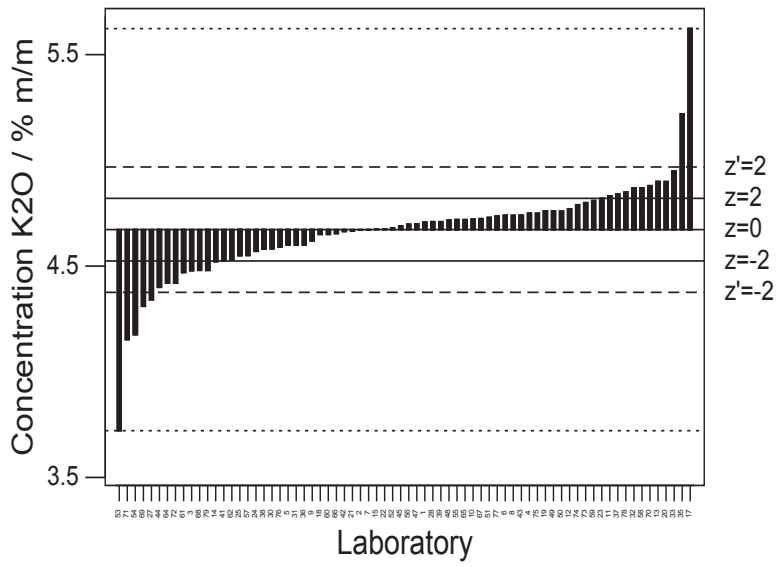


Figure 1: GeoPT21 – Granite MGT-1. Data distribution charts for elements for which values were assigned. Horizontal lines show the limits for $-2 < z < 2$ for pure geochemistry labs (solid lines) and $-2 < z' < 2$ for applied geochemistry labs (pecked lines).

GeoPT 21 - Barchart for K2O



GeoPT 21 - Barchart for P2O5

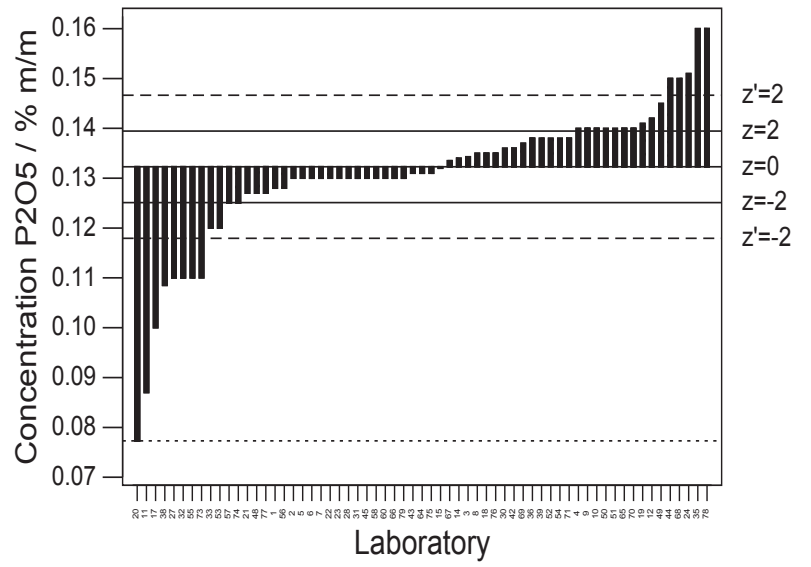
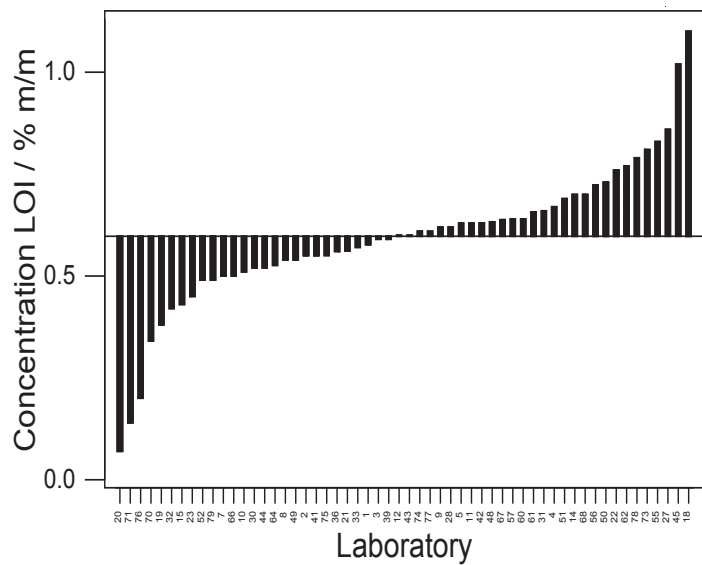
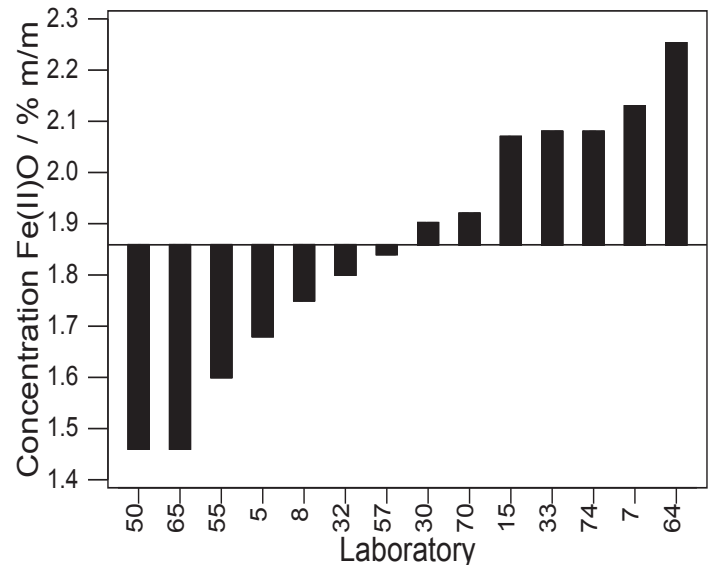


Figure 1 (cont'd): GeoPT21 – Granite MGT-1. Data distribution charts for elements for which values were assigned. Horizontal lines show the limits for $-2 < z < 2$ for pure geochemistry labs (solid lines) and $-2 < z' < 2$ for applied geochemistry labs (pecked lines).

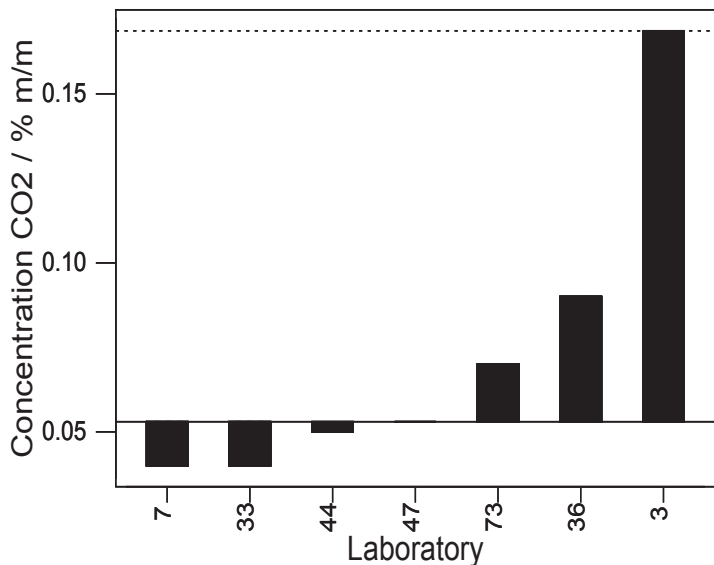
GeoPT 21 - Barchart for LOI



GeoPT 21 - Barchart for Fe(II)O



GeoPT 21 - Barchart for CO2



GeoPT 21 - Barchart for H2O+

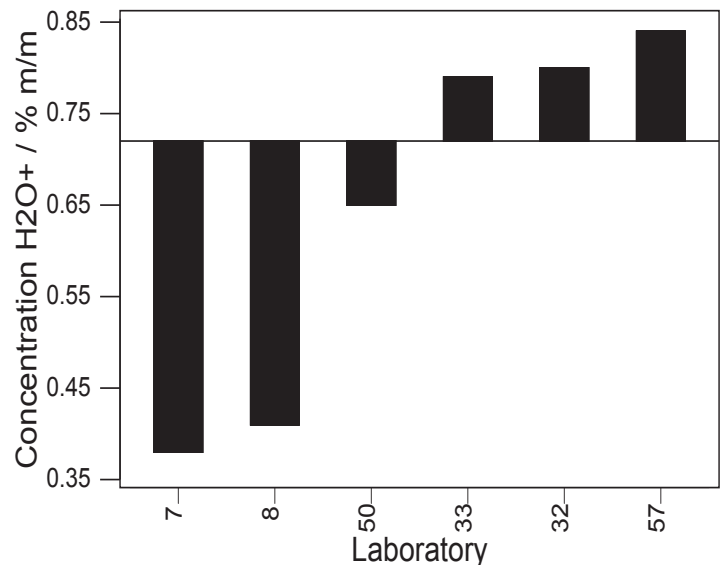
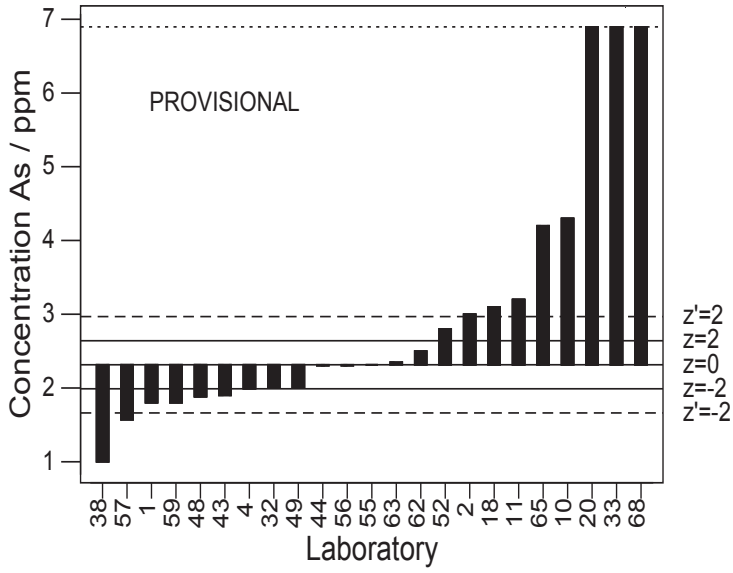
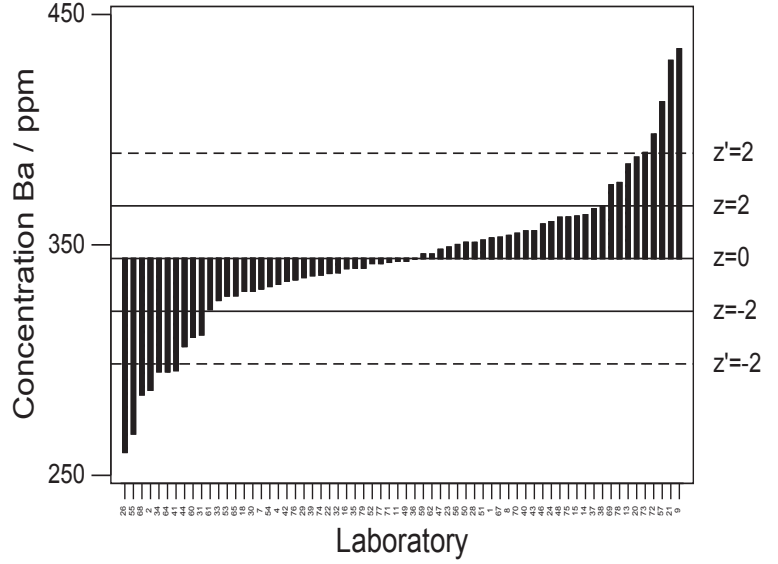


Figure 2: GeoPT21 – Granite MGT-1. Data distribution charts for information only for elements for which values could not be assigned.

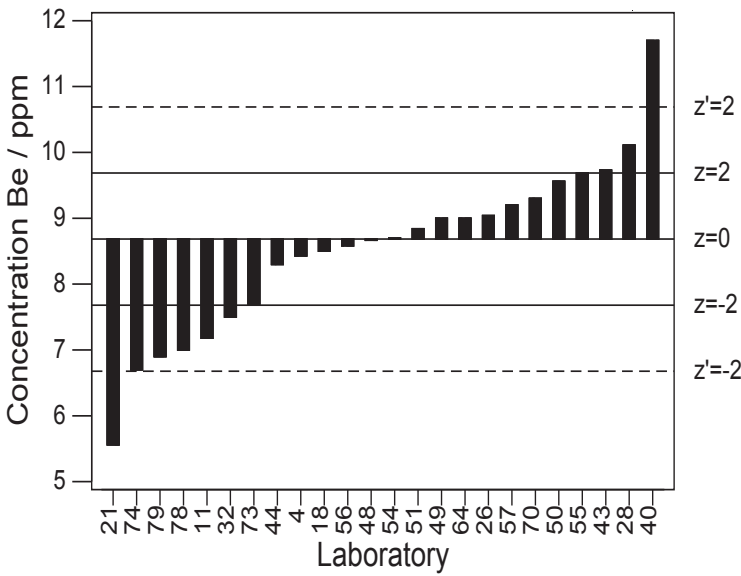
GeoPT 21 - Barchart for As



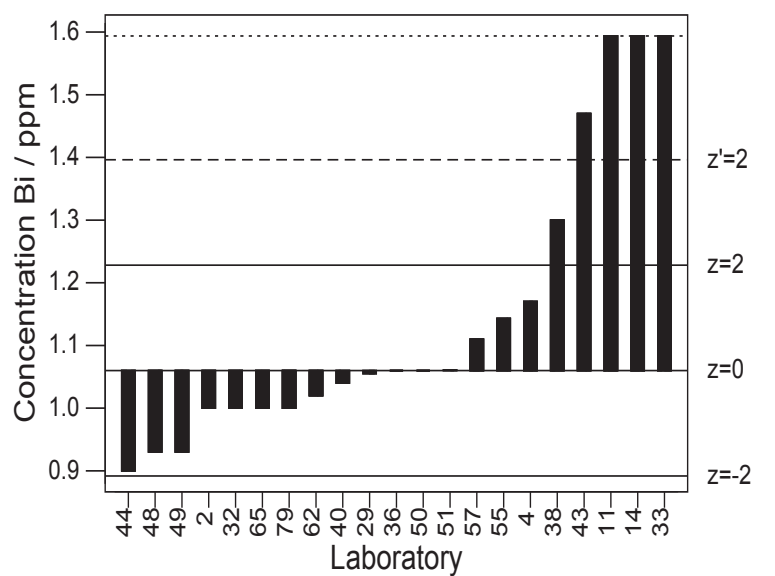
GeoPT 21 - Barchart for Ba



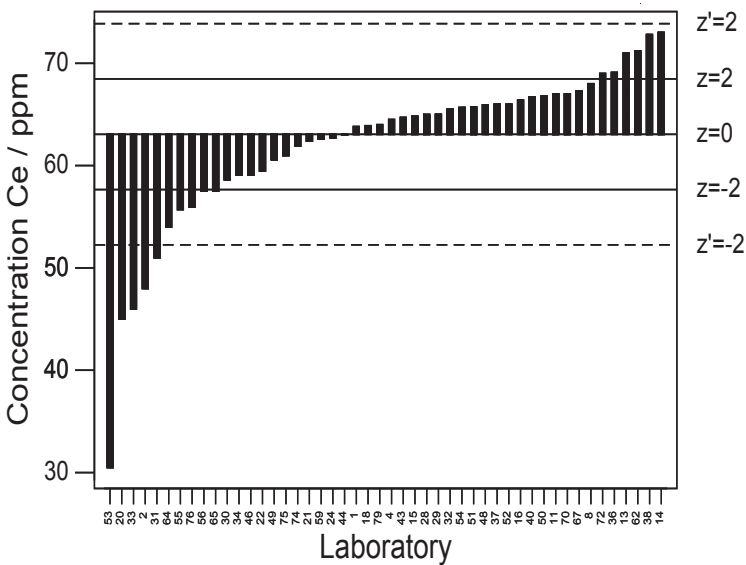
GeoPT 21 - Barchart for Be



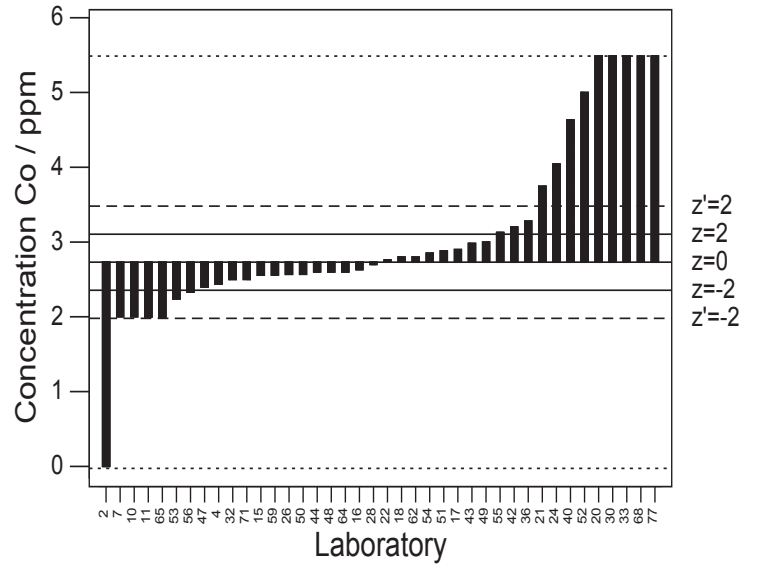
GeoPT 21 - Barchart for Bi



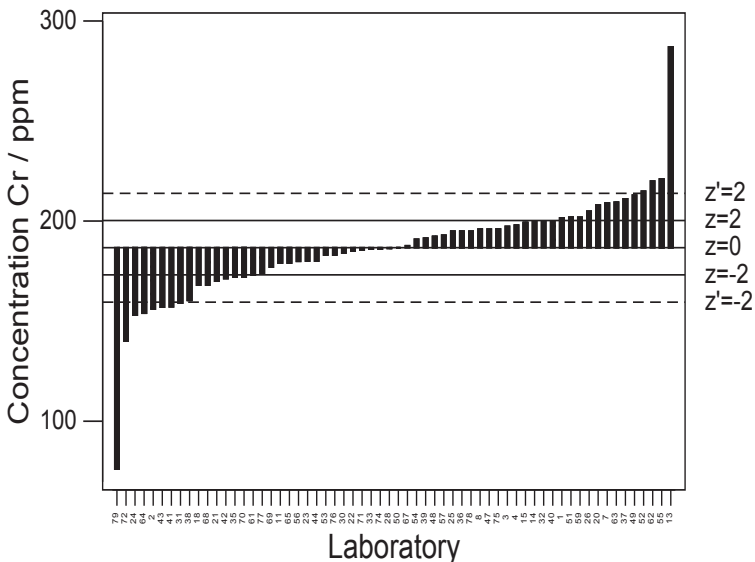
GeoPT 21 - Barchart for Ce



GeoPT 21 - Barchart for Co



GeoPT 21 - Barchart for Cr



GeoPT 21 - Barchart for Cs

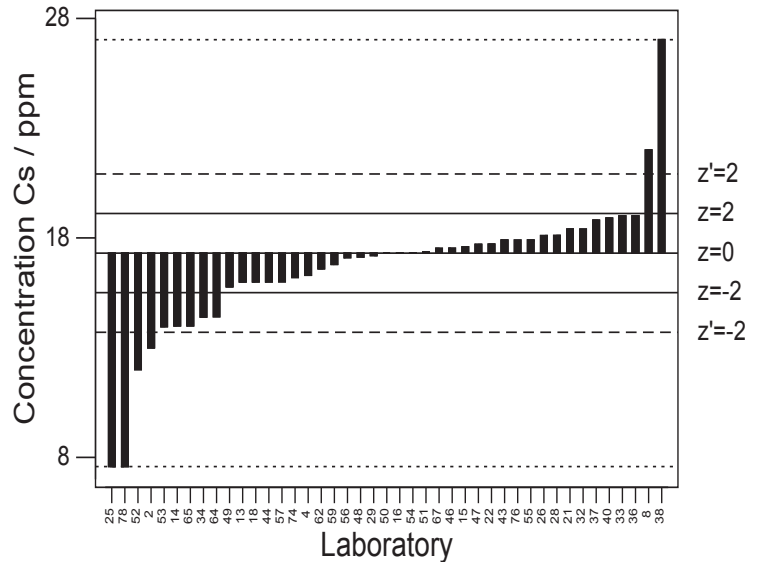
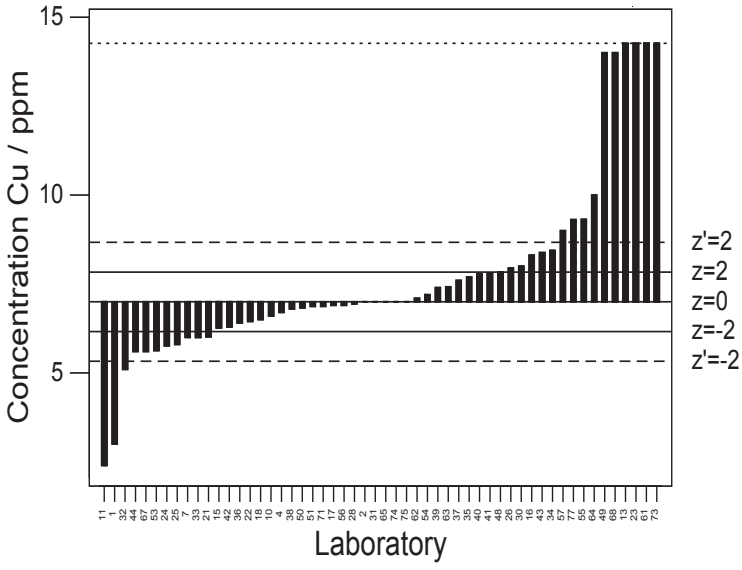
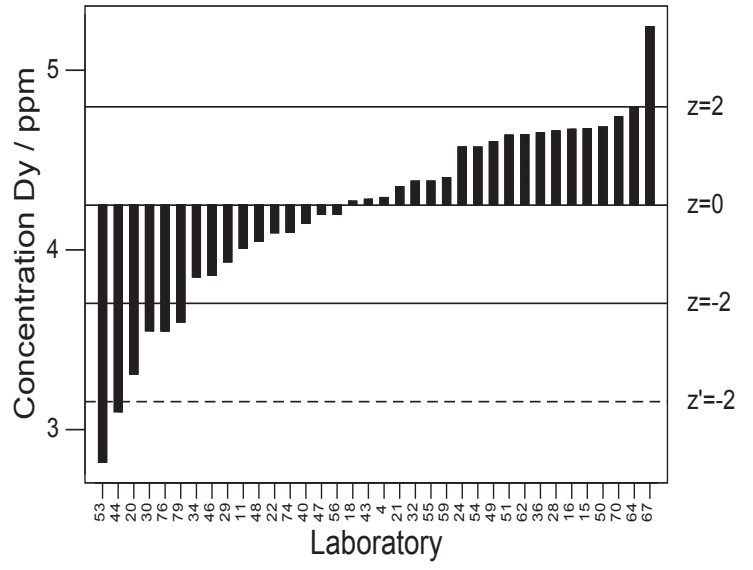


Figure 1 (cont'd): GeoPT21 – Granite MGT-1. Data distribution charts for elements for which values were assigned. Horizontal lines show the limits for $-2 < z < 2$ for pure geochemistry labs (solid lines) and $-2 < z' < 2$ for applied geochemistry labs (pecked lines).

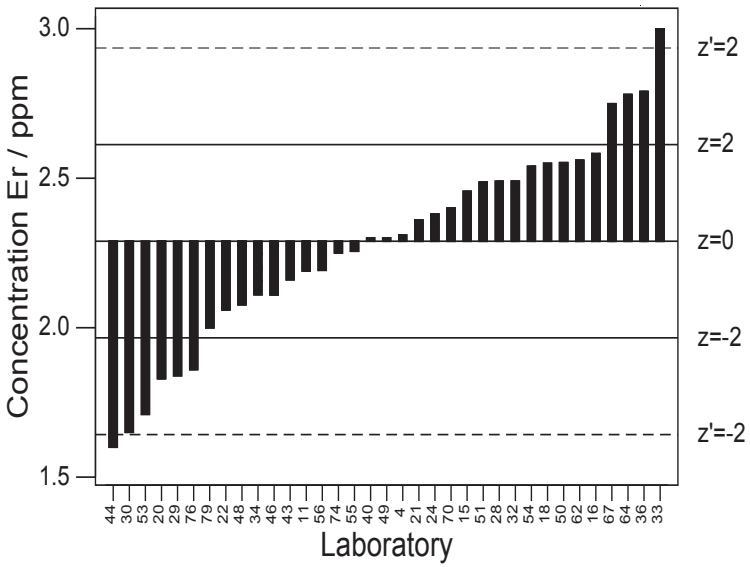
GeoPT 21 - Barchart for Cu



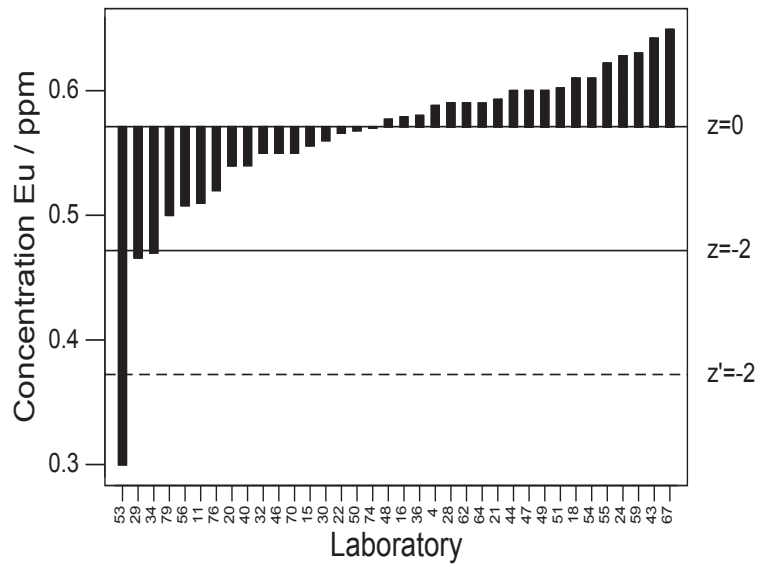
GeoPT 21 - Barchart for Dy



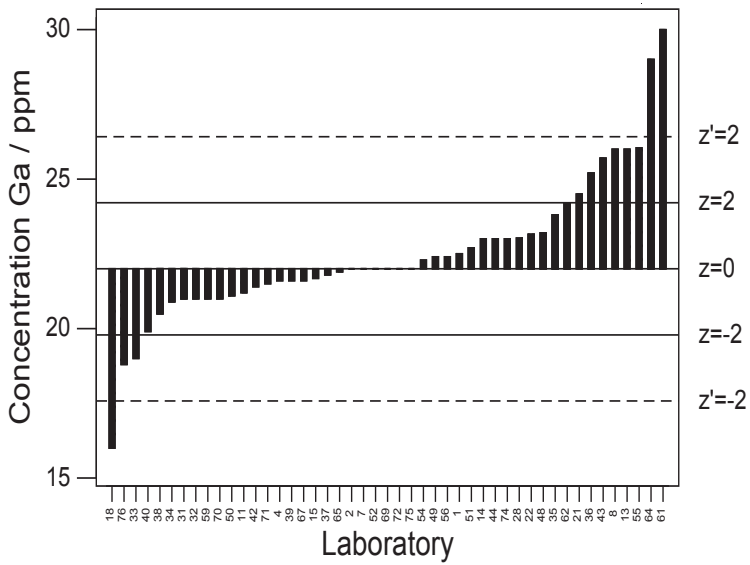
GeoPT 21 - Barchart for Er



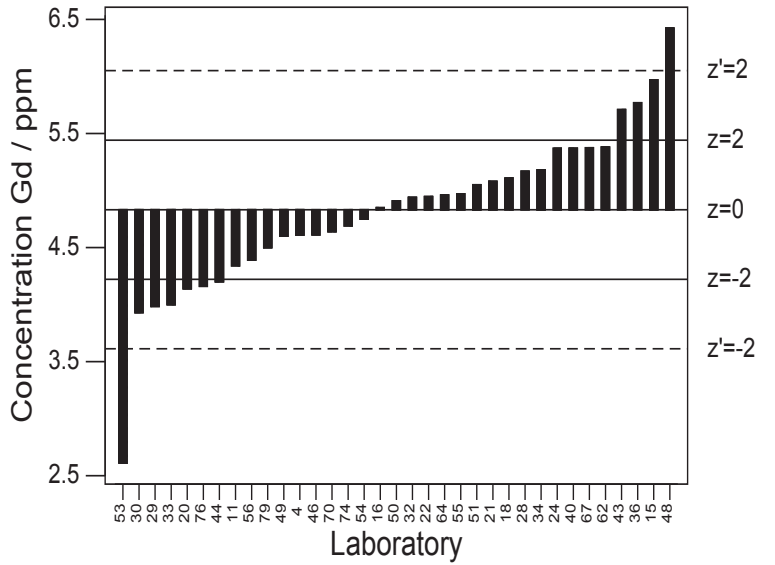
GeoPT 21 - Barchart for Eu



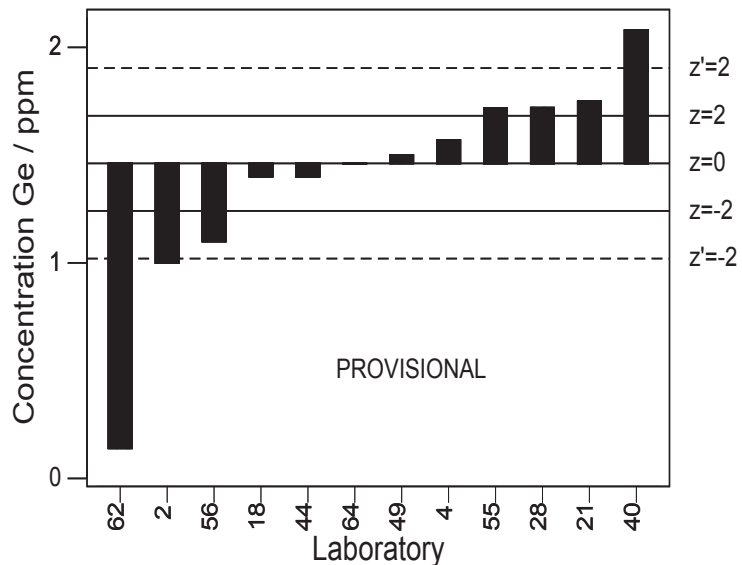
GeoPT 21 - Barchart for Ga



GeoPT 21 - Barchart for Gd



GeoPT 21 - Barchart for Ge



GeoPT 21 - Barchart for Hf

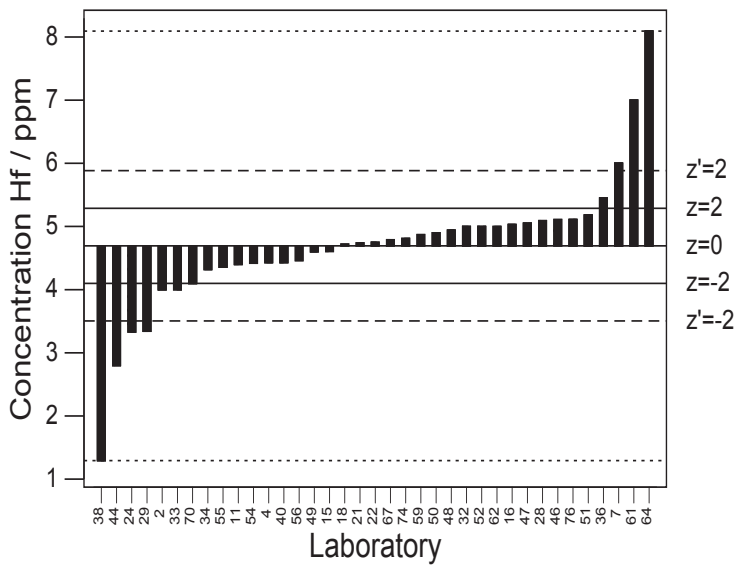
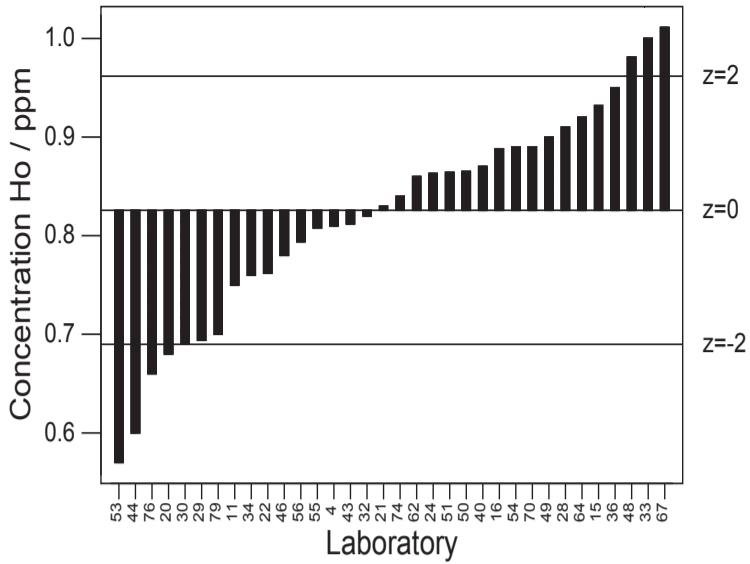
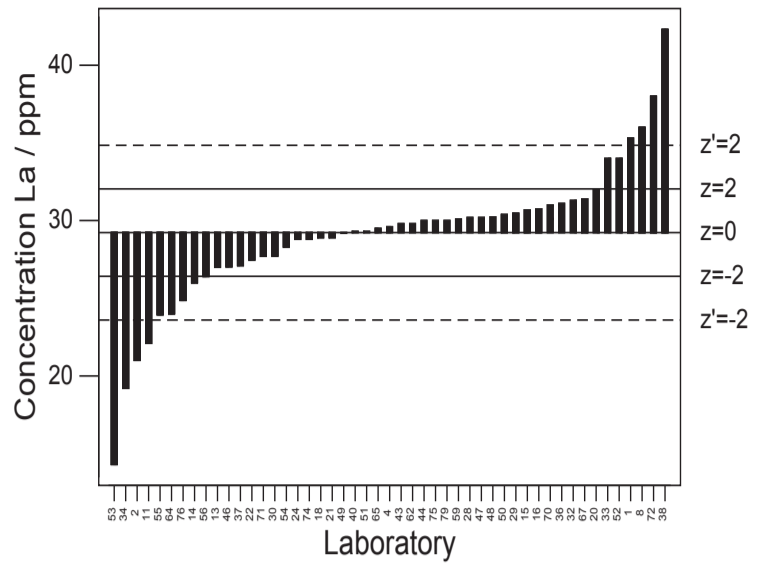


Figure 1 (cont'd): GeoPT21 – Granite MGT-1. Data distribution charts for elements for which values were assigned. Horizontal lines show the limits for $-2 < z < 2$ for pure geochemistry labs (solid lines) and $-2 < z' < 2$ for applied geochemistry labs (pecked lines).

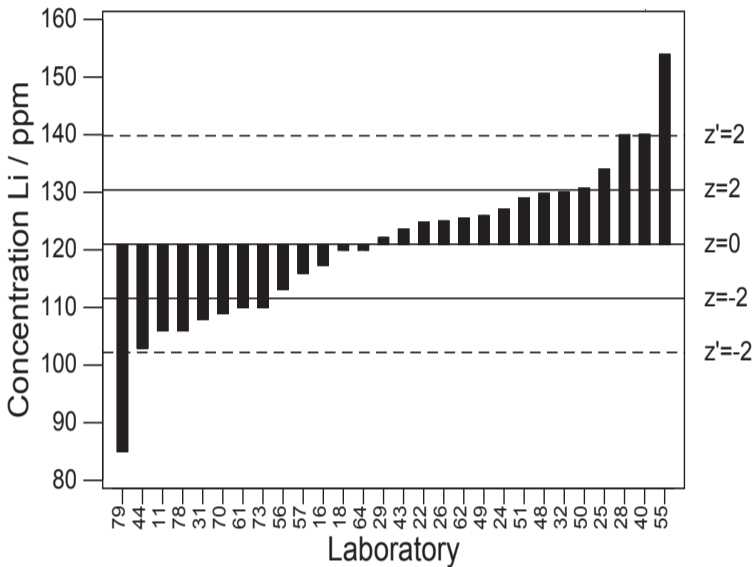
GeoPT 21 - Barchart for Ho



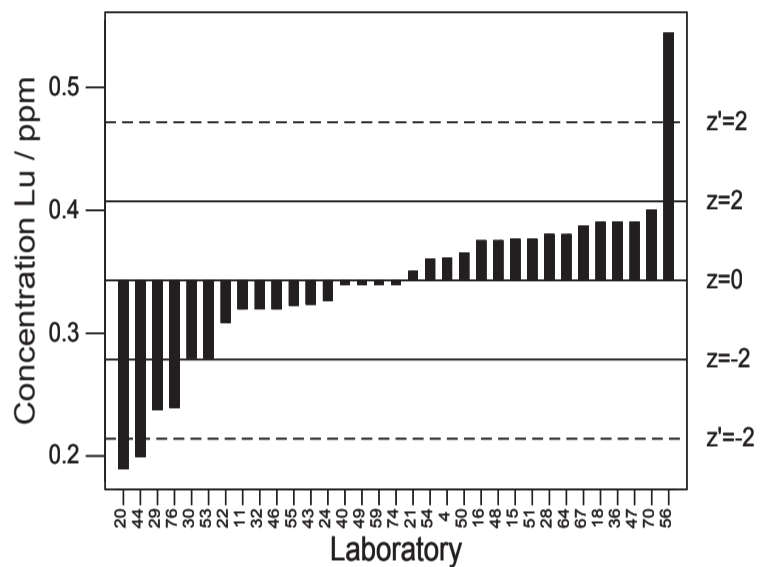
GeoPT 21 - Barchart for La



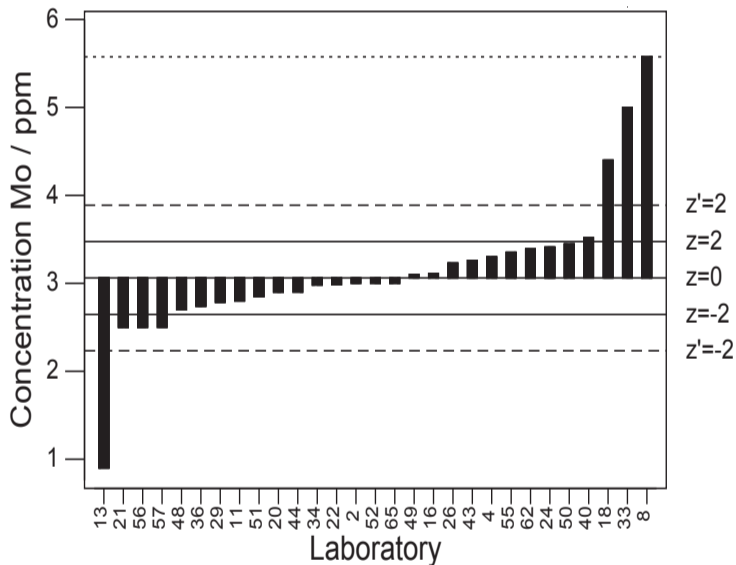
GeoPT 21 - Barchart for Li



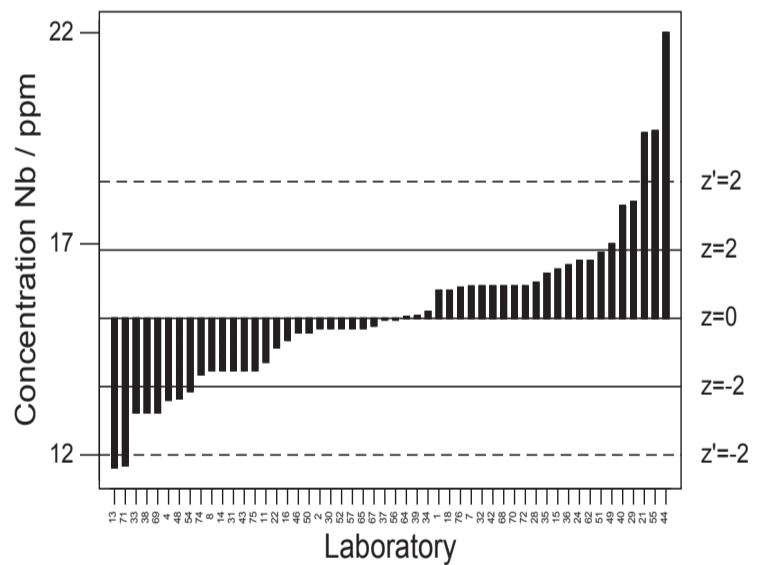
GeoPT 21 - Barchart for Lu



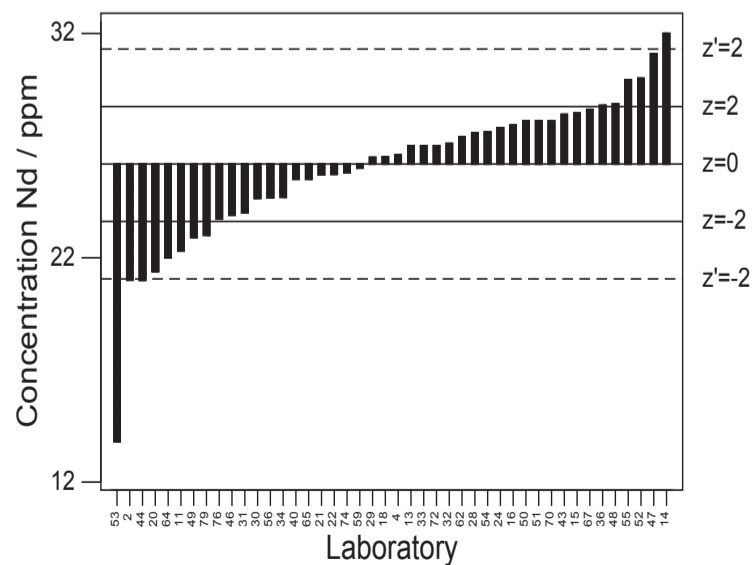
GeoPT 21 - Barchart for Mo



GeoPT 21 - Barchart for Nb



GeoPT 21 - Barchart for Nd



GeoPT 21 - Barchart for Ni

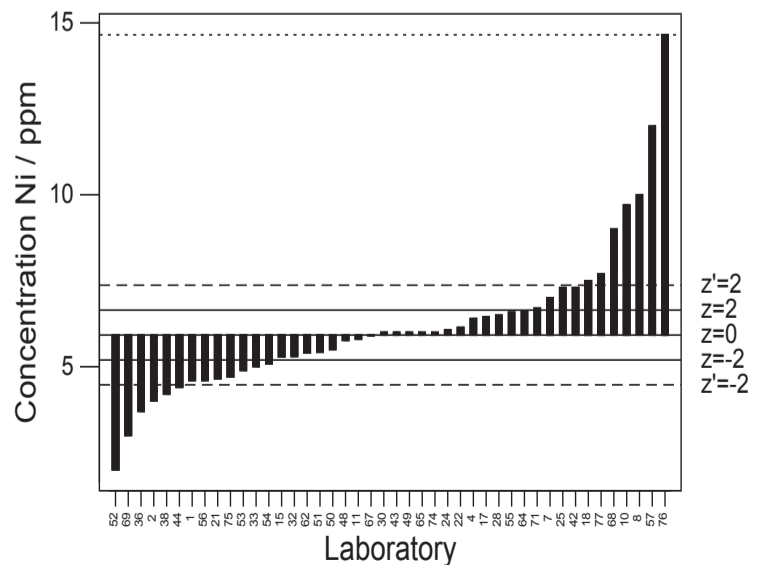
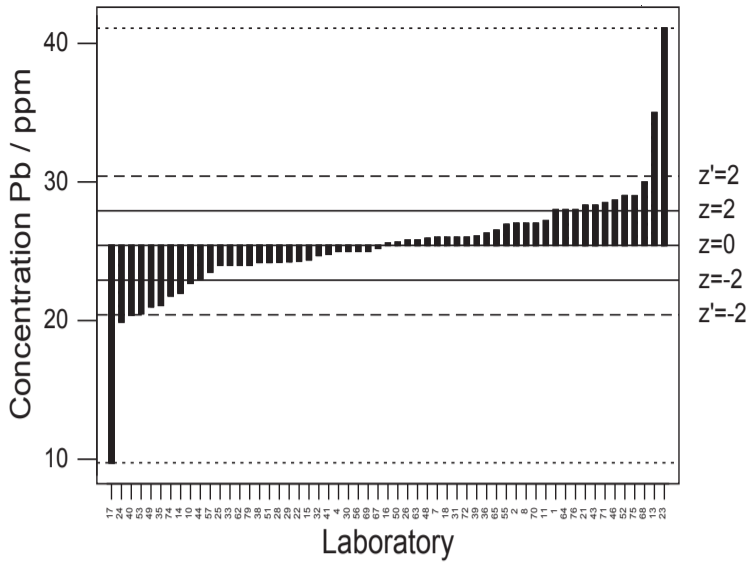
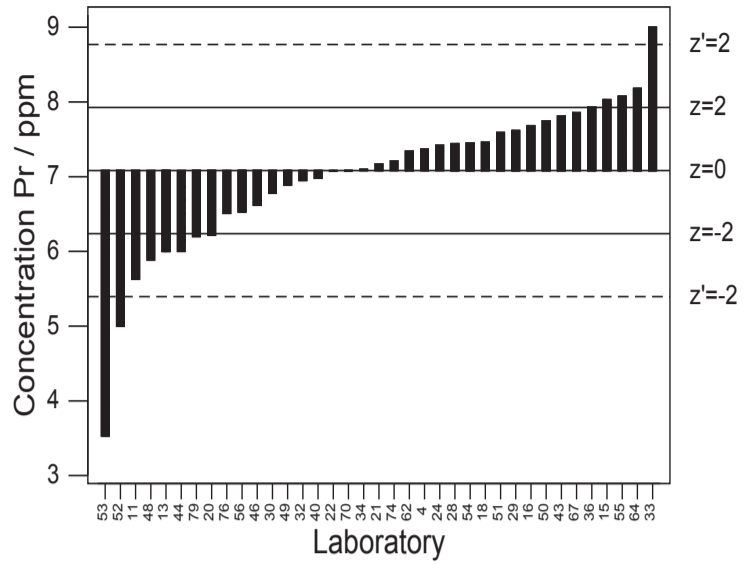


Figure 1 (cont'd): GeoPT21 – Granite MGT-1. Data distribution charts for elements for which values were assigned. Horizontal lines show the limits for $-2 < z < 2$ for pure geochemistry labs (solid lines) and $-2 < z' < 2$ for applied geochemistry labs (pecked lines).

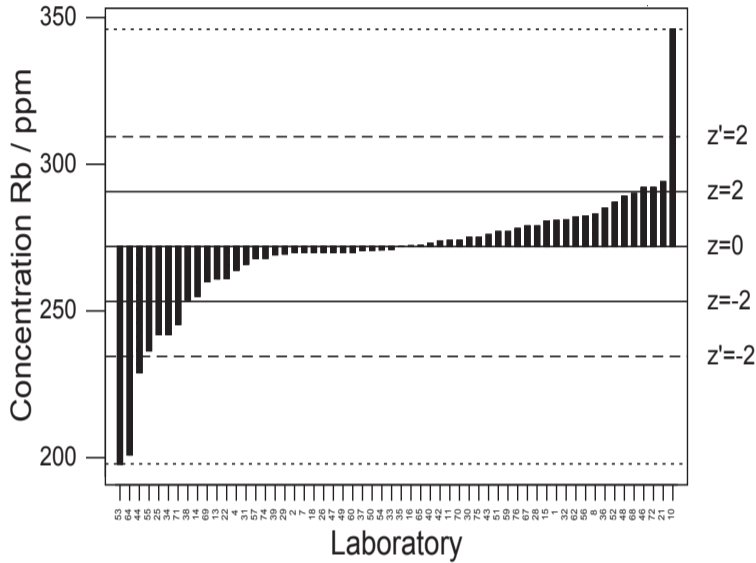
GeoPT 21 - Barchart for Pb



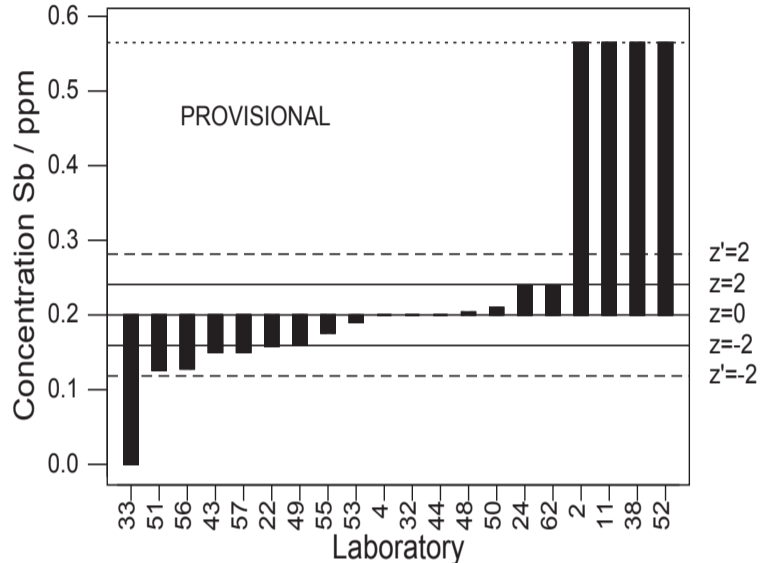
GeoPT 21 - Barchart for Pr



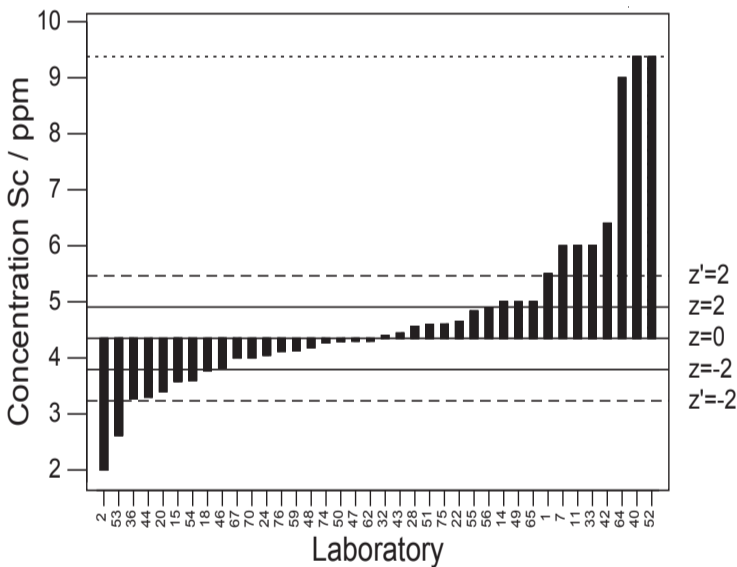
GeoPT 21 - Barchart for Rb



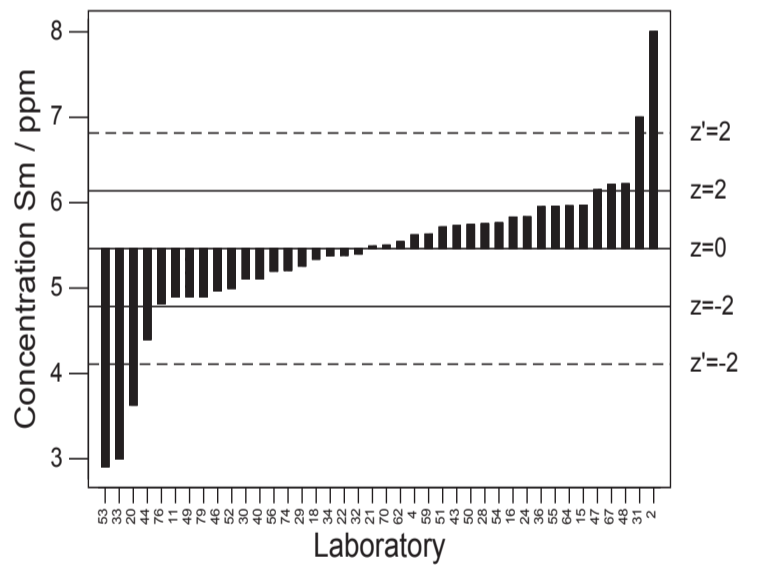
GeoPT 21 - Barchart for Sb



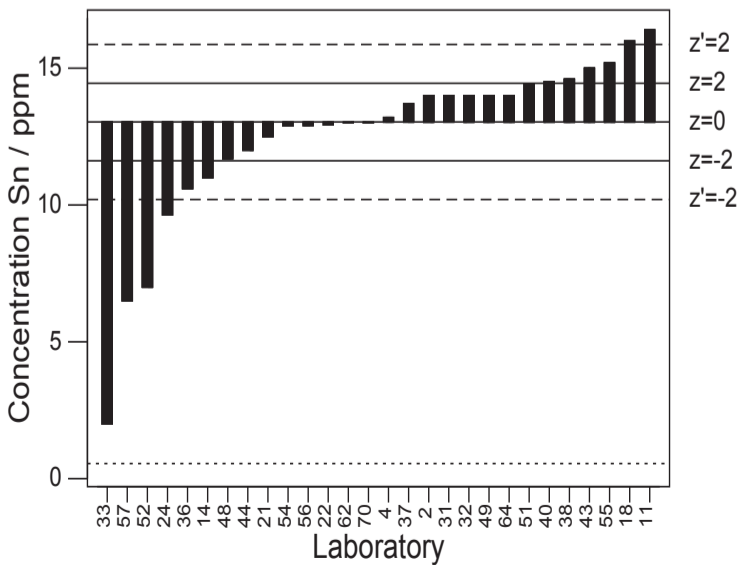
GeoPT 21 - Barchart for Sc



GeoPT 21 - Barchart for Sm



GeoPT 21 - Barchart for Sn



GeoPT 21 - Barchart for Sr

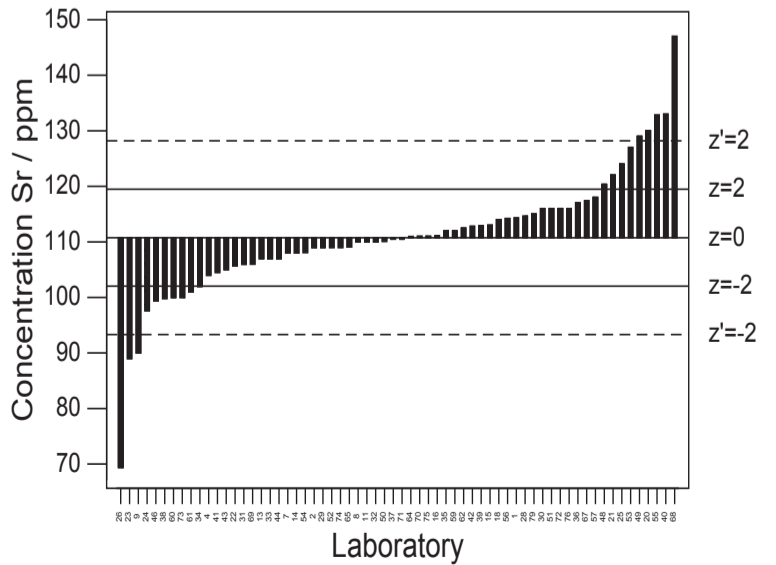
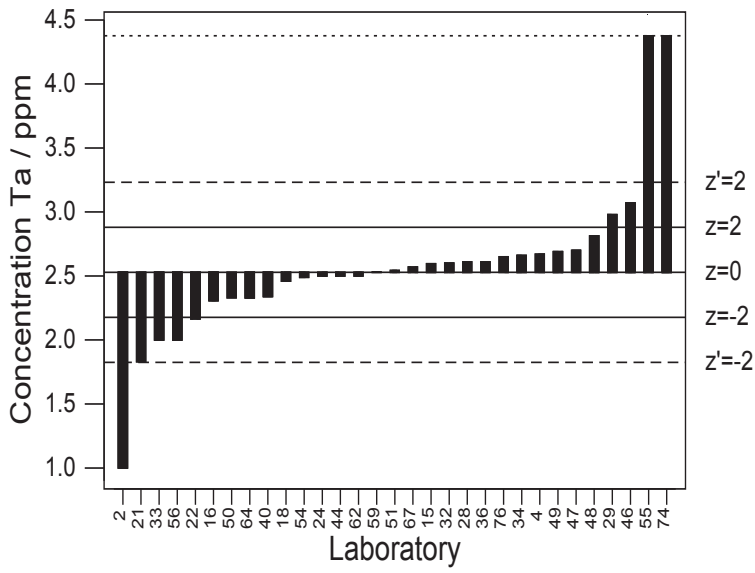
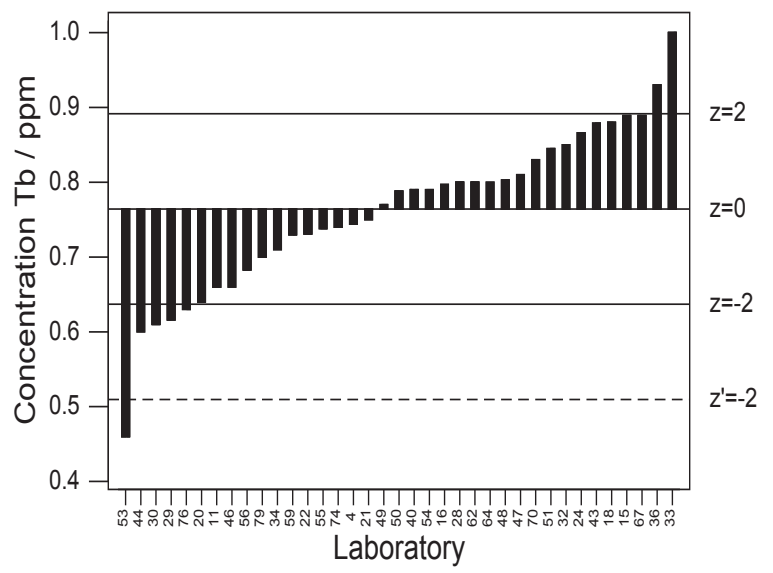


Figure 1 (cont'd): GeoPT21 – Granite MGT-1. Data distribution charts for elements for which values were assigned. Horizontal lines show the limits for $-2 < z < 2$ for pure geochemistry labs (solid lines) and $-2 < z' < 2$ for applied geochemistry labs (pecked lines).

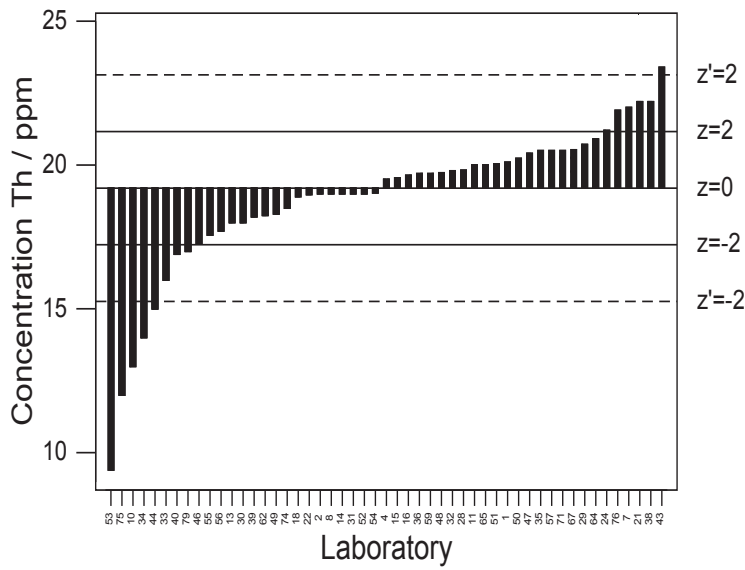
GeoPT 21 - Barchart for Ta



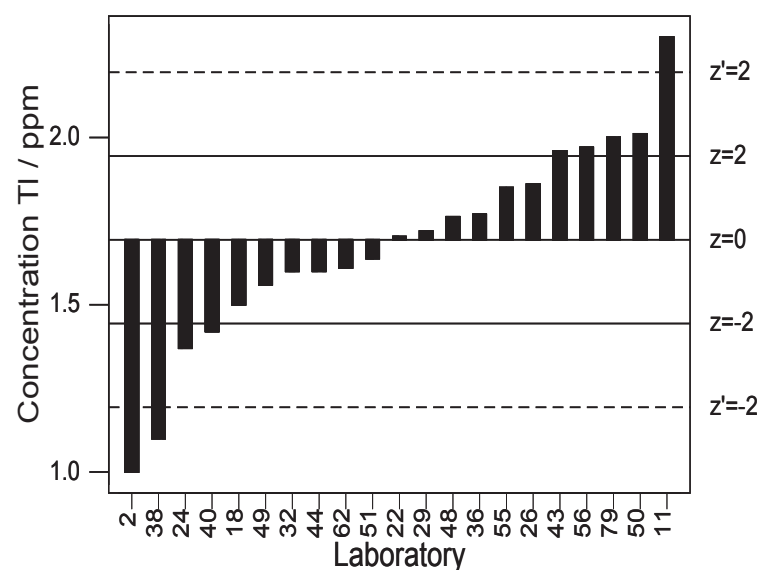
GeoPT 21 - Barchart for Tb



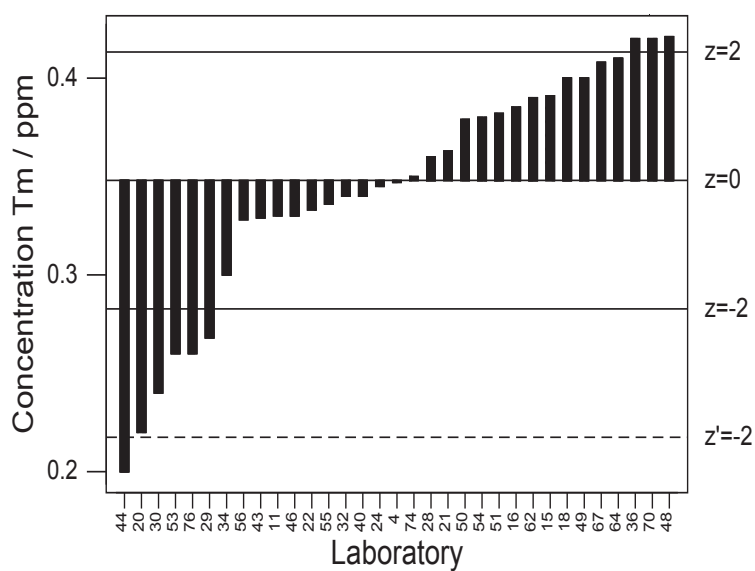
GeoPT 21 - Barchart for Th



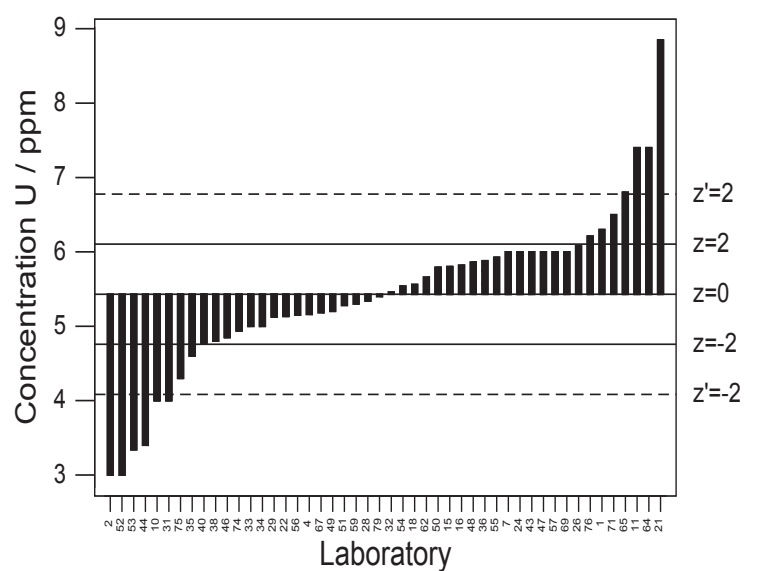
GeoPT 21 - Barchart for Tl



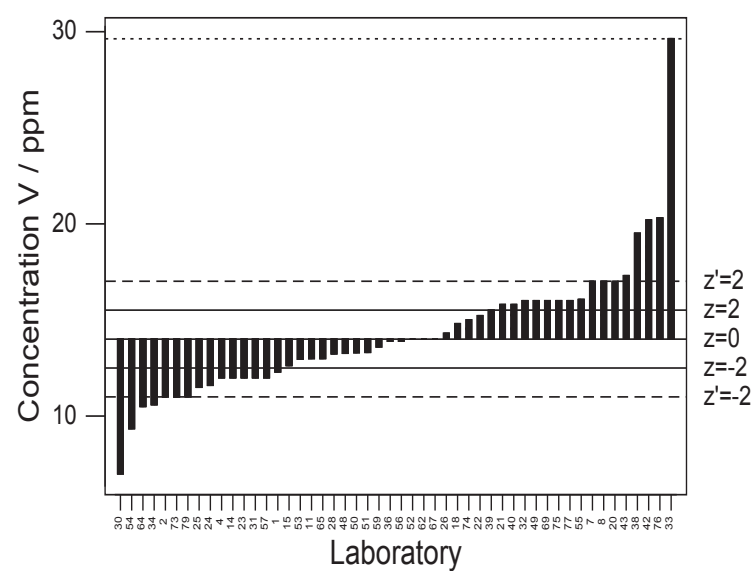
GeoPT 21 - Barchart for Tm



GeoPT 21 - Barchart for U



GeoPT 21 - Barchart for V



GeoPT 21 - Barchart for W

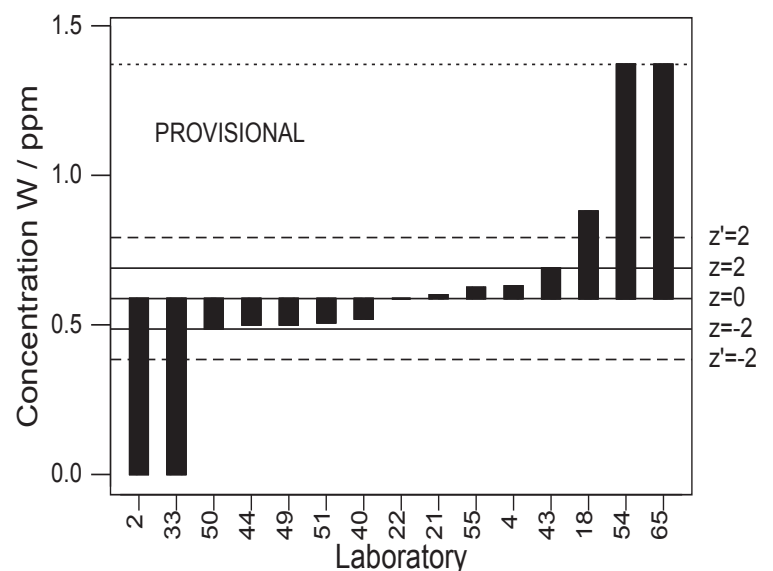
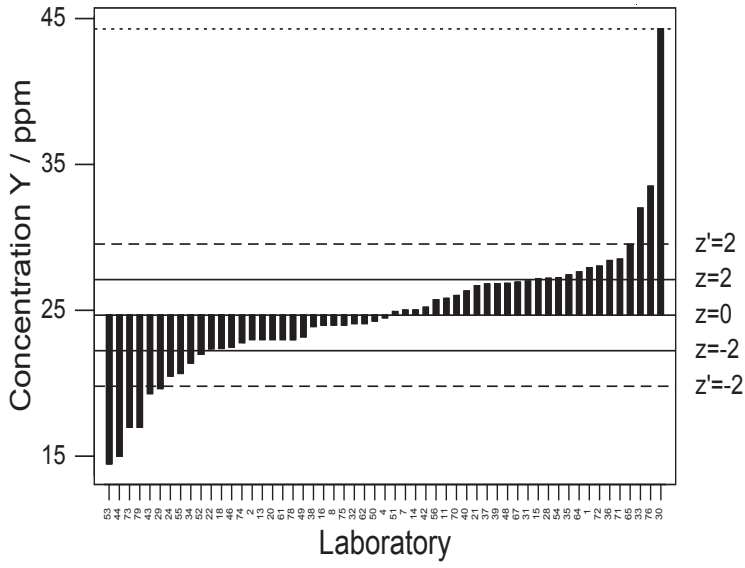
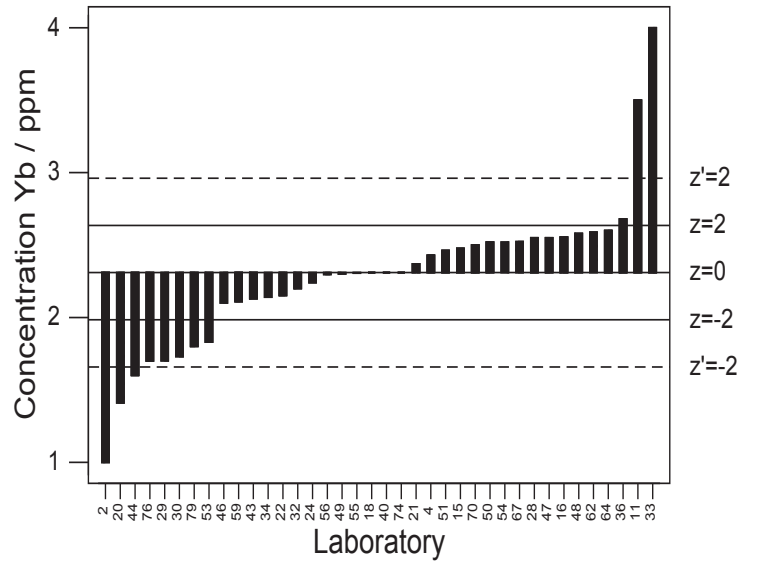


Figure 1 (cont'd): GeoPT21 – Granite MGT-1. Data distribution charts for elements for which values were assigned. Horizontal lines show the limits for $-2 < z < 2$ for pure geochemistry labs (solid lines) and $-2 < z' < 2$ for applied geochemistry labs (pecked lines).

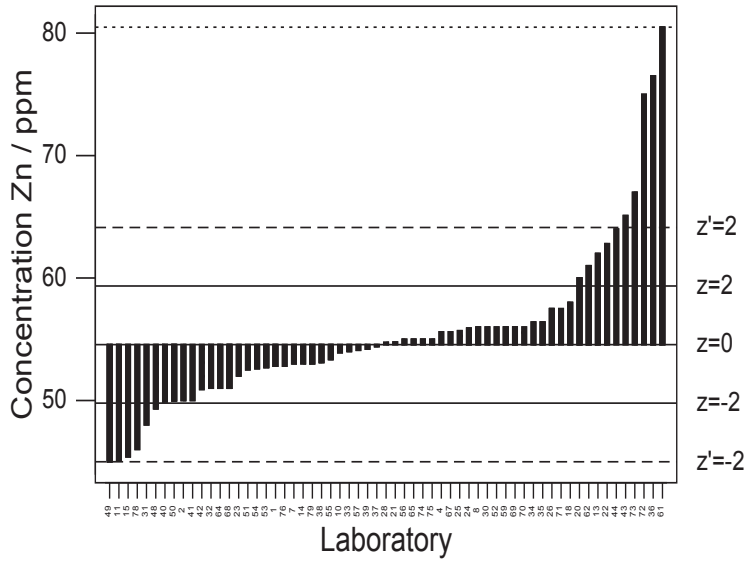
GeoPT 21 - Barchart for Y



GeoPT 21 - Barchart for Yb



GeoPT 21 - Barchart for Zn



GeoPT 21 - Barchart for Zr

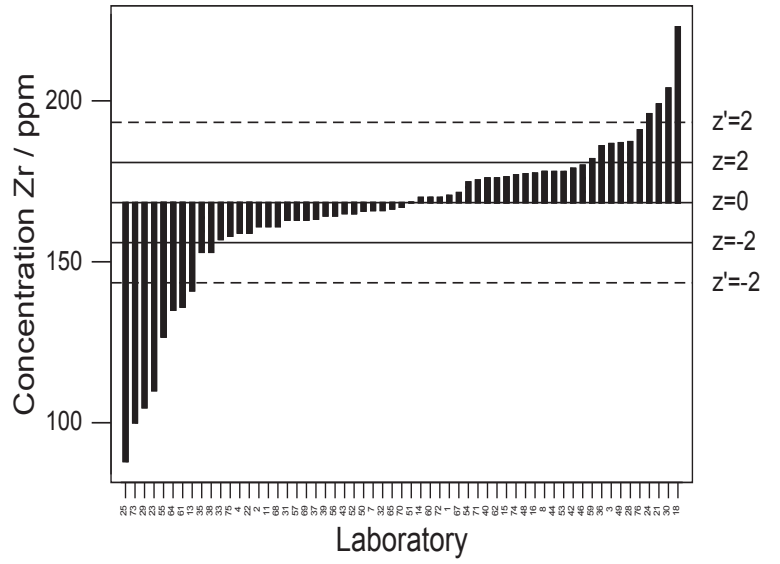
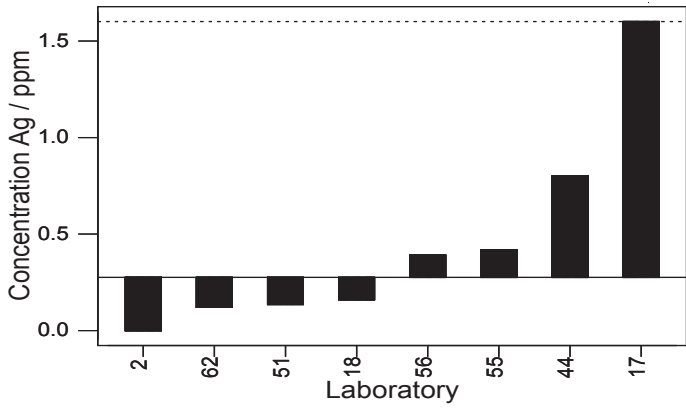
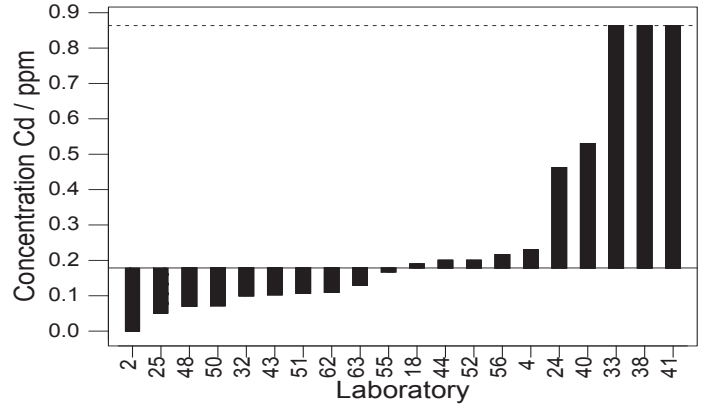


Figure 1 (cont'd): GeoPT21 – Granite MGT-1. Data distribution charts for elements for which values were assigned. Horizontal lines show the limits for $-2 < z < 2$ for pure geochemistry labs (solid lines) and $-2 < z' < 2$ for applied geochemistry labs (pecked lines).

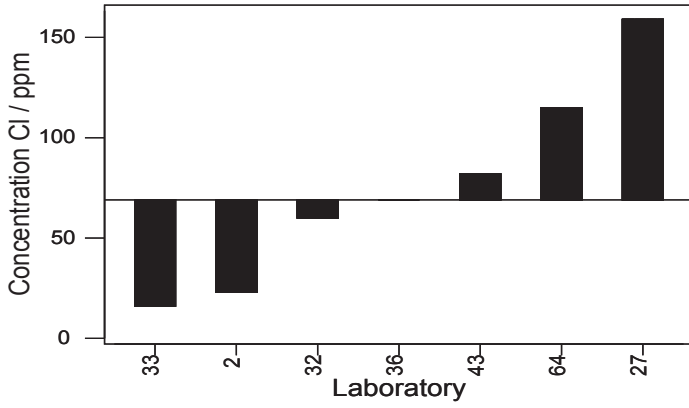
GeoPT 21 - Barchart for Ag



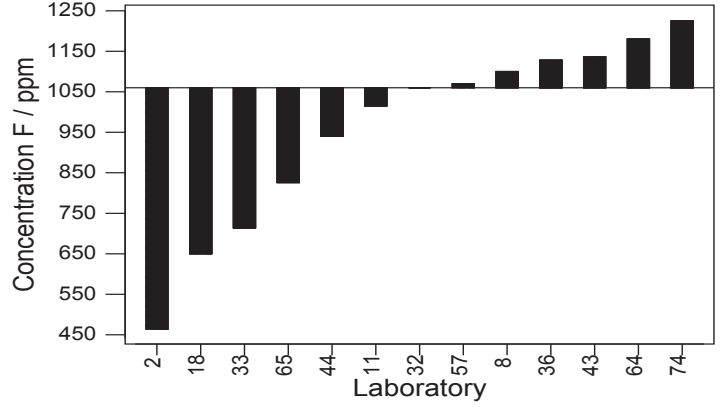
GeoPT 21 - Barchart for Cd



GeoPT 21 - Barchart for Cl



GeoPT 21 - Barchart for F



GeoPT 21 - Barchart for S

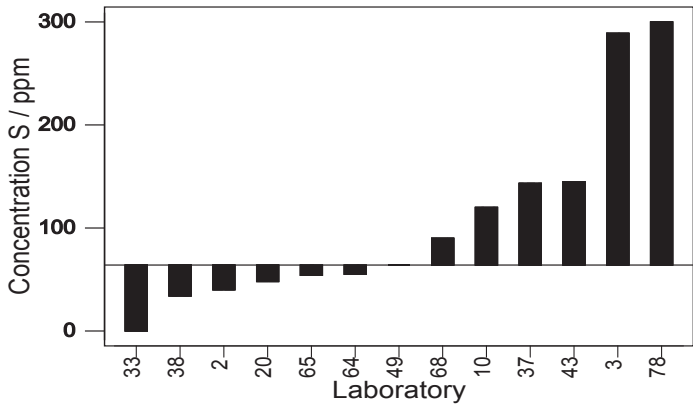


Figure 2 (cont'd): GeoPT21 – Granite MGT-1. Data distribution charts for information only for elements for which values could not be assigned.

Multiple z-score chart for GeoPT21

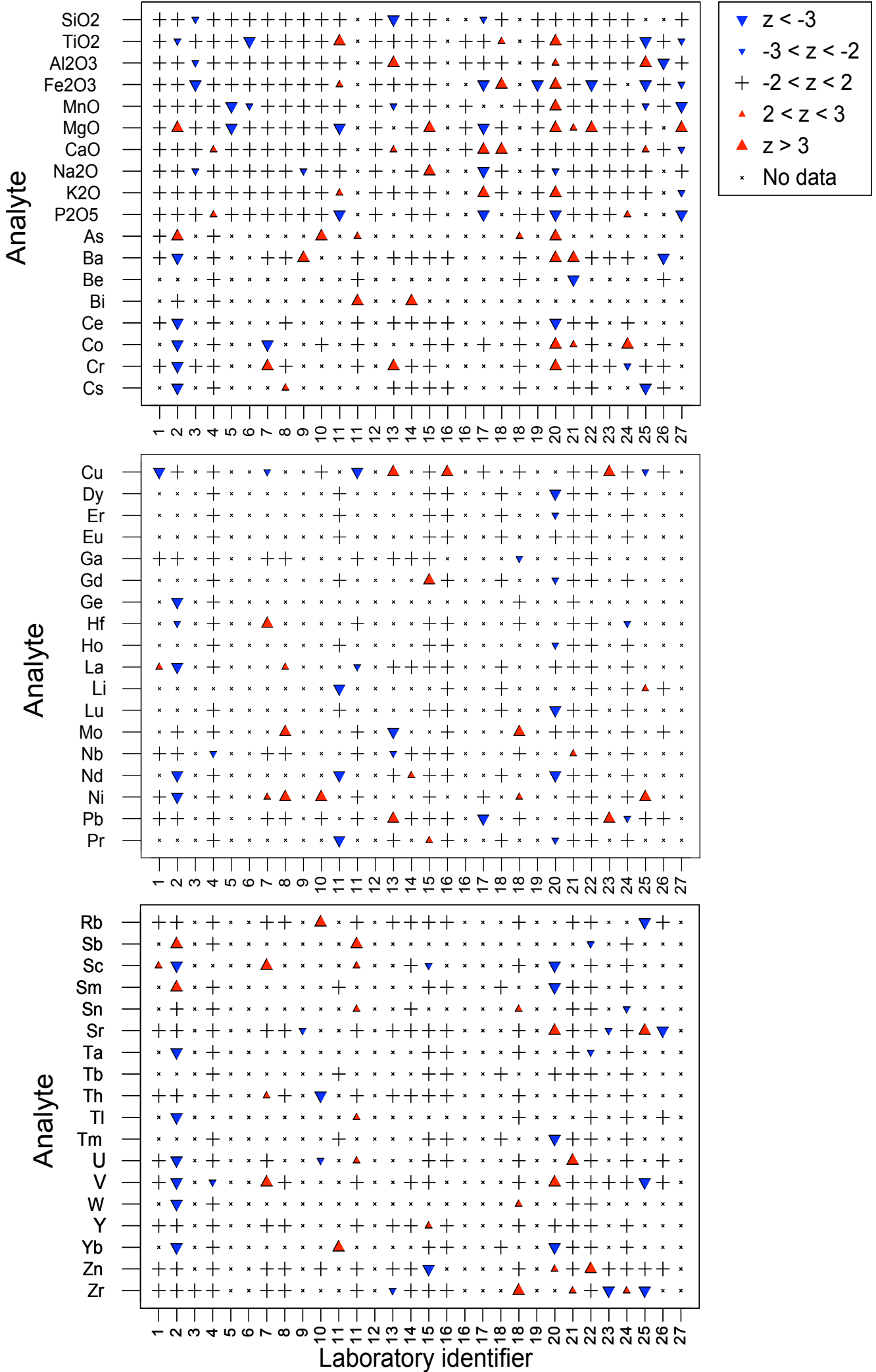


Figure 3: GeoPT21 – Granite MGT-1. Multiple z-score charts for laboratories participating in the GeoPT21 round. Symbols indicate whether or not an elemental result complies with the $-2 < z < +2$ criteria. Satisfactory data are plotted as '+'. Data for other categories are plotted as follows: $z < -3$ (▼), $-3 < z < -2$ (▵), $+2 < z < +3$ (▴), $Z > +3$ (▾).

Multiple z-score chart for GeoPT21

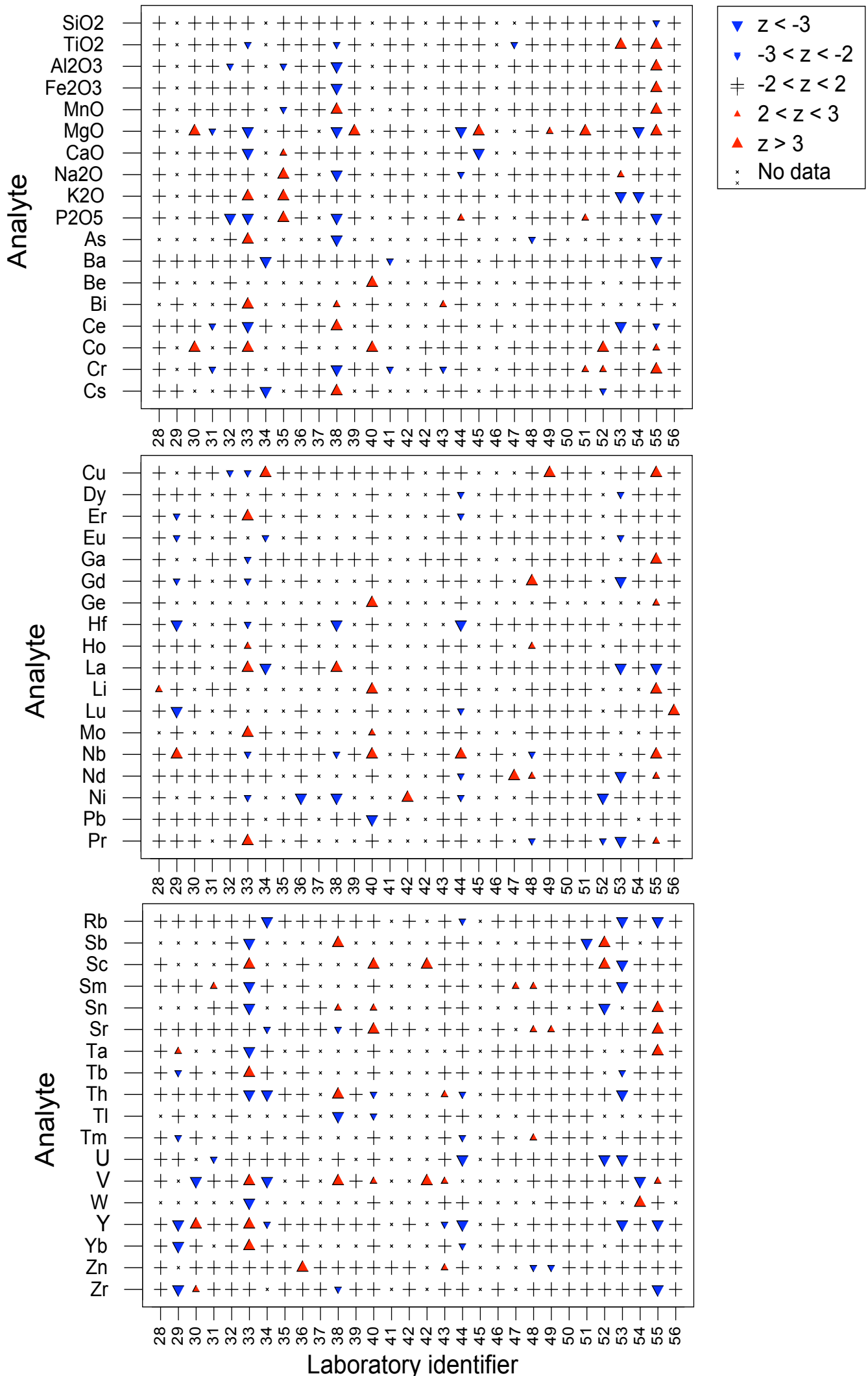


Figure 3: GeoPT21 – Granite MGT-1. Multiple z-score charts for laboratories participating in the GeoPT21 round. Symbols indicate whether or not an elemental result complies with the $-2 < z < +2$ criteria. Satisfactory data are plotted as '+'. Data for other categories are plotted as follows: $z < -3$ (∇), $-3 < z < -2$ (\blacktriangledown), $+2 < z < +3$ (\blacktriangle), $Z > +3$ (\blacktriangle).

Multiple z-score chart for GeoPT21

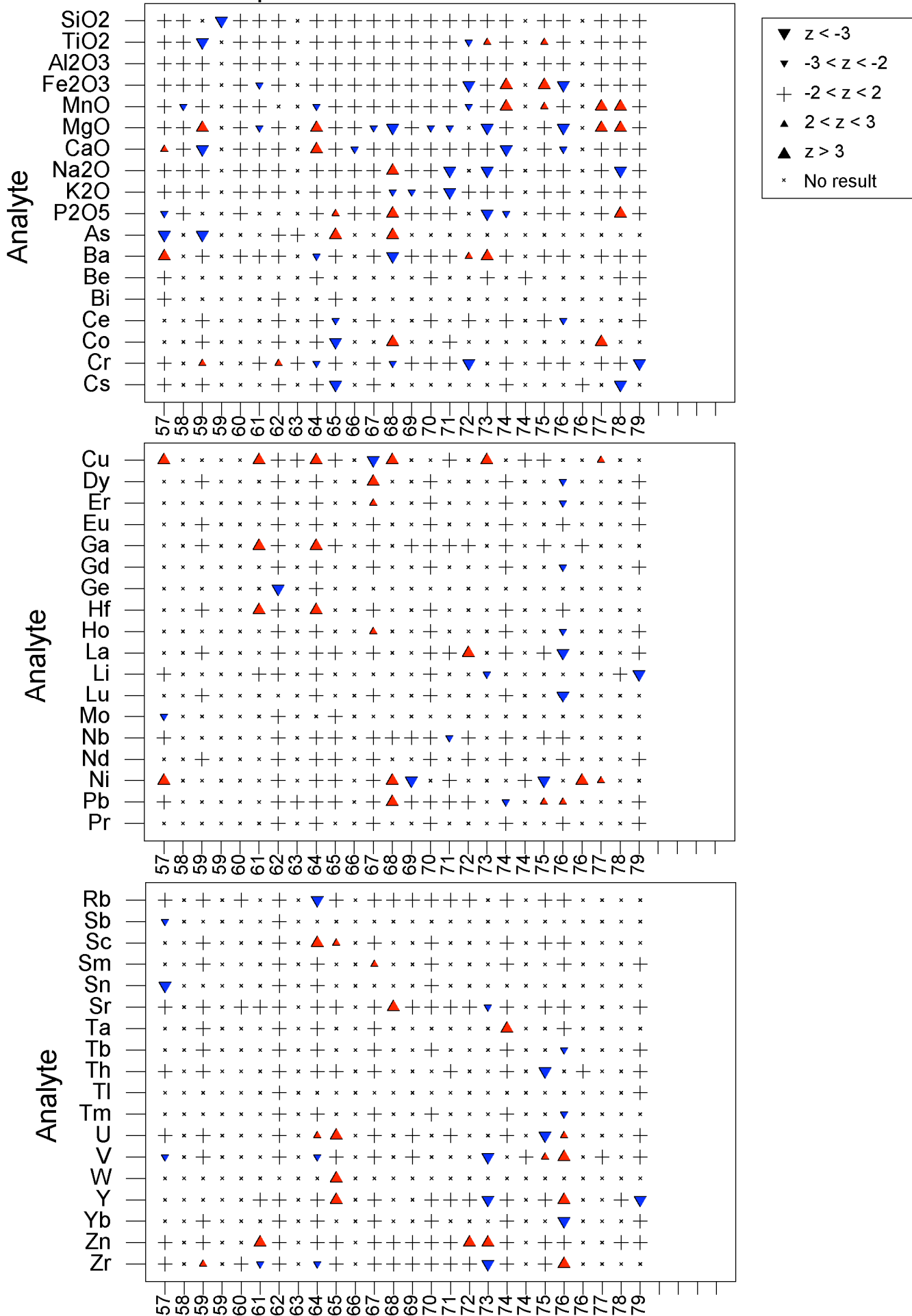


Figure 3: GeoPT21 – Granite MGT-1. Multiple z-score charts for laboratories participating in the GeoPT21 round. Symbols indicate whether or not an elemental result complies with the $-2 < z < +2$ criteria. Satisfactory data are plotted as '+'. Data for other categories are plotted as follows: $z < -3$ (\blacktriangledown), $-3 < z < -2$ (\blacktriangledown), $+2 < z < +3$ (\blacktriangle), $Z > +3$ (\blacktriangle).