The geochemistry of detrital rutile

Implications for sedimentary provenance studies and the reconstruction of metamorphic conditions

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1. Zusammenfassung

Die in dieser Studie untersuchten Proben stammen aus einer großen Bandbreite an metamorphen Entstehungsbedingungen (von diagenetisch bis 950°C und 4.5 GPa) und geologischen Hintergründen. Haupt-Probenahmegebiete waren das Variszische Erzgebirge (Deutschland) und die Alpen (Schweiz und Italien). Andere Proben entstammen verschiedenen Lokationen in Europa, Nord- und Südamerika und Afrika. Sande aus Liefergebieten zwischen ca. $100\,\mathrm{m}^2$ und ca. $2300\,\mathrm{km}^2$ werden mit assoziierten Gesteinsproben verglichen.

Rutil-, Anatas- und Brookit-Kristalle mit Korngrößen von 63 μm bis in den cm-Bereich werden mit der Elektronenstrahl-Mikrosonde (EMS), Sekundärionen-Massenspektrometrie (SIMS), Raman-Spektroskopie und Laser-Ablations-Induktiv gekoppeltem Plasma-Massenspektrometrie (LA-ICPMS) auf Spurenelement-, Isotopen- und Phasenzusammensetzung analysiert.

Die Ergebnisse zeigen, daß bei Rutilen mit Korngrößen zwischen 80 und 250 μm kein Zusammenhang zwischen der Korngröße und der chemischen Zusammensetzung der Rutile besteht. Ebenso besteht kein Zusammenhang zwischen magnetischer Suszeptibilität und Rutilchemismus.

Im Vergleich mit LA-ICPMS liefert SIMS-Analytik die richtigeren Ergebnisse für Spurenelemente im ppm-Bereich in kleinen, eingebetteten Körnern, wie sie in dieser Studie untersucht werden. Weil die relativen Sensitivitätsfaktoren in der SIMS-Analytik auf EMS-Ergebnisse kalibriert wurden, sind Analysen aus SIMS und EMS zudem gut miteinander vergleichbar.

Diese Studie belegt, dass detritischer Rutil ein präziser Indikator für Liefergesteinscharakteristiken in sedimentären Systemen ist. Anhand der Gleichung $\mathrm{x} = 5 \cdot (\mathrm{Nb[ppm]} - 500) - \mathrm{Cr[ppm]}$ (ppm = Masse-ppm) kann eine Unterscheidung zwischen Rutilen aus mafischen und metapelitischen Liefergesteinen vorgenommen

werden. Rutile aus mafischen Gesteinen haben demnach negative x-Werte, Rutile aus Metapeliten haben positive x-Werte.

Obwohl die Voraussetzung für die Anwendung von Zr-in-Rutil-Thermometrie eine Koexistenz von Rutil mit Quarz (oder SiO_2) und Zirkon während des Rutil-Wachstums ist, zeigt ein Vergleich von maximalen Temperaturen errechnet aus Rutilen mafischer und metapelitischer Herkunft, daß mafische Rutile zur Thermometrie genutzt werden können, solange die Si-Aktivität durch eine Silikatphase auf einen Wert nahe 1 gepuffert wird.

Rutiltemperatur-Häufigkeitspopulationen aus Zr-in-Rutil-Thermometrieergebnissen, verglichen mit Nb- und Cr-Gehalten, z.B. mit Hilfe des $log(\mathrm{Cr}/\mathrm{Nb})$-Verhältnisses, sind eine Hilfe bei der Klassifizierung und Charakterisierung von Rutilen aus verschiedenen Provenienz-Milieus. Temperatur-Häufigkeitsverteilungen equilibrierter Rutilproben sind durch 2-σ-Standardabweichungen von kleiner als 120°C charakterisiert und teilen sich in zwei Populationen auf. Von diesen zwei Populationen ist die bei Höchst-Temperaturen unter mittel- bis hochgradig-metamorphen Bedingungen equilibrierte aus 60 % der Rutile zusammengesetzt und besitzt somit den ausgeprägteren Peak.

Rutile aus Erzgebirgsproben zeigen, dass unter regionalen metamorphen Bedingungen und Gradienten reliktische Rutile bis ca. 550°C überlebt haben. Unterhalb dieser Temperatur sind Zr-Gehalte im Rutil nicht vollständig im Gleichgewicht mit den herrschenden metamorphen Bedingungen. Im Gegensatz dazu zeigen U-Pb-Datierungen dieser Relikte, dass die Alter zum größten Teil schon unter niedriggradiger Metamorphose während der Variszischen Orogenese umgestellt wurden. Daraus läßt sich eine niedrige Schließtemperatur für Pb-in-Rutil-Diffusion von ca. 400°C ableiten. Ein Vergleich mit U-Pb-Altern von Zirkonen unterstützt eine gemeinsame West-Afrikanische Provenienz von reliktischen Rutilen und Zirkonen.

Quarzite haben sich im Vergleich mit Metapeliten als relativ inert in Bezug auf Zr-in-Rutil-Temperatur-Equilibrierung erwiesen. Dazu ist der Einfluß von Rutilen aus Quarziten auf das Sediment-Budget vergleichsweise groß, denn Quarzite liefern mehr Rutile im untersuchten Korngrößenbereich (80-200 μm) als Metapelite bei gleichem anstehenden Volumen.

V-, Cr-, Nb- und Fe-Gehalte variieren systematisch zwischen den TiO_2-Polymorphen Rutil, Anatas und Brookit. Eine Lithologieklassifizierung anhand der Cr- und Nb- Gehalte ist auf Anatas genausowenig anwendbar wie Zr-in-Rutil-Thermometrie. Aus diesem Grund ist eine Identifizierung der jeweils untersuchten Kristalle unumgänglich. Neben der Identifikation durch Raman-Spektroskopie bietet eine Unterscheidung aufgrund von Spurenelementgehalten eine verläßliche und einfache Methode.

Das Vorkommen von Anatas ist weiter verbreitet als bisher angenommen und kann nicht vorhergesagt werden. Es wird sowohl von metamorphen Bedingungen wie Temperatur und Druck beeinflußt, als auch von der Gesamtgesteinszusammensetzung. In der initialen Phase der Rekristallisation von Rutil zu Anatas, die im Erzgebirge in Form von Anatas-Rutil-Verwachsungen auftritt, sind Anatas-Bereiche in diesen Verwachsungen von der Spurenelementzusammensetzung her ähnlich wie Rutil und nicht wie Anatas. Vermutlich ist eine Equilibrierung von Spurenelementgehalten in Anatas, z.B. auf niedrige Cr-, V- und Zr-Gehalte, erst bei räumlicher Separierung von Rutil und Anatas möglich.

2. Abstract

Samples investigated in this study derive from a large range of metamorphic conditions (from diagenetic up to 950°C and 4.5 GPa) and geological settings. Main sampling localities were the Variscan Erzgebirge (Germany) and the Alps (Switzerland and Italy). Other samples derive from different locations in Europe, North- and South America, and Africa. Sand samples from ca. 100 m^2 to ca. 2300 km^2 catchment areas are compared to associated rock samples.

Rutile, anatase and brookite crystals with grain sizes of 63 μm to cm-scale are analysed by Electron Microprobe (EMP), Secondary Ion Mass Spectrometry (SIMS), Raman Spectroscopy, and Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICPMS) for trace elements, isotopes and phase composition.

The results show that for rutile grains of 80-250 μm, no interdependance exists between grain size and chemical composition in Erzgebirge samples. Similarly, no interdependance is observed between magnetic susceptibility and rutile composition.

In comparison with LA-ICPMS, SIMS analysis has turned out to deliver more accurate results for trace elements in the ppm range in small embedded crystals as used in this study. Furthermore, since SIMS relative sensitivity factors have been calibrated on EMP analyses, SIMS and EMP results are well comparable.

This study confirms that detrital rutile is an accurate tracer of source rock characteristics in sedimentary systems. Discrimination of rutiles from mafic and metapelitic source rocks can be done according to the equation $\mathbf{x} = 5 \cdot (\mathrm{Nb[ppm]} - 500) - \mathrm{Cr[ppm]}$ (ppm = ppm by mass), where rutiles from mafic host rocks will have negative values of $\mathbf{x}$, whereas rutiles from metapelitic host rocks will have positive values of $\mathbf{x}$.

Although the precondition for the application of Zr-in-rutile thermometry is the coexistence of rutile with quartz (or SiO_2) and zircon during growth, comparison

between maxiumum temperatures derived from rutiles of mafic and metapelitic host rock composition supports that mafic rutiles can be used for thermometry as well, at least as long as silica activity is buffered to a value close to unity by any silica phase.

Rutile-temperature frequency populations derived from Zr-in-rutile thermometry and compared to Nb and Cr compositions, e.g., with the aid of $log(\mathrm{Cr}/\mathrm{Nb})$ values, help classifying and characterising rutiles from different provenance settings. Temperature frequency distributions of equilibrated rutile samples are characterised by 2-σ standard deviations of less than 120°C and divide into two temperature populations. The metamorphic peak-temperature population under medium- and high-grade metamorphic conditions is made up of > 60 % of rutiles and exhibits the more pronounced peak of the two.

Rutiles from Erzgebirge samples reveal that under regional Variscan metamorphic conditions and gradients, relict rutiles survived up to ca. 550°C. Below this temperature, Zr contents in rutiles are not completely equilibrated at metamorphic conditions. In contrast, U-Pb dating of these relicts shows that ages were for the most part already reset during low-grade metamorphism of the Variscan orogeny, implying a low closure temperature for Pb diffusion in rutile of ca. 400°C. Comparison with U-Pb ages of zircons supports a common provenance of relict rutiles and zircons from the West African craton in Ordovician time.

Quartzites have turned out to be relatively unreactive with respect to Zr-in-rutile temperature equilibration in comparison with metapelites. Furthermore, the impact of rutiles from quartzites on the sediment budget is large compared to rutiles from metapelites, because at similar exposed volume, quartzites deliver larger quantities of rutiles in the investigated grain sizes (80-200 μm).

V, Cr, Nb and Fe contents vary systematically between the TiO_2 polymorphs rutile, anatase and brookite. Both, lithology discrimination based on Cr and Nb contents and Zr-in-rutile thermometry, cannot be applied to anatase. For this reason, indentification of the analysed polymorphs is inevitable in rutile studies. Besides Raman spectroscopy, phase specification by trace element contents has proved to be a reliable and easy method.

The occurrence of anatase is more widespread than previously thought and cannot be predicted. It is influenced by metamorphic pressure and temperature, and as well by whole rock chemistry. In the initial stages of rutile recrystallising as anatase (anatase-rutile intergrowths in the Erzgebirge), anatase regions in these intergrowths are chemically similar to rutile and not to anatase. Supposedly, an equilibration of trace elements in anatase towards, e.g., low Cr-, V-, and Zr concentrations, is obtained only when anatase is spacially separated from rutile.

3. Introduction

3.1. Scope and structure of the thesis

This study was initiated as part of an interdisciplinary mineralogical/ sedimentological cooperation. Its comprehensive topic, the geochemistry of rutile and its applications to geoscientific studies, arised from advances in rutile research (Zack et al., 2002b, 2004b,a) at that time, which showed up the great potential of the investigation of rutile chemistry, both for petrological and sedimentary provenance studies.

In 2004, both parts of the interdisciplinary co-study were launched. The petrologically oriented study was focussed on finding petrological models for the incorporation of trace elements in metamorphic rutile and examining applications of rutile geochemistry to petrological problems. This study was carried out by George Luiz Luvizotto at the University of Heidelberg. The results are summarised in Luvizotto (2008).

The study you are just reading represents the sedimentologically oriented part-study, which is focussed on the connection between trace elements in detrital rutile and the according host lithologies and, based on this, the establishment of applications for rutile in provenance studies. More specifically, the aims are (i) to characterise detrital TiO_2 polymorphs, (ii) to establish well-investigated examples of rutile host rock-sediment relations, (iii) to find analytical improvements in rutile methodology, (iv) to develop a recipe for the use of rutile in sedimentary provenance studies.

This thesis comprises a compilation of all published and unpublished research carried out during the course of this study. Chapters 6 (Deducing source rock lithology from detrital rutile geochemistry) and 8 (Discrimination of TiO_2 polymorphs in sedimentary and metamorphic rocks) are publications of results of this study.

They are basically reproductions of the texts, Figures and Tables as submitted, with the exceptions of a few arrangement changes made for a more logical order of the whole thesis.

Publications where I am co-author and where this study plays only an underpart are summarised in Sections of major Chapters, with focus on the outcomes important for this study (Sections 5.1, 5.3 and 7.1). Sections 5.2, 5.4, 5.5, 7.2 and 9.1 comprise so far unpublished results.

3.2. The role of rutile in provenance analysis

Provenance analysis aims at the quantitative and qualitative reconstruction of a sediment's source lithology and, in a wider sense, the reconstruction of all factors leading to the source rocks' erosion, transport and (re-)deposition. Since no in situ information of source rock mineral assemblages is available in a mature sediment deposit, provenance studies are in most cases dependent on the information which can be derived from single minerals. A summary of most recent varietal studies and used mineral types is given in Section 6.1.

The widespread occurrence of rutile in a large range of medium- to high-grade metamorphic rocks and sediments (Force, 1980, 1991), and its high mechanical and chemical stability (as summarised in Section 6.1) during weathering, transport and diagenesis, make rutile a prime-candidate in provenance studies. Despite its geochemical applications, as described and used in this study, rutile is used in sedimentological heavy mineral studies (compare, e.g., Morton and Hallsworth, 1999), as tracer for the maturity of a heavy mineral assemblage (zircon-tourmaline-rutile index, ZTR index) or as provenance sensitive tracer (rutile-zircon index, RuZi or TiO_2 group-zircon index, RZi).

As rutile forms at amphibolite- and higher metamorphic conditions and is unstable at lower-grade conditions (Force, 1980, 1991), it will usually react to form other Ti-bearing minerals like sphene or ilmenite already at greenschist facies conditions during new metamorphic events. Thus, unlike zircon, rutile commonly provides unobscured information, deriving only from the last metamorphic event.

Zack et al. (2002b) are the first to describe and discuss the strong correlation between whole rock Nb/TiO_2 and Cr/TiO_2 ratios and the Nb and Cr contents in associated rutiles. Based on these correlations, a classification of rutiles into mafic and metapelitic host rock chemistry according to their Cr and Nb concentrations is introduced. Further research led to the development of a single mineral Zr-in-rutile thermometer (Zack et al., 2004a) and a first study about the application of rutile geochemistry to provenance studies (Zack et al., 2004b). Refinements of lithology classification and thermometry based on rutile trace element chemistry were published during the course of this study by Watson et al. (2006), Spear et al. (2006), Zack and Luvizotto (2006), Tomkins et al. (2007), Triebold et al. (2007), Meinhold et al. (2008), Luvizotto and Zack (2009) and Triebold et al. (in press).

Zr-in rutile thermometry according to the equation

$$T[°\mathrm{C}] = \frac{83.9 + 0.410 \cdot P[\mathrm{kbar}]}{0.1428 - \mathrm{R}\ln(\mathrm{Zr}[\mathrm{ppm}])} - 273 \tag{3.1}$$

in the α-quartz field after Tomkins et al. (2007) (numbers are slightly modified for equilibria in the β-quartz or coesite field) works with the *assumption* of rutile being in equilibrium with quartz and zircon during growth and requires only input of the Zr concentration in rutile and an assumed or known metamorphic pressure during growth, without the need of thermodynamic modelling involving element concentrations in other phases. Since quartz and zircon usually are excess phases in metapelites, detrital rutile deriving from these rocks, identified by its Cr and Nb contents, can directly be used as thermometer.

Recent publications have introduced similar thermo(baro)meters for Ti-in-quartz (Wark and Watson, 2006), Ti-in-zircon (Watson et al., 2006), and Zr-in-sphene (Hayden et al., 2008), but these are not equally well applicable in sedimentary provenance studies, since the establishment of equilibrium during growth with rutile, quartz or zircon cannot directly be proved, as is the case for Zr-in-rutile thermometry.

Lithology discrimination based on Cr and Nb contents and thermometry based on Zr contents so far comprise the most detailedly investigated and also the most

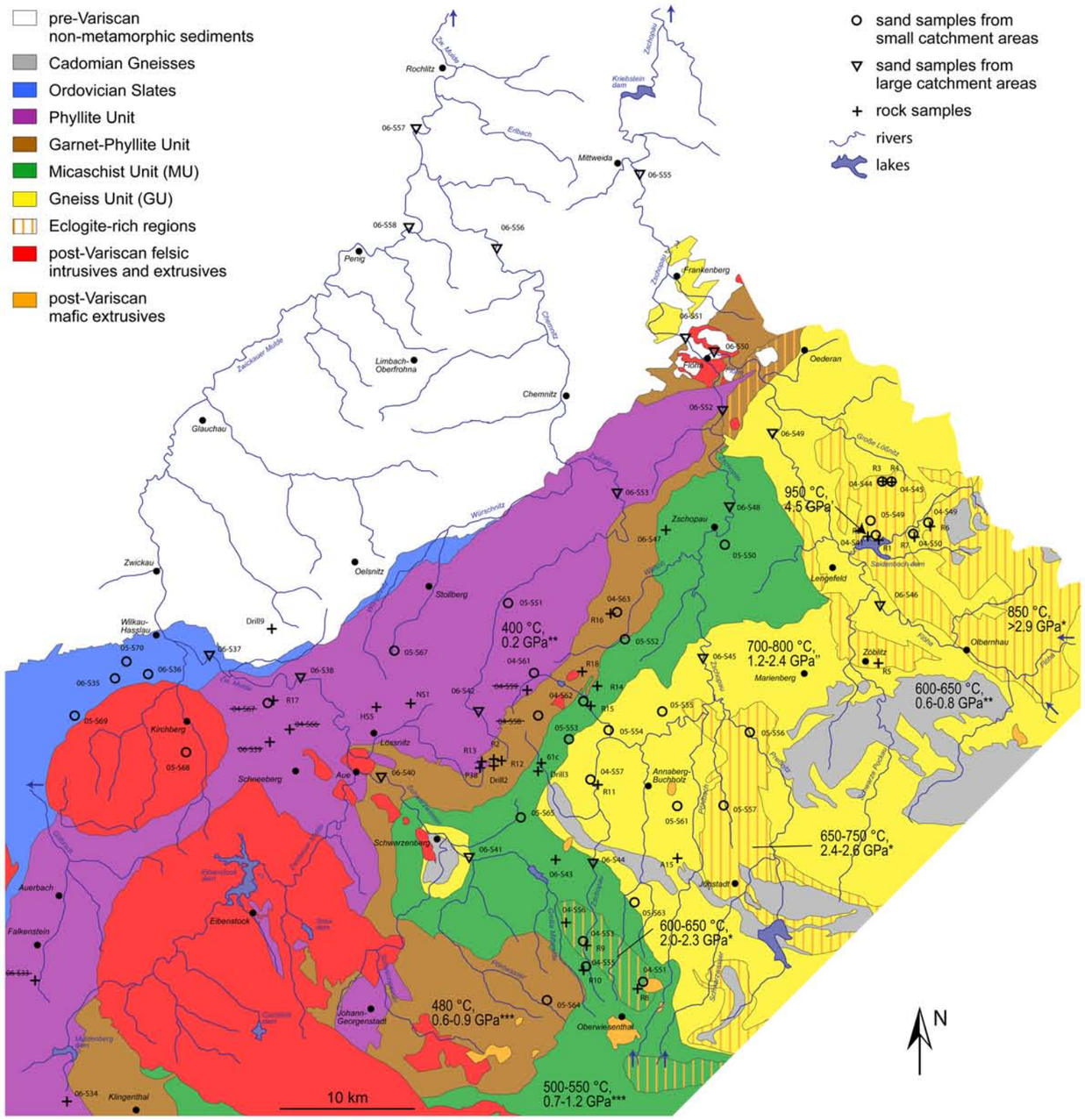
unambiguous applications for rutile in geoscientific studies. However, in the last few years especially U-Pb dating (e.g., Stendal et al., 2006; Vry and Baker, 2006; Luvizotto et al., 2009a; Zack et al., submitted, to mention only the most recent publications) and (U-Th)/He thermochronology (e.g. Stockli et al., 2007; Wolfe, 2009; Dunkl and von Eynatten, 2009) of rutile have received increasing attention. A comprehensive summary of further applications of rutile in Earth Sciences is given by Meinhold (2010).

3.3. Sampling areas

Two large sampling areas were chosen in order to study trace elements in detrital rutile deriving from a large variety of rocks and metamorphic conditions: the Variscan Erzgebirge (Germany) and the Alps (in Switzerland and Italy). Sampling locations are described in detail in Table A.1. Samples from the Alps so far did not deliver any interesting insights and will not be discussed in detail. The following description therefore contains only a short introduction to sampling areas in the Alps.

In the *Erzgebirge*, three sampling campaigns were carried out (samples EGB-04, EGB-05 and EGB-06). Sampling locations of all Erzgebirge samples are shown in Figure 3.1 (compare also Figure 6.1). The first sampling campaigns primarily aimed at collecting sand from small catchment areas of approximately 100 m^2 (in quarries) up to 10 km^2, whereas the last sampling campaign aimed at large catchment areas up to ca. 2300 km^2. Samples from large catchment areas are marked by triangles in Figure 3.1. The geology of the Erzgebirge is described in detail in Section 6.2.

Figure 3.1. ***(facing page)*:** Geological sketch of the western part of the Erzgebirge showing the locations of all sampling sites. Samples which do not contain rutile are highlighted by crossed-out sample names. The temperature and pressure estimates from preserved metamorphic assemblages are from: *Schmädicke and Müller (2000), **Mingram and Rötzler (1999), ***Rötzler et al. (1998), 'Massonne et al. (1998), and "Willner et al. (1997). The coordinate grid is Gauss-Krüger (Potsdam). Compiled and redrawn from Willner et al. (1997), Mingram and Rötzler (1999), Schmädicke and Müller (2000), and geological maps of the Erzgebirge (1:25000 and 1:200000).


pre-Variscan non-metamorphic sediments
Cadomian Gneisses
Ordovician Slates
Phyllite Unit
Garnet-Phyllite Unit
Micaschist Unit (MU)
Gneiss Unit (GU)
Eclogite-rich regions
post-Variscan felsic intrusives and extrusives
post-Variscan mafic extrusives
sand samples from small catchment areas
sand samples from large catchment areas
rock samples
rivers
lakes
950 °C, 4.5 GPa
850 °C, >2.9 GPa*
700-800 °C, 1.2-2.4 GPa
600-650 °C, 0.6-0.8 GPa**
650-750 °C, 2.4-2.6 GPa*
600-650 °C, 2.0-2.3 GPa*
400 °C, 0.2 GPa**
480 °C, 0.6-0.9 GPa***
500-550 °C, 0.7-1.2 GPa***
10 km
N
Rochlitz
Mittweida
Penig
Frankenberg
Limbach-Oberfrohna
Chemnitz
Glauchau
Zwickau
Oelsnitz
Stollberg
Wilkau-Hasslau
Kirchberg
Lößnitz
Schneeberg
Aue
Schwarzenberg
Auerbach
Falkenstein
Eibenstock
Johann-Georgenstadt
Klingenthal
Oederan
Zschopau
Lengefeld
Marienberg
Zöblitz
Olbernhau
Annaberg-Buchholz
Jöhstadt
Oberwiesenthal

The Erzgebirge in pre-Variscan times comprises a Cadomian metamorphic/ magmatic basement and (post-Cadomian) Ordovician sediments, which are very similar throughout the whole region and derive from a common provenance, as shown by Mingram (1998). This provenance of the Ordovician sediments is a point of discussion up to the present day (the following paleogeographic history is summarised from Tichomirowa et al., 2001; Linnemann and Romer, 2002; Stampfli et al., 2002; Linnemann et al., 2004; Mingram et al., 2004; Drost et al., 2004; Doerr et al., 2004; Murphy et al., 2004; Linnemann et al., 2007; Nance and Linnemann, 2008; Linnemann et al., 2008; Nance and Linnemann, 2008; Zeh and Gerdes, 2010; Drost et al., accepted; Nance et al., 2010).

During Cadomian orogeny (ca. 650-550 Ma), a volcanic arc, amongst others including the terranes Avalonia, Armorica, and Saxo-Thuringia (including the nowadays Erzgebirge, compare Figure 6.1), collided with the northern parts of Gondwana (first two sketches in Figure 3.2 and Figure 3.3). Avalonia (in the West) originated from ca. 1.3 to 1.0 Ga crust (Amazonia), whereas Armorica (in the East) formed along the West-African margin by recycling old 2-3 Ga crust (e.g., Doerr et al., 2004; Murphy et al., 2004). After collision, in the early stages of the opening of the Rheic Ocean at ca. 485 Ma (compare last two sketches in Figure 3.2 and Figure 3.4), Avalonia was again detached from Gondwana. As shown in Figure 3.4, the Baja California only 3 Ma ago was in a similar geotectonic environment as Avalonia at 485 Ma. Supposedly, Saxo-Thuringia was detached as well during opening of the Rheic ocean, together with a large Cadomian terrane, and was accreted again in the Middle Ordovician (Stampfli et al., 2002). Avalonia collided with Laurussia during the closure of the Iapetus Ocean in the Caledonian orogeny.

Whether Armorica was detached as well and drifted several 1000 km away from Gondwana is discussed controversely (e.g. Hegner and Kröner, 2000; Tichomirowa et al., 2001; Linnemann et al., 2004; Mingram et al., 2004; Linnemann et al., 2008). Hints are given by the provenance of Ordovician sediments in the Erzgebirge and Bohemian Massif. Hegner and Kröner (2000) and Mingram et al. (2004) argue for a derivation of these sediments from Amazonia (nowadays South America), which is indicated by the occurrence of young (ca. 1-1.6 Ma) zircon ages. This scenario

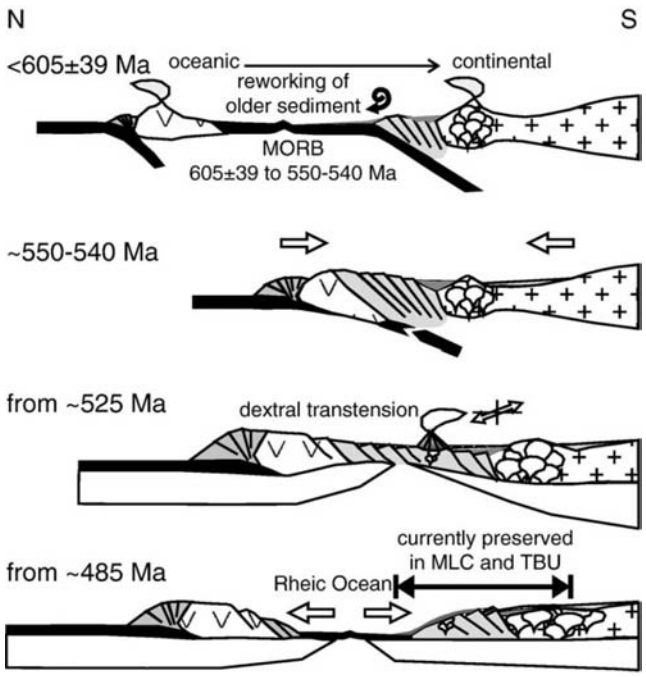


Figure 3.2.: Geotectonic model for the Neoproterozoic-Early Paleozoic evolution of the Gondwanan margin. TBU - Teplá-Barrandian unit, MLC - Mariánské Lázně complex. Unmodified from Drost et al. (accepted).

would not exclude a detachment of Armorica from Gondwana. Tichomirowa et al. (2001), Linnemann et al. (2004) and Linnemann et al. (2008), on the other hand, do not analyse 1-1.6 Ma zircon ages and hence argue for an Armorican (West African) provenance, which would prove that Armorica was not drifted far off from Gondwana and could contribute to the Ordovician sediment budget.

However, at ca. 430 Ma, the opening of the Paleo-Tethys led to the detachment of the Hun-superterrane, including Saxo-Thuringia and Armorica. During Variscan orogeny, all detached terranes amalgamated (Stampfli et al., 2002) and collided with Laurussia (from the north) and Gondwana (from the south).

The Alps are a mountain chain in Central to Southern Europe (compare sketch, Figure 3.5), a part of the Alpide belt (like, e.g., the Atlas, the Pyrenees and the Carpathians). Alpine orogeny resulted from the collision of the Eurasian plate with the African continent during Mesozoic and Cenozoic times (as summarised by, e.g., Bousquet et al., 2002).

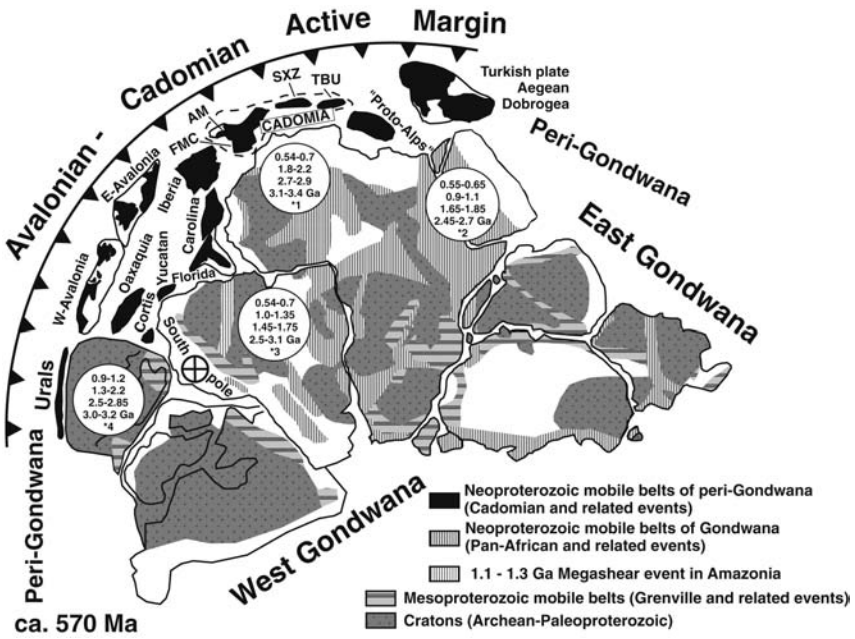


Figure 3.3.: Paleogeograhphy of the Avalonian-Cadomian Active Margin at NE Gondwana at ca. 570 Ma. AM - Armorican Massif, FMC - French Massif Central, SXZ - Saxo-Thuringian Zone, TBU - Teplá-Barrandian unit. Numbers in circles: zircon ages from the cratons in Ga (compare references in Linnemann et al., 2007). Unmodified from Linnemann et al. (2007).

Two sampling campaigns were carried out in the Central Alps, involving two major tectonical units (compare Figure 3.5): the Adula Nappe (Switzerland) and the Ivrea-Verbano Zone (Val Strona/ Val d'Ossola region, Italy).

The Adula Nappe predominantly consists of a pre-Mesozoic basement made up of granitoid gneisses and metapelitic schists. In the central and northern parts, small amounts of Mesozoic metasedimentary rocks occur, which contain metabasic eclogite and amphibolite pods. Different from surrounding tectonical units (compare isograds in Figure 3.5), rocks from the Adula Nappe record a regional high pressure metamorphic event of Eocene age with up to 17 kbar/ 640°C in the north and 25 kbar/ 750°C in the south (Dale and Holland, 2003).

The Ivrea-Verbano Zone represents a pre-Alpidic part of lower continental crust, which is delimited by the Insubric Line in the Northwest (Figure 3.5; compare, e.g.,

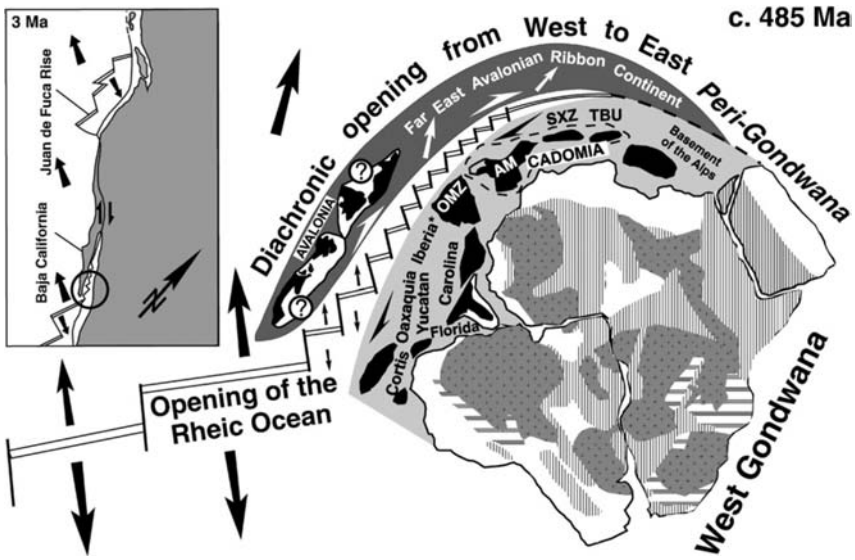
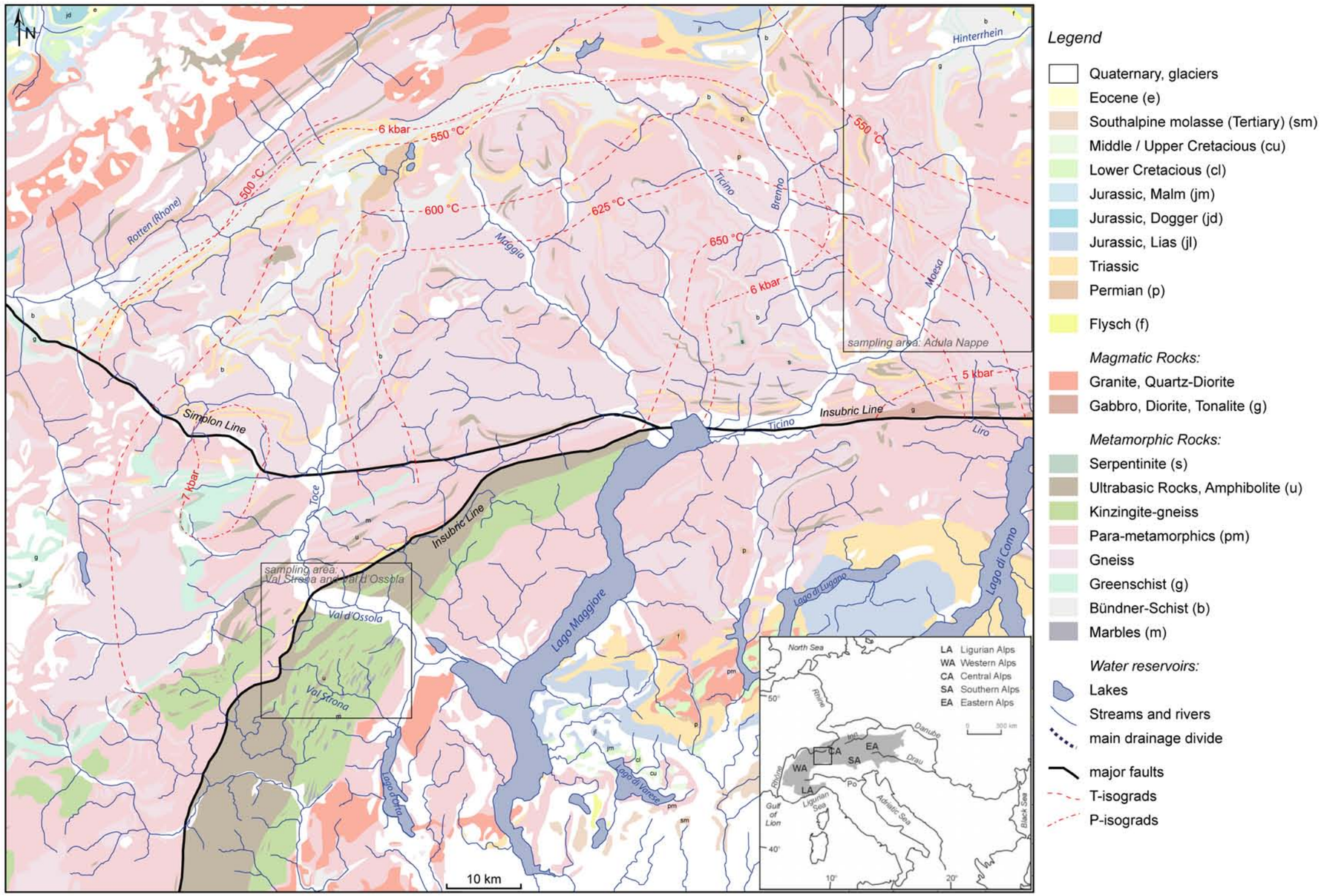


Figure 3.4.: Reconstruction of the opening of the Rheic ocean at NE Gondwana at ca. 485 Ma. OMZ - Ossa-Morena Zone, AM - Armorican Massif, SXZ - Saxo-Thuringian Zone, TBU - Teplá-Barrandian unit. The inset shows the analogue situation of North America at Baja California at ca. 3 Ma. Unmodified from Linnemann et al. (2008).

Vavra et al., 1999; Harlov and Forster, 2002). It constists of upper amphibolite to granulite facies metabasic and metasedimentary rocks, which were partly subject to anatectic melting in the highest-grade parts. Peak metamorphic conditions range from ca. 4 kbar and 600°C to 9 kbar and 900°C. The adjacent lower metamorphic Sesia-Lanzo Zone rocks peaked at 2 kbar and 550°C (after thermobarometric data from Sills, 1984; Henk et al., 1997; Rivalenti et al., 1997).

Figure 3.5. ***(facing page)*****:** Geological sketch of part of the Central Alps (Switzerland and Italy), showing the locations of the two major sampling sites.Temperature and pressure estimates derive from Schmid et al. (2004). Redrawn from geological maps of the Alps (1:200000). The inset shows the position of this map (small rectangle) in relation to the European Alps, from Garzanti et al. (2004).


N
Hinterrhein
550 °C
6 kbar
500 °C
600 °C
625 °C
650 °C
Rotten (Rhone)
Maggia
Ticino
Brenno
Moesa
sampling area: Adula Nappe
5 kbar
Simplon Line
Insubric Line
Liro
7 kbar
Toce
sampling area: Val Strona and Val d'Ossola
Val d'Ossola
Val Strona
Lago Maggiore
Lago di Lugano
Lago di Como
Lago di Varese
Lago d'Orta
10 km
North Sea
LA Ligurian Alps
WA Western Alps
CA Central Alps
SA Southern Alps
EA Eastern Alps
Rhine
Danube
Inn
Drau
Rhone
Po
Gulf of Lion
Ligurian Sea
Adriatic Sea
Black Sea
50°
40°
10°
20°
0 300 km
Legend
Quaternary, glaciers
Eocene (e)
Southalpine molasse (Tertiary) (sm)
Middle / Upper Cretacious (cu)
Lower Cretacious (cl)
Jurassic, Malm (jm)
Jurassic, Dogger (jd)
Jurassic, Lias (jl)
Triassic
Permian (p)
Flysch (f)
Magmatic Rocks:
Granite, Quartz-Diorite
Gabbro, Diorite, Tonalite (g)
Metamorphic Rocks:
Serpentinite (s)
Ultrabasic Rocks, Amphibolite (u)
Kinzingite-gneiss
Para-metamorphics (pm)
Gneiss
Greenschist (g)
Bündner-Schist (b)
Marbles (m)
Water reservoirs:
Lakes
Streams and rivers
main drainage divide
major faults
T-isograds
P-isograds

4. Working scheme

This chapter comprises an overview description of sample selection and treatment and the analytical methods used in this study. Methods described here will be further described and discussed in detail in the following chapters where used.

4.1. Sampling

A list of all samples used for this study is given in Table A.1. Two large sampling regions were chosen, in order to study trace elements in detrital rutile deriving from rocks of various metamorphic regimes, namely the Erzgebirge and the Alps. In both regions, special attention was paid to obtain samples covering the largest possible range of metamorphic conditions. Catchment areas of sand samples comprise a range of 100 m^2 (in quarries) up to more than 2300 km^2 (large catchment areas in the Erzgebirge). Rock samples in the same areas were collected during the same sampling campaigns mainly for the co-study by George Luiz Luvizotto (Luvizotto, 2008), who studied the mineralogical processes in the host rocks in more detail. As far as used in this study, these samples are listed in Table A.1. Sand samples were collected in the kg-range, depending on how much material was available. Attention was paid to gain a large proportion of fine sand in a sample, according to the rutile grain size range.

Further samples, which were needed for a successful completion of this study (compare Table A.1), derive from the Museum und Sammlungen der Universität Göttingen or were collected and kindly provided by colleagues.

4.2. Sample preparation

4.2.1. Extraction of rutile, anatase, brookite and zircon

From the sand samples, all four studied mineral species (three TiO_2 polymorphs and zircon) were extracted from the same fractions of wet sieving, heavy-liquid separation, magnetic separation, and handpicking.

Wet sieving in the beginning of this study comprised a tower of sieves with 63, 125, 250, 500, and 1000 μm grids. After it was approved that grain size fractions do not discriminate trace element contents in rutiles (compare Section 5.1), the sieves were changed to 63, 80, 200, 250, 500, and 1000 μm. All fractions above 63 μm grain size were kept, but only the fractions 80-200 μm, resp. 63-125 and 125-250 μm, were used for rutile separation, as these contain the largest amount of rutile. After sieving, the samples were dried at 65-70°C.

Heavy-liquid separation was carried out with Na-poly-tungstate. As Na-poly-tungstate reacts with Ca (and as well with Mg and Fe) to form an unsoluble precipitate, all samples were bathed in acetic acid of 5 % dilution prior to heavy-liquid separation, in order to remove Ca-carbonates. All carbonate was assumed to have dissolved when no more bubbles emerged on stirring.

The density of the Na-poly-tungstate was adjusted to 2.85 - 2.9 gcm^{-3} by evaporation and frequent weighing of the diluted liquid. The separation was carried out with funnel and separating funnel, according to the scheme shown in Figure 4.1. The filters with the samples were washed and again dried at 65-70°C.

Magnetic separation was done with the aid of a strong hand magnet (to remove ferromagnetic grains) and a magnetic separator. The procedure is described in more detail in Section 5.2. The TiO_2 polymorphs and as well zircons were then in the last step *hand-picked* from the magnetic fraction(s) containing the largest part of the desired mineral species, which was in most cases the non-magnetic fraction. Hand-picking aimed at collecting a large variability in colour and habit of the desired mineral species.

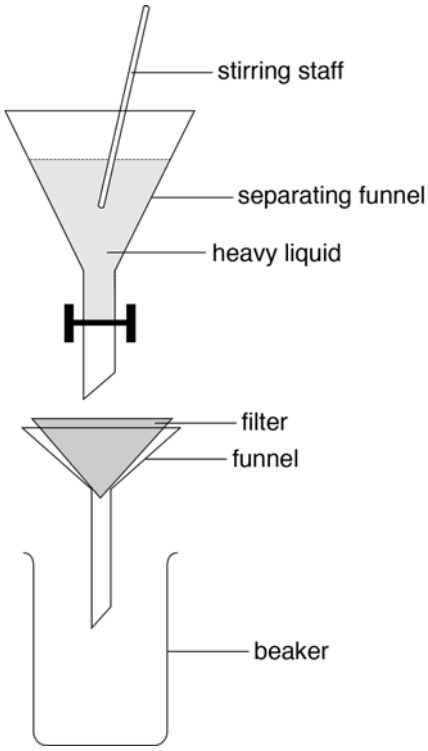


Figure 4.1.: Heavy liquid separation scheme.

4.2.2. Embedding and polishing

The separated grains were placed on double-faced adhesive foil (affixed on a glass plate) inside a 1"-diameter teflon ring, which was filled up with (Struers EPOFIX) epoxy resin and baked until hardening. The samples were ground (only the rock samples), lapped, and polished for the analytical work. The embedded separates were not ground, in order not to lose crystals. Grinding included plane grinding on a P120- and a P220 diamond embedded metal disc and fine grinding on a 9 μm diamond suspension. Both, rock samples and embedded separates were lapped with a 1200 SiC suspension in distilled water on a glass disc. The final polishing was in two steps with 3 μm- and 1 μm diamond suspension on a silk disc.

4.3. Electron Microprobe

Prior to electron microprobe (EMP) analysis, all samples were coated with carbon to ensure conductivity. Analyses on rutile (resp. brookite or anatase) separates from sands were performed in Göttingen using a JEOL JXA 8900 and 25 kV accelerating voltage. The beam current was set to 80 nA. Matrix correction was performed using CITZAF after Armstrong (1995) (compare Section 5.4). Rock samples were analysed in Heidelberg on a CAMECA SX51. The accelerating voltage was set to 20 kV and the beam current to 100 nA. All EMP measurement conditions for rutile analysis are shown in table 4.1.

Table 4.1.: EMP rutile analysis conditions for the setups used in Göttingen and Heidelberg. "Counting time" refers to the counting times on peak positions, "Background time" to the counting times on upper- and lower background positions. Errors and detection limits (DL) are median values calculated according to counting statistics.

Element	Ti	W	Nb	Sb	Ta	Si	Zr	Sn	Hf	Al	V	Cr	Mg	Fe
EMP-Göttingen:														
X-ray line	Kβ	Lα	Lα	Lα	Lα	Kα	Lα	Lα	Lα	Kα	Kα	Kα	Kα	Kα
Counting time [s]	30	200	300	300	300	150	300	200	300	150	200	200	150	150
Background time [s]	15	100	150	150	150	50	150	100	150	50	100	100	50	50
2-σ DL [ppm]	922	80	70	40	50	70	40	60	50	60	220	50	20	40
2-σ error [ppm]	4050	140	100	100	100	40	30	40	50	20	70	20	20	20
EMP-Heidelberg:														
X-ray line	Kβ	Lα	Lα			Kα	Lα					Kα		Kα
Counting time [s]	100	100	300			50	200					200		100
Background time [s]	50	50	150			25	100					100		50
2-σ DL [ppm]	130	350	60			20	40					50		40
2-σ error [ppm]	990	90	60			20	40					20		20

Zircon separates were analysed at the JEOL machine in Göttingen at 20 kV accelerating voltage and a beam current of 80 nA. Matrix correction was performed using CITZAF after Armstrong (1995). Detailed zircon analysis conditions are shown in Table 4.2.

Table 4.2.: EMP zircon analysis conditions. "Counting time" refers to the counting times on peak positions, "Background time" to the counting times on upper- and lower background positions. Errors and detection limits (DL) are median values calculated according to counting statistics.

Element	Zr	Si	Ti	Hf	Th	U	Y
X-ray line	Lα	Kα	Kα	Mα	Mα	Mα	Lα
Counting time [s]	30	15	400	60	150	150	200
Background time [s]	15	5	200	30	75	75	100
2-σ DL [ppm]	760	200	30	140	60	60	120
2-σ error [ppm]	2240	400	20	220	70	60	120

4.4. Micro-Raman Spectroscopy

All TiO_2 crystals discussed in this study were analysed by micro-Raman spectroscopy, most of them after electron microprobe work was finished. Carbon coating was removed prior to analysis.

Phase analysis was done using a confocal Raman spectrometer (Horiba Jobin-Yvon Labram HR 800 UV) with 633 nm laser excitation, 20 mW laser power, 1200 lines/mm grating and a Peltier-cooled CCD detector. Because of the large number of crystals, automated single spot analysis was applied. For few crystals, detailed mapping with 5 μm increments was applied. In both single spot analyses and mappings, a 100 x objective and a confocal hole of 200 μm were used.

4.5. Secondary Ion Mass Spectrometry

Secondary Ion Mass Spectrometry (SIMS) analyses were performed on a CAMECA ims 3f at the Mineralogisches Institut, Universität Heidelberg. Prior to analysis, the samples were cleaned and coated with gold. Analyses were performed using a 14.5 keV/10–20 nA $^{16}O^-$ primary ion beam. Positive secondary ions were nominally accelerated to 4.5 keV (energy window set to $\pm$40 eV) and the energy filtering technique was used with an offset of 90 eV at mass resolution m/Δm (10%) of 399.

Concentrations were calculated based on relative sensitivity factors (RSF), which were calculated according to:

$$RSF = \frac{I_A}{I_R} \times \frac{i_R}{i_A} \times \frac{c_R}{c_A} \times \frac{a_A}{a_R}$$

where I = secondary ions intensity; i = isotopic abundance; c = concentration of the element; a = atomic weight of the element. Indexes A and R stand for analyzed and reference elements.

Rutile count rates were normalised to ^{47}Ti, using the concentrations derived from EMP analysis. The values used for concentration calculations are shown in Table 4.3. Details for calibration of the RSF are given in Section 5.3.

Table 4.3.: Values used for calculation of concentrations in rutile from isotope/^{47}Ti ratios in SIMS analyses.

	^{47}Ti	^{90}Zr	^{93}Nb	^{118}Sn	^{123}Sb	^{178}Hf	^{181}Ta	^{184}W	^{238}U
RSF		0.834	0.835	0.365	0.126	0.413	0.316	0.216	0.47
Isotope Abundance	0.0744	0.5145	1	0.2422	0.4279	0.2728	0.99988	0.3064	0.992745
Atomic Mass [u]	47.867	91.224	92.90638	118.71	121.76	178.49	180.9479	183.84	238.0289

Zircon count rates were normalised to ^{30}Si, assuming a concentration of 32.5 mass-% (SiO_2). The values used for concentration calculations are shown in Table 4.4.

Table 4.4.: Values used for calculation of concentrations in zircon from isotope/^{30}Si ratios in SIMS analyses.

	^{30}Si	^{49}Ti	^{232}Th	^{238}U
RSF		2.437	1.111	1.035
Isotope Abundance	0.0309	0.0309	1.0000	0.9927
Atomic Mass [u]	29.9740	28.0855	232.038	238.029

4.6. Laser Ablation Inductively Coupled Plasma Mass Spectrometry

Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICPMS) was used for analysis of trace element contents in rutile and for U/Pb dating of rutile and zircon.

Rutiles were analysed at the Institut für Geowissenschaften, Johannes Gutenberg-Universität Mainz, using a New Wave Nd:YAG laser system (wavelength 213 nm) combined with an Agilent 7500ce ICP quadrupole mass spectrometer. Prior to analysis, the samples were cleaned and the surface preablated with a beam diameter larger than during analysis. For trace element analysis, the samples were ablated in spots of 10 μm at a laser energy density of 3.5 Jcm^{-2} and a repetition rate of 10 Hz. Each recording of the signal for 20 seconds, was preluded by a background analysis for 20 seconds followed by a washout time of 20 seconds. The carrier gas was a He-Ar mixture. Plasma torch conditions were optimized so that ThO/Th ratios were <0.5%. No further corrections for oxide production were applied. Titanium (^{47}Ti), was the internal standard element for each analysis and TiO_2 was assumed to be 100 mass-%. Standards used for calibration and accuracy checks were R10 and R19 (see Section 5.3) and the NIST SRM 610 glass (GeoReM preferred values: http://georem.mpch-mainz.gwdg.de/). Element concentrations were calculated with the software "GLITTER".

For U/Pb dating of rutiles, ablation spots were 50 μm in diameter, at a laser energy density of 3.5 Jcm^{-2}. The background analysis time was 30 seconds, the dwell time 50 seconds, and the washout time 20 seconds. ^{206}Pb/^{208}Pb ratios, ^{207}Pb/^{235}U ages and ^{206}Pb/^{238}U ages are calculated offline from raw counts. More details on this method are given by Zack et al. (submitted).

U/Pb dating of zircons was carried out by Dirk Frei at the GEUS in Copenhagen, Denmark, using a ThermoFinnigan Element2 Magnetic Sectorfield ICPMS, equipped with a New Wave Nd:YAG laser with 213 nm wavelength. The ablation spot size used was 30 μm. A laser energy density of 3.5 Jcm^{-2} and a repetition rate of 10 Hz was used. The background analysis time was 30 seconds, the dwell time 30

seconds, and the washout time 15 seconds. Further details on zircon age dating at GEUS are given by Frei and Gerdes (2009).

5. Rutile methodology

5.1. Interdependance of grain size and chemical composition

von Eynatten, H, Tolosana-Delgado, R, Triebold, S, Zack, T (2005): Interactions between grain size and composition of sediments: two examples. In: G. Mateu-Figueras and C. Barcelò-Vidal (eds.) Proceedings CoDaWork'05 – 2nd Compositional Data Analysis Workshop, S2-4, p.1-12, Girona.

In order to find out whether the choice of grain size has an influence on rutile composition, four samples out of this study (EGB-04-S50, EY-29-2, EY-29-3, and EY-29-4) and three other samples have been investigated. A description of these samples is given in Table A.1, according EMP analyses are shown in Tables A.2 and A.6. Grain size fractions 63-125 (fine) and 125-250 μm (coarse) were investigated.

In order to assess the possible interdependance between grain-size and chemical composition, different statistical tests and visualisation methods have been applied to the data. As a large number of rutile analyses contained values below detection limit, and hence a filtering of the data set (erasing those analyses with missing values) would lead to a data bias towards higher mean contents, a second approach was analysed where the missing values were replaced by half the detection limit of each element. Equality-of-means tests were conducted on the data sets obtained by both approaches to deal with the missing values. The results are shown in Table 5.1.

It was found that the rutile separates exhibit no strong or systematical variation of trace element chemistry between the two investigated grain size fractions, as is

Table 5.1.: Bilateral p-values of the null hypothesis in the equality-of-means tests.The stars show those p-values smaller than: 0.1(*), 0.05(**) and 0.01(***). Tests are applied on the data after replacing missing values by half of the detection limit, and by filtering the samples with missing values.

Adirondack	filtered		replaced		**EGB-04-S50**	filtered		replaced	
ln(V)	0.018	**	0.362		ln(V)	0.004	***	0.03	**
ln(Cr)	0.445		0.749		ln(Cr)	0.001	***	0.016	**
ln(Fe)	0.623		0.028		ln(Fe)	0.185		0.191	
ln(Zr)	0.501		0.512		ln(Zr)	0.008	***	0.066	*
ln(Nb)	0.234		0.012		ln(Nb)	0.149		0.519	
ln(W)	0.395		0.559		ln(W)	0.518		0.026	**
Catskill	filtered		replaced		**EY-29-2**	filtered		replaced	
ln(V)	$2{\cdot}10^{-5}$	***	$9{\cdot}10^{-5}$	***	ln(V)	0.229		0.303	
ln(Cr)	0.002	***	0.523		ln(Cr)	0.024	**	0.08	*
ln(Fe)	0.46		0.122		ln(Fe)	0.956		0.434	
ln(Zr)	0.001	***	0.174		ln(Zr)	0.657		0.897	
ln(Nb)	0.604		0.105		ln(Nb)	0.044	**	0.124	
ln(W)	0.866		0.251		ln(W)	0.381		0.308	
Shawangunk	filtered		replaced		**EY-29-3**	filtered		replaced	
ln(V)	0.017	**	0.002	***	ln(V)	0.631		0.986	
ln(Cr)	0.42		0.344		ln(Cr)	0.17		0.163	
ln(Fe)	0.387		0.352		ln(Fe)	0.515		0.632	
ln(Zr)	0.029	**	0.096	*	ln(Zr)	0.226		0.09	*
ln(Nb)	0.419		0.98		ln(Nb)	0.214		0.205	
ln(W)	0.675		0.968		ln(W)	0.009	***	0.029	**
total	filtered		replaced		**EY-29-4**	filtered		replaced	
V	4		3		ln(V)	0.911		0.733	
Cr	3		2		ln(Cr)	0.849		0.644	
Fe	0		0		ln(Fe)	0.842		0.997	
Zr	4		4		ln(Zr)	0.011	**	0.008	***
Nb	1		0		ln(Nb)	0.313		0.321	
W	2		3		ln(W)	0.002	***	0.004	***

supported by graphical means as well (see Figure 5.1). It can be shown that rutile chemistry is rather controlled by source rock composition.

As a consequence, in the following work, the grain size fractions 63-125 and 125-250 μm, which are usually investigated in sedimentary studies, are combined to one fraction containing the largest amount of rutile crystals: 80-200 μm.

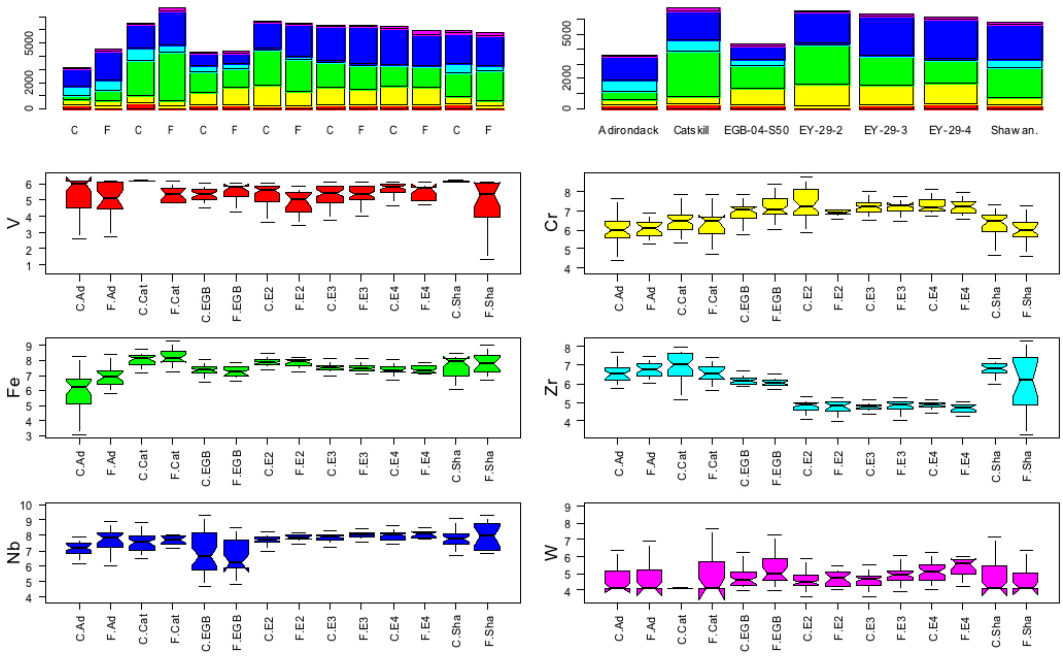


Figure 5.1.: Barplots and boxplots of the rutile data set (filtering the missing values), distinguishing between grain size (C: coarse, F: fine) and location. Boxplot colors act as a legend for bar-plots. The notch represents a 95 % confidence interval on the median. The following abbreviations for location have been used: (Ad)-Adirondack; (Cat)-Catskill; (Sha)-Shawangunk; (EGB)-EGB-04-S50; (E2)-EY-29-2; (E3)- EY-29-3; (E4)- EY-29-4. Note that vertical scale of boxplots is in logarithms.

5.2. Interdependance of magnetic susceptibility and chemical composition

Magnetic separation is the last step in rutile enrichment before hand-picking during the rutile separation process of a sample. It is generally agreed, that the largest part of rutiles will be found in the non-magnetic (NM) fraction, but it was observed during this study that rutiles can be found in various amounts in the magnetic fractions as well. In order to find out whether rutiles are sorted by magnetic separation or, in other words, whether the trace element content in rutile characterises a certain magnetic conductivity, some samples out of this study have been sorted by magnetic fraction before EMP analysis.

The strength of the magnetic field of a magnetic separator is varied during separation by the strength of the electric current [A], which flows through the spools. At a tilt of 25° forward and 10° sideways of the magnetic separator spools and channels, six fractions of different magnetic conductivities are extracted at different strengths of current (see Table 5.2).

Table 5.2.: Magnetic fraction labels with the according (upper limit) currents at the magnetic separator.

Fraction label	NM	M1	M2	M3	M4	M5
Upper limit current [A]		1.8	1.6	1.2	1.0	0.7

The EMP analysis results can be reviewed in Table A.2 (Erzgebirge samples) and Table A.6 (Alps samples). A linear discriminant analysis of the sample set (Table 5.3) shows that the magnetic fraction groups cannot be discriminated by their trace element contents.

In order to further examine the elements with the largest coefficients of linear discriminant 1 (which gives the largest proportion of trace), Fe vs. Zr are plotted for the samples used for this study (Figure 5.2). Within each sample, no difference can be observed between the magnetic fractions, but the samples themselves are

characterised by certain Fe and Zr compositions. Hence, it is obvious that the differences which exist between the magnetic fractions, taking all samples together, do not derive from Fe and Zr contents themselves, but from the different samples which provide certain Fe and Zr compositions. This can best be shown for the uppermost Alps samples, which, taken together, would show a perfect separation of the most (M4 and M5) and the least (NM and M1) magnetic groups.

Table 5.3.: Table showing details and result of the linear discriminant analysis for some samples sorted by magnetic separation fractions.

Prior probabilities of groups:

M1	M2	M3	M4	M5	NM
0.09692671	0.13002364	0.04255319	0.1536643	0.01891253	0.55791962

Group means:

log (element)	Nb [ppm]	Cr [ppm]	W [ppm]	Sn [ppm]	Al [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]
M1	3.314840	2.737909	2.060419	2.018382	1.733655	3.308686	3.129786	2.578645
M2	3.306297	2.555559	2.361427	2.190286	2.155148	3.431112	3.029234	2.279846
M3	3.208817	2.571393	2.167916	2.221109	1.820219	3.351396	2.850489	1.576468
M4	3.195451	2.672694	2.492014	2.337286	1.850793	3.413118	3.023509	1.900790
M5	3.139826	2.571707	2.668170	1.968177	1.743636	3.444349	3.191769	2.029842
NM	3.246375	2.688262	2.178042	2.196241	2.121181	3.296599	3.078297	2.337236

Coefficients of linear discriminants:

	LD1	LD2	LD3	LD4	LD5
Nb [ppm]	1.1920808	-0.05561400	0.7371438	-1.8867837	0.09074603
Cr [ppm]	0.7099317	0.83551261	1.5143440	2.1349489	-1.46012804
W [ppm]	-0.7640455	-1.24322960	-0.6569898	0.5073512	-0.08541731
Sn [ppm]	0.4964904	1.72086597	0.8012170	0.3737325	-1.09559601
Al [ppm]	0.7764272	0.73826808	-2.0994424	0.2573435	0.09348756
Fe [ppm]	-1.8550732	-2.68172570	-0.5665792	-0.5082667	-2.05818856
V [ppm]	-1.0503911	-2.86330540	-2.2458475	1.8415541	1.94344591
Zr [ppm]	1.7456941	-0.83206330	0.5482314	-0.1593966	-0.85252101

Proportion of trace:

LD1	LD2	LD3	LD4	LD5
0.525	0.2419	0.1565	0.0585	0.018

Hence we conclude that on the one hand, large rutile fractions may occur in all magnetic fractions (and therefore all fractions need to be looked at for hand-picking), but on the other hand, hand-picking only from one magnetic fraction does not separate rutiles with different trace element contents.

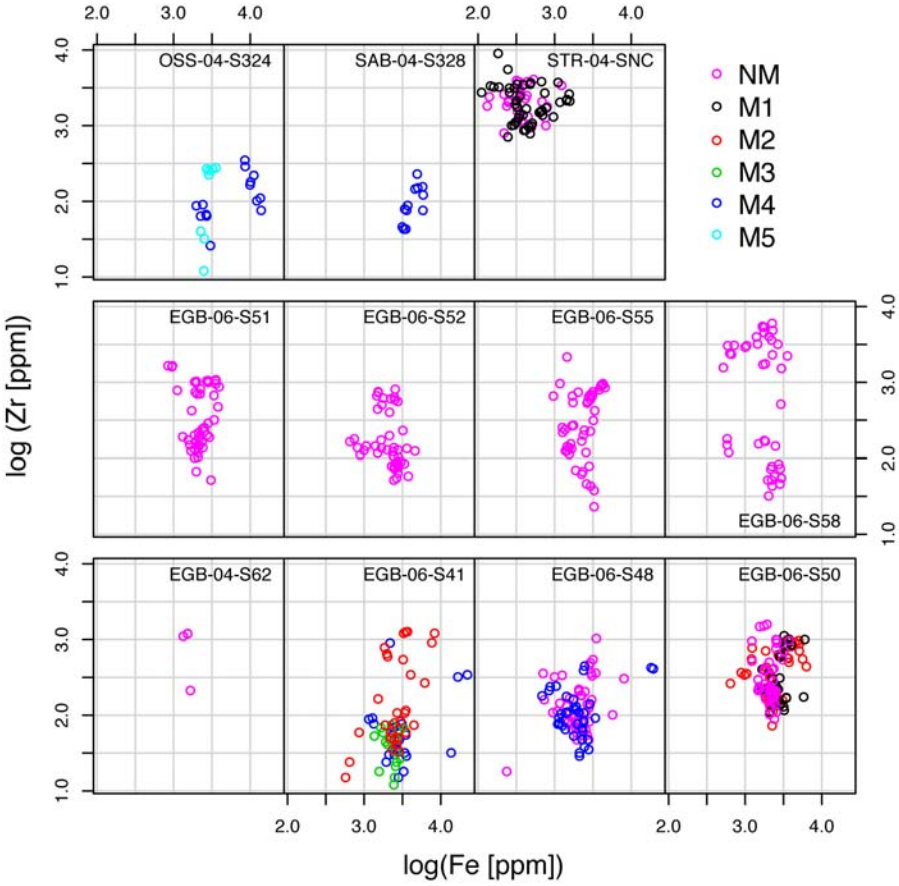


Figure 5.2.: Plots of log(Fe) vs. log(Zr) contents for different samples sorted by magnetic separation fractions.

5.3. Characterisation of rutile standards for microanalysis

Luvizotto GL, Zack T, Meyer HP, Ludwig T, Triebold S, Kronz A, Muenker C, Stockli DF, Prowatke S, Klemme S, Jacob DE, von Eynatten H (2009): Rutile crystals as potential trace element and isotope mineral standards for microanalysis. Chemical Geology 261, 346-369.

In order to find rutile standards suitable for microanalysis, several large rutile grains have been investigated via secondary ion mass spectrometry (SIMS), electron microprobe (EMP), Laser ablation inductively coupled plasma mass spectrometry (LA-ICPMS), isotopic dilution multi-collector inductively coupled plasma mass spectrometry (ID-MC-ICPMS), and thermal ionisation mass spectrometry (TIMS). Four crystals were found, where trace element concentrations vary within +/- 10 %, and hence come into question as mineral standards. This publication presents the trace element and isotope data of these rutiles, and compares the data produced by the different analytical methods which were applied.

In advance to standard characterisation by SIMS analysis, special attention was paid to calculating accurate relative sensitivity factors (RSF) for each analysed element. RSF are used to calculate concentrations from isotope ratios. For these calculations, a set of Erzgebirge samples was analysed by SIMS, the results are shown in Table A.8. From element contents by EMP and isotope ratios by SIMS, RSF were calculated for each element and analysis. Only the most homogeneous crystals were then used for calculation of the mean RSF for each element, which are shown in the publication (see Figure5.3 and Table 5.4).

For each of the four rutile mineral standards, a range of elements is homogeneous enough to be classified as *provisional values* after Potts and Kane (1992). The large difference in element contents between the standards provides the opportunity for various calibration applications, like between-methods cross-calibration, determination of "true"-zero values, interferences and detection limits, etc..

The comparison of analysis results from the different methods used leads to many interesting observations. Zr, an element which is crucial in rutile analysis because

Table 5.4.: Number of analyzed grains and summary of RSF calculated using the detrital rutile grains.

	Zr	Nb	Sn	Sb	Hf	Ta	W
Total analyzed grains (EMP)	188	189	181	92	89	92	166
Grains homog. (and above 2σ EMP DL + 2σ mean error)	70	81	68	9	6	22	38
Mean RSF	0.810	0.860	0.359	0.119	0.413	0.314	0.256
Standard deviation	0.139	0.120	0.045	0.016	0.041	0.029	0.049
# Selected analyses[a]	9	11	9	9	6	4	7
Mean RSF	**0.834**	**0.835**	**0.365**	**0.126**	**0.413**	**0.316**	**0.216**
Standard deviation	0.025	0.035	0.028	0.009	0.041	0.010	0.028

Values in bold are those used for calculating concentrations in ppm. For details about the selection process see discussion in the text. [a] according to the two filtering processes described in the text.

of its importance for thermometry, was found to be very consistent between the analytical methods, althogh ICPMS results tend to be lower than EMP results. In Nb analyses, a reproducable difference between the two EMP facilities (the CAMECA machine in Heidelberg and the JEOL machine in Göttingen) was observed, which must derive from the different correction procedures used (an issue which is further pursued in Section 5.4). Anyway, for most elements analysed, good agreement was found between the methods used. A summary is shown in Table 5.5.

Figure 5.3. ***(facing page)*****:** SIMS Relative Sensitivity Factors (RSF) calculated for Zr, Nb, Sn, Sb, Hf, Ta, W and U plotted against concentration in ppm. Points represent EMP analyses performed on the detrital rutile grains. Each point represents one analysis. For U, a set of standard glasses was used and each point represents the average of three measurements. Dashed lines represent EMP detection limits (according to Table 4.1). Shaded areas represent analyses used for calculating the preferred RSF shown on the plots. For bibliographic references see Luvizotto et al. (2009a).

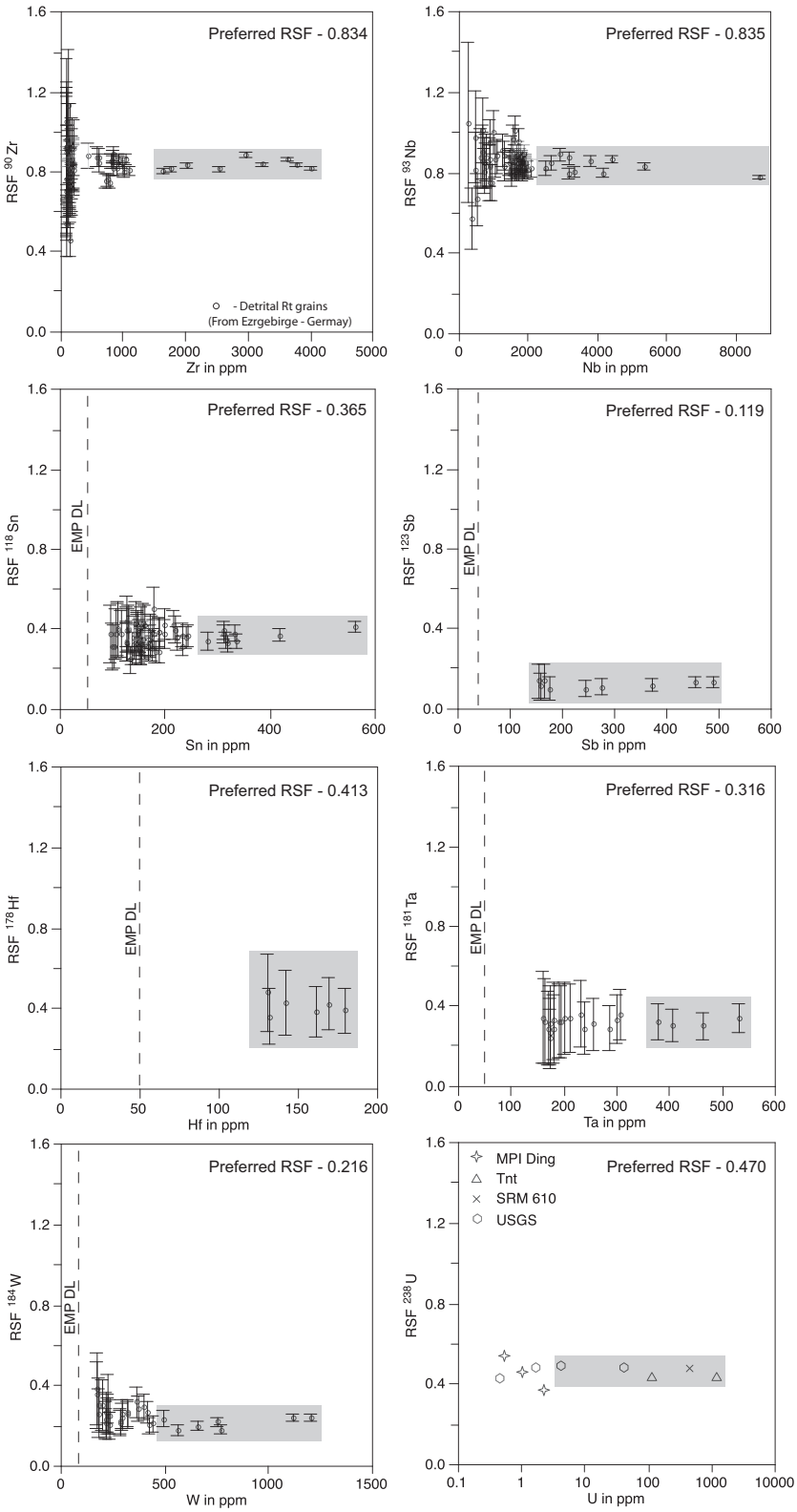

Preferred RSF - 0.834
RSF 90Zr
Zr in ppm
- Detrital Rt grains
(From Ezrgebirge - Germay)
Preferred RSF - 0.835
RSF 93Nb
Nb in ppm
Preferred RSF - 0.365
RSF 118Sn
Sn in ppm
EMP DL
Preferred RSF - 0.119
RSF 123Sb
Sb in ppm
EMP DL
Preferred RSF - 0.413
RSF 178Hf
Hf in ppm
EMP DL
Preferred RSF - 0.316
RSF 181Ta
Ta in ppm
EMP DL
Preferred RSF - 0.216
RSF 184W
W in ppm
EMP DL
MPI Ding
Tnt
SRM 610
USGS
Preferred RSF - 0.470
RSF 238U
U in ppm

Table 5.5.: Summary of all rutile standards analyses.

		V	Cr	Fe	Zr	Nb	Mo	Sn	Sb	Hf	Ta	W	Lu	Pb	Th	U
R10																
EMP	Min		611	2926	731	2490						bdl				
Heidelberg	Max		797	4570	914	3073						bdl				
55 analyses	**Avg**		**716**	**4240**	**811**	**2864**										
	Std		48	296	43	134										
EMP	Min	833	651	3553	760	2071		bdl				bdl				
Göttingen	Max	1283	755	4513	888	2578		bdl				bdl				
20 analyses	**Avg**	**991**	**710**	**4255**	**811**	**2423**										
	Std	107	29	271	34	120										
SIMS	Min				782	2411		53.3	1.56	36.3	304	50.4				29.6
32 analyses	Max				898	2841		66.4	2.84	42.5	557	123.1				45.9
	Avg				**823**	**2695**		**59.6**	**1.98**	**39.1**	**501**	**93.6**				**37.3**
	Std				29	118		2.7	0.29	1.7	62	21.4				4.0
ID-MC-ICPMS	Rim				768.9	2592				37.4	456		0.0513			*28.2*[a]
	Core				787.9	2725				38.9	504	108	0.0300			*32.0*[a]
LA-ICPMS	**Avg**	**1279**			**759**	**2845**	**11.2**		**2.08**	**37.2**	**384**	**61.0**		**0.0810**	**<0.0035**	**44.1**
	Std	27			4	19	0.1		0.05	0.1	9	1.8		0.0110	-	0.6
R19																
EMP	Min		868	3088	250	1169						bdl				
Heidelberg	Max		1320	4290	340	2680						bdl				
34 analyses	**Avg**		**1130**	**3984**	**302**	**1954**										
	Std		114	323	23	414										
EMP	Min	1036	896	3227	260	849		114				bdl				
Göttingen	Max	1164	1307	4264	355	2453		165				bdl				
20 analyses	**Avg**	**1110**	**1090**	**3909**	**312**	**1556**										
	Std	39	137	292	20	392		15								
SIMS	Min				299	1064		126.3	0.67	8.8	25.2	34.3				6.3
35 analyses	Max				349	2367		159.8	1.76	13.8	149.9	90.2				14.3
	Avg				**326**	**1698**		**140.0**	**1.20**	**11.5**	**66.7**	**62.0**				**8.8**
	Std				12	413		9.8	0.22	1.3	36.9	18.0				2.1
ID-MC-ICPMS	**Avg**				263	909				8.6	100.3	59.3	0.1272			
	Std				2	51				0.04	17.5	1.7	0.0775			
LA-ICPMS	**Avg**	**1617**			**249**	**639**	**1.52**		**1.28**	**8.10**	**22.1**	**68.5**		**0.2380**	**0.0115**	**14.4**
	Std	59			3	19	0.03		0.05	0.07	0.6	3.8		0.014	0.0049	0.4
Diss																
EMP	Min		715	3009	60	112						bdl				
Heidelberg	Max		1185	3689	166	210						bdl				
24 analyses	**Avg**		**966**	**3392**	**116**	**172**										
	Std		129	169	26	27										
SIMS	Min				95	137		14.2	0.14	3.9	6.25	10.3				bdl
22 analyses	Max				137	276		91.2	5.60	7.3	30.20	134.8				0.084
	Avg				**118**	**186**		**24.4**	**0.94**	**5.8**	**12.10**	**62.0**				**0.042**
	Std				14	38		20.2	1.40	0.9	5.16	32.7				0.020
ID-MC-ICPMS	**Avg**				98	146				5.1	7.7	18.0	0.0537			
	Std				0.14	1.4				0.0	0.1	2.5	0.0441			
LA-ICPMS	**Avg**	**770**			**128**	**179**	**0.869**		**0.410**	**6.54**	**11.3**	**82.4**		**0.0755**	**<0.0030**	**0.0119**
	Std	15			2.5	0.98	0.06		0.04	0.05	0.4	1.2		0.0052	-	0.0062
Sy																
SIMS	Min				2.61	4.26				0.038	bdl					bdl
13 analyses	Max				2.93	4.66				0.094	0.018					0.015
	Avg				**2.75**	**4.43**				**0.075**	**0.011**					**0.008**
	Std				0.10	0.12				0.018	0.004					0.005
ID-MC-ICPMS					4.45	0.94				0.095	0.0037	0.338	0.0012			
LA-ICPMS	**Avg**	**0.04**			**2.77**	**0.667**	**<0.041**			**0.062**	**<0.0022**	**0.052**		**0.0640**	**<0.0087**	**<0.0051**
	Std	0.01			0.03	0.016	-			0.004	-	0.035		0.0198	-	-

[a] TIMS - University of Kansas (average of rim and core values).
Avg - average (arithmetic mean). Std - Standard deviation (1σ). bdl - Below detection limit

5.4. Comparison of EMP matrix correction procedures

Electron microprobe analysis involves measurement of X-ray intensities at wavelengths characteristic for the elements present inside a certain solid matrix (a mineral or glass), which is desired to be chemically analysed. Characteristic X-Rays are excited by an incident electron beam, which is focussed on a small selected area of the solid sample. While the wavelengths of characteristic X-rays themselves are dependant only on the element species present (including the influence of valency), their intensities are altered by a range of matrix effects, which are in turn produced by the species and concentrations of the elements present and their arrangement inside the solid material matrix (in this case: rutile). These matrix effects are characterised by the mean atomic numer (Z), which influences electron penetration and backscattering, the amount of absorption (A) of characteristic X-rays on their way through the matrix, and fluorescence (F) excited by other X-rays. Hence, as matrix effects are not only dependant on the type of matrix (e.g., rutile), but also on the element concentration therein, a correction of primary compositions obtained by counting of intensities must be an iterative procedure.

At the JEOL machine in Göttingen, the correction procedure called "Phi-Rho-Z" is claimed to produce the most accurate results for oxide matrix materials and is therefore used in the majority of cases. The same is true for the "PAP" procedure at the CAMECA machine in Heidelberg. Nevertheless, as mentioned in Section 5.3 (Luvizotto et al., 2009a), comparison between EMP rutile analysis results obtained in Göttingen and Heidelberg showed a reproducible difference in Nb contents. In order to examine differences between matrix correction methods in more detail, two correction methods applicable for the JEOL machine in Göttingen have been compared: ZAF (which is described by Reed, 1993) and Phi-Rho-Z (applying CITZAF after Armstrong, 1995). A set of EMP data from the EGB-06 sample series was corrected using both methods (compare Tables A.2 and A.3).

The results (Figure 5.4 and Table 5.6) show that the choice of the matrix correction method has varying influence on the different elements. For W and V contents nearly no difference between the two methods is observable. For the other ele-

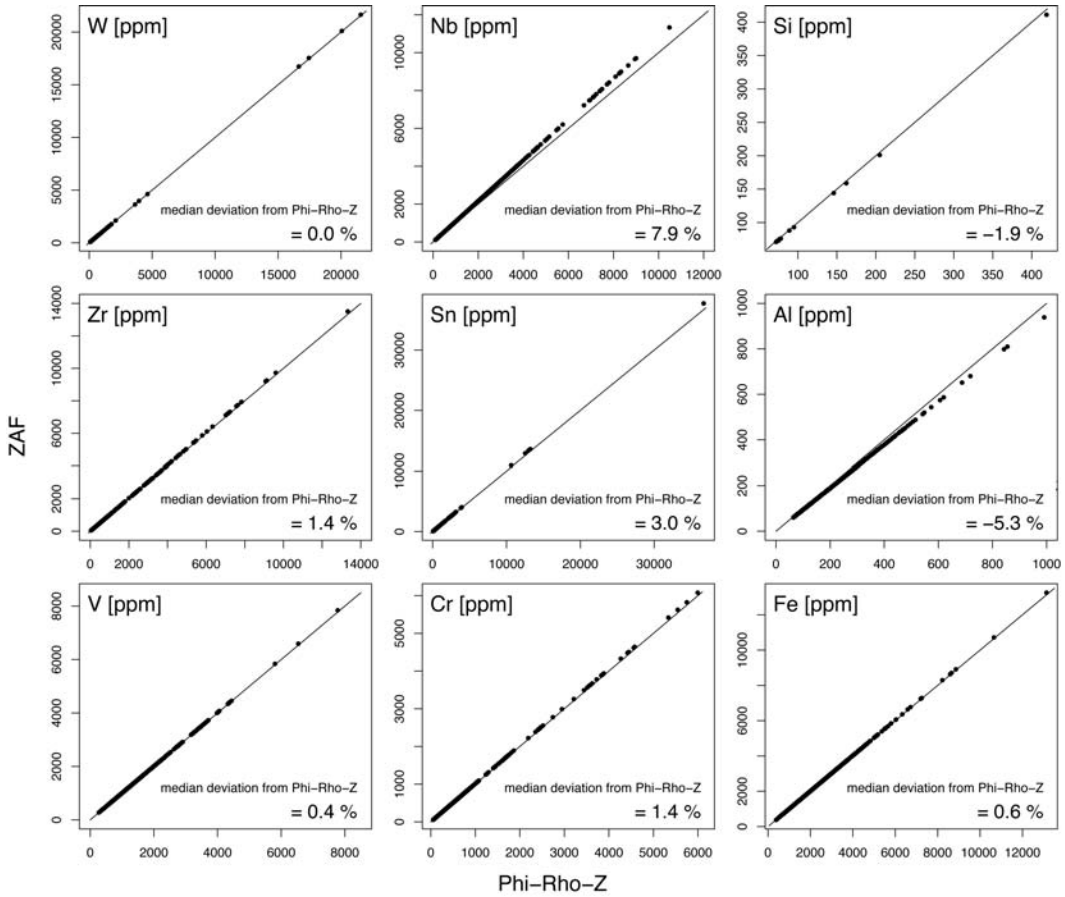


Figure 5.4.: Plots of concentrations of all analysed elements calculated after the ZAF and Phi-Rho-Z matrix correction methods. Lines indicate equal concentrations.

ments, the deviation of concentrations calculated by ZAF from those calculated by Phi-Rho-Z exceeds the counting statistical measurement error (2-σ) well within the naturally observed concentration variance of these elements (see "Critical concentration" in Table 5.6). Comparison of Zr concentrations calculated after both correction methods shows an exceptionally large standard deviation of the deviation, indicating that here the influence of content variations of the other elements plays an important role. The largest deviation of concentrations after ZAF from concentrations after Phi-Rho-Z are observed for Nb, Sn, and Al.

Table 5.6.: Deviation between concentrations calculated via the ZAF and Phi-Rho-Z matrix correction methods.

	W	Nb	Si	Zr	Sn	Al	V	Cr	Fe
Minimum deviation [%]	-0.98	7.28	-2.02	0.61	2.35	-6.08	0.21	-1.86	0.45
Maximum deviation [%]	0.95	8.82	-1.23	12.07	8.43	-4.24	0.84	2.10	0.93
Median deviation [%]	**0.00**	**7.90**	**-1.87**	**1.36**	**3.01**	**-5.28**	**0.38**	**1.36**	**0.64**
Standard deviation of deviations [%]	0.29	0.09	0.26	2.30	1.56	0.25	0.06	0.21	0.03
Measurement error (2-σ) [ppm]	140	100	40	30	40	20	70	20	20
Critical concentration [ppm]	-	1270	2130	2200	1330	380	18200	1470	3110

% - deviation from Phi-Rho-Z given in % of concentrations by Phi-Rho-Z. ppm - ppm by mass. Critical concentration - element concentration where median deviation from Phi-Rho-Z equals 2-σ measurement error of the given element.

Luvizotto et al. (2009a) (Section 5.3) observe that for the relatively homogeneous R10 rutile, the Göttingen and Heidelberg microprobes quantify ca. 2400 and 2800 ppm Nb respectively, where other analytical methods find ca. 2700-2800 ppm. Hence, Göttingen microprobe results are comparably too low in Nb. With the comparison results between the two correction methods applicable in Göttingen, as described above, we can show that using the ZAF method instead of the Phi-Rho-Z method, an increase by 300 ppm (which is 7.9 % of 2400 ppm) is obtained and would make up for the difference between the microprobe results observed.

Nevertheless, this observation will need further support for elements other than Nb, in order to conclude on the matrix correction method which suits best for rutile analysis. From this comparison we conclude that the accuracy of EMP analysis needs to be handled with care, especially for the elements most strongly influenced by the choice of the matrix correction method (Nb, Sn and Al) and especially at high concentrations.

5.5. Comparison of trace element data by LA-ICPMS with SIMS and EMP data

In order to estimate the accuracy (apart from precision) of trace element data obtained by the analytical methods used in this work (EMP, SIMS and LA-ICPMS), a

comparison was made based on the samples which were analysed by LA-ICPMS. The trace element data are shown in Tables A.2 (EMP data), A.8 (SIMS data) and A.9 (LA-ICPMS data). As trace elements analysed by SIMS, except for U, have been calibrated on EMP data (compare Luvizotto et al., 2009a, Section 5.3), no large differences are to be expected between these two methods. In Figure 5.5, SIMS and EMP data are therefore plotted on the same axis for comparison with LA-ICPMS data.

Some analyses exhibit strong deviations from the correlation lines between LA-ICPMS and EMP or SIMS (Figure 5.5), which derive from chemical inhomogeneities (zonation) of the analysed rutile crystal: These deviations are in most cases much larger than the measurement errors of the analytical methods applied. An exception is Sb, where only very low concentrations in the ppm-range were analysed, so that consequently the correlation line can only give a vague indication towards overestimation by LA-ICPMS.

Good agreement (a deviation of LA-ICPMS data from EMP or SIMS data of less than 5 % and within the measurement error) can be observed for Cr, Hf, and Ta. For all other elements we observe systematical overestimation of concentrations by LA-ICPMS compared with the other methods between 10 % (V) and 61 % (Al) linear deviation from the equiline. In comparison with this large deviation between analytical methods, the deviation induced by choice of the correction method in EMP analysis is negligibly small, even for Nb (compare Section 5.4). As time-resolved ICPMS analysis signals were observed and selected with great care, we can exclude an influence of inclusions in the calculated concentrations.

Anyway, as described in Section 5.3, previous observations on large (cm-sized), relatively homogeneous rutile crystals display a different image. Here, a general well constistency between the methods used was observed, with a slight tendency of *under*estimation by LA-ICPMS for Zr and Ta. Hence, the character of the sample plays an important role for the accuracy of an analysis. In particular, laser radiation coupling and the resulting ablation of sample material are different for large samples compared to small embedded crystals, as used for this study. Supposedly, differences in laser coupling are induced by the differing propagation of radiation

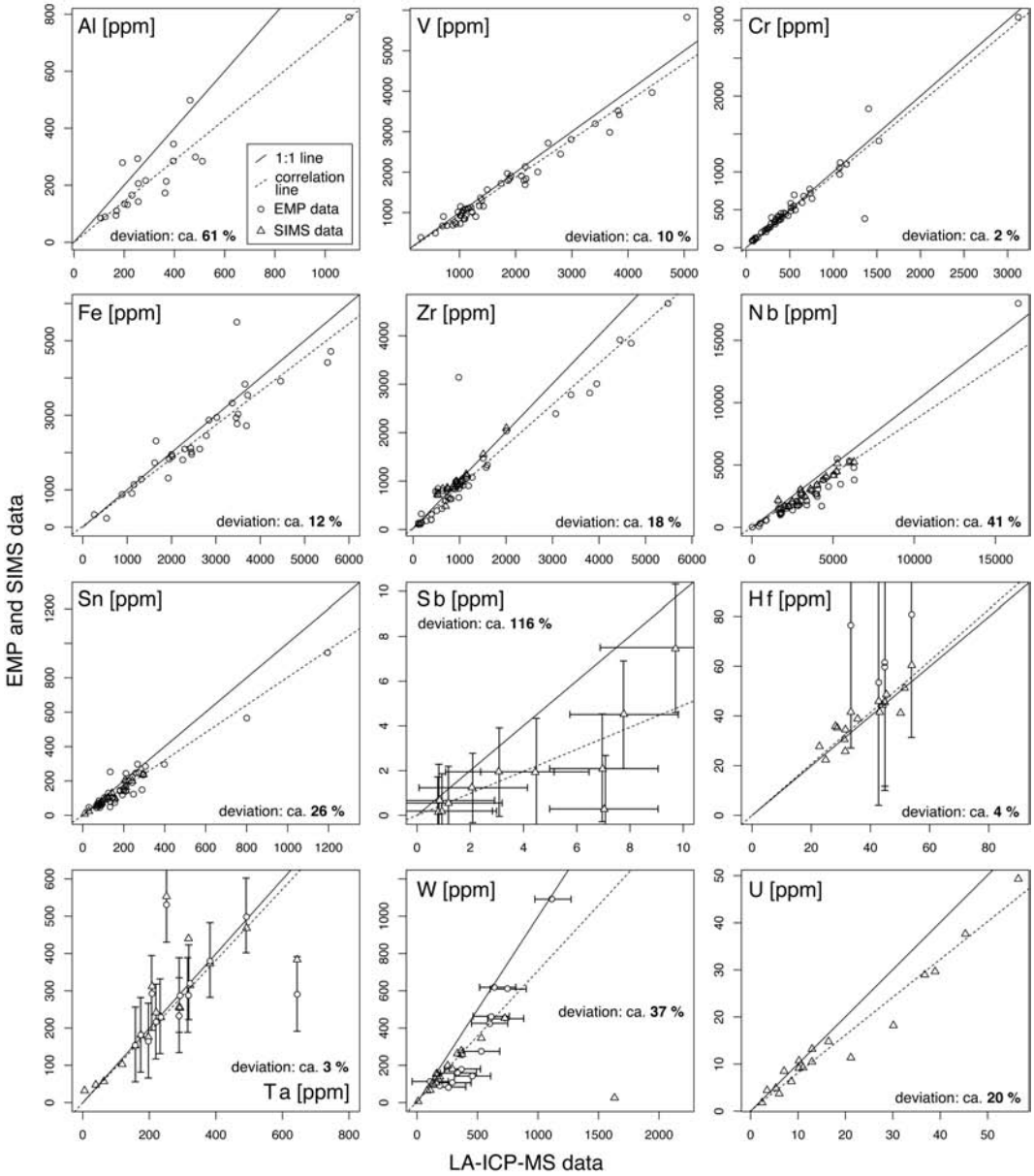


Figure 5.5.: Plots of LA-ICPMS data versus SIMS and EMP data. The correlation lines (stippled) are calculated with the largest data set (SIMS or EMP) and forced through the origin. Equilines are drawn solid. Where not shown, 2-σ errors are smaller than or approximately as large as symbol sizes. Data below the 2-σ detection limit are ommitted. Deviation = deviation of LA-ICPMS data from EMP or SIMS data.

within different materials, e.g. mineral grains and embedding material, and, in addition, characteristics of the contact area between both.

For our samples, we can show that the accuracy of an analytical method needs to be questioned, especially when comparing data produced by different analytical methods. As SIMS analysis has proved to be insensitive to the grain size of the analysed material, SIMS will be the method of choice for further analyses of trace elements below the detection limit of electron microprobe.

6. Deducing source rock lithology from detrital rutile geochemistry

Triebold S, von Eynatten H, Luvizotto GL, Zack T (2007): Deducing source rock lithology from detrital rutile geochemistry: an example from the Erzgebirge, Germany. Chemical Geology 244, 421-236.

Abstract

This study evaluates the applicability of rutile trace element geochemistry to provenance studies. The study area is the Erzgebirge in eastern Germany, where metamorphic rocks ranging from lower greenschist facies conditions up to granulite facies conditions are exposed. We collected sand and rock samples from small catchment areas for a comparative analysis of rutile geochemistry using wavelength-dispersive electron microprobe and secondary-ion mass spectrometry. Our results show that rutile geochemistry is a powerful tool in provenance studies, allowing for the identification of source lithologies and an evaluation of the host orogen's metamorphic history.

The $log(\mathrm{Cr}/\mathrm{Nb})$ ratio has proven to be decisive in discriminating between mafic and metapelitic lithologies. It is also useful for identifying different source rocks when plotted versus a third element or proxy. Furthermore, our results suggest that rutile thermometry can be applied to a much wider range of lithologies than previously assumed.

A quantification of temperature populations within single sand samples shows that at high-grade metamorphic conditions, such as those found in the Erzgebirge, more than 65 % of rutiles do not re-equilibrate during retrograde metamorphism and thus retain their peak temperature chemistry. Such samples, which have equi-

librated at recent metamorphic conditions, can be identified by their 2-σ standard deviations of less than 120 °C. Below 550 - 600 °C, no complete equilibration is reached. Rutiles from greenschist facies and lower metamorphic conditions in the Erzgebirge still inherit relict temperatures from a former metamorphic cycle. They partly record very high temperatures >950 °C and supposedly derive from erosion of the west African craton in Ordovician time.

Keywords: rutile; trace elements; geothermometer; provenance; Erzgebirge; west African craton.

6.1. Introduction

Using the chemical and radiometric analysis of detrital minerals as tracers in ancient and modern sediments to decipher source rock lithology, metamorphic grade, and geochronology has found widespread application in recent decades. These studies focus primarily on the characteristics of zircon (e.g., McLennan et al., 2001; Rahl et al., 2003; Carter and Bristow, 2003; Jacobsen, 2003; Griffin et al., 2007), and some other, most commonly heavy, mineral species (e.g., Morton, 1987; Pober and Faupl, 1988; Morton, 1991; von Eynatten et al., 1996; von Eynatten and Gaupp, 1999; von Eynatten, 2003; von Eynatten and Wijbrans, 2003). Recently, rutile's trace element geochemistry has received greater attention (e.g., Götze, 1996; Preston et al., 2002; Zack et al., 2004b; Stendal et al., 2006). Rutile constitutes an important tool for source rock characterisation and holds supplementary information, which cannot be derived from other mineral species.

Due to its high physical and chemical stability during erosion, weathering, transport, and diagenesis, rutile is one of the most stable heavy minerals (e.g., Morton and Hallsworth, 1999). The dominant host rock types for rutile are medium- to high-grade metamorphic rocks and sediments (Force, 1980, 1991). Other common rock types, such as low-grade metamorphic rocks or most igneous rocks, are thought to lack rutile. This rutile-absent definition excludes occurrences of needles and small crystals (<63 μm in diameter; sagenite and authigenic rutile), as these

are commonly not processed during detrital mineral separation. According to Force (1980, 1991), rutile forms under amphibolite facies and higher metamorphic conditions. During new metamorphic cycles, it reacts to form other Ti-rich phases under greenschist facies conditions. Thus unlike zircon, rutile commonly witnesses only one metamorphic cycle, and the recorded information is not obscured by previous metamorphic events. These characteristics make rutile a complimentary, if not a preferable candidate in provenance studies.

Zack et al. (2002b) have shown that there exists a strong correlation between whole rock Nb/Ti ratios and Nb contents in associated rutiles. The same is true regarding Cr characteristics. Zack et al. (2004b) constrain concentration ranges for Nb and Cr in rutile deriving from pelitic and mafic source rocks: Nb contents between 900 and 2700 ppm together with Cr < 1000 ppm point to metapelitic sources, whereas Nb < 900ppm and / or high Cr contents > 1000ppm point to mafic source lithologies. Rutile derived from kimberlitic source rocks has very high concentrations (often > 10000ppm) of Cr and / or Nb (Haggerty, 1991). Lastly, High U contents provide the opportunity to apply U/Pb- or (U-Th)/He dating techniques (e.g., Mezger et al., 1989; Vry et al., 2003; Vry and Baker, 2006).

Zack et al. (2004a) and Watson et al. (2006) established rutile thermometry based on Zr contents. The description of this thermometer and its application in the Erzgebirge will be discussed separately in section 6.4.

In order to further explore the applicability of rutile geochemistry for provenance studies, and to investigate and directly compare trace element characteristics between sediments and their source rocks, modern sands and rocks from the same drainage areas were sampled. The Erzgebirge (Germany) was chosen as a sampling area, because it has a great number of various rock types displaying a large range in metamorphic conditions from lower greenschist to granulite facies. Here we concentrate on Nb and Cr systematics as a proxy for source rock lithology as well as on Zr systematics as a tool for source rock temperatures, but note that further geochemical signals in rutiles should store important additional information (e.g., Mezger et al., 1989; Zack et al., 2002b; Vry and Baker, 2006).

6.2. Geological Setting

The Erzgebirge metamorphic crystalline complex is situated at the northwestern border of the Bohemian Massive (Figure 6.1). It belongs to the Saxo-Thuringian zone of the central European Variscides and is bordered by the Elbe Zone in the east, the Tertiary Eger Graben in the south, and by very low-grade Paleozoic sediments of the Saxothuringian basin in the northwest. The Erzgebirge is characterised by a large-scale antiformal structure consisting of several tectonometamorphic units, intruded by post-tectonic (Hercynian) granitoids of late-Variscan age. Today it is widely accepted that the Erzgebirge represents a stack of tectonic units resulting from continent-continent collision processes (deformation, metamorphism and exhumation) during the Variscan orogeny (e.g., Willner et al., 1997, 2000; Rötzler et al., 1998; Mingram, 1998).

According to Rötzler et al. (1998), the western Erzgebirge consists of a sequence of five tectonometamorphic units with low- to high-grade PT-histories (up to at least 950 °C and 4.5 GPa; Massonne et al., 1998). The division is based on petrological studies, tectonic investigations and geochemical correlations, being the units defined on the basis of dominant rock associations and their general trends in metamorphic evolution(Schmädicke et al., 1992; Mingram, 1998; Rötzler et al., 1998; Willner et al., 1997). However, as highlighted by Willner et al. (1997), even these units cannot be regarded as homogeneous and coherent bodies.

In the present study, we label these units, from tectonically lowermost to uppermost, the Cadomian Gneisses, Gneiss Unit (GU), Micaschist Unit (MU), Garnet-Phyllite Unit (GPU), Phyllite Unit (PU), and Ordovician Slates (OS). This labelling system is mainly adapted from Mingram (1998).

After Schmädicke et al. (1992) the GU and MU both have experienced a PT-path, which went through eclogite-facies peak metamorphic conditions. Because lithology is a crucial issue in this study, we further define subunits: eclogite-rich Gneiss Units 1 (EGU1) and 2 (EGU2), both sections having earlier, higher PT-conditions preserved, and likewise an eclogite-rich Micaschist Unit (EMU). In this work the

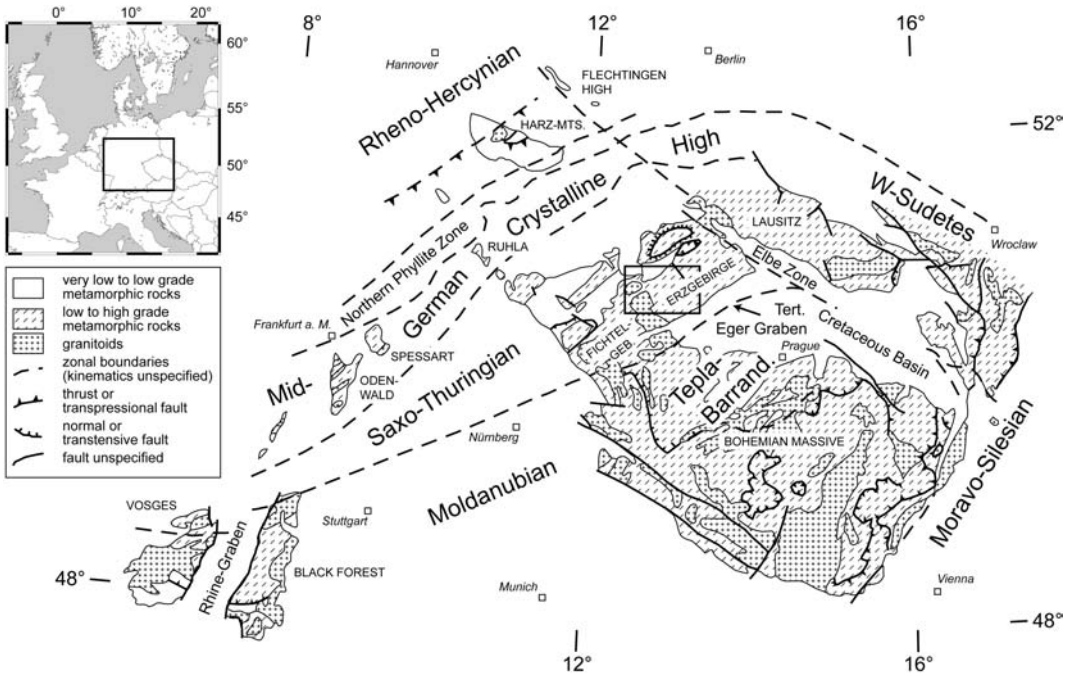


Figure 6.1.: Geological sketch of the Central European Variscides, modified after Dallmeyer et al. (1995). The rectangle shows the position of the map in Figure 6.2. The small inset figure shows a political map of Europe with the location of the geological sketch marked by a rectangle.

term "eclogite" is only used for rocks with mafic bulk compositions, predominantly composed of garnet and clinopyroxene.

The eclogite-rich Gneiss Unit 1, eclogite-rich Gneiss Unit 2, and the eclogite-rich Micaschist Unit, respectively, correspond to the High-Pressure Units 1, 2 and 3 defined by Schmädicke et al. (1992) and Schmädicke and Evans (1997) . A summary of the published P and T conditions of the best-preserved metamorphic stage in each unit and subunit is shown in Figure 6.2.

Mingram (1998) has shown that the protoliths of all Variscan metamorphic units are similar and correspond to the very low-grade Ordovician Slates unit (OS). They largely consist of mature sediments, which were exposed to prolonged tropical weathering and extensive reworking. As these characteristics reappear in several depositional sequences, Mingram (1998) concludes that it was on a passive margin

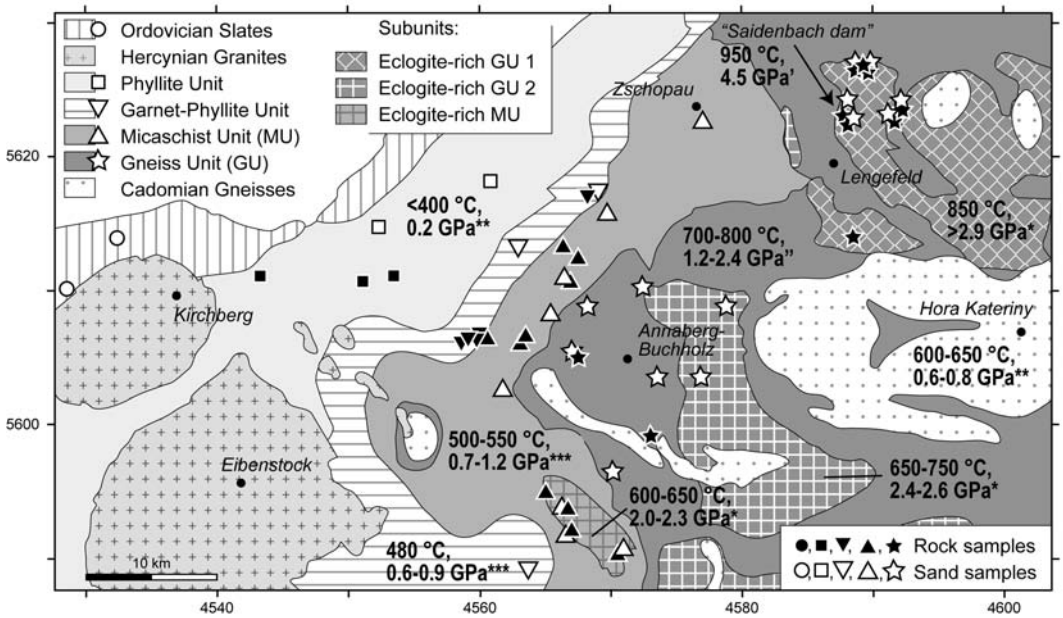


Figure 6.2.: Geological sketch of the western part of the Erzgebirge showing the locations of rock- and sand samples containing rutile. Samples from the same units are shown in similar symbols. The temperature and pressure estimates from preserved metamorphic assemblages are from: *Schmädicke and Müller (2000), **Mingram and Rötzler (1999), ***Rötzler et al. (1998), 'Massonne et al. (1998), and "Willner et al. (1997). The coordinate grid is Gauss-Krüger (Potsdam). Compiled and redrawn from Willner et al. (1997), Mingram and Rötzler (1999), Schmädicke and Müller (2000), and geological maps of the Erzgebirge (1:25000 and 1:200000).

setting with similar erosion-, transport- and sedimentation conditions over a long time period from upper Proterozoic to Ordovician. Linnemann and Romer (2002) relate this passive margin to the west African craton.

6.3. Sampling and methods

Samples cover all metamorphic units with temperatures ranging from < 400 °C to 950 °C. One sand sample was collected in the Hercynian Granites (near Kirchberg) to test for rutile occurrence. Since no rutile was found, we regard these granites generally as rutile-free. They cannot deliver significant amounts of rutile to the

sediments exported from such areas. Figure 6.2 shows the locations of all samples containing rutile. The Cadomian (Ortho-) Gneisses were excluded from the sampling campaign.

In order to ensure the comparability between sands and associated rock samples, and to keep the sands' compositions simple in terms of distinguishable rutile types, small catchment areas were investigated ranging from 100 square-metres (in quarries) up to 10 square-kilometres. Rock samples from 28 locations and 28 sand samples were collected, with the rocks' sampling locations generally relating to the sampled sands' drainage areas. Sand samples were collected in the kg-range, depending on how much material was available. Attention was paid to gain a large proportion of fine sand in a sample. Rock samples were hand-sample sized, except for the quartzites, in which case extra material was collected. The main rock types studied include eclogite, garnet-gneiss, felsic granulite, garnet-micaschist and quartzite in the Gneiss Unit; garnet-(+/- chloritoid-) micaschist, quartzite, and eclogite in the Micaschist Unit, and phyllites in the Grt-Phyllite- and Phyllite units. A list of all samples together with the sample locations can be reviewed in Table A.1.

Rock samples were prepared as polished thin sections. These were coated with carbon to ensure conductivity in electron microprobe (EMP) analysis. From the sand samples and one crushed quartzite sample from the eclogite-rich Micaschist Unit, rutile was extracted via sieving, heavy-liquid separation, magnetic separation, and handpicking. von Eynatten et al. (2005) (compare section 5.1) stated that trace elements in rutiles are not systematically related to grain size fractions (63-125 and 125-250 μm). Therefore, investigated crystals derive from one fraction containing the largest fraction of rutile (80-200 μm). Yet, as it was observed that magnetic separation fractionates rutiles, especially according to contents of Fe and V, special care was taken to extract rutile from all magnetic fractions (for an update on this issue compare Section 5.2). Extracted separates were embedded in epoxy resin discs, polished, and coated with carbon to ensure conductivity for EMP analysis.

The investigated crystals were identified as rutiles with micro-Raman spectroscopy (Horiba Jobin Yvon Labram HR-UV 800, 633 nm laser excitation, 17 mW laser power, 1200 l/mm grating, Peltier-cooled CCD detector).

Electron microprobe analyses on rutile separates from sands were performed in Göttingen using a JEOL JXA 8900 and 25 kV accelerating voltage. The beam current was set to 80 nA. Matrix correction was performed using CITZAF after Armstrong (1995). No analysis obtained Mg above detection limit. Rock samples were analysed in Heidelberg on a CAMECA SX51. The accelerating voltage was set to 20 kV and the beam current to 100 nA. All EMP measurement conditions can be reviewed in table 4.1. EMP analyses on rutile standards (Luvizotto et al., 2009a) performed in both laboratories were compared in order to ascertain the comparability between results from the Heidelberg and Göttingen electron microprobes.

6.4. Rutile thermometry

Rutile thermometry, as discussed by Zack et al. (2004b) and Watson et al. (2006), is based on the increasing incorporation of Zr into rutile with increasing temperature. In many natural systems, as in the rocks and experimental assemblages investigated by both authors, the activity of ZrO_2 in rutile is buffered by quartz and zircon to a constant value, and the reaction can be written as

$$\mathrm{ZrSiO_4(zircon) = ZrO_2(in\ rutile) + SiO_2(quartz)} \tag{6.1}$$

In sediments or sedimentary rocks, the buffer assemblage zircon-rutile-quartz cannot be directly observed. However, Zack et al. (2002b, 2004a,b) proved that Nb- and Cr systematics provide a tool to identify pelitic (implying felsic) source rock lithologies. Assuming that felsic and pelitic rocks contain quartz and zircon, the rutile thermometer can reliably be applied to crystals with high Nb- and low Cr contents, as explained in the introduction section.

The Zack et al. (2004a) empirical thermometer equation is calibrated on natural samples from a wide range of temperatures and pressures. It therefore inherits uncertainties from the temperature/ pressure estimates of these samples calculated from other geothermobarometers. On the other hand, Watson et al. (2006) calibrated their thermodynamically robust thermometer equation based on experiments at 1 GPa backed up by a few natural samples also mostly from the same pressure

range. In the Erzgebirge, metamorphic temperatures higher than 600 °C, and thus sensitive to the choice of the thermometer equation (compare Watson et al., 2006), are displayed in the whole GU and the EMU. Figure 6.3 shows that maximum temperatures calculated for GU samples from rutile geochemistry after Zack et al. (2004a) generally agree very well with those found in conventional thermometry by Schmädicke and Müller (2000), Massonne et al. (1998), and Willner et al. (1997). For the same samples the thermometry after Watson et al. (2006) yields maximum temperatures that are too low, especially for the higher-grade (> 800 °C) subunits with more uniform metamorphic temperatures.

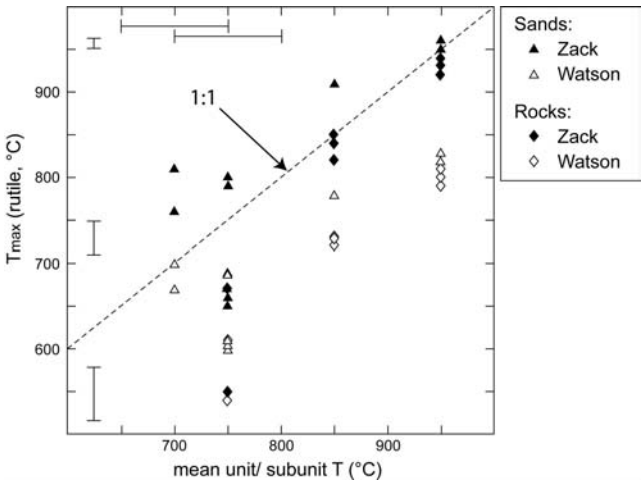


Figure 6.3.: Plot of maximum temperatures calculated from Zr contents analysed by EMP in rutile after Zack et al. (2004a) ("Zack") and Watson et al. (2006) ("Watson") versus mean unit- or subunit temperatures (ranges are shown as horizontal bars) for sand samples (triangles) and rock samples (diamonds). The 2-σ counting statistical errors are shown as vertical bars.

Thermometry differences at very low temperatures < 450 °C will not be addressed in this study, as we refer to EMP analyses and hence Zr contents larger than 40 ppm.

The influence of high pressures as found in the Erzgebirge (e.g., diamond-bearing gneisses at Saidenbach dam) on temperatures at 1 GPa calculated after Watson et al. (2006) has not been quantified yet, but experimental results by Degeling (2003) show that these most likely account for the differences observed here. Hence failing a better approximation, we conclude that for metamorphic conditions like those in the Erzgebirge the Zack et al. (2004a) thermometer equation is more suitable, and will be used for all further temperature calculations in this study. However, it should be stressed that for normal sedimentary provenance studies, the choice of the thermometer is not crucial, as pressure conditions for the source rocks are unknown and

thus no reliable temperature estimation can be made. With the purpose of merely discriminating temperature populations, both Zack et al. (2004a) and Watson et al. (2006) thermometer equations are equally suitable.

6.5. Results

6.5.1. Geochemical tools: Cr, Nb and the Zr-thermometer

As expected (Mingram, 1998), different metamorphic units in the Erzgebirge cannot be distinguished comparing Cr- and Nb characteristics of rutiles in sand samples from all locations (Figure 6.4).

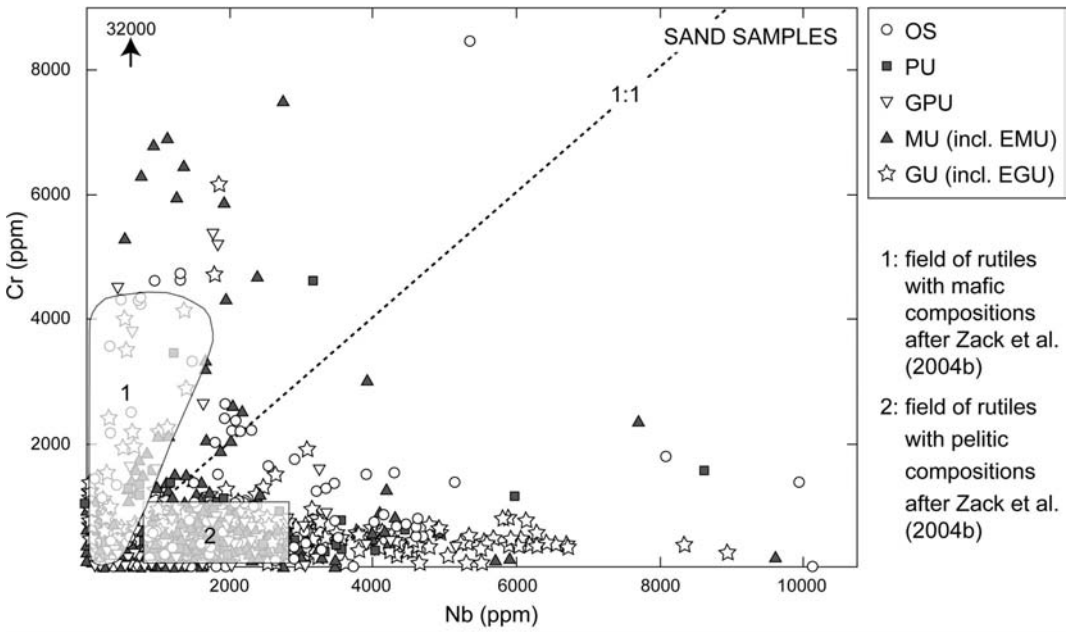


Figure 6.4.: Plot of Nb vs. Cr [ppm] for Erzgebirge sand samples. The symbols represent the samples' geological units, analogous to those used in Figure 6.2. Analyses are performed by EMP. The 2-σ errors are as large as the symbols' size. OS: 2 samples; PU: 2 samples; GPU: 3 samples; MU (incl. EMU): 8 samples; GU (incl. EGU): 13 samples.

EMP analyses of all Erzgebirge samples can be reviewed in Table A.2. Nb contents range up to 10000 ppm, with the majority plotting below 7000 ppm. The high-

est obtained Cr values are around 32000 ppm, but the frequency thins out after >2000 ppm. Especially regarding Nb, rutiles from the Erzgebirge exhibit higher contents than suggested for classification by Zack et al. (2004b) into mafic and pelitic provenances (Fields 1 and 2 in Figure 6.4). Thus it needs to be determined whether all analyses can be used for the purpose of source lithology discrimination.

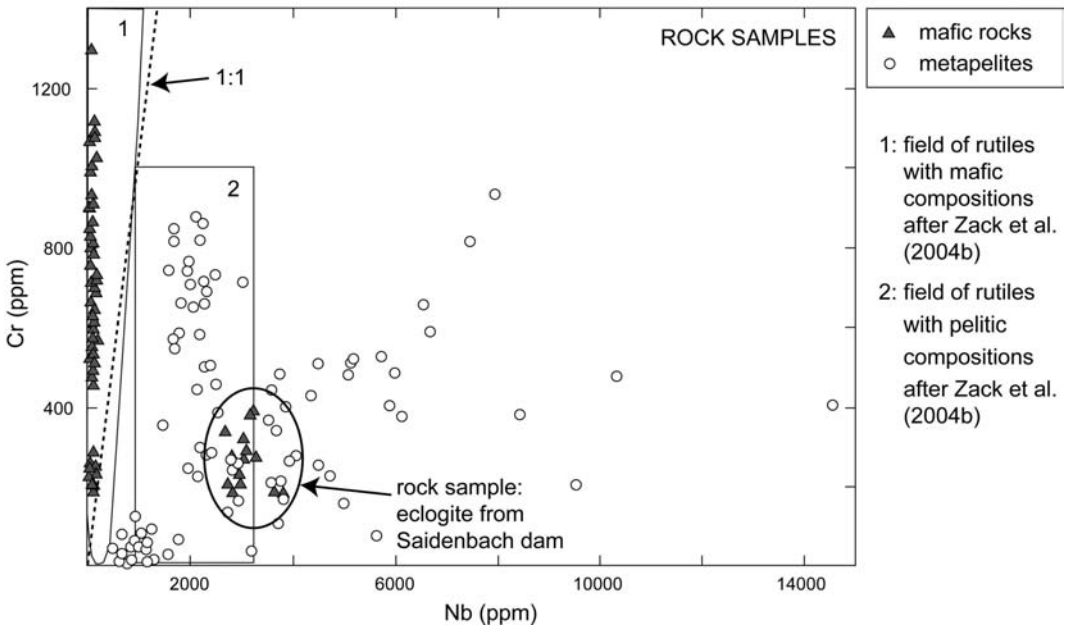


Figure 6.5.: Plot of Nb vs. Cr [ppm] for rock samples from the Erzgebirge. Analyses were performed by EMP. The 2-σ errors are approximately as large as the symbols' sizes. Metapelites: 11 samples; mafic rocks: 9 samples.

When consequently evaluating analyses of rutiles in rock samples (Figure 6.5), it is evident that those grains originating from metapelites (11 samples are represented in Figure 6.5) plot at high Nb contents compared to the majority of rutiles from mafic rocks (9 samples are represented in Figure 6.5), while mafic rutiles in all but one sample exhibit low Nb contents.

One mafic sample (an eclogite from the ultra-high pressure Saidenbach dam region in the EGU1) contains rutile plotting within the field for pelitic compositions.

Massonne and Czambor (2007) relate eclogites from the region around Saidenbach to a within plate basaltic protolith, formed from a relatively low degree of melting. High Nb/Ti ratios of the protolith then result in rutiles with high Nb contents. This example shows that the classification of rutiles by Nb and Cr contents into mafic and pelitic host rocks needs to be treated with care in these, although rather rare, examples.

The fields for mafic and pelitic compositions, as confirmed by rutile analyses from confined source lithologies (Figures 6.4 and 6.5), are well separated by a 1:1 line between Cr- and Nb contents. $log(\mathrm{Cr}/\mathrm{Nb})$ values are calculated in order to obtain a simple provenance indicator and to compare one parameter (mafic vs. pelitic source lithologies) with other factors (e.g., Zr or calculated temperature).

To test the significance of this logratio and the validity of high Cr and Nb values for provenance study purposes, one small catchment area < 1 square-kilometre is chosen as an example: Figure 6.6 shows rutile compositions of two sand samples, two eclogites and one garnet schist deriving from the northernmost sampling region in the Gneiss Unit, ca. 4 km north of Saidenbach dam. Cr contents of these samples range up to 1440 ppm, Nb contents up to 8950 ppm (Table 6.1). These samples in their mean trace element contents are representative of the majority of analyses from the Erzgebirge.

Table 6.1.: EMP analyses of five rock- and sand samples from the northernmost sampling area, ca. 4 km north of Saidenbach dam (Figures 6.2 and 6.6). Minimum, maximum, and arithmetic mean values for Cr [ppm], Nb [ppm], and Zr [ppm] are displayed, together with the number of analyses performed on each sample. The samples accord to samples EGB-04-S44, EGB-04-S45, EGB-04-R3a2, EGB-04-R4f1, and EGB-04-R4g in Tables A.1 and A.2.

	no. of	Cr [ppm]			Nb [ppm]			Zr [ppm]		
Sample	analyses	min	max	mean	min	max	mean	min	max	mean
Sand 1	40	313	1004	548	bdl	6728	3193	390	847	626
Sand 2	36	125	1440	539	171	8954	1349	383	769	614
Eclogite 1	21	528	1125	781	bdl	142	92	529	720	604
Eclogite 2	11	579	1110	809	bdl	127	100	604	683	653
Garnet schist	9	381	936	602	5093	7921	6212	418	768	588

bdl – below detection limit.

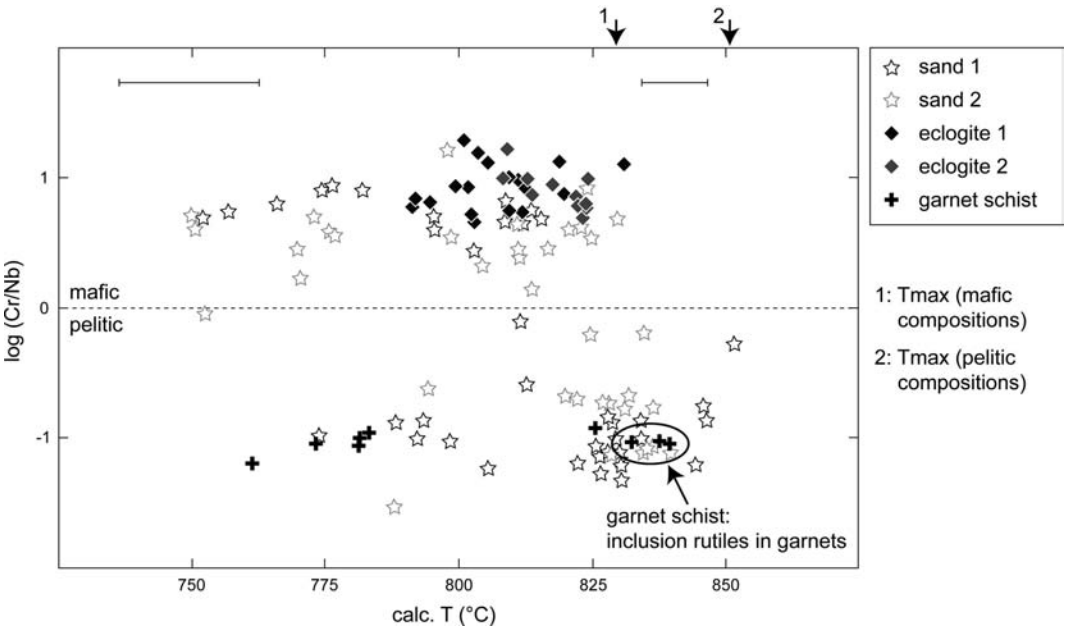


Figure 6.6.: Plot of temperatures calculated from Zr contents after Zack et al. (2004a) vs. $\log(Cr/Nb)$ for the northernmost sampling area, ca. 4 km north of Saidenbach dam (Figure 6.2). Mafic and pelitic compositions are plotted according to their $\log(Cr/Nb)$. The error bars correspond to 2-σ analytical errors in Zr contents by EMP. For the garnet schist, rutile inclusion analyses are indicated, all other analyses from this rock are matrix rutiles. Inclusion and matrix rutile analyses for the eclogite samples do not show contrasting temperature distributions and therefore are combined. The plotted samples accord to samples EGB-04-S44, EGB-04-S45, EGB-04-R3a2, EGB-04-R4f1, and EGB-04-R4g in Tables A.1 and A.2.

Comparing the minimum and maximum Cr and Nb contents, we can demonstrate that the rocks' compositions are mirrored in the sands. The slightly lower-temperature mafic composition group found in sand compositions (Figure 6.6) was not found in the sampled source rock equivalents.

Further, the garnet schist and the two eclogites are perfectly separated by the 0-line in $log(\mathrm{Cr/Nb})$ values. Also, maximum temperatures calculated from these samples using rutile thermometry by Zack et al. (2004a) are in good agreement with the 850 °C for EGU1-rocks (Figure 6.2) obtained with conventional thermometry by Schmädicke and Müller (2000).

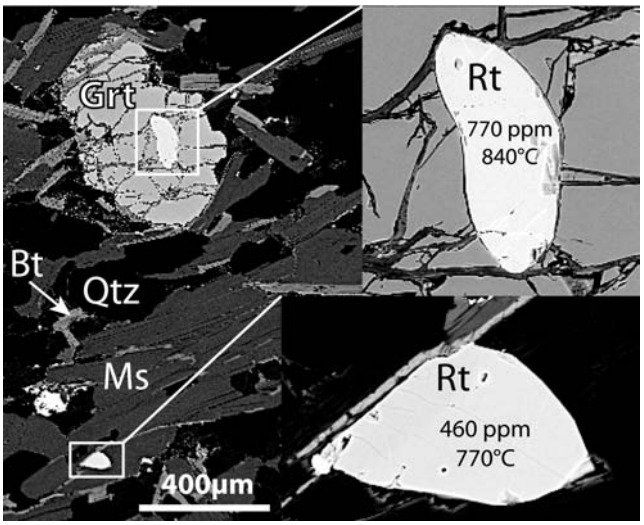


Figure 6.7.: Backscattered electron images of the garnet-biotite micaschist (EGB-04-R4f1; see Table A.1) from the northernmost sampling area, ca. 4 km north of Saidenbach, which is also displayed in Figure 6.6. The temperatures calculated from Zr contents are rounded to 10 °C. Mineral abbreviations refer to Kretz (1983).

It can be observed in this example (Figure 6.6) that rutile analyses form high- and low-temperature populations, which are separated by gaps of ca. 20 °C in width at 800 to 820 and 780 to 800 °C for pelitic and mafic compositions, respectively. It is remarkable, that this separation of analyses into two temperature populations occurs not only in the sand samples, which constitute a mixture of different source rocks, but also within distinct source rocks (here: the garnet schist). In these and other investigated rock samples, it was found that rutile as inclusions in other mineral phases always has high Zr contents, while matrix rutiles in many samples tend on average to lower Zr contents (Figures 6.6 and 6.7).

Although rutiles with mafic compositions give an observably lower maximum temperature than rutiles deriving from metapelites (Figure 6.6), the difference between both is smaller than 25 °C. This fact and the observation that the investigated mafic rocks from the Erzgebirge (all sampled mafic rocks were eclogites) contain small amounts of quartz and zircon, indicate that mafic rutile compositions may also be suitable for thermometry. Peak temperature characteristics of mafic and pelitic rutiles in all samples from the Erzgebirge (Figure 6.8) follow the trend observed in Figure 6.6: Analyses of pelitic rutiles (best shown in the "GU" group) exceed the maximum temperature obtained from mafic rutiles by about 40 °C, a number which is larger than the difference observed for the example in Figure 6.6, but which is

still lower than the calibration error (50 °C) found by Zack et al. (2004a). Hence the observation that the application of Zack et al. (2004a)'s thermometry gives similar results for mafic and pelitic rutiles is valid for the entire Erzgebirge - an outcome, which is supported by Zack and Luvizotto (2006), who report good fits with conventional thermometry for eclogites from other regions.

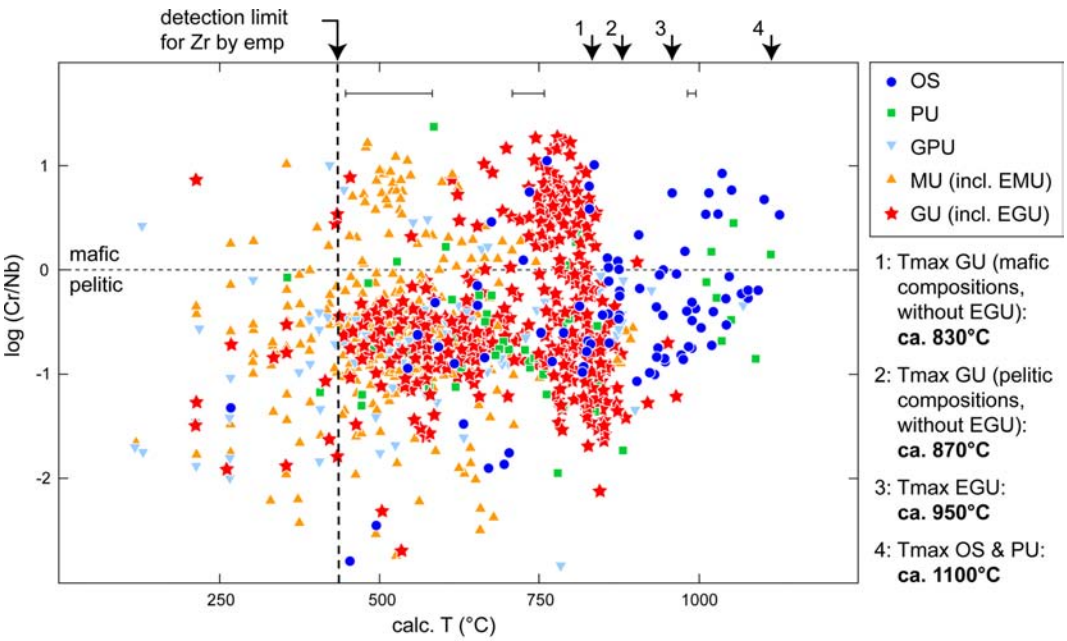


Figure 6.8.: Plot of temperatures calculated from rutile Zr contents from sand samples after Zack et al. (2004a) vs. $\log(Cr/Nb)$, analysed by EMP. Mafic and pelitic compositions according to $\log(Cr/Nb)$ are indicated. The same symbology as in Figure6.2 is used. Error bars correspond to 2- σanalytical errors of Zr contents measured by EMP. Although undefined, analyses below the 2- σ detection limit are shown because an omission would be misleading. OS: 2 samples; PU: 2 samples; GPU: 3 samples; MU (incl. EMU): 8 samples; GU (incl. EGU): 13 samples.

6.5.2. Rutile-derived temperature characteristics in the Erzgebirge

In order to test homogeneity of single rutile grains, a third of all investigated crystals in each sample were analyzed three times. Less than one percent of our analysed crytals were found to, due to inhomogeneity with respect to Zr, produce calculated temperature differences larger than 50 °C.

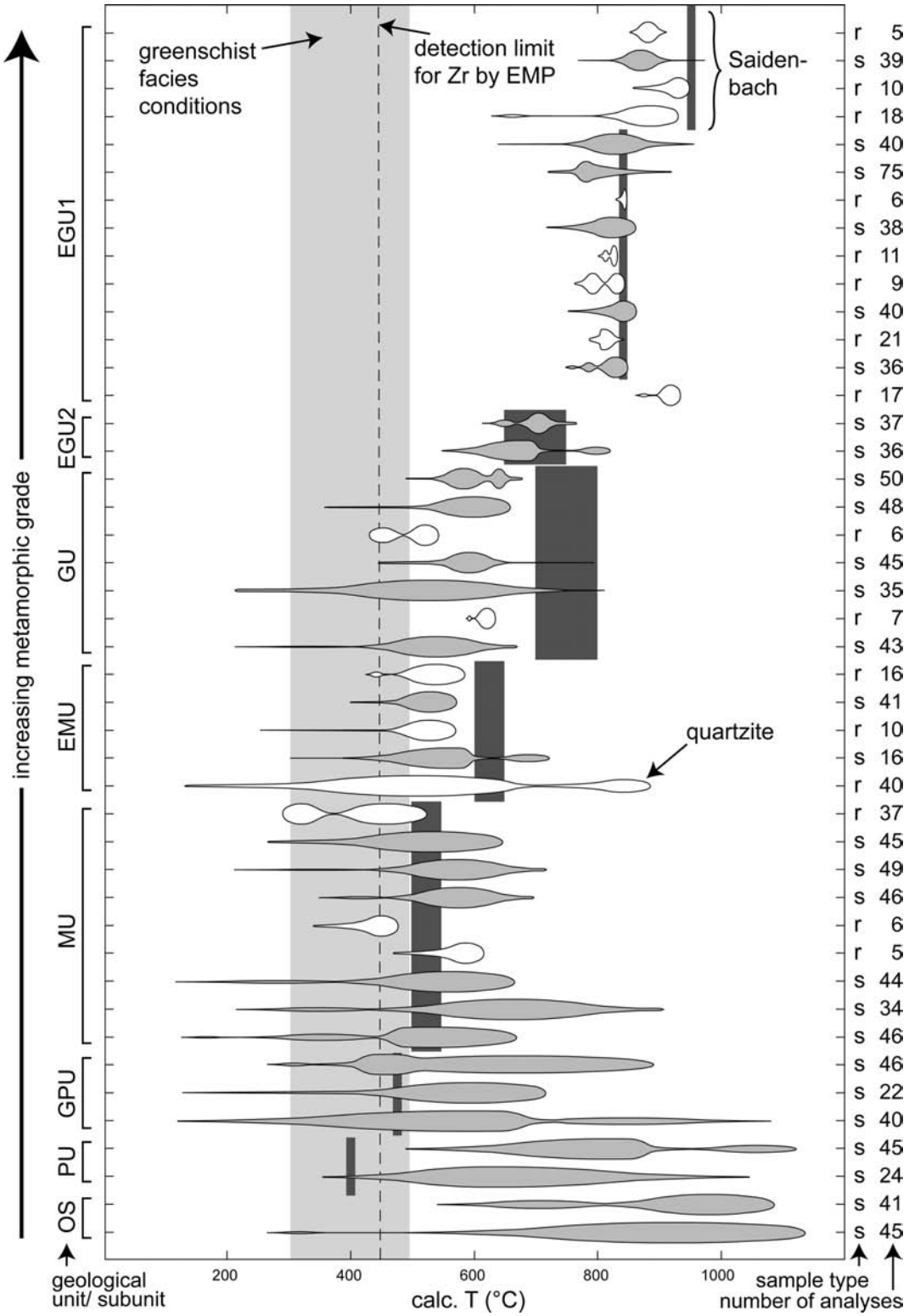
The gap in analysed temperatures, which was shown for the local example (Figure 6.6), can also be observed in temperature frequency distributions (Figure 6.9): Most sand and rock samples exhibit two, very rarely three, temperature populations.

As has already been stated in section 6.4, rutiles from metamorphic grades higher than MU conditions, exhibit peak metamorphic temperatures, which correspond well with conventionally obtained unit temperatures (unit temperatures = temperatures of the latest metamorphic event). The large scatter of maximum temperatures in the GU (without EGU) rock samples group shows that PT-conditions within this unit vary strongly with locality, and that sand samples derived from different rocks within this unit exhibit rutile populations more representative of the whole unit. The only investigated quartzite sample (EMU) displays the worst fit with unit temperatures.

In the MU (without EMU), only two of nine samples give appropriate temperatures. Some samples display maximum temperatures exceeding unit temperatures. Samples from the lower-metamorphic GPU, PU and OS report high values, which in most cases even exceed the highest temperature recorded for the Variscan orogeny in this part of the Erzgebirge (950 °C) and show more than 1100 °C.

Rock samples exhibit slightly smaller temperature variances than sand samples, a fact which was anticipated due to sampling statistics. Superimposed on this effect, samples from high metamorphic grades have smaller standard deviations compared to low-grade samples.

Figure 6.9. ***(facing page)*****:** Temperature distributions based on single-grain rutile thermometry after Zack et al. (2004a) for all investigated sand (s, grey fill) and rock (r, white fill) samples, sorted roughly with increasing metamorphic grade. Zr analyses for this plot were performed by EMP. Distribution shapes are drawn from Gaussian distributions fitted via least-squares fits to temperature histograms. Histograms in turn are calculated with class numbers according to the square root of the number of analyses used, which are displayed on the right of the plot. Temperature ranges from conventional thermometry are drawn as grey rectangles in the background. Although undefined, analyses below the 2-σ detection limit are shown because an omission would be misleading.


greenschist facies conditions
detection limit for Zr by EMP
Saiden-bach
quartzite
increasing metamorphic grade
EGU1
EGU2
GU
EMU
MU
GPU
PU
OS
r 5
s 39
r 10
r 18
s 40
s 75
r 6
s 38
r 11
r 9
s 40
r 21
s 36
r 17
s 37
s 36
s 50
s 48
r 6
s 45
s 35
r 7
s 43
r 16
s 41
r 10
s 16
r 40
r 37
s 45
s 49
s 46
r 6
r 5
s 44
s 34
s 46
s 46
s 22
s 40
s 45
s 24
s 41
s 45
200
400
600
800
1000
calc. T (°C)
geological unit/ subunit
sample type
number of analyses

In order to further examine the occurrence of sample peak temperatures exceeding unit temperatures, we have constructed a temperature map (Figure 6.10). Samples reporting significantly (> 100 °C) higher temperatures than unit metamorphic conditions are indicated by arrows. In the GU (incl. EGU), only equilibrated samples can be observed. Thus the border between the MU and the GU (550-600 °C) constitutes a T-boundary for Zr-in-rutile equilibration processes.

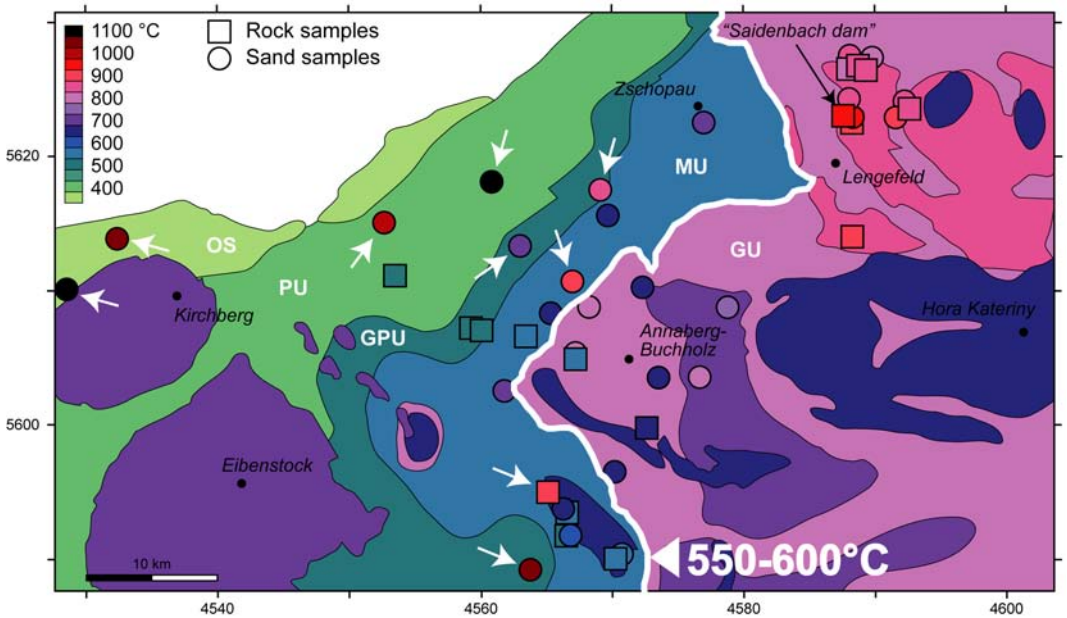


Figure 6.10.: Temperature map of the western Erzgebirge (Figure 6.2). The unit-/ subunit temperatures are the same as those in Figure 6.2. Displayed abbreviations indicate unit-/ subunit names. Using EMP data, sample maximum temperatures are calculated from Zr contents in rutile after Zack et al. (2004a). All temperatures are rounded to 50 °C. The arrows highlight sample temperatures strongly exceeding unit temperatures. The bold white line indicates the location of the 550-600 °C boundary (see text for explanation).

6.6. Discussion

6.6.1. Lithology and log (Cr/Nb)

Mafic and pelitic source rock lithologies can be well separated by means of $log(\mathrm{Cr}/\mathrm{Nb})$ ratios (Figures 6.4 and 6.5). Rutiles from felsic source lithology that have Nb contents outside the field for a metapelitic provenance after Zack et al. (2004b) can be classified using logratios of Cr and Nb. $log(\mathrm{Cr}/\mathrm{Nb})$ is a valuable provenance indicator and moreover ideally suited for comparison with a third element or proxy, such as temperature, in cross plots.

In the application to samples from the Erzgebirge, plotting $log(\mathrm{Cr}/\mathrm{Nb})$ vs. calculated temperatures (Figure 6.6) for rocks and sands from a common, small catchment area shows a low-temperature mafic group of rutile compositions, which lacks a rock sample equivalent. Thus source lithology components superimposed on a simple separation into mafic and felsic compositions can be characterised, which is often not possible from a comparison of Cr- vs. Nb- or T characteristics alone.

6.6.2. Eclogites in rutile thermometry

It was shown (Figures 6.6 and 6.8) that rutiles with mafic composition record maximum temperatures, which are similar within the thermometric calibration error to rutiles deriving from felsic host rocks. These data support the validity of applying rutile thermometry to mafic host rocks, at least in the Erzgebirge.

Zack et al. (2004a) and Watson et al. (2006) both have stated that in the absence of quartz and/or zircon the equilibrium exchange reaction (equation 6.1) is not buffered. While zircon is mostly the only phase where Zr constitutes a major element, silica activity can be buffered by a larger variety of Si-bearing mineral phases to values lower, but close to unity. Hence rutile thermometry is generally much more sensitive to the existence or absence of zircon than quartz. These considerations in turn loosen the constraints put on lithologies, where rutile thermometry is applicable and, moreover, they indicate that thermometry will produce acceptable results in a large number of, in particular silica-saturated, rock types.

A lack of coexisting zircon (or a decrease in Zr activity) will always lead to diminished incorporation of Zr into rutile, while a lack of coexisting quartz (or a decrease in silica activity) will lead to an increase in Zr incorporation. As silica activity, following our argumentation above, is usually better buffered than Zr activity, underestimation of a sample's maximum metamorphic temperature is much more likely than overestimation.

However the application of rutile thermometry to lithologies with questionable quartz- and particularly zircon contents must still be treated with care, when the obtained maximum temperatures cannot be validated by the means of other methods: We can observe that our investigated mafic rock samples contain small amounts of quartz and zircon. Anyway, a mineral paragenesis cannot be derived from rutile geochemistry alone, as would be needed in sedimentary studies.

6.6.3. Zr-in-rutile equilibration conditions and processes

From our results we conclude that there exists a temperature, above which most rutiles equilibrate at the current metamorphic conditions (Figures 6.9 and 6.10). In the Erzgebirge, the critical temperature range lies at 550-600 °C. The decreasing degree of equilibration within the rutile population towards lower metamorphic grades is expressed by a) an increasing variance in the samples' temperature distribution, and b) the increasing occurrence of maximum temperatures exceeding Variscan temperatures:

a) In terms of an application of the rutile thermometer, it can be seen from the T-variances displayed in Figure 6.9 that samples exhibiting larger standard deviations than ca. 120 °C (2-σ) in the Erzgebirge are not equilibrated and must be treated with care. This is supported by Spear et al. (2006), who find equilibrated rutile compositions at within-sample temperature ranges of less than 55 °C.

b) During metamorphism, a newly grown rutile is very unlikely to incorporate more Zr than the equilibrium reaction allows. Furthermore, large part of the high-T rutiles in question can be characterised as metapelitic (Figure 6.8) and hence are ensured to have equilibrated at adequate phase compositions. Thus, rutiles with significantly higher Zr contents than maximum Variscan temperatures must be relicts

from an earlier metamorphic event. The decreasing average maximum temperature from the OS to MU obtained from rutiles results either from the increasing tendency of crystals to approximate equilibration at metamorphic temperature, or the increasing abundance of newly grown, equilibrated rutiles (Figure 6.9).

The influence of lithology

Samples from similar metamorphic units within the transition zone between non-equilibrated and equilibrated rocks do not show corresponding maximum calculated temperatures (Figure 6.9). Assuming that samples from the same rock units underwent similar metamorphic histories, this variability is most likely the result of differences in lithology between single samples. One outstanding example is the quartzite sample from the EMU: Rutiles from this sample have resisted equilibration even at more than 600 °C as seen in the extremely large temperature variance compared to all other samples from the same subunit. Interestingly, many of the rutiles record temperatures much higher than 600 °C. A possible explanation is that quartzites are relatively unreactive compared to other lithologies as their lack of Fe- and Ca-bearing phases leads to a diminished ability to form titanite or ilmenite during, e.g., greenschist facies conditions, where rutile is not stable.

The influence of general metamorphic conditions

Rutile closure temperatures are $\sim$ 560-, 635-, and 730 °C for cooling rates of 1-, 10-, and 100 °C/Ma, respectively, for grains of ca. 100 μm in diameter (cited in Watson et al. (2006)), which approximates the sizes of rutile grains in sands analysed in this study. The values for the slow to medium cooling rates $<$ 10 °C/Ma cited above correspond to the equilibration boundary at 550-600 °C found in this study. However, in addition to lithology, metamorphic grade, and rate of change in metamorphic conditions (as explained above), the possible influence of fluids can change the timescales and velocities, in which rutile dissolves, re-grows, and/or equilibrates (Luvizotto and Zack, 2009).

Hence in order to explain the existence of relict, high-temperature rutiles and lowered frequencies of equilibrated rutiles in sediments from low-metamorphic units, two scenarios can be envisaged. 1.) Detrital rutiles in meta-sediments are stable during the whole metamorphic cycle, and diffusive equilibration becomes significant only above 550-600 °C. 2.) Detrital rutiles are unstable at greenschist-facies metamorphic conditions. As explained above, due to their low reactivity only rutiles in quartzites resist re-equilibration. Above 550-600 °C, significant amounts of newly grown rutile suppress the relict signal, and smaller temperature variances evolve. To assess the influence of these two mechanisms, the samples' rutile/ zircon ratios should be studied, as zircon is stable during the entire metamorphic cycle. Hence low rutile/ zircon ratios would be expected if rutile occurs only rarely (e.g., only in quartzites). On the contrary, metamorphic rutile growth in common lithologies (e.g., metapelites) would be visible in form of increasing rutile/ zircon ratios.

6.6.4. Temperature populations and retrograde processes

A prominent feature, which is common to all individual sands and most rocks, can be observed in Figure 6.9: Although the total range in calculated temperatures changes with metamorphic grade, the recorded temperatures in most samples are separated into two (very rarely three) populations. Different interpretations must be applied for high- and low-temperature samples to explain these groupings.

As explained in the last chapter, for high-temperature rutiles from the Gneiss units we can presume equilibration with peak temperatures of the last (Variscan) metamorphic cycle. Thus, lower Zr contents must originate from more or less pronounced re-equilibration processes during retrograde conditions. A clustering of analyses into sub-populations, as has been observed for the garnet schist in Figure 6.6, in retrograde processes can only evolve, if rutile populations are exposed to resetting with differing intensities. This can only be achieved if some of the crystals are isolated as inclusions within other mineral species with lower Zr diffusion coefficients (e.g., garnet and pyroxene) in comparison to the rest of the mineral assemblage. Inclusion rutiles must have higher or similar Zr contents than matrix

rutiles, a feature, which is commonly observed in Erzgebirge rocks (e.g., Figure 6.7) and elsewhere (Zack et al., 2004a).

A calculation of multiple normal (Gaussian) distributions fitted to temperature distributions of single sand samples, achieved by weighted mass balance calculations (see example in Figure 6.11), provides estimates on the relative proportions of inclusion rutile (groups A and C) and matrix rutile (groups B and D) compositions. This approach reveals that 65-70 % (according to the total number of peak temperature rutile analyses) of rutiles have not been reset during retrograde conditions and are available in sands for proper temperature calculations.

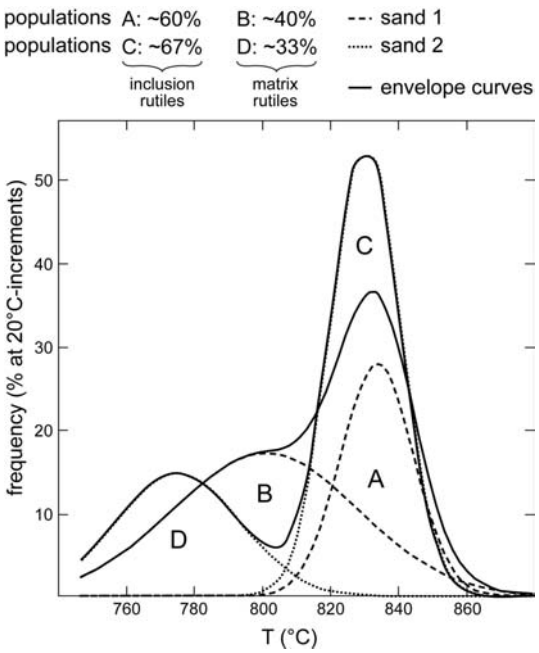


Figure 6.11.: Normal (Gaussian) distributions fitted to temperature frequency distributions (EMP) of two sand samples from the northernmost sampling area, ca. 4 km north of Saidenbach dam (Figures 6.2 and 6.6). Sand 1 is subdivided into populations A (inclusion rutiles) and B (matrix rutiles), sand 2 is subdivided accordingly into populations C and D. The respective approximate proportions of each population as calculated from the temperature distributions are shown.

A resetting to new metamorphic conditions is mainly achieved by diffusion and dynamic recrystallisation processes, both of which occur most often at high-temperature conditions. Prograde metamorphism is more efficient in equilibrating mineral assemblages and crystal-chemical conditions due to the common presence of fluids, compared to retrograde conditions.

In contrast to high-temperature rocks, low-grade samples exhibit complex histories. Slower diffusion processes at low temperature and the existence of rutile from earlier metamorphic cycles are superimposed on re-equilibration processes.

Spear et al. (2006) for low-temperature (< 500 °C) samples from Sifnos (Greece), applying unpublished Zr diffusivity data cited in Watson et al. (2006), argue that at such low temperature, diffusion will not exceed distances > 10 μm and therefore will not modify Zr compositions of rutiles subsequent to their growth. Spear et al. (2006) found that matrix rutiles sometimes display higher temperatures matching the concurrent metamorphic conditions, while inclusion rutiles only provide minimum growth temperatures of their host minerals. However, this is not generally observed in low-grade samples (see Zack and Luvizotto, 2006). The discrepancy between the results of this study and those found by Spear et al. (2006) concerning Zr characteristics of matrix and inclusion rutiles shows that on the one hand at high-grade metamorphic conditions, host minerals with low Zr-diffusivities keep inclusion rutiles from re-equilibrating during retrograde conditions. On the other hand, at low-grade metamorphic conditions, where rutile is unlikely to be reset during retrograde metamorphism, it is more likely that matrix rutiles display peak temperature conditions.

6.6.5. Relict rutiles

Some rutiles in the very low-grade samples, particularly from the OS, PU and GPU, inherit relict temperatures from an earlier metamorphic event. These relicts are characterised by extremely high Zr contents, corresponding to temperatures of > 950 °C or > 1100 °C, using the calibrations of Watson et al. (2006) and Zack et al. (2004a), respectively. As we are not able to put constraints on metamorphic pressures, additional thermometry methods (e.g., zircon thermometry, as described by Watson and Harrison, 2005; Watson et al., 2006) need to be applied in order to assess the true metamorphic temperature of these relicts.

Linnemann and Romer (2002) in their studies on Early Paleozoic Saxo-Thuringian sedimentary rocks of central Europe infer a provenance from the west African craton. Guerrot et al. (1989) find the same source rocks for metamorphically overprinted sediments in the west European Hercynian belt, which shows that this provenance apparently applies to a broad region. Studies on metamorphic conditions in the west African craton reveal ultra-high temperature granulites, which were gener-

ated at 800 °C up to ca. 1100 °C and about 1 GPa (e.g., BernardGriffiths et al., 1996; Caby, 1996; Peucat et al., 1996; Ouzegane et al., 2003), and which hence come into question as potential rutile source rocks. Also there are kimberlite provinces in the west African craton, which might have made a small contribution to a high-Zr rutile population (e.g., Williams and Williams, 1977; Taylor et al., 1994). Thus, our temperature estimates from relict rutiles fit into the common picture of a derivation of Early Paleozoic sediment of central Europe from source rocks from the west African craton.

6.7. Summary and conclusions

We have shown that rutile composition in modern sand-sized sediments from the western Erzgebirge correspond very well with the presently outcropping rocks. Thus rutile is considered an accurate tracer of source rock characteristics in sedimentary systems. Furthermore the investigation of sand samples has the advantage of interpreting larger sampling bandwidths, which results in a better representation of source lithology compared to single rock samples. We conclude that the study of any region in terms of, e.g., rutile peak metamorphic temperatures, can be greatly improved if modern sand samples are investigated as well as rocks. These findings underline the importance of further investigations on the application of rutile geochemistry to provenance studies.

From our studies in the Erzgebirge, we infer that rutiles can be classified in terms of source lithology using Nb-Cr analyses by a 1:1 line or, accordingly, by the 0-line in $log(\mathrm{Cr}/\mathrm{Nb})$ ratios. A predominance of Cr content points to mafic host rocks, and a predominance of Nb content to metapelites. The use of $log(\mathrm{Cr}/\mathrm{Nb})$ values in combination with other trace elements allows for a better assessment of provenance characteristics than using element contents alone.

Our results support that a larger variety of rock types can be used for rutile thermometry than was initially assumed by Zack et al. (2004a). In the Erzgebirge, eclogites provide rutile grains appropriate for thermometry after Zack et al. (2004a).

This increases the variety of suitable source lithologies, because detrital rutile grains need not be characterised as metapelitic in origin before applying the thermometer.

From single-sample temperature distributions, we can show that the consistency between rutile thermometry with the actual metamorphic conditions depends on a complex mixture of influencing factors, such as lithology, metamorphic grade, and effects of migrating fluids. Additionally, retrograde re-equilibration can lead to the development of large temperature variances or, due to shielding effects for rutile as inclusions in other mineral phases, to the formation of higher- and lower-temperature populations within one rock or sand sample. Nb and Cr characteristics are not affected. In high-grade samples >550-600 °C from the Erzgebirge, peak temperature rutiles are most likely to be found as inclusions in, e.g., garnet. The evolving temperature populations can be quantified applying simple statistical models: More than 65 % of rutiles under high-grade metamorphic and similar lithological conditions such as in the Erzgebirge, retain peak metamorphic conditions.

Rutile sand and rock samples equilibrated at peak metamorphic conditions exhibit 2-σ standard deviations in calculated temperatures smaller than 120 °C. Below 550-600 °C, equilibration at current metamorphic conditions was not reached, giving us the opportunity to observe relict rutile grains originating from the erosion of pre-Variscan terranes. This in turn puts constraints on the high-grade metamorphic (>950 °C) nature of these source rocks, which most likely derive from the west African craton in Ordovician time.

Our results show that investigating rutile trace element characteristics in order to infer host rock lithology and metamorphic conditions as established by Zack et al. (2002b, 2004a,b) and Watson et al. (2006), constitutes an extremely useful tool for provenance studies. In the case of temperature distributions of single sand samples, we have shown that a quantification of subpopulations is possible via fitting of multiple normal distributions. In future studies, this technique may help in quantifying different source lithology components. In order to test the application of rutile trace element studies on ancient sands and sandstones, where neither source lithology nor geomorphology are known, the next step to make must be an upscaling of the approved methods.

7. Rutile and coexisting mineral phases in the Erzgebirge

7.1. Rutile crystallisation from ilmenite: implications from Nb contents

Luvizotto GL, Zack T, Triebold S, von Eynatten H (2009): Rutile occurrence and trace element behavior in medium-grade metasedimentary rocks: example from the Erzgebirge, Germany. Mineralogy and Petrology 97, 233-249.

Investigation of rutile textures from medium-grade metasedimentary rocks in the Garnet-Phyllite Unit (GPU), Micaschist Unit (MU, similar: "MEU" in Luvizotto et al., 2009b) and Gneiss Unit (GU, similar: "GEU" in Luvizotto et al., 2009b) in the Erzgebirge (compare Figure 3.1) shows an increasing replacement of ilmenite by rutile and chlorite with increasing metamorphic grade, according to the simplified reaction Ilm + silicates + $H_2O \rightarrow$ Rt + Chl (mineral abbreviations after Kretz, 1983), compare Figure 7.1.

As shown in Figure 7.2, rutiles from GPU exhibit similar, well-defined Nb/Ti ratios, but higher Nb contents, compared with ilmenites in GPU and MU. Rutiles from MU tend to higher Nb concentrations and higher Nb/Ti ratios and are characterised by large variances of both, whereas Nb concentrations and Nb/Ti ratios of rutiles in GU exhibit similar median values as in MU, but small variances.

These Nb characteristics can be explained according to the textural observations described above, when taking into account experimental results of rutile/melt and ilmenite/melt partition coefficients (Green and Pearson, 1987; Foley et al., 2000; Green, 2000; Horng and Hess, 2000; Schmidt et al., 2004; Klemme et al., 2005, 2006), which show that (at atmospheric pressure and temperatures ranging from

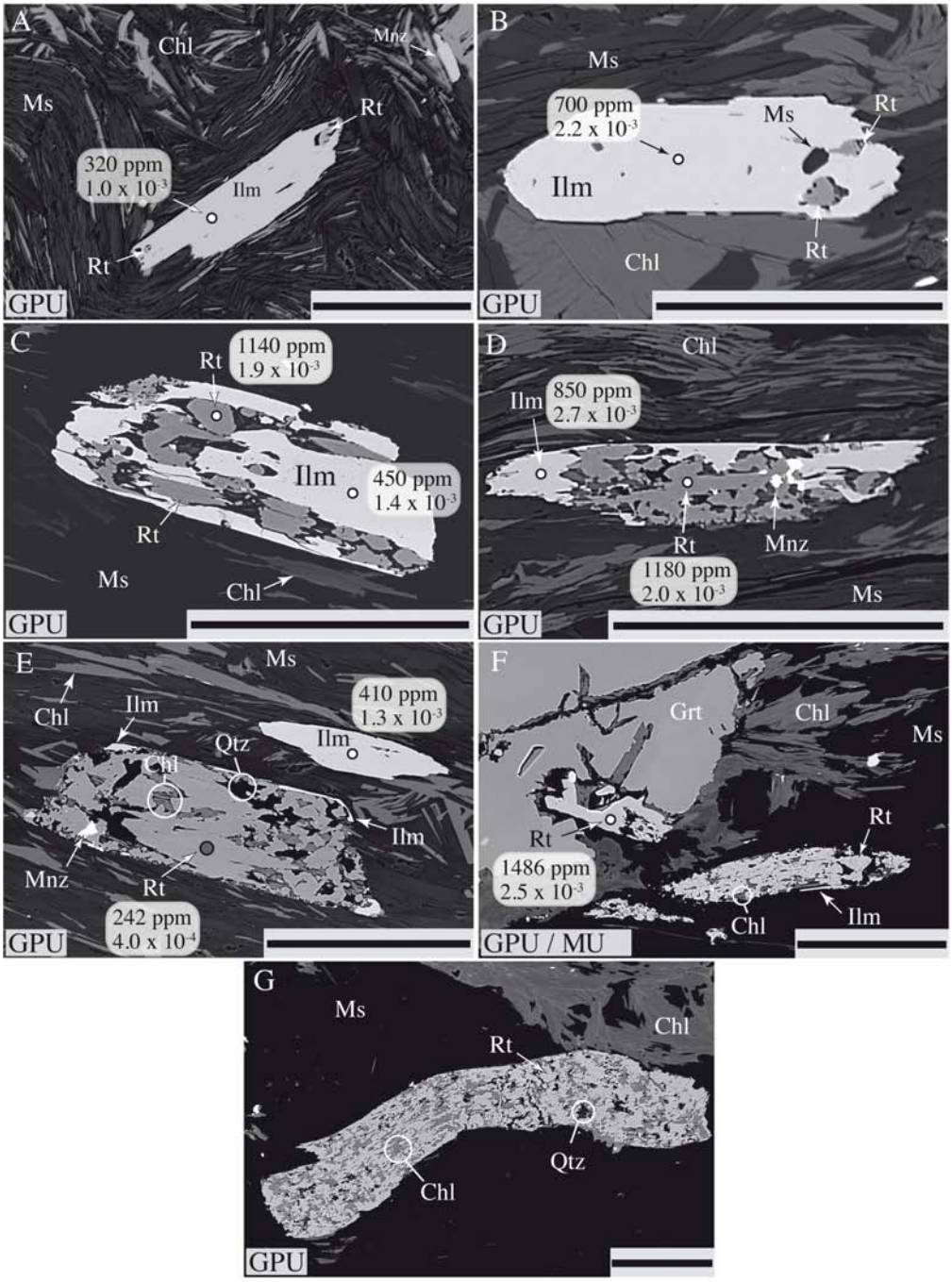


Figure 7.1.: BSE images exemplifying the textures observed in metasedimentary rocks from the GPU and MU. The images are arranged in order of increasing rutile/ilmenite ratio. Numbers given in the figures correspond to Nb concentrations (in ppm) and Nb/Ti ratios. All scale bars represent 100μm. See text for further information. Samples: A, B and D - P38c; C and E - P2; G - 2/12; H - 2/2.

1200 to 1300 °C) rutile strongly favors the incorporation of Nb when compared with ilmenite. Hence, when rutile grows at the expense of ilmenite, initial rutile will have very high Nb contents. As the reaction continues, Nb concentrations both in rutile and ilmenite will decrease (as visualised by the large variances in MU rutiles) until finally, when all ilmenite is consumed by growth of rutile, Nb concentrations are homogenised (GU samples). Calculations indicate that applying this scenario (compare Figure 7.3), rutile growth took place in equilibrium with ilmenite in MU and GU.

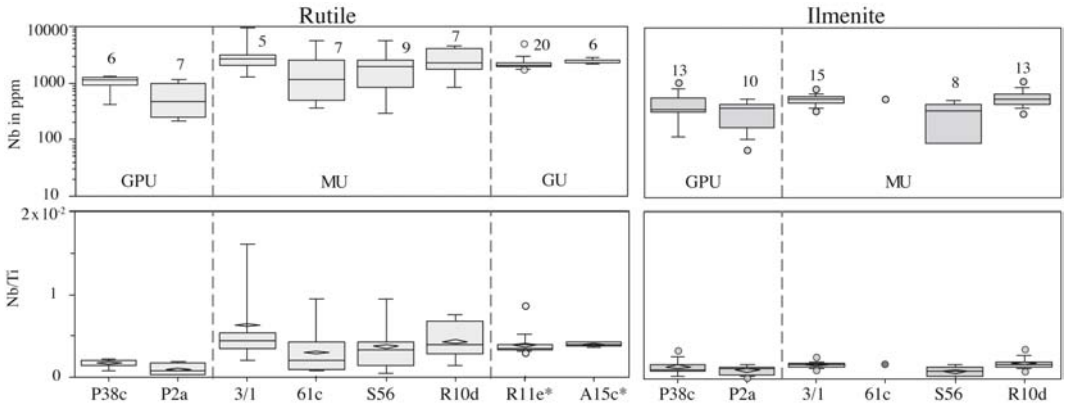


Figure 7.2.: Summary of Nb concentrations (EMP and SIMS) obtained for the rutiles and ilmenites. Samples are sorted according to increasing metamorphic grade. The boxes represent, from bottom to top, the second and third quartile (25 and 75% of the population). The bar inside the box represents the median, while the lozenge (just for Nb/Ti) represents the average. Whiskers represent the 10 and the 90 percentile. When they occur, outliers are represented by small circles. Numbers above the boxes refer to the number of analyzed grains (one spot per grain). As EMP and SIMS results are within error, for grains analyzed by both techniques only EMP data is plotted (because of the higher spatial resolution). *: ilmenite-free samples.

Following this argumentation, rutiles in GPU obviously are not in chemical equilibrium with associated ilmenites. This may be explained by too slow diffusion rates at lower-grade metamorphic conditions (ca. 480 °C and < 0.9 GPa) and indicates a large influence of temperature on metamorphic reactions, which is corroborated by observations of Triebold et al. (2007) (Chapter 6) and Triebold et al. (in press) (Chapter 8).

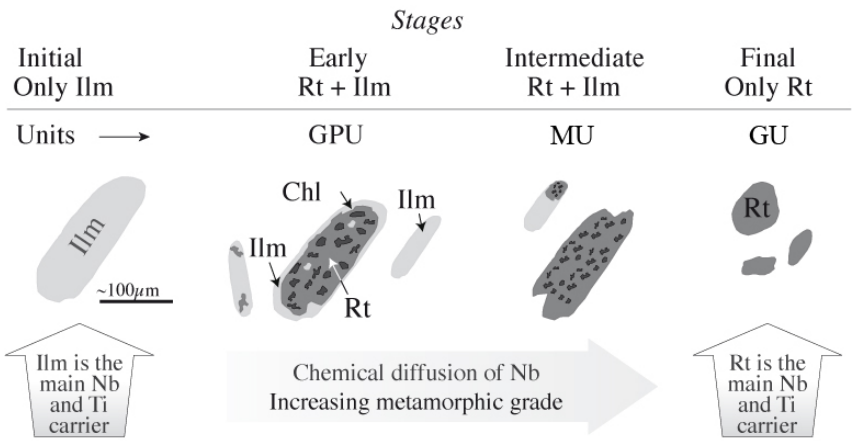


Figure 7.3.: Illustration showing the main stages of rutile crystallization from ilmenite during prograde metamorphism.

Furthermore, these considerations show that for rutile populations with large variances in Nb concentrations, a correct classification according to Cr and Nb concentrations is not guaranteed, depending on the classification method chosen (compare Section 9.1). In order to comprise such rutile populations into correct groupings, it is reasonable to decrease the lower boundary of Nb concentrations allowed for metapelitic rutiles as introduced by Zack et al. (2002a, 2004b) and changed by Meinhold et al. (2008).

Relict rutiles in quartzite sample EGB-04-S56 (compare Triebold et al., 2007, Chapter 6) were found to have not only exceptionally high Zr contents, but also much higher Nb contents than observed for rutiles described above. In order to evaluate the impact of rutiles from quartzites on the sediment record of rutile, probabilities of rutile occurrences in a sediment derived from a quartzite/ metapelite (phyllite or schist) lithology were calculated for different grain size fractions (Table 7.1).

For this purpose, Gaussian (normal) distributions were calculated assuming an average grain size of 50 μm, together with a standard deviation of grain sizes of 20 % and a whole rock TiO_2 content of 1 % by mass for the metapelite (Mpel). For the quartzite (Qzt) calculations, an average grain size of 100 μm and a whole rock

TiO_2 content of 0.5 % by mass were assumed. These assumptions are based on natural average values (e.g., Hirsch, 2008; Pettijohn, 1975).

Table 7.1.: Probabilities of occurrence of rutiles with grains sizes of 63, 80 and 100 μm in metapelites and quartzites; and percentage contribution of quartzites in the sedimentary record of rutiles from low- to medium-grade metasedimentary sequences.

Rutile	Prob.	Prob.	Prob. Ratio	Percentage contrib. in sediment		
Fraction	Mpel(%)	Qzt(%)	Qzt/Mpel(vol.)	1 % Qzt	5 % Qzt	10 % Qzt
63 μm	10	96	0.6	0.6	3	6
80 μm	0.14	84	38	38	100	100
100 μm	<0.003	50	>1000	100	100	100

Parameters: Metapelite (Mpel) - average grain size = 50μm, standard deviation = 20%, TiO_2 (whole rock) 1.0%. Quartzite (Qzt) - average grain size = 100μm, standard deviation = 20%, TiO_2 (whole rock) 0.5%. Prob (%) – probability of occurrence of rutile (calculated assuming a Gaussian distribution). Please notice that the probability ratio of quartzite/pelite is expressed in volume (calculated taking into account the probabilities, the differences in grain sizes (converted to volume) and TiO_2 contents in the whole rock).

Despite the large number of assumptions, which increase uncertainties in the results of these calculations, we may derive that for grain sizes > 80 μm, as used in this work (compare section 5.1), a small fraction of a few vol- % of exposed quartzitic rocks in a catchment area that is else dominated by metapelites would already constitute the main rutile source and hence dominate the sedimentary record of rutiles in this area. In contrast, the 63 μm fraction will always be dominated by metapelitic rutiles.

With regard to these results, it needs to be tested whether small rutile grain sizes of 63 to 80 μm in comparison with large grain sizes of 80 to 200 μm exhibit differences in trace element (especially Zr and Nb, as explained above) contents. If they do, the grain size fraction chosen in this study (80 to 200 μm, according to the results presented in Section 5.1) fractionates rutiles from metapelites and quartzites, and a quantification of source lithologies will be biased accordingly.

7.2. Rutiles and zircons: age relations

As described in Chapter 6, evaluation of Zr contents in rutiles from the Erzgebirge indicates that a large proportion of relict rutiles was not re-equilibrated below ca. 550 °C, i.e. they still show the original Zr concentrations as in their source rocks. In order to specify their ages, these relicts were dated by LA-ICPMS (Table A.10) and compared to zircon ages (Table A.11) and zircon TE data (Table A.12) from the Erzgebirge.

The results (Table A.10 and Figure 7.4) show that most rutile analyses give ages ranging from 311 ±18 to 360 ±18 Ma ($^{206}Pb/^{238}U$ ages, 1-σ errors), which corresponds to the Variscan orogeny. Out of 41 well-defined relict rutile analyses, only 3 rutiles record older ages of 489 ±26, 532 ±26, and 1717 ±87 Ma.

A similar feature was found by Okay et al. (2010), who analysed 35 rutiles deriving from a Variscan orogenic setting by LA-ICPMS and find only one pre-Variscan isotopic signature.

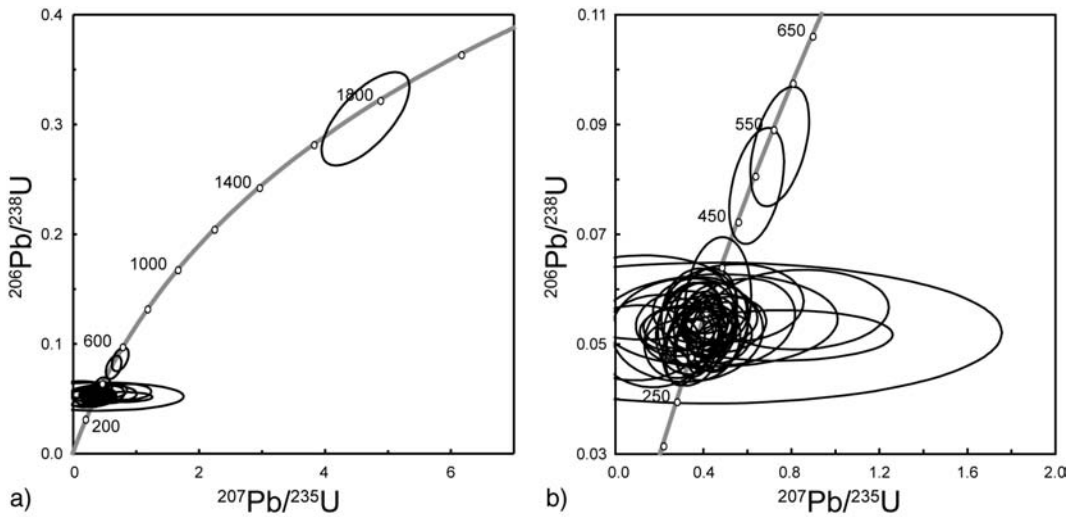


Figure 7.4.: a) Concordia plot of rutile analyses (N = 41). b) Detail from a) (N = 40). Data-Point error ellipses are 2-σ.

The fact that a large part of relict rutiles was reset in Pb- but not in Zr concentrations, indicates a larger diffusivity of Pb compared to Zr in rutile at a similar

metamorphic gradient. As U-Pb ages have been reset already at the lowest-grade metamorphic conditions occurring in the Erzgebirge of < 400°C (Ordovician Slates Unit), this finding contradicts a high closure temperature for Pb diffusion in rutile of 600-640°C, as found by, e.g., Cherniak (2000) and Vry and Baker (2006), and supports the lower closure temperature of ca. 400°C as inferred by Mezger et al. (1989).

TE data of zircons from various Erzgebirge samples and Ti-in-zircon thermometry results (calculated assuming that thermometry equilibrium was established, after Watson et al., 2006, Table A.12) show that obviously relict zircon temperatures (in italics in Table A.12) correspond well to relict rutile temperatures of > 1100 °C calculated after Zack et al. (2004a) (corrsponding to Tomkins et al., 2007, at a metamorphic pressure above ca. 3 GPa).

Zircon age data (as summarised in Figure 7.5) range from Variscan age up to > 3500 Ma populations and fit well to Erzgebirge and Bohemian Massif data found by others (e.g. Kröner et al., 1995; Kröner and Willner, 1998; Tichomirowa et al., 2001; Mingram et al., 2004; Linnemann et al., 2004; Kempe et al., 2004; Linnemann et al., 2008). Furthermore, our data support a lack of zircon ages between ca. 1000-1700 Ma (compare Figure 7.5), as observed by Tichomirowa et al. (2001), Linnemann et al. (2004) and Linnemann et al. (2008), but questioned by Hegner and Kröner (2000) and Mingram et al. (2004). This age gap suggests a West African (and not Amazonian) provenance of pre-Variscan rocks, as explained in Section 3.3.

Evaluation of single sample zircon ages shows that the highest grade sample (EGB-04-S41) and the granite sample (EGB-05-S68) comprise the only samples where Variscan ages are found. Zircons of older ages were nearly completely overprinted in these samples.

The other samples exhibit a much larger range of ages, going back to > 3500 Ma. Variscan zircons do not occur (in the examined grain size spectrum). Most analysed zircons are of Cadomian (ca. 700-425 Ma) age (compare Section 3.3). Other peaks occur around 2 Ga.

The three older rutile ages fit well into the zircon age populations, which suggests a common provenance of both mineral types.

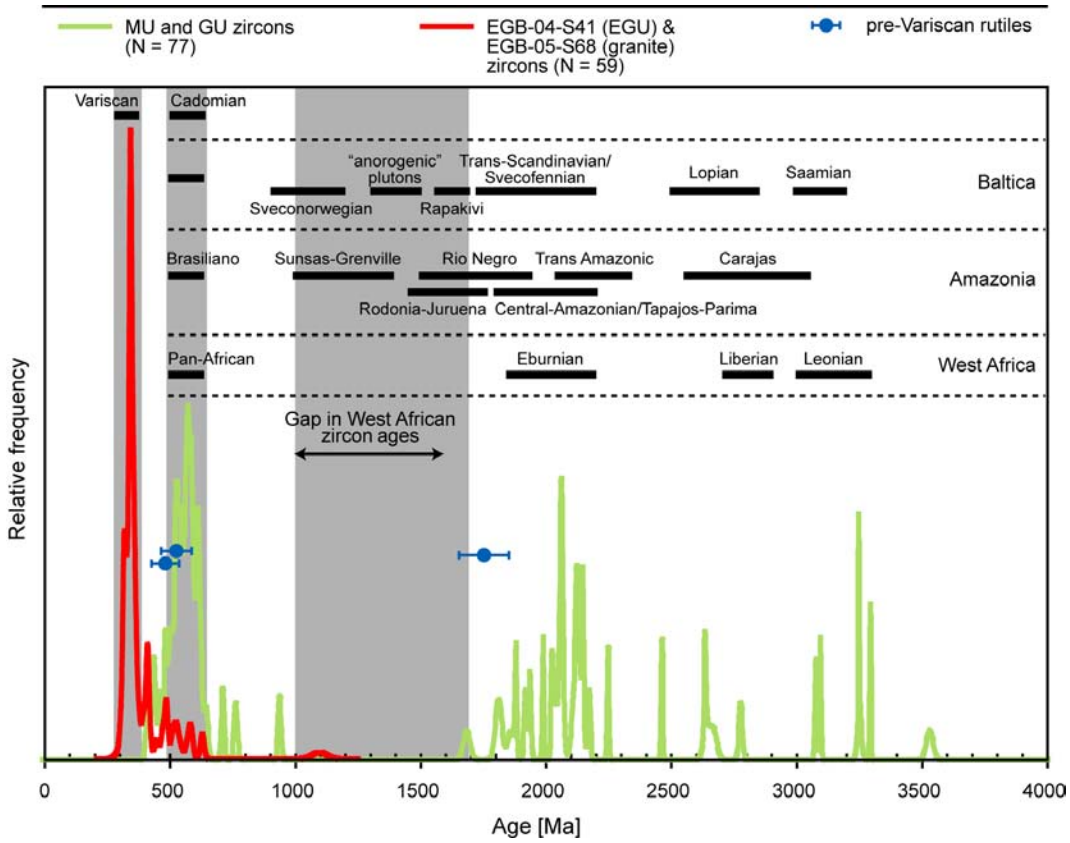


Figure 7.5.: Summary of zircon (N = 136) and pre-Variscan rutile (N = 3) U-Pb ages in the Erzgebirge. Error bars are 2-σ. The two zircon sample groups (MU + GU and EGU + granite) are plotted on different frequency axes for a better visualisation of the data. Approximate ranges of orogenic events in Baltica, Amazonia and West Africa (as summarised by Linnemann et al., 2004) are shown as black bars. Displayed are the ages with the smalles error for each analysis, respectively, chosen from ^{207}Pb/^{235}U, ^{206}Pb/^{238}U and ^{207}Pb/^{206}Pb ages.

8. Discrimination of TiO_2 polymorphs in sedimentary and metamorphic rocks

Triebold S, Luvizotto GL, Tolosana-Delgado R, Zack T, von Eynatten H (in press): Discrimination of TiO_2 polymorphs in sedimentary and metamorphic rocks. Contributions to Mineralogy and Petrology.

Abstract

Investigation by Raman spectroscopy of samples from different geological settings shows that the occurrence of TiO_2 polymorphs other than rutile can hardly be predicted, and, furthermore, the occurrence of anatase is more wide-spread than previously thought. Metamorphic pressure and temperature, together with whole rock chemistry, control the occurrence of anatase, whereas variation of mineral assemblage characteristics and/ or fluid occurrence or composition take influence on anatase trace element characteristics and re-equilibration of relict rutiles.

Evaluation of trace element contents obtained by electron microprobe in anatase, brookite and rutile shows that these vary significantly between the three TiO_2 phases. Therefore, on the one hand an appropriation to source rock type according to Nb and Cr contents, but as well application of thermometry on the basis of Zr contents, would lead to erroneous results if no phase specification is done beforehand.

For the elements Cr, V, Fe, and Nb, variation between the polymorphs is systematic and can be used for discrimination on the basis of a linear discriminant analysis. Using phase group means and coefficients of linear discriminants obtained from a compilation of analyses from samples with well-defined phase information together with prior probabilities of groupings from a natural sample compilation, one is able to calculate phase grouping probabilities of any TiO_2 analysis containing at least

the critical elements Cr, V, Fe, and Nb. An application of this calculation shows that for the appropriation to the phase rutile, a correct-classification rate of 99.5 % is obtained. Hence, phase specification by trace elements proves to be a valuable tool besides Raman spectroscopy.

Keywords: TiO_2 polymorph discrimination, phase classification, anatase, brookite, rutile, Erzgebirge, Zr-in-rutile thermometry.

8.1. Introduction

In the last few years, the application of rutile trace element systematics as tracer for metamorphic and sedimentary processes (provenance analysis) received wide attention. Zack et al. (2004a) and Watson et al. (2006), refined by Tomkins et al. (2007) establish rutile thermometry based on the increasing incorporation of Zr with rising metamorphic temperature. Zack et al. (2004b) constrain concentration ranges for Nb and Cr, which discriminate rutile deriving from pelitic or mafic source rocks. High U contents provide the opportunity to apply U/Pb- or (U-Th)/He dating techniques (e.g., Mezger et al., 1989; Vry et al., 2003; Vry and Baker, 2006; Stockli et al., 2007). Further work adresses the applicability of the rutile thermometer (Spear et al., 2006; Zack and Luvizotto, 2006; Triebold et al., 2007; Luvizotto and Zack, 2009), and lithology discrimination using Nb and Cr contents (Triebold et al., 2007; Meinhold et al., 2008; Luvizotto and Zack, 2009). It is found in different studies, that by inclusion of rutile in other mineral phases, Zr contents in rutile are inhibited from re-equilibrating during prograde (Spear et al., 2006) or retrograde (Zack et al., 2004a; Triebold et al., 2007) metamorphism, and hence maximum Zr contents within a rock or sand sample should be used for thermometry.

Additionally to rutile, both brookite and anatase are likely to occur in any metamorphic and sedimentary environment. Older experimental results (e.g., Dachille et al., 1968; Jamieson and Olinger, 1969) indicate that anatase and brookite are the low-T and low-P TiO_2 phases, being stable up to about 600 °C at air pressure and 100 °C at 2 GPa (anatase) and up to about 700 °C at air pressure and ca. 475 °C at

0.8 GPa (brookite). Above about 475 °C, rutile is the major stable phase. However, already Dachille et al. (1968), supported by new work (Grzmil et al., 2007; Sembaev et al., 2008) stress that whole rock composition plays an important role in the variation of the transition to rutile. Smith et al. (2009) find that the transition from anatase to rutile is thermodynamically favorable at all temperatures, and the formation of anatase requires low-temperature aqueous conditions. At ultrahigh pressure conditions, TiO_2 (II) (α-PbO_2 structure) is stable (Withers et al., 2003). Hwang et al. (2000) find this phase included in garnet in the Erzgebirge.

In their crystal structures, rutile and anatase are the most similar TiO_2 polymorphs, both crystallise in the tetragonal crystal system. The brookite crystal structure is orthorhombic. Common to all three polymorphs is their being built of TiO_6 octahedra, which are connected among each other in different ways depending on the polymorph type: in rutile, each octahedron is connected to two, in brookite to three, and in anatase to four neighboring octahedra via its edges.

In this contribution, we will demonstrate that rutile Cr/Nb systematics and Zr-in-rutile thermometry cannot be applied to brookite or anatase. Thus classification of TiO_2 phases is necessary before applying these tools. This is especially valid for sedimentary provenance studies, where source rock paragenesis is usually not known and thus, petrological constraints derived from single grains are important (e.g., Weltje and von Eynatten, 2004).

We will evaluate and introduce various ways of TiO_2 polymorph discrimination of embedded single grains. Optical microsopy and scanning-electron microscopy (SEM) imaging, Raman spectroscopy, and chemical composition by electron microprobe (EMP) have been explored.

8.2. Sample description and geological setting

We base our investigations on sand and rock samples from the Variscan Erzgebirge, as well as from two Mesozoic successions north of the Harz mountains (Warnstedt and Huy), which contain various amounts of rutile, anatase, and brookite. Sand samples from the Erzgebirge are stream deposits with small (up to 10 square-

kilometres) catchment areas. Sampling locations for all samples are shown in Figures 8.1 and 8.2. These samples derive from different geological settings ranging from sedimentary to metamorphic (up to 950 °C and up to 4.5 GPa). They are compared to rutile, anatase, and brookite single crystals from various other locations. Rutile analyses of samples from the Alps (Switzerland), Syros (Greece) and Mexico are only shown for comparison and will not be described in detail. A complete list of all samples is given in Table A.1.

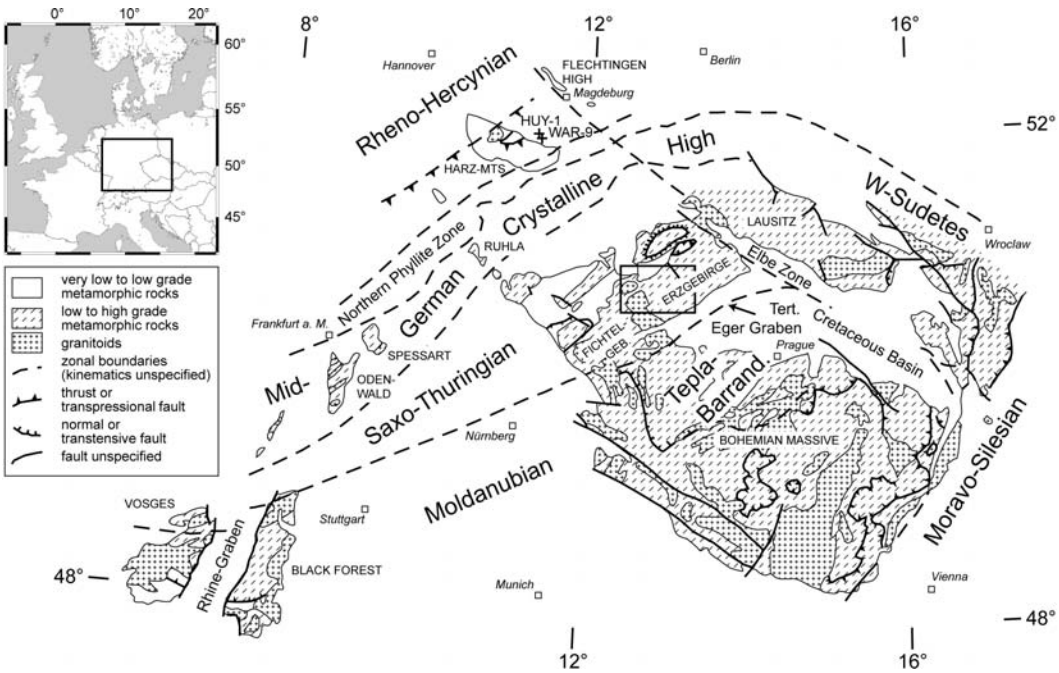


Figure 8.1.: Geological sketch of the Central European Variscides, modified after Dallmeyer et al. (1995). Locations for samples HUY-1 and WAR-9 are shown (north of Harz Mts). The rectangle indicates the position of the map in Figure 8.2 (Erzgebirge). The small inset figure shows a political map of Europe with the location of the geological sketch marked by a rectangle.

Two samples from Mesozoic siliciclastic rocks are investigated to include anatase of clearly diagenetic origin. Sample HUY-1 is a lower Triassic quartz-rich sandstone (Buntsandstein) from the small Huy mountains range ca. 15 km N of the Harz and ca. 45 km WSW Magdeburg. Sample WAR-9 derives from a ca. 1.5 m thick layer of well-sorted fine sand in Upper Cretateous (Santonian) successions exposed

in Warnstedt sand pit, which is located ca. 5 km N of the Harz and ca. 50 km SW Magdeburg.

The Erzgebirge metamorphic complex is situated at the northwestern border of the Bohemian Massive in eastern Germany. It belongs to the Saxo-Thuringian zone of the central European Variscides. The Erzgebirge is characterised by a large-scale antiformal structure, intruded by post-tectonic granitoids of late-Variscan age. It represents a stack of tectonic units (compare Figure 8.2) resulting from continent-continent collision processes (deformation, metamorphism and exhumation) during the Variscan orogeny (e.g., Willner et al., 1997, 2000; Rötzler et al., 1998; Mingram, 1998).

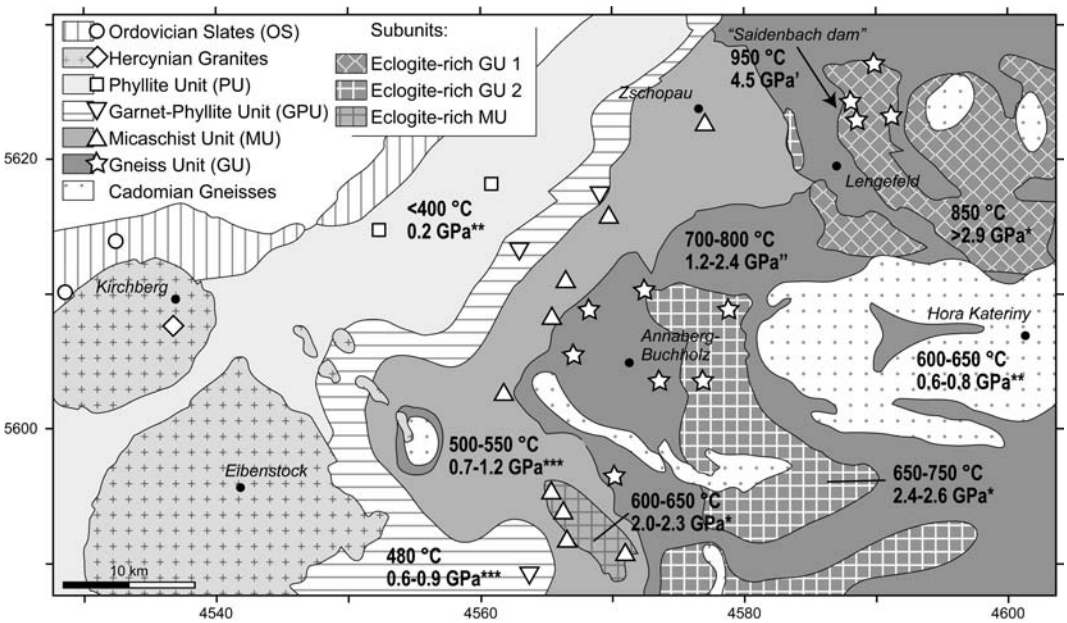


Figure 8.2.: Geological sketch of the western part of the Erzgebirge showing sampling locations. Samples from the same units are shown by similar symbols. The temperature and pressure estimates from preserved metamorphic assemblages are from: *Schmädicke and Müller (2000), **Mingram and Rötzler (1999), ***Rötzler et al. (1998), 'Massonne et al. (1998), and ''Willner et al. (1997). The coordinate grid is Gauss-Krüger (Potsdam). Compiled and redrawn from Willner et al. (1997), Mingram and Rötzler (1999), Schmädicke and Müller (2000), and geological maps of the Erzgebirge (1:25000 and 1:200000). Map slightly modified, from Triebold et al. (2007).

The western Erzgebirge consists of a sequence of tectonometamorphic units with low- to high-grade PT-histories (up to at least 950 °C and 4.5 GPa; Massonne et al., 1998). Following Triebold et al. (2007) (Chapter 6), these units are labelled, from tectonically lowermost to uppermost, the Cadomian Gneisses, Gneiss Unit (GU), Micaschist Unit (MU), Garnet-Phyllite Unit (GPU), Phyllite Unit (PU), and Ordovician Slates (OS). Additionally, three subunits, which have preserved earlier, higher PT-conditions, are defined: eclogite-rich Gneiss Units 1 (EGU1) and 2 (EGU2), and likewise an eclogite-rich Micaschist Unit (EMU). A summary of the published P and T conditions of the best-preserved metamorphic stage in each unit and subunit is shown in Figure 8.2.

Triebold et al. (2007) find high-Zr rutiles in the low-metamorphic Erzgebirge units and interpret them to be inherited, relic rutiles, which have survived the Variscan metamorphic event. Only above a certain temperature (the "550-600 °C boundary"), rutiles are completely equilibrated with unit metamorphic temperatures.

8.3. Sample preparation and analytical methods

From the sand- and crushed rock samples, rutile was extracted via sieving, heavy-liquid separation, magnetic separation, and handpicking. As trace elements in rutile are not systematically related to grain size (von Eynatten et al., 2005), we focus on the grain size fraction having the highest percentage of rutile (80-200 μm). Extracted separates, including the single crystals, were embedded in epoxy resin discs and polished. For EMP analysis, they were coated with carbon to ensure conductivity.

Electron microprobe analyses were performed in Göttingen using a JEOL JXA 8900 instrument. Beam conditions were set to 25 kV accelerating voltage and 80 nA beam current. Matrix correction was performed using the Φ-ϱ-Z method (Armstrong, 1995). All microprobe conditions, including counting times, errors and detection limits, can be reviewed in Table 4.1. No analysis obtained Mg above detection limit. Si was analysed as indicator for phase mixture analyses. The extent

of the influence of secondary fluorescence in adjacent silicates or silicate inlusions on the analysis result for Si is unclear. A couple of studies deal with the effect of the so-called "phase-boundary fluorescence" for other elements (e.g., Bastin et al., 1984a,b; Dalton and Lane, 1996; Wark and Watson, 2006). Our observations indicate that in most cases, Si concentrations do not derive from mixture analyses, but from secondary fluorescence effects (in silicate inclusions), which work over large distances (at least 50 μm).

Phase analysis was done using a confocal Raman spectrometer (Horiba Jobin-Yvon Labram HR 800 UV) with 633 nm laser excitation, 20 mW laser power, 1200 lines/mm grating and a Peltier-cooled CCD detector. Because of the large number of crystals, automated single spot analysis was applied. Therefore, in most cases, phase information derives from one single measurement per crystal. Only for selected crystals where mixed spectra were obtained, more than one analysis was done and / or detailed mapping with 5 μm increments was applied. In both single spot analyses and mappings, a 100 x objective and a confocal hole of 200 μm were used.

8.4. Results

8.4.1. Raman spectroscopy

The three TiO_2 polymorphs rutile, anatase, and brookite can very well be distinguished. Rutile was identified by Raman bands at 240, 450, and 615 cm^{-1} (peak positions) and anatase by bands at 143, 400, 516, and 642 cm^{-1}. Brookite produces a range of Raman bands with varying intensities, among these are bands at 128, 155, 215, 247, 250, 289, 323, 368, 453, 549, and 638 cm^{-1}. A compilation of literature on TiO_2 Raman spectra is given by Meinhold et al. (2008) and Luvizotto et al. (2009b). Figures 8.3 (a) - (c) show examples for pure rutile, anatase, and brookite spectra.

Erzgebirge polymorph statistics are complicated by the occurrence of mixture analyses between anatase and rutile with varying Raman band intensities of both

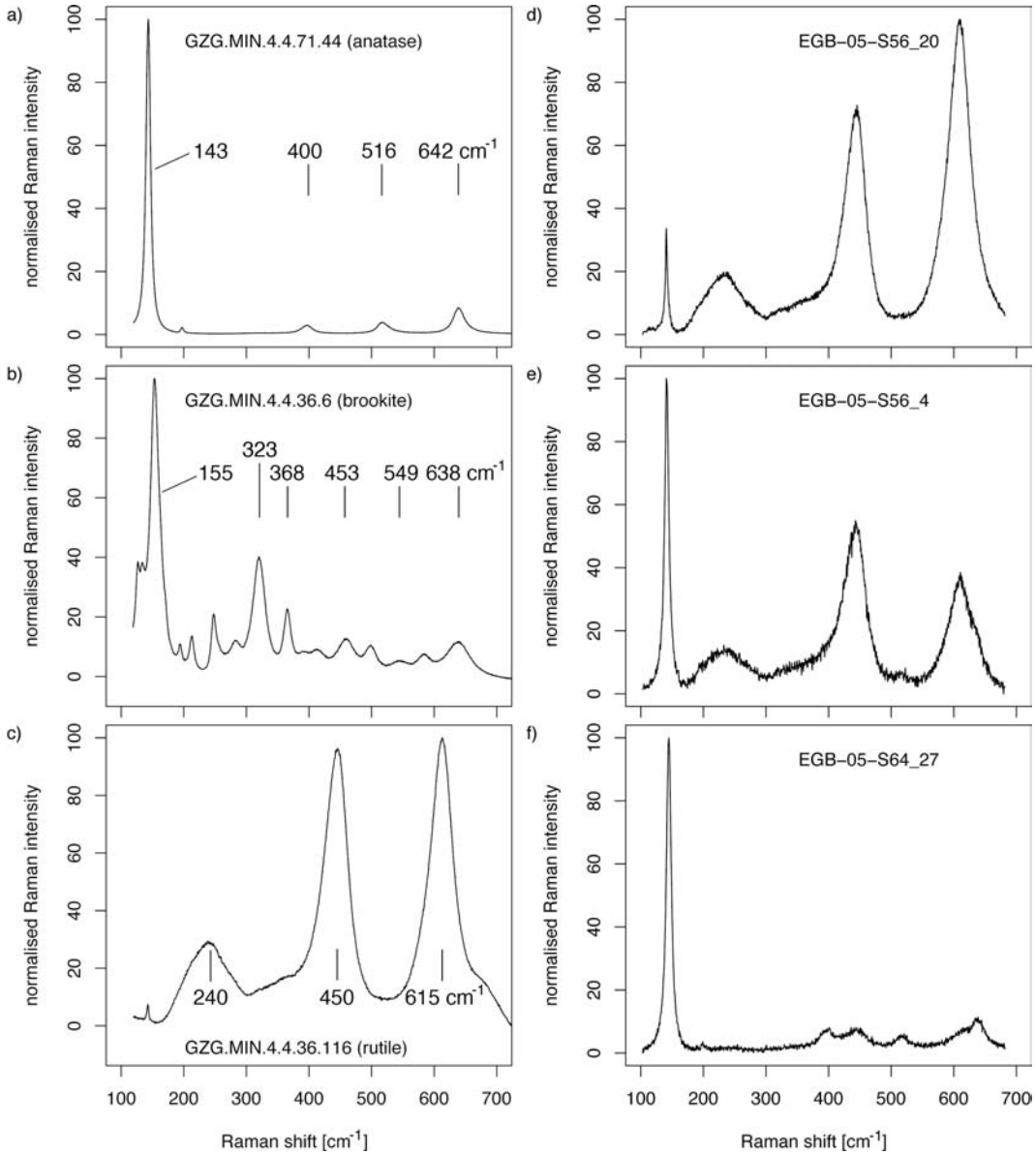


Figure 8.3.: Examples for Raman spectra from different samples and crystals. (a) - (c): Pure spectra of anatase, brookite, and rutile. The most characteristic bands are labelled. (d) - (f): Mixed spectra between anatase and rutile.

polymorphs. Examples are shown in Figure 8.3 (d) - (f). In all our samples, brookite was found only as pure phase.

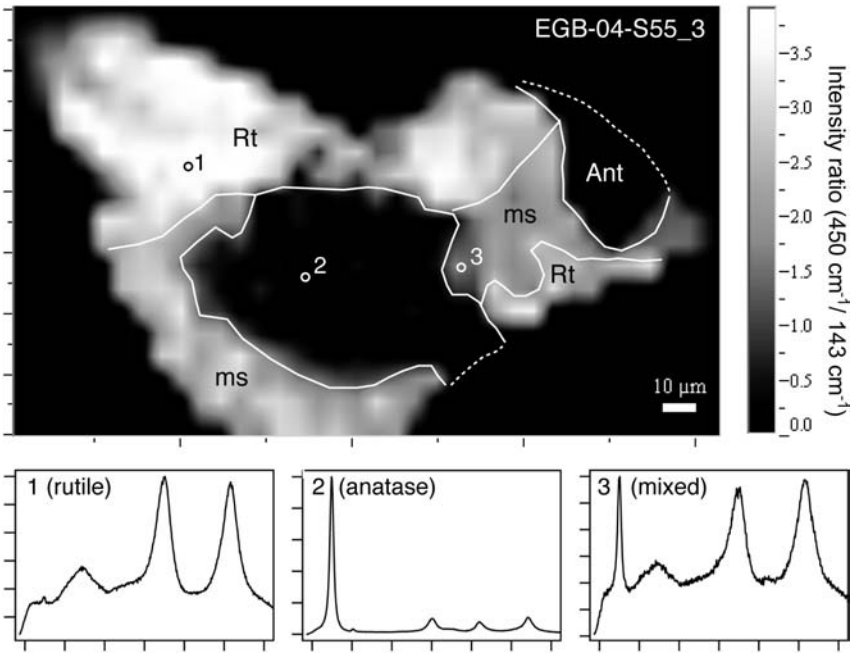


Figure 8.4.: Phase distribution in an ARI grain in EGB-04-S55. Numbers in the Raman map indicate spot analysis positions of the spectra given below. Rutile (Rt), anatase (Ant) and mixed spectra (ms) regions are approximated after comparison with the backscattered-electron (BSE) image shown in Figure 8.8 in order to take cracks into account, which would give darker colours. The regions shown display areas of approximately homogeneous phase composition.

Where Raman analysis obtained a mixed spectrum, mapping was applied for examplary individuals (Figure 8.4). It was found that mixed spectra are never homogeneously distributed in such "anatase-rutile intergrowth" (ARI) grains, but occur as zones of up to 30 μm in diameter or transition regions of up to 30 μm in thickness between more or less pure anatase and rutile regions. Please note that we are using the term "intergrowth" only in its descriptive meaning, without genetical implications. With the Raman analysis settings used, a depth resolution of 3 - 10 μm and a lateral resolution of ca. 1 μm are obtained. Therefore, mixed spectra regions may

derive from a locally shallow phase boundary between anatase and rutile. But just as likely is a derivation from a sub-μm phase mixture.

In sample HUY-1, 34 anatase- and 31 rutile crystals were analysed. In sample WAR-9, 26 anatase- and 34 rutile crystals were analysed. Both samples contain rutile and anatase in almost equal fractions and no brookite. In the Erzgebirge samples, TiO_2 polymorph contents are more diverse. A list of Raman spot analyses is given in Table 8.1. Rutile crystals with anatase rims (only two cases observed) are entirely grouped as rutile in this list, even though the anatase rim was analysed and in trace element statistics they occur as isolated phases. ARI grains are grouped by their spot analysis result. Due to their textures (as described above), ARI grains are more likely to occur as anatase or rutile in trace element (TE) statistics, than as mixed spectrum.

Comparing spot analysis results between different Erzgebirge units (Table 8.1), the largest fractions of anatase occur in sediments derived from the medium T units GPU, MU and EMU. Fractions of anatase and mixed spectrum are not directly related. Mixed spectrum occurrence is lowest in the lowermost metamorphic units OS and PU, whereas anatase occurrence is lowest in the uppermost metamorphic eclogite-rich units EGU1 and EGU2. In EMU, the largest fraction of anatase was found in the quartzite EGB-04-S56. Brookite fractions are low and uniformly distributed.

8.4.2. Optical and scanning-electron-optical microscopy

To identify TiO_2 single crystals in embedded preparates, optical criteria like birefringence, which differs for anatase dependant on orientation, interference patterns and crystal shape can only be used in particular cases. Light refraction is high and only slightly different for each polymorph and hence cannot be decisive in single crystal preparates. Crystal color, in contrast, in most cases is practically suitable for identification. Additionally, degree of rounding, twinning and backscattered-electron (BSE) intensity contrasts can give indications.

In the Erzgebirge samples, anatase is colorless to lightly yellowish in plain-polarised transmitted light. In backscattered-electron images in compositional

Table 8.1.: Raman TiO_2 phase results of Erzgebirge samples and units. maximum T = maximum temperature estimates, see also Figure 8.2. As no unit metamorphic temperature estimates exist for the OS, we assume that its maximum temperature is lower than the higher-metamorphic PU temperatures, which is then $< 400\,°C$. The PU maximum temperature may have been nearly 400 °C. Sample EGB-04-S56 is a quartzite, the only rock sample described in this contribution.

Sample	Metamorphic unit	Maximum T [°C]	Mrystals in total	Fractions of Rt	ms	Ant	Brk
EGB-05-S69	OS	< 400	37	0.92	0.00	0.08	0.00
EGB-05-S70	OS	< 400	37	0.81	0.05	0.08	0.05
EGB-05-S51	PU	400	34	0.97	0.00	0.03	0.00
EGB-05-S67	PU	400	20	0.80	0.00	0.15	0.05
EGB-04-S61	PU	400	10	0.70	0.00	0.30	0.00
EGB-04-S63	GPU	480	41	0.59	0.10	0.32	0.00
EGB-05-S64	GPU	480	32	0.47	0.03	0.50	0.00
EGB-04-S62	MU	550	17	0.82	0.00	0.18	0.00
EGB-05-S50	MU	550	30	0.73	0.20	0.07	0.00
EGB-05-S52	MU	550	32	0.69	0.19	0.13	0.00
EGB-05-S53	MU	550	40	0.48	0.20	0.28	0.05
EGB-05-S65	MU	550	29	0.79	0.14	0.07	0.00
EGB-04-S55	MU	550	41	0.68	0.10	0.17	0.00
EGB-04-S51	EMU	650	45	0.87	0.09	0.04	0.00
EGB-04-S53	EMU	650	34	0.65	0.12	0.21	0.03
EGB-04-S56	EMU	650	15	0.53	0.00	0.47	0.00
EGB-05-S56	EGU2	750	30	0.80	0.20	0.00	0.00
EGB-05-S57	EGU2	750	31	0.94	0.06	0.00	0.00
EGB-04-S57	GU	800	31	0.87	0.10	0.03	0.00
EGB-05-S54.	GU	800	17	0.65	0.00	0.35	0.00
EGB-05-S55	GU	800	29	0.86	0.10	0.03	0.00
EGB-05-S61	GU	800	29	0.93	0.00	0.03	0.03
EGB-05-S63	GU	800	28	0.75	0.07	0.18	0.00
EGB-04-S41	EGU1	950	30	0.90	0.10	0.00	0.00
EGB-04-S50	EGU1	950	45	0.96	0.04	0.00	0.00
EGB-04-S50	EGU1	950	49	0.98	0.02	0.00	0.00
EGB-05-S49	EGU1	950	32	0.91	0.09	0.00	0.00
EGB-04-S45	EGU1	950	30	1.00	0.00	0.00	0.00
EGB-05-S68	Kirchberg granite		4	0.00	0.00	1.00	0.00
Unit total	OS	< 400	74	0.86	0.03	0.08	0.03
Unit total	PU	400	64	0.88	0.00	0.11	0.02
Unit total	GPU	480	73	0.53	0.07	0.40	0.00
Unit total	MU	550	187	0.68	0.15	0.16	0.01
Unit total	EMU	650	94	0.73	0.09	0.17	0.01
Unit total	EGU2	750	61	0.87	0.13	0.00	0.00
Unit total	GU	800	134	0.83	0.06	0.10	0.01
Unit total	EGU1	950	186	0.95	0.05	0.00	0.00

Rt - rutile, ms - mixed spectrum, Ant - anatase, Brk - brookite.

(COMPO) mode, we find more or less pronounced zonation in most cases (Figure 8.5a). No rounded anatase crystals were observed. Growth textures (Figures 8.6a and b) indicate static growth of anatase late in the metamorhic cycle, after deformation took place.

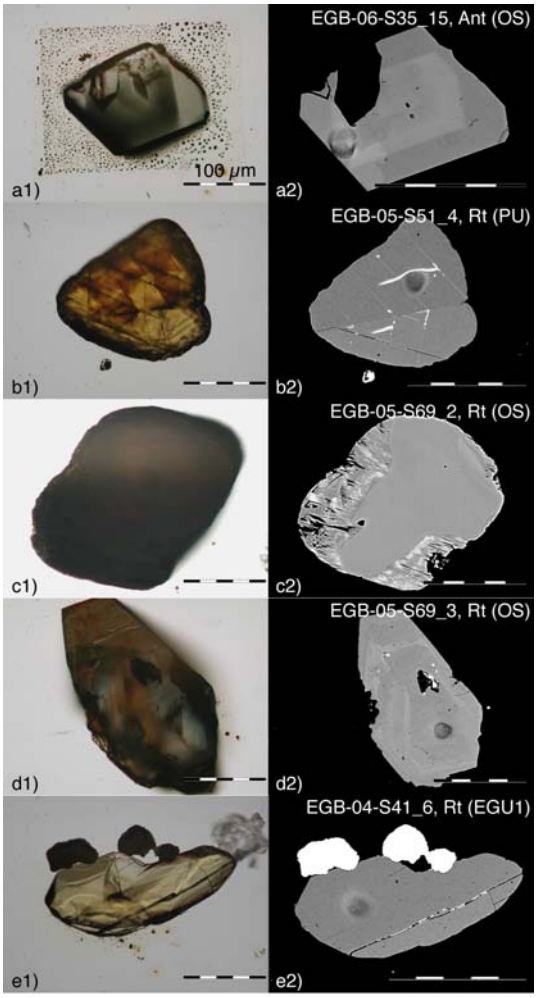


Figure 8.5.: Optical and scanning-electron images of anatase- and rutile crystals from different Erzgebirge samples. 1: plain-polarised transmitted light, 2: backscatter-electrons in COMPO mode. Ant = anatase, Rt = rutile. The rim on rutile crystal (c) is rutile as well. Circular depressions in Figures (b), (d), and (e) are secondary-ion-microprobe analysis pits.

Rutile mostly shows yellowish, brownish or reddish colors (Figure 8.5b). Often, rutiles are rounded (Figure 8.5b) and/or exhibit twinning striae in or in a right angle to elongation direction (Figures 8.5b and e). Although rutile crystals are mostly homogeneous in BSE images, zonation occurs quite often (Figure 8.5d). When

trace element contents are high (certain elements, e.g., Fe, Sn and W, can reach contents larger than 10 000 ppm), strongly zoned rutile can be observed.

The seven brookite crystals we found in the Erzgebirge samples, are lightly yellowish in transmitted light and homogeneous in BSE images. No rounding was observed. ARI grains exhibit the same optical characteristics as rutiles.

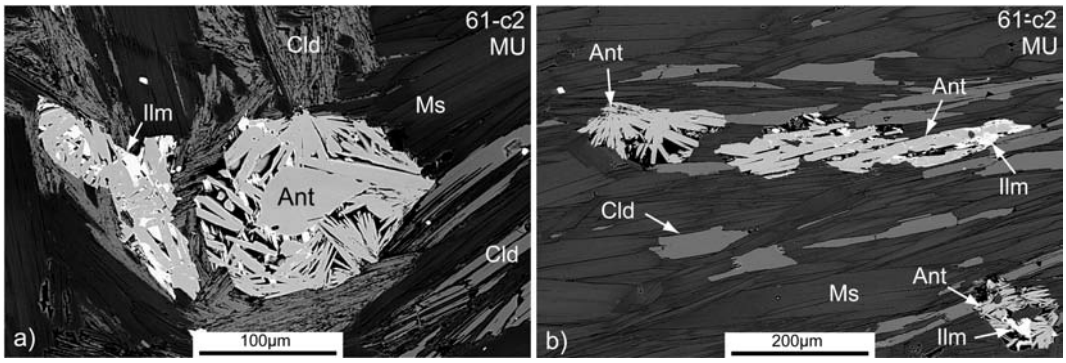


Figure 8.6.: Scanning-electron images of anatase in a Bt-Cld-Grt-Phe schist from MU in the Erzgebirge (sample 61-c2).

In rare cases where anatase rims or contacts rutile, a contrast in BSE intensity can be observed (Figure 8.7). Anatase can be lighter or darker than rutile. When anatase occurs in ARI grains, no systematic BSE contrast can be observed (Figure 8.8 shows the same crystal as was used for the Raman map in Figure 8.4).

To summarize, in the Erzgebirge samples, rutile, anatase, ARI and brookite cannot be distinguished in all cases by means of optical microscopy. Doubts in identification arise due to the variability of rutile characteristics (Figure 8.5) and due to the similarity of anatase/brookite and rutile/ARI. Anatase single crystals and anatase rims on rutile can be identified as such, whereas zones of anatase in ARI grains are optically indistinguishable from the surrounding rutile.

For HUY and WAR samples, separation can be done by optical means (compare Figure 8.9). In both samples, rutiles are strongly colored and rounded, whereas anatase occurs as colorless, idiomorphic single crystals or crystal aggregates with clear diagenetic origin. In WAR-9, few anatase crystals appear subangular (Figure 8.9e), possibly pointing to a relocation (sedimentary recycling) after growth of anatase.

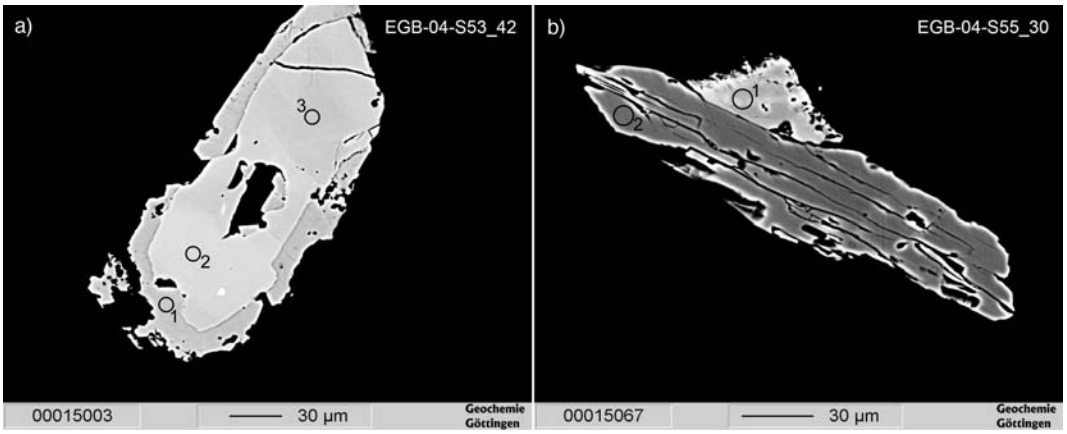


Figure 8.7.: Scanning-electron (BSE in COMPO mode) images of two crystals with anatase rim and contact. Circles show EMP analysis locations, compare Table 8.2. (a) 1 = anatase, 2 and 3 = rutile. (b) 1 = anatase, 2 = rutile.

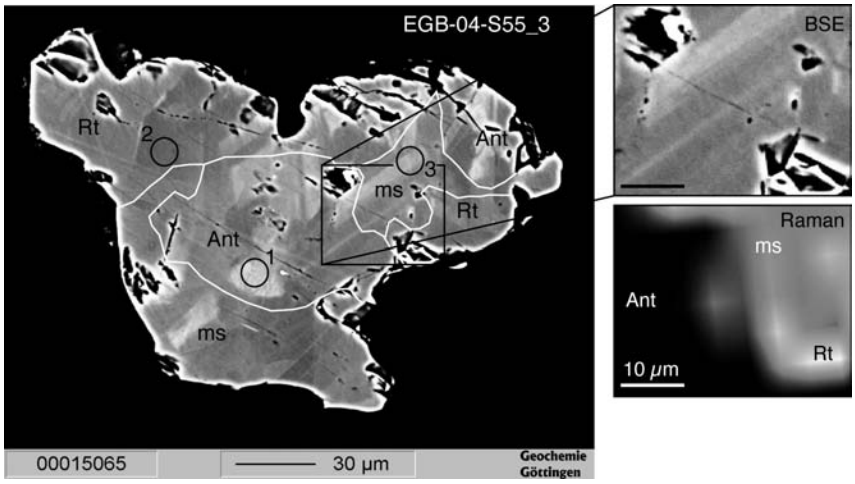


Figure 8.8.: Scanning-electron (BSE in COMPO mode) image of an ARI grain in EGB-04-S55 (same grain as shown in Figure 8.4). Rt = rutile, Ant = anatase, ms = mixed spectrum. Areas of similar phase composition are separated by white lines according to Figure 8.4. Circles show EMP analysis locations, compare Table 8.2. The closeup (equal area as BSE and Raman signal) points out that the phase transition is not accompanied by a BSE intensity change.

From frequent observations the surmise arose, that anatase displays cathodoluminescence (CL) under the electron beam in Erzgebirge rock samples, while rutile does not. However, we cannot confirm these findings, as both anatase and rutile show CL, with varying intensities. Further, CL intensity diminishes during electron bombardment and thus constitutes no reliable property for discrimination.

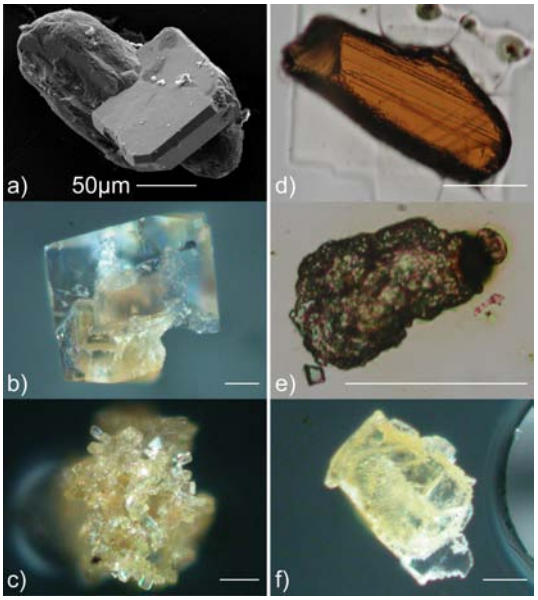


Figure 8.9.: Optical (transmitted light) and scanning-electron images of anatase- and rutile crystals in (a) - (c): HUY and (d) - (f): WAR samples. (a) rutile and idiomorphic anatase, (b) anatase, (c) anatase, (d) rutile, (e) anatase, (f) anatase.

8.4.3. Trace elements

Polymorph discrimination

Using the Raman phase analysis data in combination with TE contents, it is possible to classify polymorphs into groups with different TE contents. For the samples with well-defined phase information (HUY-1, WAR-9 and the single crystals, compare Table A.5) this is particularly obvious (Figure 8.10). In scatter-plots, V and Cr are best suited for classification[1]: Anatase has low contents of both Cr and V (below

[1]Due to interference with Ti Kβ, the detection limit for V is very high (220 ppm, compare Table 4.1). Consequently, the bigger part of anatase analyses plot below the V detection limit. Yet, as errors are comparatively small (70 ppm), anatase V values (comparable in accuracy with Cr values) still have significance when plotting near the detection limit.

about 200 ppm) compared to rutile. Even though brookite crystals cannot be classified as an own group in scatter-plots, there is a tendency towards low Cr/V ratios.

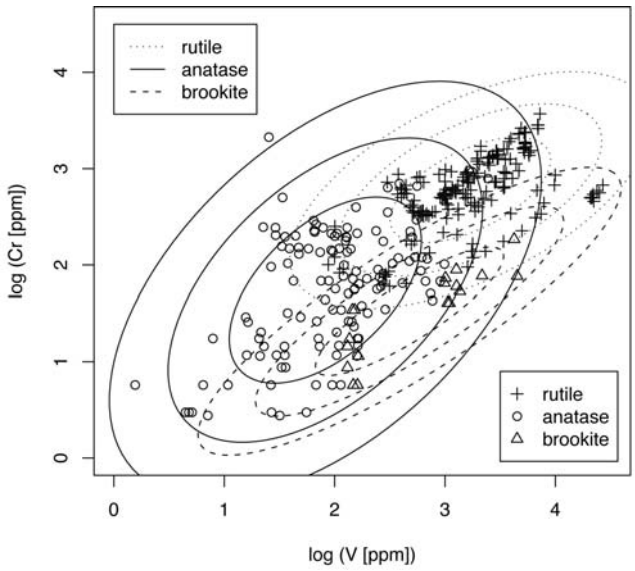


Figure 8.10.: V vs. Cr plot for samples HUY and WAR, and the single crystals. Ellipses indicate 1-, 2-, and 3-σ probability regions. Detection limits are at 220 and 50 ppm for V and Cr, respectively.

In sample HUY-1, we found one double-crystal with rounded rutile and idiomorphic anatase in direct contact (Figure 8.9a). Analysing both of them, we find that these two crystals fit well into the respective probability regions (Figure 8.11).

Similarly, anatase found in contact with rutile in the Erzgebirge samples (Figure 8.7), shows distinct TE characteristics with low Cr- and V contents (Table 8.2). For EMP analysis results of Erzgebirge samples see Tables A.2 and A.4. Anatase in ARI grains, however, generally exhibits similar Cr- and V contents as the adjacent rutile (Table 8.2). Additionally to Cr and V, as shown in Table 8.2, Nb, Al, and Zr contents are different between anatase and rutile for the two grains where both phases are in contact. This observation is indicative for few of the mentioned elements, but is not representative for the whole data set (which is emphasized by the linear discriminant analysis (LDA) results shown in Table 8.3). Elevated W contents for the anatase analysis in the ARI grain must not be overvalued, as this analysis was done inside an area with high electron-backscattering (see Figure 8.8) and thus is not representative for the whole anatase region inside that grain.

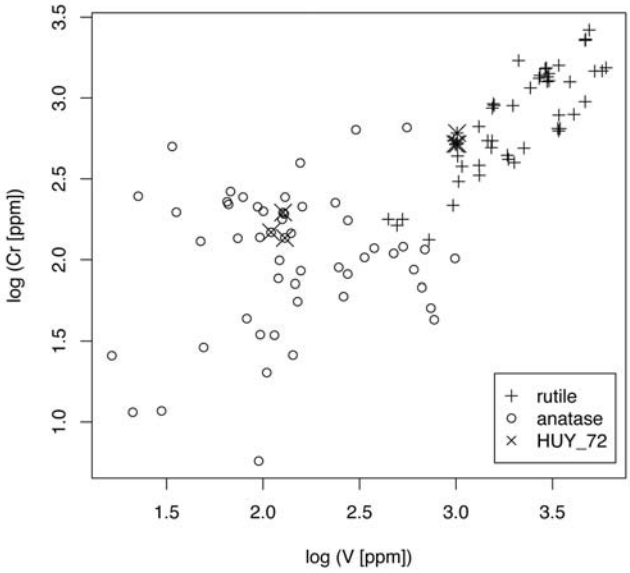


Figure 8.11.: V vs. Cr plot for TiO_2 grains from sample HUY-1, pointing out the analyses of the anatase-rutile double crystal shown in Figure 8.9 (a) (grain no. 72 in sample HUY).

Table 8.2.: Table showing analysis results for the crystals and analysis spots shown in Figures 8.7 and 8.8. Analyses EGB…1 correspond to analysis spots (1) in Figures 8.7 and 8.8 and are identified as anatase by Raman spectroscopy, analyses EGB…2 and EGB…3, correspondingly, are identified as rutile.

Label	Nb [ppm]	Cr [ppm]	W [ppm]	Sn [ppm]	Al [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
rutile and anatase in contact:									
EGB-04-S53_42_1	792	110	0	16	247	285	20	0	129
EGB-04-S53_42_2	1792	580	132	80	0	2189	912	72	0
EGB-04-S53_42_3	1801	554	57	109	0	2258	952	65	0
EGB-04-S55_30_1	498	53	5562	25	714	3710	109	12	603
EGB-04-S55_30_2	2991	150	79	45	40	2644	1433	35	14
ARI:									
EGB-04-S55_3_1	835	1822	10071	284	47	4290	1763	104	0
EGB-04-S55_3_2	1125	1235	2262	164	11	2278	1217	141	0
EGB-04-S55_3_3	1011	2121	6843	264	107	3225	1553	128	0

The relatively high amount of anatase and brookite in Erzgebirge samples appears to be exceptional. We also collected samples from the Alps, Syros and Mexico, but no anatase and brookite were found. Results from the latter samples are shown in Table A.6. Figure 8.12 shows that TE contents of these rutiles fit well with the characteristics observed for other samples discussed above. The large scattering in Cr contents points to a comparably higher significance of V values for classification purposes.

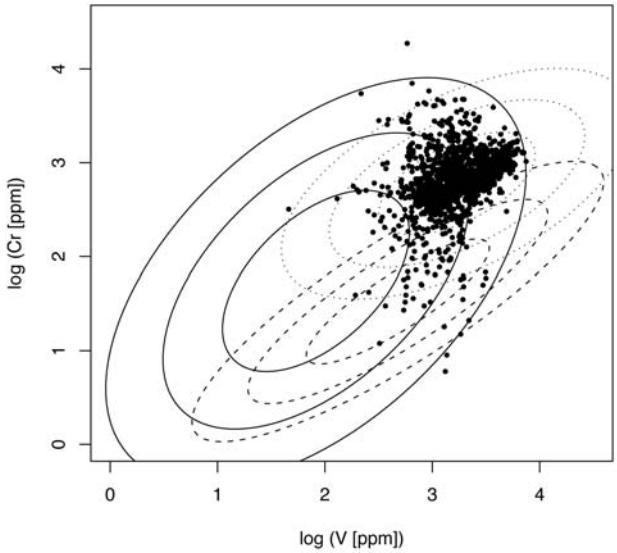


Figure 8.12.: Cr vs. V for samples from the Alps, Syros and Mexico (see Table A.6) with 1-, 2-, and 3-σ probability regions for rutile, anatase, and brookite (compare Figure 8.10).

In order to find a better separation of groups, we applied an LDA to the log-transformed proportions of the analysed elements[2], again using only those samples with well-defined phase information (HUY-1, WAR-9 and the single crystals) in order to discriminate rutile, anatase, and brookite. The result is shown in Table 8.3.

A cross-classification of the same data set (Table 8.4) shows that by means of this LDA, all TiO_2 polymorphs (brookite as well) can be separated from each other,

[2]This approach precludes analyses with "0" concentrations for any element, or requires zero replacement strategies (compare van den Boogart et al., 2006). In order to have a significant and representative dataset, analyses below detection limit were not changed to "0" or any other number. For the same reason, W and Al analyses were not included, as these obtained "0" for too many crystals.

Table 8.3.: Table showing details and result of the linear discriminant analysis for samples HUY-1, WAR-9 and the single crystals.

Prior probabilities of groups:

Anatase	Brookite	Rutile
0.32764505	0.04778157	0.62457338

Group means:

log (element)	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]
anatase	3.195607	1.823492	1.516392	3.239008	2.043290	2.227020
brookite	3.731985	1.530200	1.176514	3.497468	2.710993	1.353895
rutile	3.258939	2.781853	1.935055	3.327488	3.217666	2.437146

Coefficients of linear discriminants:

	LD1	LD2
Nb [ppm]	-0.6926381	-0.4400006
Cr [ppm]	1.0632667	1.1558577
Sn [ppm]	0.3895570	0.9713190
Fe [ppm]	0.7630163	-0.1888737
V [ppm]	1.3390162	-1.6312138
Zr [ppm]	-0.1898791	0.8305665

Proportion of trace:

LD1	LD2
0.8407	0.1593

with percentages of correctly classified crystals ranging from 97 % (rutile) via 84 % (anatase) to 71 % (brookite).

Table 8.4.: Table showing the cross-classification of all data used for linear discriminant analysis: predicted dataset means recalculated after linear discriminant analysis.

	Predicted dataset				Total	Fraction
	Anatase	Brookite	Rutile	Sum	Fraction	correctly classified
Raman dataset						
Anatase	81	0	15	96	33 %	84 %
Brookite	3	10	1	14	5 %	71 %
Rutile	5	1	177	183	62 %	97 %

By reclassifying Erzgebirge analyses (Table 8.5) by means of LDA results from HUY-1, WAR-9, and the single crystals (which was shown in Table 8.3), we find that analyses formerly classified as rutile by Raman single spot analysis are almost all ($>$99 %) reclassified as rutile by LDA, whereas analyses formerly classified as anatase are reclassified as rutile in 49 of 92 cases (ca. 53 %). This result for anatase in the majority of cases must derive from ARI grains classified as anatase in Raman spot analysis. Similarly, we can show that mixed-spectrum analyses in the majority (74 out of 76 analyses) are classified as rutile. Brookite analyses are completely reclassified as rutile.

The LDA results indicate that we find mainly one linear discriminant (LD1) suitable for separation. Besides Cr and V, Fe and Nb play an important role for discrimination, a fact which is obscured in simple scatter-plots.

Thermometry

In order to further investigate the influence of polymorph type on Zr contents (maximum values are used for thermometry), we take a closer look on samples where a direct comparison is possible: HUY-1 (Figure 8.13a), WAR-9 (Figure 8.13b), and the Erzgebirge samples sorted by their unit affiliation (Figure 8.14).

Table 8.5.: Table showing the predicted classification of Erzgebirge analyses after LDA of HUY-1, WAR-9, and the single crystals in comparison with the results of Raman spot analysis.

	Predicted dataset			
	Anatase	Brookite	Rutile	Sum
Raman dataset				
Anatase	37	6	49	92
Brookite	0	0	3	3
Rutile	2	2	785	789
Mixed-spectrum analysis	1	1	74	76
Sum	40	9	911	960
Total fraction [%]	4	1	95	

Even considering only those anatase analyses, which would be grouped as anatase by their TE contents (low V concentrations), in many cases (HUY-1, WAR-9, and the Erzgebirge units MU, EMU, and GU), anatase maximum Zr contents correspond very well to rutile maximum Zr contents, which range from ca. 300 ppm (2.5 log-units; MU) via 1000 ppm (3 log-units; EMU and GU) to 3000 ppm (3.5 log-units; HUY-1 and WAR-9). The finding that Zr contents in anatase are systematically related to Zr contents in rutiles which are locally and geochemically associated is strengthened by Erzgebirge quartzite EGB-04-S56, which provides the main part and the highest Zr contents of rutile and anatase analyses showing temperatures exceeding unit metamorphic temperature in EMU.

In samples deriving from the low-temperature units of the Erzgebirge (PU and GPU), anatase maximum Zr contents are considerably lower than rutile maximum contents, only few analyses exceed the detection limit (40 ppm or 1.6 log-units).

Despite the obvious relation between maximum Zr contents in anatase and rutile analyses from the same samples or units, Zr contents in anatase exhibit larger variances and also tend to lower mean values compared to rutiles.

A comparison of Figure 8.14 with Table 8.1 shows that fractions of ARI grains in the metamorphic units derived from mixed-spectrum analysis fractions are low in the lowermost units, whereas TE contents indicate that in the lowermost metamor-

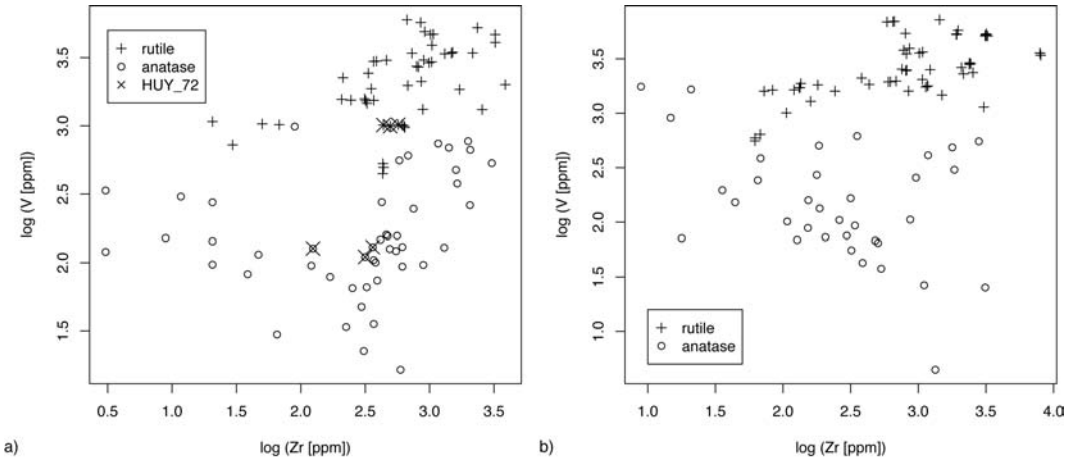


Figure 8.13.: Plots of Zr versus V for samples (a) HUY-1 and (b) WAR-9.

phic units ARI grains are rather represented by anatase. Hence, in the lowermost metamorphic Erzgebirge units, ARI grain fractions are similar to those in the uppermost metamorphic units.

8.5. Discussion

8.5.1. Occurrence and TE characteristics of anatase

In the sudied samples (Figure 8.12), anatase does not occur in each metamorphic or sedimentary environment, where rutile is present. Anatase in samples HUY-1 and WAR-9 evidently originates from a diagenetic setting (Figure 8.9), whereas anatase in Erzgebirge samples may have formed at metamorphic conditions as well. The similarity between anatase and rutile Zr contents points to a local connection between both phases and hence a derivation from the same source rocks in the majority of cases. Direct evidence for anatase occurrence in metamorphic rocks comes from anatase in a quartzite sample in Erzgebirge (EGB-04-S56), which provides the main part of anatase found in samples from EMU.

The idiomorphic or nearly idiomorphic habit of anatase in Erzgebirge samples (Figure 8.5) and static growth textures (Figure 8.6) indicate that it cannot be an inherited phase, but that it has grown rather late in the metamorphic cycle of its

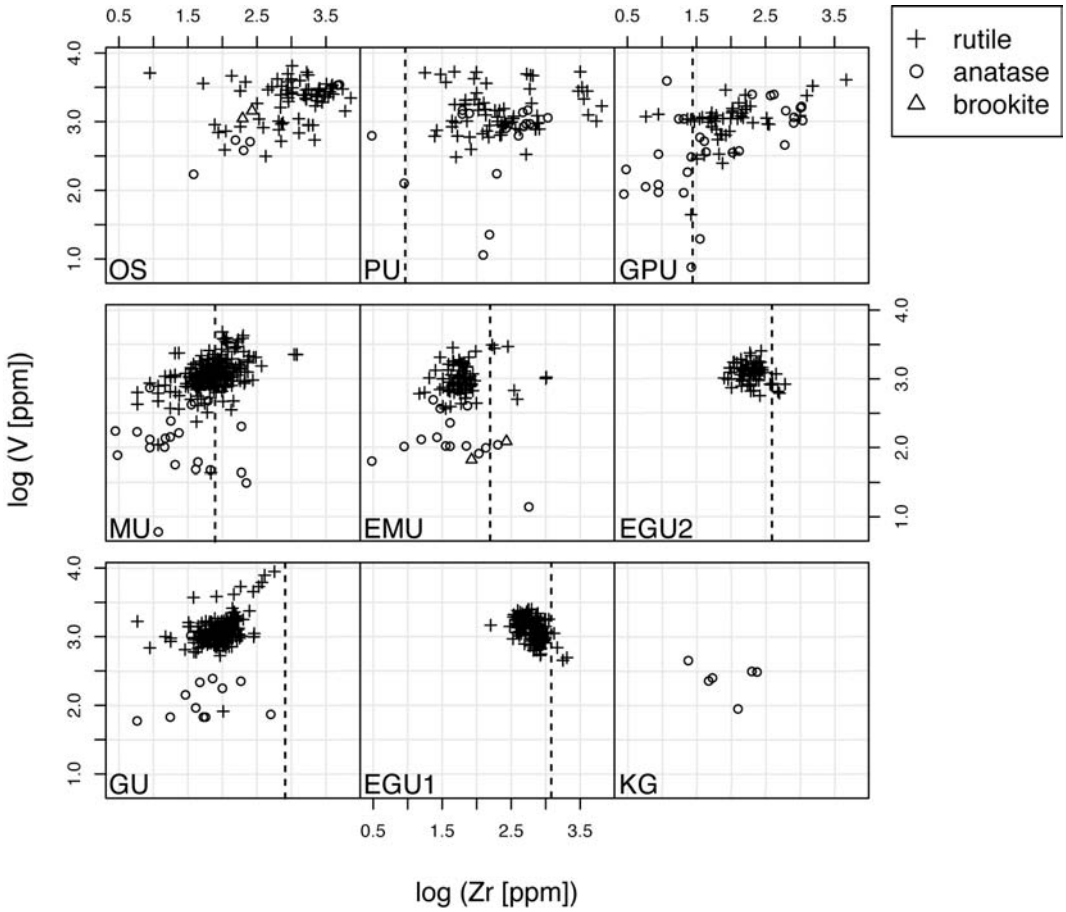


Figure 8.14.: Plots of Zr versus V for the different Erzgebirge units and subunits. In order to obtain a better overview, mixed spectrum results in Raman spot analysis are plotted as rutiles. Dotted lines show approximate maximum unit metamorphic temperatures as found by Schmädicke and Müller (2000), Mingram and Rötzler (1999), Rötzler et al. (1998), Massonne et al. (1998), and Willner et al. (1997), back-calculated to Zr contents by the calibration of Tomkins et al. (2007). Anatase analyses from Kirchberg granite (KG) are shown for comparison.

host rocks (after peak-metamorphism and deformation). The absence of anatase and occurrence of ARI grains in the lowest-metamorphic unit OS (compare Figure 8.14) possibly points to metamorphic reactions too slow for a complete transformation to anatase.

The absence of anatase in the high-grade, high-pressure units (EGU1 and EGU2; compare Table 8.1 and Figure 8.14) may have its origin in reaction kinetics. Very rapid exhumation may result in a lack of time for the growth of anatase. On the other hand, the fact that the main fraction of anatase in EMU is delivered by a quartzite, together with the lack of anatase in the other eclogite-rich units (EGU1 and EGU2) points to a disability of eclogites to produce anatase.

We have demonstrated that anatase is different from rutile in the concentrations of all analysed trace elements (Table 8.2), but only for certain elements (namely V, Cr, Fe, and Nb; compare Table 8.3), these differences are systematic and hence suitable for polymorph classification.

In those Erzgebirge units where anatase does not occur, ARIs are still present. In the elements, which are diagnostic for an assignment to TiO_2 polymorphs after LDA, no difference can be found between ARI and rutile (see Table 8.5). From the observation of Raman mappings (Figure 8.4) we may argue that ARIs represent the beginning of recrystallisation of rutile to anatase and therefore constitute a (still unequilibrated) transitional stage between rutile and anatase. As zoning patterns in ARIs (Figure 8.8) exhibit no contrast between rutile, anatase, and mixed spectrum regions, we conclude that at least during in situ recrystallisation, anatase maintains the major part of former rutile's trace element budget. A similar feature was observed by Yang and Rivers (2001), who find that Cr zoning in garnet indicates that the garnet overprinted a fabric defined by Cr-rich (mica, chlorite, epidote) and Cr-poor (quartz, plagioclase) layers during growth (overprint zoning). Supposedly, an equilibration of anatase TE contents and hence a separation of rutile and anatase TE groupings takes place when recrystallisation involves nucleation in another place or/and when completely recrystallised grains are given the possibility (e.g., given time and existence of a fluid) to equilibrate. Possibly, Zr is amongst the last elements to re-adjust in the equilibration process of anatase, as indicated by the

systematic relation between Zr contents in rutile and anatase, where V, Cr, Fe, and Nb can already be assigned to rutile- and anatase groupings. However, the larger variance in Zr contents and the tendency towards sub-detection limit Zr concentrations of anatase points to an evolution towards low Zr concentrations in equilibrium state.

8.5.2. Anatase in thermometry

The accordance between anatase and rutile Zr contents is well for many samples, but not good enough to use anatase as Zr-in-rutile thermometer. Not only are Zr concentration variances different between anatase and rutile, but also in two Erzgebirge units (PU and GPU), maximum Zr contents in anatase are different from rutile.

For similar reasons, Zr-in-anatase thermometry will not work: Although Zr incorporation into anatase must follow similar rules as Zr incorporation into rutile, the observed accordance between both phases' Zr contents is too well and covers a too large concentration range (2.5 to 3.5 log-units) to be coincidental. Hence we conclude that Zr contents in anatase cannot be used for direct thermometry, as they do not mirror anatase growth conditions, but obviously those of coexisting rutiles.

The petrological process behind the equilibration of Zr contents in anatase (compare last paragraph in section 8.5.1) needs further investigation. On the one hand, Zr contents in anatase are comparable to rutile Zr contents, even when these are not equilibrated at metamorphic conditions at the time of anatase growth themselves. This is best shown for diagenetic anatase in HUY-1 and WAR-9, whose Zr contents mirror rutiles indicating granulitic temperatures. Similarly, Zr contents in anatase from the upper-metamorphic Erzgebirge units MU, EMU and GU obviously corresponds to rutile maximum Zr contents, even though anatase most likely grew during late retrograde metamorphism while rutiles record peak metamorphic and even inherited temperatures.

On the other hand, maximum Zr concentrations in anatase in the lower metamorphic Erzgebirge units PU and GPU are considerably lower than in associated rutiles. Due to the very low fraction of anatase in the lower metamorphic units, this finding may only be a consequence of statistics. But as OS, PU, and GPU of all units in

Erzgebirge are those which retained the largest fractions of relict, high-temperature rutiles (Triebold et al., 2007) (Chapter 6), it is likely that the geochemical processes of rutile re-equilibration and in situ recrystallisation of rutile to anatase (and thus anatase inheriting rutile TE characteristics) are similarly inhibited in these Erzgebirge units. The reason for this cannot merely be low temperature and pressure, as in situ crystallisation and rutile re-equilibration are not linked in samples HUY-1 and WAR-9 (the first happened, the second not). Hence, we propose a reaction barrier in the low-grade Erzgebirge units, e.g. the inclusion of relict rutiles inside a host mineral or local differences in fluid activity or composition.

8.5.3. Identification of TiO_2 polymorphs

We have applied a range of techniques to identify TiO_2 polymorphs, which each has distinct advantages depending on the problem to be solved. None of these techniques leads to unambiguous results. In Raman spectroscopy, besides rutile, anatase, and brookite, we observe mixed spectra between rutile and anatase, which are, as was shown in mappings (Figure 8.4), not evenly distributed in ARI grains, but represent a transition zone between pure rutile and anatase. Hence in spot analysis, they are in the majority of cases not identified as ARI grains and may be regarded as rutile or anatase with equivalent likelihood. Therefore, using Raman spectroscopy, ARI grains can only be identified by time-consuming mappings.

By optical microscopy, anatase and brookite cannot reliably be discerned, while rutile and ARI cannot be discerned at all. Furthermore, rutiles may have the appearance of anatase and brookite in optical as well as in scanning-electron-optical microscopy.

Chemical analysis shows that anatase and rutile can be discerned by contents of Cr, V, Fe, and Nb (Tables 8.4 and 8.5), whereas ARI grains are similar to rutile in TE contents (Table 8.5) and therefore cannot and need not be distinguished. Further analyses of brookites are needed to make clear whether brookite can be classified at all. In the following, we are presenting a way to classify TiO_2 analyses on the basis of our LDA results.

In order to compute the classification probabilities of anatase, brookite and rutile for a given analysis, the group means and the coefficients of linear discriminants from Table 8.3 are applied. The prior probabilities of groups obtained from HUY, WAR, and the single crystals in Table 8.3 are misleading if applied to a natural data set, as these are obtained from an artificial compilation of samples. Hence, as an approximation we propose to use the prior probabilities given by the fraction totals of phases in all Erzgebirge samples, as recalculated after LDA (a comparison is shown in Table 8.6).

Table 8.6.: Prior probabilities from HUY, WAR and the single crystals (compilation) and all Erzgebirge samples (data from Tables 8.3 and 8.5) in comparison.

	Anatase	Brookite	Rutile
Compilation	0.33	0.05	0.62
Erzgebirge	0.04	0.01	0.95

First, we compute the global mean $\mathbf{m}_G$, weighting the means on each group of the geochemical variables considered, $\mathbf{m}_1, \ldots, \mathbf{m}_K$, with the prior probabilities given to each phase group $\mathbf{p}^0 = [p_1^0, \ldots, p_K^0]$, with $K = 1, 2, 3$ (anatase, brookite and rutile),

$$\mathbf{m}_G = \sum_{g=1}^{K} p_i \cdot \mathbf{m}_i. \tag{8.1}$$

Then we use $\mathbf{m}_G$ to center with it both the data set (consisting of N analyses $\mathbf{x}_j$) and the mean vector of each group:

$$\mathbf{x}_j^* = \mathbf{x}_j - \mathbf{m}_G, \quad j = 1, \ldots, N; \tag{8.2}$$

$$\mathbf{m}_g^* = \mathbf{m}_g - \mathbf{m}_G, \quad g = 1, \ldots, K. \tag{8.3}$$

Taking $\mathbf{Z}$ as the matrix of coefficients of the linear discriminant functions, then the posterior probability of observation $\mathbf{x}_j$ to belong to group g is proportional to

$$p_g(\mathbf{x}_j) \propto p_g^0 \cdot \exp\left[(\mathbf{x}_j^*)^t \cdot \mathbf{Z} \cdot \mathbf{Z}^t \cdot \mathbf{m}_g^* - \frac{1}{2}||\mathbf{Z}^t \cdot \mathbf{m}_g^*||^2\right]. \tag{8.4}$$

Superscript t means transposition, and $||\mathbf{x}||$ is the Euclidean norm of the vector $\mathbf{x}$. The proportionality constant is chosen for each sample j to ensure that its K probabilities sum up to one, as expected in a probability vector. A calculation sheet in Excel format is given as electronic supplement by Triebold et al. (in press).

As an example, we applied this calculation to analyes obtained in samples from the Alps, Syros and Mexico. The result is shown in Table A.6, compare also Figure 8.12. In order to be able to classify all analyses, as an approximation, elements which gave "0" results were set to 1 ppm (nd values). Similarly, Sn, which was not analysed in some samples (na) and is not a very important element for LDA, was set to a mean value of 79 ppm. With these settings and by simply counting the (unevaluated) maximum posterior probability, we find only 1 anatase and 6 brookites together with 1452 rutiles. As no anatase and brookite was found in Raman spot analysis, we can calculate a correct-classification rate from these data of 99.5 % for the phase rutile, a result which is even more precise than given by the 2-σ standard deviation of a normal distribution.

8.6. Summary and conclusions

We conclude that using rutile as a geological tracer requires determination of the TiO_2 phase. The transitional stage ARI, frequently found in Erzgebirge samples, is similar to rutile in TE contents and hence does not need to be avoided (i.e., can be treated as rutile). Whereas V content, besides Cr, represents the best single element discriminator between polymorphs, Fe and Nb also vary between anatase, brookite and rutile. Hence, a discrimination between mafic and pelitic source rocks on the basis of Cr and Nb will not work for anatase and brookite. Furthermore, Zr contents in anatase cannot be used for thermometry, neither as substitute for rutile in Zr-in-rutile thermometry, nor as direct Zr-in-anatase thermometer.

For a classification of rutile samples using geochemical data, correct-classification rates for rutile of > 97 % (single crystals, HUY-1 and WAR-9), 95 % (Erzgebirge samples) and, applying prior probabilities from a natural sample set, nearly 100 % (samples from the Alps, Syros and Mexico) were found, implying that identification

of TiO_2 polymorphs by TE contents works well. Additionally, it goes hand in hand with general TE characterisation by electron microprobe.

During in situ recrystallisation of rutile to anatase, anatase maintains the largest part of rutiles TE budget. An equilibration of anatase TE contents takes place after complete recrystallisation and/or by anatase nucleation in another place. Differences in Zr characteristics of anatase point out that pressure and temperature settings play only a minor role in rutile re-equilibration and recrystallisation processes of rutile to anatase. More important are mineral assemblage characteristics or fluid occurrence or composition. The mere occurrence of anatase, on the other hand, is controlled by the metamorphic gradient and, supposedly, whole rock chemistry.

9. Further considerations

9.1. Discrimination of mafic and (meta-)pelitic provenances

As described in Chapter 6 and previously by Zack et al. (2004b), Cr and Nb contents of the host rock are mirrored in associated rutiles. Zack et al. (2004b) propose a classification of mafic and metapelitic rutiles according to two "boxes" in a Cr vs. Nb plot (compare Figures 6.4 and 6.5). Triebold et al. (2007) (Chapter 6) find that $log(\mathrm{Cr/Nb})$ values provide an easy and accurate tool for classification, which furthermore constitutes a lithology variable to compare vs. a second variable (as was used, e.g., in Figure 6.8). Meinhold et al. (2008) further evaluate this issue and argue that an extension to the logratio term, classifying all rutiles with Nb concentrations < 800 ppm as mafic, would be more accurate.

On the base of a large rutile data set (compiled from own data and literature data) with known host rock types we are able to make a comparison between the two classification methods after Triebold et al. (2007) and Meinhold et al. (2008). A new discrimination line at $\mathrm{Cr[ppm]} = 5 \cdot (\mathrm{Nb[ppm]} - 500)$, based on a visual estimate of optimal discrimination is introduced and these three classification methods are compared to LDA results.

As shown in Figure 9.1, the compiled data comprise a large range of concentrations up to > 25000 ppm Nb and > 8000 ppm Cr. The eclogite from Saidenbach dam (EGB-04-R2b) was not used for calculations, as it was shown by Massonne and Czambor (2007) that this sample constitutes a particular case of within-plate basalt with a low melting degree (compare Chapter 6, section 6.5.1 Triebold et al., 2007). Figure 9.1 b) points out the fields for discrimination after Triebold et al. (2007) (the equiline with $log(\mathrm{Cr/Nb}) = 0$) and Meinhold et al. (2008) (adding the 800 ppm

cut-off line from pelitic compositions), together with the newly introduced discrimination line and the field for typical anatase compositions after Triebold et al. (in press) (Chapter 8) at low Cr concentrations. Figure 9.1 clearly shows that neither the discrimination approach by Triebold et al. (2007) nor the one by Meinhold et al. (2008) provides an ideal solution for the full data set.

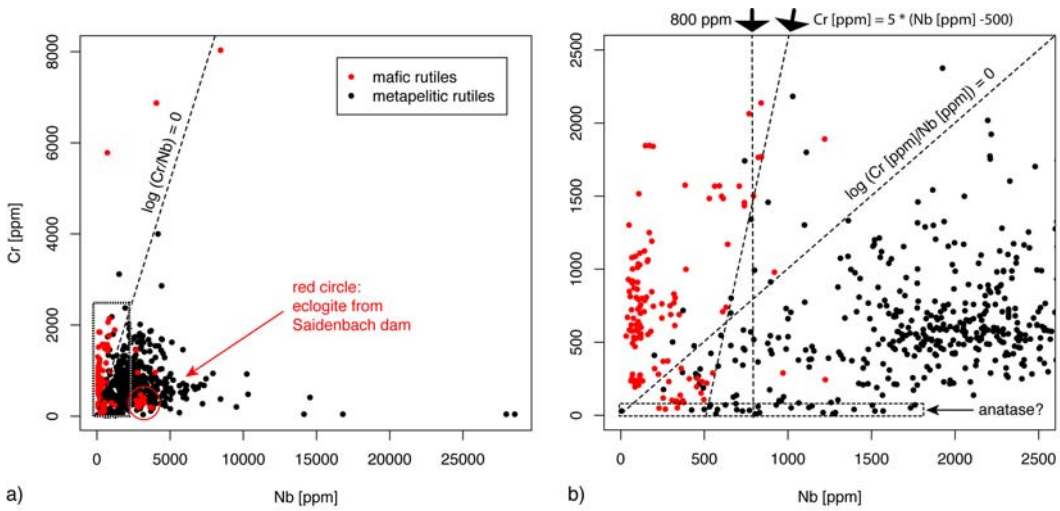


Figure 9.1.: Nb vs. Cr for rutiles with known host lithology. a) all analyses. b) detail, as pointed out by the square in a), showing the two-dimensional classification patterns after Triebold et al. (2007) ($\log(Cr/Nb) = 0$) and Meinhold et al. (2008) (cut-off at 800 ppm Nb from $\log(Cr/Nb) = 0$), a newly introduced discrimination line, and the field for typical anatase compositions after Triebold et al. (in press) (Chapter 8). Data compiled from own data, Fett (1995), Zack et al. (2004b), and Luvizotto and Zack (2009).

Therefore, a linear discriminant analysis (LDA) was performed on the data in order to see whether classification can still be improved. The results are shown in Table 9.1. Interestingly, besides Nb, Fe plays a larger role than Cr in LDA discrimination.

A classification of mafic and pelitic rutile compositions after the estimated line (compare Figure 9.1) can be calculated according to

$$\mathbf{x} = 5 \cdot (\mathrm{Nb[ppm]} - 500) - \mathrm{Cr[ppm]}. \tag{9.1}$$

Table 9.1.: Table showing details and result of the linear discriminant analysis on mafic and pelitic composition rutiles.

Prior probabilities of groups:

mafic	pelitic
0.1810219	0.8189781

Group means:

log (element)	Nb [ppm]	Fe [ppm]	Zr [ppm]	V [ppm]	Cr [ppm]
mafic	2.229275	3.410303	2.268203	3.140247	2.728567
pelitic	3.356371	3.115335	3.017153	3.325732	2.746744

Coefficients of linear discriminant:

	LD1
Nb [ppm]	3.5228191
Fe [ppm]	-0.9035653
Zr [ppm]	0.3817822
V [ppm]	-0.3913558
Cr [ppm]	-0.5488881

According to this equation, rutiles classified as mafic will have negative values of $\mathbf{x}$, whereas pelitic rutiles will have positive values of $\mathbf{x}$.

For comparison, the whole data set with concentration values below 2-σ detection limit set to half the detection limit (0-replacement strategies are explained in Section 8.4.3) was reclassified by all four methods. The results are presented in Table 9.2.

Table 9.2.: Reclassification of the data set for mafic and pelitic compositions after all four methods in comparison.

		All		Mafic		Pelitic	
	Number of analyses	817	**fraction**	183	**fraction**	634	**fraction**
a)	Triebold et al. (2007)	758	**0.93**	121	**0.66**	619	**0.98**
b)	Meinhold et al. (2008)	739	**0.91**	147	**0.80**	579	**0.91**
c)	LDA	773	**0.95**	136	**0.74**	622	**0.98**
d)	estimated line	770	**0.94**	146	**0.80**	609	**0.96**

The best overall results are obtained by c) and d) (the LDA and the estimated line). Mafic rutiles are reclassified most accurate by methods b) and d) (Meinhold et al., 2008, and the estimated line), and pelitic rutiles are reclassified most accurate by methods a) and c) (Triebold et al., 2007, and the LDA). As the fraction of mafic rutiles is small compared to the fraction of pelitic rutiles in this data set, a low fraction of correctly classified mafic rutiles will have only minor impact on the overall results compared to pelitic rutiles. The best balance in correct reclassifications of mafic and pelitic rutiles is obtained by the estimated line.

Although theoretical calculations of Nb concentrations in rutiles from different source rocks suggest a lower limit of 800-900 ppm Nb for metapelitic rutiles (Zack et al., 2002a, 2004b; Meinhold et al., 2008), new results from Luvizotto et al. (2009b) (compare Chapter 7.1) support a shift of this limit to lower Nb concentrations, as is established by the estimated line.

Hence, classification of rutile source lithologies according to the estimated line will be the preferred method in application.

Nevertheless, the logratio classification method introduced by Triebold et al. (2007) still finds validity in its application. In Figure 9.2, all rutile data with known host rock lithology are plotted with Zr and $log(\mathrm{Cr}/\mathrm{Nb})$ concentrations. As indicated by the calculated values shown in Table 9.2, most pelitic compositions are classified correctly by the method after Triebold et al. (2007) (negative logratio values), whereas a large fraction of mafic rutiles plots inside the area of pelitic compositions as defined by the logratio.

This diagram (Figure 9.2) shows that mafic rutiles plotting within the area of pelitic compositions after Triebold et al. (2007) are linked with high Zr contents of > ca. 500 ppm ($log(\mathrm{Zr}) > 2.7$), but high Zr contents are not the precondition for mafic rutiles being classified as pelitic after Triebold et al. (2007). Assuming growth of mafic rutiles in equilibrium with a silicate phase (compare Section 6.6.2) and neglecting the pressure dependence of Zr incorporation in rutile, we assume from these data that in most cases high-T conditions (as implied by high Zr contents after, e.g. Tomkins et al., 2007) produce anormal Cr and Nb concentrations in rutiles of mafic host rock compositions.

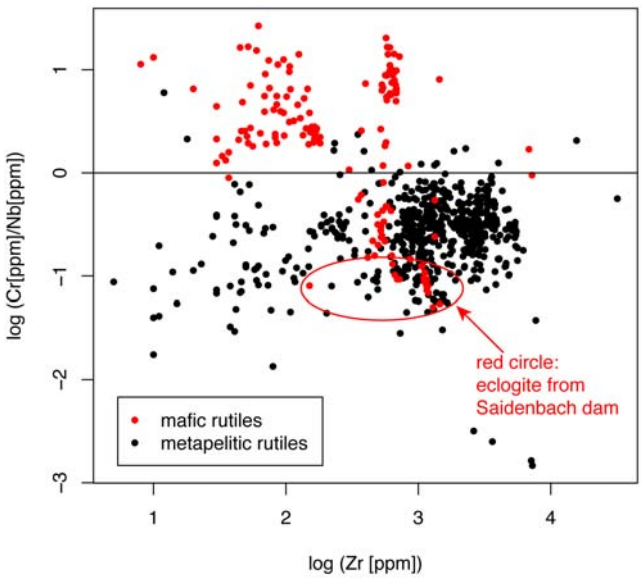


Figure 9.2.: Zr vs. log (Cr/Nb) concentrations for rutiles with known host lithology. The horizontal line indicates the discrimination line for lithology classification after Triebold et al. (2007): negative logratio values - pelitic compositions, positive logratio values - mafic compositions.

Although the latter assumption certainly needs validation, it is evident that besides (inaccurate) classification into mafic and pelitic rutile host rock lithologies the logratio introduced by Triebold et al. (2007) is a useful tool when compared versus a second variable as, e.g., Zr concentration or calculated temperature (compare also Figure 6.8).

9.2. A recipe for provenance analysis

With the results of this study, from sample preparation to data treatment, we may compile a list of the most important outcomes concerning sedimentology, a recipe for state-of-the-art provenance analysis of rutile:

1. Extract rutile from grain size fraction 80-200μm.

   This is the fraction where the largest part of rutiles is found, and rutiles from the fractions 63-125 μm and 125-250 μm, as they are used in traditional provenance analysis (e.g., Morton, 1991; Morton and Hallsworth, 1999), do not differ in trace element chemistry (Section 5.1).

2. Hand-pick rutiles from the magnetic fraction containing the largest part of rutiles.

   Keep in mind that this is not always the least magnetic of the fractions from magnetic separation. Rutiles from different magnetic fractions do not differ in trace element contents (Section 5.2).

3. Be sure to determine the polymorph type before interpretation of TiO_2 data.

   This can either be done by micro-Raman spectroscopy or by chemical classification via characteristical trace element contents as shown in Section 8.5.3. The three TiO_2 polymorphs rutile, anatase, and brookite differ in their trace element concentrations (Chapter 8).

4. Be careful when comparing rutile analyses by different methods or sample characteristics.

   Trace element concentrations in the same grain may vary with > 100 % when analysed with different analytical methods (e.g., electron microprobe and LA-ICPMS, Section 5.5) or with up to 7.9 % when calculated with different software at the electron microprobe (Section 5.4). Especially results of LA-ICPMS analysis depend on sample characteristics (i.e., large or small crystals, Section 5.5). Most probably, this is similarly true for other mineral species.

5. Determine the host lithology type (mafic or pelitic) according to the equation $\mathbf{x} = 5 \cdot (\mathrm{Nb[ppm]} - 500) - \mathrm{Cr[ppm]}$,

   where ppm = ppm by mass. Mafic rutiles have negative values of $\mathbf{x}$, pelitic rutiles have postive values. This has proved to be the best (and an easy to apply) classification method of the four that were tested in this study (Section 9.1). Though not for lithology classification, but for data interpretation, it is interesting to calculate $log(\mathrm{Cr/Nb})$ values after Triebold et al. (2007) (see Chapter 6 and Section 9.1).

6. From the mafic and metapelitic rutiles calculate metamorphic rutile growth temperatures after Tomkins et al. (2007).

Mafic rutiles have been proved to give indications for metamorphic temperatures (Section 6.6.2), but keep in mind that only metapelitic rutiles are sure to fulfill the equilibrium conditions for Zr-in-rutile thermometry (Section 6.4).

7. Use only the best defined temperature populations (2-σ standard deviations of less than 120°C) for provenance interpretation.

   Different rutile temperature populations in sediments need not derive from different source rocks, but can as well originate through the existance of inherited relicts (Section 6.6.5) or growth and diffusion dynamics within metamorphic rocks (Section 6.6.4), which are characterised by comparably large temperature variances.

8. Relicts cannot necessarily be identified by age dating.

   The larger diffusivity for Pb compared to Zr in rutile leads to inherited U-Pb ages being reset already at low-grade metamorphic conditions $<$ 400°C (Section 7.2) whereas inherited Zr concentrations can be observed up to medium-grade metamorphic conditions of 550°C (Section 6.6.3).

10. Summary and Outlook

The detailed investigation of detrital rutile, anatase and brookite geochemistry has brought forward many interesting sedimentological, petrological and methodological results.

10.1. Sedimentological and petrological results

Modern sediment deposits and rocks from the Erzgebirge have been sampled in order to compare rutile in outcropping rocks and in the sedimentary budget. It could be shown that detrital rutile is an accurate tracer of source rock characteristics in sedimentary systems. Furthermore, small occurrences of rocks with high rutile contents in the investigated grain size spectrum (80-200 μm), like quartzites, may have a large impact on the investigated detrital rutile bandwidth.

This large bandwidth of detrital rutile compositions in the Erzgebirge led to the observation of relict rutiles deriving from low- and medium-grade metamorphic rocks up to 550°C. Below this temperature, Zr concentrations of a large fraction of relict rutiles did not re-equilibrate during Variscan metamorphism, but act as a tracer of the rutiles' pre-Variscan high-grade metamorphic (> 950°C) provenance.

U-Pb dating of these relicts shows that, due to the larger diffusivity of Pb compared to Zr in rutile, ages are in most cases already reset at metamorphic conditions < 400°C and 0.2 GPa (Ordovician Slates unit in the Erzgebirge). This finding supports a low closure temperature for Pb diffusion in rutile of about 400°C.

A comparison of pre-Variscan rutile and zircon ages indicates a common derivation from the same source rocks. Furthermore, zircon and rutile age data support a West African Craton provenance of pre-Variscan deposits in the Erzgebirge.

In rock- or small-catchment-sand samples, Zr-in-rutile temperature frequency distributions of equilibrated rutiles, characterised by 2-σ standard deviations of

less than 120°C, divide into two temperature populations. The genesis of these populations can be explained considering that part of the rutiles are enclosed in host minerals during or after growth. At metamorphic temperatures > 500°C, host-minerals with low Zr diffusivities (such as garnet or pyroxene) keep inclusion rutiles from retrograde re-equilibration. In this case, peak temperature rutiles comprise the larger frequency (> 60%) of the two populations and exhibit pronounced peaks in temperature frequency distributions. On the other hand, at lower-grade conditions it is more likely that matrix rutiles display peak metamorphic conditions, because they are less likely reset during low-grade retrograde conditions, whereas inclusion rutiles are kept from equilibrating at peak conditions.

Detailed investigation of rutile trace elements in rocks deriving from different metamorphic units in the Erzgebirge showed that rutiles growing at the expense of - but in equilibrium with - ilmenite may exhibit large variances in Nb contents. These large variances may be associated with Nb concentrations as low as 200 ppm in metapelitic rutiles and support a rethinking about lithology classification methods according to Cr and Nb concentrations in rutile.

Consideration of these results for Nb compositions of metapelitic rutiles and a comparison of published and so far unpublished classification methods has shown that the best classification result is obtained by the equation $\mathbf{x} = 5 \cdot (\mathrm{Nb[ppm]} - 500) - \mathrm{Cr[ppm]}$ (ppm = ppm by mass), where metapelitic rutiles have positive values of $\mathbf{x}$ and mafic rutiles have negative values of $\mathbf{x}$. Nevertheless, the consideration of $log(\mathrm{Cr/Nb})$ values, though invalid for classification, contributes new insights into rutile population characteristics.

The comparison of $log(\mathrm{Cr/Nb})$ values with Zr-in-rutile temperatures for Erzgebirge samples supports the assumption that Zr thermometry can be applied to rutiles from mafic host rocks, where quartz is absent, as well, as long as silica activity is buffered to a value close to unity by another Si-bearing mineral phase. Zr-in-rutile thermometry is more sensitive to the existence or absence of zircon than quartz.

Quartzites, on the other hand, which contain both quartz and zircon, were found to be unreactive compared to other lithologies: Relic rutiles in a quartzite sample have resisted Zr re-equilibration at more than 600°C, while samples from surround-

ing metapelites have equilibrated nearly completely. A possible explanation is the lack of Ca- and Fe-bearing phases and consequently a diminished ability to form titanite (sphene) or ilmenite during low-grade conditions, where rutile is not stable. Phase analysis has shown that such quartzites instead contain larger amounts of anatase than other neighbouring rock types.

Investigation of the trace element compositions of rutile, anatase and brookite samples have shown that there exist systematic differences in V, Cr, Nb and Fe between the three TiO_2 polymorphs, even when they derive from the same source rocks. Zr concentrations in anatase cannot be used for thermometry. Therefore, identification of the polymorph type is inevitable in rutile studies, but for the same reason identification is easy: Besides using Raman spectroscopy, rutiles can be classified with 95-100 % accuracy by their trace element compositions. A calculation spreadsheet can be downloaded (Triebold et al., in press) for this purpose.

Detailed investigation of anatase frequencies in rocks and sediments from diagenetic to high-grade metamorphic regimes indicates that the occurrence of anatase cannot be predicted and is influenced by metamorphic pressure and temperature, as well as whole rock chemistry. In rocks of low metamorphic grade in the Erzgebirge, anatase-rutile-intergrowths (ARIs) are observed, which represent the initial stages of recrystallisation of rutile as anatase. ARI anatase is similar to rutile as classified by trace element (TE) contents (see above), which implys that the equilibration of TE in anatase towards, e.g., low Cr-, V- and Zr concentrations, and hence a separation of anatase and rutile TE groupings, takes place only when anatase is separate from rutile due to complete recrystallisation or nucleation in a different place. As Zr contents in rutile are mirrored in concurrent anatase, apparently Zr is amongst the last elements to equilibrate.

10.2. Methodological results

Since no difference in trace element contents between rutiles in grain size fractions 63-125 μm and 125-250 μm were observed, changes in grain size are most likely not linked with systematic changes in trace element contents of rutiles. Therefore, most

likely the grain size fraction for rutile extraction within the investigated limitations (between 63 μm and 250 μm) can be chosen freely. Nevertheless, the results of theoretical calculations of rutile occurrence in sediments deriving from metapelite/ quartzite host rock assemblages indicate that further refinement is required in this issue. In detail, it will need to be tested whether small rutile grain sizes of 63 to 80 μm in comparison with large grain sizes of 80 to 200 μm exhibit differences in trace element contents. Especially Zr and Nb concentrations, which have been found to differ between quartzites and metapelites, may vary between these grain size fractions in Erzgebirge samples.

Furthermore, rutile occurs within different magnetic separation fractions, and not always within the least magnetic one. Therefore, attention has to be paid to selecting the magnetic fraction with the largest rutile frequency for further rutile separation. On the other hand, no interdependance between magnetic susceptibility of rutile grains and their trace element compositions was observed.

The analytical results of electron microprobe analysis of rutile are sensitive to the choice of the matrix correction method, with differences in calculated element concentrations of up to ca. 8 % (Nb). For Nb, the ZAF correction method obtains more accurate results than the Phi-Rho-Z method at a JEOL JXA 8900 machine.

Even larger differences in analytical results were found by comparison of different analytical techniques, depending on sample characteristics: For embedded rutiles of 80-200 μm in grain size, linear deviations of up to 60 % (Al) and 116 % (Sb) were observed between Electron Microprobe (EMP)/Secondary Ion Mass Spectrometry (SIMS) and Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICPMS) analysis results. Only for Cr, Hf, and Ta, well agreement with deviations $<5\%$ between the two analytical methods was observed. Supposedly, these deviations arise from laser radiation coupling being sensitive to the sample's grain size and embedding material and consequently differences in the amounts of ablated material. As SIMS analysis is not sensitive to the grain size and embedding material of the sample, compared to LA-ICPMS it is the superior method for the investigation of trace elements in small embedded crystals below the electron microprobe detection limit. Furthermore, calibration of relative sensitivity factors for

the calculation of element concentrations from isotope ratios in SIMS analysis has improved the accuracy of SIMS results and the comparability of EMP and SIMS analyses.

10.3. Outlook

Despite the further examination of rutile grain size - trace element content relations (as mentioned above), other aspects observed during this study require further investigation.

The comparison between rutile and zircon growth temperatures and ages has proved to provide interesting insights into the pre-Variscan provenance of Erzgebirge rocks. LA-ICPMS U-Pb dating of further rutile grains may still assure a common derivation of rutiles and zircons from the same source rocks.

SIMS analysis of rutiles from different Erzgebirge samples indicates that U concentrations in rutile exhibit a correlation with Zr contents, and that Th/U and Sn/Sb correlations are characteristic for certain samples. Further SIMS analyses would improve knowledge about trace elements with concentrations in the ppm-range and might provide additional tracers for sedimentary provenance studies besides Zr, Cr and Nb.

Comparison between rutile electron microprobe anaylsis results calculated by both the ZAF and Phi-Rho-Z correction methods with the results of other analytical methods conducted on the same grains will lead to a verification of the matrix correction procedure best applicable in electron microprobe rutile analysis.

(U/Th)/He thermochronology of those rutiles which survived LA-ICPMS dating (analysis pits of 50 μm in diameter in most cases destroyed the grains analysed in this study), or which have not yet been dated, may put constraints on the exhumation rates of the investigated Erzgebirge rocks and therewith improve understanding of Zr-in-rutile equilibration processes, where exhumation rates apparently play a large role.

An upscaling of the results found for small-catchment Erzgebirge samples by further evaluation of the large-catchment (EGB-06) samples may improve the quanti-

tative assessment of rutile populations and source lithologies in provenance studies.

The development in research on rutile geochemistry and the increasing number of publications dealing with the application of rutile in sedimentary and petrological studies proves the still increasing interest in this topic. The results from this study underline the growing role of rutile in geoscientific research and show that there is still potential for new insights into the characteristics of rutile and its polymorphs.

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Mein Kind, es sind allhier die Dinge,
gleichviel, ob große, ob geringe,
im Wesentlichen so verpackt,
daß man sie nicht wie Nüsse knackt.
...

Wilhelm Busch

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A. Appendix

Table A.1.: List of all samples as analysed and described in this thesis with sample names, sample types, coordinates, and corresponding geological units (as far as known). Mineral abbreviations refer to Kretz (1983).

Sample	Locality	Type	Coordinates		Altitude	Geology/ Geological unit	
			Longitude	Latitude	[m]	Abbreviation	Full description/ name
Erzgebirge, Germany							
2/12b	-	Cld-Grt-Phe schist	4562.323	5605.015	-	GPU	Garnet-Phyllite Unit
2/2b	-	Cld-Grt-Phe schist	4562.323	5605.015	-	GPU	Garnet-Phyllite Unit
3/1b	-	Bt-Cld-Grt-Phe schist	4563.150	5606.432	-	MU	Micaschist Unit
61-c2	-	Bt-Cld-Grt-Phe schist	4563.250	5606.500	-	MU	Micaschist Unit
A15-c1	-	Bt-Grt-Phe schist	4573.660	5599.650	-	GU	Gneiss Unit
NS-1a	-	Grt phyllite	4553.750	5610.800	-	PU	Phyllite Unit
P2-a1	-	phyllite	4559.800	5606.750	-	GPU	Garnet-Phyllite Unit
P38-c2	-	phyllite	4559.100	5606.200	-	PU	Phyllite Unit
EGB-04-S41	-	sand	4588.171	5622.923	446	EGU1	eclogite-rich Gneiss Unit
EGB-04-S44	-	sand	4589.174	5626.719	533	EGU1	eclogite-rich Gneiss Unit
EGB-04-S45	-	sand	4589.391	5626.609	547	EGU1	eclogite-rich Gneiss Unit
EGB-04-S49	-	sand	4592.190	5623.798	539	EGU1	eclogite-rich Gneiss Unit
EGB-04-S50	-	sand	4591.629	5622.964	501	EGU1	eclogite-rich Gneiss Unit
EGB-04-S51	-	sand	4570.672	5590.366	927	EMU	eclogite-rich Micaschist Unit
EGB-04-S53	-	sand	4566.511	5593.789	797	EMU	eclogite-rich Micaschist Unit
EGB-04-S55	-	sand	4566.713	5591.777	880	MU	Micaschist Unit
EGB-04-S56	-	quartzite	4565.203	5594.976	787	EMU	eclogite-rich Micaschist Unit
EGB-04-S57	-	sand	4567.193	5605.317	553	GU	Gneiss Unit
EGB-04-S61	-	sand	4562.968	5613.357	637	PU	Phyllite Unit
EGB-04-S62	-	sand	4566.916	5610.722	592	MU	Micaschist Unit
EGB-04-S63	-	sand	4569.153	5617.426	468	GPU	Garnet-Phyllite Unit
EGB-04-R1b	-	Dia-bearing Grt gneiss	4588.143	5622.916	425	EGU1	eclogite-rich Gneiss Unit
EGB-04-R2b	-	eclogite	4588.143	5622.916	425	EGU1	eclogite-rich Gneiss Unit
EGB-04-R3a2	-	eclogite	4589.247	5626.647	529	EGU1	eclogite-rich Gneiss Unit
EGB-04-R4f1	-	Grt-Bt-Phe schist	4589.356	5626.620	532	EGU1	eclogite-rich Gneiss Unit
EGB-04-R4g	-	eclogite	4589.356	5626.620	532	EGU1	eclogite-rich Gneiss Unit
EGB-04-R5a	-	felsic granulite	4588.353	5614.122	621	EGU1	eclogite-rich Gneiss Unit
EGB-04-R6a	-	felsic granulite	4592.155	5623.818	526	EGU1	eclogite-rich Gneiss Unit
EGB-04-R8a	-	eclogite	4570.644	5590.434	912	EMU	eclogite-rich Micaschist Unit
EGB-04-R9e	-	eclogite	4566.576	5593.749	795	EMU	eclogite-rich Micaschist Unit
EGB-04-R10b	-	Grt schist	4566.669	5591.770	896	MU	Micaschist Unit
EGB-04-R10d	-	Cld-Grt-Phe schist	4566.669	5591.770	896	MU	Micaschist Unit
EGB-04-R11e	-	Grt-Bt-Phe gneiss	4567.403	5605.187	535	GU	Gneiss Unit
EGB-05-S49	-	sand	4588.179	5624.476	463	EGU1	eclogite-rich Gneiss Unit
EGB-05-S50	-	sand	4576.922	5622.618	409	MU	Micaschist Unit
EGB-05-S51	-	sand	4560.772	5618.279	475	PU	Phyllite Unit

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. . . table "samples list" continued from page 142

Sample	Locality	Type	Coordinates		Altitude	Geology/ Geological unit	
			Longitude	Latitude	[m]	Abbreviation	Full description/ name
EGB-05-S52	-	sand	4569.701	5615.635	478	MU	Micaschist Unit
EGB-05-S53	-	sand	4565.359	5608.223	500	MU	Micaschist Unit
EGB-05-S54	-	sand	4568.195	5608.854	503	GU	Gneiss Unit
EGB-05-S55	-	sand	4572.507	5610.277	502	GU	Gneiss Unit
EGB-05-S56	-	sand	4578.766	5608.830	478	EGU2	eclogite-rich Gneiss Unit
EGB-05-S57	-	sand	4576.727	5603.500	681	EGU2	eclogite-rich Gneiss Unit
EGB-05-S61	-	sand	4573.478	5603.614	612	GU	Gneiss Unit
EGB-05-S63	-	sand	4570.112	5596.488	681	GU	Gneiss Unit
EGB-05-S64	-	sand	4563.791	5589.160	931	GPU	Garnet-Phyllite Unit
EGB-05-S65	-	sand	4561.826	5602.599	536	MU	Micaschist Unit
EGB-05-S67	-	sand	4552.329	5614.783	497	PU	Phyllite Unit
EGB-05-S68	-	sand	4536.777	5607.403	397	KG	post-Variscan felsic intrusives and extrusives
EGB-05-S69	-	sand	4528.474	5610.168	408	OS	Ordovician Slates
EGB-05-S70	-	sand	4532.315	5613.960	377	OS	Ordovician Slates
EGB-06-S34	-	quartzite	4527.807	5582.006	754	PU	Phyllite Unit
EGB-06-S35	-	sand	4531.374	5612.579	420	OS	Ordovician Slates
EGB-06-S36	-	sand	4534.024	5612.906	349	OS	Ordovician Slates
EGB-06-S37	-	sand	4537.988	5614.924	285	OS	Ordovician Slates
EGB-06-S38	-	sand	4545.337	5612.782	287	PU	Phyllite Unit
EGB-06-S40	-	sand	4551.379	5605.382	571	GPU	Garnet-Phyllite Unit
EGB-06-S41	-	sand	4558.098	5599.764	465	MU	Micaschist Unit
EGB-06-S42	-	sand	4558.458	5610.739	525	PU	Phyllite Unit
EGB-06-S46	-	sand	4588.796	5617.897	413	GU	Gneiss Unit
EGB-06-S47	-	quartzitic gneiss	4572.523	5623.284	444	MU	Micaschist Unit
EGB-06-S48	-	sand	4576.968	5625.464	316	MU	Micaschist Unit
EGB-06-S49	-	sand	4580.292	5630.43	320	GU	Gneiss Unit
EGB-06-S50	-	sand	4576.173	5636.515	271	-	post-Variscan felsic intrusives and extrusives
EGB-06-S51	-	sand	4574.087	5637.283	269	-	pre-Variscan non-metamorphic sediments
EGB-06-S52	-	sand	4576.424	5632.224	289	GPU	Garnet-Phyllite Unit
EGB-06-S53	-	sand	4568.826	5626.061	348	PU	Phyllite Unit
EGB-06-S55	-	sand	4570.728	5648.866	215	-	pre-Variscan non-metamorphic sediments
EGB-06-S56	-	sand	4560.115	5643.714	266	-	pre-Variscan non-metamorphic sediments
EGB-06-S57	-	sand	4554.072	5652.308	165	-	pre-Variscan non-metamorphic sediments
EGB-06-S58	-	sand	4553.439	5645.683	196	-	pre-Variscan non-metamorphic sediments
Alps, Switzerland							
EY-29-1	Trescolmen	sand	-	-	-	-	Gneiss
EY-29-2	Trescolmen	sand	-	-	-	-	eclogite, micaschist, gneiss
EY-29-3	Trescolmen	sand	-	-	-	-	eclogite, micaschist
EY-29-4	Trescolmen	sand	-	-	-	-	eclogite, gneiss, micaschist
EY-29-5	Safiental	sand	-	-	-	-	greenschist

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. . . table "samples list" continued from page 142

Sample	Locality	Type	Coordinates		Altitude	Geology/ Geological unit	
			Longitude	Latitude	[m]	Abbreviation	Full description/ name
EY-29-6	Safiental	sand	-	-	-	-	greenschist
EY-29-7	Safiental	sand	-	-	-	-	greenschist
EY-29-16	Hinterrhein	sand	-	-	-	-	-
SAB-04-S299	Hinterrhein	sand	510.244	5150.352	1734	-	pelitic schists, granitoid gneiss
SAB-04-S300	Hinterrhein	sand	514.302	5152.346	1611	-	pelitic schists, granitoid gneiss
SAB-04-S301	Alpi di Muccia	sand	511.501	5147.238	2175	-	pelitic schists, granitoid gneiss, eclogite
SAB-04-S304	Alpi di Muccia	sand	512.901	5147.577	1863	-	pelitic schists, granitoid gneiss, eclogite
SAB-04-S305	Alpi di Confino	sand	513.235	5145.225	1892	-	pelitic schists, granitoid gneiss, eclogite
STR-04-S306	Val Strona	sand	440.295	5086.976	1667	-	Ivrea-Verbano Zone
STR-04-S307	Val Strona	sand	440.863	5087.093	1276	-	Ivrea-Verbano Zone
STR-04-S308	Val Strona	sand	444.309	5087.315	1291	-	Ivrea-Verbano Zone
STR-04-S309	Val Strona	sand	444.92	5086.995	836	-	Ivrea-Verbano Zone
STR-04-S310	Val Strona	sand	445.118	5086.404	800	-	Ivrea-Verbano Zone
STR-04-IV10	Val Strona	sand	-	-	-	-	Ivrea-Verbano Zone
STR-04-IV11	Val Strona	sand	-	-	-	-	Ivrea-Verbano Zone
STR-04-SNC	Val Strona	sand	-	-	-	-	Ivrea-Verbano Zone
STR-04-S311	Val Strona	sand	445.324	5087.556	1054	-	Ivrea-Verbano Zone
STR-04-S313	Val Strona	sand	450.662	5083.446	446	-	Ivrea-Verbano Zone
STR-04-S315	Val Strona	sand	446.794	5084.312	658	-	Ivrea-Verbano Zone
STR-04-S316	Val Strona	sand	445.243	5087.165	885	-	Ivrea-Verbano Zone
STR-04-S317	Val Strona	sand	449.829	5083.645	494	-	Ivrea-Verbano Zone
OSS-04-S319	Val d'Ossola	sand	447.165	5092.688	393	-	Ivrea-Verbano Zone
OSS-04-S320	Val d'Ossola	sand	449.092	5092.801	234	-	Ivrea-Verbano Zone
OSS-04-S322	Val d'Ossola	sand	454.405	5092.631	198	-	Ivrea-Verbano Zone
OSS-04-S324	Val d'Ossola	sand	444.482	5095.17	218	-	Ivrea-Verbano Zone
SAB-04-S328	Hinterrhein	sand	513.464	5162.082	1261	-	pelitic schists, granitoid gneiss
Baja California, Mexico							
PULMO II	Cabo Pulmo	sand	-	-	-	-	-
Syros, Greece							
SYR-04-01	Lea-Beach	sand	-	-	-	-	-
Huy & Warnstedt, Germany							
HUY-1	Huy	-	-	-	-	-	German Buntsandstein
WAR-9	sandpit Warenstein	-	-	-	-	-	Upper Cretatious: Santon
single crystal samples							
GZG.MIN.4.4.36.6	Modriach, Steiermark, Austria	brookite	-	-	-	-	-
GZG.MIN.4.4.36.22	Binnental, Wallis, Switzerland	rutile	-	-	-	-	-
GZG.MIN.4.4.36.30	Binnental, Wallis, Switzerland	rutile	-	-	-	-	-
GZG.MIN.4.4.36.116	Magnet Cove, Arkansas, USA	rutile	-	-	-	-	-

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. . . table "samples list" continued from page 142

Sample	Locality	Type	Coordinates		Altitude	Geology/ Geological unit	
			Longitude	Latitude	[m]	Abbreviation	Full description/ name
GZG.MIN.4.4.36.141	Laora do Mato at Yequitinhonha, Brazil	rutile	-	-	-	-	-
GZG.MIN.4.4.36.145	Boa Vista, Brazil	rutile	-	-	-	-	-
GZG.MIN.4.4.36.153	St. Yrieux near Limoges, France	rutile	-	-	-	-	-
GZG.MIN.4.4.36.165	Gamsberg, Namibia	rutile	-	-	-	-	-
GZG.MIN.4.4.71.14	Tavetsch, Graubünden, Switzerland	anatase	-	-	-	-	-
GZG.MIN.4.4.71.29	Cavradi Tavetsch, Graubünden, Switzerland	anatase	-	-	-	-	-
GZG.MIN.4.4.71.44	Binnental, Wallis, Switzerland	anatase	-	-	-	-	-
GZG.MIN.4.4.71.69	Alp Lercheltini, Binnental, Wallis, Switzerland	anatase	-	-	-	-	-
GZG.MIN.4.4.71.79	Minas Gerais, Brazil	anatase	-	-	-	-	-
GZG.MIN.4.4.71.94	quarry Petersberg near Halle, Sachsen-Anhalt, Germany	anatase	-	-	-	-	-
GZG.MIN.4.4.79.29	Iseltal, Frigatten, Austria	brookite	-	-	-	-	-
GZG.MIN.4.4.79.30	Magnet Cove, Arkansas, USA	rutile	-	-	-	-	-

Coordinates are provided in German coordinate system (Gauss-Krüger / Potsdam).

Table A.2.: EMP analyses of rutiles in Erzgebirge samples. Measurement conditions: see Table 4.1.

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-04-S41_01_1	98.10	98.95	bdl	1028	bdl	890	78	67	1316	350	2326
EGB-04-S41_01_2	98.33	99.19	bdl	1079	bdl	926	75	73	1325	369	2393
EGB-04-S41_01_3	98.11	98.95	bdl	1005	bdl	920	75	69	1353	348	2361
EGB-04-S41_03_1	98.88	100.45	94	3289	bdl	715	154	56	3381	1996	1326
EGB-04-S41_03_2	97.63	99.25	297	3434	bdl	610	189	60	3537	1864	1393
EGB-04-S41_03_3	99.58	101.19	163	3349	bdl	667	172	65	3283	2299	1333
EGB-04-S41_04_1	100.60	101.27	bdl	793	bdl	795	bdl	271	710	636	1520
EGB-04-S41_04_2	100.17	100.84	bdl	795	bdl	838	bdl	278	708	648	1492
EGB-04-S41_04_3	100.13	100.83	bdl	848	bdl	857	bdl	275	761	686	1485
EGB-04-S41_05_1	100.51	101.74	bdl	2972	bdl	951	121	129	1816	270	2586
EGB-04-S41_05_2	100.54	101.80	bdl	2925	bdl	1107	139	123	1790	273	2657
EGB-04-S41_05_3	100.38	101.64	bdl	3048	bdl	924	161	109	1792	266	2789
EGB-04-S41_06_1	100.84	101.86	144	2668	bdl	959	125	220	882	519	1744
EGB-04-S41_06_2	102.11	103.07	bdl	2631	bdl	951	98	202	814	525	1620
EGB-04-S41_06_3	102.16	103.09	85	2457	bdl	912	90	230	846	537	1472
EGB-04-S41_07_1	100.16	101.62	192	3810	bdl	2001	bdl	406	529	278	3248
EGB-04-S41_07_2	100.20	101.65	163	3792	bdl	2083	bdl	424	481	250	3205
EGB-04-S41_07_3	100.26	101.72	181	3836	bdl	2020	75	412	477	224	3241
EGB-04-S41_09_1	99.67	100.72	165	2650	bdl	583	196	293	1090	330	2208
EGB-04-S41_09_2	99.28	100.23	155	2288	bdl	445	199	256	1103	361	1995
EGB-04-S41_09_3	99.32	100.13	bdl	1360	bdl	741	198	238	1074	312	1855
EGB-04-S41_10_1	101.97	102.89	152	2466	bdl	857	85	197	1287	328	1203
EGB-04-S41_10_2	101.03	102.03	190	2728	bdl	901	61	241	1305	376	1231
EGB-04-S41_11_1	101.48	102.40	bdl	1187	bdl	945	122	bdl	1751	586	1953
EGB-04-S41_11_2	102.50	103.40	bdl	1171	bdl	958	103	bdl	1754	554	1897
EGB-04-S41_11_3	101.84	102.73	bdl	1144	bdl	988	90	bdl	1725	550	1848
EGB-04-S41_12_1	98.53	100.05	157	4409	bdl	899	247	306	1038	266	3625
EGB-04-S41_12_2	98.53	99.99	102	4435	bdl	786	232	268	1045	272	3352
EGB-04-S41_12_3	98.44	99.96	224	4496	bdl	1011	224	282	1110	269	3346
EGB-04-S41_14	99.58	101.01	bdl	4793	bdl	978	86	493	919	648	2061
EGB-04-S41_16	102.14	103.05	113	1518	bdl	774	76	112	1691	423	1799
EGB-04-S41_17	99.11	100.63	454	4219	bdl	1470	61	313	692	251	3497
EGB-04-S41_19	97.62	99.34	163	5487	bdl	847	192	287	798	159	4543
EGB-04-S41_21	100.14	101.15	275	1753	bdl	847	240	138	1158	88	2870
EGB-04-S41_22	99.90	100.80	108	2445	bdl	834	64	691	679	373	1023
EGB-04-S41_23	99.79	101.32	bdl	3409	bdl	791	bdl	bdl	853	131	5964
EGB-04-S41_24	101.69	103.07	183	4209	bdl	847	183	212	680	273	3364
EGB-04-S41_25	98.27	99.17	bdl	1725	bdl	937	98	140	1101	365	2176
EGB-04-S41_26	100.39	101.46	132	3016	bdl	800	105	226	924	229	2282
EGB-04-S41_28	100.10	101.78	bdl	5506	bdl	838	171	406	1001	445	3597
EGB-04-S41_29	98.75	100.37	257	5335	bdl	843	190	303	670	136	3919
EGB-04-S41_30	102.27	103.31	135	2373	133	754	bdl	191	1404	543	1778
EGB-04-S41_31	99.13	100.07	bdl	1549	bdl	998	69	94	1406	290	2356
EGB-04-S41_32	98.90	99.93	bdl	1727	bdl	1110	bdl	58	1791	101	2689
EGB-04-S41_33	100.24	101.49	bdl	3968	bdl	1051	bdl	418	1164	679	1390
EGB-04-S41_34	101.86	103.21	157	4336	bdl	663	213	158	628	252	3335
EGB-04-S41_35	98.36	99.35	bdl	2023	bdl	848	129	191	1131	364	2386
EGB-04-S41_37	99.03	100.40	167	4319	bdl	818	217	447	723	140	2982
EGB-04-S41b_38	97.92	99.22	bdl	2150	bdl	820	bdl	148	1036	248	5064
EGB-04-S41b_1	98.79	100.18	112	3536	bdl	1091	124	735	882	315	2951
EGB-04-S41b_2	99.06	100.92	bdl	6605	77	897	147	544	1877	694	2208
EGB-04-S41b_3	97.51	99.49	bdl	7083	162	837	80	655	1571	591	2881
EGB-04-S41b_4	97.71	99.06	100	3589	bdl	1541	125	555	1145	311	2164
EGB-04-S41b_5	97.96	100.72	bdl	7405	1994	820	67	2570	1429	621	2822
EGB-04-S44_01_1	99.30	99.79	bdl	242	bdl	635	na	76	1184	345	944
EGB-04-S44_01_2	100.85	101.33	bdl	210	bdl	643	na	82	1184	361	944

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. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-04-S44_01_3	100.65	101.15	bdl	268	bdl	612	na	62	1211	361	959
EGB-04-S44_02_1	99.96	100.60	bdl	767	bdl	697	na	353	1161	161	1395
EGB-04-S44_02_2	100.48	101.13	bdl	735	bdl	678	na	356	1206	149	1427
EGB-04-S44_02_3	100.27	100.92	bdl	699	bdl	721	na	382	1245	177	1259
EGB-04-S44_03_1	99.70	100.37	98	249	bdl	588	na	135	1695	569	1434
EGB-04-S44_03_2	99.39	100.04	bdl	237	bdl	584	na	108	1756	550	1402
EGB-04-S44_03_3	100.39	101.06	160	259	bdl	586	na	114	1762	543	1381
EGB-04-S44_04_1	96.72	98.99	94	142	bdl	617	na	61	1007	647	14691
EGB-04-S44_04_2	98.39	98.94	221	160	bdl	470	na	70	1063	633	1345
EGB-04-S44_04_3	98.20	98.78	183	160	bdl	686	na	85	1031	589	1479
EGB-04-S44_05_1	99.49	100.06	182	264	bdl	478	na	100	1026	792	1241
EGB-04-S44_05_2	99.56	100.14	193	271	bdl	414	na	140	1097	766	1246
EGB-04-S44_06_1	97.70	98.59	348	1538	bdl	540	na	162	1287	397	2107
EGB-04-S44_06_2	98.13	99.02	344	1638	bdl	672	na	147	1224	361	2044
EGB-04-S44_06_3	97.68	98.54	351	1583	bdl	662	na	136	1122	356	1984
EGB-04-S44_07_1	98.83	99.46	156	264	bdl	606	na	130	1160	669	1538
EGB-04-S44_07_2	98.70	99.33	142	248	bdl	637	na	83	1152	720	1550
EGB-04-S44_07_3	99.27	99.87	124	196	bdl	690	na	78	1088	705	1450
EGB-04-S44_08_1	99.27	100.94	555	5199	bdl	708	na	189	919	413	4044
EGB-04-S44_08_2	99.63	101.30	602	5204	bdl	769	na	194	905	425	3989
EGB-04-S44_08_3	99.96	101.53	561	4772	bdl	741	na	138	901	392	3863
EGB-04-S44_09_1	100.55	101.70	411	2871	bdl	725	na	138	972	244	2995
EGB-04-S44_09_2	100.18	101.36	469	2951	bdl	726	na	144	1039	233	3033
EGB-04-S44_09_3	99.53	100.71	454	2883	bdl	768	na	156	1009	242	3023
EGB-04-S44_10_1	94.88	97.21	bdl	9002	bdl	472	na	643	1171	266	5026
EGB-04-S44_10_2	95.15	97.51	312	8933	bdl	474	na	651	1149	303	4995
EGB-04-S44_10_3	95.87	98.23	435	8925	bdl	599	na	622	1083	299	4878
EGB-04-S44_11	97.51	98.31	230	998	bdl	725	na	138	1977	251	1346
EGB-04-S44_12	101.51	102.07	189	162	bdl	664	na	bdl	893	690	1470
EGB-04-S44_13	99.81	100.46	bdl	143	bdl	618	na	66	1610	433	1792
EGB-04-S44_14	99.28	99.79	bdl	264	bdl	449	na	45	1517	482	857
EGB-04-S44_15	97.18	98.93	548	5679	bdl	751	na	289	1201	512	3568
EGB-04-S44_16	102.03	102.68	bdl	174	bdl	383	na	98	1984	735	1234
EGB-04-S44_17	102.15	102.81	bdl	143	bdl	383	na	91	1945	785	1272
EGB-04-S44_18	100.95	101.52	96	194	bdl	618	na	53	1413	514	1213
EGB-04-S44_19	102.03	102.82	285	1022	bdl	389	na	91	1710	971	1088
EGB-04-S44_20	101.88	102.49	bdl	132	bdl	713	na	41	950	651	1885
EGB-04-S44_21	100.90	101.55	bdl	273	bdl	468	na	88	1110	1061	1686
EGB-04-S44_22	97.97	98.68	bdl	85	bdl	556	na	158	1420	1465	1233
EGB-04-S44_23	100.43	101.07	157	201	bdl	559	na	68	990	736	1932
EGB-04-S44_24	100.65	101.26	bdl	749	bdl	720	na	bdl	1398	149	1285
EGB-04-S44_25	98.71	99.55	bdl	1910	bdl	751	na	202	1185	348	1592
EGB-04-S44_26	98.70	99.47	bdl	134	bdl	677	na	39	1692	581	2353
EGB-04-S44_27	98.47	99.26	312	869	bdl	703	na	119	1435	189	2111
EGB-04-S44_28	99.25	99.85	82	92	bdl	683	na	76	1151	805	1397
EGB-04-S44_29	99.78	100.63	bdl	1220	bdl	742	na	43	1579	828	1622
EGB-04-S44_30	98.32	98.87	bdl	136	bdl	458	na	164	1368	720	969
EGB-04-S45_01_1	99.71	100.26	bdl	99	bdl	457	93	222	1302	756	937
EGB-04-S45_01_2	99.88	100.40	bdl	84	bdl	457	bdl	200	1340	718	829
EGB-04-S45_01_3	99.57	100.09	bdl	bdl	bdl	497	76	207	1294	719	770
EGB-04-S45_02_1	101.56	102.21	120	129	bdl	625	228	103	1374	718	1279
EGB-04-S45_02_2	100.91	101.56	165	170	bdl	599	186	99	1419	693	1300
EGB-04-S45_02_3	101.76	102.41	170	174	bdl	638	219	103	1353	690	1349
EGB-04-S45_03_1	102.28	103.00	152	536	bdl	671	344	123	1060	436	1974
EGB-04-S45_03_2	102.04	102.77	136	545	bdl	600	350	126	1062	445	2057
EGB-04-S45_03_3	101.65	102.38	92	532	bdl	586	325	167	1048	429	2072
EGB-04-S45_04_1	100.21	101.08	bdl	894	bdl	854	93	170	1719	482	1929
EGB-04-S45_04_2	100.27	101.15	126	868	bdl	860	83	156	1762	506	1965
EGB-04-S45_04_3	100.37	101.26	167	889	bdl	828	83	164	1745	471	2009

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…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-04-S45_05_1	97.75	99.65	396	6133	bdl	537	273	116	1833	820	3509
EGB-04-S45_05_2	99.21	101.06	546	5817	bdl	708	308	112	1813	805	3189
EGB-04-S45_05_3	98.57	100.43	543	5799	bdl	739	290	162	1792	792	3211
EGB-04-S45_06_1	100.16	102.04	412	6338	bdl	705	165	591	1080	498	3574
EGB-04-S45_06_2	99.41	101.32	504	6318	bdl	714	211	556	1041	520	3829
EGB-04-S45_06_3	99.88	101.78	434	6322	bdl	691	155	419	1037	547	4001
EGB-04-S45_07_1	101.22	102.96	552	5576	bdl	718	209	404	767	354	3970
EGB-04-S45_07_2	101.23	103.04	753	5564	bdl	800	205	396	797	355	4197
EGB-04-S45_07_3	101.71	103.48	608	5576	bdl	715	236	526	770	376	3911
EGB-04-S45_08_1	99.09	100.82	124	6026	bdl	592	228	447	735	356	3828
EGB-04-S45_08_2	99.83	101.65	299	6285	bdl	697	201	477	737	340	4037
EGB-04-S45_08_3	99.02	100.94	218	6728	bdl	717	206	435	800	326	4338
EGB-04-S45_09_1	102.48	103.16	121	178	bdl	625	154	267	910	718	1895
EGB-04-S45_09_2	102.20	102.89	232	171	bdl	627	139	308	907	700	1905
EGB-04-S45_09_3	101.28	101.97	102	114	bdl	669	109	298	967	729	1970
EGB-04-S45_10_1	102.72	103.33	bdl	119	bdl	433	72	58	1195	756	1720
EGB-04-S45_10_2	100.64	101.30	185	158	bdl	390	100	34	1355	770	1763
EGB-04-S45_10_3	98.85	99.54	95	141	bdl	404	129	bdl	1545	798	1818
EGB-04-S45_11	99.56	101.25	412	5391	bdl	712	119	403	1423	539	3015
EGB-04-S45_12	100.35	101.07	bdl	120	bdl	546	bdl	106	1898	498	2009
EGB-04-S45_13	101.29	102.10	bdl	259	bdl	578	69	125	1750	733	2222
EGB-04-S45_14	101.03	102.21	443	2603	bdl	808	313	bdl	759	462	3221
EGB-04-S45_15	102.01	103.38	330	4029	bdl	740	143	468	633	395	3082
EGB-04-S45_16	99.08	99.69	bdl	139	bdl	605	87	104	1782	673	897
EGB-04-S45_17	100.42	101.53	bdl	2153	bdl	625	75	161	2529	582	1621
EGB-04-S45_18	101.19	102.85	243	5373	bdl	532	158	215	1568	535	3189
EGB-04-S45_19	101.09	102.91	469	6080	bdl	696	180	316	1024	448	3870
EGB-04-S45_20	99.38	100.02	bdl	136	bdl	545	bdl	84	1958	714	1026
EGB-04-S45_22	98.63	99.26	bdl	106	bdl	630	bdl	bdl	1948	629	1115
EGB-04-S45_23	100.77	101.40	bdl	bdl	bdl	492	bdl	146	1313	494	1980
EGB-04-S45_24	101.08	102.35	403	3308	bdl	705	160	352	1291	489	2333
EGB-04-S45_25	96.89	98.48	340	4373	bdl	559	154	124	2497	439	2839
EGB-04-S45_26	101.08	102.34	534	3028	bdl	812	266	164	769	428	3171
EGB-04-S45_29	100.20	101.72	139	4273	bdl	461	130	454	1344	443	3541
EGB-04-S45_30	102.19	102.90	bdl	152	bdl	606	bdl	150	1869	1037	1142
EGB-04-S45_31	98.76	100.22	456	4933	bdl	515	134	672	1841	667	922
EGB-04-S45_34	100.12	101.96	206	6385	bdl	674	169	539	677	417	4052
EGB-04-S45_35	102.25	102.90	bdl	93	bdl	463	bdl	56	1786	756	1408
EGB-04-S49_01_1	100.79	101.50	171	185	bdl	603	na	86	1747	920	1356
EGB-04-S49_01_2	99.93	100.63	108	220	bdl	600	na	91	1779	861	1332
EGB-04-S49_01_3	100.50	101.21	228	193	bdl	594	na	87	1769	827	1363
EGB-04-S49_02_1	100.00	100.66	126	180	bdl	489	na	bdl	1349	501	2173
EGB-04-S49_02_2	99.64	100.32	98	159	bdl	677	na	53	1329	572	2091
EGB-04-S49_02_3	99.71	100.34	bdl	185	bdl	549	na	bdl	1329	541	1891
EGB-04-S49_03_1	100.28	100.85	bdl	152	bdl	612	na	75	1359	409	1468
EGB-04-S49_03_2	100.49	101.03	bdl	171	bdl	631	na	135	1340	344	1251
EGB-04-S49_03_3	100.75	101.28	bdl	145	bdl	584	na	114	1309	348	1199
EGB-04-S49_04_1	99.44	100.14	156	206	bdl	687	na	40	1433	590	1944
EGB-04-S49_04_2	99.75	100.44	bdl	217	bdl	692	na	68	1374	573	1994
EGB-04-S49_04_3	99.53	100.22	118	171	bdl	725	na	53	1337	560	2045
EGB-04-S49_05_1	100.35	101.01	bdl	108	bdl	484	na	bdl	1816	911	1321
EGB-04-S49_05_2	100.04	100.70	bdl	110	bdl	488	na	bdl	1837	905	1385
EGB-04-S49_05_3	100.48	101.13	bdl	141	bdl	443	na	bdl	1805	868	1380
EGB-04-S49_06_1	96.97	97.67	128	156	bdl	765	na	298	1684	443	1459
EGB-04-S49_06_2	96.93	97.62	bdl	154	bdl	778	na	318	1703	419	1431
EGB-04-S49_06_3	97.08	97.76	bdl	82	bdl	800	na	299	1710	424	1433
EGB-04-S49_07_1	97.42	98.58	427	3209	bdl	579	na	401	888	601	2141
EGB-04-S49_07_2	98.10	99.11	320	2379	bdl	656	na	365	881	554	2063
EGB-04-S49_07_3	98.08	99.17	362	2753	bdl	577	na	373	867	601	2214

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. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-04-S49_08_1	98.96	99.53	bdl	203	bdl	676	na	bdl	1734	223	1197
EGB-04-S49_08_2	100.37	100.93	bdl	220	bdl	674	na	bdl	1662	271	1115
EGB-04-S49_08_3	99.52	100.10	bdl	166	bdl	714	na	bdl	1716	263	1270
EGB-04-S49_09_1	99.46	100.39	260	1190	bdl	547	na	124	2726	479	1196
EGB-04-S49_09_2	100.21	101.13	297	1244	bdl	456	na	131	2721	445	1213
EGB-04-S49_09_3	99.89	100.81	283	1292	bdl	420	na	122	2693	462	1194
EGB-04-S49_10_1	99.59	100.59	bdl	1773	bdl	840	na	60	649	138	3818
EGB-04-S49_10_2	99.43	100.44	bdl	1707	bdl	850	na	84	611	130	4076
EGB-04-S49_10_3	99.41	100.43	bdl	1864	bdl	753	na	68	634	86	4122
EGB-04-S49_11	101.09	101.75	bdl	888	bdl	768	na	bdl	792	112	2281
EGB-04-S49_12	99.05	99.68	bdl	141	bdl	471	na	bdl	2498	124	1097
EGB-04-S49_13	100.00	100.64	bdl	271	bdl	645	na	116	1879	257	1389
EGB-04-S49_14	99.01	100.28	204	3797	bdl	301	na	374	1443	552	2281
EGB-04-S49_15	99.58	100.47	405	900	bdl	704	na	106	1821	562	1888
EGB-04-S49_16	101.00	101.88	346	1269	bdl	537	na	98	1671	539	1830
EGB-04-S49_17	99.31	100.71	301	4152	bdl	391	na	332	1544	577	2647
EGB-04-S49_18	99.72	100.78	bdl	2392	bdl	717	na	185	1230	622	2436
EGB-04-S49_19	100.63	101.50	344	762	bdl	666	na	158	1857	773	1663
EGB-04-S49_20	97.93	98.69	400	242	bdl	529	na	bdl	1876	1082	1284
EGB-04-S49_21	99.80	100.45	bdl	184	bdl	528	na	139	1247	1093	1442
EGB-04-S49_22	100.30	100.97	bdl	281	bdl	449	na	bdl	1701	616	1645
EGB-04-S49_23	100.46	101.00	bdl	131	bdl	711	na	68	1398	293	1246
EGB-04-S49_24	98.17	98.79	87	328	bdl	579	na	58	1617	166	1667
EGB-04-S49_25	99.28	100.13	182	1196	bdl	668	na	65	1225	253	2607
EGB-04-S49_26	99.87	100.63	182	561	bdl	577	na	84	1805	472	1754
EGB-04-S49_27	98.81	100.43	236	4661	bdl	703	na	140	537	105	5503
EGB-04-S49_28	101.50	102.35	405	1028	bdl	512	na	109	1312	943	1828
EGB-04-S49_29	100.92	101.50	bdl	187	bdl	666	na	357	1299	241	1307
EGB-04-S49_30	98.16	99.05	413	798	bdl	604	na	348	1807	835	1443
EGB-04-S50_1_1	97.01	97.70	bdl	210	bdl	756	na	64	1701	388	1783
EGB-04-S50_1_2	101.24	101.81	81	169	bdl	435	na	92	1451	369	1493
EGB-04-S50_1_3	101.25	101.81	bdl	162	bdl	506	na	74	1347	367	1487
EGB-04-S50_2_1	97.71	98.34	96	123	bdl	350	na	224	2102	369	1178
EGB-04-S50_2_2	98.39	99.01	bdl	110	bdl	330	na	220	2067	398	1211
EGB-04-S50_2_3	97.97	98.60	bdl	132	bdl	356	na	212	2111	413	1217
EGB-04-S50_3_1	101.51	102.11	161	bdl	bdl	498	na	64	1275	753	1532
EGB-04-S50_3_2	100.54	101.15	104	bdl	bdl	475	na	57	1287	783	1534
EGB-04-S50_3_3	100.73	101.35	128	bdl	bdl	564	na	59	1294	753	1578
EGB-04-S50_4_1	100.47	101.24	bdl	951	bdl	803	na	365	974	125	2326
EGB-04-S50_4_2	100.10	100.88	bdl	942	bdl	867	na	368	966	137	2300
EGB-04-S50_4_3	100.07	100.84	bdl	921	bdl	842	na	359	939	123	2314
EGB-04-S50_5_1	100.73	101.31	bdl	535	bdl	457	na	74	1572	160	1360
EGB-04-S50_5_2	100.45	101.01	bdl	501	bdl	416	na	68	1573	157	1279
EGB-04-S50_5_3	100.99	101.54	bdl	460	bdl	402	na	57	1534	177	1251
EGB-04-S50_6_1	97.69	98.37	bdl	272	bdl	565	na	69	1846	755	1278
EGB-04-S50_6_2	96.35	97.05	bdl	236	bdl	577	na	bdl	1839	766	1631
EGB-04-S50_6_3	97.36	98.05	bdl	219	bdl	566	na	bdl	1837	692	1589
EGB-04-S50_7_1	97.88	98.82	212	2112	bdl	379	na	120	1148	374	2463
EGB-04-S50_7_2	97.73	98.59	140	1516	bdl	404	na	147	1175	398	2440
EGB-04-S50_7_3	97.59	98.39	124	1285	bdl	399	na	88	1132	366	2405
EGB-04-S50_8_1	99.15	99.83	bdl	442	bdl	455	na	56	1757	624	1428
EGB-04-S50_8_2	99.52	100.20	bdl	441	bdl	506	na	59	1703	631	1470
EGB-04-S50_8_3	99.42	100.11	bdl	424	bdl	538	na	76	1740	620	1494
EGB-04-S50_9_1	99.84	100.71	412	1970	bdl	409	na	209	1441	701	1008
EGB-04-S50_9_2	100.21	101.07	427	1910	bdl	389	na	242	1434	729	931
EGB-04-S50_9_3	98.93	99.82	425	1809	bdl	451	na	274	1497	738	1018
EGB-04-S50_10_1	98.60	99.16	81	101	bdl	447	na	bdl	1684	590	1108
EGB-04-S50_10_2	98.47	99.02	bdl	91	bdl	466	na	bdl	1662	576	1112
EGB-04-S50_10_3	99.22	99.80	bdl	83	bdl	429	na	56	1638	582	1295

continued on next page. . .

…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-04-S50_11	98.05	98.83	508	232	bdl	599	na	68	1800	586	1876
EGB-04-S50_12	97.76	98.66	bdl	951	bdl	655	na	191	1421	1264	1820
EGB-04-S50_13	100.59	101.11	bdl	248	bdl	403	na	128	1437	464	889
EGB-04-S50_14	100.08	100.69	bdl	279	bdl	376	na	bdl	1502	645	1515
EGB-04-S50_15	100.05	101.04	bdl	1778	bdl	854	na	196	928	75	3416
EGB-04-S50_16	98.93	99.92	221	2431	bdl	488	na	323	1642	455	1410
EGB-04-S50_17	96.06	97.80	259	5501	bdl	739	na	276	867	267	4692
EGB-04-S50_18	101.64	102.28	bdl	bdl	bdl	468	na	bdl	1521	688	1825
EGB-04-S50_19	98.53	99.76	bdl	3256	bdl	800	na	280	1003	358	3107
EGB-04-S50_20	100.81	101.39	bdl	bdl	bdl	432	na	153	2085	726	572
EGB-04-S50_21	97.02	97.68	96	74	bdl	396	na	92	2052	512	1429
EGB-04-S50_22	100.13	100.76	151	233	bdl	625	na	114	1396	569	1407
EGB-04-S50_23	99.71	100.32	bdl	466	bdl	1324	na	143	1118	608	681
EGB-04-S50_24	97.91	98.56	87	341	bdl	478	na	bdl	1703	382	1679
EGB-04-S50_25	100.62	101.31	bdl	844	bdl	801	na	273	859	203	1953
EGB-04-S50_26	100.65	101.93	bdl	2516	bdl	999	na	67	980	131	4773
EGB-04-S50_27	100.20	100.93	96	730	bdl	393	na	83	2405	665	696
EGB-04-S50_28	99.70	100.84	bdl	3551	bdl	609	na	396	864	402	2232
EGB-04-S50_30	96.88	97.82	169	1608	bdl	389	na	48	1754	692	2052
EGB-04-S50_31	97.09	98.44	315	3246	bdl	660	na	91	1471	157	3908
EGB-04-S50b_1_1	96.24	97.36	447	1099	bdl	386	na	bdl	1900	2293	1890
EGB-04-S50b_1_2	96.33	97.48	550	1042	bdl	343	na	bdl	1933	2254	2015
EGB-04-S50b_1_3	96.12	97.35	978	1092	bdl	381	na	bdl	1950	2276	2208
EGB-04-S50b_2_1	100.69	101.28	508	233	bdl	361	na	bdl	1714	399	1053
EGB-04-S50b_2_2	101.36	101.97	628	198	bdl	383	na	bdl	1754	396	1024
EGB-04-S50b_2_3	100.57	101.15	377	240	bdl	380	na	bdl	1747	402	1056
EGB-04-S50b_4_1	101.74	102.55	128	118	bdl	563	na	bdl	2465	1385	1048
EGB-04-S50b_4_2	101.58	102.38	bdl	101	bdl	583	na	bdl	2446	1419	1119
EGB-04-S50b_4_3	101.73	102.56	bdl	108	bdl	559	na	bdl	2461	1459	1189
EGB-04-S50b_5_1	97.22	97.94	331	188	240	302	na	67	1410	584	1960
EGB-04-S50b_5_2	99.30	99.90	181	241	bdl	407	na	137	1387	630	1285
EGB-04-S50b_5_3	99.31	99.90	173	249	bdl	429	na	84	1334	606	1355
EGB-04-S50b_6_1	100.64	101.24	bdl	457	bdl	451	na	66	1419	281	1566
EGB-04-S50b_6_2	100.32	100.92	bdl	477	bdl	480	na	61	1438	291	1551
EGB-04-S50b_6_3	100.66	101.24	bdl	515	bdl	451	na	50	1417	273	1426
EGB-04-S50b_8_1	99.55	100.06	bdl	187	bdl	412	na	bdl	1708	618	681
EGB-04-S50b_8_2	100.01	100.58	bdl	189	bdl	415	na	49	1742	636	976
EGB-04-S50b_9_1	100.23	100.83	bdl	124	bdl	382	na	56	1666	402	1639
EGB-04-S50b_9_2	99.73	100.30	bdl	129	bdl	385	na	bdl	1710	424	1480
EGB-04-S50b_9_3	99.03	99.60	bdl	120	bdl	368	na	34	1662	400	1483
EGB-04-S50b_11_1	96.98	97.95	82	2156	bdl	595	na	282	1828	575	1285
EGB-04-S50b_11_2	96.71	97.73	143	2414	bdl	565	na	261	1868	582	1307
EGB-04-S50b_11_3	96.78	97.86	193	2567	bdl	629	na	294	1880	586	1426
EGB-04-S50b_12_1	100.61	101.21	bdl	77	bdl	367	na	bdl	1780	912	1091
EGB-04-S50b_12_2	100.51	101.17	bdl	156	bdl	448	na	44	1778	887	1338
EGB-04-S50b_12_3	99.66	100.32	bdl	158	bdl	437	na	67	1778	913	1363
EGB-04-S50b_16_1	98.23	98.95	142	905	bdl	383	na	74	2160	493	916
EGB-04-S50b_16_2	98.10	98.85	99	1084	bdl	477	na	55	2202	452	894
EGB-04-S50b_17	97.24	98.00	bdl	408	bdl	432	na	bdl	1599	714	2332
EGB-04-S50b_18	99.08	99.93	bdl	1065	bdl	613	na	198	1415	204	2625
EGB-04-S50b_19	98.71	99.45	134	837	bdl	659	na	108	950	573	2065
EGB-04-S50b_20	101.21	101.95	112	321	bdl	533	na	bdl	1405	998	1775
EGB-04-S50b_21	98.82	99.44	bdl	99	bdl	466	na	195	1915	580	1066
EGB-04-S50b_25	97.67	98.28	bdl	bdl	bdl	423	na	115	1947	621	1034
EGB-04-S50b_26	96.65	97.42	1491	bdl	bdl	409	na	105	1957	458	1121
EGB-04-S50b_27	99.77	100.44	95	bdl	bdl	462	na	138	2164	985	749
EGB-04-S50b_28	98.98	99.69	bdl	690	bdl	709	na	82	1180	490	2019
EGB-04-S50b_29	99.84	100.75	226	1504	bdl	337	na	469	929	465	2534
EGB-04-S50b_30	99.92	100.49	bdl	74	bdl	386	na	70	1553	801	1169

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. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-04-S50b_32	96.93	97.73	199	490	bdl	459	na	158	1695	213	2599
EGB-04-S50b_36	99.14	99.81	bdl	88	bdl	446	na	bdl	1736	1264	1155
EGB-04-S50b_37	98.49	99.23	bdl	173	bdl	429	na	bdl	2268	1044	1299
EGB-04-S50b_38	100.89	101.54	140	222	bdl	496	na	bdl	1324	727	1797
EGB-04-S50b_39	97.95	98.63	bdl	75	bdl	484	na	bdl	1417	1449	1394
EGB-04-S50b_35	99.93	101.19	bdl	2479	bdl	765	na	128	1440	112	4299
EGB-04-S50b_40	100.22	101.06	bdl	741	bdl	533	na	bdl	2316	874	1500
EGB-04-S50b_41	100.70	101.23	bdl	165	bdl	433	na	35	1400	549	1111
EGB-04-S50b_42	100.38	101.18	bdl	1298	bdl	415	na	bdl	1029	840	2238
EGB-04-S51_01_1	99.15	99.90	376	bdl	bdl	41	287	bdl	939	953	2776
EGB-04-S51_01_2	98.76	99.51	555	bdl	bdl	52	277	bdl	939	911	2714
EGB-04-S51_02_1	98.10	98.90	333	138	bdl	64	1088	bdl	1073	859	2367
EGB-04-S51_02_2	98.42	99.26	307	184	bdl	52	1267	31	994	754	2644
EGB-04-S51_02_3	97.26	98.12	358	199	bdl	70	1496	bdl	1051	789	2467
EGB-04-S51_03_1	98.30	99.37	1465	256	bdl	67	769	59	861	179	4521
EGB-04-S51_03_2	97.81	98.89	1806	272	bdl	58	781	bdl	899	184	4237
EGB-04-S51_03_3	98.76	99.66	655	187	bdl	70	681	bdl	829	172	4186
EGB-04-S51_06_1	100.90	101.85	741	1618	bdl	58	241	35	1300	535	2402
EGB-04-S51_06_2	101.07	101.96	515	1647	bdl	73	221	47	1234	539	2215
EGB-04-S51_07_1	98.56	99.30	193	122	bdl	52	196	bdl	999	975	2851
EGB-04-S51_07_2	98.78	99.53	290	143	bdl	67	159	bdl	1009	975	2834
EGB-04-S51_07_3	99.20	99.91	294	111	bdl	80	158	bdl	982	968	2585
EGB-04-S51_09_1	101.54	102.15	100	bdl	191	58	180	bdl	1562	469	1652
EGB-04-S51_09_2	100.93	101.50	bdl	bdl	bdl	52	190	bdl	1593	466	1650
EGB-04-S51_10_1	98.60	99.55	459	499	bdl	67	676	148	1075	109	4073
EGB-04-S51_10_2	98.20	99.21	690	436	bdl	58	721	470	1078	105	3859
EGB-04-S51_10_3	98.57	99.51	622	381	bdl	81	682	153	1073	126	3949
EGB-04-S51_11_1	101.16	101.94	329	1496	bdl	58	102	44	636	242	2839
EGB-04-S51_11_2	100.92	101.79	351	1832	bdl	bdl	111	bdl	686	218	3168
EGB-04-S51_11_3	101.07	101.89	339	1791	bdl	88	83	bdl	665	207	2867
EGB-04-S51_12_1	97.84	98.65	205	bdl	bdl	bdl	69	318	1641	406	3134
EGB-04-S51_12_2	98.80	99.64	312	77	bdl	52	82	331	1596	389	3281
EGB-04-S51_13_1	100.68	101.97	242	1197	bdl	52	4619	bdl	1016	556	2077
EGB-04-S51_13_2	99.86	101.12	193	1226	bdl	49	4677	bdl	1110	456	1819
EGB-04-S51_13_3	101.00	102.25	213	1212	bdl	73	4483	bdl	1052	556	1844
EGB-04-S51_14	97.83	98.70	1108	bdl	bdl	60	369	73	1637	246	2931
EGB-04-S51_16	98.57	98.94	bdl	1323	376	bdl	bdl	161	bdl	198	196
EGB-04-S51_18	97.74	98.45	118	bdl	bdl	77	677	bdl	2036	344	1914
EGB-04-S51_19	97.32	97.98	113	bdl	bdl	71	156	bdl	1859	406	2134
EGB-04-S51_20	97.99	98.77	bdl	71	bdl	46	1386	bdl	1757	364	2051
EGB-04-S51_21	101.00	101.61	bdl	bdl	bdl	57	66	bdl	1718	490	1995
EGB-04-S51_22	97.84	98.91	216	1830	bdl	69	516	bdl	523	209	4634
EGB-04-S51_26	100.56	101.16	94	bdl	bdl	46	164	bdl	1545	445	2024
EGB-04-S51_27	100.18	101.00	265	1729	bdl	43	189	31	1134	342	2195
EGB-04-S51_28	99.28	100.03	368	82	bdl	71	195	bdl	1467	315	3095
EGB-04-S51_29	99.10	99.96	226	76	bdl	45	1582	bdl	1797	456	2121
EGB-04-S51_31	99.75	100.31	90	bdl	bdl	62	186	bdl	1594	348	1785
EGB-04-S51_32	99.86	100.59	230	188	bdl	bdl	379	bdl	1319	529	2772
EGB-04-S51_33	98.73	99.51	879	bdl	bdl	56	224	bdl	1309	370	2903
EGB-04-S51_34	100.18	101.13	529	1844	bdl	84	334	65	834	432	2847
EGB-04-S51_35	99.37	100.69	1557	235	bdl	79	1626	94	851	179	5501
EGB-04-S51_37	99.01	99.97	614	1238	bdl	84	254	102	793	234	3823
EGB-04-S51_38	97.24	97.95	309	bdl	bdl	66	bdl	bdl	1627	655	2476
EGB-04-S51_39	97.85	98.80	250	1763	bdl	40	597	89	886	402	2903
EGB-04-S51_40	99.37	99.90	bdl	bdl	bdl	73	99	34	1498	315	1730
EGB-04-S53_01_1	101.41	102.08	bdl	1452	bdl	45	na	53	714	525	1954
EGB-04-S53_01_2	100.89	101.57	bdl	1473	bdl	41	na	59	731	551	1943
EGB-04-S53_01_3	101.33	102.04	174	1597	bdl	bdl	na	76	789	510	2018
EGB-04-S53_02_1	98.69	99.74	bdl	1207	bdl	bdl	na	47	2769	1661	1600

continued on next page. . .

…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-04-S53_02_2	98.20	99.25	bdl	1249	bdl	59	na	88	2876	1495	1556
EGB-04-S53_02_3	98.35	99.40	bdl	1297	bdl	50	na	98	2820	1457	1566
EGB-04-S53_10_1	99.74	100.57	117	1702	bdl	56	na	32	703	948	2417
EGB-04-S53_10_2	99.29	100.20	309	1968	bdl	47	na	bdl	773	898	2564
EGB-04-S53_10_3	99.62	100.57	462	2068	bdl	80	na	51	762	893	2579
EGB-04-S53_11_1	98.43	99.28	419	1943	bdl	58	na	64	593	457	2679
EGB-04-S53_11_2	97.77	98.63	189	1940	bdl	47	na	110	624	421	2874
EGB-04-S53_11_3	98.69	99.59	256	2121	bdl	bdl	na	71	602	423	3086
EGB-04-S53_12_1	96.88	97.48	446	360	bdl	bdl	na	bdl	691	190	2811
EGB-04-S53_12_2	98.12	99.44	4070	680	bdl	71	na	104	619	291	4248
EGB-04-S53_13_2	96.60	97.37	283	90	bdl	65	na	bdl	1797	660	2721
EGB-04-S53_14_1	98.66	99.52	354	1938	bdl	50	na	68	1004	241	2537
EGB-04-S53_14_2	99.30	100.13	265	1929	bdl	bdl	na	59	967	218	2598
EGB-04-S53_14_3	98.30	99.12	201	1878	bdl	47	na	bdl	996	213	2595
EGB-04-S53_17	97.69	98.47	164	1621	bdl	bdl	na	bdl	2039	542	1178
EGB-04-S53_20	98.63	99.41	417	523	bdl	168	na	31	3088	116	1058
EGB-04-S53_22_1	96.94	97.71	114	1207	bdl	181	na	bdl	2752	291	766
EGB-04-S53_22_2	98.00	98.86	224	1483	bdl	284	na	bdl	2928	206	853
EGB-04-S53_22_3	97.19	97.90	bdl	1025	bdl	97	na	bdl	2493	468	796
EGB-04-S53_23	96.60	97.64	bdl	2739	bdl	bdl	bdl	bdl	1018	bdl	3723
EGB-04-S53_24	98.11	98.92	bdl	1715	bdl	88	118	bdl	1167	372	2374
EGB-04-S53_28	98.38	99.30	bdl	919	bdl	bdl	bdl	bdl	1326	842	3593
EGB-04-S53_31	99.37	100.05	bdl	1160	78	81	624	32	939	496	1430
EGB-04-S53_34	98.19	98.84	bdl	1467	bdl	41	65	34	691	476	1822
EGB-04-S53_35	100.64	101.44	bdl	1841	bdl	47	89	bdl	842	493	2512
EGB-04-S53_36	100.49	101.07	bdl	1147	bdl	68	65	bdl	680	512	1616
EGB-04-S53_37	101.04	101.71	bdl	1347	73	70	83	73	790	892	1325
EGB-04-S53_39	97.11	98.25	783	2031	bdl	56	757	bdl	960	343	3517
EGB-04-S53_40	96.58	97.45	254	1641	bdl	bdl	407	bdl	994	613	2404
EGB-04-S53_43_1	96.02	98.05	5100	2532	bdl	68	91	bdl	1500	224	5844
EGB-04-S53_43_2	97.06	98.07	524	1807	bdl	62	bdl	bdl	1154	131	3783
EGB-04-S53_43_3	97.01	97.89	bdl	1699	bdl	56	bdl	bdl	1097	209	3432
EGB-04-S53_51	97.43	98.18	bdl	1538	bdl	53	132	bdl	1044	568	2002
EGB-04-S53_53	100.24	100.80	100	635	bdl	56	bdl	bdl	1871	349	943
EGB-04-S53_54	98.13	98.86	251	1915	bdl	bdl	133	89	384	545	1897
EGB-04-S55_03_1	97.68	100.21	10071	835	bdl	104	284	47	1763	1822	4290
EGB-04-S55_03_2	98.88	100.02	2262	1125	bdl	141	164	bdl	1217	1235	2278
EGB-04-S55_03_3	98.17	100.20	6843	1011	bdl	128	264	107	1553	2121	3225
EGB-04-S55_04_1	98.53	99.37	132	1714	bdl	72	89	42	933	493	2644
EGB-04-S55_04_2	98.99	99.84	104	2015	bdl	bdl	102	bdl	951	473	2499
EGB-04-S55_04_3	98.95	99.80	bdl	1908	bdl	50	96	bdl	913	454	2724
EGB-04-S55_05_1	98.95	100.54	2810	2848	bdl	113	176	52	3463	545	1542
EGB-04-S55_05_2	102.64	103.40	bdl	1453	95	73	165	bdl	2028	393	1108
EGB-04-S55_05_3	100.20	102.29	5057	3230	bdl	103	210	bdl	3815	413	2469
EGB-04-S55_06_1	98.16	99.07	bdl	735	bdl	41	bdl	bdl	1164	1526	2909
EGB-04-S55_06_2	98.78	99.67	bdl	677	bdl	bdl	bdl	bdl	1154	1570	3037
EGB-04-S55_06_3	98.25	99.11	bdl	689	bdl	bdl	bdl	bdl	1188	1205	3177
EGB-04-S55_07_1	100.65	101.54	82	1509	bdl	bdl	bdl	bdl	2344	1414	798
EGB-04-S55_07_2	100.99	101.89	bdl	1444	bdl	bdl	bdl	bdl	2362	1473	907
EGB-04-S55_07_3	98.39	99.34	bdl	1472	bdl	65	bdl	bdl	2568	1391	1079
EGB-04-S55_08_1	102.07	102.95	342	2395	bdl	44	92	38	556	371	2538
EGB-04-S55_08_2	101.40	102.51	1050	2763	bdl	bdl	126	85	755	330	3013
EGB-04-S55_08_3	100.68	102.62	3974	4085	bdl	53	173	98	874	875	4267
EGB-04-S55_1	98.95	99.94	372	1959	bdl	41	585	bdl	779	192	3395
EGB-04-S55_10_1	98.57	99.57	bdl	1184	bdl	53	bdl	bdl	1050	1103	3903
EGB-04-S55_10_2	98.08	99.12	bdl	1121	bdl	44	bdl	bdl	1092	1360	3992
EGB-04-S55_10_3	101.02	101.94	bdl	768	bdl	bdl	bdl	bdl	778	1505	3540
EGB-04-S55_11_1	99.16	100.07	132	2110	bdl	bdl	157	bdl	1084	441	2597
EGB-04-S55_11_2	99.08	100.06	197	2503	bdl	73	134	bdl	1141	465	2641

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. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-04-S55_11_3	99.23	100.04	100	1697	bdl	47	155	bdl	1000	493	2379
EGB-04-S55_12_1	99.43	100.27	134	1536	bdl	156	139	46	1455	423	2075
EGB-04-S55_12_2	102.22	103.02	160	1673	bdl	77	145	46	1185	408	2088
EGB-04-S55_13_1	101.28	101.98	243	1190	915	bdl	bdl	447	162	67	1452
EGB-04-S55_13_2	101.72	102.29	114	1306	475	bdl	bdl	268	123	57	1415
EGB-04-S55_13_3	99.95	100.89	142	2503	bdl	bdl	160	bdl	1033	329	2543
EGB-04-S55_14	99.78	100.45	bdl	1715	bdl	107	97	132	769	333	1625
EGB-04-S55_15	102.25	103.03	228	1811	bdl	bdl	91	59	418	286	2791
EGB-04-S55_16	101.85	102.64	95	1845	bdl	50	bdl	bdl	913	372	2393
EGB-04-S55_17	100.36	101.16	167	1893	bdl	50	236	153	1030	409	1806
EGB-04-S55_18	101.64	102.57	477	1864	bdl	47	334	bdl	775	463	2808
EGB-04-S55_19	100.52	101.44	bdl	1020	725	78	312	309	2250	408	928
EGB-04-S55_2	101.77	102.06	bdl	389	271	bdl	bdl	58	103	43	1168
EGB-04-S55_20	101.79	102.73	568	2043	bdl	62	322	60	477	429	2969
EGB-04-S55_21	101.81	102.27	bdl	947	100	bdl	bdl	199	141	37	1773
EGB-04-S55_22	99.74	100.70	199	1463	2340	135	bdl	324	351	bdl	663
EGB-04-S55_24	99.49	100.32	bdl	720	bdl	53	74	bdl	1566	59	3569
EGB-04-S55_25	102.39	103.04	88	1335	bdl	bdl	73	82	565	304	2252
EGB-04-S55_27	100.43	101.33	121	1740	bdl	bdl	528	bdl	1065	205	2868
EGB-04-S55_28	101.23	102.03	146	1788	bdl	84	142	bdl	885	318	2521
EGB-04-S55_29	101.29	101.64	bdl	589	bdl	bdl	bdl	55	99	1064	675
EGB-04-S55_30_1	100.55	102.09	5562	498	603	bdl	bdl	714	109	53	3710
EGB-04-S55_30_2	98.10	99.13	bdl	2991	bdl	bdl	bdl	40	1433	150	2644
EGB-04-S55_32	100.14	101.08	102	1996	bdl	99	126	bdl	1330	600	2468
EGB-04-S55_33	102.62	103.50	277	2059	bdl	59	142	39	882	483	2472
EGB-04-S55_9	98.46	100.26	183	1176	3720	bdl	bdl	2583	131	bdl	2279
EGB-04-S56_10_1	97.66	98.50	112	1510	bdl	53	206	60	689	1158	2243
EGB-04-S56_10_2	97.56	98.35	144	1516	bdl	41	169	79	648	1170	1905
EGB-04-S56_10_3	98.47	99.39	212	2140	bdl	62	143	100	716	1041	2186
EGB-04-S56_27_1	99.24	100.01	139	1553	bdl	bdl	240	89	627	1082	1841
EGB-04-S56_27_2	98.99	99.80	bdl	742	bdl	349	229	150	672	1741	1917
EGB-04-S56_27_3	102.04	102.82	191	1376	103	bdl	228	146	394	998	2131
EGB-04-S56_29_1	101.72	101.90	bdl	673	bdl	bdl	bdl	bdl	115	124	261
EGB-04-S56_29_2	100.66	100.83	bdl	626	79	bdl	bdl	bdl	139	71	215
EGB-04-S56_29_3	101.68	101.87	bdl	693	111	bdl	bdl	bdl	134	138	166
EGB-04-S56_33_1	99.06	99.87	106	1785	bdl	bdl	114	bdl	684	450	2711
EGB-04-S56_33_2	98.82	99.66	153	1642	bdl	53	239	57	661	452	2848
EGB-04-S56_33_3	98.62	99.45	191	1661	bdl	bdl	227	bdl	668	573	2693
EGB-04-S56_35_1	102.56	102.70	bdl	493	bdl	41	bdl	bdl	103	187	183
EGB-04-S56_35_2	100.90	101.07	bdl	733	bdl	bdl	bdl	52	63	bdl	310
EGB-04-S56_35_3	100.78	101.01	bdl	612	105	bdl	bdl	95	103	bdl	696
EGB-04-S56_38_1	100.75	100.95	bdl	960	bdl	71	bdl	bdl	104	100	229
EGB-04-S56_38_2	100.57	101.16	bdl	1402	305	bdl	bdl	233	309	976	726
EGB-04-S56_38_3	100.53	101.06	bdl	947	1552	135	bdl	bdl	98	101	204
EGB-04-S56_41_1	99.66	100.88	568	1299	1191	73	69	406	404	105	4188
EGB-04-S56_41_2	100.57	101.23	825	1734	711	41	bdl	225	226	51	491
EGB-04-S56_41_3	99.87	100.85	780	1395	1653	bdl	bdl	706	139	41	1216
EGB-04-S56_42_1	99.93	101.27	254	3766	bdl	1009	205	250	999	559	2507
EGB-04-S56_42_2	99.42	100.86	234	4139	bdl	1022	203	270	1049	581	2864
EGB-04-S56_42_3	99.58	100.98	193	3990	bdl	1013	187	287	1041	548	2780
EGB-04-S56_43_1	102.08	103.30	1833	1989	226	68	161	209	513	515	3391
EGB-04-S56_43_2	102.58	103.49	807	1933	bdl	60	147	48	432	229	3069
EGB-04-S56_43_3	101.75	102.56	197	1618	bdl	bdl	207	46	364	1070	2335
EGB-04-S56_50_1	101.83	103.09	95	4006	111	389	118	203	500	402	3197
EGB-04-S56_50_2	102.36	103.12	bdl	1765	bdl	42	123	141	391	556	2449
EGB-04-S56_50_3	100.13	102.13	90	2305	3143	99	108	2424	438	325	3040
EGB-04-S56_53	100.86	101.18	bdl	831	133	567	bdl	121	bdl	bdl	582
EGB-04-S56_57	96.17	98.42	4418	4924	bdl	94	414	211	926	545	5151
EGB-04-S56_61	101.41	101.71	bdl	1505	136	108	bdl	44	81	68	201

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…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-04-S56_63	100.83	100.94	bdl	466	bdl	bdl	bdl	bdl	105	bdl	208
EGB-04-S56_68	97.56	98.38	160	1432	bdl	45	217	33	803	937	2272
EGB-04-S56b_1	100.49	101.38	bdl	1155	1269	395	180	bdl	385	441	1992
EGB-04-S56b_11	99.31	100.24	bdl	1569	1297	bdl	209	35	427	352	2174
EGB-04-S56b_12	99.73	100.62	bdl	1599	1024	bdl	197	34	418	252	2436
EGB-04-S56b_14	99.52	100.38	bdl	1383	1161	bdl	183	bdl	403	374	2137
EGB-04-S56b_18	98.51	99.85	bdl	3502	1115	bdl	167	427	642	434	2651
EGB-04-S56b_2	99.26	100.10	bdl	1140	1084	bdl	236	bdl	488	384	2223
EGB-04-S56b_23	98.80	100.33	bdl	439	869	bdl	bdl	475	450	476	8188
EGB-04-S56b_4	99.38	100.41	bdl	1815	1590	bdl	87	bdl	468	257	2295
EGB-04-S57_01_1	101.77	102.72	128	2355	bdl	103	80	bdl	933	586	2741
EGB-04-S57_01_2	101.60	102.44	87	1773	bdl	64	99	bdl	885	472	2752
EGB-04-S57_01_3	99.03	99.94	167	1967	bdl	86	98	bdl	1120	538	2672
EGB-04-S57_02_1	99.35	100.27	170	1827	95	73	96	bdl	1214	924	2194
EGB-04-S57_02_2	101.09	102.02	391	1773	bdl	44	178	bdl	1221	853	2326
EGB-04-S57_02_3	100.73	101.58	bdl	1711	bdl	58	126	bdl	1245	840	2050
EGB-04-S57_03_1	100.11	100.98	199	1993	bdl	74	98	37	755	458	2767
EGB-04-S57_03_2	101.30	102.16	175	1957	bdl	78	103	41	718	422	2784
EGB-04-S57_03_3	100.95	101.79	92	1899	bdl	85	96	bdl	693	457	2770
EGB-04-S57_04_1	102.48	103.38	bdl	1854	bdl	104	73	bdl	1150	746	2528
EGB-04-S57_04_2	101.86	102.72	bdl	1610	bdl	47	118	bdl	1207	582	2522
EGB-04-S57_04_3	99.08	100.03	bdl	2001	bdl	90	114	bdl	1430	755	2445
EGB-04-S57_07_1	99.39	100.36	128	2490	bdl	89	76	bdl	812	788	2577
EGB-04-S57_07_2	99.47	100.31	86	1922	bdl	64	95	bdl	825	786	2274
EGB-04-S57_07_3	100.06	100.93	140	2126	bdl	78	bdl	bdl	809	796	2304
EGB-04-S57_08_1	97.94	100.85	bdl	2050	bdl	137	129	bdl	721	410	18578
EGB-04-S57_08_2	99.54	100.37	139	1903	bdl	76	95	bdl	808	357	2688
EGB-04-S57_08_3	99.57	100.53	182	2452	bdl	110	115	30	840	415	2771
EGB-04-S57_11	99.87	100.69	104	1650	bdl	47	80	bdl	1000	634	2495
EGB-04-S57_13_1	98.13	99.19	148	2513	bdl	88	95	38	1178	682	2869
EGB-04-S57_13_2	97.49	98.52	bdl	2349	bdl	127	67	bdl	1184	595	3018
EGB-04-S57_13_3	97.35	98.27	173	1855	bdl	109	106	bdl	1125	658	2708
EGB-04-S57_15_1	100.43	101.32	160	2099	bdl	106	102	bdl	876	353	2738
EGB-04-S57_15_2	100.69	101.56	bdl	2138	bdl	89	bdl	bdl	832	370	2796
EGB-04-S57_15_3	99.48	100.42	bdl	2032	bdl	107	bdl	bdl	897	356	3410
EGB-04-S57_16_1	97.91	98.88	152	2034	bdl	105	109	bdl	1384	662	2581
EGB-04-S57_16_2	97.38	98.32	103	1899	bdl	94	128	bdl	1370	622	2580
EGB-04-S57_16_3	98.51	99.40	144	1768	bdl	47	154	bdl	1309	563	2480
EGB-04-S57_17_1	98.48	99.37	213	1897	bdl	52	137	bdl	1089	405	2671
EGB-04-S57_17_2	99.33	100.19	159	1712	bdl	52	191	bdl	1043	413	2703
EGB-04-S57_17_3	98.18	99.07	182	1872	bdl	61	132	bdl	1065	495	2688
EGB-04-S57_18_1	98.49	99.56	228	2698	bdl	112	211	75	751	401	3336
EGB-04-S57_18_2	98.27	99.37	283	2743	bdl	118	181	68	759	333	3502
EGB-04-S57_18_3	98.05	99.11	283	2642	bdl	87	130	69	723	345	3435
EGB-04-S57_19	98.18	99.29	bdl	3027	bdl	120	bdl	bdl	1300	378	3130
EGB-04-S57_22	100.37	101.28	94	2066	bdl	79	118	bdl	1273	427	2588
EGB-04-S57_23	98.68	99.63	156	1931	bdl	84	116	bdl	1448	808	2284
EGB-04-S57_24	98.81	99.98	313	3001	bdl	135	80	bdl	1362	467	3136
EGB-04-S57_25	97.53	98.39	190	1438	bdl	97	136	bdl	1454	385	2539
EGB-04-S57_26	100.45	101.28	226	1859	bdl	124	121	bdl	723	402	2613
EGB-04-S57_27	101.19	102.01	130	1504	bdl	61	197	bdl	909	569	2574
EGB-04-S57_28	97.85	98.70	99	1838	bdl	73	98	bdl	1269	510	2235
EGB-04-S57_29	98.58	99.44	126	1745	bdl	82	100	100	950	497	2571
EGB-04-S57_30	100.35	101.25	103	1991	bdl	96	77	bdl	1009	453	2749
EGB-04-S57_32	99.99	100.80	85	1801	bdl	90	122	bdl	1059	430	2290
EGB-04-S57_35	97.58	98.43	160	1770	bdl	64	86	bdl	1035	438	2648
EGB-04-S57_36	101.03	101.86	124	1723	bdl	90	63	35	752	457	2787
EGB-04-S57_37	97.19	98.18	195	2062	bdl	130	83	bdl	1442	381	2860
EGB-04-S57_40	98.93	99.85	bdl	1999	bdl	75	143	bdl	1296	300	2815

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. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-04-S57_41	100.58	101.47	bdl	2056	bdl	96	102	bdl	860	583	2657
EGB-04-S57_43	100.22	101.07	150	1706	bdl	55	96	bdl	1092	610	2357
EGB-04-S57_44	97.83	98.69	232	1701	bdl	bdl	106	bdl	1414	627	2152
EGB-04-S61_06_1	100.38	100.73	bdl	1295	bdl	153	bdl	bdl	bdl	32	1080
EGB-04-S61_06_2	101.05	101.52	bdl	739	bdl	124	bdl	bdl	bdl	bdl	2684
EGB-04-S61_08_1	101.20	102.11	174	2679	bdl	267	110	159	937	356	1787
EGB-04-S61_08_2	102.49	103.31	190	2294	bdl	243	112	199	836	355	1635
EGB-04-S61_08_3	101.77	102.59	139	2366	bdl	247	118	207	862	320	1601
EGB-04-S61_09_1	101.82	102.46	bdl	210	79	bdl	bdl	57	68	bdl	4445
EGB-04-S61_09_2	101.96	102.57	bdl	406	bdl	bdl	bdl	bdl	127	bdl	4250
EGB-04-S61_09_3	100.96	101.60	bdl	466	bdl	bdl	bdl	51	64	bdl	4229
EGB-04-S61_11_1	100.22	101.19	411	1975	bdl	127	133	bdl	1873	648	1812
EGB-04-S61_11_2	99.90	100.80	596	1601	bdl	48	130	bdl	1775	541	1845
EGB-04-S61_11_3	99.53	100.38	126	1570	bdl	69	153	bdl	1806	599	1723
EGB-04-S61_12_1	99.36	101.74	791	1779	bdl	99	2879	bdl	5252	5472	547
EGB-04-S61_12_2	100.41	102.31	bdl	436	190	bdl	2707	53	4876	4598	418
EGB-04-S61_12_3	99.86	101.32	bdl	636	bdl	bdl	1404	bdl	3758	3886	445
EGB-04-S61_13_1	99.21	100.32	167	2815	bdl	93	90	30	2097	832	1694
EGB-04-S61_13_2	100.50	101.39	bdl	1863	bdl	69	70	31	2062	433	1775
EGB-04-S61_13_3	103.08	103.93	251	1726	bdl	108	90	31	1784	474	1658
EGB-04-S61_14_1	99.43	100.45	676	1878	bdl	69	740	112	1018	587	2417
EGB-04-S61_14_2	100.55	101.58	642	1818	bdl	84	719	39	1016	604	2683
EGB-04-S61_14_3	100.21	101.25	610	1858	bdl	63	748	127	1023	624	2497
EGB-04-S61_18_1	100.37	101.22	92	1992	bdl	42	88	bdl	1035	528	2361
EGB-04-S61_18_2	100.67	101.50	132	1873	bdl	63	114	41	1047	457	2302
EGB-04-S61_18_3	100.64	101.38	bdl	1577	bdl	71	106	bdl	992	501	2098
EGB-04-S61_19_1	101.41	102.13	bdl	1149	bdl	bdl	bdl	bdl	1081	433	2459
EGB-04-S61_19_2	99.33	100.10	bdl	1155	bdl	bdl	bdl	bdl	1294	427	2663
EGB-04-S61_19_3	99.15	100.17	bdl	2040	434	bdl	bdl	93	1340	526	2620
EGB-04-S61_29_1	100.97	101.48	bdl	607	bdl	bdl	bdl	bdl	625	1641	612
EGB-04-S61_29_2	100.29	101.11	bdl	1646	480	195	bdl	168	174	2642	109
EGB-04-S61_34	100.75	101.16	bdl	652	663	bdl	bdl	157	73	181	819
EGB-04-S62_06_1	99.05	99.66	bdl	659	bdl	198	165	314	1269	92	1637
EGB-04-S62_06_2	99.19	99.81	bdl	663	bdl	217	144	324	1255	112	1660
EGB-04-S62_06_3	99.47	100.09	bdl	695	bdl	223	138	337	1244	84	1639
EGB-04-S62_09_1	97.08	100.79	6351	2168	bdl	115	9940	85	3930	2564	2781
EGB-04-S62_09_2	99.02	101.55	828	7707	bdl	bdl	3465	45	612	2362	3383
EGB-04-S62_09_3	91.80	101.41	34177	1683	bdl	369	19456	342	1527	2092	15158
EGB-04-S62_09_4	91.99	101.21	31719	1641	bdl	306	19219	321	2046	3233	12981
EGB-04-S62_13_1	94.13	101.48	24979	4274	bdl	204	12524	349	2474	853	11038
EGB-04-S62_13_2	91.95	101.07	35208	4187	bdl	234	14021	282	1868	1274	13681
EGB-04-S62_13_3	92.31	101.82	35763	3913	bdl	234	14493	276	1746	3000	14147
EGB-04-S62_13_4	92.58	101.21	25772	2366	bdl	244	21031	364	2136	4707	9903
EGB-04-S62_13_5	94.55	101.45	21569	1674	bdl	172	14099	654	1614	3365	9849
EGB-04-S62_17_1	100.20	102.76	4344	649	bdl	bdl	8326	51	1628	1425	3069
EGB-04-S62_17_2	95.19	101.81	22838	784	bdl	150	13075	243	2745	1564	9833
EGB-04-S62_17_3	95.59	101.86	20379	972	bdl	170	13233	159	3701	1346	8444
EGB-04-S62_17_4	95.12	101.68	21331	981	bdl	196	13706	177	3881	1371	8965
EGB-04-S62_17_5	98.52	101.79	4751	571	bdl	100	11106	bdl	4787	1333	2055
EGB-04-S62_22_1	100.26	101.81	1248	265	94	bdl	1625	254	bdl	50	8287
EGB-04-S62_22_2	101.03	102.07	248	253	141	bdl	996	234	bdl	34	5898
EGB-04-S62_22_3	99.76	101.18	453	135	321	bdl	817	318	bdl	54	8467
EGB-04-S62_27_1	91.39	101.22	37587	1369	bdl	283	17723	419	2038	81	17179
EGB-04-S62_27_2	94.38	100.44	19983	450	bdl	144	13784	408	472	bdl	12048
EGB-04-S62_31_1	100.32	101.47	213	2208	bdl	1204	188	bdl	2234	645	1522
EGB-04-S62_31_2	99.52	100.65	173	2347	bdl	1098	230	bdl	2249	642	1346
EGB-04-S62_31_3	99.59	100.80	143	2677	bdl	1190	238	bdl	2251	644	1527
EGB-04-S62_33_1	95.98	98.52	2909	605	bdl	61	8651	175	1936	1417	3526
EGB-04-S62_33_2	92.34	99.71	27437	1297	bdl	207	12839	303	852	727	13836

continued on next page. . .

…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-04-S62_34_1	93.61	101.15	21807	2717	bdl	200	15281	193	4248	7549	5192
EGB-04-S62_34_2	99.56	102.20	3086	1824	bdl	50	9162	118	2160	265	3414
EGB-04-S63_07_1	98.90	99.79	150	1792	bdl	164	120	210	1659	736	1426
EGB-04-S63_07_2	98.68	99.57	148	1801	bdl	169	122	234	1665	725	1425
EGB-04-S63_07_3	98.78	99.79	232	1748	bdl	192	142	200	1659	767	2292
EGB-04-S63_09_1	100.12	101.42	331	3929	bdl	208	199	247	953	441	3068
EGB-04-S63_09_2	100.33	101.57	382	3214	bdl	343	273	247	914	468	3094
EGB-04-S63_09_3	99.96	101.18	411	3159	bdl	360	289	177	902	503	3060
EGB-04-S63_10_1	100.04	100.94	142	2282	bdl	150	114	130	1129	753	1632
EGB-04-S63_10_2	100.13	100.96	148	1930	bdl	125	126	69	1089	697	1702
EGB-04-S63_10_3	100.15	100.95	113	1801	bdl	99	136	66	1104	716	1673
EGB-04-S63_13_1	98.05	98.91	157	1755	bdl	145	149	290	1525	947	1060
EGB-04-S63_13_2	97.24	98.14	189	1801	bdl	210	162	351	1499	967	1115
EGB-04-S63_13_3	97.36	98.24	207	1869	bdl	133	154	320	1483	892	1084
EGB-04-S63_18_1	96.93	97.87	718	1710	bdl	76	334	bdl	1427	561	2047
EGB-04-S63_18_2	96.17	97.11	596	1785	bdl	138	303	bdl	1425	592	1990
EGB-04-S63_19_1	99.31	100.23	203	1497	bdl	bdl	1113	bdl	1266	414	2208
EGB-04-S63_19_2	100.41	101.33	265	1525	bdl	bdl	1148	bdl	1152	443	2183
EGB-04-S63_19_3	100.10	101.05	283	1795	bdl	50	958	bdl	1142	378	2335
EGB-04-S63_22	97.56	98.71	122	3024	bdl	329	126	226	1117	705	2564
EGB-04-S63_23	97.46	99.13	808	1838	bdl	84	346	bdl	2856	5285	417
EGB-04-S63_25	100.49	101.24	bdl	1574	bdl	bdl	97	bdl	994	590	2200
EGB-04-S63_28	99.44	100.23	213	1632	bdl	140	150	262	1198	543	1440
EGB-04-S63_29	96.86	97.90	104	2182	bdl	162	96	bdl	2416	795	1651
EGB-04-S63_30	97.40	98.24	156	1585	bdl	53	105	bdl	834	482	2978
EGB-04-S63_34	97.09	98.07	321	1838	bdl	145	246	43	1319	859	2305
EGB-04-S63_35	98.86	99.61	bdl	811	bdl	1008	bdl	bdl	1213	216	2227
EGB-04-S63_39	99.80	100.69	293	1816	bdl	130	148	331	1854	625	976
EGB-04-S63_41	99.08	99.95	bdl	2350	bdl	59	90	bdl	999	484	2257
EGB-04-S63_42	97.32	97.81	bdl	804	bdl	64	95	255	542	70	1623
EGB-04-S63_44	100.92	101.93	102	2819	bdl	122	bdl	33	733	431	3023
EGB-04-S63_6	97.27	97.58	bdl	1309	bdl	bdl	bdl	135	44	bdl	460
EGB-04-R1b_1	97.09	98.61	bdl	6004	bdl	961	na	na	na	491	1910
EGB-04-R1b_2	98.51	100.05	bdl	5902	47	903	na	na	na	410	1913
EGB-04-R1b_3	97.19	98.62	bdl	3671	37	1664	na	na	na	202	3561
EGB-04-R1b_4	98.05	99.45	bdl	3687	98	1521	na	na	na	112	3633
EGB-04-R1b_5	97.14	98.64	bdl	4526	bdl	1432	na	na	na	254	2785
EGB-04-R1b_6	98.51	99.94	bdl	4701	67	1311	na	na	na	226	2793
EGB-04-R1b_7	96.75	98.07	415	3679	36	1333	na	na	na	345	2941
EGB-04-R1b_8	98.15	99.30	bdl	3640	55	1298	na	na	na	218	2087
EGB-04-R1b_9	96.16	97.48	bdl	3760	43	1353	na	na	na	214	2800
EGB-04-R1b_10	98.01	99.36	bdl	3821	95	1177	na	na	na	172	3060
EGB-04-R2b_1	99.19	100.86	bdl	2690	110	640	na	na	na	350	3380
EGB-04-R2b_2	99.19	100.86	bdl	2690	110	640	na	na	na	350	3380
EGB-04-R2b_3	97.87	99.55	bdl	2910	40	151	na	na	na	234	2770
EGB-04-R2b_4	95.80	98.36	bdl	3643	126	1449	na	na	na	196	8915
EGB-04-R2b_5	95.65	99.20	bdl	3767	100	1293	na	na	na	188	16771
EGB-04-R2b_6	96.52	98.21	bdl	3240	42	691	na	na	na	300	2903
EGB-04-R2b_7	98.61	100.28	bdl	3185	47	718	na	na	na	297	2866
EGB-04-R2b_8	97.71	99.45	bdl	2796	100	663	na	na	na	285	3343
EGB-04-R2b_9	98.67	100.50	bdl	2850	50	1194	na	na	na	196	4043
EGB-04-R2b_10	98.25	100.09	bdl	2938	145	1155	na	na	na	237	4111
EGB-04-R2b_11	96.66	98.36	bdl	3118	36	1100	na	na	na	301	2906
EGB-04-R2b_12	98.08	99.79	bdl	3059	57	1125	na	na	na	329	2887
EGB-04-R2b_13	96.72	98.46	bdl	3046	61	1158	na	na	na	280	2845
EGB-04-R2b_14	97.98	99.74	bdl	3249	51	1109	na	na	na	287	2818
EGB-04-R2b_15	98.21	100.03	bdl	2944	56	1157	na	na	na	214	3804
EGB-04-R2b_16	97.72	99.51	bdl	2738	41	1181	na	na	na	218	3800
EGB-04-R2b_17	97.35	99.07	bdl	3170	193	1072	na	na	na	395	2518

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. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-04-R2b_18	98.26	99.96	bdl	3222	160	1056	na	na	na	401	2544
EGB-04-R3a2_1	98.04	98.77	bdl	120	61	529	na	na	na	757	1738
EGB-04-R3a2_2	98.50	99.20	bdl	102	21	531	na	na	na	727	2089
EGB-04-R3a2_3	98.67	99.34	bdl	93	bdl	542	na	na	na	620	1940
EGB-04-R3a2_4	98.53	99.25	bdl	bdl	bdl	581	na	na	na	847	1665
EGB-04-R3a2_5	99.00	99.79	bdl	98	44	574	na	na	na	863	2445
EGB-04-R3a2_6	98.87	99.53	bdl	71	140	590	na	na	na	1002	1007
EGB-04-R3a2_7	98.84	99.46	bdl	64	bdl	621	na	na	na	577	1238
EGB-04-R3a2_8	97.40	98.08	bdl	bdl	66	656	na	na	na	813	1685
EGB-04-R3a2_9	97.75	98.50	bdl	140	189	579	na	na	na	710	1680
EGB-04-R3a2_10	97.52	98.22	bdl	112	51	682	na	na	na	738	2191
EGB-04-R3a2_11	98.49	99.22	bdl	75	95	562	na	na	na	664	2153
EGB-04-R3a2_12	97.55	98.14	bdl	106	bdl	609	na	na	na	626	1965
EGB-04-R3a2_13	98.23	98.91	bdl	113	40	576	na	na	na	618	1969
EGB-04-R3a2_14	97.75	98.48	bdl	68	57	720	na	na	na	907	1641
EGB-04-R3a2_15	98.47	99.19	bdl	79	62	609	na	na	na	871	1680
EGB-04-R3a2_16	97.47	98.29	bdl	bdl	119	571	na	na	na	930	2498
EGB-04-R3a2_17	98.14	98.97	bdl	92	163	573	na	na	na	807	2433
EGB-04-R3a2_18	96.30	96.94	bdl	142	151	661	na	na	na	1125	1113
EGB-04-R3a2_19	97.93	98.57	bdl	105	229	617	na	na	na	1036	1018
EGB-04-R3a2_20	97.22	97.79	bdl	105	44	676	na	na	na	641	1242
EGB-04-R3a2_21	98.75	99.34	bdl	93	62	621	na	na	na	528	1154
EGB-04-R4f1_1	98.59	100.56	376	6588	266	490	na	na	na	656	4643
EGB-04-R4f1_2	98.18	100.65	bdl	7451	97	496	na	na	na	818	7917
EGB-04-R4f1_3	98.66	100.38	633	5125	bdl	727	na	na	na	506	4552
EGB-04-R4f1_4	98.60	100.27	356	5093	bdl	768	na	na	na	487	4582
EGB-04-R4f1_5	98.56	100.32	742	5188	bdl	758	na	na	na	523	4711
EGB-04-R4f1_6	98.71	100.36	445	5721	72	458	na	na	na	523	3929
EGB-04-R4f1_7	98.61	100.28	bdl	6109	76	418	na	na	na	381	3838
EGB-04-R4f1_8	98.35	100.53	481	7921	39	690	na	na	na	936	4397
EGB-04-R4f1_9	98.39	100.38	bdl	6709	333	488	na	na	na	589	4186
EGB-04-R4g_1	99.76	100.58	bdl	66	bdl	608	na	na	na	1080	1174
EGB-04-R4g_2	99.89	100.70	bdl	114	bdl	604	na	na	na	1110	1101
EGB-04-R4g_3	100.10	100.84	bdl	113	bdl	648	na	na	na	1029	1216
EGB-04-R4g_4	99.99	100.79	bdl	127	bdl	675	na	na	na	799	2100
EGB-04-R4g_5	99.67	100.76	bdl	106	47	629	na	na	na	794	3614
EGB-04-R4g_6	100.55	101.30	356	92	25	681	na	na	na	583	1549
EGB-04-R4g_7	99.79	100.47	bdl	81	bdl	673	na	na	na	579	1606
EGB-04-R4g_8	100.20	101.01	bdl	101	bdl	626	na	na	na	1012	1549
EGB-04-R4g_9	99.82	100.58	bdl	118	bdl	682	na	na	na	698	1960
EGB-04-R4g_10	99.92	100.65	bdl	63	bdl	683	na	na	na	618	2058
EGB-04-R4g_11	100.01	100.69	bdl	121	bdl	678	na	na	na	600	1741
EGB-04-R5a_1	98.53	100.17	bdl	2960	60	1000	na	na	na	170	3490
EGB-04-R5a_2	96.58	98.51	bdl	2910	210	950	na	na	na	170	3790
EGB-04-R5a_3	99.51	101.15	bdl	1700	120	1370	na	na	na	820	1790
EGB-04-R5a_4	98.66	100.31	bdl	1670	160	1390	na	na	na	850	1760
EGB-04-R5a_5	97.35	98.89	bdl	2380	230	1290	na	na	na	510	1810
EGB-04-R5a_6	97.72	99.27	bdl	2290	240	1330	na	na	na	500	1780
EGB-04-R5a_7	96.57	98.18	bdl	2150	160	1290	na	na	na	880	1120
EGB-04-R5a_8	99.04	100.68	bdl	2250	120	1320	na	na	na	870	1100
EGB-04-R5a_9	97.38	98.87	bdl	1550	230	1240	na	na	na	750	970
EGB-04-R5a_10	98.39	99.90	bdl	1590	260	1270	na	na	na	750	900
EGB-04-R5a_11	95.46	97.05	bdl	1826	166	1277	na	na	na	662	4505
EGB-04-R5a_12	99.31	100.92	bdl	1809	174	1349	na	na	na	588	4455
EGB-04-R5a_13	96.01	97.43	bdl	3008	253	1283	na	na	na	722	1456
EGB-04-R5a_14	96.61	97.95	bdl	1654	135	1486	na	na	na	573	3710
EGB-04-R5a_15	98.92	100.24	bdl	1707	195	1443	na	na	na	546	3800
EGB-04-R5a_16	96.49	97.82	bdl	2511	337	1328	na	na	na	737	1519
EGB-04-R5a_17	99.61	100.93	bdl	2283	325	1366	na	na	na	710	1524

continued on next page. . .

…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-04-R6a_1	98.22	100.55	1101	4362	110	804	na	na	na	427	8777
EGB-04-R6a_2	98.14	100.36	1887	3880	56	717	na	na	na	399	7993
EGB-04-R6a_3	96.50	100.01	3059	8441	99	814	na	na	na	379	11878
EGB-04-R6a_4	98.26	100.38	2640	3605	45	800	na	na	na	443	6360
EGB-04-R6a_5	95.08	99.80	2915	14558	90	729	na	na	na	410	14216
EGB-04-R6a_6	97.91	100.34	1714	3590	158	758	na	na	na	366	9846
EGB-04-R8a_1	99.68	100.33	bdl	60	79	69	na	na	na	235	2913
EGB-04-R8a_2	99.97	100.66	431	85	91	49	na	na	na	216	2828
EGB-04-R8a_3	100.41	101.15	bdl	86	30	51	na	na	na	194	3267
EGB-04-R8a_4	99.90	100.70	bdl	116	40	bdl	na	na	na	247	3674
EGB-04-R8a_5	100.34	101.20	bdl	107	180	44	na	na	na	224	3716
EGB-04-R8a_6	99.83	100.66	bdl	130	105	56	na	na	na	236	3661
EGB-04-R8a_7	100.07	100.93	bdl	105	46	83	na	na	na	230	4000
EGB-04-R8a_8	99.60	100.38	bdl	94	219	46	na	na	na	238	3332
EGB-04-R8a_9	100.17	100.95	bdl	115	84	64	na	na	na	277	3313
EGB-04-R8a_10	99.88	100.65	bdl	121	64	85	na	na	na	236	3155
EGB-04-R8a_11	99.95	100.69	bdl	114	54	83	na	na	na	270	3343
EGB-04-R8a_12	99.49	100.45	bdl	66	70	96	na	na	na	252	4845
EGB-04-R8a_13	100.29	101.05	bdl	87	33	97	na	na	na	199	3360
EGB-04-R8a_14	100.19	100.93	bdl	87	40	54	na	na	na	237	3119
EGB-04-R8a_15	99.78	100.54	bdl	107	69	52	na	na	na	208	3331
EGB-04-R8a_16	99.85	100.69	bdl	71	78	91	na	na	na	280	3739
EGB-04-R9e_1	99.03	100.24	bdl	bdl	79	87	na	na	na	583	2914
EGB-04-R9e_2	98.40	99.67	bdl	104	127	85	na	na	na	578	3103
EGB-04-R9e_3	99.06	100.26	bdl	bdl	49	45	na	na	na	542	2630
EGB-04-R9e_4	98.33	99.54	bdl	121	69	85	na	na	na	556	2764
EGB-04-R9e_5	98.00	99.04	bdl	77	60	bdl	na	na	na	535	2014
EGB-04-R9e_6	99.03	100.07	bdl	113	93	47	na	na	na	545	2038
EGB-04-R9e_7	97.34	98.56	bdl	bdl	224	62	na	na	na	1302	2421
EGB-04-R9e_8	98.81	99.87	bdl	70	55	54	na	na	na	492	1405
EGB-04-R9e_9	98.33	99.39	bdl	85	183	69	na	na	na	471	1450
EGB-04-R9e_10	97.90	99.04	bdl	bdl	93	52	na	na	na	670	2402
EGB-04-R9e_11	98.31	99.51	bdl	64	176	bdl	na	na	na	722	2354
EGB-04-R9e_12	98.16	99.59	bdl	bdl	190	60	na	na	na	920	4550
EGB-04-R9e_13	99.11	100.51	bdl	bdl	160	70	na	na	na	950	4280
EGB-04-R9e_14	99.84	101.29	bdl	70	180	bdl	na	na	na	920	4460
EGB-04-R9e_15	98.72	100.19	bdl	100	230	70	na	na	na	910	4580
EGB-04-R9e_16	100.33	101.31	bdl	80	100	bdl	na	na	na	520	1360
EGB-04-R9e_17	99.19	100.19	bdl	120	80	bdl	na	na	na	530	1290
EGB-04-R10b_1	99.14	100.85	bdl	3730	50	50	na	na	na	480	4180
EGB-04-R10b_2	97.94	99.89	640	4520	40	bdl	na	na	na	510	4760
EGB-04-R10b_3	96.85	99.97	740	10330	60	bdl	na	na	na	480	7190
EGB-04-R10b_4	98.71	99.85	bdl	820	170	bdl	na	na	na	60	3790
EGB-04-R10b_5	98.46	99.54	bdl	830	150	bdl	na	na	na	bdl	3580
EGB-04-R10b_6	98.63	100.99	2570	3970	100	bdl	na	na	na	270	6000
EGB-04-R10b_7	98.23	100.32	880	4050	90	bdl	na	na	na	280	5820
EGB-04-R10b_8	89.62	99.42	2100	2870	130	60	na	na	na	260	65819
EGB-04-R10b_9	98.29	100.19	1100	1970	70	50	na	na	na	240	6320
EGB-04-R10b_10	99.20	100.05	bdl	1760	290	bdl	na	na	na	70	550
EGB-04-R10b_11	100.72	101.31	bdl	570	60	bdl	na	na	na	bdl	340
EGB-04-R10b_12	99.11	99.80	bdl	930	160	bdl	na	na	na	70	470
EGB-04-R10b_13	99.01	99.74	bdl	1570	190	bdl	na	na	na	bdl	350
EGB-04-R10b_14	99.23	99.97	bdl	1520	130	bdl	na	na	na	bdl	380
EGB-04-R10d_15	98.76	99.14	bdl	1020	279	bdl	na	na	na	51	953
EGB-04-R10d_16	99.94	100.18	bdl	728	167	bdl	na	na	na	bdl	577
EGB-04-R11e_1	99.37	100.40	bdl	2090	410	50	na	na	na	650	2860
EGB-04-R11e_2	99.29	100.34	bdl	2180	510	bdl	na	na	na	820	2310
EGB-04-R11e_3	100.02	101.04	380	2320	130	80	na	na	na	690	2270
EGB-04-R11e_4	99.95	100.94	bdl	2320	130	70	na	na	na	670	2310

continued on next page…

. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-04-R11e_5	99.73	100.67	bdl	1930	180	bdl	na	na	na	750	2440
EGB-04-R11e_6	98.90	99.91	370	2140	310	bdl	na	na	na	450	2640
EGB-04-R11e_7	99.84	100.76	bdl	1960	130	bdl	na	na	na	760	2550
EGB-04-R11e_8	99.43	100.34	bdl	1990	150	bdl	na	na	na	710	2580
EGB-05-S49_01_1	99.76	100.35	bdl	131	bdl	513	bdl	62	1328	921	1235
EGB-05-S49_01_2	97.45	98.11	bdl	152	bdl	515	bdl	79	1597	950	1416
EGB-05-S49_01_3	97.28	97.94	bdl	154	bdl	497	bdl	222	1616	966	1133
EGB-05-S49_03_1	99.83	100.57	128	514	bdl	603	95	66	1627	714	1611
EGB-05-S49_03_2	99.82	100.55	120	540	bdl	463	122	91	1571	653	1689
EGB-05-S49_03_3	99.89	100.62	186	525	bdl	603	65	103	1532	568	1674
EGB-05-S49_04_1	97.01	98.95	287	6206	bdl	783	467	339	1102	348	4471
EGB-05-S49_04_2	96.27	98.15	314	5861	bdl	792	490	373	1073	328	4336
EGB-05-S49_04_3	96.63	98.65	356	6679	bdl	515	467	361	1156	345	4685
EGB-05-S49_05_1	100.15	100.94	155	990	bdl	723	72	bdl	818	248	2846
EGB-05-S49_05_2	100.39	101.18	90	977	bdl	717	121	30	820	242	2877
EGB-05-S49_05_3	100.80	101.59	110	1025	bdl	721	96	bdl	774	287	2843
EGB-05-S49_06_1	100.23	101.10	bdl	849	bdl	635	bdl	99	917	232	3628
EGB-05-S49_06_2	99.70	100.65	bdl	930	bdl	701	bdl	104	974	291	4017
EGB-05-S49_06_3	99.71	100.65	bdl	1041	bdl	760	82	104	933	278	3733
EGB-05-S49_07_1	99.12	99.76	106	145	bdl	768	bdl	97	1883	557	965
EGB-05-S49_07_2	98.49	99.14	87	114	bdl	706	66	111	1874	569	1050
EGB-05-S49_07_3	98.74	99.36	bdl	136	bdl	468	66	95	1920	571	1065
EGB-05-S49_08_1	101.51	102.05	112	270	bdl	524	bdl	135	1225	525	1024
EGB-05-S49_08_2	101.31	101.82	bdl	293	bdl	366	bdl	155	1182	521	974
EGB-05-S49_08_3	101.14	101.66	bdl	258	bdl	419	84	120	1205	551	1018
EGB-05-S49_10_1	100.23	101.18	354	1470	bdl	527	144	112	2246	309	1642
EGB-05-S49_10_2	99.10	100.06	387	1311	bdl	769	144	178	2188	246	1653
EGB-05-S49_10_3	99.52	100.47	334	1424	bdl	535	128	180	2198	264	1693
EGB-05-S49_11_1	99.28	100.10	bdl	872	bdl	523	bdl	bdl	791	bdl	3740
EGB-05-S49_11_2	99.37	100.18	bdl	883	bdl	503	bdl	bdl	805	68	3704
EGB-05-S49_11_3	99.35	100.12	bdl	863	bdl	455	bdl	bdl	757	35	3515
EGB-05-S49_12_1	96.55	98.55	674	6587	bdl	814	224	474	798	321	4491
EGB-05-S49_12_2	97.13	99.09	603	6509	bdl	818	247	508	748	396	4267
EGB-05-S49_12_3	96.89	98.88	535	6619	bdl	808	209	524	792	360	4454
EGB-05-S49_13	96.90	97.95	260	1697	bdl	691	278	147	1338	322	2927
EGB-05-S49_14	99.09	100.21	bdl	1949	bdl	817	bdl	37	1474	41	3843
EGB-05-S49_15	98.38	99.07	bdl	112	bdl	389	bdl	114	1722	638	1899
EGB-05-S49_16	99.77	100.97	bdl	2229	bdl	825	bdl	113	655	211	4779
EGB-05-S49_17	100.70	101.37	bdl	902	bdl	851	bdl	31	665	256	2146
EGB-05-S49_18	97.26	98.25	147	1748	bdl	726	141	147	1973	420	1755
EGB-05-S49_19	97.78	98.56	88	1171	bdl	685	115	104	1585	485	1370
EGB-05-S49_2	97.31	98.32	bdl	999	bdl	837	bdl	bdl	1778	75	3723
EGB-05-S49_21	97.72	98.48	bdl	918	bdl	696	121	164	1642	145	1758
EGB-05-S49_22	98.77	99.68	bdl	1118	bdl	851	65	47	559	229	3840
EGB-05-S49_23	98.01	98.62	bdl	bdl	bdl	640	77	82	1036	681	1820
EGB-05-S49_24	97.03	97.90	268	1570	bdl	798	158	68	1068	432	1917
EGB-05-S49_25	99.31	99.98	bdl	192	bdl	638	bdl	48	1729	536	1627
EGB-05-S49_26	98.31	99.03	135	545	bdl	634	106	93	1141	225	2391
EGB-05-S49_28	99.11	99.89	291	185	bdl	431	113	45	2054	699	1798
EGB-05-S49_29	97.54	98.89	600	3160	bdl	691	352	233	850	346	3623
EGB-05-S49_30	98.58	99.58	bdl	1108	bdl	1782	bdl	71	451	247	3683
EGB-05-S49_32	99.49	100.33	259	1218	bdl	670	168	126	1073	417	2182
EGB-05-S49_33	97.99	99.06	bdl	1203	bdl	837	83	116	535	57	5049
EGB-05-S49_9	100.26	101.08	179	1113	bdl	160	103	61	1466	1010	1792
EGB-05-S50_01_1	100.34	101.16	179	1825	bdl	54	74	bdl	1057	453	2282
EGB-05-S50_01_2	99.57	100.36	86	1724	bdl	69	87	bdl	1103	424	2177
EGB-05-S50_01_3	99.66	100.54	216	2066	bdl	78	bdl	bdl	1106	438	2416
EGB-05-S50_02_1	96.65	100.26	5983	9643	bdl	168	186	347	3404	196	6503
EGB-05-S50_02_2	97.54	100.37	6109	5887	bdl	166	175	286	2917	169	5201

continued on next page. . .

…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-05-S50_02_3	97.26	99.96	5602	5706	bdl	155	201	242	2907	116	5007
EGB-05-S50_04_1	97.95	98.89	211	1862	bdl	78	109	140	1303	497	2544
EGB-05-S50_04_2	97.56	98.58	225	2298	bdl	75	65	127	1402	473	2708
EGB-05-S50_04_3	97.29	98.22	182	1879	bdl	60	79	123	1434	450	2431
EGB-05-S50_05_1	98.97	99.86	313	2017	bdl	75	82	159	1298	313	2145
EGB-05-S50_05_2	97.78	98.59	248	1797	bdl	63	61	118	1313	209	2030
EGB-05-S50_05_3	97.37	98.29	460	1899	bdl	78	70	138	1344	258	2432
EGB-05-S50_06_1	100.05	101.45	4510	864	bdl	165	96	89	1124	218	3540
EGB-05-S50_06_2	100.85	101.38	250	340	bdl	104	bdl	85	782	244	2078
EGB-05-S50_06_3	100.97	101.52	185	485	bdl	113	102	59	778	161	2202
EGB-05-S50_07_1	100.23	101.04	274	1638	bdl	77	84	39	797	204	2823
EGB-05-S50_07_2	98.00	99.14	2324	1548	bdl	116	80	bdl	1120	252	3137
EGB-05-S50_07_3	97.82	98.93	2806	1087	bdl	51	106	44	992	172	3168
EGB-05-S50_08_1	99.84	100.71	293	1813	bdl	54	70	116	907	357	2683
EGB-05-S50_08_2	97.71	98.68	408	2066	bdl	66	70	143	1202	373	2706
EGB-05-S50_08_3	97.96	99.01	295	2486	bdl	51	bdl	150	1154	500	2946
EGB-05-S50_09_1	100.32	101.20	211	1641	bdl	48	551	bdl	680	535	2760
EGB-05-S50_09_2	100.36	101.21	bdl	1595	bdl	66	297	44	725	512	2897
EGB-05-S50_09_3	100.14	101.07	169	1295	bdl	81	1427	bdl	755	473	2661
EGB-05-S50_10_1	100.44	101.34	458	1978	bdl	75	70	138	685	313	2848
EGB-05-S50_10_2	100.31	101.14	247	1840	bdl	45	98	123	732	328	2605
EGB-05-S50_10_3	100.39	101.36	396	2344	bdl	48	76	153	695	300	3087
EGB-05-S50_11	98.19	99.19	308	2525	bdl	86	76	231	1427	272	2218
EGB-05-S50_12	100.32	101.15	462	1753	bdl	76	82	bdl	1043	302	2314
EGB-05-S50_13	100.06	100.91	143	1529	bdl	81	bdl	80	629	450	3233
EGB-05-S50_14	99.82	100.48	189	1084	bdl	98	80	110	656	169	2469
EGB-05-S50_16	99.60	100.58	485	1599	bdl	91	bdl	75	1905	1407	1332
EGB-05-S50_17	100.46	101.33	128	2014	bdl	84	64	bdl	1284	450	2302
EGB-05-S50_18	97.39	98.74	321	4238	bdl	76	bdl	bdl	1311	387	3380
EGB-05-S50_19	98.06	98.61	bdl	231	bdl	232	bdl	43	1723	331	1312
EGB-05-S50_20	97.90	98.60	661	412	bdl	276	289	62	950	665	1893
EGB-05-S50_22	98.51	99.59	333	2941	bdl	102	76	112	1502	437	2231
EGB-05-S50_23	97.50	98.52	398	2484	bdl	98	64	bdl	2671	459	1083
EGB-05-S50_24	98.01	98.94	bdl	2128	bdl	65	bdl	38	1109	257	3005
EGB-05-S50_25	98.40	99.31	191	1887	bdl	bdl	109	122	916	602	2742
EGB-05-S50_26	98.48	99.43	285	1762	bdl	183	72	56	1556	699	2255
EGB-05-S50_27	97.94	98.74	bdl	1636	bdl	42	bdl	49	1086	207	2789
EGB-05-S50_28	98.91	99.85	287	2190	bdl	66	85	123	1007	430	2651
EGB-05-S50_29	99.50	100.53	211	2365	bdl	73	72	bdl	1888	297	2455
EGB-05-S50_31	100.73	101.48	130	1759	bdl	129	154	293	1279	428	1070
EGB-05-S50_33	100.48	101.30	bdl	1729	bdl	98	87	46	1165	1217	1422
EGB-05-S51_01_1	97.49	98.80	151	592	bdl	654	443	272	4681	1391	920
EGB-05-S51_01_2	97.48	98.78	165	714	bdl	602	413	bdl	4741	1418	1003
EGB-05-S51_01_3	97.46	98.88	404	1178	bdl	532	394	bdl	4957	1419	1065
EGB-05-S51_02_1	98.74	99.99	bdl	3554	bdl	808	314	53	780	325	3224
EGB-05-S51_02_2	98.76	100.11	bdl	3520	bdl	719	309	35	775	335	4173
EGB-05-S51_02_3	98.92	100.11	bdl	3350	bdl	708	312	59	773	299	3048
EGB-05-S51_04_1	97.39	97.98	90	294	bdl	340	bdl	bdl	1108	60	2458
EGB-05-S51_04_2	97.80	98.47	bdl	289	bdl	344	bdl	113	1194	55	2890
EGB-05-S51_04_3	100.30	100.96	bdl	330	bdl	364	bdl	121	792	63	3155
EGB-05-S51_07_1	98.56	99.12	bdl	bdl	bdl	107	bdl	32	1423	1073	1265
EGB-05-S51_07_2	98.85	99.41	bdl	bdl	bdl	113	bdl	bdl	1457	1037	1285
EGB-05-S51_07_3	98.29	98.85	bdl	bdl	bdl	98	bdl	48	1521	1093	1140
EGB-05-S51_09_1	99.49	100.34	193	1831	bdl	184	130	78	1458	1111	1006
EGB-05-S51_09_2	98.67	99.53	195	1885	bdl	214	108	89	1453	1115	1070
EGB-05-S51_09_3	99.74	100.59	157	1778	bdl	133	147	254	1506	962	1058
EGB-05-S51_11_1	98.45	99.42	bdl	1430	bdl	720	98	bdl	932	88	3883
EGB-05-S51_11_2	97.99	98.98	bdl	1363	bdl	824	73	47	969	77	3922
EGB-05-S51_11_3	97.79	98.78	bdl	1369	bdl	736	77	bdl	935	68	4168

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. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-05-S51_12_1	96.78	97.81	307	2219	bdl	229	301	bdl	901	405	3170
EGB-05-S51_12_2	96.99	98.06	354	2340	bdl	324	215	bdl	990	429	3157
EGB-05-S51_12_3	96.86	97.92	301	2289	bdl	254	238	bdl	1018	425	3231
EGB-05-S51_13	97.44	99.26	268	710	3302	520	bdl	1316	334	40	4637
EGB-05-S51_14_1	97.15	100.82	415	2244	bdl	229	471	200	642	443	23475
EGB-05-S51_14_2	99.36	100.35	409	2482	bdl	228	466	313	702	398	2131
EGB-05-S51_14_3	99.61	100.62	429	2351	bdl	218	610	333	635	423	2341
EGB-05-S51_17_1	96.87	98.85	496	6095	bdl	616	183	41	2990	1192	2515
EGB-05-S51_17_2	96.73	98.70	485	6101	bdl	595	195	bdl	2960	1201	2470
EGB-05-S51_17_3	96.22	98.13	511	5730	bdl	559	193	bdl	3041	1196	2329
EGB-05-S51_20	98.81	100.10	bdl	791	bdl	3365	63	106	3168	491	1258
EGB-05-S51_21	100.68	101.44	bdl	920	bdl	122	bdl	bdl	668	1552	2224
EGB-05-S51_24	98.64	100.06	385	3575	bdl	248	124	356	1549	785	3117
EGB-05-S51_26	99.59	100.50	1205	1133	bdl	135	bdl	176	1251	435	2310
EGB-05-S51_27	100.07	101.03	423	1932	bdl	199	158	441	1167	658	1784
EGB-05-S51_28	99.61	100.79	529	1875	bdl	154	1850	60	882	396	3056
EGB-05-S51_30	101.00	101.66	bdl	308	bdl	67	bdl	bdl	1759	406	2114
EGB-05-S51_31	98.35	99.98	128	2803	bdl	5420	bdl	428	1018	424	1434
EGB-05-S51_34	100.14	100.78	bdl	754	bdl	53	bdl	bdl	618	204	3109
EGB-05-S51_35	97.99	98.78	138	1678	bdl	50	91	142	967	498	2085
EGB-05-S51_36	94.93	98.51	3023	8686	bdl	626	128	bdl	1848	1591	10494
EGB-05-S51_37	99.26	99.77	bdl	287	bdl	79	bdl	bdl	597	bdl	2788
EGB-05-S51_38	97.95	99.54	bdl	750	bdl	3169	bdl	bdl	5335	1244	652
EGB-05-S51_39	98.76	100.40	139	2677	bdl	4010	95	159	2784	967	803
EGB-05-S51_41	96.53	98.09	358	4454	bdl	753	258	380	1221	642	3096
EGB-05-S51_43	98.29	99.92	bdl	1203	bdl	4144	bdl	50	1253	3468	1527
EGB-05-S51_44	97.86	100.37	130	3175	bdl	6503	135	bdl	1693	4627	1667
EGB-05-S51_45	99.50	100.91	bdl	904	bdl	2974	109	124	2792	737	2372
EGB-05-S51_47	99.16	100.60	655	4036	bdl	423	458	303	761	277	3593
EGB-05-S51_48	97.73	98.65	404	1778	bdl	786	bdl	32	966	537	2131
EGB-05-S52_02_1	97.34	98.70	2565	1843	bdl	56	1564	bdl	434	60	3875
EGB-05-S52_02_2	97.02	98.07	191	2300	bdl	bdl	1558	bdl	423	88	3304
EGB-05-S52_02_3	97.13	98.53	156	3481	bdl	44	1801	bdl	405	104	4450
EGB-05-S52_03_1	99.07	99.90	533	1488	bdl	bdl	306	447	470	241	2445
EGB-05-S52_03_2	96.59	100.01	1026	2705	bdl	bdl	423	331	498	265	20832
EGB-05-S52_03_3	99.12	100.26	1397	2312	bdl	49	367	304	508	194	3286
EGB-05-S52_07_1	98.48	99.76	bdl	779	bdl	133	bdl	bdl	937	6285	652
EGB-05-S52_07_2	97.99	99.41	bdl	1110	bdl	144	bdl	bdl	918	6893	689
EGB-05-S52_07_3	96.62	98.04	94	956	bdl	118	64	bdl	1154	6759	689
EGB-05-S52_08_1	98.24	99.16	221	1248	bdl	113	1352	44	1914	282	1559
EGB-05-S52_08_2	97.02	97.94	bdl	1285	bdl	85	1371	41	1941	360	1546
EGB-05-S52_08_3	96.90	97.81	bdl	1174	bdl	93	1303	39	1795	901	1211
EGB-05-S52_10_1	98.67	99.36	465	1001	1193	bdl	bdl	258	109	133	1182
EGB-05-S52_10_2	99.70	100.12	335	1123	352	bdl	bdl	115	bdl	68	837
EGB-05-S52_10_3	97.24	98.12	230	1803	bdl	bdl	77	bdl	1374	535	2246
EGB-05-S52_12_1	99.42	100.02	bdl	1439	bdl	103	90	38	443	147	2187
EGB-05-S52_12_2	99.44	100.08	bdl	1553	bdl	111	124	36	491	145	2194
EGB-05-S52_12_3	99.62	100.23	bdl	1458	bdl	93	62	bdl	464	133	2144
EGB-05-S52_13_1	98.75	99.62	203	1664	bdl	59	196	bdl	1349	562	2248
EGB-05-S52_13_2	99.31	100.19	150	1859	bdl	65	170	37	1285	564	2231
EGB-05-S52_13_3	98.68	99.69	606	1955	bdl	bdl	237	bdl	1420	694	2374
EGB-05-S52_14_1	100.33	100.90	bdl	881	bdl	82	158	bdl	960	101	1903
EGB-05-S52_14_2	99.82	100.49	bdl	1428	bdl	42	159	40	986	55	2136
EGB-05-S52_14_3	99.58	100.26	bdl	1362	bdl	84	132	bdl	1011	51	2243
EGB-05-S52_15	96.79	98.30	322	2338	bdl	51	1749	36	932	135	5807
EGB-05-S52_17	98.85	99.61	bdl	1565	bdl	102	327	46	1278	441	1712
EGB-05-S52_18	99.14	99.90	126	1671	bdl	bdl	132	82	859	446	2161
EGB-05-S52_19	99.14	99.60	bdl	374	bdl	bdl	70	52	848	233	1756
EGB-05-S52_20	100.39	101.12	144	1176	bdl	81	398	30	1708	167	1614

continued on next page. . .

…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-05-S52_22	99.32	100.09	bdl	1444	78	137	239	56	1938	265	1233
EGB-05-S52_23	99.40	100.24	315	1982	bdl	42	250	bdl	744	511	2291
EGB-05-S52_28	97.84	98.66	161	1634	bdl	51	93	bdl	1655	506	1723
EGB-05-S52_29	97.98	99.79	bdl	2798	bdl	66	255	67	768	198	9305
EGB-05-S52_30	96.73	97.48	403	1739	bdl	107	120	bdl	1184	150	1614
EGB-05-S52_32	96.98	97.79	193	1776	bdl	bdl	98	83	1069	362	2272
EGB-05-S52_33	98.04	98.77	bdl	1280	bdl	bdl	90	155	1045	590	1929
EGB-05-S52_34	96.77	97.74	720	1908	bdl	93	205	33	1727	840	1302
EGB-05-S52_37	98.05	98.83	364	1585	bdl	42	160	bdl	691	413	2433
EGB-05-S52_38	97.36	98.83	297	733	1795	42	213	1226	236	53	4920
EGB-05-S52_39	97.56	98.35	142	1193	1411	68	bdl	682	43	bdl	1155
EGB-05-S52_40	98.97	99.80	255	1671	bdl	60	1021	bdl	322	112	2638
EGB-05-S53_02_1	99.18	99.56	bdl	1555	bdl	bdl	bdl	132	135	70	707
EGB-05-S53_02_2	98.48	99.39	315	2013	bdl	bdl	225	bdl	360	350	3484
EGB-05-S53_02_3	98.19	99.10	333	2070	bdl	bdl	243	bdl	370	379	3342
EGB-05-S53_03_1	98.29	99.15	412	1858	bdl	52	364	bdl	1128	470	1995
EGB-05-S53_03_2	97.92	98.71	265	1631	bdl	70	358	bdl	1104	458	1810
EGB-05-S53_03_3	98.42	99.18	262	1651	bdl	bdl	382	bdl	1029	600	1556
EGB-05-S53_06_1	98.47	99.84	103	1325	bdl	70	108	bdl	868	6449	582
EGB-05-S53_06_2	98.91	100.20	bdl	1267	bdl	60	80	bdl	989	5910	616
EGB-05-S53_06_3	97.86	99.46	1274	1906	bdl	147	115	bdl	1228	5862	762
EGB-05-S53_07_1	100.42	101.01	bdl	1061	bdl	bdl	217	bdl	630	483	1967
EGB-05-S53_07_2	100.82	101.34	bdl	768	bdl	bdl	132	bdl	497	595	1724
EGB-05-S53_07_3	100.44	101.08	bdl	1377	bdl	bdl	218	bdl	634	429	1983
EGB-05-S53_08_1	98.04	99.06	779	2089	bdl	42	384	65	808	254	3121
EGB-05-S53_08_2	97.44	98.46	712	2077	bdl	bdl	396	167	802	267	3035
EGB-05-S53_08_3	98.16	98.99	366	1516	bdl	75	428	129	729	326	2515
EGB-05-S53_10_1	99.24	100.58	122	1935	bdl	97	236	bdl	2209	4310	384
EGB-05-S53_10_2	99.50	100.67	213	2032	bdl	121	295	bdl	2485	2595	396
EGB-05-S53_10_3	100.76	102.29	2388	2422	bdl	107	136	33	3735	1183	984
EGB-05-S53_11_1	100.38	101.16	112	1678	bdl	73	106	bdl	900	481	2244
EGB-05-S53_11_2	98.70	99.52	152	1752	bdl	50	137	bdl	1062	470	2330
EGB-05-S53_11_3	99.78	100.66	181	1887	bdl	73	107	bdl	1037	503	2567
EGB-05-S53_13_1	99.88	100.76	140	2013	bdl	107	bdl	49	752	404	2881
EGB-05-S53_13_2	100.34	101.15	191	1671	bdl	107	120	36	803	463	2521
EGB-05-S53_13_3	99.82	100.71	114	2052	bdl	181	112	38	929	491	2518
EGB-05-S53_14_1	98.49	99.28	124	1685	bdl	68	95	32	1106	365	2246
EGB-05-S53_14_2	98.37	99.23	147	1860	bdl	59	101	43	1086	452	2475
EGB-05-S53_14_3	98.25	99.08	114	1785	bdl	bdl	119	35	1137	457	2263
EGB-05-S53_15	100.80	101.52	108	1370	bdl	59	bdl	56	1165	404	2006
EGB-05-S53_18	99.39	100.08	171	1136	bdl	bdl	bdl	230	1439	402	1427
EGB-05-S53_21	99.07	99.71	173	1476	bdl	bdl	102	33	769	634	1346
EGB-05-S53_23	99.05	99.77	bdl	1532	bdl	bdl	90	bdl	1065	738	1685
EGB-05-S53_25	99.42	100.33	187	1717	bdl	85	126	97	1513	614	2195
EGB-05-S53_30	99.43	100.32	279	1773	bdl	91	93	50	1057	522	2636
EGB-05-S53_33	99.64	100.59	330	2111	bdl	119	306	bdl	1661	506	1753
EGB-05-S53_34	97.87	99.12	1208	1638	bdl	118	363	bdl	3307	934	1339
EGB-05-S53_40	99.08	99.88	259	1550	bdl	41	78	82	1414	417	1935
EGB-05-S53_44	98.88	99.78	248	1936	bdl	59	300	104	1137	462	2249
EGB-05-S53_47	100.32	101.10	173	1701	bdl	62	427	bdl	858	385	2032
EGB-05-S53_48	99.03	99.74	bdl	1336	bdl	47	bdl	46	1224	324	2110
EGB-05-S53_49	100.24	101.00	211	1875	bdl	bdl	176	bdl	644	133	2512
EGB-05-S53_51	99.34	100.41	317	1832	bdl	67	1586	108	826	623	2500
EGB-05-S54_01_1	80.72	100.17	77394	1849	bdl	569	19141	180	8969	30173	8977
EGB-05-S54_01_2	87.42	100.10	45517	1290	bdl	374	14178	88	6231	23605	4124
EGB-05-S54_01_3	86.13	99.82	52019	1680	bdl	410	14966	158	7938	17652	8987
EGB-05-S54_02_1	91.18	99.61	39966	2686	bdl	289	5604	164	1124	1523	14225
EGB-05-S54_02_2	91.06	99.89	45438	3043	bdl	285	4052	52	1006	1927	12981
EGB-05-S54_02_3	96.97	100.10	1824	310	bdl	bdl	5655	376	3760	2431	8975

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. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-05-S54_17_1	96.87	100.30	5020	1378	bdl	82	10555	56	3889	2904	1886
EGB-05-S54_17_2	92.92	98.77	14749	1789	bdl	184	13706	102	5415	4768	3571
EGB-05-S54_17_3	91.65	99.85	24899	1899	bdl	281	17880	176	4573	6189	6679
EGB-05-S54_20_1	91.41	99.30	23789	521	bdl	247	21897	330	2396	1943	10027
EGB-05-S54_20_2	94.66	98.99	8904	294	bdl	143	14887	141	2240	1546	5252
EGB-05-S54_20_3	89.45	99.69	37191	542	bdl	337	19849	331	5423	3565	11893
EGB-05-S54_37_1	97.18	99.66	1028	560	bdl	bdl	7206	388	1691	4048	3391
EGB-05-S54_37_2	96.46	98.90	1226	697	bdl	bdl	7462	902	1624	1962	4180
EGB-05-S54_37_3	96.56	98.73	1059	671	bdl	bdl	7854	460	1418	2228	2457
EGB-05-S54_39	94.16	97.35	7028	1394	bdl	147	4562	34	4180	4179	2109
EGB-05-S54_59	96.00	100.05	12053	2845	1972	103	2947	1305	83	179	8043
EGB-05-S54_65	99.83	100.56	bdl	884	bdl	104	98	bdl	1718	354	2009
EGB-05-S54_73	98.64	99.22	bdl	357	336	bdl	423	132	1267	255	1212
EGB-05-S54_74	100.25	100.99	109	1792	bdl	bdl	65	bdl	695	359	2382
EGB-05-S55_02_1	98.59	99.54	429	2178	bdl	101	81	159	741	274	2919
EGB-05-S55_02_2	98.73	99.62	305	2012	bdl	113	69	180	706	278	2786
EGB-05-S55_02_3	97.48	99.54	bdl	1747	bdl	91	bdl	209	633	290	12592
EGB-05-S55_03_1	97.42	98.29	146	1704	bdl	140	180	288	1651	520	1499
EGB-05-S55_03_2	97.55	98.44	213	1783	bdl	145	113	332	1686	511	1499
EGB-05-S55_03_3	97.37	98.57	174	1855	bdl	159	144	254	1719	529	3897
EGB-05-S55_04_1	100.66	101.53	224	1118	bdl	201	bdl	bdl	1801	1136	1624
EGB-05-S55_04_2	98.09	99.22	161	2438	bdl	158	bdl	bdl	2043	1304	1850
EGB-05-S55_04_3	98.62	99.52	228	1236	bdl	168	bdl	bdl	1899	1026	1839
EGB-05-S55_05_1	98.55	99.89	197	4563	bdl	84	216	83	711	439	3378
EGB-05-S55_05_2	97.53	99.27	619	5887	bdl	96	274	133	888	460	4297
EGB-05-S55_05_3	96.72	99.30	2381	8347	bdl	107	292	151	1058	356	6204
EGB-05-S55_06_1	99.16	100.08	278	1943	bdl	113	133	141	1228	499	2282
EGB-05-S55_06_2	99.36	100.29	250	1815	bdl	67	102	112	1197	489	2637
EGB-05-S55_06_3	98.85	99.79	236	1949	bdl	98	80	128	1279	419	2627
EGB-05-S55_07_1	97.18	98.41	94	3260	bdl	150	65	31	1930	796	2410
EGB-05-S55_07_2	97.22	98.43	160	3075	bdl	134	74	65	1833	753	2537
EGB-05-S55_07_3	97.51	98.32	bdl	1547	72	58	62	bdl	1695	458	1844
EGB-05-S55_08_1	98.37	99.54	bdl	3315	bdl	146	72	89	1309	571	2797
EGB-05-S55_08_2	98.52	99.71	126	3499	bdl	144	79	68	1306	551	2737
EGB-05-S55_08_3	98.46	99.74	92	3581	bdl	148	85	130	1300	543	3283
EGB-05-S55_09_1	99.17	99.98	108	1682	bdl	76	97	138	901	477	2326
EGB-05-S55_09_2	97.45	98.33	bdl	2016	bdl	87	89	85	1084	413	2493
EGB-05-S55_09_3	97.82	98.68	132	1961	bdl	84	68	36	1108	374	2498
EGB-05-S55_10_1	99.47	100.56	492	2778	bdl	163	86	38	886	305	3180
EGB-05-S55_10_2	99.54	100.68	423	2765	bdl	178	112	bdl	964	289	3637
EGB-05-S55_10_3	98.78	100.39	1680	4089	bdl	174	113	68	1096	354	4233
EGB-05-S55_11_1	97.42	98.31	95	1963	bdl	76	68	173	1247	348	2365
EGB-05-S55_11_2	96.94	97.85	128	2038	bdl	112	90	122	1200	395	2430
EGB-05-S55_11_3	96.82	97.77	195	2285	bdl	127	108	157	1222	433	2313
EGB-05-S55_12	96.55	97.43	175	1804	bdl	116	61	bdl	1493	390	2285
EGB-05-S55_14	97.18	98.00	139	1736	bdl	79	66	68	1254	382	2192
EGB-05-S55_15	99.27	100.28	82	2362	bdl	124	76	38	1090	377	3238
EGB-05-S55_16	100.54	101.34	bdl	1894	bdl	110	64	bdl	981	638	2022
EGB-05-S55_18	98.22	99.28	1266	2180	bdl	61	bdl	124	773	685	2630
EGB-05-S55_19	97.73	98.67	120	1715	bdl	82	bdl	55	1328	1197	2156
EGB-05-S55_22	97.90	99.00	503	2155	bdl	140	88	bdl	2629	677	1569
EGB-05-S55_23	98.05	98.98	bdl	2185	bdl	84	80	bdl	1234	417	2604
EGB-05-S55_24	98.51	99.53	178	1811	bdl	68	98	162	990	454	3688
EGB-05-S55_25	98.31	99.48	149	2914	bdl	150	97	52	2314	714	1855
EGB-05-S55_26	96.28	97.12	bdl	1548	bdl	64	89	97	1487	590	2150
EGB-05-S55_27	96.74	97.54	252	1639	bdl	50	124	bdl	1593	649	1377
EGB-05-S55_29	98.05	98.89	bdl	1776	bdl	88	75	466	918	398	2110
EGB-05-S55_30	97.85	98.69	bdl	1826	bdl	119	72	47	1090	361	2536
EGB-05-S55_32	98.85	99.72	116	2015	bdl	82	bdl	167	743	330	2902

continued on next page. . .

…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-05-S55_33	96.54	97.38	bdl	1530	bdl	78	79	127	1864	608	1630
EGB-05-S55_34	96.19	97.12	211	2085	bdl	104	102	57	860	458	2913
EGB-05-S55_36	99.95	100.76	bdl	1665	bdl	99	89	47	1311	476	2183
EGB-05-S55_38	98.68	99.80	165	2955	bdl	158	91	35	1342	686	2706
EGB-05-S56_01_1	98.74	99.80	285	2481	bdl	200	158	202	1386	502	2361
EGB-05-S56_01_2	98.21	99.15	201	1890	bdl	205	158	219	1355	453	2215
EGB-05-S56_01_3	99.14	99.92	153	1030	bdl	254	192	161	1251	457	2110
EGB-05-S56_02_1	96.69	97.22	bdl	205	bdl	225	bdl	124	1000	1386	726
EGB-05-S56_02_2	96.80	97.31	bdl	145	bdl	73	bdl	150	1015	1438	664
EGB-05-S56_02_3	96.39	96.91	bdl	185	bdl	101	bdl	170	965	1466	666
EGB-05-S56_03_2	98.26	99.27	285	1712	bdl	269	137	145	1729	631	2375
EGB-05-S56_03_3	98.67	99.74	327	2154	bdl	238	120	94	1730	629	2413
EGB-05-S56_04_1	98.68	100.64	191	3044	bdl	369	110	399	828	396	9166
EGB-05-S56_04_2	99.34	100.48	99	3286	bdl	402	158	273	847	424	2657
EGB-05-S56_04_3	100.02	101.11	96	3115	bdl	383	99	275	813	434	2637
EGB-05-S56_07_1	99.10	99.99	225	1748	bdl	142	145	244	933	610	2284
EGB-05-S56_07_2	99.17	100.07	307	1797	bdl	135	175	272	914	598	2299
EGB-05-S56_07_3	99.90	100.81	290	1891	bdl	154	154	232	913	586	2288
EGB-05-S56_08_1	100.44	101.53	282	2461	bdl	285	71	bdl	1440	540	2831
EGB-05-S56_08_2	99.53	100.57	301	2066	bdl	287	115	34	1321	545	2935
EGB-05-S56_08_3	99.56	100.55	387	1931	bdl	306	102	45	1221	515	2751
EGB-05-S56_09_1	98.36	99.42	264	2409	bdl	253	132	77	950	579	3047
EGB-05-S56_09_2	98.45	99.41	161	1962	bdl	255	124	66	940	596	2916
EGB-05-S56_09_3	98.42	99.48	228	2268	bdl	234	117	55	981	560	3300
EGB-05-S56_10_1	99.11	100.43	596	3229	bdl	138	684	207	820	317	3683
EGB-05-S56_10_2	99.19	100.48	720	2978	bdl	131	748	223	752	310	3590
EGB-05-S56_10_3	98.66	99.93	634	2895	bdl	161	729	265	758	322	3572
EGB-05-S56_11	99.97	101.16	247	3196	bdl	218	102	144	1304	599	2766
EGB-05-S56_12	98.27	99.36	338	2525	bdl	265	163	180	1447	662	2225
EGB-05-S56_13	96.41	97.58	447	2678	bdl	264	117	212	1207	489	2966
EGB-05-S56_14	99.22	100.05	290	1036	bdl	168	202	139	1793	642	1684
EGB-05-S56_15	98.45	99.31	183	1706	bdl	258	164	229	1369	598	1569
EGB-05-S56_16	98.51	99.47	512	1516	bdl	140	243	93	1914	658	1880
EGB-05-S56_17	99.68	100.34	197	bdl	bdl	256	bdl	183	1706	943	1218
EGB-05-S56_18	99.50	100.62	161	3237	bdl	174	79	120	828	798	2662
EGB-05-S56_19	102.02	102.85	317	628	bdl	274	154	bdl	2527	741	1235
EGB-05-S56_20	99.43	100.39	197	2360	bdl	222	141	203	1382	497	1856
EGB-05-S56_21	100.37	100.92	bdl	134	bdl	215	bdl	41	1623	1248	480
EGB-05-S56_22	100.61	101.62	293	1987	96	232	72	329	1145	677	2299
EGB-05-S56_23	96.94	98.62	344	2387	bdl	233	164	696	1690	904	5655
EGB-05-S56_24	98.94	99.78	247	1493	bdl	138	150	124	1139	434	2347
EGB-05-S56_25	98.25	99.27	254	1831	bdl	221	117	173	1205	470	3080
EGB-05-S56_26	98.32	99.25	239	1208	bdl	189	125	bdl	2364	862	1663
EGB-05-S56_27	98.62	99.77	325	2654	bdl	216	217	342	1610	502	2275
EGB-05-S56_28	98.44	99.17	bdl	103	bdl	195	61	262	2147	1145	1091
EGB-05-S56_29	100.27	101.24	116	1973	bdl	255	191	248	1776	593	1681
EGB-05-S56_30	99.00	100.69	700	3147	bdl	263	973	157	561	203	6640
EGB-05-S57_01_1	99.55	100.69	368	2885	bdl	482	351	412	643	183	2881
EGB-05-S57_01_2	100.07	101.25	304	2929	bdl	478	336	395	651	216	3224
EGB-05-S57_01_3	99.99	101.13	297	2840	bdl	506	310	351	611	236	3086
EGB-05-S57_02_1	101.08	101.68	132	924	bdl	217	82	340	840	207	1464
EGB-05-S57_02_2	100.30	100.86	bdl	937	bdl	133	81	276	850	177	1478
EGB-05-S57_02_3	100.96	101.51	81	822	bdl	212	83	245	789	157	1525
EGB-05-S57_03_1	97.73	98.62	144	2355	bdl	164	66	148	1430	521	1522
EGB-05-S57_03_2	98.38	99.26	128	2108	bdl	181	124	146	1440	531	1526
EGB-05-S57_03_3	97.72	98.53	bdl	2000	bdl	162	95	161	1342	506	1468
EGB-05-S57_06_1	100.40	101.23	222	1801	bdl	212	146	371	673	541	1910
EGB-05-S57_06_2	100.27	101.12	221	2013	bdl	218	153	319	688	525	1916
EGB-05-S57_06_3	100.01	100.87	248	1933	bdl	210	153	314	631	545	2094

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. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-05-S57_07_1	101.21	102.06	209	1767	bdl	145	148	130	1126	586	2023
EGB-05-S57_07_2	100.33	101.17	226	1680	bdl	161	161	107	1113	582	2066
EGB-05-S57_07_3	101.06	101.90	212	1781	bdl	157	135	129	1106	566	2019
EGB-05-S57_08_1	98.30	99.34	372	2454	bdl	471	212	306	1181	518	1900
EGB-05-S57_08_2	98.42	99.47	289	2525	bdl	451	271	339	1126	497	2005
EGB-05-S57_08_3	98.62	99.68	320	2565	bdl	430	252	355	1179	490	1967
EGB-05-S57_10_1	99.66	100.71	132	2118	bdl	148	93	189	1342	881	2651
EGB-05-S57_10_2	100.12	101.02	132	1952	bdl	178	104	247	1295	902	1516
EGB-05-S57_10_3	100.06	100.90	138	1860	bdl	158	128	112	1311	886	1323
EGB-05-S57_11_1	100.23	101.19	239	2024	bdl	195	138	288	778	458	2781
EGB-05-S57_11_2	99.77	100.71	189	1870	bdl	211	142	256	769	534	2810
EGB-05-S57_11_3	100.44	101.39	266	1818	bdl	171	158	227	797	491	2906
EGB-05-S57_12_1	97.68	98.53	260	1525	bdl	104	171	188	1765	439	1541
EGB-05-S57_12_2	97.57	98.41	182	1519	bdl	117	162	193	1737	419	1685
EGB-05-S57_12_3	97.51	98.36	213	1493	bdl	104	167	248	1682	449	1637
EGB-05-S57_13_1	99.94	101.01	322	2559	bdl	185	104	67	1076	518	2988
EGB-05-S57_13_2	98.83	99.79	297	2069	bdl	229	177	127	1098	451	2466
EGB-05-S57_13_3	98.07	99.33	246	1912	bdl	210	186	279	1096	499	4851
EGB-05-S57_14	101.26	102.43	883	1759	560	80	143	599	1016	547	2504
EGB-05-S57_17	97.23	98.21	754	1789	bdl	112	317	338	1729	388	1507
EGB-05-S57_18	101.42	102.18	240	1603	bdl	91	167	240	970	621	1480
EGB-05-S57_19	101.04	102.09	301	1838	bdl	149	157	203	939	622	3398
EGB-05-S57_20	99.47	100.32	155	1757	bdl	205	154	285	1471	625	1327
EGB-05-S57_21	100.89	101.74	140	1746	bdl	102	154	174	736	562	2552
EGB-05-S57_22	98.09	98.92	442	1637	bdl	123	92	258	1691	638	944
EGB-05-S57_23	99.03	100.25	776	1542	bdl	138	2186	215	1390	517	2243
EGB-05-S57_24	101.32	102.18	179	1838	bdl	170	143	245	1611	770	1143
EGB-05-S57_25	98.68	99.58	350	1912	bdl	140	170	288	1436	661	1340
EGB-05-S57_26	97.82	98.61	236	1612	bdl	161	190	320	1328	577	1154
EGB-05-S57_28	100.20	100.95	136	1042	bdl	96	91	311	1432	909	1240
EGB-05-S57_29	100.82	102.02	178	3161	bdl	607	161	457	828	528	2595
EGB-05-S57_30	101.17	102.01	362	1662	bdl	101	224	142	1228	652	1582
EGB-05-S57_31	99.14	99.98	285	1711	bdl	111	176	352	1441	547	1342
EGB-05-S57_32	100.88	101.80	377	1693	bdl	194	234	98	657	442	3079
EGB-05-S57_33	98.93	99.78	181	1931	bdl	152	128	482	1276	751	944
EGB-05-S57_34	97.28	98.27	243	2095	bdl	194	138	242	1188	526	2531
EGB-05-S61_01_3	99.61	100.44	191	1678	bdl	59	124	80	1104	534	2275
EGB-05-S61_02_1	98.27	99.83	160	2791	bdl	172	100	bdl	1335	732	6208
EGB-05-S61_02_2	98.76	99.68	113	1655	bdl	104	93	43	1396	580	2676
EGB-05-S61_02_3	98.33	99.28	169	1676	bdl	45	145	bdl	1433	619	2808
EGB-05-S61_03_1	98.58	99.59	147	2082	bdl	65	107	43	1661	491	2710
EGB-05-S61_03_2	98.77	99.71	132	1638	bdl	95	118	31	1589	512	2669
EGB-05-S61_03_3	98.84	99.80	118	1852	bdl	68	108	64	1654	483	2597
EGB-05-S61_06_1	99.19	100.18	157	2164	bdl	113	90	103	1128	471	2941
EGB-05-S61_06_2	99.37	100.41	124	2363	bdl	93	112	45	1171	506	3117
EGB-05-S61_06_3	99.00	100.08	147	2622	bdl	94	65	82	1215	552	3024
EGB-05-S61_07_1	98.73	99.76	bdl	2243	bdl	130	98	162	1559	495	2595
EGB-05-S61_07_2	98.74	99.86	109	2703	bdl	116	bdl	57	1652	535	2883
EGB-05-S61_07_3	98.13	99.35	bdl	3282	bdl	132	bdl	61	1651	534	3033
EGB-05-S61_08_1	99.29	100.45	124	3130	bdl	126	94	bdl	1211	378	3336
EGB-05-S61_08_2	99.85	100.84	146	2293	bdl	107	80	bdl	1078	382	3062
EGB-05-S61_08_3	100.44	101.40	226	2061	bdl	121	bdl	bdl	1095	378	3075
EGB-05-S61_09_1	97.86	98.82	238	1922	bdl	82	121	bdl	1389	504	2674
EGB-05-S61_09_2	98.08	99.21	293	2696	bdl	87	113	73	1478	442	2965
EGB-05-S61_09_3	97.75	98.84	bdl	2656	bdl	110	89	57	1537	397	3029
EGB-05-S61_10_1	99.77	100.94	301	2979	bdl	168	95	112	1281	439	3103
EGB-05-S61_10_2	100.34	101.25	91	1908	bdl	76	110	66	1069	454	2906
EGB-05-S61_10_3	100.07	100.96	181	1556	bdl	48	135	53	1137	614	2717
EGB-05-S61_11_1	97.68	98.59	124	1718	bdl	56	121	43	1135	580	2861

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…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-05-S61_11_2	98.05	98.96	163	1677	bdl	53	124	82	1069	615	2836
EGB-05-S61_11_3	97.90	98.73	132	1728	bdl	76	86	bdl	1054	562	2414
EGB-05-S61_13_1	99.36	100.49	226	2701	bdl	113	83	bdl	1869	484	2677
EGB-05-S61_13_2	98.98	99.94	150	1870	bdl	119	106	bdl	1717	437	2567
EGB-05-S61_13_3	99.80	100.84	152	2380	bdl	130	91	bdl	1732	580	2354
EGB-05-S61_14	99.99	100.76	272	1779	bdl	94	119	103	1119	542	1447
EGB-05-S61_15	99.72	100.96	200	3142	bdl	138	119	85	1449	1006	2735
EGB-05-S61_16	99.49	100.38	124	1894	bdl	85	109	64	1130	593	2479
EGB-05-S61_17	99.59	100.48	155	1815	bdl	114	113	129	1147	423	2501
EGB-05-S61_19	98.44	99.36	171	1785	bdl	71	95	91	1604	489	2282
EGB-05-S61_22	99.98	101.11	195	2755	bdl	135	89	358	1098	548	2891
EGB-05-S61_23	100.80	101.67	186	1483	bdl	151	78	40	1687	430	2210
EGB-05-S61_26	98.19	99.22	bdl	1843	bdl	91	101	304	1295	551	3133
EGB-05-S61_27	100.63	101.79	134	3111	bdl	117	80	70	1015	532	3377
EGB-05-S61_28	100.11	101.09	117	2201	bdl	156	bdl	87	1034	406	3083
EGB-05-S61_29	98.80	99.70	bdl	1799	bdl	93	86	49	1349	575	2440
EGB-05-S61_31	100.56	101.46	148	1850	bdl	80	104	173	1108	411	2657
EGB-05-S61_32	99.17	100.10	234	1736	bdl	59	112	bdl	1028	467	3217
EGB-05-S61_33	99.86	100.55	bdl	1199	bdl	143	173	35	976	356	2110
EGB-05-S61_34	98.06	99.07	170	2172	bdl	114	105	bdl	1860	451	2350
EGB-05-S61_35	98.14	99.29	bdl	2923	bdl	107	bdl	218	1309	358	3220
EGB-05-S61_36	101.04	101.90	185	1661	bdl	bdl	121	83	959	493	2790
EGB-05-S61_37	100.61	101.64	193	1957	bdl	97	95	42	1689	1310	1973
EGB-05-S63_01_1	97.87	98.47	bdl	1009	bdl	117	87	68	1207	350	1478
EGB-05-S63_01_2	98.66	99.26	bdl	969	bdl	90	81	100	1240	329	1523
EGB-05-S63_01_3	97.43	98.05	bdl	1055	bdl	68	142	76	1286	427	1382
EGB-05-S63_02_1	95.96	97.29	197	4562	bdl	75	bdl	85	1232	423	3000
EGB-05-S63_02_2	96.06	97.54	130	5316	bdl	81	bdl	48	1432	391	3186
EGB-05-S63_02_3	96.90	98.23	208	4605	bdl	56	bdl	bdl	1279	376	2953
EGB-05-S63_04_1	99.27	100.05	295	1567	bdl	45	124	bdl	810	482	2393
EGB-05-S63_04_2	99.56	100.45	190	1909	bdl	53	91	bdl	873	385	3035
EGB-05-S63_04_3	99.37	100.18	167	1616	bdl	bdl	114	bdl	827	416	2779
EGB-05-S63_05_1	99.77	100.48	140	1370	bdl	66	85	bdl	961	310	2218
EGB-05-S63_05_2	99.38	100.27	148	2045	bdl	189	137	43	1033	335	2460
EGB-05-S63_05_3	99.39	100.27	242	1982	bdl	132	91	bdl	1002	415	2494
EGB-05-S63_08_1	98.16	99.15	bdl	2362	bdl	108	123	bdl	1561	1189	1658
EGB-05-S63_08_2	98.44	99.15	bdl	1361	bdl	87	bdl	bdl	1665	373	1532
EGB-05-S63_08_3	98.97	99.65	bdl	1163	bdl	69	80	bdl	1664	328	1583
EGB-05-S63_09_1	98.19	99.14	384	2003	bdl	63	100	54	987	293	3116
EGB-05-S63_09_2	97.68	98.55	624	1468	bdl	95	103	35	954	265	2908
EGB-05-S63_09_3	98.01	98.90	572	1566	bdl	78	111	56	974	292	2905
EGB-05-S63_10_1	100.03	100.98	299	2110	bdl	bdl	384	128	652	226	3157
EGB-05-S63_10_2	100.50	101.43	258	2022	bdl	bdl	369	170	659	197	3136
EGB-05-S63_10_3	100.02	100.96	281	2024	bdl	bdl	415	239	653	160	3042
EGB-05-S63_11_1	98.31	99.36	193	1704	bdl	bdl	718	77	980	319	3700
EGB-05-S63_11_2	98.92	99.94	144	1701	bdl	48	729	260	903	302	3341
EGB-05-S63_11_3	99.41	100.38	114	1648	bdl	51	721	34	933	289	3342
EGB-05-S63_12_1	98.00	98.67	98	1154	bdl	68	62	33	1165	410	1838
EGB-05-S63_12_2	98.01	98.66	bdl	1320	bdl	91	bdl	51	1061	435	1667
EGB-05-S63_12_3	97.70	98.44	238	1475	bdl	84	bdl	98	1143	360	1839
EGB-05-S63_14	99.73	100.54	612	1733	bdl	174	139	bdl	1092	335	1796
EGB-05-S63_15	95.19	97.91	290	2744	bdl	bdl	88	32	917	272	16246
EGB-05-S63_16	100.04	100.85	269	1837	bdl	93	130	bdl	938	161	2475
EGB-05-S63_18	99.60	100.52	290	1886	bdl	bdl	426	bdl	606	371	3176
EGB-05-S63_19	99.78	100.75	270	2161	bdl	118	bdl	bdl	801	408	3312
EGB-05-S63_21	97.49	98.34	167	2014	bdl	bdl	70	39	1013	306	2532
EGB-05-S63_22	99.68	100.42	bdl	2017	bdl	93	bdl	bdl	535	182	2525
EGB-05-S63_23	99.56	100.59	378	2071	bdl	45	727	bdl	683	301	3492
EGB-05-S63_24	99.08	99.81	191	826	bdl	68	184	bdl	810	244	3119

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. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-05-S63_25	99.05	99.85	279	1585	bdl	66	89	153	1205	506	1883
EGB-05-S63_26	98.82	99.69	232	1775	bdl	51	106	bdl	720	607	2935
EGB-05-S63_27	98.61	99.30	88	1425	bdl	42	112	bdl	600	376	2455
EGB-05-S63_28	98.51	100.10	163	5026	bdl	85	159	116	782	199	5126
EGB-05-S63_29	98.08	98.95	228	2046	bdl	bdl	126	40	864	337	2696
EGB-05-S63_31	97.89	98.77	261	1708	bdl	93	111	59	1319	434	2401
EGB-05-S63_32	97.59	98.45	204	1532	bdl	45	370	71	952	504	2557
EGB-05-S64_01_1	100.83	101.40	bdl	805	bdl	53	129	60	1086	51	1844
EGB-05-S64_01_2	99.17	99.80	bdl	807	bdl	61	152	58	1223	161	2064
EGB-05-S64_01_3	99.90	100.49	87	914	bdl	bdl	113	46	1173	53	1903
EGB-05-S64_02_1	99.04	100.81	bdl	1933	bdl	4594	bdl	115	3963	978	916
EGB-05-S64_02_2	99.18	100.96	bdl	1904	bdl	4759	bdl	113	4048	941	839
EGB-05-S64_02_3	98.49	100.28	bdl	1922	bdl	4709	bdl	106	4066	937	850
EGB-05-S64_06_1	99.54	100.61	278	2346	bdl	118	487	bdl	1548	497	2512
EGB-05-S64_06_2	98.97	100.08	358	2415	bdl	114	533	33	1504	484	2632
EGB-05-S64_06_3	99.01	100.07	258	2178	bdl	84	478	30	1576	547	2570
EGB-05-S64_07_1	99.13	99.89	bdl	1915	bdl	bdl	193	bdl	1065	534	1705
EGB-05-S64_07_2	99.48	100.35	179	1968	bdl	bdl	160	bdl	1081	685	2171
EGB-05-S64_07_3	99.53	100.28	173	1697	bdl	bdl	186	bdl	1087	597	1621
EGB-05-S64_11	98.60	100.21	567	1615	1792	1260	bdl	1175	2374	116	1268
EGB-05-S64_12_1	99.70	100.44	bdl	1987	bdl	84	76	73	627	452	2047
EGB-05-S64_12_2	98.82	100.45	1107	5168	bdl	96	73	230	715	360	4104
EGB-05-S64_12_3	99.41	100.13	bdl	1959	bdl	70	74	84	644	441	1944
EGB-05-S64_13_1	100.87	101.45	283	678	bdl	111	202	56	347	43	2614
EGB-05-S64_13_2	100.47	101.01	164	687	bdl	41	143	bdl	324	233	2378
EGB-05-S64_13_3	100.72	101.24	255	685	bdl	67	195	32	333	bdl	2317
EGB-05-S64_14_1	99.63	100.17	bdl	612	bdl	bdl	bdl	898	331	64	1661
EGB-05-S64_14_2	100.41	100.54	bdl	612	bdl	bdl	bdl	bdl	199	bdl	87
EGB-05-S64_14_3	98.50	99.37	bdl	440	bdl	bdl	83	1148	564	95	3823
EGB-05-S64_22	100.40	101.53	517	1858	bdl	124	1241	239	1107	477	2690
EGB-05-S64_24	96.99	97.83	86	1636	bdl	77	107	30	1101	344	2704
EGB-05-S64_27	99.42	100.25	bdl	1770	bdl	104	bdl	122	1338	320	2218
EGB-05-S64_3	99.36	100.35	118	2041	480	53	bdl	306	1334	419	1967
EGB-05-S64_31	99.02	100.42	bdl	1197	bdl	1532	bdl	245	3287	824	2846
EGB-05-S64_32	97.43	98.61	729	2384	bdl	74	93	bdl	641	320	4522
EGB-05-S64_33	97.92	98.86	169	1528	bdl	47	777	30	979	378	3039
EGB-05-S64_35	98.02	99.34	459	3359	266	62	94	309	765	898	3094
EGB-05-S64_36	99.72	100.39	bdl	1017	bdl	76	bdl	34	245	246	3286
EGB-05-S64_37	99.42	100.10	bdl	960	bdl	bdl	92	bdl	284	189	3514
EGB-05-S65_01_1	96.93	97.57	bdl	1191	bdl	64	83	bdl	1541	317	1388
EGB-05-S65_01_2	97.91	98.72	bdl	1164	370	72	bdl	333	1525	308	1631
EGB-05-S65_01_3	97.92	98.65	108	1510	bdl	65	bdl	bdl	1553	301	1677
EGB-05-S65_02_1	99.26	100.17	143	2264	bdl	56	121	bdl	1279	374	2266
EGB-05-S65_02_2	99.34	100.16	106	1685	bdl	83	64	bdl	1281	441	2226
EGB-05-S65_02_3	98.84	99.64	bdl	1649	bdl	58	69	121	1247	530	2032
EGB-05-S65_03_1	100.18	100.94	bdl	1608	bdl	80	117	bdl	1134	484	2087
EGB-05-S65_03_2	100.42	101.24	bdl	1683	bdl	76	119	bdl	1124	478	2426
EGB-05-S65_03_3	99.98	100.79	181	1728	bdl	61	109	bdl	1094	533	2127
EGB-05-S65_04_1	99.36	100.14	163	1643	bdl	70	358	76	525	306	2579
EGB-05-S65_04_2	99.60	100.44	232	1830	bdl	73	355	77	578	339	2644
EGB-05-S65_04_3	99.40	100.20	283	1727	bdl	56	366	86	483	340	2543
EGB-05-S65_06_1	97.22	98.62	2135	2031	bdl	182	129	46	1431	2029	2151
EGB-05-S65_06_2	97.07	98.22	887	1855	bdl	114	111	106	1416	1895	1871
EGB-05-S65_06_3	97.35	98.25	193	1142	bdl	87	132	bdl	1245	2103	1515
EGB-05-S65_07_1	99.90	100.70	bdl	1534	bdl	137	152	bdl	793	589	2603
EGB-05-S65_07_2	99.82	100.67	bdl	1593	bdl	107	132	bdl	824	597	2912
EGB-05-S65_07_3	99.47	100.28	110	1535	bdl	107	114	bdl	836	563	2659
EGB-05-S65_08_1	98.38	99.22	155	1790	bdl	96	150	bdl	1356	463	2082
EGB-05-S65_08_2	98.08	99.00	164	2012	bdl	133	98	bdl	1414	494	2297

continued on next page. . .

…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-05-S65_08_3	98.13	99.00	113	1919	bdl	114	89	bdl	1427	489	2126
EGB-05-S65_09_1	98.27	99.14	85	2234	bdl	77	85	bdl	1109	310	2423
EGB-05-S65_09_2	98.75	99.60	bdl	2155	bdl	81	bdl	bdl	1058	268	2609
EGB-05-S65_09_3	99.13	100.07	121	2452	bdl	80	bdl	bdl	1081	282	2712
EGB-05-S65_10_1	98.78	99.66	102	1857	bdl	140	112	bdl	1050	379	2763
EGB-05-S65_10_2	99.99	100.81	114	1848	bdl	120	139	bdl	990	353	2386
EGB-05-S65_10_3	99.07	99.94	85	1840	bdl	113	155	bdl	1086	407	2561
EGB-05-S65_11_1	97.70	98.37	bdl	1116	bdl	81	64	bdl	1180	172	2197
EGB-05-S65_11_2	97.35	98.33	224	2338	bdl	184	128	bdl	1374	142	2663
EGB-05-S65_11_3	97.85	98.73	106	1983	bdl	232	78	bdl	1245	160	2569
EGB-05-S65_12	97.23	97.92	bdl	1514	bdl	41	85	bdl	847	354	2205
EGB-05-S65_13	99.18	100.30	207	3298	bdl	212	206	59	912	145	3147
EGB-05-S65_14	100.07	100.90	bdl	1585	bdl	74	373	198	1342	677	1650
EGB-05-S65_15	99.30	100.40	bdl	514	bdl	bdl	bdl	bdl	1103	5266	563
EGB-05-S65_16	98.46	99.25	200	1901	bdl	105	115	bdl	748	502	2178
EGB-05-S65_17	97.82	98.59	bdl	1683	bdl	bdl	bdl	bdl	1136	352	2354
EGB-05-S65_19	100.26	101.07	bdl	1897	bdl	59	69	bdl	1561	450	1756
EGB-05-S65_20	99.28	100.17	bdl	2418	bdl	47	bdl	34	1786	345	1639
EGB-05-S65_21	100.43	101.24	bdl	1742	bdl	90	85	bdl	1232	889	1656
EGB-05-S65_22	96.74	97.90	1469	2043	bdl	121	553	36	1007	218	3110
EGB-05-S65_24	98.90	99.56	bdl	993	bdl	67	78	bdl	956	230	2481
EGB-05-S65_26	97.62	98.45	bdl	1739	bdl	76	bdl	31	1470	502	2049
EGB-05-S65_28	99.72	100.39	bdl	1569	bdl	84	bdl	31	901	274	1904
EGB-05-S65_29	97.41	98.68	417	3089	bdl	106	139	325	1204	419	3447
EGB-05-S65_31	99.41	100.58	1595	1492	bdl	62	80	71	1858	116	3324
EGB-05-S65_32	97.78	98.67	bdl	1867	bdl	50	213	bdl	1592	563	2072
EGB-05-S65_33	98.44	99.32	161	2167	bdl	65	113	bdl	998	663	2185
EGB-05-S65_34	97.40	98.17	218	991	bdl	67	141	bdl	1340	341	2506
EGB-05-S65_35	98.11	98.98	173	1785	bdl	53	117	bdl	969	439	2843
EGB-05-S65_5	98.06	98.92	bdl	1870	bdl	86	bdl	bdl	1899	358	1829
EGB-05-S67_03_1	97.56	98.94	bdl	513	bdl	48	339	bdl	5334	480	3189
EGB-05-S67_03_2	97.81	99.52	252	2883	bdl	92	1052	bdl	4228	528	3336
EGB-05-S67_03_3	98.60	99.91	bdl	313	bdl	bdl	221	bdl	5155	363	3241
EGB-05-S67_06_1	99.39	100.47	599	1281	266	50	bdl	123	305	230	5071
EGB-05-S67_06_2	98.23	99.19	236	1037	311	83	65	113	396	161	4608
EGB-05-S67_06_3	97.88	98.73	103	1071	bdl	150	bdl	bdl	593	138	4147
EGB-05-S67_08_1	98.45	99.35	bdl	774	bdl	44	bdl	78	1024	57	4731
EGB-05-S67_08_2	99.73	100.56	bdl	838	bdl	bdl	bdl	56	748	70	4445
EGB-05-S67_08_3	99.26	100.06	bdl	777	bdl	44	bdl	bdl	841	64	4192
EGB-05-S67_15_1	96.54	97.75	bdl	1703	bdl	3556	bdl	219	2156	378	456
EGB-05-S67_15_2	97.02	98.21	91	1573	bdl	3596	bdl	175	2152	384	418
EGB-05-S67_15_3	97.18	98.39	81	1608	bdl	3596	bdl	194	2125	376	522
EGB-05-S67_17_1	99.63	100.53	309	1806	bdl	218	147	267	1061	688	1956
EGB-05-S67_17_2	99.14	100.02	287	1831	bdl	198	174	233	1002	690	1913
EGB-05-S67_17_3	99.83	100.76	265	1909	bdl	188	130	289	967	753	2128
EGB-05-S67_22_1	95.83	99.61	13877	1260	bdl	138	213	bdl	3610	161	9707
EGB-05-S67_22_3	98.01	100.25	5430	837	691	100	100	41	2612	111	6680
EGB-05-S67_32_1	97.41	98.14	bdl	1097	bdl	bdl	bdl	bdl	560	bdl	3781
EGB-05-S67_32_2	96.99	97.75	bdl	1194	bdl	bdl	bdl	bdl	640	bdl	3830
EGB-05-S67_32_3	97.29	98.06	bdl	1332	bdl	bdl	bdl	62	645	bdl	3606
EGB-05-S67_36	99.79	100.36	bdl	938	bdl	141	152	61	731	231	1925
EGB-05-S69_01_1	98.01	99.50	191	1483	bdl	1664	bdl	bdl	5276	1442	337
EGB-05-S69_01_2	97.88	99.37	126	1479	bdl	1667	bdl	bdl	5223	1480	349
EGB-05-S69_01_3	97.82	99.34	289	1460	bdl	1658	bdl	bdl	5247	1477	437
EGB-05-S69_02_1	95.07	98.12	8033	3515	1083	136	425	396	4643	543	3074
EGB-05-S69_02_2	95.64	98.18	902	8087	bdl	703	100	37	2453	1819	4049
EGB-05-S69_02_3	95.62	98.77	2685	9953	bdl	459	229	46	2920	1432	5080
EGB-05-S69_05_1	95.13	97.26	bdl	709	1161	4042	bdl	173	2513	4361	1448
EGB-05-S69_05_2	96.48	98.18	88	743	416	1958	bdl	171	2519	4371	1435

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. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-05-S69_05_3	96.24	98.17	bdl	741	846	3088	bdl	191	2476	4306	1442
EGB-05-S69_06_1	99.05	100.35	356	1450	bdl	2530	164	bdl	2884	791	1158
EGB-05-S69_06_2	99.37	100.65	244	1670	bdl	2582	147	bdl	3030	801	579
EGB-05-S69_06_3	99.03	100.45	273	2254	bdl	2522	148	bdl	3039	801	1118
EGB-05-S69_08_1	96.85	98.88	126	1316	763	2989	bdl	164	2283	4757	1450
EGB-05-S69_08_2	95.74	98.57	bdl	1311	1972	7254	bdl	201	2211	4657	1436
EGB-05-S69_08_3	97.28	99.37	bdl	1327	850	3439	bdl	169	2287	4775	1404
EGB-05-S69_09_1	98.51	100.44	1025	4317	bdl	1635	317	124	2909	705	2849
EGB-05-S69_09_2	97.37	99.38	1132	4498	bdl	1760	356	286	2965	719	2725
EGB-05-S69_09_3	97.64	99.68	1185	4616	bdl	1780	331	243	2960	700	2825
EGB-05-S69_14_1	99.86	100.52	bdl	189	bdl	341	bdl	bdl	1108	1158	2007
EGB-05-S69_14_2	99.24	99.91	99	215	bdl	338	bdl	bdl	1073	1166	1977
EGB-05-S69_14_3	99.48	100.14	bdl	187	bdl	342	bdl	bdl	1098	1151	1913
EGB-05-S69_15_1	97.14	98.68	138	1935	bdl	997	112	60	4175	2466	841
EGB-05-S69_15_2	97.22	98.76	105	2082	bdl	997	129	77	4115	2433	792
EGB-05-S69_15_3	96.75	98.95	4139	1927	bdl	891	158	bdl	4966	2709	1070
EGB-05-S69_16	96.58	98.31	bdl	2903	bdl	bdl	562	916	5108	234	2102
EGB-05-S69_17	96.32	97.86	206	1900	bdl	3822	bdl	256	3287	636	660
EGB-05-S69_18	96.56	98.37	361	3346	bdl	1756	172	bdl	4784	1360	997
EGB-05-S69_19	98.10	99.08	bdl	426	bdl	216	128	62	3782	1387	773
EGB-05-S69_21	97.96	99.39	102	2207	722	627	83	155	4189	1078	385
EGB-05-S69_22	99.35	100.92	bdl	890	bdl	5535	bdl	243	2987	644	928
EGB-05-S69_23	97.89	99.55	bdl	4157	bdl	721	bdl	396	3290	883	2159
EGB-05-S69_25	96.67	98.30	bdl	5148	bdl	524	97	106	3219	1401	841
EGB-05-S69_27	97.55	98.73	bdl	1832	bdl	897	182	410	2223	1540	1147
EGB-05-S69_28	99.63	100.34	bdl	123	863	425	bdl	249	314	1427	1169
EGB-05-S69_29	99.57	100.95	423	3046	bdl	1650	92	74	2102	607	1908
EGB-05-S69_30	97.07	98.83	493	4004	bdl	2474	135	bdl	2837	801	1886
EGB-05-S69_31	97.22	98.65	bdl	905	bdl	3767	282	bdl	3037	557	1653
EGB-05-S69_33	98.50	100.29	bdl	481	bdl	3642	bdl	238	2710	4331	1191
EGB-05-S69_34	93.69	98.80	6097	3712	bdl	53	bdl	bdl	3606	77	25263
EGB-05-S69_35	98.40	100.69	96	937	1216	6030	bdl	201	1425	4651	1053
EGB-05-S69_36	99.21	100.79	179	2322	bdl	3228	174	146	3537	1051	487
EGB-05-S69_38	96.48	98.00	1024	2361	bdl	2340	255	215	2315	1027	1384
EGB-05-S69_39	98.73	100.24	142	4617	bdl	696	166	bdl	1608	831	2791
EGB-05-S69_41	98.72	100.14	703	3216	bdl	845	160	49	2881	1273	917
EGB-05-S69_42	96.02	98.08	1334	2905	bdl	1022	300	bdl	6509	1861	503
EGB-05-S70_01_1	97.57	99.19	bdl	4623	bdl	1492	bdl	31	2451	536	2421
EGB-05-S70_01_2	96.67	98.35	bdl	4703	bdl	1575	bdl	59	2455	529	2576
EGB-05-S70_01_3	97.38	99.05	bdl	4631	bdl	1498	73	176	2429	558	2521
EGB-05-S70_03_1	99.36	100.18	155	1632	bdl	45	204	bdl	884	216	2868
EGB-05-S70_03_2	99.18	100.03	87	1708	bdl	88	186	98	894	193	2979
EGB-05-S70_03_3	98.14	99.06	170	1883	bdl	100	169	66	937	272	3122
EGB-05-S70_04_1	98.92	100.84	472	1789	bdl	894	109	912	3801	2064	3349
EGB-05-S70_04_2	97.47	99.65	608	2542	bdl	1037	114	1482	3107	1693	4643
EGB-05-S70_04_3	92.78	99.13	1172	5364	1674	2276	81	10850	2370	8490	8769
EGB-05-S70_08_1	100.82	101.81	86	327	403	709	bdl	87	519	2159	2668
EGB-05-S70_08_2	98.80	99.81	bdl	628	bdl	716	78	bdl	920	2522	2457
EGB-05-S70_08_3	97.28	98.78	bdl	330	860	757	62	215	963	3574	3540
EGB-05-S70_11_1	99.64	101.16	bdl	1732	bdl	3167	276	294	2662	406	2276
EGB-05-S70_11_2	99.07	100.59	bdl	1653	bdl	3178	243	285	2774	375	2326
EGB-05-S70_11_3	99.11	100.62	bdl	1736	bdl	3077	239	301	2720	364	2332
EGB-05-S70_14_1	97.54	99.04	94	2022	bdl	1767	65	62	903	2246	3691
EGB-05-S70_14_2	98.20	99.75	bdl	2155	bdl	1779	bdl	60	881	2209	4124
EGB-05-S70_14_3	96.93	98.55	99	2289	bdl	2051	83	65	890	2216	4095
EGB-05-S70_15_1	100.64	102.16	703	3430	bdl	901	125	137	2534	1391	1556
EGB-05-S70_15_2	99.54	101.32	908	4297	bdl	1013	78	bdl	2695	1571	2167
EGB-05-S70_15_3	99.66	101.32	684	3908	bdl	1028	bdl	170	2524	1553	1814
EGB-05-S70_16	98.47	99.75	bdl	1481	bdl	1289	bdl	bdl	684	3334	2243

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…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-05-S70_19_1	99.84	100.87	620	2054	bdl	127	574	125	758	419	2877
EGB-05-S70_19_2	99.89	100.90	577	2054	bdl	90	576	129	728	411	2907
EGB-05-S70_19_3	100.03	101.09	638	2194	bdl	119	546	142	698	419	3043
EGB-05-S70_21	96.69	98.53	151	2215	bdl	1614	391	bdl	2189	1060	5940
EGB-05-S70_22	97.57	99.04	619	3281	bdl	1281	285	39	1103	316	3834
EGB-05-S70_23	97.05	97.68	423	331	bdl	318	bdl	143	1846	458	905
EGB-05-S70_26	96.11	98.35	5922	366	896	2222	bdl	938	1700	83	3916
EGB-05-S70_27	98.62	99.62	bdl	2159	bdl	182	80	bdl	846	1041	2912
EGB-05-S70_28	99.39	100.34	218	1583	bdl	87	79	91	697	408	3848
EGB-05-S70_29	97.77	99.03	261	1510	bdl	1330	199	85	3966	1121	333
EGB-05-S70_30	99.64	100.81	132	1599	203	392	117	166	820	435	4690
EGB-05-S70_32	99.21	100.62	bdl	1083	bdl	2390	297	bdl	2005	245	4414
EGB-05-S70_35	96.49	97.59	bdl	2063	148	108	124	789	389	1053	2934
EGB-05-S70_36	97.72	98.72	bdl	688	829	2177	bdl	298	540	119	2046
EGB-05-S70_37	97.02	98.19	bdl	1170	bdl	2784	bdl	214	1909	374	1895
EGB-05-S70_42	96.82	98.12	462	3063	bdl	655	248	284	1016	403	3328
EGB-05-S70_44	99.57	100.98	bdl	582	bdl	3918	bdl	173	3417	584	1288
EGB-05-S70_45	97.72	99.13	143	3469	bdl	909	247	165	1969	772	2452
EGB-05-S70_46	99.37	100.35	1092	548	bdl	181	bdl	bdl	2807	452	1952
EGB-05-S70_47	98.88	100.07	81	2922	bdl	659	298	94	763	341	3539
2/12b_1	99.20	100.41	bdl	2213	57	bdl	na	na	na	290	5812
2/12b_2	98.68	99.54	bdl	1486	306	bdl	na	na	na	bdl	4104
2/2b_1	98.27	98.92	bdl	1211	446	bdl	na	na	na	bdl	2070
3/1b_1	98.75	100.37	bdl	2725	116	42	na	na	na	131	7997
3/1b_2	98.86	100.56	445	3156	120	bdl	na	na	na	bdl	8521
3/1b_3	98.84	101.01	1603	5013	87	bdl	na	na	na	163	8896
3/1b_4	99.37	100.45	bdl	1065	37	bdl	na	na	na	85	5972
3/1b_5	98.64	100.39	422	2091	97	bdl	na	na	na	228	9805
3/1b_6	97.09	100.40	bdl	9526	41	bdl	na	na	na	205	14411
3/1b_7	99.35	99.62	bdl	688	49	bdl	na	na	na	80	862
3/1b_8	99.86	100.21	bdl	1537	25	bdl	na	na	na	bdl	859
3/1b_9	98.25	99.53	375	1257	80	46	na	na	na	89	7356
3/1b_10	99.29	99.54	bdl	804	bdl	bdl	na	na	na	bdl	949
3/1b_11	98.96	99.52	bdl	1140	77	bdl	na	na	na	bdl	2843
61-c2_1	99.48	99.92	bdl	974	bdl	bdl	na	na	na	128	1966
61-c2_2	99.36	100.03	bdl	770	bdl	203	na	na	na	bdl	3281
61-c2_3	99.06	99.62	bdl	499	bdl	62	na	na	na	bdl	2656
61-c2_4	97.23	99.44	2250	5640	64	80	na	na	na	76	7934
61-c2_5	98.61	99.42	bdl	1125	bdl	77	na	na	na	53	3973
61-c2_6	99.44	100.45	1638	1473	bdl	bdl	na	na	na	357	3408
61-c2_7	99.24	99.73	bdl	1284	262	bdl	na	na	na	bdl	1526
61-c2_8	98.21	99.75	bdl	1145	249	bdl	na	na	na	64	9007
A15-c1_1	98.11	99.33	1228	2819	21	117	na	na	na	247	4138
A15-c1_2	98.63	99.89	1058	2800	36	115	na	na	na	267	4585
A15-c1_3	99.27	100.69	734	2461	bdl	58	na	na	na	282	5212
A15-c1_4	99.41	100.75	676	2504	bdl	148	na	na	na	459	4571
A15-c1_5	98.46	100.32	436	2307	144	120	na	na	na	276	9537
A15-c1_6	99.12	100.56	1168	2508	31	105	na	na	na	384	5605
A15-c1_7	98.33	100.28	952	2197	172	201	na	na	na	584	9338
NS-1a_1	98.11	99.55	bdl	1028	603	bdl	na	na	na	2183	5646
NS-1a_2	98.10	99.67	bdl	2962	730	62	na	na	na	372	6752
P2-a1_1	100.89	101.13	bdl	579	41	45	na	na	na	bdl	868
P2-a1_2	99.49	99.78	bdl	603	130	bdl	na	na	na	bdl	1095
P2-a1_3	99.84	100.16	bdl	880	99	bdl	na	na	na	bdl	1257
P38-c2_1	99.21	99.80	bdl	1269	51	bdl	na	na	na	bdl	2989
P38-c2_2	98.59	99.27	bdl	bdl	536	bdl	na	na	na	bdl	2970
P38-c2_3	97.42	99.88	bdl	424	474	46	na	na	na	bdl	16283
EGB-06-S34_IIb_2_1	98.16	99.25	bdl	913	bdl	526	162	bdl	3388	90	2739
EGB-06-S34_IIb_2_2	99.08	100.2	bdl	870	bdl	526	101	bdl	3247	93	3241

continued on next page…

. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S34_IIb_2_3	99.01	100.11	bdl	928	250	498	175	bdl	2920	57	2944
EGB-06-S34_IIb_3	98.79	99.94	bdl	2825	190	bdl	bdl	bdl	2606	837	1462
EGB-06-S34_IIb_9	96.71	98.33	195	2163	1936	269	bdl	356	856	1482	3270
EGB-06-S34_IIb_12	97.42	98.98	bdl	2254	bdl	200	75	bdl	5854	684	1844
EGB-06-S34_IIb_17_1	99.96	101.16	bdl	1158	293	125	146	bdl	3552	2161	754
EGB-06-S34_IIb_17_2	100.02	101.17	bdl	1059	265	85	144	bdl	3423	2134	785
EGB-06-S34_IIb_17_3	100.23	101.29	bdl	1101	270	189	154	bdl	2958	1702	865
EGB-06-S35_2_1	98.86	99.65	252	1899	bdl	156	146	169	1480	522	2857
EGB-06-S35_2_2	99.17	99.83	276	1793	bdl	168	132	129	1419	478	2120
EGB-06-S35_2_3	99.54	100.28	327	1925	bdl	156	152	161	1478	462	2375
EGB-06-S35_3_1	97.85	99.16	207	6558	bdl	bdl	306	bdl	733	bdl	2577
EGB-06-S35_3_2	98.46	99.68	191	5992	bdl	bdl	239	bdl	740	bdl	2519
EGB-06-S35_4_1	99.33	99.8	103	802	bdl	67	132	bdl	1863	384	2079
EGB-06-S35_4_2	99.09	99.55	103	764	bdl	52	120	bdl	1887	356	2114
EGB-06-S35_4_3	99.19	99.67	83	833	bdl	64	131	bdl	1866	369	2130
EGB-06-S35_8_1	99.73	100.16	312	244	bdl	1656	bdl	464	260	57	631
EGB-06-S35_8_2	98.6	99.24	bdl	296	214	1308	bdl	1338	356	190	1461
EGB-06-S35_10_1	99.64	100.53	473	2106	bdl	189	684	193	795	411	2821
EGB-06-S35_10_2	99.89	100.83	488	2093	bdl	142	781	295	777	463	3098
EGB-06-S35_10_3	99.46	100.42	481	2096	bdl	155	746	351	723	463	3095
EGB-06-S35_12_1	99.37	100.11	232	2054	bdl	61	224	379	1115	390	2543
EGB-06-S35_12_2	99.68	100.43	264	2002	bdl	58	228	397	1207	363	2697
EGB-06-S35_12_3	100.21	100.91	514	1734	bdl	61	234	bdl	1168	382	2657
EGB-06-S35_14_1	98.01	99.06	5537	3957	bdl	267	96	bdl	bdl	bdl	538
EGB-06-S35_14_2	98.08	99.29	7161	3687	bdl	352	69	bdl	340	bdl	551
EGB-06-S35_14_3	98.47	99.64	4810	3445	bdl	323	95	142	bdl	bdl	565
EGB-06-S35_15_1	98.04	99.54	bdl	8484	bdl	58	bdl	93	432	173	1878
EGB-06-S35_15_2	99.32	99.87	bdl	2895	bdl	64	bdl	bdl	268	143	816
EGB-06-S35_15_3	98.21	99.83	bdl	9336	bdl	58	bdl	67	313	127	1848
EGB-06-S35_16_1	97.6	99.72	1737	6867	bdl	996	530	509	3358	1464	3442
EGB-06-S35_16_2	98.48	100.39	1037	7155	bdl	971	558	610	3303	1429	2837
EGB-06-S35_16_3	97.64	99.7	1959	7135	bdl	1011	539	512	3343	1532	3174
EGB-06-S35_19_1	96.38	98.05	4770	1933	bdl	130	215	100	2850	1907	3401
EGB-06-S35_19_2	95.74	97.79	10626	3209	bdl	125	296	134	3138	722	5374
EGB-06-S35_19_3	94.99	97.54	11974	4242	bdl	260	388	131	1927	293	7159
EGB-06-S35_20	97.96	98.62	179	1841	bdl	294	152	bdl	1019	1440	927
EGB-06-S35_23	96.17	97.76	5341	6240	bdl	112	bdl	194	288	bdl	1286
EGB-06-S35_25	98.04	98.51	91	400	449	982	bdl	1062	bdl	62	1183
EGB-06-S35_30	98.69	99.3	bdl	276	356	775	bdl	bdl	bdl	1900	857
EGB-06-S35_35	98.77	99.8	173	2616	bdl	894	82	bdl	5453	3124	515
EGB-06-S35_37	98.94	100	199	4368	bdl	223	141	325	1641	654	2040
EGB-06-S35_38	99.04	99.63	bdl	1116	bdl	122	bdl	bdl	563	304	2818
EGB-06-S35_40	96.04	97.59	1041	5722	bdl	708	112	310	2593	1810	1907
EGB-06-S35_42	95.39	98.42	13243	5067	bdl	55	414	521	412	bdl	7555
EGB-06-S35_44	95.55	98.11	2649	8287	76	251	1052	138	1183	928	6323
EGB-06-S35_46	98.56	99.57	161	2777	bdl	130	207	bdl	1868	1591	2629
EGB-06-S35_47	97.22	98.02	bdl	652	bdl	3743	bdl	267	2509	414	830
EGB-06-S35_50	99.85	100.67	186	2274	bdl	546	174	212	1050	141	2727
EGB-06-S35_54	99.08	100.03	bdl	5354	bdl	49	bdl	155	bdl	bdl	1117
EGB-06-S36_3_1	98.49	99.19	179	1694	bdl	1155	106	bdl	2541	811	1295
EGB-06-S36_3_2	98.96	99.72	110	1776	bdl	1310	102	bdl	2544	802	1425
EGB-06-S36_3_3	98.23	98.95	bdl	1965	bdl	1051	81	bdl	2567	837	1283
EGB-06-S36_8_1	96.71	97.99	1375	4627	bdl	674	157	266	2864	864	1863
EGB-06-S36_8_2	96.63	97.9	972	4682	bdl	646	132	189	2857	840	2023
EGB-06-S36_8_3	96.47	97.73	1017	4763	bdl	649	79	251	2805	837	1998
EGB-06-S36_13_1	96.61	97.01	bdl	242	bdl	178	bdl	106	1020	635	1856
EGB-06-S36_13_2	96.9	97.32	bdl	315	bdl	180	bdl	bdl	983	840	1793
EGB-06-S36_13_3	97.1	97.58	bdl	286	bdl	146	bdl	73	940	1228	1740
EGB-06-S36_14_1	96.5	98.66	4608	8319	bdl	50	bdl	152	440	243	3863

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…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S36_14_2	97.81	99.31	bdl	8979	bdl	bdl	bdl	bdl	bdl	bdl	1520
EGB-06-S36_14_3	98.5	99.63	1205	6809	bdl	bdl	bdl	bdl	bdl	bdl	672
EGB-06-S37_6_1	96.38	99.06	6646	1214	bdl	bdl	10082	102	377	146	7588
EGB-06-S37_6_2	97.77	99.57	875	1287	bdl	127	7484	bdl	324	117	4289
EGB-06-S37_6_3	98.78	99.57	bdl	847	bdl	bdl	1393	bdl	383	150	3636
EGB-06-S37_10_1	97.39	98.68	104	3516	bdl	469	2556	301	869	75	2673
EGB-06-S37_10_2	96.79	98.37	bdl	3780	bdl	497	4246	332	907	70	3040
EGB-06-S37_10_3	96.41	98.27	148	3552	bdl	475	5636	317	903	71	4015
EGB-06-S37_14_1	94.71	100.19	6736	3043	bdl	108	24182	616	719	144	8648
EGB-06-S37_14_2	94.04	99.66	11736	2221	bdl	128	14336	361	1230	174	19277
EGB-06-S37_14_3	95.26	100.2	3725	2396	bdl	115	12682	89	916	227	19122
EGB-06-S37_18_1	98.16	99.29	bdl	6979	bdl	bdl	bdl	bdl	bdl	bdl	950
EGB-06-S37_18_2	98.41	99.7	381	5449	bdl	bdl	bdl	bdl	bdl	bdl	3719
EGB-06-S37_18_3	96.43	99.07	bdl	12303	bdl	bdl	79	bdl	bdl	bdl	6194
EGB-06-S37_22	96.2	98.13	14036	644	753	160	bdl	1095	bdl	bdl	3236
EGB-06-S37_25_1	96.35	98.52	8614	8337	bdl	52	bdl	bdl	bdl	bdl	1225
EGB-06-S37_25_2	96.07	98.39	5710	11884	bdl	bdl	bdl	bdl	bdl	bdl	1670
EGB-06-S37_25_3	96.13	98.87	4763	10765	bdl	61	bdl	66	bdl	bdl	3922
EGB-06-S37_28	97.74	98.48	262	714	597	bdl	bdl	1261	bdl	51	2512
EGB-06-S37_35_1	98.83	99.51	1377	1066	bdl	bdl	269	79	1689	240	2418
EGB-06-S37_35_2	98.72	99.42	1442	1055	bdl	41	302	80	1574	237	2625
EGB-06-S37_35_3	98.7	99.27	970	853	bdl	61	424	bdl	1589	255	2174
EGB-06-S37_36_1	98.9	100.06	285	2473	bdl	108	73	94	648	361	5521
EGB-06-S37_36_2	99.6	100.66	bdl	2447	bdl	73	bdl	64	648	275	5038
EGB-06-S37_36_3	99.76	100.87	86	2405	bdl	110	bdl	bdl	662	250	5495
EGB-06-S37_37	96.57	98.31	bdl	3956	631	1793	bdl	930	831	159	5137
EGB-06-S37_40_1	100.11	100.84	1683	1605	bdl	121	151	85	1264	666	1727
EGB-06-S37_40_2	100.55	101.13	272	1338	266	90	134	235	1091	476	1477
EGB-06-S37_40_3	100.75	101.14	bdl	805	bdl	64	88	bdl	1032	590	1306
EGB-06-S37_45_1	98.35	98.96	bdl	bdl	bdl	799	bdl	bdl	2737	572	3168
EGB-06-S37_45_2	98.9	99.33	bdl	bdl	bdl	800	bdl	bdl	2782	584	1763
EGB-06-S37_45_3	99.38	99.85	bdl	bdl	bdl	798	bdl	bdl	2805	596	2067
EGB-06-S37_51_1	88.19	98.3	24979	6007	bdl	358	33476	440	bdl	bdl	17567
EGB-06-S37_51_2	91.98	98.87	10864	8215	bdl	214	23236	412	bdl	148	12204
EGB-06-S37_51_3	92.43	98.98	15463	5297	bdl	194	22528	372	bdl	51	11815
EGB-06-S37_53	98.02	100.43	171	4323	257	bdl	1707	422	bdl	bdl	11349
EGB-06-S37_54	98.55	99.43	2604	3618	bdl	47	bdl	71	bdl	bdl	501
EGB-06-S37_55	99.64	100.21	bdl	1857	bdl	bdl	132	bdl	687	90	2109
EGB-06-S37_60	95.87	99.13	17921	4450	bdl	150	158	375	bdl	66	6061
EGB-06-S37_63	98.01	98.73	258	1641	bdl	61	354	70	786	304	2881
EGB-06-S37_65	98.69	99.58	1538	2365	bdl	228	158	99	876	400	2544
EGB-06-S37_68	98.49	99.52	204	4038	bdl	284	74	275	1015	545	2367
EGB-06-S37_69	86.43	97.5	13084	19993	bdl	285	36627	565	674	187	18189
EGB-06-S37_71	89.02	97.77	42107	5938	bdl	292	2832	273	bdl	51	25107
EGB-06-S37_72	94.15	97.18	8406	2586	1692	bdl	566	356	bdl	bdl	14303
EGB-06-S37_75	98.55	99.86	116	1658	bdl	55	72	142	1627	511	7490
EGB-06-S38_5_1	95.78	97.17	3081	3437	bdl	61	134	110	1979	592	3867
EGB-06-S38_5_2	96.65	97.26	132	1496	bdl	50	bdl	bdl	1664	519	2138
EGB-06-S38_5_3	94.04	96.28	7291	4489	bdl	98	109	171	2693	425	5796
EGB-06-S38_6_1	96.69	99.3	16890	2711	bdl	118	88	815	bdl	bdl	4107
EGB-06-S38_6_2	96.07	99.03	13956	3584	bdl	bdl	441	851	288	86	5188
EGB-06-S38_6_3	96.36	98.72	9513	1915	164	73	bdl	347	bdl	bdl	3171
EGB-06-S38_15_1	98.08	98.76	290	1425	bdl	70	441	64	888	408	2558
EGB-06-S38_15_2	98	98.71	190	1599	bdl	61	411	215	983	387	2535
EGB-06-S38_15_3	98.05	98.75	218	1655	bdl	58	391	94	965	366	2475
EGB-06-S38_16_1	99.78	99.98	bdl	658	bdl	bdl	bdl	327	bdl	bdl	637
EGB-06-S38_16_2	99.53	99.89	250	530	192	bdl	bdl	109	bdl	99	1222
EGB-06-S38_16_3	99.73	99.83	109	357	bdl	bdl	bdl	315	bdl	bdl	302
EGB-06-S38_22_1	98.91	99.59	bdl	1969	bdl	bdl	bdl	126	894	312	2590

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. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S38_22_2	99.22	99.88	bdl	1885	bdl	bdl	61	73	859	304	2544
EGB-06-S38_22_3	99.52	100.24	bdl	1941	bdl	64	65	117	1026	352	2860
EGB-06-S38_24_1	96.59	99.31	7794	6502	bdl	104	74	248	bdl	bdl	5600
EGB-06-S38_24_2	98.45	99.69	3606	4318	bdl	47	bdl	219	bdl	bdl	2493
EGB-06-S38_24_3	98.07	99.22	1918	4389	bdl	bdl	61	84	297	54	2176
EGB-06-S38_25_1	100.57	101.02	246	956	bdl	44	203	bdl	1266	153	1852
EGB-06-S38_25_2	100.32	100.87	412	1456	bdl	44	106	bdl	1330	103	2222
EGB-06-S38_25_3	100.45	101.22	986	1735	bdl	67	173	bdl	1398	108	2649
EGB-06-S38_26_1	98.59	99.34	230	1828	bdl	58	106	bdl	570	367	3114
EGB-06-S38_26_2	99.36	100.11	153	1811	bdl	41	106	bdl	544	348	3180
EGB-06-S38_26_3	98.62	99.34	121	1759	bdl	52	67	bdl	576	382	3098
EGB-06-S38_28_1	97.5	97.9	bdl	193	bdl	bdl	bdl	bdl	459	752	1972
EGB-06-S38_28_2	99.39	99.79	bdl	183	bdl	55	bdl	bdl	528	724	1893
EGB-06-S38_28_3	99.45	99.92	bdl	560	76	105	89	64	766	884	1691
EGB-06-S38_41_1	99	100.07	174	1324	1086	58	64	836	519	695	2713
EGB-06-S38_41_2	100.01	100.44	bdl	530	bdl	bdl	bdl	102	454	609	1956
EGB-06-S38_41_3	99.68	100.45	bdl	2275	bdl	bdl	bdl	191	541	536	2609
EGB-06-S38_43	99.39	100.16	94	3196	88	79	108	533	283	827	795
EGB-06-S38_45	99.35	100.98	7777	2120	bdl	118	190	126	1215	487	4858
EGB-06-S38_48	98.3	99.04	441	1505	bdl	170	551	184	809	400	2545
EGB-06-S38_49	99.25	99.73	343	2229	bdl	bdl	bdl	bdl	bdl	bdl	990
EGB-06-S38_53	97.21	99.14	9890	3869	bdl	110	bdl	65	bdl	51	3274
EGB-06-S38_56	98.49	99.32	3876	1075	101	bdl	bdl	114	bdl	101	1737
EGB-06-S38_57	99.8	100.48	370	2139	bdl	85	102	bdl	1353	465	1892
EGB-06-S38_58	97.85	98.38	bdl	349	bdl	88	bdl	bdl	833	222	3384
EGB-06-S38_59	99.22	99.7	1562	1353	109	bdl	bdl	128	bdl	77	738
EGB-06-S38_60	97.8	98.48	252	1541	bdl	73	61	161	409	210	3001
EGB-06-S38_65	96.95	98.82	3354	9973	bdl	bdl	bdl	74	bdl	bdl	1618
EGB-06-S38_70	97.05	99.34	2912	7469	640	bdl	194	872	bdl	bdl	5072
EGB-06-S38_71	99.86	100.25	bdl	1016	bdl	119	65	bdl	729	203	1506
EGB-06-S38_72	99.86	100.62	178	1927	bdl	61	122	bdl	543	446	2891
EGB-06-S38_76	100.37	101	170	1936	bdl	98	105	61	642	227	2243
EGB-06-S40_IIb_2_1	96.78	97.86	312	2386	bdl	82	84	94	1585	207	3082
EGB-06-S40_IIb_2_2	97.51	98.42	105	1848	bdl	56	121	148	1219	252	2812
EGB-06-S40_IIb_2_3	96.96	97.95	399	2068	bdl	103	135	98	1462	226	2721
EGB-06-S40_IIb_6_1	100.25	100.68	136	470	bdl	88	64	104	489	297	1424
EGB-06-S40_IIb_6_2	100.61	101.02	136	457	bdl	71	86	83	521	265	1380
EGB-06-S40_IIb_7_1	95.84	98.81	2624	16148	bdl	905	454	82	bdl	94	744
EGB-06-S40_IIb_7_2	96.65	98.39	2760	7471	231	361	554	161	291	185	459
EGB-06-S40_IIb_7_3	95.96	98.23	3700	7030	1482	345	844	621	330	163	1084
EGB-06-S40_IIb_8_1	98.11	98.92	220	1595	bdl	65	336	bdl	494	390	2802
EGB-06-S40_IIb_8_2	98.29	99.1	121	1449	bdl	50	330	91	528	450	2885
EGB-06-S40_IIb_8_3	97.47	98.28	178	1564	bdl	80	331	98	606	361	2688
EGB-06-S40_IIb_17_1	96.71	97.62	bdl	2103	bdl	bdl	110	bdl	1700	309	2237
EGB-06-S40_IIb_17_2	96.37	97.29	bdl	2141	bdl	62	88	89	1646	304	2197
EGB-06-S40_IIb_17_3	96.28	97.26	165	2305	bdl	50	117	71	1685	351	2265
EGB-06-S40_IIb_19_1	99.22	100.58	bdl	973	bdl	3339	73	170	2924	660	1535
EGB-06-S40_IIb_19_2	99.4	100.78	bdl	997	bdl	3304	bdl	235	2947	674	1671
EGB-06-S40_IIb_19_3	99	100.38	bdl	949	bdl	3344	bdl	242	2893	647	1667
EGB-06-S40_IIb_25_1	97.31	98.19	358	1618	bdl	41	111	144	674	545	2910
EGB-06-S40_IIb_25_2	98.03	98.95	338	1585	bdl	71	111	171	674	522	3262
EGB-06-S40_IIb_25_3	97.37	98.32	358	1569	bdl	bdl	100	159	649	527	3499
EGB-06-S40_IIb_28_1	97.3	98.64	bdl	3737	bdl	79	127	bdl	1714	138	3857
EGB-06-S40_IIb_28_2	97.74	98.91	bdl	4049	bdl	56	101	132	1708	119	2162
EGB-06-S40_IIb_28_3	97.5	98.84	bdl	3939	bdl	71	74	71	1766	190	3562
EGB-06-S40_IIb_42_1	97.52	98.96	bdl	1725	114	594	bdl	bdl	bdl	bdl	8376
EGB-06-S40_IIb_42_2	97.08	98.26	bdl	2020	207	894	bdl	bdl	bdl	bdl	5550
EGB-06-S40_IIb_42_3	96.21	97.54	bdl	1752	184	677	bdl	bdl	bdl	bdl	7311
EGB-06-S40_IIb_44	98.46	99.23	bdl	1497	bdl	74	88	bdl	969	449	2436

continued on next page. . .

…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S40_IIb_49	96.77	98.04	191	1870	bdl	44	254	947	401	96	5339
EGB-06-S40_IIb_50	99.43	100.23	bdl	1356	bdl	77	bdl	bdl	617	1785	1834
EGB-06-S40_IIb_55	97.17	98.3	bdl	2970	bdl	224	93	bdl	2589	573	1472
EGB-06-S40_IIb_56	100.43	101.63	228	1794	bdl	77	221	134	312	333	5834
EGB-06-S40_IIb_59	95.93	98.59	1240	7612	bdl	866	bdl	161	4986	2031	1765
EGB-06-S40_IIb_62	98.33	99.01	bdl	1375	bdl	41	239	102	595	501	1991
EGB-06-S40_IIb_64	98.52	99.3	1013	2679	bdl	bdl	392	bdl	bdl	76	1482
EGB-06-S40_IIb_66	99.7	100.13	bdl	227	bdl	88	bdl	bdl	1094	1196	244
EGB-06-S40_IIb_74	97.44	99.13	3134	1322	2229	141	600	959	692	81	1878
EGB-06-S40_IIb_83	97.44	98.05	182	545	bdl	bdl	66	94	811	111	2639
EGB-06-S40_IIb_84	100.34	101.23	354	1399	bdl	108	990	91	1780	181	1555
EGB-06-S40_IIb_87	98.98	100.85	2511	4779	bdl	50	bdl	301	1205	113	4663
EGB-06-S40_IIb_88	97.33	98.14	bdl	1818	bdl	59	104	124	862	326	2501
EGB-06-S40_IIb_91	100.11	101.34	279	3570	bdl	246	294	139	1434	582	2306
EGB-06-S40_IIb_92	97	97.61	bdl	1110	bdl	79	bdl	bdl	719	142	2289
EGB-06-S40_IIb_95	99.41	100.77	216	4372	bdl	348	84	305	963	510	2906
EGB-06-S40_IIb_96	98.81	99.65	bdl	4785	bdl	bdl	bdl	bdl	bdl	bdl	1125
EGB-06-S41_IIb_(1)_1	97.94	99.43	270	1908	bdl	897	74	410	3747	916	2187
EGB-06-S41_IIb_(1)_3_1	97.16	98.15	347	2434	bdl	77	94	138	668	290	3133
EGB-06-S41_IIb_(1)_3_2	97.02	98.09	477	2790	bdl	bdl	71	116	710	301	3304
EGB-06-S41_IIb_(1)_3_3	96.96	97.82	220	2002	bdl	47	bdl	78	667	339	2864
EGB-06-S41_IIb_(1)_4_1	96.18	99.99	1261	701	bdl	bdl	11185	1035	837	250	13681
EGB-06-S41_IIb_(1)_4_2	89.21	100.43	45200	1927	bdl	343	16305	486	432	648	22387
EGB-06-S41_IIb_(1)_4_3	89.52	99.64	27754	2144	bdl	321	29774	655	517	1003	16712
EGB-06-S41_IIb_(1)_5_1	98.68	99.61	384	2260	bdl	68	272	bdl	967	380	2400
EGB-06-S41_IIb_(1)_5_2	99.53	100.4	270	2010	bdl	56	304	bdl	901	365	2390
EGB-06-S41_IIb_(1)_5_3	98.88	99.79	273	2171	bdl	bdl	297	bdl	949	397	2495
EGB-06-S41_IIb_(1)_8_1	96.84	97.7	317	1794	bdl	bdl	72	bdl	455	270	3400
EGB-06-S41_IIb_(1)_8_2	96.91	97.79	305	1737	bdl	bdl	101	60	448	261	3556
EGB-06-S41_IIb_(1)_8_3	97.75	98.6	274	1584	bdl	55	101	bdl	500	294	3499
EGB-06-S41_IIb_(1)_9_1	98.55	99.27	bdl	1589	bdl	91	90	bdl	1336	674	1282
EGB-06-S41_IIb_(1)_9_2	98.64	99.36	bdl	1589	bdl	77	bdl	bdl	1314	702	1332
EGB-06-S41_IIb_(1)_9_3	98.29	99.03	118	1917	bdl	88	73	bdl	1371	488	1156
EGB-06-S41_IIb_(1)_11_1	51.85	53.38	bdl	2575	bdl	145	bdl	955	bdl	bdl	7363
EGB-06-S41_IIb_(1)_11_2	51.8	53.39	bdl	2752	bdl	150	bdl	997	bdl	bdl	7558
EGB-06-S41_IIb_(1)_11_3	51.25	52.8	bdl	2616	bdl	135	bdl	978	bdl	bdl	7454
EGB-06-S41_IIb_(1)_12	98.5	99.24	81	525	1550	83	bdl	721	bdl	bdl	1282
EGB-06-S41_IIb_(1)_16_1	98.08	98.88	187	1722	bdl	bdl	354	bdl	581	160	2812
EGB-06-S41_IIb_(1)_16_2	98.29	99.11	126	1815	bdl	bdl	369	71	639	213	2759
EGB-06-S41_IIb_(1)_16_3	98.34	99.16	291	1628	bdl	71	386	89	599	341	2634
EGB-06-S41_IIb_(1)_20_1	97.09	98.18	677	2138	bdl	bdl	445	116	1377	604	2553
EGB-06-S41_IIb_(1)_20_2	97.02	97.93	160	1849	bdl	bdl	389	141	1321	660	1948
EGB-06-S41_IIb_(1)_20_3	96.57	97.49	225	1852	bdl	bdl	399	119	1317	539	2109
EGB-06-S41_IIb_(2)_2	99.1	99.89	290	1668	bdl	bdl	528	bdl	1263	356	1580
EGB-06-S41_IIb_(2)_5_1	99.96	100.68	142	1499	bdl	47	119	bdl	491	309	2655
EGB-06-S41_IIb_(2)_5_2	97.97	98.68	183	1394	bdl	bdl	158	bdl	606	306	2557
EGB-06-S41_IIb_(2)_5_3	97.47	98.18	175	1431	bdl	bdl	132	bdl	555	289	2590
EGB-06-S41_IIb_(2)_8_1	99.24	100.03	187	1975	bdl	74	133	74	742	294	2274
EGB-06-S41_IIb_(2)_8_2	99.72	100.58	bdl	1920	bdl	bdl	132	89	706	311	2997
EGB-06-S41_IIb_(2)_8_3	99.8	100.55	148	1940	bdl	41	135	80	678	368	2044
EGB-06-S41_IIb_(2)_9_1	99.26	100.03	347	1806	bdl	bdl	219	109	267	266	2637
EGB-06-S41_IIb_(2)_9_2	99.72	100.42	226	1508	bdl	bdl	226	133	330	302	2445
EGB-06-S41_IIb_(2)_9_3	100.03	100.73	209	1472	bdl	bdl	217	111	307	285	2508
EGB-06-S41_IIb_(2)_15_1	98.8	99.67	217	1953	bdl	59	533	bdl	938	450	2197
EGB-06-S41_IIb_(2)_15_2	98	99.1	134	2128	219	68	506	142	992	423	3264
EGB-06-S41_IIb_(2)_15_3	98.73	99.6	126	1941	bdl	47	545	bdl	1010	453	2154
EGB-06-S41_IIb_(2)_16_1	96.77	97.56	88	1700	bdl	59	80	116	1270	567	1767
EGB-06-S41_IIb_(2)_16_2	96.92	97.79	169	2222	bdl	68	bdl	115	1319	512	1651
EGB-06-S41_IIb_(2)_16_3	97.46	98.04	82	772	bdl	53	bdl	165	1184	340	1361

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. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S41_IIb_(2)_19	97.78	98.43	bdl	1011	bdl	44	127	66	656	806	1908
EGB-06-S41_IIb_(2)_20	99.69	100.52	106	1640	bdl	65	171	bdl	831	375	2887
EGB-06-S41_IIb_(3)_1_1	98.87	99.22	894	357	260	bdl	bdl	223	bdl	bdl	647
EGB-06-S41_IIb_(3)_1_2	97.94	99.47	8007	753	522	44	bdl	636	bdl	bdl	1307
EGB-06-S41_IIb_(3)_1_3	96.52	98.79	13084	298	465	86	bdl	1026	bdl	bdl	2093
EGB-06-S41_IIb_(3)_3_2	97.66	99.05	7620	967	bdl	bdl	bdl	313	bdl	61	1667
EGB-06-S41_IIb_(3)_3_3	97.94	98.84	3416	1048	403	bdl	bdl	381	bdl	bdl	1200
EGB-06-S41_IIb_(3)_4_1	99.95	100.62	179	977	bdl	41	153	121	511	285	2651
EGB-06-S41_IIb_(3)_4_2	99.17	100.21	937	1902	bdl	115	332	134	578	220	3507
EGB-06-S41_IIb_(3)_4_3	99.91	100.63	82	1278	bdl	bdl	187	121	429	330	2882
EGB-06-S41_IIb_(3)_5_1	99	100.45	569	3773	bdl	59	95	bdl	1311	1095	3482
EGB-06-S41_IIb_(3)_5_2	99.18	100.54	448	3513	bdl	107	63	62	1295	1000	3385
EGB-06-S41_IIb_(3)_5_3	99.32	100.67	140	4003	bdl	83	bdl	bdl	1379	992	2997
EGB-06-S41_IIb_(3)_8_1	97.05	97.95	105	1420	bdl	50	80	96	1407	551	2798
EGB-06-S41_IIb_(3)_8_2	97.74	98.38	106	1583	bdl	bdl	100	97	1523	419	572
EGB-06-S41_IIb_(3)_8_3	98.28	99.01	460	1734	bdl	59	103	133	1460	364	865
EGB-06-S41_IIb_(3)_9_1	97.77	98.59	bdl	371	bdl	645	bdl	bdl	2550	290	1973
EGB-06-S41_IIb_(3)_9_2	97.68	98.52	bdl	391	bdl	595	bdl	64	2555	317	2028
EGB-06-S41_IIb_(3)_9_3	98.63	99.46	bdl	374	bdl	778	bdl	65	2453	309	1866
EGB-06-S41_IIb_(3)_15_1	99.72	100.57	bdl	1885	bdl	58	95	66	1026	558	2452
EGB-06-S41_IIb_(3)_15_2	99.57	100.43	bdl	1896	bdl	91	88	82	1035	491	2521
EGB-06-S41_IIb_(3)_15_3	98.79	99.67	bdl	1955	bdl	88	68	87	1106	505	2504
EGB-06-S41_IIb_(3)_17_1	98.61	99.88	360	1750	bdl	1252	344	524	1365	88	3524
EGB-06-S41_IIb_(3)_17_2	98.39	99.67	196	1819	bdl	1270	414	484	1317	84	3670
EGB-06-S41_IIb_(3)_17_3	98.01	99.31	401	1864	bdl	1208	415	722	1330	88	3263
EGB-06-S41_IIb_(3)_19	97.18	98.51	bdl	3263	bdl	107	bdl	bdl	2295	987	2701
EGB-06-S41_IIb_(3)_21	99.2	99.95	bdl	608	bdl	544	80	98	924	54	3225
EGB-06-S41_IIb_(3)_23	97.73	100.08	8793	2730	bdl	47	1982	bdl	bdl	bdl	4539
EGB-06-S41_IIb_(3)_24	98.04	98.49	bdl	208	bdl	164	bdl	bdl	825	408	1519
EGB-06-S41_IIb_(3)_25	93.7	97.41	3156	11115	bdl	1207	956	575	1409	272	8365
EGB-06-S41_IIb_(3)_26	92.61	98.44	21569	2344	bdl	267	4817	182	7567	1282	6229
EGB-06-S41_IIb_(3)_27	97.56	99.31	356	5729	bdl	340	169	313	1111	509	4043
EGB-06-S41_IIb_(3)_28	99.8	100.01	906	454	bdl	bdl	bdl	bdl	bdl	bdl	211
EGB-06-S41_IIb_(3)_29	97.85	98.65	201	1787	bdl	50	180	bdl	885	405	2228
EGB-06-S41_IIb_(3)_33	97.03	97.93	333	2088	bdl	47	97	104	1048	339	2471
EGB-06-S41_IIb_(3)_36	98.67	99.56	572	3209	bdl	bdl	771	bdl	bdl	bdl	2040
EGB-06-S41_IIb_(3)_38	95.93	98.7	457	9391	bdl	908	514	474	527	154	7678
EGB-06-S41_IIb_(3)_40	98.86	99.49	2987	356	bdl	bdl	250	bdl	bdl	60	1217
EGB-06-S41_IIb_(3)_44	97.95	98.75	232	1773	bdl	bdl	132	103	580	632	2347
EGB-06-S41_IIb_(3)_45	99.19	99.97	474	1718	bdl	59	93	104	548	436	2246
EGB-06-S41_IIb_(3)_46	99.16	99.88	146	1791	bdl	74	103	83	807	303	1882
EGB-06-S41_IIb_(3)_47	95.92	99.92	7559	984	bdl	74	14572	241	1538	1351	4494
EGB-06-S41_IIb_(4)_1_1	96.11	97.08	bdl	1678	bdl	918	bdl	73	1702	254	2357
EGB-06-S41_IIb_(4)_1_2	96.81	97.8	bdl	1676	bdl	931	bdl	62	1582	276	2596
EGB-06-S41_IIb_(4)_1_3	97.08	98.09	bdl	1814	bdl	944	bdl	76	1656	288	2521
EGB-06-S41_IIb_(4)_3_1	96.25	97.08	128	1596	bdl	44	289	bdl	1180	337	2385
EGB-06-S41_IIb_(4)_3_2	96.43	97.28	222	1619	bdl	50	302	bdl	1132	370	2450
EGB-06-S41_IIb_(4)_3_3	96.45	97.29	228	1618	bdl	71	306	bdl	1234	443	2200
EGB-06-S41_IIb_(4)_4_1	99.53	100.48	3599	491	709	bdl	bdl	239	bdl	84	1687
EGB-06-S41_IIb_(4)_4_2	98.76	99.56	4024	300	269	bdl	bdl	123	bdl	122	1212
EGB-06-S41_IIb_(4)_4_3	98.69	99.45	3627	490	bdl	bdl	bdl	102	bdl	130	1426
EGB-06-S41_IIb_(4)_5_1	95.67	97.61	1717	3950	bdl	2037	218	256	3706	934	952
EGB-06-S41_IIb_(4)_5_2	95.38	97.33	1617	4122	bdl	2068	206	79	3576	957	1327
EGB-06-S41_IIb_(4)_5_3	95.24	97.14	1591	3899	bdl	2079	154	210	3601	897	1097
EGB-06-S41_IIb_(4)_6_1	98.29	99.7	434	3180	bdl	1223	228	255	1825	512	2436
EGB-06-S41_IIb_(4)_6_2	97.76	99.17	439	3234	bdl	1181	236	362	1853	520	2210
EGB-06-S41_IIb_(4)_6_3	97.78	99.18	232	3155	bdl	1487	203	344	1888	471	2188
EGB-06-S41_IIb_(4)_7_1	99.09	100.22	bdl	1585	bdl	1395	bdl	96	879	133	4258
EGB-06-S41_IIb_(4)_7_2	98.47	99.67	bdl	1688	bdl	1409	bdl	99	911	133	4510

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…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S41_IIb_(4)_7_3	99.02	100.16	bdl	1650	bdl	1304	bdl	110	831	157	4347
EGB-06-S41_IIb_(4)_8_1	99.29	100.05	4244	589	bdl	bdl	321	bdl	bdl	75	627
EGB-06-S41_IIb_(4)_8_2	99.98	100.67	3876	582	bdl	bdl	269	bdl	bdl	54	619
EGB-06-S41_IIb_(4)_8_3	99.74	99.96	523	624	bdl	bdl	136	bdl	bdl	bdl	340
EGB-06-S41_IIb_(4)_9_1	100.15	101.11	103	1754	bdl	50	71	274	559	531	3647
EGB-06-S41_IIb_(4)_9_2	100.12	101.09	146	1676	bdl	bdl	102	227	563	558	3775
EGB-06-S41_IIb_(4)_9_3	100.73	101.72	177	1712	bdl	50	71	165	553	530	3950
EGB-06-S41_IIb_(4)_11_1	100.19	101.16	205	2090	bdl	530	125	bdl	1393	476	2106
EGB-06-S41_IIb_(4)_11_2	100	100.98	207	2066	bdl	559	148	187	1419	439	2045
EGB-06-S41_IIb_(4)_11_3	97.79	98.81	213	1989	bdl	509	176	67	1663	397	2345
EGB-06-S41_IIb_(4)_12_1	100.24	100.41	bdl	670	bdl	bdl	61	bdl	bdl	bdl	454
EGB-06-S41_IIb_(4)_12_2	99.35	99.46	132	438	bdl	bdl	bdl	bdl	bdl	bdl	174
EGB-06-S41_IIb_(4)_12_3	99.28	99.46	bdl	695	bdl	bdl	80	bdl	bdl	bdl	418
EGB-06-S41_IIb_(4)_17	99.07	99.79	157	1939	bdl	83	187	bdl	433	401	2061
EGB-06-S41_IIb_(4)_18	99.63	100.48	103	1750	bdl	68	204	bdl	617	368	3061
EGB-06-S41_IIb_(4)_21	97.46	98.24	90	1799	bdl	77	225	86	746	212	2477
EGB-06-S41_IIb_(4)_22	100.54	101.39	259	2029	bdl	56	250	259	752	282	2228
EGB-06-S41_IIb_(4)_23	97.37	98.13	bdl	858	bdl	469	bdl	62	1410	365	2241
EGB-06-S41_IIb_(4)_25	98.78	99.52	85	1773	bdl	62	164	154	608	318	2226
EGB-06-S41_IIb_(4)_26	96.98	100.59	3816	11744	bdl	109	918	477	1785	578	6865
EGB-06-S41_IIb_(4)_28	98.18	99.01	376	1639	bdl	bdl	669	94	511	405	2368
EGB-06-S41_IIb_(4)_29	97.39	98.82	482	3779	bdl	287	187	88	2009	976	2452
EGB-06-S41_IIb_(4)_30	97.93	99.08	bdl	530	bdl	1892	bdl	bdl	1753	3721	132
EGB-06-S41_IIb_(4)_32	100.4	101.1	142	1621	bdl	65	247	bdl	522	196	2311
EGB-06-S41_IIb_(4)_34	99.57	100.41	358	1083	bdl	395	64	bdl	1659	908	1598
EGB-06-S41_IIb_(4)_35	99.29	100.19	448	2024	bdl	92	638	bdl	646	370	2360
EGB-06-S41_IIb_(4)_36	98.9	99.93	bdl	2735	bdl	170	207	252	676	166	3180
EGB-06-S41_IIb_(4)_37	96.95	97.82	140	1969	bdl	44	183	bdl	780	381	2784
EGB-06-S41_IIb_(4)_38	97.5	98.28	320	1711	bdl	53	120	68	1249	238	1813
EGB-06-S41_IIb_(4)_39	99.59	101.04	94	1736	bdl	1318	97	bdl	4012	2083	776
EGB-06-S41_IIb_(4)_40	98.36	99.26	193	bdl	bdl	41	179	216	1211	465	4280
EGB-06-S41_IIb_(4)_42	96.29	97.69	bdl	1806	bdl	1071	bdl	bdl	3998	2183	600
EGB-06-S42_IIb_2_1	98.46	99.23	bdl	322	bdl	bdl	bdl	142	387	73	4810
EGB-06-S42_IIb_2_2	99.35	99.98	104	241	186	bdl	bdl	126	373	60	3461
EGB-06-S42_IIb_2_3	98.29	99.59	bdl	136	bdl	bdl	bdl	69	408	72	9226
EGB-06-S42_IIb_3_1	99.28	100.12	146	1600	bdl	53	156	bdl	859	592	2687
EGB-06-S42_IIb_3_2	98.73	99.63	87	2001	bdl	80	97	bdl	876	490	2927
EGB-06-S42_IIb_5_1	99.74	100.48	278	3152	bdl	bdl	82	bdl	bdl	bdl	1830
EGB-06-S42_IIb_5_2	99.32	99.97	bdl	3292	bdl	bdl	105	62	bdl	bdl	1029
EGB-06-S42_IIb_5_3	99.4	100.5	128	3183	100	bdl	97	142	bdl	bdl	4391
EGB-06-S42_IIb_6_1	99.6	100.09	bdl	633	bdl	53	bdl	123	606	108	2005
EGB-06-S42_IIb_6_2	99.53	100.03	bdl	524	bdl	77	67	155	631	118	2057
EGB-06-S42_IIb_6_3	99.33	99.88	bdl	699	bdl	77	63	156	653	119	2202
EGB-06-S42_IIb_7_1	97.44	98	bdl	350	bdl	176	bdl	bdl	1230	370	1848
EGB-06-S42_IIb_7_2	97.83	98.41	bdl	407	bdl	123	bdl	207	1201	365	1844
EGB-06-S42_IIb_7_3	96.56	97.1	bdl	322	bdl	144	bdl	bdl	1185	393	1838
EGB-06-S42_IIb_9_1	99.53	100.04	bdl	2711	bdl	bdl	bdl	65	bdl	bdl	699
EGB-06-S42_IIb_9_2	99.56	99.75	bdl	922	bdl	bdl	bdl	bdl	bdl	bdl	292
EGB-06-S42_IIb_9_3	99.68	99.8	bdl	705	bdl	bdl	bdl	bdl	bdl	bdl	99
EGB-06-S42_IIb_11_1	100.29	100.52	360	736	105	141	bdl	64	bdl	bdl	162
EGB-06-S42_IIb_11_2	97.86	99.65	9020	728	905	152	bdl	524	bdl	bdl	1831
EGB-06-S42_IIb_11_3	98.42	100.08	8210	796	862	112	bdl	505	bdl	bdl	1705
EGB-06-S42_IIb_12_1	100.45	101.03	bdl	405	bdl	1411	bdl	85	1501	423	207
EGB-06-S42_IIb_12_2	100.69	101.29	bdl	398	bdl	1384	bdl	bdl	1517	413	568
EGB-06-S42_IIb_12_3	100.51	101.13	bdl	394	bdl	1320	bdl	bdl	1421	431	815
EGB-06-S42_IIb_13_1	97.55	98.31	98	1657	bdl	68	132	bdl	702	408	2397
EGB-06-S42_IIb_13_2	98.07	98.85	190	1554	bdl	bdl	142	74	646	373	2693
EGB-06-S42_IIb_13_3	98.02	98.78	138	1511	bdl	77	170	bdl	636	400	2614
EGB-06-S42_IIb_14_1	96.17	97.74	3747	2121	bdl	165	155	124	1945	837	2538

continued on next page…

. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S42_IIb_14_2	95.84	97.81	5868	2075	bdl	148	112	126	2083	1078	3196
EGB-06-S42_IIb_14_3	96.61	98.46	4962	2336	bdl	203	163	129	1848	1197	2937
EGB-06-S42_IIb_16	98.21	99.11	99	1894	bdl	86	102	120	974	393	2882
EGB-06-S42_IIb_17	99.18	99.6	bdl	1421	bdl	133	294	140	bdl	335	522
EGB-06-S42_IIb_18	98.31	99.65	214	3749	bdl	720	96	303	995	556	2914
EGB-06-S42_IIb_19	98.91	100.27	bdl	1455	bdl	2000	95	bdl	1510	4002	445
EGB-06-S42_IIb_20	96.93	97.73	bdl	2295	bdl	77	109	bdl	1608	365	1105
EGB-06-S42_IIb_21	99.44	100.09	bdl	707	276	bdl	bdl	147	1269	164	1948
EGB-06-S42_IIb_23	98.63	99.53	bdl	1578	787	107	110	253	684	131	2354
EGB-06-S42_IIb_24	99.47	100.68	186	2864	bdl	956	341	218	1126	267	2815
EGB-06-S42_IIb_25	100.59	101.39	204	1735	bdl	144	133	241	1274	788	1109
EGB-06-S42_IIb_26	99.16	99.99	171	1707	bdl	41	134	89	744	623	2541
EGB-06-S42_IIb_27	99.34	100.2	272	1699	bdl	62	66	bdl	1281	438	2333
EGB-06-S42_IIb_28	96.5	98.09	bdl	3049	bdl	3075	169	117	2211	1173	1479
EGB-06-S42_IIb_29	99.48	100.52	293	1439	bdl	307	158	bdl	1479	2185	1463
EGB-06-S42_IIb_30	100.32	101.69	bdl	831	bdl	4127	bdl	185	2445	828	1285
EGB-06-S42_IIb_32	99.62	99.88	bdl	1246	bdl	bdl	bdl	80	bdl	63	239
EGB-06-S42_IIb_34	98.49	99.22	bdl	1743	bdl	bdl	354	781	315	222	1593
EGB-06-S42_IIb_35	96.27	97.4	bdl	639	bdl	2542	bdl	216	2669	595	1277
EGB-06-S42_IIb_36	97.58	98.32	bdl	1662	380	482	197	241	624	105	1347
EGB-06-S42_IIb_38	99.82	100.65	87	1753	bdl	bdl	100	bdl	1052	446	2491
EGB-06-S42_IIb_39	97.9	99.8	1545	3964	bdl	586	109	61	2283	3744	1182
EGB-06-S46M0.6-1.0_1.1	97.48	98.57	bdl	1162	bdl	965	bdl	156	1374	151	4164
EGB-06-S46M0.6-1.0_1.2	97.47	98.53	bdl	1132	bdl	857	62	246	1411	156	3848
EGB-06-S46M0.6-1.0_1.3	96.93	97.98	bdl	1059	bdl	910	68	198	1448	117	3828
EGB-06-S46M0.6-1.0_2.1	99.46	100.28	bdl	242	bdl	1649	bdl	121	1452	687	1754
EGB-06-S46M0.6-1.0_2.2	99.07	99.91	bdl	296	bdl	1670	bdl	109	1472	646	1856
EGB-06-S46M0.6-1.0_2.3	99.6	100.43	bdl	247	bdl	1680	bdl	106	1487	696	1797
EGB-06-S46M0.6-1.0_3.1	97.17	98.05	bdl	1160	bdl	969	bdl	146	1568	114	2333
EGB-06-S46M0.6-1.0_3.2	96.77	97.64	bdl	1190	bdl	1032	bdl	147	1551	95	2203
EGB-06-S46M0.6-1.0_3.3	97.53	98.35	bdl	1022	bdl	677	75	156	1570	119	2333
EGB-06-S46M0.6-1.0_4.1	97.54	98.43	bdl	942	bdl	590	bdl	98	1316	117	3416
EGB-06-S46M0.6-1.0_4.2	97.63	98.5	bdl	983	bdl	583	bdl	79	1286	116	3366
EGB-06-S46M0.6-1.0_4.3	96.91	97.78	bdl	854	bdl	700	bdl	112	1296	151	3249
EGB-06-S46M0.6-1.0_5.1	97.23	98.66	170	3857	bdl	326	109	182	1506	270	3897
EGB-06-S46M0.6-1.0_5.2	97.51	98.94	224	3929	bdl	313	135	288	1430	307	3682
EGB-06-S46M0.6-1.0_5.3	97.05	98.47	246	3884	bdl	309	90	225	1489	278	3758
EGB-06-S46M0.6-1.0_10.1	99.6	101.1	187	4602	bdl	609	182	360	752	358	3704
EGB-06-S46M0.6-1.0_10.2	98.98	100.61	300	5134	bdl	499	194	383	865	352	4012
EGB-06-S46M0.6-1.0_10.3	99.15	100.69	175	4902	bdl	565	149	383	763	356	3793
EGB-06-S46M1.0_1.1	98.65	99.53	bdl	1171	bdl	874	bdl	124	1368	194	2652
EGB-06-S46M1.0_1.2	98.25	99.1	bdl	1190	bdl	737	bdl	141	1325	194	2566
EGB-06-S46M1.0_1.3	98.72	99.59	bdl	1165	bdl	827	bdl	126	1305	216	2596
EGB-06-S46M1.0_2.1	99.2	101.31	206	7262	bdl	704	315	443	464	205	5629
EGB-06-S46M1.0_2.2	99.87	101.96	217	7276	bdl	713	293	407	414	197	5585
EGB-06-S46M1.0_2.3	99.22	101.16	139	6671	bdl	645	294	207	428	125	5615
EGB-06-S46M1.0_3.1	96.83	98.09	1637	1864	bdl	312	313	355	1154	394	3234
EGB-06-S46M1.0_3.2	96.4	97.85	1821	2868	bdl	242	221	480	1216	369	3352
EGB-06-S46M1.0_3.3	97.45	98.85	1771	2621	bdl	261	231	307	1220	389	3458
EGB-06-S46M1.0_4.1	97.83	98.95	130	2493	bdl	1100	87	bdl	2001	102	2078
EGB-06-S46M1.0_4.2	98.27	99.37	bdl	2595	bdl	1013	89	bdl	2017	112	1992
EGB-06-S46M1.0_4.3	98.5	99.69	91	2917	bdl	965	89	78	1977	78	2373
EGB-06-S46M1.0_5.1	97.41	98.34	bdl	1664	bdl	1196	bdl	129	1419	bdl	2267
EGB-06-S46M1.0_5.2	97.29	98.19	bdl	1604	bdl	1131	bdl	85	1412	bdl	2180
EGB-06-S46M1.0_5.3	97.92	98.85	bdl	1714	bdl	1062	bdl	183	1419	bdl	2241
EGB-06-S46M1.0_6.1	99.45	100.67	190	3104	bdl	606	132	236	921	410	3235
EGB-06-S46M1.0_6.2	99.66	100.92	187	3217	108	574	158	236	931	408	3234
EGB-06-S46M1.0_6.3	99.55	100.79	173	2961	bdl	821	152	179	977	407	3265
EGB-06-S46M1.0_7.1	100.02	100.79	bdl	1036	bdl	65	108	312	765	178	3030

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…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S46M1.0_7.2	100.01	100.72	bdl	1004	bdl	59	68	331	740	185	2766
EGB-06-S46M1.0_7.3	99.77	100.49	bdl	1031	bdl	bdl	bdl	282	766	179	2860
EGB-06-S46M1.0_8.1	98.87	99.93	bdl	2070	bdl	734	bdl	80	1379	129	3282
EGB-06-S46M1.0_8.2	98.73	99.84	bdl	2161	bdl	750	73	102	1433	135	3444
EGB-06-S46M1.0_8.3	98.5	99.57	bdl	2210	bdl	694	79	68	1383	88	3257
EGB-06-S46M1.0_9.1	97.69	98.6	286	981	bdl	310	180	bdl	1649	1288	1740
EGB-06-S46M1.0_9.2	97	97.9	312	968	bdl	315	180	64	1639	1297	1728
EGB-06-S46M1.0_9.3	97.97	98.9	290	1056	bdl	421	158	bdl	1521	1276	1855
EGB-06-S46M1.0_11.1	100.76	101.4	bdl	382	bdl	136	bdl	67	1759	778	1362
EGB-06-S46M1.0_11.2	100.05	100.72	bdl	378	bdl	171	bdl	70	1855	785	1358
EGB-06-S46M1.0_11.3	100.4	101.07	106	433	bdl	118	80	bdl	1840	749	1467
EGB-06-S46M1.0_12	98.89	100.31	95	4180	bdl	629	180	279	791	277	3873
EGB-06-S46M1.0_13	98.41	99.52	419	1936	bdl	513	257	248	1119	193	3368
EGB-06-S46M1.0_15	98.82	99.61	106	703	bdl	514	96	336	2219	172	1417
EGB-06-S46M1.0_16	100.14	101.11	268	2117	bdl	244	290	164	788	449	2729
EGB-06-S46M1.0_17	99.74	100.48	bdl	628	bdl	1333	bdl	178	999	341	1823
EGB-06-S46M1.0_18	95.46	97.6	bdl	670	159	736	bdl	383	2070	558	11193
EGB-06-S46M1.0_19	97.73	98.58	bdl	969	bdl	808	bdl	85	1173	213	2903
EGB-06-S46M1.0_20	100.22	100.98	bdl	422	bdl	1281	bdl	188	1313	179	2114
EGB-06-S46M1.0_21	96.52	97.6	bdl	1815	bdl	750	bdl	169	1425	162	3461
EGB-06-S46M1.0_22	98.62	100.03	275	4330	bdl	450	102	307	1088	367	3255
EGB-06-S46M1.0_23	96.98	98.07	228	2226	bdl	589	180	294	1281	262	2743
EGB-06-S46M1.0_26	97.56	99.04	98	3892	bdl	909	111	392	1171	489	3534
EGB-06-S46M1.0_27	98.04	99.1	bdl	1739	bdl	822	bdl	288	2173	129	2339
EGB-06-S477.1	96.8	98.26	1482	3327	bdl	235	129	230	1385	824	2999
EGB-06-S477.2	96.16	97.8	1527	4200	bdl	329	162	215	1400	897	3114
EGB-06-S477.3	96.76	98.43	1451	4415	bdl	332	110	239	1334	792	3386
EGB-06-S4729.1	97.51	98.46	305	803	bdl	245	135	126	2544	208	2498
EGB-06-S4729.2	98.08	99.01	161	765	bdl	207	93	131	2530	196	2588
EGB-06-S4729.3	97.55	98.5	268	858	bdl	250	131	139	2627	200	2364
EGB-06-S4732.1	98.95	99.42	82	1876	bdl	bdl	bdl	107	bdl	bdl	853
EGB-06-S4732.2	98.82	99.43	255	991	1059	bdl	bdl	310	bdl	bdl	999
EGB-06-S4732.3	99	99.51	221	718	1008	bdl	bdl	280	bdl	bdl	715
EGB-06-S4739.1	99.99	100.85	391	1790	bdl	144	157	242	1264	613	1550
EGB-06-S4739.2	99.86	100.74	377	1780	bdl	144	173	135	1273	653	1803
EGB-06-S4739.3	99.56	100.43	316	1739	bdl	144	151	94	1209	647	1957
EGB-06-S4747.1	97.13	97.84	720	1234	407	bdl	bdl	274	370	76	1850
EGB-06-S4747.2	98.35	98.89	722	1358	bdl	bdl	bdl	146	440	84	1101
EGB-06-S48M0.7-1.02.1	97.68	98.51	259	1702	bdl	106	161	268	1520	466	1416
EGB-06-S48M0.7-1.02.2	97.74	98.54	221	1713	bdl	73	139	285	1468	444	1262
EGB-06-S48M0.7-1.02.3	97.16	97.94	128	1701	bdl	79	143	286	1466	485	1148
EGB-06-S48M0.7-1.03.1	97.75	98.57	204	1634	bdl	161	158	141	1291	534	1771
EGB-06-S48M0.7-1.03.2	97.29	98.18	264	1895	bdl	129	170	112	1364	539	1904
EGB-06-S48M0.7-1.05.1	99.03	99.94	126	1637	bdl	91	155	bdl	2542	700	1132
EGB-06-S48M0.7-1.05.2	99.74	100.62	157	1592	bdl	76	149	bdl	2445	664	1093
EGB-06-S48M0.7-1.05.3	99.32	100.21	96	1490	bdl	104	140	bdl	2480	701	1216
EGB-06-S48M0.7-1.07.1	88.18	99.98	45517	842	bdl	408	24103	567	1362	66	19511
EGB-06-S48M0.7-1.07.2	88.83	100.08	43059	863	bdl	426	23079	475	1693	60	18345
EGB-06-S48M0.7-1.07.3	96.88	100.21	5462	876	bdl	91	12130	150	3222	174	3402
EGB-06-S48M0.7-1.09.1	97.55	98.35	170	1502	bdl	62	128	164	1034	412	2314
EGB-06-S48M0.7-1.09.2	97.39	98.28	208	1890	bdl	82	134	194	1111	416	2403
EGB-06-S48M0.7-1.09.3	97.08	98	419	1915	bdl	85	139	213	1065	422	2386
EGB-06-S48M0.7-1.011.1	100.35	101.25	712	2087	bdl	107	107	bdl	888	196	2417
EGB-06-S48M0.7-1.011.2	100.26	100.85	bdl	912	bdl	68	78	bdl	746	165	2298
EGB-06-S48M0.7-1.012.1	99.8	100.36	121	127	bdl	239	bdl	bdl	1569	926	874
EGB-06-S48M0.7-1.012.2	99.11	99.68	bdl	126	bdl	213	bdl	bdl	1766	948	846
EGB-06-S48M0.7-1.012.3	99.43	99.97	bdl	77	bdl	179	bdl	bdl	1696	981	686
EGB-06-S48M0.7-1.013.1	98.5	99.49	232	1885	bdl	65	134	80	1552	1678	1381
EGB-06-S48M0.7-1.013.2	98.26	99.31	370	2166	bdl	109	150	96	1587	1536	1439

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. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S48M0.7-1.013.3	96.9	98.45	1955	3299	bdl	124	178	bdl	1958	1779	1783
EGB-06-S48M0.7-1.015.1	96.74	97.64	182	2023	bdl	117	73	94	1515	580	1901
EGB-06-S48M0.7-1.015.2	97.26	98.16	bdl	1941	bdl	110	100	86	1557	481	2059
EGB-06-S48M0.7-1.015.3	97.35	98.19	96	1715	bdl	77	71	105	1517	447	2010
EGB-06-S48M0.7-1.016	98.69	99.29	bdl	239	bdl	243	161	162	1238	1154	1047
EGB-06-S48M0.7-1.018	98.02	99.02	278	2319	bdl	141	93	bdl	1122	446	2888
EGB-06-S48M0.7-1.019	97.66	98.51	bdl	1204	bdl	445	145	162	1599	148	2465
EGB-06-S48M0.7-1.020	98.66	99.38	128	898	bdl	176	bdl	bdl	1136	1378	1420
EGB-06-S48M0.7-1.023	99.21	99.82	bdl	130	bdl	47	bdl	bdl	1756	164	2283
EGB-06-S48M0.7-1.029	98.05	98.86	bdl	1709	bdl	53	bdl	68	1494	638	1778
EGB-06-S48M0.7-1.031	97.84	98.88	165	2282	bdl	392	150	151	1390	560	2390
EGB-06-S48M1.0-1.71.1	99.18	99.91	211	1410	bdl	76	64	bdl	1004	500	1986
EGB-06-S48M1.0-1.71.2	98.77	99.47	bdl	1247	bdl	bdl	100	95	1009	449	2125
EGB-06-S48M1.0-1.71.3	98.81	99.54	161	1337	bdl	bdl	84	96	980	437	2124
EGB-06-S48M1.0-1.72.1	99.27	100.18	240	1996	bdl	47	478	97	759	354	2709
EGB-06-S48M1.0-1.72.2	99.52	100.44	348	1978	bdl	bdl	475	94	723	319	2805
EGB-06-S48M1.0-1.72.3	99.49	100.32	221	1832	bdl	bdl	458	bdl	738	310	2456
EGB-06-S48M1.0-1.73.1	93.06	100.33	18556	1025	bdl	209	25757	602	474	160	9991
EGB-06-S48M1.0-1.73.2	92.89	99.71	14908	907	bdl	178	27411	574	614	224	8332
EGB-06-S48M1.0-1.73.3	95.04	98.01	1672	361	bdl	63	16305	167	1225	460	2696
EGB-06-S48M1.0-1.74.1	97.46	98.55	885	1975	bdl	208	966	172	719	413	2725
EGB-06-S48M1.0-1.74.2	97.57	98.7	944	1938	bdl	176	966	177	784	453	2941
EGB-06-S48M1.0-1.74.3	96.95	98.08	905	1971	bdl	183	946	176	780	408	3023
EGB-06-S48M1.0-1.76.1	98.71	99.86	bdl	2006	bdl	151	65	104	1024	959	4048
EGB-06-S48M1.0-1.76.2	99.43	100.36	bdl	2000	bdl	148	bdl	115	999	929	2386
EGB-06-S48M1.0-1.76.3	99.09	100.08	248	2173	bdl	173	bdl	83	996	1056	2351
EGB-06-S48M1.0-1.77.1	96.86	100.61	1859	761	bdl	bdl	10555	96	551	2163	12748
EGB-06-S48M1.0-1.77.2	96.4	101.21	11577	1279	bdl	122	15438	276	bdl	1405	7013
EGB-06-S48M1.0-1.77.3	94.74	100.43	14670	1053	bdl	149	14257	108	7024	2317	3569
EGB-06-S48M1.0-1.79.1	98.78	99.7	bdl	1880	bdl	152	169	64	1402	497	2375
EGB-06-S48M1.0-1.79.2	98.16	99.09	157	1956	bdl	138	128	73	1431	393	2382
EGB-06-S48M1.0-1.79.3	97.5	98.51	143	2175	bdl	150	206	74	1495	785	2249
EGB-06-S48M1.0-1.710.1	100.08	100.97	200	1976	bdl	67	67	75	989	478	2536
EGB-06-S48M1.0-1.710.2	99.65	100.67	144	2684	bdl	129	bdl	77	1068	465	2766
EGB-06-S48M1.0-1.710.3	99.31	100.35	273	2716	bdl	140	71	62	1024	574	2635
EGB-06-S48M1.0-1.711.1	98.69	99.48	85	1759	bdl	138	236	62	926	196	2350
EGB-06-S48M1.0-1.711.2	98.61	99.3	bdl	1230	bdl	157	309	bdl	888	469	1915
EGB-06-S48M1.0-1.711.3	98.83	99.58	bdl	1250	bdl	175	314	67	880	475	2364
EGB-06-S48M1.0-1.712.1	92.8	100.89	25613	949	bdl	247	20558	281	737	4573	9740
EGB-06-S48M1.0-1.712.2	96.8	101.03	4429	412	bdl	113	15202	bdl	362	10263	775
EGB-06-S48M1.0-1.712.3	97.43	101.01	3326	376	bdl	85	15517	bdl	540	5931	1340
EGB-06-S48M1.0-1.713	101.42	102.4	199	1836	bdl	147	1085	160	1066	653	2004
EGB-06-S48M1.0-1.714	96.62	98.66	454	6797	bdl	161	395	192	1232	366	5208
EGB-06-S48M1.0-1.717	99.95	100.82	190	1853	bdl	174	124	bdl	1258	820	1826
EGB-06-S48M1.0-1.718	99.47	100.32	bdl	1442	bdl	bdl	92	bdl	2687	549	1073
EGB-06-S48M1.0-1.719	98.42	99.5	331	1372	bdl	107	547	69	1176	653	3646
EGB-06-S48M1.0-1.720	100.15	100.71	bdl	861	bdl	102	bdl	158	829	221	1871
EGB-06-S48M1.0-1.721	100.35	100.89	195	bdl	bdl	58	70	bdl	1367	572	1534
EGB-06-S48M1.0-1.722	97.26	98.29	326	2090	bdl	167	95	268	1650	547	2242
EGB-06-S48M1.0-1.723	98.86	99.64	182	835	bdl	459	140	bdl	1650	135	2207
EGB-06-S48M1.0-1.724	99.64	100.75	281	2926	bdl	134	112	121	1226	628	2599
EGB-06-S48M1.0-1.725	98.14	98.75	bdl	bdl	bdl	192	bdl	97	1597	1516	754
EGB-06-S48M1.0-1.727	99.24	99.88	bdl	129	bdl	289	bdl	150	1729	1111	1005
EGB-06-S48M1.0-1.728	99.12	99.83	3225	1546	bdl	41	bdl	bdl	bdl	bdl	380
EGB-06-S48M1.0-1.730	98.55	100.58	145	7364	bdl	248	93	230	1165	406	5026
EGB-06-S48M1.0-1.731	100.06	101.03	297	1718	bdl	79	683	bdl	1317	522	2395
EGB-06-S48M1.0-1.732	97.17	98.8	200	3655	bdl	223	78	77	1765	651	5213
EGB-06-S48M1.0-1.733	97.39	98.75	550	2892	bdl	246	254	bdl	2811	1224	1590
EGB-06-S48M1.0-1.734	97.67	99.12	208	1762	bdl	111	155	925	534	256	6501

continued on next page. . .

…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S48M1.0-1.735	98.74	99.63	139	1817	bdl	67	102	178	1137	547	2445
EGB-06-S48M1.0-1.736	99.91	100.81	106	1961	bdl	163	99	bdl	980	580	2561
EGB-06-S48M1.0-1.737	99.39	100.28	85	2082	bdl	153	bdl	bdl	1007	565	2490
EGB-06-S48M1.0-1.737	99.47	100.35	315	1864	bdl	203	163	129	1256	654	1730
EGB-06-S48NM1.71.1	98.85	100.17	224	3958	bdl	359	98	407	932	434	2971
EGB-06-S48NM1.71.2	98.93	100.24	334	3843	bdl	491	105	337	914	438	2935
EGB-06-S48NM1.71.3	98.46	99.78	285	4073	bdl	455	112	315	943	419	2818
EGB-06-S48NM1.72.1	97.5	98.33	200	1688	bdl	55	98	91	1128	479	2203
EGB-06-S48NM1.72.2	97.56	98.41	193	1797	bdl	67	105	83	1143	416	2337
EGB-06-S48NM1.72.3	97.33	98.2	155	1956	bdl	67	102	102	1188	434	2224
EGB-06-S48NM1.73.1	100.45	101.25	208	1786	bdl	101	167	89	977	642	1813
EGB-06-S48NM1.73.2	100.37	101.18	251	1924	bdl	112	123	180	1016	625	1567
EGB-06-S48NM1.73.3	100.2	101.03	128	1980	bdl	162	128	133	1033	638	1753
EGB-06-S48NM1.74.1	98.51	99.36	421	189	bdl	320	152	64	2635	1464	683
EGB-06-S48NM1.74.2	98.11	98.93	260	157	bdl	380	146	61	2595	1430	713
EGB-06-S48NM1.74.3	98.26	99.08	293	178	bdl	372	150	bdl	2572	1435	715
EGB-06-S48NM1.76.1	96.8	97.82	222	2052	bdl	184	147	160	1235	1025	2222
EGB-06-S48NM1.76.2	97.4	98.4	251	2008	bdl	181	150	175	1197	963	2243
EGB-06-S48NM1.76.3	96.87	97.86	228	1981	bdl	218	158	164	1189	1041	2071
EGB-06-S48NM1.77.1	100.91	101.62	bdl	1453	bdl	67	78	62	931	492	2032
EGB-06-S48NM1.77.2	97.69	98.33	bdl	1046	bdl	82	91	bdl	1147	582	1510
EGB-06-S48NM1.77.3	100.18	100.86	bdl	1325	bdl	58	bdl	95	930	478	1951
EGB-06-S48NM1.78.1	98.15	99.45	326	3202	bdl	358	230	342	1096	391	3431
EGB-06-S48NM1.78.2	97.57	98.84	281	3152	bdl	543	206	329	1075	382	3157
EGB-06-S48NM1.78.3	97.78	99.06	352	3439	bdl	330	172	300	1110	428	3084
EGB-06-S48NM1.79.1	99.98	100.97	221	1694	bdl	139	567	169	1230	517	2637
EGB-06-S48NM1.79.2	99.77	100.71	199	1504	bdl	64	681	194	1166	491	2560
EGB-06-S48NM1.79.3	99.56	100.68	218	2626	bdl	205	544	132	1385	463	2503
EGB-06-S48NM1.712.1	99.1	100.04	229	1804	bdl	47	225	324	805	506	2778
EGB-06-S48NM1.712.2	98.51	99.9	134	1907	bdl	101	236	665	818	514	5719
EGB-06-S48NM1.712.3	99.53	100.44	136	1828	bdl	82	253	221	704	519	2833
EGB-06-S48NM1.713.1	99.85	100.66	151	1708	bdl	47	162	bdl	1209	585	1936
EGB-06-S48NM1.713.2	99.92	100.71	116	1737	bdl	79	164	66	1226	569	1689
EGB-06-S48NM1.713.3	97.95	98.81	134	1750	bdl	67	162	bdl	1463	590	1902
EGB-06-S48NM1.714.1	99.19	100.08	135	1899	bdl	126	108	61	955	369	2808
EGB-06-S48NM1.714.2	98.91	99.77	112	1931	bdl	110	65	89	989	380	2558
EGB-06-S48NM1.714.3	97.78	98.63	130	1906	bdl	55	88	bdl	1014	365	2643
EGB-06-S48NM1.715	97.14	97.94	132	1598	bdl	79	170	66	1032	373	2361
EGB-06-S48NM1.717	97.02	97.94	242	2001	bdl	168	108	162	1491	740	1568
EGB-06-S48NM1.719	88.98	99.64	34732	1269	bdl	306	24024	238	7408	5681	8095
EGB-06-S48NM1.721	99.67	100.61	126	1783	bdl	88	751	bdl	1373	631	2028
EGB-06-S48NM1.722	99.7	100.51	259	1741	bdl	114	131	208	1405	753	1088
EGB-06-S48NM1.724	98.78	99.74	331	2040	bdl	131	123	146	1790	767	1436
EGB-06-S48NM1.726	99.03	100.14	373	2963	bdl	161	285	bdl	1109	100	3047
EGB-06-S48NM1.727	99.42	100.38	232	2551	bdl	322	128	247	1692	553	1000
EGB-06-S48NM1.733	98.4	99.23	191	1784	bdl	65	131	bdl	1408	625	1687
EGB-06-S48NM1.736	98.36	99.01	bdl	bdl	bdl	338	bdl	303	1877	638	1245
EGB-06-S48NM1.746	97.9	98.72	120	1672	bdl	108	180	297	1684	725	947
EGB-06-S48NM1.748	96.41	97.28	242	1843	bdl	144	125	bdl	1875	662	1173
EGB-06-S48NM1.749	98.62	99.11	791	1675	138	135	120	84	bdl	bdl	435
EGB-06-S48NM1.750	99.04	100.08	240	2980	bdl	207	82	bdl	1396	465	2083
EGB-06-S48NM1.751	96.59	98.34	318	5434	bdl	1026	318	78	1557	424	3501
EGB-06-S48NM1.752	97.25	99.94	1705	431	1506	bdl	269	602	bdl	bdl	15080
EGB-06-S48NM1.753	98.03	98.89	193	1823	bdl	79	193	96	1552	722	1455
EGB-06-S48NM1.757	97.63	98.54	163	2048	bdl	161	147	364	1708	1018	726
EGB-06-S48NM1.758	98.75	99.6	bdl	2055	bdl	102	bdl	174	1154	350	2139
EGB-06-S48NM1.760	99.71	99.95	1214	bdl	bdl	bdl	bdl	bdl	247	bdl	237
EGB-06-S49M0.8-1.21.1	98.71	99.59	195	1743	bdl	118	108	103	1100	374	2580
EGB-06-S49M0.8-1.21.2	98.95	99.77	167	1536	bdl	111	107	91	1135	380	2422

continued on next page…

. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S49M0.8-1.21.3	98.07	99.05	128	1597	bdl	130	95	102	1122	421	3514
EGB-06-S49M0.8-1.22.1	99.24	100.2	bdl	1709	bdl	1162	bdl	135	1091	382	2446
EGB-06-S49M0.8-1.22.2	100.19	101.16	bdl	1790	bdl	1027	bdl	147	1058	397	2556
EGB-06-S49M0.8-1.22.3	99.36	100.79	bdl	1645	bdl	1101	bdl	132	1108	376	6188
EGB-06-S49M0.8-1.23.1	99.51	100.32	87	1179	bdl	326	bdl	60	769	1111	2279
EGB-06-S49M0.8-1.23.2	100.03	100.79	bdl	1019	bdl	226	bdl	73	774	1171	2152
EGB-06-S49M0.8-1.23.3	100.55	101.34	151	1262	bdl	129	bdl	62	729	1047	2266
EGB-06-S49M0.8-1.24.1	99.56	100.39	bdl	586	bdl	373	bdl	bdl	987	2291	1635
EGB-06-S49M0.8-1.24.2	99.89	100.72	bdl	564	bdl	451	bdl	bdl	982	2296	1567
EGB-06-S49M0.8-1.24.3	99.72	100.55	bdl	591	bdl	401	bdl	bdl	985	2252	1656
EGB-06-S49M0.8-1.27.1	100.27	101.33	486	1974	bdl	369	66	bdl	1807	840	1984
EGB-06-S49M0.8-1.27.2	99.68	100.77	474	2097	bdl	340	70	bdl	1846	881	2113
EGB-06-S49M0.8-1.27.3	100.42	101.59	933	2151	bdl	437	81	64	1798	874	2113
EGB-06-S49M0.8-1.28.1	97.31	98.36	bdl	2031	bdl	946	98	100	1291	261	2889
EGB-06-S49M0.8-1.28.2	97.26	98.3	bdl	1970	bdl	898	67	96	1311	252	2913
EGB-06-S49M0.8-1.28.3	97.47	98.6	bdl	2478	bdl	925	81	95	1317	273	2906
EGB-06-S49M0.8-1.210.1	100.33	100.93	bdl	615	bdl	369	bdl	113	958	874	1326
EGB-06-S49M0.8-1.210.2	101.27	101.84	bdl	516	bdl	384	70	133	927	842	1173
EGB-06-S49M0.8-1.210.3	99.56	100.17	bdl	608	bdl	435	bdl	106	967	876	1326
EGB-06-S49M0.8-1.211.1	97.02	98.15	99	2893	bdl	212	103	82	1194	732	2807
EGB-06-S49M0.8-1.211.2	96.09	97.71	232	5295	bdl	322	61	97	1366	784	3472
EGB-06-S49M0.8-1.211.3	96.15	97.33	139	3199	bdl	238	121	99	1166	727	2832
EGB-06-S49M0.8-1.212.1	97.93	98.63	bdl	979	bdl	461	bdl	bdl	1256	187	2119
EGB-06-S49M0.8-1.212.2	98.24	98.92	bdl	943	bdl	521	bdl	bdl	1180	161	2049
EGB-06-S49M0.8-1.212.3	99.28	99.98	bdl	1006	bdl	515	65	bdl	1071	154	2257
EGB-06-S49M0.8-1.213.1	97.7	99.22	415	4523	bdl	281	145	98	1232	751	3524
EGB-06-S49M0.8-1.213.2	98.02	99.54	362	4544	bdl	236	166	102	1253	722	3548
EGB-06-S49M0.8-1.213.3	97.9	99.39	330	4421	bdl	412	138	133	1196	717	3440
EGB-06-S49M0.8-1.214	96.71	97.82	bdl	1327	bdl	839	74	bdl	848	bdl	5105
EGB-06-S49M0.8-1.215	98.04	99.15	bdl	2812	bdl	187	bdl	177	1159	685	2899
EGB-06-S49M0.8-1.216	98.95	99.88	186	1881	bdl	221	508	bdl	1667	370	1852
EGB-06-S49M0.8-1.217	99.45	101.13	bdl	1742	bdl	854	bdl	bdl	869	103	9058
EGB-06-S49M0.8-1.218	96.75	97.63	bdl	979	bdl	636	115	102	1357	458	2748
EGB-06-S49M0.8-1.219	98.19	99.03	bdl	584	bdl	380	bdl	bdl	992	2340	1565
EGB-06-S49M0.8-1.220	97.09	98.09	128	948	bdl	204	bdl	70	872	2289	2598
EGB-06-S49M0.8-1.221	97.29	98.01	136	749	bdl	312	146	83	1814	827	987
EGB-06-S49M0.8-1.224	99.7	100.41	bdl	822	bdl	478	bdl	86	1140	200	2403
EGB-06-S49M0.8-1.225	97.6	98.37	bdl	1546	bdl	210	61	191	909	207	2394
EGB-06-S49M0.8-1.226	100.26	101.05	bdl	735	bdl	1139	bdl	bdl	1229	649	1893
EGB-06-S49M0.8-1.227	99.84	100.64	bdl	1133	bdl	763	bdl	bdl	1240	269	2267
EGB-06-S49M0.8-1.228	99.45	100.28	255	1834	bdl	224	173	264	1050	580	1488
EGB-06-S49M0.8-1.229	99.37	100.43	bdl	932	bdl	846	108	bdl	972	128	4881
EGB-06-S49M0.8-1.230	97.46	98.28	bdl	1429	bdl	91	71	98	1210	112	2908
EGB-06-S49M0.8-1.231	96.42	97.61	110	345	1561	581	103	497	2860	592	756
EGB-06-S49M0.8-1.232	98.35	99.51	bdl	1318	bdl	1075	bdl	134	1472	194	4341
EGB-06-S49M0.8-1.233	100.15	101.29	bdl	3599	bdl	302	63	366	754	490	2407
EGB-06-S49M0.8-1.234	98.62	99.38	bdl	566	bdl	1372	bdl	91	1446	493	1470
EGB-06-S49M0.8-1.235	98.99	99.59	bdl	161	bdl	238	63	248	1580	741	1055
EGB-06-S49NM1.21.1	97.71	98.7	148	1675	bdl	844	205	123	1858	164	2107
EGB-06-S49NM1.21.2	97.96	98.95	106	1641	bdl	752	200	154	1905	164	2194
EGB-06-S49NM1.21.3	98.27	99.27	128	1559	bdl	882	192	144	1864	190	2254
EGB-06-S49NM1.21.4	98.32	99.27	bdl	1534	bdl	888	195	130	1836	133	2110
EGB-06-S49NM1.22.1	97.96	99.04	91	1350	bdl	1962	88	249	1185	724	2152
EGB-06-S49NM1.22.2	97.69	98.76	bdl	1300	bdl	1855	bdl	235	1233	759	2148
EGB-06-S49NM1.22.3	97.65	98.7	bdl	1411	bdl	1934	84	198	1289	694	1963
EGB-06-S49NM1.23.1	100.87	101.62	bdl	605	bdl	1455	bdl	127	1406	80	1709
EGB-06-S49NM1.23.2	100.39	101.13	bdl	558	bdl	1512	bdl	119	1410	112	1545
EGB-06-S49NM1.23.3	99.8	100.52	bdl	491	bdl	1475	bdl	106	1403	122	1600
EGB-06-S49NM1.24.1	96.8	97.77	bdl	1618	bdl	681	176	414	1328	69	2656

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…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S49NM1.24.2	96.96	97.92	bdl	1605	bdl	687	159	438	1347	57	2565
EGB-06-S49NM1.24.3	96.9	97.88	bdl	1675	bdl	697	150	550	1418	63	2434
EGB-06-S49NM1.25.1	99.91	101.09	bdl	912	bdl	800	123	bdl	769	129	6124
EGB-06-S49NM1.25.2	99.89	101.04	bdl	842	bdl	776	124	79	753	133	5958
EGB-06-S49NM1.25.3	99.37	100.52	bdl	1007	bdl	695	142	bdl	766	131	5910
EGB-06-S49NM1.26.1	100.4	101.13	bdl	714	bdl	442	127	108	1698	1118	845
EGB-06-S49NM1.26.2	100.27	100.99	bdl	736	bdl	437	147	95	1737	1030	888
EGB-06-S49NM1.26.3	100.22	100.97	bdl	938	bdl	491	146	bdl	1708	1009	983
EGB-06-S49NM1.29.1	99.42	100.31	bdl	1481	bdl	825	138	bdl	1184	509	2275
EGB-06-S49NM1.29.2	99.8	100.68	bdl	1399	bdl	849	150	93	1139	511	2274
EGB-06-S49NM1.29.3	100.1	101.01	bdl	1463	bdl	901	142	bdl	1200	523	2319
EGB-06-S49NM1.210.1	96.5	97.6	bdl	2500	bdl	483	100	94	1788	596	2306
EGB-06-S49NM1.210.2	96.84	98.06	bdl	2971	bdl	405	110	104	1829	680	2630
EGB-06-S49NM1.210.3	97.22	98.34	bdl	2642	bdl	446	103	62	1720	662	2424
EGB-06-S49NM1.212.1	99.98	100.78	bdl	549	bdl	402	bdl	bdl	945	1977	1767
EGB-06-S49NM1.212.2	99.98	100.78	bdl	589	bdl	428	bdl	bdl	943	1962	1753
EGB-06-S49NM1.212.3	99.5	100.29	bdl	603	bdl	432	bdl	bdl	930	1944	1686
EGB-06-S49NM1.213.1	97.09	98.29	bdl	2205	bdl	841	bdl	145	2324	151	2868
EGB-06-S49NM1.213.2	97.22	98.41	bdl	2196	bdl	737	bdl	147	2313	151	2975
EGB-06-S49NM1.213.3	97.11	98.28	bdl	2143	bdl	744	bdl	121	2358	160	2816
EGB-06-S49NM1.214	97.55	98.8	bdl	3526	bdl	186	96	179	1829	793	2316
EGB-06-S49NM1.216	96.84	98.81	bdl	2206	bdl	1977	185	90	2794	495	6720
EGB-06-S49NM1.217	97.64	98.61	bdl	1728	bdl	1111	bdl	119	1192	57	2866
EGB-06-S49NM1.218	100.36	100.98	bdl	689	bdl	363	bdl	160	1034	610	1523
EGB-06-S49NM1.219	97.18	97.92	bdl	1318	bdl	281	237	365	1405	335	1213
EGB-06-S49NM1.220	99.1	99.99	bdl	782	bdl	1088	bdl	62	1431	822	2154
EGB-06-S49NM1.222	98.54	99.27	bdl	870	bdl	823	bdl	60	1113	276	2155
EGB-06-S49NM1.224	98.39	99.65	bdl	3026	bdl	1061	bdl	bdl	1252	276	3499
EGB-06-S49NM1.225	97.87	99.19	bdl	2014	bdl	782	bdl	bdl	941	144	5775
EGB-06-S49NM1.226	99.7	100.63	bdl	2001	bdl	227	430	226	713	450	2636
EGB-06-S49NM1.227	96.82	97.95	bdl	2365	bdl	1022	180	242	1457	335	2529
EGB-06-S49NM1.228	99.05	100.02	bdl	2362	bdl	612	105	242	1072	779	1724
EGB-06-S49NM1.229	96.9	97.94	bdl	1689	bdl	157	813	210	1204	525	2990
EGB-06-S49NM1.230	96.99	97.87	bdl	1146	bdl	1190	91	94	870	245	2819
EGB-06-S49NM1.231	97.75	100.07	bdl	3224	bdl	6927	506	297	2769	1137	1790
EGB-06-S49NM1.232	98.95	99.9	bdl	2129	bdl	156	104	165	819	546	2927
EGB-06-S49NM1.233	99.93	100.91	bdl	2506	bdl	236	82	129	1070	581	2408
EGB-06-S49NM1.234	99.94	100.81	bdl	1822	bdl	171	167	165	1024	573	2271
EGB-06-S49NM1.235	96.51	97.32	128	1356	bdl	50	90	83	1238	356	2532
EGB-06-S50M0.9-1.2_1.1	100.81	101.46	bdl	96	95	228	62	bdl	1794	1063	1118
EGB-06-S50M0.9-1.2_1.2	100.01	100.64	bdl	bdl	bdl	216	86	bdl	1784	1071	1135
EGB-06-S50M0.9-1.2_1.3	98.68	99.33	bdl	107	bdl	285	104	bdl	1742	1030	1200
EGB-06-S50M0.9-1.2_2.1	100.08	101.06	bdl	1427	bdl	1025	81	bdl	1188	563	2623
EGB-06-S50M0.9-1.2_2.2	100.4	101.28	bdl	1250	bdl	1009	125	bdl	1136	609	2175
EGB-06-S50M0.9-1.2_2.3	99.78	100.62	bdl	1137	bdl	1016	122	68	1160	567	2071
EGB-06-S50M0.9-1.2_3.1	99.24	100.18	163	1997	bdl	244	255	80	1007	587	2345
EGB-06-S50M0.9-1.2_3.2	99.58	100.5	234	1799	146	161	295	85	923	602	2374
EGB-06-S50M0.9-1.2_3.3	99.85	100.78	238	1896	75	187	295	bdl	975	587	2428
EGB-06-S50M0.9-1.2_4.2	94.34	99.48	17445	2661	bdl	328	3806	310	1160	2943	10649
EGB-06-S50M0.9-1.2_4.3	90.72	96.62	20062	2590	bdl	352	3938	542	1139	3440	13137
EGB-06-S50M0.9-1.2_5.1	98.1	98.82	bdl	197	73	315	bdl	73	2217	798	1297
EGB-06-S50M0.9-1.2_5.2	98.08	98.82	bdl	182	bdl	369	66	79	2221	807	1400
EGB-06-S50M0.9-1.2_5.3	98.84	99.57	bdl	120	bdl	362	63	76	2121	798	1572
EGB-06-S50M0.9-1.2_7.1	98.77	99.33	bdl	120	bdl	631	bdl	194	1156	692	1036
EGB-06-S50M0.9-1.2_7.2	99.23	99.78	bdl	87	bdl	576	bdl	200	1193	717	1063
EGB-06-S50M0.9-1.2_7.3	99.13	99.7	bdl	79	74	589	bdl	206	1166	685	1134
EGB-06-S50M0.9-1.2_8.1	98.1	98.73	124	501	bdl	182	623	68	1355	bdl	1688
EGB-06-S50M0.9-1.2_8.2	97.11	97.73	bdl	486	bdl	172	658	bdl	1377	bdl	1674
EGB-06-S50M0.9-1.2_8.3	96.93	97.62	153	415	89	225	652	116	1541	bdl	1749

continued on next page…

. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S50M0.9-1.2_9.1	98.09	99.44	167	3641	bdl	592	195	331	971	307	3458
EGB-06-S50M0.9-1.2_9.2	97.79	99.09	213	3693	bdl	609	180	338	869	283	3203
EGB-06-S50M0.9-1.2_9.3	97.66	99	209	3991	bdl	542	180	331	951	303	3169
EGB-06-S50M0.9-1.2_10.1	99.95	100.88	315	1759	bdl	187	190	179	994	592	2504
EGB-06-S50M0.9-1.2_10.2	100.32	101.25	321	1849	bdl	189	135	151	968	564	2543
EGB-06-S50M0.9-1.2_10.3	100.09	101.04	374	1829	bdl	190	142	154	997	563	2608
EGB-06-S50M0.9-1.2_11.1	98.54	99.5	bdl	1007	bdl	939	bdl	97	1229	53	3749
EGB-06-S50M0.9-1.2_11.2	98.41	99.35	bdl	974	bdl	871	bdl	91	1233	bdl	3707
EGB-06-S50M0.9-1.2_11.3	98.21	99.17	bdl	1056	bdl	831	bdl	115	1253	73	3785
EGB-06-S50M0.9-1.2_12	100.46	101.17	bdl	709	bdl	643	bdl	123	775	476	2286
EGB-06-S50M0.9-1.2_15	101.13	101.64	bdl	194	bdl	208	bdl	127	1376	108	1541
EGB-06-S50M0.9-1.2_16	97.45	98.38	bdl	454	bdl	376	bdl	79	1132	3518	795
EGB-06-S50M0.9-1.2_18	97.3	98.02	bdl	1088	bdl	638	bdl	140	1283	111	1786
EGB-06-S50M0.9-1.2_19	99.31	100.54	85	3263	bdl	952	200	194	884	238	3039
EGB-06-S50M0.9-1.2_20	101.8	102.45	bdl	675	bdl	330	bdl	bdl	476	1426	1733
EGB-06-S50M0.9-1.2_21	98.71	99.3	bdl	612	bdl	405	bdl	85	902	699	1531
EGB-06-S50M0.9-1.2_22	98.3	98.97	bdl	bdl	bdl	269	bdl	217	2372	931	754
EGB-06-S50M0.9-1.2_24	100.86	101.6	bdl	1131	bdl	654	65	bdl	394	806	2400
EGB-06-S50M0.9-1.2_25	97.45	98.26	bdl	1026	bdl	907	65	bdl	1101	201	2630
EGB-06-S50M0.9-1.2_26	98.03	99.2	366	3208	bdl	176	110	98	1038	564	2912
EGB-06-S50M0.9-1.2_28	100.09	100.57	bdl	95	bdl	438	bdl	bdl	1422	827	437
EGB-06-S50M0.9-1.2_29	98.16	99.41	bdl	2162	bdl	1529	bdl	249	931	120	4139
EGB-06-S50M0.9-1.2_31	99.56	100.74	254	3358	bdl	214	174	242	1506	365	2197
EGB-06-S50M0.9-1.2_32	100.27	100.92	bdl	167	bdl	575	65	bdl	1727	558	1552
EGB-06-S50M0.9-1.2_34	100.76	101.65	bdl	1660	bdl	759	bdl	195	1003	116	2763
EGB-06-S50M0.9-1.2_36	99.88	100.94	bdl	1989	bdl	246	785	bdl	1961	740	1764
EGB-06-S50M0.9-1.2_37	100.88	101.83	421	2174	bdl	210	131	216	920	418	2260
EGB-06-S50M0.9-1.2_38	101.2	101.77	bdl	116	bdl	232	bdl	98	1305	884	1300
EGB-06-S50M0.9-1.2_39	100.41	101.27	bdl	1162	bdl	855	bdl	64	836	75	3339
EGB-06-S50M1.2-1.6_1.1	97.97	99.08	225	2846	bdl	156	97	364	1220	527	2477
EGB-06-S50M1.2-1.6_1.2	98.86	99.91	240	2506	bdl	154	95	329	1258	533	2373
EGB-06-S50M1.2-1.6_1.3	98.58	99.61	301	2352	bdl	195	132	305	1238	536	2290
EGB-06-S50M1.2-1.6_2.1	100.26	101	bdl	998	bdl	627	bdl	bdl	897	144	2707
EGB-06-S50M1.2-1.6_2.2	100.76	101.54	bdl	999	bdl	615	89	bdl	901	160	2883
EGB-06-S50M1.2-1.6_2.3	100.69	101.42	bdl	883	bdl	591	86	bdl	853	165	2802
EGB-06-S50M1.2-1.6_3.1	98.56	99.3	bdl	597	bdl	381	83	bdl	884	1537	1794
EGB-06-S50M1.2-1.6_3.2	99.63	100.39	bdl	643	bdl	392	bdl	bdl	873	1605	1834
EGB-06-S50M1.2-1.6_3.3	98.63	99.41	bdl	670	bdl	432	76	bdl	907	1590	1873
EGB-06-S50M1.2-1.6_4.1	99.71	100.79	bdl	312	bdl	355	bdl	bdl	1218	4580	1042
EGB-06-S50M1.2-1.6_4.2	100.02	101.08	bdl	329	bdl	339	bdl	bdl	1166	4564	979
EGB-06-S50M1.2-1.6_4.3	99.22	100.29	bdl	395	bdl	363	bdl	bdl	1230	4555	885
EGB-06-S50M1.2-1.6_5.1	96.72	98.74	246	7086	bdl	707	241	242	910	155	5082
EGB-06-S50M1.2-1.6_5.2	97.43	99.74	204	8649	bdl	550	253	277	910	151	5655
EGB-06-S50M1.2-1.6_5.3	96.09	98.78	220	10486	bdl	436	286	312	1060	166	6327
EGB-06-S50M1.2-1.6_6.1	100.36	101.23	128	1981	bdl	178	135	233	1050	463	1995
EGB-06-S50M1.2-1.6_6.2	100.91	101.8	143	2051	bdl	196	109	197	1065	446	2057
EGB-06-S50M1.2-1.6_6.3	100.21	101.16	95	2425	bdl	187	100	103	1122	466	2285
EGB-06-S50M1.2-1.6_7.1	100.49	101.2	bdl	534	bdl	371	bdl	bdl	420	1692	2040
EGB-06-S50M1.2-1.6_7.2	99.74	100.45	bdl	481	bdl	312	bdl	bdl	436	1680	2094
EGB-06-S50M1.2-1.6_7.3	100.04	100.76	bdl	674	bdl	355	bdl	bdl	423	1636	2079
EGB-06-S50M1.2-1.6_8.1	97.41	99	340	4640	bdl	497	136	474	1228	315	3746
EGB-06-S50M1.2-1.6_8.2	97.58	99.13	274	4460	bdl	561	133	439	1215	346	3658
EGB-06-S50M1.2-1.6_8.3	97.44	98.93	246	4261	bdl	571	143	383	1156	356	3573
EGB-06-S50M1.2-1.6_9.1	100.58	101.11	bdl	584	bdl	138	120	94	430	237	2215
EGB-06-S50M1.2-1.6_9.2	101.05	101.59	bdl	563	bdl	111	161	97	472	188	2303
EGB-06-S50M1.2-1.6_9.3	100.77	101.28	bdl	547	bdl	144	137	62	437	356	2051
EGB-06-S50M1.2-1.6_10.2	100.89	101.86	293	2260	bdl	195	198	273	827	693	2160
EGB-06-S50M1.2-1.6_10.3	100.38	101.41	274	2477	bdl	192	207	255	871	680	2332
EGB-06-S50M1.2-1.6_11	96.91	97.82	181	2096	bdl	180	132	167	1417	477	1819

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…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S50M1.2-1.6_12	99.38	100.32	183	2513	bdl	175	122	84	706	419	2622
EGB-06-S50M1.2-1.6_14	97.32	100.89	3638	1164	bdl	73	12997	bdl	5803	902	2264
EGB-06-S50M1.2-1.6_15	101.21	102.24	bdl	2054	bdl	709	bdl	112	1542	989	1841
EGB-06-S50M1.2-1.6_16	98.22	99.19	90	2247	bdl	134	83	192	1024	446	2784
EGB-06-S50M1.2-1.6_17	101.25	102.15	516	1845	bdl	150	121	106	958	653	2189
EGB-06-S50M1.2-1.6_18	98.65	99.4	181	505	bdl	382	85	135	1842	481	1792
EGB-06-S50M1.2-1.6_19	101.97	102.49	bdl	bdl	bdl	264	bdl	84	1790	798	641
EGB-06-S50M1.2-1.6_20	97.13	98.28	bdl	1960	bdl	808	bdl	bdl	1531	101	3971
EGB-06-S50M1.2-1.6_21	97.95	98.68	bdl	486	bdl	550	bdl	bdl	1037	1809	1220
EGB-06-S50M1.2-1.6_22	100.53	101.55	bdl	1712	bdl	842	bdl	111	1376	153	3207
EGB-06-S50M1.2-1.6_23	96.8	98.03	bdl	1625	bdl	964	bdl	bdl	1437	bdl	4993
EGB-06-S50M1.2-1.6_24	100.14	102.1	1415	5151	bdl	881	785	390	370	284	5121
EGB-06-S50M1.2-1.6_25	99.57	100.62	bdl	1620	bdl	989	bdl	105	1292	118	3485
EGB-06-S50M1.2-1.6_26	99.41	100.51	bdl	881	bdl	916	bdl	bdl	1748	bdl	4449
EGB-06-S50M1.2-1.6_27	98.39	99.44	504	2468	bdl	143	543	bdl	706	427	2907
EGB-06-S50M1.2-1.6_28	97.55	98.53	96	2126	bdl	157	85	123	958	446	3079
EGB-06-S50M1.2-1.6_29	98.69	99.5	bdl	1539	bdl	774	bdl	192	1512	430	1232
EGB-06-S50M1.2-1.6_30	101.56	102.16	376	268	bdl	133	259	bdl	913	361	2124
EGB-06-S50M1.2-1.6_31	98.59	99.64	bdl	1042	bdl	795	bdl	bdl	2280	73	3354
EGB-06-S50M1.6-1.75_1.1	98.33	99.44	277	2785	bdl	169	248	146	759	279	3427
EGB-06-S50M1.6-1.75_1.2	98.25	99.31	391	2433	bdl	171	226	128	762	270	3433
EGB-06-S50M1.6-1.75_1.3	96.39	98.69	411	8296	bdl	173	191	143	1286	313	5807
EGB-06-S50M1.6-1.75_2.1	100.24	101.15	99	2133	bdl	156	75	bdl	1073	657	2346
EGB-06-S50M1.6-1.75_2.2	99.91	100.81	132	2117	bdl	135	92	bdl	1052	606	2400
EGB-06-S50M1.6-1.75_2.3	99.39	100.32	124	2290	bdl	152	83	bdl	1054	637	2323
EGB-06-S50M1.6-1.75_3.1	98.66	99.74	bdl	2080	bdl	861	134	144	693	443	3552
EGB-06-S50M1.6-1.75_3.2	98.82	99.9	bdl	2122	bdl	833	106	143	665	393	3478
EGB-06-S50M1.6-1.75_3.3	99.27	100.32	bdl	2048	bdl	831	139	161	656	411	3309
EGB-06-S50M1.6-1.75_4.2	97.63	98.44	239	1657	bdl	219	164	162	1256	369	1659
EGB-06-S50M1.6-1.75_4.3	98.35	99.15	170	1610	bdl	224	167	174	1301	369	1747
EGB-06-S50M1.6-1.75_5.1	96.91	98.04	90	2572	bdl	619	202	bdl	1304	523	2855
EGB-06-S50M1.6-1.75_5.2	97.49	98.63	bdl	2747	bdl	630	191	bdl	1285	434	2920
EGB-06-S50M1.6-1.75_5.3	96.87	97.97	bdl	2518	bdl	589	196	bdl	1327	389	2874
EGB-06-S50M1.6-1.75_7.1	98.43	99.48	bdl	1563	bdl	973	bdl	bdl	1322	129	3690
EGB-06-S50M1.6-1.75_7.2	98.6	99.66	bdl	1567	bdl	1006	bdl	62	1272	133	3722
EGB-06-S50M1.6-1.75_7.3	98.6	99.98	bdl	1650	bdl	1005	bdl	68	1346	125	6034
EGB-06-S50M1.6-1.75_8.1	97.74	98.74	174	1806	bdl	137	148	154	1269	577	2889
EGB-06-S50M1.6-1.75_8.2	97.04	98.07	266	1746	bdl	116	151	106	1269	580	3234
EGB-06-S50M1.6-1.75_8.3	97.33	98.33	197	1753	bdl	130	140	bdl	1311	555	3178
EGB-06-S50M1.6-1.75_9.1	100.32	101.4	163	2791	bdl	219	106	105	1124	566	2716
EGB-06-S50M1.6-1.75_9.2	100.6	101.57	214	2188	bdl	206	157	97	1102	549	2543
EGB-06-S50M1.6-1.75_9.3	99.61	100.55	193	1977	bdl	236	157	109	1056	538	2583
EGB-06-S50M1.6-1.75_11.1	99.23	100.25	282	2461	bdl	216	130	122	1043	527	2643
EGB-06-S50M1.6-1.75_11.2	98.72	99.71	266	2365	bdl	221	89	118	1045	531	2564
EGB-06-S50M1.6-1.75_11.3	98.74	99.81	335	2684	bdl	220	119	124	1054	530	2653
EGB-06-S50M1.6-1.75_12.1	97.62	98.58	315	2291	bdl	192	232	191	1137	410	2113
EGB-06-S50M1.6-1.75_12.2	98.08	99.08	281	2331	bdl	236	211	75	1228	421	2406
EGB-06-S50M1.6-1.75_12.3	97.36	98.38	186	2482	bdl	215	175	165	1246	426	2459
EGB-06-S50M1.6-1.75_23	98.94	99.88	bdl	1106	bdl	1123	bdl	70	1126	222	3242
EGB-06-S50M1.6-1.75_24	98.3	99.25	311	1826	bdl	110	151	bdl	1511	794	2100
EGB-06-S50M1.6-1.75_25	98.75	100.07	1404	1308	bdl	402	232	bdl	3537	903	1665
EGB-06-S50M1.6-1.75_26	100.92	101.83	224	2178	bdl	309	110	125	1018	389	2259
EGB-06-S50M1.6-1.75_27	99.31	100.26	138	1960	bdl	174	94	bdl	1388	603	2418
EGB-06-S50M1.6-1.75_29	99.83	100.89	316	2537	78	219	126	85	1268	855	2040
EGB-06-S50M1.6-1.75_30	98.46	99.56	132	2605	bdl	311	210	60	1293	528	2829
EGB-06-S50M1.6-1.75_31	98.71	99.76	459	1818	bdl	164	198	bdl	2354	670	1845
EGB-06-S50M1.6-1.75_32	100.92	101.87	251	1446	bdl	155	594	135	1496	193	2655
EGB-06-S50M1.6-1.75_33	97.97	99.1	bdl	1770	bdl	847	69	92	1121	451	3974
EGB-06-S50NM1.75_1.1	101.17	101.99	224	1831	bdl	238	302	392	695	590	1519

continued on next page…

. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S50NM1.75_1.2	100.48	101.32	244	1951	bdl	224	255	381	739	593	1506
EGB-06-S50NM1.75_1.3	101.06	101.92	299	2103	bdl	296	228	393	686	589	1468
EGB-06-S50NM1.75_2.1	99.77	100.56	110	1955	bdl	220	99	302	712	753	1432
EGB-06-S50NM1.75_2.2	100.12	100.94	114	2008	bdl	209	78	296	702	770	1520
EGB-06-S50NM1.75_2.3	100.64	101.47	134	2095	bdl	210	106	345	712	753	1485
EGB-06-S50NM1.75_3.1	98.51	99.43	238	1764	bdl	172	142	145	1050	896	2222
EGB-06-S50NM1.75_3.2	98.27	99.2	209	1811	bdl	169	131	153	1081	870	2278
EGB-06-S50NM1.75_3.3	97.88	98.82	218	1832	bdl	150	157	130	1072	869	2318
EGB-06-S50NM1.75_4.1	100.55	101.59	301	2583	bdl	212	406	415	640	461	2408
EGB-06-S50NM1.75_4.2	100.02	101.07	380	2732	bdl	190	375	409	623	465	2401
EGB-06-S50NM1.75_4.3	99.72	100.8	358	2942	bdl	215	403	421	663	445	2280
EGB-06-S50NM1.75_5.1	100.75	101.47	175	844	bdl	1479	bdl	190	612	327	1555
EGB-06-S50NM1.75_5.2	101.22	101.97	185	879	bdl	1506	bdl	141	613	333	1750
EGB-06-S50NM1.75_5.3	100.92	101.69	193	898	bdl	1584	bdl	bdl	604	330	1930
EGB-06-S50NM1.75_7.1	99.84	100.45	bdl	233	bdl	404	119	bdl	1410	413	1775
EGB-06-S50NM1.75_7.2	99.46	100.06	bdl	235	bdl	383	bdl	61	1376	387	1763
EGB-06-S50NM1.75_7.3	100.06	100.74	128	287	bdl	400	103	bdl	1319	413	2242
EGB-06-S50NM1.75_8.1	97.45	98.29	bdl	1103	bdl	749	bdl	110	1079	482	2499
EGB-06-S50NM1.75_8.2	97.29	98.15	bdl	1184	bdl	768	bdl	139	1135	460	2563
EGB-06-S50NM1.75_8.3	97.16	98.02	bdl	1169	bdl	748	bdl	130	1102	478	2559
EGB-06-S50NM1.75_10.1	100.11	101.27	519	1707	bdl	102	2652	195	955	376	2080
EGB-06-S50NM1.75_10.2	99.57	100.75	439	1732	bdl	88	2559	130	1024	385	2397
EGB-06-S50NM1.75_10.3	99.53	100.72	505	1734	bdl	138	2450	116	983	404	2454
EGB-06-S50NM1.75_15.1	98.02	98.99	88	2526	bdl	176	79	231	964	609	2229
EGB-06-S50NM1.75_15.2	98.32	99.55	116	3887	bdl	182	bdl	265	1081	661	2459
EGB-06-S50NM1.75_15.3	99.13	100.15	170	2675	bdl	170	71	208	1040	557	2355
EGB-06-S50NM1.75_17.1	100.42	101.45	bdl	2136	bdl	984	bdl	103	1245	285	2578
EGB-06-S50NM1.75_17.2	101.12	102.14	bdl	2209	bdl	999	109	119	1192	263	2530
EGB-06-S50NM1.75_17.3	100.67	101.67	bdl	2185	bdl	899	bdl	85	1179	283	2573
EGB-06-S50NM1.75_18	96.76	97.98	187	3306	bdl	706	152	175	813	251	3248
EGB-06-S50NM1.75_19	100.34	101.24	bdl	2126	bdl	110	bdl	70	730	785	2550
EGB-06-S50NM1.75_20	98.29	99.27	bdl	2667	bdl	260	72	91	1616	361	1819
EGB-06-S50NM1.75_21	99.43	100.62	230	3058	bdl	542	185	165	1003	365	3056
EGB-06-S50NM1.75_24	100.73	101.54	bdl	1138	bdl	949	142	bdl	1355	954	1221
EGB-06-S50NM1.75_25	99.99	100.87	207	1814	bdl	153	153	82	1351	509	2023
EGB-06-S50NM1.75_27	98.54	99.43	150	1761	bdl	232	141	353	1347	441	1890
EGB-06-S50NM1.75_28	97.65	98.42	bdl	1028	bdl	284	bdl	115	1073	688	2327
EGB-06-S50NM1.75_29	100.09	101	174	2092	bdl	208	78	282	778	422	2550
EGB-06-S50NM1.75_30	98.42	99.03	bdl	189	bdl	519	bdl	191	1413	661	1223
EGB-06-S50NM1.75_31	98.05	98.99	234	2254	bdl	164	117	341	840	831	1848
EGB-06-S50NM1.75_32	97.16	98.19	bdl	2013	bdl	247	309	66	1951	681	2114
EGB-06-S50NM1.75_33	98.81	99.69	185	1963	95	220	88	175	951	412	2124
EGB-06-S50NM1.75_34	99.76	100.71	260	1771	bdl	153	240	205	1154	723	2368
EGB-06-S50NM1.75_35	97.57	98.62	138	2401	76	414	111	bdl	1729	256	2362
EGB-06-S50NM1.75_37	98.84	99.8	212	1727	bdl	210	169	314	1353	603	2243
EGB-06-S50NM1.75_38	98.39	99.21	143	740	bdl	503	187	215	1818	162	2061
EGB-06-S50NM1.75_39	100.45	101.26	bdl	1941	bdl	130	bdl	113	704	712	2116
EGB-06-S50NM1.75_40	98.08	99.35	bdl	2421	bdl	971	132	374	1325	159	3729
EGB-06-S50NM1.75_41	100.31	101.35	218	2200	bdl	208	239	bdl	2183	628	1702
EGB-06-S51M0.4-1.8_1.1	101.25	102.04	bdl	1338	bdl	559	83	97	859	518	2264
EGB-06-S51M0.4-1.8_1.2	100.49	101.27	bdl	1320	bdl	569	80	75	836	521	2262
EGB-06-S51M0.4-1.8_1.3	100.7	101.48	bdl	1304	bdl	557	bdl	77	819	465	2352
EGB-06-S51M0.4-1.8_2.1	98.1	99.33	bdl	1417	bdl	675	124	201	783	179	5793
EGB-06-S51M0.4-1.8_2.2	97.59	98.93	bdl	1452	bdl	672	132	82	764	155	6725
EGB-06-S51M0.4-1.8_2.3	97.01	98.6	bdl	1479	bdl	632	83	108	793	137	8651
EGB-06-S51M0.4-1.8_3.1	98.71	99.77	bdl	1929	bdl	750	bdl	186	1344	78	3424
EGB-06-S51M0.4-1.8_3.2	98.74	99.81	bdl	1871	bdl	809	bdl	215	1368	103	3366
EGB-06-S51M0.4-1.8_3.3	98.49	99.57	bdl	1923	bdl	776	bdl	209	1386	104	3402
EGB-06-S51M0.4-1.8_4.1	96.98	98.65	706	3506	72	592	409	991	631	177	4822

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…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S51M0.4-1.8_4.2	96.78	98.36	647	3585	bdl	613	398	843	682	184	4315
EGB-06-S51M0.4-1.8_4.3	95.63	97.26	641	3706	162	539	397	855	773	187	4341
EGB-06-S51M0.4-1.8_6.1	98.28	99.13	bdl	1152	bdl	210	bdl	bdl	883	950	2871
EGB-06-S51M0.4-1.8_6.2	97.73	98.56	bdl	1115	bdl	186	63	83	912	925	2745
EGB-06-S51M0.4-1.8_6.3	97.17	98.05	bdl	1427	bdl	234	bdl	bdl	1019	1018	2592
EGB-06-S51M0.4-1.8_7.1	97.31	98.12	bdl	653	bdl	974	117	162	1253	266	2448
EGB-06-S51M0.4-1.8_7.2	97.79	98.6	bdl	694	bdl	940	139	115	1255	278	2470
EGB-06-S51M0.4-1.8_7.3	97.62	98.41	bdl	635	bdl	861	93	128	1275	298	2484
EGB-06-S51M0.4-1.8_9.1	97.15	98.22	203	2304	bdl	201	129	147	1197	568	3000
EGB-06-S51M0.4-1.8_9.2	96.71	97.94	236	2936	bdl	207	153	185	1279	631	3186
EGB-06-S51M0.4-1.8_9.3	96.99	98.07	303	2229	bdl	218	86	156	1224	568	3016
EGB-06-S51M0.4-1.8_10.1	97.42	99.19	88	5750	bdl	623	154	364	903	249	4632
EGB-06-S51M0.4-1.8_10.2	97.02	98.78	149	5555	bdl	620	130	341	1018	276	4586
EGB-06-S51M0.4-1.8_10.3	97.2	98.94	138	5548	bdl	598	190	239	1019	296	4501
EGB-06-S51M0.4-1.8_11.1	96.92	98.58	289	4967	bdl	887	306	506	735	170	4066
EGB-06-S51M0.4-1.8_11.2	96.43	98.02	315	4776	bdl	794	263	459	719	131	3964
EGB-06-S51M0.4-1.8_11.3	96	97.66	226	5467	bdl	677	286	413	736	141	3959
EGB-06-S51M0.4-1.8_15.1	98.02	98.7	bdl	170	bdl	721	78	82	1731	816	1171
EGB-06-S51M0.4-1.8_15.2	98.02	98.7	bdl	137	bdl	694	87	79	1773	809	1161
EGB-06-S51M0.4-1.8_15.3	98.13	98.79	bdl	136	bdl	658	72	114	1725	819	1140
EGB-06-S51M0.4-1.8_15.4	98.12	98.77	bdl	154	bdl	614	63	98	1712	809	1117
EGB-06-S51M0.4-1.8_16	98.3	99.31	bdl	1957	bdl	757	bdl	156	848	476	3071
EGB-06-S51M0.4-1.8_17	98.42	99.46	159	2329	bdl	259	94	186	1163	859	2358
EGB-06-S51M0.4-1.8_18	97.3	98.52	576	2182	bdl	227	1540	267	810	350	2993
EGB-06-S51M0.4-1.8_19	100.03	100.56	bdl	214	bdl	597	62	141	1693	575	378
EGB-06-S51M0.4-1.8_20	96.35	98.65	377	7804	bdl	793	339	443	709	163	6019
EGB-06-S51M0.4-1.8_21	100.2	100.82	bdl	633	bdl	383	bdl	bdl	436	1081	1912
EGB-06-S51M0.4-1.8_23	98.25	99.27	bdl	1430	bdl	1334	bdl	106	1740	147	2587
EGB-06-S51M0.4-1.8_24	100.72	101.21	bdl	182	bdl	210	bdl	356	1565	107	941
EGB-06-S51M0.4-1.8_25	98.35	99.23	83	1853	bdl	163	92	148	959	426	2659
EGB-06-S51M0.4-1.8_26	98.59	99.51	307	1906	bdl	105	547	193	836	352	2451
EGB-06-S51M0.4-1.8_27	100.21	101.05	bdl	884	bdl	272	bdl	bdl	273	2742	1752
EGB-06-S51M0.4-1.8_28	99.92	101.16	517	1893	bdl	107	2451	149	874	493	2684
EGB-06-S51M0.4-1.8_29	99.56	100.39	bdl	203	bdl	bdl	365	bdl	924	500	4086
EGB-06-S51M0.4-1.8_30	100.63	101.49	bdl	1309	bdl	1232	bdl	189	708	80	2695
EGB-06-S51M0.4-1.8_31	98.89	100.17	105	3255	bdl	264	100	175	1540	436	3276
EGB-06-S51M0.4-1.8_33	99.4	100.39	bdl	1418	bdl	810	bdl	73	972	699	3184
EGB-06-S51M0.4-1.8_34	98.5	99.52	239	2468	bdl	bdl	73	138	1206	385	2850
EGB-06-S51M0.4-1.8_35	97.3	98.74	1111	2105	bdl	121	2186	209	525	389	4082
EGB-06-S51M0.4-1.8_36	100.02	100.86	195	1860	bdl	266	129	324	819	562	1832
EGB-06-S51M0.4-1.8_37	97.88	98.86	bdl	957	bdl	844	bdl	bdl	1166	235	4016
EGB-06-S51NM1.8_3.1	98.14	99.01	234	1753	bdl	124	180	350	1109	664	1687
EGB-06-S51NM1.8_3.2	97.7	98.56	225	1734	bdl	149	150	365	1169	609	1632
EGB-06-S51NM1.8_3.3	98.23	99.07	193	1900	bdl	173	103	297	1192	499	1549
EGB-06-S51NM1.8_4.1	100.36	101.07	126	1331	bdl	104	193	93	890	311	2079
EGB-06-S51NM1.8_4.2	100.21	100.95	190	1381	bdl	119	166	173	895	307	2075
EGB-06-S51NM1.8_4.3	99.57	100.32	144	1444	bdl	135	215	185	888	326	2071
EGB-06-S51NM1.8_5.1	99.1	100.03	167	2006	bdl	239	140	244	1062	473	2355
EGB-06-S51NM1.8_5.2	100.27	101.26	96	2247	bdl	227	125	210	1109	525	2536
EGB-06-S51NM1.8_5.3	100.07	101.14	124	2757	bdl	252	86	231	1180	447	2518
EGB-06-S51NM1.8_7.1	99.39	100.08	bdl	369	bdl	1605	bdl	95	1031	818	952
EGB-06-S51NM1.8_7.2	99.6	100.29	bdl	354	bdl	1652	bdl	62	1059	825	966
EGB-06-S51NM1.8_7.3	99.06	99.73	bdl	271	bdl	1652	bdl	135	1001	824	841
EGB-06-S51NM1.8_8.1	98.39	99.27	bdl	1111	bdl	994	bdl	bdl	1322	79	2829
EGB-06-S51NM1.8_8.2	97.37	98.25	bdl	1072	bdl	1053	bdl	bdl	1325	57	2849
EGB-06-S51NM1.8_8.3	98.43	99.25	bdl	799	bdl	1048	bdl	70	1304	77	2714
EGB-06-S51NM1.8_9.1	99.36	100.6	bdl	2549	bdl	1085	bdl	161	906	727	3586
EGB-06-S51NM1.8_9.2	99.26	100.49	bdl	2539	bdl	1042	bdl	164	888	725	3559
EGB-06-S51NM1.8_9.3	99.08	100.34	bdl	2817	bdl	953	bdl	151	899	716	3576

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. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S51NM1.8_10.1	99.44	100.34	bdl	1383	bdl	1037	bdl	73	1498	549	1880
EGB-06-S51NM1.8_10.2	99.93	100.83	bdl	1389	bdl	1031	bdl	71	1504	553	1878
EGB-06-S51NM1.8_10.3	99.5	100.38	bdl	1437	bdl	951	bdl	bdl	1475	506	1873
EGB-06-S51NM1.8_11.1	99.05	99.98	130	2368	bdl	147	65	93	1159	610	2165
EGB-06-S51NM1.8_11.2	99.2	100.01	bdl	1815	bdl	67	128	94	1098	623	1991
EGB-06-S51NM1.8_11.3	98.77	99.67	112	2106	bdl	151	96	76	1108	647	2127
EGB-06-S51NM1.8_13.1	100.45	101.26	bdl	1035	bdl	986	119	189	1029	443	1986
EGB-06-S51NM1.8_13.2	100.27	101.08	bdl	1032	bdl	1022	133	176	1024	411	1991
EGB-06-S51NM1.8_13.3	100.62	101.36	bdl	921	bdl	745	97	185	1037	412	1903
EGB-06-S51NM1.8_15.1	99.04	99.79	bdl	1046	bdl	702	bdl	bdl	1260	261	2026
EGB-06-S51NM1.8_15.2	98.96	99.73	bdl	1006	bdl	703	bdl	bdl	1332	290	2227
EGB-06-S51NM1.8_15.3	99.13	99.91	bdl	993	bdl	812	bdl	bdl	1198	251	2236
EGB-06-S51NM1.8_16	99.8	100.63	157	1774	bdl	101	162	180	1085	522	1890
EGB-06-S51NM1.8_17	100.33	101.21	208	1748	bdl	130	137	268	1232	642	1873
EGB-06-S51NM1.8_18	99.97	101.29	260	3769	bdl	475	169	251	605	246	3785
EGB-06-S51NM1.8_19	99.69	100.4	bdl	609	bdl	421	bdl	bdl	606	1680	1720
EGB-06-S51NM1.8_20	98.57	99.5	417	1943	bdl	216	121	104	974	772	2121
EGB-06-S51NM1.8_21	98.23	99.13	136	1925	bdl	201	96	285	1098	726	1889
EGB-06-S51NM1.8_22	99.98	100.84	254	1894	bdl	191	120	bdl	1992	341	1323
EGB-06-S51NM1.8_23	98.57	99.45	268	2061	bdl	138	129	74	910	385	2392
EGB-06-S51NM1.8_24	100.01	100.89	169	1737	bdl	183	199	150	1280	521	2106
EGB-06-S51NM1.8_25	98.23	99.32	539	2166	bdl	188	673	152	893	445	2943
EGB-06-S51NM1.8_26	100.37	101.38	509	2003	bdl	161	575	82	1655	387	1944
EGB-06-S51NM1.8_27	99.74	100.61	238	1773	bdl	185	208	350	765	595	2107
EGB-06-S51NM1.8_28	97.58	98.69	431	2189	bdl	289	717	309	864	389	2835
EGB-06-S51NM1.8_29	99.66	100.76	423	2290	bdl	318	447	180	584	407	3414
EGB-06-S51NM1.8_30	97.82	99.05	bdl	3114	bdl	664	137	138	1104	330	3363
EGB-06-S51NM1.8_31	98.91	99.84	118	1584	bdl	782	236	258	1865	543	1119
EGB-06-S51NM1.8_32	99.69	100.77	533	2062	bdl	201	708	215	977	404	2735
EGB-06-S51NM1.8_33	98.64	99.58	bdl	974	bdl	873	bdl	bdl	950	106	3952
EGB-06-S51NM1.8_34	99.65	100.55	293	1827	bdl	161	343	bdl	1018	523	2315
EGB-06-S51NM1.8_35	99.67	100.52	bdl	1703	bdl	52	72	112	557	529	3070
EGB-06-S52NM1.7_1.1	98.43	99.5	102	1822	bdl	124	88	bdl	689	421	4629
EGB-06-S52NM1.7_1.2	99.54	100.31	bdl	1632	bdl	55	92	bdl	669	427	2644
EGB-06-S52NM1.7_1.3	99.6	100.41	bdl	1892	bdl	64	86	bdl	677	434	2730
EGB-06-S52NM1.7_2.1	98.96	99.97	250	1722	bdl	102	811	98	1159	417	2812
EGB-06-S52NM1.7_2.2	98.67	99.68	161	1722	bdl	85	819	101	1286	417	2773
EGB-06-S52NM1.7_2.3	98.23	99.24	161	1695	bdl	82	788	78	1254	459	2794
EGB-06-S52NM1.7_4.1	98.15	98.96	163	1602	bdl	52	130	bdl	784	601	2452
EGB-06-S52NM1.7_4.2	99.95	100.69	bdl	1607	bdl	52	105	bdl	490	578	2442
EGB-06-S52NM1.7_4.3	99.87	101	bdl	3476	bdl	90	101	bdl	629	762	3042
EGB-06-S52NM1.7_6.1	99.52	100.34	102	1866	bdl	105	89	bdl	832	531	2430
EGB-06-S52NM1.7_6.2	99.76	100.61	234	1736	bdl	138	127	80	816	569	2461
EGB-06-S52NM1.7_6.3	100.86	101.71	132	1978	bdl	79	83	60	873	614	2291
EGB-06-S52NM1.7_7.1	100.18	101.2	305	1979	bdl	557	195	294	1024	290	2738
EGB-06-S52NM1.7_7.2	99.57	100.6	301	2007	bdl	585	222	453	999	287	2517
EGB-06-S52NM1.7_7.3	99.97	100.98	297	2022	bdl	636	214	395	925	301	2471
EGB-06-S52NM1.7_8.1	98.21	99.11	204	2254	bdl	127	147	311	1660	586	1002
EGB-06-S52NM1.7_8.2	97.9	98.78	159	2239	bdl	110	110	309	1674	608	888
EGB-06-S52NM1.7_10.1	99.2	100.02	81	1906	bdl	79	62	bdl	875	420	2486
EGB-06-S52NM1.7_10.2	98.67	99.52	bdl	1810	bdl	76	62	bdl	876	414	2773
EGB-06-S52NM1.7_10.3	98.88	99.76	bdl	2163	bdl	85	81	bdl	890	430	2620
EGB-06-S52NM1.7_13.1	99	99.84	161	1764	bdl	165	93	458	1629	788	654
EGB-06-S52NM1.7_13.2	98.19	99.04	165	1812	bdl	179	158	327	1685	770	745
EGB-06-S52NM1.7_13.3	97.48	98.32	179	1782	bdl	138	135	249	1787	774	819
EGB-06-S52NM1.7_14.1	97.8	98.68	147	2031	bdl	107	108	91	894	554	2420
EGB-06-S52NM1.7_14.2	98.81	99.66	134	1784	bdl	88	129	73	765	508	2709
EGB-06-S52NM1.7_14.3	99.15	99.97	148	1941	bdl	122	77	bdl	747	493	2369
EGB-06-S52NM1.7_18.1	99.56	100.51	553	1551	bdl	732	242	237	1861	149	1519

continued on next page. . .

…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S52NM1.7_18.2	99.3	100.26	511	1568	bdl	662	256	273	1906	197	1464
EGB-06-S52NM1.7_18.3	99.45	100.39	433	1538	bdl	751	224	211	1886	160	1517
EGB-06-S52NM1.7_19	99.22	100.46	712	2705	bdl	134	172	84	1193	445	3634
EGB-06-S52NM1.7_20	101.06	101.72	bdl	978	bdl	117	bdl	205	1093	645	1498
EGB-06-S52NM1.7_22	98.28	99.2	431	1630	bdl	73	149	bdl	1472	437	2471
EGB-06-S52NM1.7_23	100.68	101.56	255	1871	bdl	136	89	91	1367	776	1681
EGB-06-S52NM1.7_24	98.5	99.78	527	2845	bdl	603	357	321	1794	499	2229
EGB-06-S52NM1.7_25	99.83	100.56	bdl	1727	bdl	128	105	206	926	151	1996
EGB-06-S52NM1.7_26	98.77	99.98	488	1834	bdl	128	2261	bdl	1045	430	2766
EGB-06-S52NM1.7_27	97.94	98.97	331	2210	bdl	617	276	342	1345	390	1781
EGB-06-S52NM1.7_28	99.58	100.44	bdl	1221	bdl	58	bdl	93	789	363	3772
EGB-06-S52NM1.7_29	98.88	99.9	416	2150	bdl	198	166	124	1672	430	2139
EGB-06-S52NM1.7_30	98.3	99.16	413	1776	bdl	144	96	bdl	1696	803	1070
EGB-06-S52NM1.7_31	99.34	100.37	462	1830	bdl	85	471	69	920	378	3368
EGB-06-S52NM1.7_33	97.72	98.65	170	1757	bdl	172	126	376	1537	702	1668
EGB-06-S52NM1.7_33.2	97.96	98.84	199	1764	bdl	145	132	244	1600	738	1396
EGB-06-S52NM1.7_35	97.8	99	220	3407	bdl	401	136	548	1067	503	2157
EGB-06-S52NM1.7_36	100.56	101.6	269	2874	bdl	506	188	437	944	434	1700
EGB-06-S52NM1.7_37	99.26	100.66	613	3827	bdl	231	429	182	1098	553	3200
EGB-06-S52NM1.7_39	98.94	100.16	477	3021	bdl	808	224	496	776	405	2550
EGB-06-S52NM1.7_40	97.74	98.86	185	2962	bdl	443	109	376	1677	599	1489
EGB-06-S52M0.4-1.7_1.1	96.22	97.97	647	4635	bdl	597	603	205	1169	307	4575
EGB-06-S52M0.4-1.7_1.2	97.23	98.96	595	4581	bdl	558	584	218	1075	324	4700
EGB-06-S52M0.4-1.7_1.3	96.8	98.44	395	4554	bdl	445	464	196	1153	332	4344
EGB-06-S52M0.4-1.7_2.1	98.05	98.93	bdl	2018	bdl	81	83	bdl	1196	710	2082
EGB-06-S52M0.4-1.7_2.2	98.52	99.41	bdl	1976	bdl	70	101	bdl	1143	731	2223
EGB-06-S52M0.4-1.7_2.3	97.55	98.51	bdl	2410	bdl	127	bdl	bdl	1263	710	2218
EGB-06-S52M0.4-1.7_3.1	98.32	99.26	228	2048	bdl	152	246	91	1304	423	2369
EGB-06-S52M0.4-1.7_3.2	97.94	98.87	216	2048	bdl	113	337	62	1243	456	2302
EGB-06-S52M0.4-1.7_3.3	97.88	98.82	258	2238	bdl	147	160	74	1232	585	2110
EGB-06-S52M0.4-1.7_4.1	94.41	100.15	16652	811	bdl	190	12524	203	6541	2475	4264
EGB-06-S52M0.4-1.7_4.2	92.31	99.36	21569	918	bdl	240	13233	226	7772	5337	4079
EGB-06-S52M0.4-1.7_4.3	96.44	99.85	3962	496	bdl	87	10634	bdl	3422	5992	717
EGB-06-S52M0.4-1.7_5.1	97.16	98.42	394	2105	bdl	371	244	80	2245	1674	1859
EGB-06-S52M0.4-1.7_5.2	96.76	98.01	456	2140	bdl	361	294	bdl	2185	1675	1737
EGB-06-S52M0.4-1.7_5.3	97.05	98.27	446	2125	bdl	401	269	bdl	2155	1520	1687
EGB-06-S52M0.4-1.7_6.1	99.35	99.9	157	668	bdl	130	72	85	1019	116	1814
EGB-06-S52M0.4-1.7_6.2	98.99	99.6	161	712	bdl	113	bdl	88	993	164	2222
EGB-06-S52M0.4-1.7_6.3	99.29	99.85	132	727	bdl	124	88	102	999	133	1791
EGB-06-S52M0.4-1.7_9.1	98.43	99.51	293	1748	bdl	107	1433	106	1469	638	2070
EGB-06-S52M0.4-1.7_9.2	98.89	99.95	329	1691	bdl	141	1341	105	1502	621	2026
EGB-06-S52M0.4-1.7_9.3	99.39	100.44	344	1800	bdl	141	1227	80	1452	605	2028
EGB-06-S52M0.4-1.7_11.1	100.95	101.52	bdl	160	bdl	107	bdl	285	1889	535	864
EGB-06-S52M0.4-1.7_11.2	99.97	100.54	bdl	106	bdl	104	bdl	238	1848	556	1057
EGB-06-S52M0.4-1.7_11.3	100.83	101.39	bdl	115	bdl	107	bdl	257	1852	581	871
EGB-06-S52M0.4-1.7_12.1	98.79	99.94	846	2831	bdl	61	519	121	927	457	2590
EGB-06-S52M0.4-1.7_12.2	98.9	99.88	401	2447	bdl	47	525	78	879	374	2423
EGB-06-S52M0.4-1.7_12.3	99.32	100.26	330	2238	bdl	82	573	78	820	404	2316
EGB-06-S52M0.4-1.7_14.1	100.32	101.2	81	1935	bdl	73	75	bdl	1016	482	2703
EGB-06-S52M0.4-1.7_14.2	98.96	100.47	393	4647	bdl	113	139	66	1411	808	3336
EGB-06-S52M0.4-1.7_14.3	99.43	100.41	bdl	2368	bdl	104	71	bdl	1083	697	2689
EGB-06-S52M0.4-1.7_15	100.07	100.92	124	1992	bdl	153	132	233	1005	779	1564
EGB-06-S52M0.4-1.7_20	99.84	100.91	238	1500	bdl	141	651	62	585	299	4551
EGB-06-S52M0.4-1.7_21	100.17	101.16	bdl	1062	bdl	958	bdl	bdl	783	128	4375
EGB-06-S52M0.4-1.7_22	97.91	98.53	bdl	bdl	bdl	249	61	208	2634	113	987
EGB-06-S52M0.4-1.7_24	98.33	98.99	bdl	176	bdl	163	bdl	141	1772	1014	1281
EGB-06-S52M0.4-1.7_26	98.67	99.41	151	1819	bdl	55	93	162	689	329	2009
EGB-06-S52M0.4-1.7_27	98.23	99.1	191	1561	bdl	70	185	bdl	2057	524	1562
EGB-06-S52M0.4-1.7_31	100.07	100.63	bdl	106	bdl	120	92	89	1634	497	1463

continued on next page…

. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S52M0.4-1.7_34	97.27	98.62	596	3197	bdl	632	308	304	596	327	3914
EGB-06-S52M0.4-1.7_35	99.25	100.02	bdl	1722	bdl	70	136	71	925	424	2103
EGB-06-S52M0.4-1.7_37	99.79	100.64	bdl	1664	bdl	215	138	297	954	599	2138
EGB-06-S52M0.4-1.7_39	100.54	101.28	189	1714	bdl	70	130	bdl	856	661	1702
EGB-06-S52M0.4-1.7_40	100	100.78	181	1603	bdl	104	166	bdl	1016	516	2038
EGB-06-S52M0.4-1.7_42	97.98	99.65	bdl	5143	bdl	758	148	94	1140	836	3901
EGB-06-S52M0.4-1.7_44	100.37	101.19	259	1734	bdl	150	385	186	784	530	1859
EGB-06-S52M0.4-1.7_45	99.25	100.07	130	1883	bdl	155	109	bdl	1185	809	1485
EGB-06-S52M0.4-1.7_46	98.32	99.78	972	3744	bdl	654	340	436	491	350	3652
EGB-06-S52M0.4-1.7_47	97.32	98.18	bdl	1845	bdl	113	68	80	1024	676	2339
EGB-06-S52M0.4-1.7_48	100.41	101.04	bdl	797	bdl	383	bdl	158	958	116	2109
EGB-06-S53NM1.71.1	99.7	100.47	bdl	1114	bdl	1752	bdl	bdl	1789	619	215
EGB-06-S53NM1.71.2	100.32	101.12	bdl	1219	bdl	1763	bdl	bdl	1781	610	241
EGB-06-S53NM1.71.3	99.65	100.38	bdl	1015	bdl	1543	bdl	bdl	1722	606	222
EGB-06-S53NM1.72.1	99.63	100.81	bdl	701	bdl	3568	bdl	419	1881	419	1414
EGB-06-S53NM1.72.2	99.43	100.61	86	661	bdl	3604	bdl	397	1852	414	1383
EGB-06-S53NM1.72.3	99.36	100.54	bdl	672	bdl	3596	bdl	382	1890	458	1369
EGB-06-S53NM1.715.1	99.3	100.18	bdl	1903	bdl	197	124	286	1039	765	1857
EGB-06-S53NM1.715.2	97.2	98.12	106	1857	bdl	198	97	332	1230	746	1986
EGB-06-S53NM1.715.3	98.8	99.68	bdl	1981	bdl	185	95	264	1020	718	2022
EGB-06-S53NM1.716.1	97	98.01	bdl	2161	bdl	206	365	128	885	234	3424
EGB-06-S53NM1.716.2	95.45	97.04	bdl	3194	bdl	286	445	146	1205	263	6133
EGB-06-S53NM1.716.3	96.57	97.66	bdl	2403	bdl	231	379	121	953	229	3635
EGB-06-S53NM1.717.1	99.16	100.45	bdl	2554	bdl	1107	213	127	2268	483	2491
EGB-06-S53NM1.717.2	99.05	100.35	bdl	2521	bdl	1118	190	112	2253	479	2636
EGB-06-S53NM1.717.3	98.72	99.77	bdl	1539	bdl	968	247	92	2201	452	2060
EGB-06-S53NM1.718.1	98.02	99.23	bdl	753	bdl	1330	170	168	2968	1106	2074
EGB-06-S53NM1.718.2	98.38	99.66	bdl	704	bdl	1381	166	145	2954	1124	2710
EGB-06-S53NM1.718.3	98.61	99.85	bdl	784	bdl	1378	198	191	2915	1113	2232
EGB-06-S53NM1.722.3	100.58	100.9	bdl	1518	bdl	50	bdl	bdl	300	113	237
EGB-06-S53NM1.724.1	98.99	100.27	bdl	2652	bdl	1085	147	144	1297	126	3860
EGB-06-S53NM1.724.2	98.2	99.49	bdl	2678	bdl	1073	153	142	1332	97	3999
EGB-06-S53NM1.724.3	98.28	99.56	bdl	2679	bdl	1066	140	118	1298	129	3890
EGB-06-S53NM1.726.1	96.42	97.68	bdl	3253	bdl	405	225	283	1213	658	2928
EGB-06-S53NM1.726.2	97.28	98.53	bdl	3231	bdl	445	206	266	1211	665	2874
EGB-06-S53NM1.726.3	97.01	98.25	bdl	3253	bdl	494	256	223	1247	697	2728
EGB-06-S53NM1.731.1	97.22	98.76	bdl	890	bdl	3474	137	64	2975	1032	2506
EGB-06-S53NM1.731.2	96.92	98.41	bdl	875	bdl	3338	132	61	3002	993	2352
EGB-06-S53NM1.731.3	97.06	98.57	bdl	907	bdl	3493	146	67	3002	1057	2134
EGB-06-S53NM1.732	97.12	97.96	bdl	1391	bdl	630	155	111	1566	201	2015
EGB-06-S53NM1.734	96.72	98.14	bdl	1207	bdl	3010	bdl	64	3517	1101	1141
EGB-06-S53NM1.736	100.39	100.88	bdl	bdl	bdl	111	bdl	bdl	722	92	2719
EGB-06-S53NM1.737	99.23	100.35	bdl	2682	bdl	430	80	64	1908	721	2117
EGB-06-S53NM1.738	99.76	100.56	bdl	1785	bdl	205	104	bdl	1005	497	2096
EGB-06-S53NM1.739	97.94	98.77	bdl	1876	bdl	134	142	499	1365	398	1316
EGB-06-S53NM1.741	94.95	97.45	bdl	117	bdl	101	12367	177	1901	718	3687
EGB-06-S53NM1.744	96.92	97.82	bdl	307	bdl	387	bdl	bdl	903	3039	1726
EGB-06-S53NM1.745	100.55	101.12	bdl	84	bdl	323	71	bdl	2446	209	878
EGB-06-S53NM1.746	98.32	100	bdl	3811	bdl	903	946	299	1837	1408	2770
EGB-06-S53NM1.747	99.33	100.77	bdl	3392	bdl	1408	208	65	1901	473	2927
EGB-06-S53NM1.749	97.44	98.87	bdl	2115	bdl	2820	119	bdl	3200	967	835
EGB-06-S53NM1.750	98.9	99.96	bdl	1151	bdl	786	83	89	930	129	4711
EGB-06-S53NM1.751	99.03	100	bdl	1834	bdl	62	1334	345	1022	484	1949
EGB-06-S53NM1.753	97.39	98.5	bdl	2617	bdl	147	244	216	1154	697	2870
EGB-06-S53NM1.754	97.67	98.64	bdl	1766	bdl	136	143	206	2139	593	1820
EGB-06-S53NM1.755	94.07	98.63	bdl	17965	bdl	629	149	279	5826	1832	5497
EGB-06-S53NM1.756	98.43	100.39	bdl	2474	bdl	4668	93	285	2984	551	3031
EGB-06-S53NM1.757	99.79	100.41	bdl	1007	bdl	200	225	67	899	311	1803
EGB-06-S53NM1.758	95.74	97.02	bdl	1151	bdl	3845	bdl	bdl	1720	407	2093

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…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S55M0.6-1.7_2.1	97.75	98.71	95	1885	bdl	212	99	215	1174	686	2538
EGB-06-S55M0.6-1.7_2.2	97.55	98.6	108	2581	bdl	167	82	196	1281	535	2596
EGB-06-S55M0.6-1.7_3.1	100.67	101.39	bdl	764	bdl	785	bdl	bdl	905	127	2669
EGB-06-S55M0.6-1.7_3.2	100.43	101.12	bdl	724	bdl	743	bdl	bdl	905	66	2606
EGB-06-S55M0.6-1.7_3.3	100.4	101.06	bdl	545	bdl	621	bdl	bdl	927	79	2555
EGB-06-S55M0.6-1.7_4.1	98.59	99.17	bdl	273	bdl	408	bdl	105	1302	781	1209
EGB-06-S55M0.6-1.7_4.2	98.06	98.69	bdl	335	bdl	618	85	110	1326	766	1249
EGB-06-S55M0.6-1.7_4.3	98.5	99.12	bdl	330	bdl	637	bdl	110	1258	781	1278
EGB-06-S55M0.6-1.7_5.1	100.13	101.04	190	1845	bdl	272	183	295	1309	883	1436
EGB-06-S55M0.6-1.7_5.2	100.09	101.02	197	1904	bdl	225	188	287	1383	943	1412
EGB-06-S55M0.6-1.7_5.3	100.16	101.1	213	2046	bdl	224	155	256	1315	1065	1323
EGB-06-S55M0.6-1.7_6.1	98.71	99.46	bdl	567	bdl	1479	bdl	77	1366	524	1396
EGB-06-S55M0.6-1.7_6.2	99.65	100.41	bdl	619	bdl	1434	bdl	92	1370	515	1393
EGB-06-S55M0.6-1.7_6.3	99.44	100.16	bdl	570	bdl	1247	bdl	60	1304	520	1430
EGB-06-S55M0.6-1.7_7.1	98.27	99.36	324	2287	bdl	341	75	369	1124	638	2591
EGB-06-S55M0.6-1.7_7.2	97.42	98.46	287	2072	bdl	318	129	313	1109	640	2537
EGB-06-S55M0.6-1.7_7.3	97.14	98.32	269	2995	bdl	288	104	203	1200	605	2784
EGB-06-S55M0.6-1.7_8.1	99.33	100.16	bdl	1729	bdl	888	bdl	94	880	148	2219
EGB-06-S55M0.6-1.7_8.2	100.15	101	bdl	1669	bdl	907	bdl	133	859	133	2390
EGB-06-S55M0.6-1.7_8.3	100.13	100.91	bdl	1364	bdl	870	64	129	817	135	2295
EGB-06-S55M0.6-1.7_9.1	99.77	100.59	160	1801	bdl	bdl	105	67	1017	489	2252
EGB-06-S55M0.6-1.7_9.2	99.58	100.33	bdl	1458	bdl	bdl	bdl	106	950	358	2483
EGB-06-S55M0.6-1.7_9.3	99.12	99.82	bdl	1340	bdl	55	bdl	bdl	935	280	2296
EGB-06-S55M0.6-1.7_10.1	99.95	100.88	bdl	928	bdl	797	bdl	bdl	874	136	4116
EGB-06-S55M0.6-1.7_10.2	100.23	101.15	bdl	939	bdl	797	bdl	bdl	907	140	4003
EGB-06-S55M0.6-1.7_10.3	100.12	101.06	bdl	888	bdl	757	bdl	bdl	825	148	4404
EGB-06-S55M0.6-1.7_11.1	100.43	101.25	121	576	bdl	295	105	74	2754	636	1202
EGB-06-S55M0.6-1.7_11.2	99.63	100.44	bdl	650	bdl	320	99	bdl	2724	649	1206
EGB-06-S55M0.6-1.7_11.3	99.8	100.65	144	768	bdl	286	102	bdl	2814	639	1236
EGB-06-S55M0.6-1.7_12	100.01	101.11	bdl	2535	bdl	745	62	64	926	121	3552
EGB-06-S55M0.6-1.7_13	100.26	100.92	151	141	bdl	522	bdl	96	1894	660	1112
EGB-06-S55M0.6-1.7_15	100.54	101.21	bdl	832	bdl	117	bdl	216	436	381	2895
EGB-06-S55M0.6-1.7_16	99.13	100.38	bdl	1686	bdl	865	bdl	97	917	510	5118
EGB-06-S55M0.6-1.7_17	101.22	101.75	bdl	215	bdl	500	bdl	155	1056	558	1216
EGB-06-S55M0.6-1.7_18	97.95	98.81	bdl	595	bdl	995	bdl	bdl	1309	140	3272
EGB-06-S55M0.6-1.7_19	99.2	99.99	bdl	791	bdl	701	bdl	129	1043	139	2949
EGB-06-S55M0.6-1.7_20	100.03	100.92	bdl	1564	bdl	701	126	133	994	172	2751
EGB-06-S55M0.6-1.7_21	99.04	100.01	90	2045	bdl	562	169	162	1022	369	2651
EGB-06-S55M0.6-1.7_22	99.28	100.24	366	1770	bdl	182	803	bdl	629	395	2884
EGB-06-S55M0.6-1.7_23	98.54	99.54	335	1836	bdl	144	239	210	1134	567	2735
EGB-06-S55M0.6-1.7_24	99.55	100.8	147	3536	bdl	623	137	273	572	313	3415
EGB-06-S55M0.6-1.7_27	99.1	100.49	bdl	1587	bdl	825	bdl	165	898	193	6592
EGB-06-S55M0.6-1.7_28	99.88	100.61	bdl	642	bdl	320	75	227	1355	622	1962
EGB-06-S55M0.6-1.7_29	97.91	99.04	bdl	2240	bdl	1280	96	77	1035	248	3266
EGB-06-S55M0.6-1.7_30	99.08	100.68	468	509	bdl	172	387	133	876	690	8861
EGB-06-S55M0.6-1.7_31	99.33	100.05	bdl	561	bdl	130	95	bdl	2517	571	1070
EGB-06-S55M0.6-1.7_32	97.4	98.7	142	1678	bdl	55	3841	141	856	278	2696
EGB-06-S55M0.6-1.7_33	98.97	99.68	bdl	328	bdl	665	65	85	1571	400	2012
EGB-06-S55NM1.7_1.1	99.98	100.7	bdl	815	bdl	647	bdl	103	781	125	2791
EGB-06-S55NM1.7_1.2	100.68	101.37	bdl	770	bdl	561	bdl	97	797	114	2694
EGB-06-S55NM1.7_1.3	100.15	100.83	bdl	751	bdl	527	bdl	112	712	156	2672
EGB-06-S55NM1.7_2.1	99.08	99.96	124	1799	bdl	112	189	106	1780	586	1538
EGB-06-S55NM1.7_2.2	98.76	99.64	128	1782	bdl	137	135	91	1858	577	1555
EGB-06-S55NM1.7_2.3	98.12	98.98	bdl	1769	bdl	125	137	91	1893	537	1460
EGB-06-S55NM1.7_3.1	99.59	100.43	199	1903	bdl	133	176	229	1195	469	1666
EGB-06-S55NM1.7_3.2	99.89	100.72	211	1904	bdl	154	184	207	1162	478	1635
EGB-06-S55NM1.7_3.3	98.36	99.19	209	1894	bdl	141	164	188	1309	537	1458
EGB-06-S55NM1.7_4.1	101.58	102.3	bdl	1278	bdl	62	bdl	77	649	822	2257
EGB-06-S55NM1.7_4.2	100.62	101.58	476	2145	bdl	79	bdl	124	833	459	2822

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. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S55NM1.7_4.3	100.2	101	305	1818	bdl	67	bdl	73	820	337	2337
EGB-06-S55NM1.7_5.1	100.22	101.17	144	1934	bdl	236	119	174	2101	625	1363
EGB-06-S55NM1.7_5.2	100.09	101.04	bdl	2066	bdl	218	138	160	2062	647	1271
EGB-06-S55NM1.7_5.3	100.31	101.37	130	2559	bdl	252	134	175	2256	703	1264
EGB-06-S55NM1.7_6.1	100.18	101.45	102	3522	bdl	747	262	225	831	327	3157
EGB-06-S55NM1.7_6.2	98.46	99.72	210	3319	bdl	686	230	178	999	346	3145
EGB-06-S55NM1.7_6.3	99.02	100.27	264	3327	bdl	643	255	162	958	354	3054
EGB-06-S55NM1.7_8.1	97.36	98.38	126	1338	bdl	bdl	646	65	1262	720	3303
EGB-06-S55NM1.7_8.2	97.97	98.98	134	1304	bdl	bdl	705	bdl	1300	645	3269
EGB-06-S55NM1.7_8.3	97.29	98.31	174	1663	bdl	43	631	62	1362	619	2951
EGB-06-S55NM1.7_9.1	97.84	98.91	bdl	814	bdl	965	61	bdl	1655	89	4278
EGB-06-S55NM1.7_9.2	98.51	99.54	bdl	752	bdl	950	bdl	bdl	1599	98	4225
EGB-06-S55NM1.7_9.3	98.09	99.14	bdl	707	bdl	928	bdl	bdl	1586	114	4339
EGB-06-S55NM1.7_10.1	98.06	99.37	318	3511	bdl	692	228	356	918	498	2948
EGB-06-S55NM1.7_10.2	98.14	99.5	311	3702	bdl	645	224	356	922	545	3059
EGB-06-S55NM1.7_10.3	97.95	99.38	170	4426	bdl	312	165	374	967	563	3203
EGB-06-S55NM1.7_11.1	97.76	98.9	bdl	1854	bdl	914	bdl	115	1244	152	4049
EGB-06-S55NM1.7_11.2	97.31	98.42	bdl	1722	bdl	877	65	117	1258	151	3984
EGB-06-S55NM1.7_11.3	98.15	99.25	bdl	1820	bdl	795	bdl	148	1253	162	3810
EGB-06-S55NM1.7_12	98.13	99.29	bdl	1678	bdl	849	bdl	94	1214	144	4546
EGB-06-S55NM1.7_13	99.92	100.97	157	1743	bdl	540	265	120	2020	866	1747
EGB-06-S55NM1.7_14	98.71	99.54	232	1822	bdl	265	159	441	831	457	1681
EGB-06-S55NM1.7_15	100.78	101.49	139	382	bdl	657	99	216	1251	638	1702
EGB-06-S55NM1.7_17	99.57	100.53	bdl	924	bdl	937	bdl	73	710	183	4275
EGB-06-S55NM1.7_18	98.53	100.29	124	6685	bdl	424	93	620	861	363	3339
EGB-06-S55NM1.7_19	99.85	100.47	bdl	136	bdl	657	69	132	1677	728	963
EGB-06-S55NM1.7_20	98.33	99.36	312	2322	bdl	201	158	bdl	1284	770	2363
EGB-06-S55NM1.7_21	99.51	100.69	124	938	bdl	2160	451	bdl	2743	517	1458
EGB-06-S55NM1.7_22	98.81	99.81	398	2257	bdl	234	184	475	653	445	2454
EGB-06-S55NM1.7_24	99.09	100.02	607	1687	bdl	70	169	bdl	1511	703	1893
EGB-06-S55NM1.7_25	98.49	99.86	647	2240	bdl	167	3166	420	952	272	2246
EGB-06-S55NM1.7_26	97.88	98.86	840	1629	bdl	118	150	100	1273	502	2574
EGB-06-S55NM1.7_27	99.38	100.3	252	1716	bdl	224	99	157	774	534	2935
EGB-06-S55NM1.7_28	98.78	99.58	bdl	916	bdl	591	72	bdl	1218	116	2934
EGB-06-S55NM1.7_29	100.7	101.63	bdl	1729	bdl	737	bdl	191	1276	630	2025
EGB-06-S55NM1.7_30	98.46	99.4	317	2074	bdl	269	173	376	1048	683	1758
EGB-06-S55NM1.7_31	100.28	101.11	bdl	1990	bdl	46	86	187	853	250	2597
EGB-06-S55NM1.7_32	99.91	101.03	146	1649	bdl	124	2501	139	1701	542	1381
EGB-06-S55NM1.7_33	99.99	100.73	bdl	822	bdl	966	bdl	167	1812	296	1178
EGB-06-S56M0.55-1.0_1.1	96.64	100.25	bdl	8253	bdl	9080	198	152	3306	1719	3150
EGB-06-S56M0.55-1.0_1.2	96.68	100.29	109	8301	bdl	9138	215	137	3260	1750	3021
EGB-06-S56M0.55-1.0_1.3	96.63	100.4	294	8335	bdl	9607	243	141	3462	1866	3101
EGB-06-S56M0.55-1.0_2.1	99.65	101.24	bdl	1228	bdl	4943	128	215	2081	628	2251
EGB-06-S56M0.55-1.0_2.2	98.69	100.28	bdl	1266	bdl	4963	154	241	2041	616	2141
EGB-06-S56M0.55-1.0_2.3	98.43	100.02	bdl	1179	bdl	4931	156	123	2081	636	2444
EGB-06-S56M0.55-1.0_3.1	100.91	101.94	209	2351	bdl	172	117	bdl	1000	1285	2222
EGB-06-S56M0.55-1.0_3.2	99.69	100.73	92	2431	bdl	165	72	bdl	1061	1294	2257
EGB-06-S56M0.55-1.0_3.3	100.13	101.16	121	2391	bdl	170	66	bdl	1041	1325	2216
EGB-06-S56M0.55-1.0_4.1	97.66	98.57	bdl	912	bdl	2530	bdl	256	852	117	1898
EGB-06-S56M0.55-1.0_4.2	99.93	100.78	bdl	842	bdl	2428	bdl	259	657	109	1869
EGB-06-S56M0.55-1.0_4.3	100.11	100.96	bdl	875	bdl	2372	bdl	249	640	96	1928
EGB-06-S56M0.55-1.0_9.1	99.08	99.95	bdl	883	bdl	809	63	92	1019	196	3333
EGB-06-S56M0.55-1.0_9.2	99.14	99.98	bdl	856	bdl	572	71	97	1022	170	3406
EGB-06-S56M0.55-1.0_9.3	99.13	100	bdl	968	bdl	792	bdl	84	952	164	3378
EGB-06-S56M0.55-1.0_11.1	97.73	98.33	174	141	bdl	55	96	bdl	1552	1086	1157
EGB-06-S56M0.55-1.0_11.2	98.7	99.29	bdl	154	bdl	bdl	65	bdl	1532	1159	1197
EGB-06-S56M0.55-1.0_11.3	99.03	99.62	94	125	bdl	bdl	75	bdl	1513	1167	1164
EGB-06-S56M0.55-1.0_13.3	98.4	99.82	bdl	851	205	bdl	bdl	bdl	572	405	8586
EGB-06-S56M0.55-1.0_18.1	97.86	98.62	bdl	338	bdl	155	bdl	bdl	1871	381	2773

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…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S56M0.55-1.0_18.2	98.41	99.14	bdl	294	bdl	102	bdl	bdl	1884	367	2620
EGB-06-S56M0.55-1.0_18.3	97.21	97.95	bdl	415	bdl	140	bdl	bdl	1847	361	2534
EGB-06-S56M0.55-1.0_19.1	100.25	101.63	bdl	1568	bdl	4158	75	bdl	843	2408	787
EGB-06-S56M0.55-1.0_19.2	100.44	101.82	bdl	1550	bdl	4199	91	bdl	861	2351	804
EGB-06-S56M0.55-1.0_19.3	100.07	101.47	bdl	1563	bdl	4210	72	bdl	876	2432	850
EGB-06-S56M0.55-1.0_21.1	98.26	99.62	729	1987	bdl	139	2973	86	855	492	2942
EGB-06-S56M0.55-1.0_21.2	97.78	99.17	695	2074	bdl	137	2598	189	903	502	3206
EGB-06-S56M0.55-1.0_21.3	97.23	98.49	741	2126	bdl	130	2076	193	937	475	2658
EGB-06-S56M0.55-1.0_22	98.42	99.87	bdl	1892	419	2860	321	305	2160	444	1657
EGB-06-S56M0.55-1.0_26	98.33	99.54	bdl	886	bdl	3243	bdl	83	1449	1754	1182
EGB-06-S56M0.55-1.0_27	98.73	100.24	92	4575	bdl	285	143	241	958	541	4035
EGB-06-S56M0.55-1.0_29	98.12	99.33	bdl	497	bdl	2986	100	242	2884	554	1325
EGB-06-S56M0.55-1.0_31	97.07	98.04	bdl	935	bdl	932	bdl	bdl	1279	128	3776
EGB-06-S56M0.55-1.0_32	98.8	99.91	bdl	652	bdl	3982	bdl	232	421	1761	812
EGB-06-S56M0.55-1.0_35	96.65	98.26	bdl	847	bdl	2586	87	bdl	1100	5747	951
EGB-06-S56M0.55-1.0_38	97.19	98.17	bdl	937	bdl	575	bdl	bdl	1340	126	4186
EGB-06-S56M0.55-1.0_39	98.21	99.04	181	828	bdl	bdl	100	bdl	1759	811	2270
EGB-06-S56M0.55-1.0_40	98.63	99.36	163	843	bdl	150	280	bdl	1665	478	1613
EGB-06-S56M0.55-1.0_42	97.9	99.12	bdl	423	bdl	1532	bdl	214	1262	3214	1926
EGB-06-S56M0.55-1.0_43	97.25	99.59	167	2470	bdl	7097	168	74	1630	2188	3230
EGB-06-S56M0.55-1.0_46	97.12	98.52	bdl	692	bdl	2934	63	bdl	933	3582	1855
EGB-06-S56M0.55-1.0_48	96.07	98.69	bdl	8958	bdl	1071	bdl	295	2754	525	5048
EGB-06-S56M0.55-1.0_50	98.29	99.63	bdl	826	bdl	2781	bdl	bdl	1018	3624	1194
EGB-06-S56M0.55-1.0_52	97.74	99.32	bdl	861	bdl	4640	97	99	1542	2520	1577
EGB-06-S56M0.55-1.0_53	99.07	100.55	bdl	977	bdl	3185	bdl	390	3680	714	1433
EGB-06-S56M0.55-1.0_54	98.17	99.79	bdl	380	bdl	3020	106	bdl	1528	5548	811
EGB-06-S56M0.55-1.0_56	96.85	98.22	377	3141	bdl	142	603	148	1402	707	3461
EGB-06-S56M0.55-1.0_57	99.15	100.28	bdl	1254	bdl	1249	bdl	334	597	336	4548
EGB-06-S56NM1.0_1.1	98.16	99.04	bdl	808	bdl	1059	bdl	bdl	1032	77	3492
EGB-06-S56NM1.0_1.2	98.33	99.22	bdl	786	bdl	1002	86	bdl	994	116	3632
EGB-06-S56NM1.0_1.3	97.58	98.43	bdl	819	bdl	951	bdl	bdl	1039	125	3216
EGB-06-S56NM1.0_2.1	99.02	100.51	bdl	995	bdl	3528	124	134	3320	560	2059
EGB-06-S56NM1.0_2.2	99.36	100.87	bdl	1054	bdl	3633	108	153	3225	576	2072
EGB-06-S56NM1.0_2.3	99.24	100.79	bdl	1100	bdl	3884	91	176	3197	556	2093
EGB-06-S56NM1.0_3.1	100.15	100.89	bdl	1063	bdl	383	bdl	171	532	789	2322
EGB-06-S56NM1.0_3.2	99.09	99.85	bdl	1111	bdl	392	bdl	164	573	865	2292
EGB-06-S56NM1.0_3.3	100.47	101.22	bdl	1197	bdl	418	bdl	102	502	865	2324
EGB-06-S56NM1.0_4.1	100.13	100.86	90	1239	bdl	128	69	191	803	502	2272
EGB-06-S56NM1.0_4.2	99.96	100.7	108	1159	bdl	143	98	198	769	500	2314
EGB-06-S56NM1.0_4.3	100.23	100.99	bdl	1485	bdl	153	bdl	178	812	518	2245
EGB-06-S56NM1.0_5.1	100.24	101.37	bdl	979	bdl	661	236	bdl	2889	874	2424
EGB-06-S56NM1.0_5.2	100.22	101.35	bdl	929	bdl	697	255	bdl	2844	876	2465
EGB-06-S56NM1.0_5.3	99.12	100.21	bdl	997	bdl	679	243	bdl	2812	850	2209
EGB-06-S56NM1.0_6.1	98.98	100.48	bdl	744	bdl	3484	143	206	3436	794	1888
EGB-06-S56NM1.0_6.2	99.38	100.88	bdl	799	bdl	3425	140	213	3467	759	1845
EGB-06-S56NM1.0_6.3	99.23	100.66	bdl	711	bdl	3143	131	223	3390	770	1796
EGB-06-S56NM1.0_7.1	96.97	99.17	722	6935	bdl	688	343	438	903	313	5550
EGB-06-S56NM1.0_7.2	96.9	99.09	773	6949	bdl	680	357	401	910	294	5530
EGB-06-S56NM1.0_7.3	96.98	99.16	590	7233	bdl	711	306	404	967	322	5178
EGB-06-S56NM1.0_8.1	99.42	100.38	146	1755	bdl	146	191	248	819	547	3048
EGB-06-S56NM1.0_8.2	99.74	100.7	205	1818	bdl	128	201	234	812	519	3053
EGB-06-S56NM1.0_8.3	99.37	100.32	120	1873	bdl	140	165	188	763	547	3108
EGB-06-S56NM1.0_9.1	98.67	99.83	416	1969	bdl	150	813	125	1000	430	3616
EGB-06-S56NM1.0_9.2	98.99	100.23	442	1929	bdl	128	787	159	977	400	4394
EGB-06-S56NM1.0_9.3	98.24	99.27	415	2024	bdl	105	772	110	1011	425	2663
EGB-06-S56NM1.0_12.1	98.74	100.6	bdl	1251	bdl	3551	bdl	bdl	1181	6105	981
EGB-06-S56NM1.0_12.2	98.59	100.46	bdl	1200	bdl	3565	bdl	bdl	1190	6169	1007
EGB-06-S56NM1.0_12.3	98.23	100.08	bdl	1170	bdl	3445	bdl	bdl	1185	6113	1040
EGB-06-S56NM1.0_13	100.27	101.21	504	1753	bdl	193	320	261	890	796	2093

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. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S56NM1.0_14	98.88	99.83	303	1829	bdl	166	168	164	1197	526	2528
EGB-06-S56NM1.0_15	99.02	100.5	bdl	1521	bdl	4424	bdl	408	2509	855	655
EGB-06-S56NM1.0_16	98.04	98.98	bdl	589	bdl	3066	64	270	1320	95	1379
EGB-06-S56NM1.0_17	99.73	100.95	490	1908	bdl	161	1720	360	939	410	2995
EGB-06-S56NM1.0_19	98.14	99.31	113	1700	bdl	2006	83	688	952	188	2644
EGB-06-S56NM1.0_20	99.6	100.74	128	1032	bdl	2388	66	78	1505	499	2628
EGB-06-S56NM1.0_21	99.64	100.83	bdl	1701	bdl	1800	136	85	2420	833	1432
EGB-06-S56NM1.0_23	98.67	99.71	bdl	886	bdl	885	61	bdl	1244	84	4522
EGB-06-S56NM1.0_24	99.76	100.6	bdl	731	bdl	1682	bdl	329	1776	512	800
EGB-06-S56NM1.0_25	98.93	100.28	948	3426	bdl	67	61	426	830	312	3674
EGB-06-S56NM1.0_27	97.54	98.86	bdl	2512	bdl	839	135	168	880	320	4801
EGB-06-S56NM1.0_29	97.4	98.66	255	2469	bdl	1054	298	169	1373	206	3350
EGB-06-S56NM1.0_30	98.88	99.86	bdl	1329	bdl	341	158	158	2764	393	1759
EGB-06-S56NM1.0_31	98.57	99.58	287	1826	bdl	167	153	220	2523	571	1368
EGB-06-S56NM1.0_32	99.35	100.25	434	1787	bdl	143	360	269	409	296	2888
EGB-06-S56NM1.0_33	99.93	100.78	186	1797	bdl	189	133	323	946	536	1898
EGB-06-S56NM1.0_34	99.09	100.18	4624	1578	bdl	90	328	216	bdl	bdl	1467
EGB-06-S56NM1.0_35	96.98	99.93	1779	8999	bdl	1123	630	468	1040	228	7245
EGB-06-S57NM1.3_1.1	98.11	99.55	bdl	439	bdl	3870	85	162	3298	658	1788
EGB-06-S57NM1.3_1.2	97.31	98.67	bdl	475	bdl	3706	108	64	3234	822	1349
EGB-06-S57NM1.3_1.3	97.17	98.58	bdl	409	bdl	3979	104	88	3285	636	1625
EGB-06-S57NM1.3_2.1	96.86	98.85	bdl	754	bdl	7016	158	123	3983	715	1550
EGB-06-S57NM1.3_2.2	96.17	98.16	bdl	679	bdl	7095	152	129	4056	690	1564
EGB-06-S57NM1.3_2.3	96.88	98.9	bdl	728	bdl	7225	164	110	4045	709	1531
EGB-06-S57NM1.3_3.1	97.44	98.87	bdl	768	bdl	2932	bdl	bdl	1201	3885	1241
EGB-06-S57NM1.3_3.2	97.87	99.3	bdl	837	bdl	2937	75	62	1105	3852	1252
EGB-06-S57NM1.3_3.3	98.13	99.55	bdl	834	bdl	2901	78	79	1131	3829	1210
EGB-06-S57NM1.3_4.1	97.58	98.75	bdl	863	bdl	1384	177	bdl	2478	536	2934
EGB-06-S57NM1.3_4.2	97.56	98.72	bdl	836	bdl	1376	150	64	2502	544	2921
EGB-06-S57NM1.3_4.3	97.33	98.44	bdl	744	bdl	1244	121	bdl	2426	539	2948
EGB-06-S57NM1.3_6.1	98.26	99.18	160	2101	bdl	511	169	487	676	213	2274
EGB-06-S57NM1.3_6.2	98.04	98.97	182	2104	bdl	476	173	464	739	232	2256
EGB-06-S57NM1.3_6.3	98.57	99.45	179	2004	bdl	412	135	432	721	220	2123
EGB-06-S57NM1.3_7.1	99.86	100.76	417	2064	bdl	121	599	139	982	558	1560
EGB-06-S57NM1.3_7.2	100.11	101.12	584	2212	bdl	137	764	156	995	556	1861
EGB-06-S57NM1.3_7.3	99.65	100.66	480	2215	bdl	179	826	126	978	563	2027
EGB-06-S57NM1.3_11.1	98.21	99.71	592	4187	bdl	446	132	204	1649	447	3094
EGB-06-S57NM1.3_11.2	97.74	99.27	482	4512	bdl	379	121	189	1686	451	3228
EGB-06-S57NM1.3_11.3	98.26	99.87	412	5044	bdl	347	124	170	1678	478	3188
EGB-06-S57NM1.3_12.1	99.69	100.72	bdl	305	bdl	278	bdl	bdl	4236	965	1402
EGB-06-S57NM1.3_12.2	100.18	101.21	bdl	345	bdl	292	bdl	bdl	4166	989	1401
EGB-06-S57NM1.3_12.3	99.54	100.58	bdl	389	bdl	330	bdl	bdl	4213	944	1350
EGB-06-S57NM1.3_14.1	98.48	99.47	bdl	1595	bdl	43	76	91	1626	1406	2225
EGB-06-S57NM1.3_14.2	98.41	99.44	bdl	1606	bdl	bdl	74	321	1645	1442	2086
EGB-06-S57NM1.3_14.3	98.83	99.82	bdl	1495	bdl	52	80	128	1625	1420	2176
EGB-06-S57NM1.3_16.1	99.84	100.43	bdl	141	bdl	566	bdl	119	1440	422	1449
EGB-06-S57NM1.3_16.2	99.7	100.27	bdl	152	bdl	554	bdl	64	1457	359	1455
EGB-06-S57NM1.3_16.3	99.08	99.67	bdl	122	bdl	501	bdl	89	1531	339	1558
EGB-06-S57NM1.3_18	98.48	99.74	1561	2382	bdl	521	1103	78	1329	172	2166
EGB-06-S57NM1.3_19	98.03	99.1	bdl	1148	bdl	2358	bdl	67	2054	638	1292
EGB-06-S57NM1.3_20	99.26	100.75	838	2188	bdl	153	2677	379	753	412	3566
EGB-06-S57NM1.3_21	98.22	99.14	bdl	620	bdl	455	458	64	2688	756	1527
EGB-06-S57NM1.3_22	97.57	98.78	458	556	bdl	50	2290	86	1871	365	3353
EGB-06-S57NM1.3_23	98.9	100.2	bdl	1040	bdl	1725	119	226	3179	590	2429
EGB-06-S57NM1.3_25	99.13	100.01	256	1850	bdl	140	93	272	1045	741	1898
EGB-06-S57NM1.3_26	100.3	100.92	bdl	1307	bdl	81	236	bdl	1483	224	1045
EGB-06-S57NM1.3_27	99.62	100.53	254	2023	bdl	240	137	274	984	625	1898
EGB-06-S57NM1.3_28	98.92	100.17	299	3361	bdl	318	183	319	899	460	3133
EGB-06-S57NM1.3_30	99.19	100.09	242	1681	bdl	bdl	180	307	1173	456	2389

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…table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S57NM1.3_31	97.67	99.13	bdl	554	bdl	3871	86	123	4003	889	793
EGB-06-S57NM1.3_32	98.85	100.12	146	2902	bdl	46	1463	606	499	169	3413
EGB-06-S57NM1.3_33	98.51	99.64	bdl	408	bdl	179	bdl	bdl	1861	222	5658
EGB-06-S57NM1.3_34	98.06	99.66	bdl	979	bdl	2999	111	bdl	3319	875	3207
EGB-06-S57NM1.3_35	97.62	98.89	bdl	1729	bdl	2969	137	336	2319	408	1007
EGB-06-S57NM1.3_36	97.11	98.98	bdl	1894	bdl	5789	73	92	863	2460	2382
EGB-06-S57NM1.3_37	99.36	100.33	152	2739	bdl	346	109	376	1115	462	1527
EGB-06-S57NM1.3_38	99.72	100.69	364	2227	bdl	232	175	191	1048	596	2166
EGB-06-S57NM1.3_40	99.44	100.74	134	4105	bdl	421	117	718	910	389	2316
EGB-06-S58M0.7-1.85_1.1	99.13	100.24	bdl	1849	bdl	1715	420	bdl	2759	187	881
EGB-06-S58M0.7-1.85_1.2	99.13	100.34	bdl	2018	bdl	2251	439	bdl	2784	186	911
EGB-06-S58M0.7-1.85_1.3	98.8	99.84	bdl	1655	bdl	1527	391	bdl	2689	180	889
EGB-06-S58M0.7-1.85_2.1	97.66	98.94	128	1894	bdl	3513	367	322	1160	423	1329
EGB-06-S58M0.7-1.85_2.2	97.48	98.75	109	1850	bdl	3608	391	320	1143	413	1317
EGB-06-S58M0.7-1.85_2.3	97.52	98.78	bdl	1880	bdl	3539	387	337	1154	383	1301
EGB-06-S58M0.7-1.85_4.1	96.56	99.5	bdl	3225	bdl	7627	201	64	3373	4418	2096
EGB-06-S58M0.7-1.85_4.2	95.77	98.77	bdl	3325	bdl	7818	201	87	3489	4447	2028
EGB-06-S58M0.7-1.85_4.3	94.89	97.87	bdl	3247	bdl	7830	201	bdl	3617	4268	2037
EGB-06-S58M0.7-1.85_7.1	95.39	97.97	288	2935	bdl	7569	185	82	1921	3565	2020
EGB-06-S58M0.7-1.85_7.2	95.82	98.36	285	3014	bdl	7145	211	95	1912	3564	2033
EGB-06-S58M0.7-1.85_7.3	95.94	98.38	236	3155	bdl	6329	135	91	1867	3728	2004
EGB-06-S58M0.7-1.85_10.1	96.18	98.25	407	7392	bdl	822	189	477	720	224	4650
EGB-06-S58M0.7-1.85_10.2	96.37	98.46	493	7418	bdl	848	234	469	702	231	4637
EGB-06-S58M0.7-1.85_10.3	96.06	98.27	434	8091	bdl	775	217	515	742	240	4814
EGB-06-S58M0.7-1.85_12.1	97.09	98.66	1132	2281	bdl	555	100	100	4323	1719	839
EGB-06-S58M0.7-1.85_12.2	96.96	98.54	1532	1947	bdl	572	bdl	142	4343	1700	813
EGB-06-S58M0.7-1.85_12.3	96.05	97.76	1730	1841	bdl	554	128	101	4375	1464	2031
EGB-06-S58M0.7-1.85_15.1	97.86	99.19	419	3730	bdl	784	150	373	1126	467	2448
EGB-06-S58M0.7-1.85_15.2	98.2	99.59	344	4098	bdl	754	143	360	1213	421	2574
EGB-06-S58M0.7-1.85_15.3	95.99	98.06	299	4535	bdl	678	150	404	1336	493	7196
EGB-06-S58M0.7-1.85_17.1	98.46	99.91	595	2076	bdl	114	3173	158	940	450	3325
EGB-06-S58M0.7-1.85_17.2	98.46	99.91	657	2103	bdl	137	3098	148	950	450	3238
EGB-06-S58M0.7-1.85_17.3	97.89	99.3	611	2145	bdl	184	2802	134	966	485	3210
EGB-06-S58M0.7-1.85_19.1	98.5	99.46	bdl	1221	bdl	1843	243	220	1655	220	1371
EGB-06-S58M0.7-1.85_19.2	98.28	99.24	bdl	1225	bdl	1906	232	209	1681	200	1440
EGB-06-S58M0.7-1.85_19.3	98.3	99.27	116	1198	bdl	1870	250	189	1714	199	1416
EGB-06-S58M0.7-1.85_20.1	96.56	98.83	322	7714	bdl	772	395	328	994	345	5485
EGB-06-S58M0.7-1.85_20.2	95.72	97.96	393	7490	bdl	771	385	320	992	360	5527
EGB-06-S58M0.7-1.85_20.3	95.34	97.46	316	7126	bdl	645	456	282	1027	324	5114
EGB-06-S58M0.7-1.85_22	97.49	99.06	bdl	4440	bdl	678	260	154	971	345	4530
EGB-06-S58M0.7-1.85_23	96.49	97.55	bdl	3439	bdl	49	bdl	bdl	2028	278	1681
EGB-06-S58M0.7-1.85_25	98.5	99.35	221	1975	bdl	52	219	bdl	832	193	2629
EGB-06-S58M0.7-1.85_26	98.33	99.46	163	2298	bdl	805	256	169	728	121	3742
EGB-06-S58M0.7-1.85_27	96.59	97.69	bdl	510	bdl	3404	124	167	2005	510	1101
EGB-06-S58M0.7-1.85_29	98.04	99.47	bdl	3987	bdl	837	102	241	971	424	3673
EGB-06-S58M0.7-1.85_30	97.65	98.62	214	1742	bdl	55	283	127	1143	370	3117
EGB-06-S58M0.7-1.85_32	98.61	99.79	bdl	2110	bdl	897	417	120	703	99	4274
EGB-06-S58M0.7-1.85_35	97.2	98.1	495	2057	bdl	41	195	bdl	730	551	2453
EGB-06-S58M0.7-1.85_37	99.42	100.43	339	2168	bdl	115	273	74	1268	610	2427
EGB-06-S58M0.7-1.85_39	97.74	98.65	165	2073	bdl	133	159	252	966	668	2040
EGB-06-S58M0.7-1.85_41	93.86	100.22	2108	1604	bdl	440	36706	148	328	bdl	8228
EGB-06-S58M0.7-1.85_43	98.32	99.58	85	2440	bdl	728	178	bdl	496	90	5361
EGB-06-S58M0.7-1.85_45	97.34	98.58	186	1549	bdl	851	181	86	1415	487	4402
EGB-06-S58M0.7-1.85_48	98.16	99	bdl	2157	bdl	44	bdl	135	623	350	2685
EGB-06-S58M0.7-1.85_49	95.92	99.03	bdl	2949	bdl	13326	171	130	1677	2406	1843
EGB-06-S58M0.7-1.85_50	98.97	99.91	142	1312	bdl	668	147	60	924	109	3548
EGB-06-S58M0.7-1.85_51	97.94	98.99	197	1648	bdl	55	106	362	1548	468	3082
EGB-06-S58MN1.85_1.1	97.83	99.25	bdl	962	bdl	2345	103	210	4355	1235	665
EGB-06-S58MN1.85_1.2	98.44	99.89	bdl	1137	bdl	2399	90	211	4382	1250	634

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. . . table "Erzgebirge samples, Phi-Rho-Z-corrected EMP data" continued from page 146

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S58MN1.85_1.3	97.68	99.29	bdl	1353	bdl	3073	112	221	4437	1261	716
EGB-06-S58MN1.85_2.1	97.05	98.23	bdl	1108	bdl	2918	68	401	2182	599	979
EGB-06-S58MN1.85_2.2	97.2	98.37	bdl	1172	bdl	2932	bdl	357	2139	595	975
EGB-06-S58MN1.85_2.3	97.55	98.73	bdl	1196	bdl	2856	bdl	404	2164	596	1019
EGB-06-S58MN1.85_4.1	97.29	98.34	211	1461	bdl	52	992	262	2060	491	1975
EGB-06-S58MN1.85_4.2	97.55	98.64	273	1539	bdl	bdl	1089	224	2119	529	2030
EGB-06-S58MN1.85_4.3	97.23	98.34	139	1621	bdl	52	1306	160	1974	571	2211
EGB-06-S58MN1.85_5.1	97.68	99.06	1234	3686	bdl	84	129	bdl	1460	629	2750
EGB-06-S58MN1.85_7.1	99.27	99.99	bdl	1595	bdl	72	160	109	715	286	2163
EGB-06-S58MN1.85_7.2	100.37	101.09	106	1590	bdl	78	100	96	675	312	2239
EGB-06-S58MN1.85_7.3	100.11	100.84	120	1665	bdl	43	150	bdl	732	302	2253
EGB-06-S58MN1.85_8.1	97.86	98.74	86	1783	bdl	55	110	130	844	413	2991
EGB-06-S58MN1.85_8.2	98	98.88	121	1883	bdl	73	90	114	796	426	2877
EGB-06-S58MN1.85_8.3	98.56	99.47	bdl	2200	bdl	46	73	154	791	431	2861
EGB-06-S58MN1.85_10.1	97.11	98.87	bdl	777	bdl	5372	94	bdl	3644	1066	1719
EGB-06-S58MN1.85_10.2	97.4	99.16	bdl	764	bdl	5478	101	bdl	3589	1050	1673
EGB-06-S58MN1.85_10.3	97.14	98.9	bdl	784	bdl	5343	111	bdl	3563	1041	1806
EGB-06-S58MN1.85_13.1	98.2	99.14	164	1923	bdl	159	139	349	1421	615	1868
EGB-06-S58MN1.85_13.2	98.94	99.88	124	2050	bdl	172	138	320	1364	570	1869
EGB-06-S58MN1.85_13.3	98.38	99.29	124	1968	bdl	168	139	318	1385	591	1775
EGB-06-S58MN1.85_14.1	97.62	98.29	bdl	1307	bdl	178	135	bdl	2043	372	585
EGB-06-S58MN1.85_14.2	97.61	98.27	bdl	1304	bdl	118	92	97	2055	365	610
EGB-06-S58MN1.85_14.3	97.91	98.57	bdl	1309	bdl	149	144	75	2122	232	580
EGB-06-S58MN1.85_16.1	99.9	100.86	bdl	1162	bdl	1701	80	293	947	903	1698
EGB-06-S58MN1.85_16.2	100.39	101.4	bdl	1379	bdl	1756	72	308	934	907	1838
EGB-06-S58MN1.85_17	101.3	102.4	bdl	1236	bdl	3038	81	574	1614	159	1050
EGB-06-S58MN1.85_19	100.13	100.94	316	1847	bdl	155	189	257	1143	402	1492
EGB-06-S58MN1.85_20	98.7	99.93	167	1352	bdl	2312	252	80	2202	291	2274
EGB-06-S58MN1.85_22	100.49	101.93	bdl	929	bdl	4540	bdl	186	2378	520	1757
EGB-06-S58MN1.85_23	99.87	100.73	163	1882	bdl	170	138	231	1207	577	1778
EGB-06-S58MN1.85_24	100.62	101.46	bdl	1417	bdl	515	bdl	bdl	307	938	2915
EGB-06-S58MN1.85_25	100.3	102	bdl	1634	bdl	6030	bdl	261	1680	374	2267
EGB-06-S58MN1.85_26	98.27	99.59	139	1468	bdl	1561	469	225	4028	865	519
EGB-06-S58MN1.85_28	100.41	101.79	bdl	611	bdl	3956	70	183	2843	725	1412
EGB-06-S58MN1.85_29	100.46	101.84	bdl	575	bdl	3961	72	182	2905	712	1412
EGB-06-S58MN1.85_31	96.88	98.69	167	2400	bdl	3174	441	bdl	2890	1296	2678
EGB-06-S58MN1.85_36	98.68	99.75	340	2140	bdl	58	268	134	1816	555	2419
EGB-06-S58MN1.85_38	98.11	99.7	bdl	884	bdl	4056	143	102	3398	835	2044
EGB-06-S58MN1.85_39	99.26	100.48	466	1868	bdl	1527	276	134	1237	418	2956
EGB-06-S58MN1.85_40	98.37	100.05	bdl	649	bdl	4811	212	153	3168	814	2300
EGB-06-S58MN1.85_42	99.66	101	bdl	901	bdl	3608	bdl	128	2266	544	2228
EGB-06-S58MN1.85_43	99.94	101.23	bdl	1474	bdl	3214	132	122	2525	309	1453
EGB-06-S58MN1.85_44	98.35	100	94	3620	bdl	2243	551	418	1321	177	3544
EGB-06-S58MN1.85_46	98.86	99.82	225	1871	bdl	144	211	349	1089	469	2473
EGB-06-S58MN1.85_47	100.3	101.67	bdl	915	bdl	3039	78	188	3714	1063	591

First part of analysis names is sample name, last part is crystal and analysis number (if more than one analysis was conducted on the same crystal).
bdl - below detection limit.
na - not analysed.

Table A.3.: EMP analyses of rutiles in sample set EGB-06. Measurement conditions: see Table 4.1, with the difference that the correction method for these data is not CITZAF after Armstrong (1995), but ZAF.

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S50M0.9-1.2_1.1	100.81	101.46	bdl	104	93	231	65	bdl	1801	1077	1125
EGB-06-S50M0.9-1.2_1.2	100.01	100.64	bdl	bdl	bdl	219	90	bdl	1790	1086	1142
EGB-06-S50M0.9-1.2_1.3	98.68	99.33	bdl	115	bdl	289	109	bdl	1748	1045	1208
EGB-06-S50M0.9-1.2_2.1	100.08	101.06	bdl	1539	bdl	1039	87	bdl	1193	571	2639
EGB-06-S50M0.9-1.2_2.2	100.40	101.28	bdl	1348	bdl	1023	129	bdl	1141	617	2188
EGB-06-S50M0.9-1.2_2.3	99.78	100.62	bdl	1227	bdl	1030	125	65	1164	575	2084
EGB-06-S50M0.9-1.2_3.1	99.24	100.18	163	2155	bdl	247	263	76	1011	595	2360
EGB-06-S50M0.9-1.2_3.2	99.58	100.50	235	1941	144	164	304	80	927	610	2389
EGB-06-S50M0.9-1.2_3.3	99.85	100.78	238	2045	73	190	302	bdl	979	595	2444
EGB-06-S50M0.9-1.2_4.2	94.34	99.48	17530	2864	bdl	332	3912	293	1168	2987	10715
EGB-06-S50M0.9-1.2_4.3	90.72	96.62	20108	2787	bdl	355	4048	512	1147	3492	13252
EGB-06-S50M0.9-1.2_5.1	98.10	98.82	bdl	213	72	319	bdl	69	2225	809	1306
EGB-06-S50M0.9-1.2_5.2	98.08	98.82	bdl	195	bdl	374	71	75	2230	818	1408
EGB-06-S50M0.9-1.2_5.3	98.84	99.57	bdl	129	bdl	367	67	71	2128	809	1583
EGB-06-S50M0.9-1.2_7.1	98.77	99.33	bdl	129	bdl	640	bdl	184	1160	702	1043
EGB-06-S50M0.9-1.2_7.2	99.23	99.78	bdl	94	bdl	584	bdl	189	1197	727	1070
EGB-06-S50M0.9-1.2_7.3	99.13	99.70	bdl	85	73	597	bdl	195	1170	694	1142
EGB-06-S50M0.9-1.2_8.1	98.10	98.73	123	541	bdl	184	640	64	1360	bdl	1698
EGB-06-S50M0.9-1.2_8.2	97.11	97.73	bdl	525	bdl	174	677	bdl	1381	bdl	1685
EGB-06-S50M0.9-1.2_8.3	96.93	97.62	154	448	88	228	671	110	1547	bdl	1761
EGB-06-S50M0.9-1.2_9.1	98.09	99.44	166	3929	bdl	600	201	314	974	311	3481
EGB-06-S50M0.9-1.2_9.2	97.79	99.09	214	3985	bdl	617	186	320	872	287	3224
EGB-06-S50M0.9-1.2_9.3	97.66	99.00	209	4305	bdl	549	185	314	954	307	3189
EGB-06-S50M0.9-1.2_10.1	99.95	100.88	315	1898	bdl	190	195	169	999	601	2521
EGB-06-S50M0.9-1.2_10.2	100.32	101.25	322	1995	bdl	191	139	143	972	572	2559
EGB-06-S50M0.9-1.2_10.3	100.09	101.04	374	1973	bdl	192	146	146	1001	571	2624
EGB-06-S50M0.9-1.2_11.1	98.54	99.50	bdl	1086	bdl	952	bdl	92	1234	53	3773
EGB-06-S50M0.9-1.2_11.2	98.41	99.35	bdl	1050	bdl	884	bdl	85	1239	bdl	3730
EGB-06-S50M0.9-1.2_11.3	98.21	99.17	bdl	1139	bdl	842	bdl	110	1258	73	3808
EGB-06-S50M0.9-1.2_12	100.46	101.17	bdl	764	bdl	652	bdl	116	778	483	2300
EGB-06-S50M0.9-1.2_15	101.13	101.64	bdl	208	bdl	211	bdl	120	1381	109	1551
EGB-06-S50M0.9-1.2_16	97.45	98.38	bdl	490	bdl	381	bdl	75	1137	3565	800
EGB-06-S50M0.9-1.2_18	97.30	98.02	bdl	1173	bdl	647	bdl	133	1287	112	1798
EGB-06-S50M0.9-1.2_19	99.31	100.54	84	3520	bdl	965	206	184	887	242	3058
EGB-06-S50M0.9-1.2_20	101.80	102.45	bdl	729	bdl	335	bdl	bdl	477	1445	1744
EGB-06-S50M0.9-1.2_21	98.71	99.30	bdl	660	bdl	410	bdl	80	905	708	1540
EGB-06-S50M0.9-1.2_22	98.30	98.97	bdl	78	bdl	273	bdl	206	2381	943	759
EGB-06-S50M0.9-1.2_24	100.86	101.60	bdl	1220	bdl	663	69	bdl	395	817	2415
EGB-06-S50M0.9-1.2_25	97.45	98.26	bdl	1108	bdl	919	69	bdl	1105	204	2646
EGB-06-S50M0.9-1.2_26	98.03	99.20	366	3461	bdl	178	117	92	1042	573	2930
EGB-06-S50M0.9-1.2_28	100.09	100.57	bdl	103	bdl	444	bdl	bdl	1427	838	440
EGB-06-S50M0.9-1.2_29	98.16	99.41	bdl	2333	bdl	1549	61	236	934	121	4165
EGB-06-S50M0.9-1.2_31	99.56	100.74	255	3622	bdl	217	179	230	1512	369	2211
EGB-06-S50M0.9-1.2_32	100.27	100.92	bdl	180	bdl	583	69	bdl	1733	565	1562
EGB-06-S50M0.9-1.2_34	100.76	101.65	bdl	1792	bdl	769	bdl	185	1007	118	2780
EGB-06-S50M0.9-1.2_36	99.88	100.94	bdl	2146	bdl	249	808	bdl	1968	750	1775
EGB-06-S50M0.9-1.2_37	100.88	101.83	421	2346	bdl	213	135	205	924	424	2275
EGB-06-S50M0.9-1.2_38	101.20	101.77	bdl	125	bdl	235	bdl	93	1310	896	1308
EGB-06-S50M0.9-1.2_39	100.41	101.27	bdl	1253	bdl	867	bdl	61	840	76	3360
EGB-06-S50M1.2-1.6_1.1	97.97	99.08	225	3071	bdl	158	104	345	1225	534	2492
EGB-06-S50M1.2-1.6_1.2	98.86	99.91	240	2705	bdl	156	100	312	1264	540	2389
EGB-06-S50M1.2-1.6_1.3	98.58	99.61	301	2538	bdl	198	136	289	1243	544	2305
EGB-06-S50M1.2-1.6_2.1	100.26	101.00	bdl	1077	bdl	635	bdl	bdl	900	146	2725
EGB-06-S50M1.2-1.6_2.2	100.76	101.54	bdl	1078	bdl	623	95	bdl	904	162	2902
EGB-06-S50M1.2-1.6_2.3	100.69	101.42	bdl	953	bdl	599	91	bdl	856	168	2820

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. . . table "EGB-06, ZAF-corrected EMP data" continued from page 196

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S50M1.2-1.6_3.1	98.56	99.30	bdl	644	bdl	386	88	bdl	887	1559	1805
EGB-06-S50M1.2-1.6_3.2	99.63	100.39	bdl	694	bdl	397	bdl	bdl	876	1627	1845
EGB-06-S50M1.2-1.6_3.3	98.63	99.41	bdl	723	bdl	438	81	bdl	911	1612	1885
EGB-06-S50M1.2-1.6_4.1	99.71	100.79	bdl	337	bdl	360	bdl	bdl	1223	4642	1048
EGB-06-S50M1.2-1.6_4.2	100.02	101.08	bdl	355	bdl	344	bdl	bdl	1171	4626	985
EGB-06-S50M1.2-1.6_4.3	99.22	100.29	bdl	426	bdl	368	bdl	bdl	1234	4616	891
EGB-06-S50M1.2-1.6_5.1	96.72	98.74	245	7644	bdl	717	248	230	914	157	5115
EGB-06-S50M1.2-1.6_5.2	97.43	99.74	205	9329	bdl	557	260	262	915	153	5692
EGB-06-S50M1.2-1.6_5.3	96.09	98.78	221	11328	bdl	442	295	296	1066	169	6368
EGB-06-S50M1.2-1.6_6.1	100.36	101.23	128	2138	bdl	181	139	220	1054	469	2008
EGB-06-S50M1.2-1.6_6.2	100.91	101.80	144	2213	bdl	198	115	186	1069	452	2069
EGB-06-S50M1.2-1.6_6.3	100.21	101.16	95	2617	bdl	189	106	97	1126	472	2300
EGB-06-S50M1.2-1.6_7.1	100.49	101.20	bdl	576	bdl	376	bdl	bdl	421	1715	2054
EGB-06-S50M1.2-1.6_7.2	99.74	100.45	bdl	519	bdl	316	bdl	bdl	438	1702	2107
EGB-06-S50M1.2-1.6_7.3	100.04	100.76	bdl	727	bdl	360	bdl	bdl	425	1658	2093
EGB-06-S50M1.2-1.6_8.1	97.41	99.00	342	5007	bdl	503	140	449	1233	320	3770
EGB-06-S50M1.2-1.6_8.2	97.58	99.13	274	4812	bdl	569	137	416	1220	351	3682
EGB-06-S50M1.2-1.6_8.3	97.44	98.93	246	4597	bdl	578	147	363	1161	361	3596
EGB-06-S50M1.2-1.6_9.1	100.58	101.11	bdl	631	bdl	141	123	89	432	241	2229
EGB-06-S50M1.2-1.6_9.2	101.05	101.59	bdl	607	bdl	113	166	92	474	191	2318
EGB-06-S50M1.2-1.6_9.3	100.77	101.28	bdl	591	bdl	147	141	bdl	439	361	2065
EGB-06-S50M1.2-1.6_10.2	100.89	101.86	292	2438	bdl	198	204	258	830	703	2174
EGB-06-S50M1.2-1.6_10.3	100.38	101.41	274	2672	bdl	195	213	241	873	690	2347
EGB-06-S50M1.2-1.6_11	96.91	97.82	180	2263	bdl	183	135	158	1423	484	1831
EGB-06-S50M1.2-1.6_12	99.38	100.32	183	2712	bdl	177	126	79	709	424	2639
EGB-06-S50M1.2-1.6_14	97.32	100.89	3646	1255	bdl	81	13350	bdl	5836	915	2280
EGB-06-S50M1.2-1.6_15	101.21	102.24	bdl	2217	bdl	719	bdl	106	1548	1003	1854
EGB-06-S50M1.2-1.6_16	98.22	99.19	90	2426	bdl	136	88	182	1028	452	2802
EGB-06-S50M1.2-1.6_17	101.25	102.15	516	1992	bdl	152	125	100	961	662	2203
EGB-06-S50M1.2-1.6_18	98.65	99.40	182	546	bdl	387	89	128	1849	487	1803
EGB-06-S50M1.2-1.6_19	101.97	102.49	bdl	bdl	bdl	267	bdl	79	1797	809	644
EGB-06-S50M1.2-1.6_20	97.13	98.28	bdl	2115	bdl	820	bdl	bdl	1538	102	3996
EGB-06-S50M1.2-1.6_21	97.95	98.68	bdl	525	bdl	557	bdl	bdl	1040	1834	1227
EGB-06-S50M1.2-1.6_22	100.53	101.55	bdl	1847	bdl	854	bdl	104	1381	155	3227
EGB-06-S50M1.2-1.6_23	96.80	98.03	bdl	1754	bdl	977	bdl	bdl	1442	bdl	5025
EGB-06-S50M1.2-1.6_24	100.14	102.10	1417	5557	bdl	892	807	369	373	288	5155
EGB-06-S50M1.2-1.6_25	99.57	100.62	bdl	1747	bdl	1003	bdl	99	1297	120	3507
EGB-06-S50M1.2-1.6_26	99.41	100.51	bdl	951	bdl	928	bdl	bdl	1754	bdl	4477
EGB-06-S50M1.2-1.6_27	98.39	99.44	505	2662	bdl	144	559	bdl	709	433	2926
EGB-06-S50M1.2-1.6_28	97.55	98.53	96	2294	bdl	159	90	116	962	452	3098
EGB-06-S50M1.2-1.6_29	98.69	99.50	bdl	1660	bdl	784	bdl	182	1517	436	1240
EGB-06-S50M1.2-1.6_30	101.56	102.16	376	290	bdl	135	266	bdl	916	365	2137
EGB-06-S50M1.2-1.6_31	98.59	99.64	bdl	1125	bdl	806	bdl	bdl	2289	74	3376
EGB-06-S50M1.6-1.75_1.1	98.33	99.44	278	3004	bdl	171	255	138	762	283	3450
EGB-06-S50M1.6-1.75_1.2	98.25	99.31	391	2625	bdl	173	232	121	765	274	3455
EGB-06-S50M1.6-1.75_1.3	96.39	98.69	411	8948	bdl	175	197	135	1292	317	5845
EGB-06-S50M1.6-1.75_2.1	100.24	101.15	98	2301	bdl	158	80	bdl	1077	666	2361
EGB-06-S50M1.6-1.75_2.2	99.91	100.81	132	2285	bdl	137	97	bdl	1056	614	2416
EGB-06-S50M1.6-1.75_2.3	99.39	100.32	124	2471	bdl	154	89	bdl	1058	646	2337
EGB-06-S50M1.6-1.75_3.1	98.66	99.74	bdl	2244	bdl	873	138	137	695	450	3575
EGB-06-S50M1.6-1.75_3.2	98.82	99.90	bdl	2289	bdl	844	113	135	669	399	3501
EGB-06-S50M1.6-1.75_3.3	99.27	100.32	bdl	2209	bdl	842	143	153	659	417	3330
EGB-06-S50M1.6-1.75_4.2	97.63	98.44	240	1788	bdl	222	169	153	1261	375	1670
EGB-06-S50M1.6-1.75_4.3	98.35	99.15	170	1737	bdl	227	172	165	1306	374	1758
EGB-06-S50M1.6-1.75_5.1	96.91	98.04	90	2777	bdl	627	208	bdl	1309	530	2874
EGB-06-S50M1.6-1.75_5.2	97.49	98.63	bdl	2963	bdl	639	197	bdl	1291	439	2939
EGB-06-S50M1.6-1.75_5.3	96.87	97.97	bdl	2716	bdl	597	202	bdl	1332	395	2892
EGB-06-S50M1.6-1.75_7.1	98.43	99.48	bdl	1687	bdl	986	bdl	bdl	1328	131	3713
EGB-06-S50M1.6-1.75_7.2	98.60	99.66	bdl	1691	bdl	1019	bdl	bdl	1277	135	3746

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. . . table "EGB-06, ZAF-corrected EMP data" continued from page 196

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S50M1.6-1.75_7.3	98.60	99.98	bdl	1780	bdl	1019	bdl	64	1351	126	6073
EGB-06-S50M1.6-1.75_8.1	97.74	98.74	174	1949	bdl	138	152	146	1273	585	2907
EGB-06-S50M1.6-1.75_8.2	97.04	98.07	267	1883	bdl	118	156	100	1274	588	3255
EGB-06-S50M1.6-1.75_8.3	97.33	98.33	197	1891	bdl	132	144	bdl	1315	562	3199
EGB-06-S50M1.6-1.75_9.1	100.32	101.40	163	3012	bdl	222	113	99	1128	574	2733
EGB-06-S50M1.6-1.75_9.2	100.60	101.57	215	2361	bdl	209	161	92	1106	556	2560
EGB-06-S50M1.6-1.75_9.3	99.61	100.55	194	2133	bdl	239	161	104	1060	545	2599
EGB-06-S50M1.6-1.75_11.1	99.23	100.25	282	2656	bdl	219	133	115	1047	534	2661
EGB-06-S50M1.6-1.75_11.2	98.72	99.71	266	2552	bdl	224	95	112	1049	538	2581
EGB-06-S50M1.6-1.75_11.3	98.74	99.81	335	2895	bdl	223	122	117	1058	536	2670
EGB-06-S50M1.6-1.75_12.1	97.62	98.58	315	2473	bdl	195	239	180	1142	416	2127
EGB-06-S50M1.6-1.75_12.2	98.08	99.08	282	2515	bdl	240	217	71	1232	428	2421
EGB-06-S50M1.6-1.75_12.3	97.36	98.38	186	2678	bdl	218	180	156	1251	432	2475
EGB-06-S50M1.6-1.75_23	98.94	99.88	bdl	1193	bdl	1139	bdl	67	1131	226	3262
EGB-06-S50M1.6-1.75_24	98.30	99.25	311	1970	bdl	111	156	bdl	1517	805	2114
EGB-06-S50M1.6-1.75_25	98.75	100.07	1407	1411	bdl	407	239	bdl	3551	915	1676
EGB-06-S50M1.6-1.75_26	100.92	101.83	224	2349	bdl	313	117	119	1022	395	2273
EGB-06-S50M1.6-1.75_27	99.31	100.26	137	2115	bdl	176	101	bdl	1394	611	2434
EGB-06-S50M1.6-1.75_29	99.83	100.89	316	2737	76	222	130	81	1273	866	2054
EGB-06-S50M1.6-1.75_30	98.46	99.56	131	2810	bdl	315	216	bdl	1298	536	2847
EGB-06-S50M1.6-1.75_31	98.71	99.76	460	1962	bdl	166	203	bdl	2363	679	1858
EGB-06-S50M1.6-1.75_32	100.92	101.87	251	1560	bdl	157	611	128	1502	195	2672
EGB-06-S50M1.6-1.75_33	97.97	99.10	bdl	1909	bdl	859	73	87	1126	457	4000
EGB-06-S50NM1.75_1.1	101.17	101.99	224	1977	bdl	241	312	371	697	598	1528
EGB-06-S50NM1.75_1.2	100.48	101.32	244	2105	bdl	227	263	361	742	600	1516
EGB-06-S50NM1.75_1.3	101.06	101.92	300	2269	bdl	301	236	372	689	597	1478
EGB-06-S50NM1.75_2.1	99.77	100.56	111	2109	bdl	223	104	287	715	764	1441
EGB-06-S50NM1.75_2.2	100.12	100.94	114	2166	bdl	212	83	281	705	781	1531
EGB-06-S50NM1.75_2.3	100.64	101.47	135	2261	bdl	212	113	327	714	763	1494
EGB-06-S50NM1.75_3.1	98.51	99.43	239	1903	bdl	174	146	137	1054	908	2236
EGB-06-S50NM1.75_3.2	98.27	99.20	209	1954	bdl	171	135	145	1085	882	2293
EGB-06-S50NM1.75_3.3	97.88	98.82	219	1978	bdl	153	161	123	1076	881	2333
EGB-06-S50NM1.75_4.1	100.55	101.59	301	2786	bdl	215	418	393	642	468	2423
EGB-06-S50NM1.75_4.2	100.02	101.07	379	2947	bdl	193	386	387	625	471	2417
EGB-06-S50NM1.75_4.3	99.72	100.80	359	3174	bdl	218	415	399	665	451	2295
EGB-06-S50NM1.75_5.1	100.75	101.47	175	910	bdl	1499	bdl	180	615	331	1566
EGB-06-S50NM1.75_5.2	101.22	101.97	186	949	bdl	1526	bdl	134	615	338	1761
EGB-06-S50NM1.75_5.3	100.92	101.69	193	969	bdl	1605	bdl	bdl	606	335	1943
EGB-06-S50NM1.75_7.1	99.84	100.45	bdl	251	bdl	409	123	bdl	1416	418	1785
EGB-06-S50NM1.75_7.2	99.46	100.06	bdl	254	bdl	388	bdl	bdl	1381	392	1775
EGB-06-S50NM1.75_7.3	100.06	100.74	128	310	bdl	406	109	bdl	1324	419	2257
EGB-06-S50NM1.75_8.1	97.45	98.29	bdl	1191	bdl	760	bdl	104	1084	488	2515
EGB-06-S50NM1.75_8.2	97.29	98.15	bdl	1278	bdl	778	bdl	132	1139	467	2578
EGB-06-S50NM1.75_8.3	97.16	98.02	bdl	1262	bdl	759	bdl	123	1106	484	2575
EGB-06-S50NM1.75_10.1	100.11	101.27	521	1841	bdl	103	2729	185	958	380	2094
EGB-06-S50NM1.75_10.2	99.57	100.75	439	1869	bdl	96	2633	122	1028	391	2414
EGB-06-S50NM1.75_10.3	99.53	100.72	506	1871	bdl	139	2521	110	986	410	2470
EGB-06-S50NM1.75_15.1	98.02	98.99	89	2726	bdl	178	84	219	967	617	2244
EGB-06-S50NM1.75_15.2	98.32	99.55	117	4194	bdl	184	bdl	251	1086	670	2476
EGB-06-S50NM1.75_15.3	99.13	100.15	170	2886	bdl	172	76	197	1044	564	2370
EGB-06-S50NM1.75_17.1	100.42	101.45	bdl	2305	bdl	997	bdl	97	1249	289	2594
EGB-06-S50NM1.75_17.2	101.12	102.14	bdl	2384	bdl	1013	115	113	1196	267	2546
EGB-06-S50NM1.75_17.3	100.67	101.67	bdl	2357	bdl	912	bdl	81	1184	287	2590
EGB-06-S50NM1.75_18	96.76	97.98	187	3568	bdl	716	156	166	816	255	3269
EGB-06-S50NM1.75_19	100.34	101.24	bdl	2295	bdl	112	62	67	732	796	2566
EGB-06-S50NM1.75_20	98.29	99.27	bdl	2877	bdl	264	76	85	1623	365	1830
EGB-06-S50NM1.75_21	99.43	100.62	231	3299	bdl	549	191	156	1008	370	3076
EGB-06-S50NM1.75_24	100.73	101.54	bdl	1228	bdl	962	147	bdl	1360	968	1230
EGB-06-S50NM1.75_25	99.99	100.87	207	1957	bdl	155	157	78	1357	516	2037

continued on next page. . .

. . . table "EGB-06, ZAF-corrected EMP data" continued from page 196

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S50NM1.75_27	98.54	99.43	149	1901	bdl	235	145	334	1352	446	1902
EGB-06-S50NM1.75_28	97.65	98.42	bdl	1109	bdl	289	bdl	110	1076	698	2342
EGB-06-S50NM1.75_29	100.09	101.00	174	2257	bdl	211	83	267	780	428	2567
EGB-06-S50NM1.75_30	98.42	99.03	bdl	203	bdl	526	63	180	1417	671	1230
EGB-06-S50NM1.75_31	98.05	98.99	235	2431	bdl	166	120	323	842	842	1859
EGB-06-S50NM1.75_32	97.16	98.19	bdl	2173	bdl	250	317	62	1958	690	2128
EGB-06-S50NM1.75_33	98.81	99.69	186	2119	93	223	94	166	954	417	2138
EGB-06-S50NM1.75_34	99.76	100.71	261	1911	bdl	155	247	194	1158	732	2383
EGB-06-S50NM1.75_35	97.57	98.62	138	2590	75	420	117	bdl	1736	259	2378
EGB-06-S50NM1.75_37	98.84	99.80	213	1864	bdl	213	174	297	1357	611	2257
EGB-06-S50NM1.75_38	98.39	99.21	143	799	bdl	511	194	203	1824	164	2074
EGB-06-S50NM1.75_39	100.45	101.26	bdl	2094	bdl	133	63	107	707	722	2129
EGB-06-S50NM1.75_40	98.08	99.35	bdl	2613	bdl	984	135	354	1330	161	3752
EGB-06-S50NM1.75_41	100.31	101.35	219	2373	bdl	210	247	bdl	2191	637	1712
EGB-06-S51M0.4-1.8_1.1	101.25	102.04	bdl	1444	bdl	567	87	92	861	525	2278
EGB-06-S51M0.4-1.8_1.2	100.49	101.27	bdl	1424	bdl	576	85	70	839	528	2277
EGB-06-S51M0.4-1.8_1.3	100.70	101.48	bdl	1407	bdl	565	bdl	74	823	471	2368
EGB-06-S51M0.4-1.8_2.1	98.10	99.33	bdl	1528	bdl	684	128	189	786	182	5830
EGB-06-S51M0.4-1.8_2.2	97.59	98.93	bdl	1567	bdl	681	136	77	766	157	6768
EGB-06-S51M0.4-1.8_2.3	97.01	98.60	bdl	1595	bdl	640	88	102	797	138	8705
EGB-06-S51M0.4-1.8_3.1	98.71	99.77	bdl	2082	bdl	760	bdl	176	1349	79	3446
EGB-06-S51M0.4-1.8_3.2	98.74	99.81	bdl	2020	bdl	820	bdl	204	1373	105	3387
EGB-06-S51M0.4-1.8_3.3	98.49	99.57	bdl	2075	bdl	786	bdl	197	1391	105	3424
EGB-06-S51M0.4-1.8_4.1	96.98	98.65	706	3783	71	600	421	939	635	179	4854
EGB-06-S51M0.4-1.8_4.2	96.78	98.36	649	3868	bdl	621	410	799	685	186	4342
EGB-06-S51M0.4-1.8_4.3	95.63	97.26	642	3999	159	546	409	810	776	190	4369
EGB-06-S51M0.4-1.8_6.1	98.28	99.13	bdl	1243	bdl	213	bdl	bdl	886	963	2888
EGB-06-S51M0.4-1.8_6.2	97.73	98.56	bdl	1202	bdl	188	67	78	916	938	2763
EGB-06-S51M0.4-1.8_6.3	97.17	98.05	bdl	1539	bdl	238	bdl	bdl	1024	1032	2609
EGB-06-S51M0.4-1.8_7.1	97.31	98.12	bdl	705	bdl	988	121	153	1258	270	2463
EGB-06-S51M0.4-1.8_7.2	97.79	98.60	bdl	749	bdl	954	143	110	1259	283	2487
EGB-06-S51M0.4-1.8_7.3	97.62	98.41	bdl	685	bdl	873	99	121	1279	303	2499
EGB-06-S51M0.4-1.8_9.1	97.15	98.22	203	2487	bdl	204	132	139	1202	576	3019
EGB-06-S51M0.4-1.8_9.2	96.71	97.94	236	3168	bdl	210	157	175	1284	639	3206
EGB-06-S51M0.4-1.8_9.3	96.99	98.07	303	2405	bdl	221	91	148	1228	575	3036
EGB-06-S51M0.4-1.8_10.1	97.42	99.19	88	6202	bdl	631	158	345	907	252	4662
EGB-06-S51M0.4-1.8_10.2	97.02	98.78	150	5993	bdl	628	133	323	1022	280	4616
EGB-06-S51M0.4-1.8_10.3	97.20	98.94	138	5985	bdl	606	195	227	1024	301	4531
EGB-06-S51M0.4-1.8_11.1	96.92	98.58	289	5360	bdl	899	315	480	738	172	4092
EGB-06-S51M0.4-1.8_11.2	96.43	98.02	316	5153	bdl	805	271	435	722	133	3991
EGB-06-S51M0.4-1.8_11.3	96.00	97.66	226	5899	bdl	686	295	391	739	143	3984
EGB-06-S51M0.4-1.8_15.1	98.02	98.70	bdl	183	bdl	731	81	78	1737	827	1178
EGB-06-S51M0.4-1.8_15.2	98.02	98.70	bdl	148	bdl	704	92	75	1778	820	1168
EGB-06-S51M0.4-1.8_15.3	98.13	98.79	bdl	146	bdl	668	76	107	1731	830	1147
EGB-06-S51M0.4-1.8_15.4	98.12	98.77	bdl	166	bdl	622	67	93	1718	821	1124
EGB-06-S51M0.4-1.8_16	98.30	99.31	bdl	2112	bdl	767	bdl	148	851	482	3091
EGB-06-S51M0.4-1.8_17	98.42	99.46	159	2512	bdl	263	100	177	1167	870	2374
EGB-06-S51M0.4-1.8_18	97.30	98.52	577	2353	bdl	229	1585	253	813	356	3014
EGB-06-S51M0.4-1.8_19	100.03	100.56	bdl	231	bdl	606	65	133	1699	582	381
EGB-06-S51M0.4-1.8_20	96.35	98.65	377	8418	bdl	803	349	420	713	165	6058
EGB-06-S51M0.4-1.8_21	100.20	100.82	bdl	683	bdl	389	bdl	bdl	438	1095	1925
EGB-06-S51M0.4-1.8_23	98.25	99.27	bdl	1542	bdl	1353	bdl	100	1746	148	2604
EGB-06-S51M0.4-1.8_24	100.72	101.21	bdl	196	bdl	212	bdl	338	1570	109	946
EGB-06-S51M0.4-1.8_25	98.35	99.23	84	2000	bdl	165	96	140	963	432	2676
EGB-06-S51M0.4-1.8_26	98.59	99.51	308	2056	bdl	107	563	183	840	356	2466
EGB-06-S51M0.4-1.8_27	100.21	101.05	bdl	954	bdl	275	bdl	bdl	275	2779	1764
EGB-06-S51M0.4-1.8_28	99.92	101.16	519	2042	bdl	109	2522	141	878	499	2701
EGB-06-S51M0.4-1.8_29	99.56	100.39	bdl	219	bdl	bdl	377	bdl	928	507	4113
EGB-06-S51M0.4-1.8_30	100.63	101.49	bdl	1413	bdl	1249	bdl	179	710	81	2711

continued on next page. . .

. . . table "EGB-06, ZAF-corrected EMP data" continued from page 196

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S51M0.4-1.8_31	98.89	100.17	105	3513	bdl	267	107	166	1546	442	3297
EGB-06-S51M0.4-1.8_33	99.40	100.39	bdl	1530	bdl	822	bdl	69	975	709	3205
EGB-06-S51M0.4-1.8_34	98.50	99.52	240	2663	bdl	bdl	78	131	1211	389	2868
EGB-06-S51M0.4-1.8_35	97.30	98.74	1113	2270	bdl	121	2250	198	527	394	4109
EGB-06-S51M0.4-1.8_36	100.02	100.86	196	2008	bdl	269	133	306	822	570	1844
EGB-06-S51M0.4-1.8_37	97.88	98.86	bdl	1033	bdl	855	bdl	bdl	1171	238	4042
EGB-06-S51NM1.8_3.1	98.14	99.01	235	1892	bdl	125	185	331	1113	673	1698
EGB-06-S51NM1.8_3.2	97.70	98.56	224	1872	bdl	151	154	346	1173	617	1642
EGB-06-S51NM1.8_3.3	98.23	99.07	194	2050	bdl	175	109	281	1196	506	1559
EGB-06-S51NM1.8_4.1	100.36	101.07	127	1436	bdl	105	199	88	893	315	2093
EGB-06-S51NM1.8_4.2	100.21	100.95	190	1491	bdl	121	171	164	899	311	2089
EGB-06-S51NM1.8_4.3	99.57	100.32	144	1557	bdl	138	221	175	891	330	2084
EGB-06-S51NM1.8_5.1	99.10	100.03	167	2165	bdl	243	144	231	1067	480	2370
EGB-06-S51NM1.8_5.2	100.27	101.26	96	2425	bdl	231	129	199	1112	532	2553
EGB-06-S51NM1.8_5.3	100.07	101.14	124	2975	bdl	255	92	219	1185	454	2533
EGB-06-S51NM1.8_7.1	99.39	100.08	bdl	398	bdl	1628	bdl	91	1035	829	958
EGB-06-S51NM1.8_7.2	99.60	100.29	bdl	381	bdl	1675	bdl	bdl	1063	837	972
EGB-06-S51NM1.8_7.3	99.06	99.73	bdl	294	bdl	1675	bdl	128	1005	835	846
EGB-06-S51NM1.8_8.1	98.39	99.27	bdl	1199	bdl	1008	bdl	bdl	1328	79	2847
EGB-06-S51NM1.8_8.2	97.37	98.25	bdl	1157	bdl	1067	bdl	bdl	1330	57	2867
EGB-06-S51NM1.8_8.3	98.43	99.25	bdl	863	bdl	1063	bdl	66	1309	79	2732
EGB-06-S51NM1.8_9.1	99.36	100.60	bdl	2751	bdl	1099	bdl	152	910	737	3609
EGB-06-S51NM1.8_9.2	99.26	100.49	bdl	2739	bdl	1056	bdl	155	892	735	3582
EGB-06-S51NM1.8_9.3	99.08	100.34	bdl	3039	bdl	966	bdl	143	903	726	3598
EGB-06-S51NM1.8_10.1	99.44	100.34	bdl	1492	bdl	1051	bdl	69	1504	557	1892
EGB-06-S51NM1.8_10.2	99.93	100.83	bdl	1499	bdl	1045	bdl	67	1510	560	1890
EGB-06-S51NM1.8_10.3	99.50	100.38	bdl	1549	bdl	964	bdl	bdl	1480	512	1885
EGB-06-S51NM1.8_11.1	99.05	99.98	129	2555	bdl	150	69	88	1163	618	2180
EGB-06-S51NM1.8_11.2	99.20	100.01	bdl	1958	bdl	74	132	88	1103	631	2003
EGB-06-S51NM1.8_11.3	98.77	99.67	112	2272	bdl	153	102	71	1112	656	2140
EGB-06-S51NM1.8_13.1	100.45	101.26	bdl	1118	bdl	999	123	178	1033	450	1998
EGB-06-S51NM1.8_13.2	100.27	101.08	bdl	1114	bdl	1035	137	167	1028	417	2004
EGB-06-S51NM1.8_13.3	100.62	101.36	bdl	993	bdl	754	104	176	1041	417	1915
EGB-06-S51NM1.8_15.1	99.04	99.79	bdl	1129	bdl	711	bdl	bdl	1264	264	2040
EGB-06-S51NM1.8_15.2	98.96	99.73	bdl	1085	bdl	712	bdl	bdl	1337	294	2241
EGB-06-S51NM1.8_15.3	99.13	99.91	bdl	1070	bdl	823	bdl	bdl	1203	254	2250
EGB-06-S51NM1.8_16	99.80	100.63	158	1915	bdl	102	167	171	1089	529	1903
EGB-06-S51NM1.8_17	100.33	101.21	208	1886	bdl	132	141	255	1236	650	1884
EGB-06-S51NM1.8_18	99.97	101.29	260	4068	bdl	482	174	237	607	248	3809
EGB-06-S51NM1.8_19	99.69	100.40	bdl	657	bdl	426	bdl	bdl	608	1702	1730
EGB-06-S51NM1.8_20	98.57	99.50	418	2096	bdl	219	124	98	978	783	2134
EGB-06-S51NM1.8_21	98.23	99.13	136	2078	bdl	204	102	270	1103	736	1901
EGB-06-S51NM1.8_22	99.98	100.84	255	2043	bdl	193	123	bdl	1999	346	1332
EGB-06-S51NM1.8_23	98.57	99.45	268	2224	bdl	140	133	70	914	390	2407
EGB-06-S51NM1.8_24	100.01	100.89	169	1874	bdl	186	206	142	1285	528	2120
EGB-06-S51NM1.8_25	98.23	99.32	540	2337	bdl	190	693	144	897	450	2962
EGB-06-S51NM1.8_26	100.37	101.38	510	2161	bdl	163	592	77	1660	392	1957
EGB-06-S51NM1.8_27	99.74	100.61	238	1914	bdl	188	214	331	768	603	2121
EGB-06-S51NM1.8_28	97.58	98.69	432	2362	bdl	293	737	293	867	393	2854
EGB-06-S51NM1.8_29	99.66	100.76	423	2470	bdl	322	461	170	587	413	3436
EGB-06-S51NM1.8_30	97.82	99.05	bdl	3359	bdl	673	141	131	1109	335	3385
EGB-06-S51NM1.8_31	98.91	99.84	119	1709	bdl	793	242	244	1873	550	1127
EGB-06-S51NM1.8_32	99.69	100.77	534	2225	bdl	204	729	204	982	410	2752
EGB-06-S51NM1.8_33	98.64	99.58	bdl	1051	bdl	885	bdl	bdl	953	108	3978
EGB-06-S51NM1.8_34	99.65	100.55	292	1971	bdl	164	354	bdl	1022	531	2330
EGB-06-S51NM1.8_35	99.67	100.52	bdl	1837	bdl	58	76	105	559	536	3090
EGB-06-S52NM1.7_1.1	98.43	99.50	102	1966	bdl	126	94	bdl	691	427	4659
EGB-06-S52NM1.7_1.2	99.54	100.31	bdl	1761	bdl	61	97	bdl	671	433	2661
EGB-06-S52NM1.7_1.3	99.60	100.41	bdl	2041	bdl	70	91	bdl	680	440	2747

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. . . table "EGB-06, ZAF-corrected EMP data" continued from page 196

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S52NM1.7_2.1	98.96	99.97	251	1857	bdl	104	836	92	1164	423	2831
EGB-06-S52NM1.7_2.2	98.67	99.68	161	1859	bdl	93	844	96	1291	422	2790
EGB-06-S52NM1.7_2.3	98.23	99.24	161	1829	bdl	90	812	74	1260	466	2812
EGB-06-S52NM1.7_4.1	98.15	98.96	163	1729	bdl	58	133	bdl	786	608	2469
EGB-06-S52NM1.7_4.2	99.95	100.69	bdl	1734	bdl	56	111	bdl	491	586	2457
EGB-06-S52NM1.7_4.3	99.87	101.00	bdl	3750	bdl	98	107	bdl	632	772	3061
EGB-06-S52NM1.7_6.1	99.52	100.34	102	2015	bdl	107	94	bdl	835	538	2445
EGB-06-S52NM1.7_6.2	99.76	100.61	234	1873	bdl	139	131	76	819	576	2477
EGB-06-S52NM1.7_6.3	100.86	101.71	131	2135	bdl	86	89	bdl	877	623	2306
EGB-06-S52NM1.7_7.1	100.18	101.20	305	2136	bdl	566	201	278	1028	294	2756
EGB-06-S52NM1.7_7.2	99.57	100.60	301	2166	bdl	593	229	429	1003	291	2533
EGB-06-S52NM1.7_7.3	99.97	100.98	297	2182	bdl	645	221	374	929	305	2487
EGB-06-S52NM1.7_8.1	98.21	99.11	205	2432	bdl	129	150	294	1666	594	1008
EGB-06-S52NM1.7_8.2	97.90	98.78	159	2416	bdl	111	117	292	1680	616	894
EGB-06-S52NM1.7_10.1	99.20	100.02	81	2057	bdl	87	65	bdl	878	426	2501
EGB-06-S52NM1.7_10.2	98.67	99.52	bdl	1953	bdl	84	67	bdl	878	420	2791
EGB-06-S52NM1.7_10.3	98.88	99.76	bdl	2333	bdl	93	87	bdl	893	437	2637
EGB-06-S52NM1.7_13.1	99.00	99.84	162	1903	bdl	167	99	435	1635	798	658
EGB-06-S52NM1.7_13.2	98.19	99.04	165	1955	bdl	181	161	310	1692	781	750
EGB-06-S52NM1.7_13.3	97.48	98.32	180	1923	bdl	141	139	236	1793	784	823
EGB-06-S52NM1.7_14.1	97.80	98.68	147	2191	bdl	108	114	86	897	562	2435
EGB-06-S52NM1.7_14.2	98.81	99.66	134	1924	bdl	96	133	68	768	515	2726
EGB-06-S52NM1.7_14.3	99.15	99.97	148	2094	bdl	124	82	bdl	750	499	2384
EGB-06-S52NM1.7_18.1	99.56	100.51	553	1674	bdl	743	249	224	1868	151	1528
EGB-06-S52NM1.7_18.2	99.30	100.26	511	1692	bdl	671	264	258	1914	200	1475
EGB-06-S52NM1.7_18.3	99.45	100.39	433	1659	bdl	761	230	200	1893	163	1527
EGB-06-S52NM1.7_19	99.22	100.46	713	2918	bdl	135	176	80	1198	451	3657
EGB-06-S52NM1.7_20	101.06	101.72	bdl	1056	bdl	118	bdl	194	1098	654	1507
EGB-06-S52NM1.7_22	98.28	99.20	432	1759	bdl	81	153	bdl	1478	443	2487
EGB-06-S52NM1.7_23	100.68	101.56	255	2019	bdl	138	94	87	1372	787	1691
EGB-06-S52NM1.7_24	98.50	99.78	527	3070	bdl	611	367	304	1801	506	2243
EGB-06-S52NM1.7_25	99.83	100.56	bdl	1863	bdl	130	112	196	930	153	2009
EGB-06-S52NM1.7_26	98.77	99.98	488	1979	bdl	130	2327	bdl	1049	436	2785
EGB-06-S52NM1.7_27	97.94	98.97	332	2384	bdl	625	284	324	1350	395	1792
EGB-06-S52NM1.7_28	99.58	100.44	bdl	1317	bdl	64	63	88	792	368	3796
EGB-06-S52NM1.7_29	98.88	99.90	416	2320	bdl	201	171	117	1679	436	2152
EGB-06-S52NM1.7_30	98.30	99.16	415	1917	bdl	147	103	bdl	1703	814	1076
EGB-06-S52NM1.7_31	99.34	100.37	462	1975	bdl	92	485	66	924	383	3390
EGB-06-S52NM1.7_33	97.72	98.65	170	1897	bdl	174	130	356	1543	712	1679
EGB-06-S52NM1.7_33.2	97.96	98.84	199	1903	bdl	147	135	231	1606	747	1405
EGB-06-S52NM1.7_35	97.80	99.00	220	3676	bdl	406	140	519	1071	510	2171
EGB-06-S52NM1.7_36	100.56	101.60	269	3101	bdl	513	195	413	947	441	1712
EGB-06-S52NM1.7_37	99.26	100.66	614	4129	bdl	234	442	173	1103	561	3220
EGB-06-S52NM1.7_39	98.94	100.16	477	3259	bdl	819	230	470	779	411	2567
EGB-06-S52NM1.7_40	97.74	98.86	185	3195	bdl	449	116	357	1683	607	1498
EGB-06-S52M0.4-1.7_1.1	96.22	97.97	648	5001	bdl	605	621	194	1174	312	4605
EGB-06-S52M0.4-1.7_1.2	97.23	98.96	596	4942	bdl	566	601	206	1080	329	4730
EGB-06-S52M0.4-1.7_1.3	96.80	98.44	396	4914	bdl	451	477	186	1158	337	4372
EGB-06-S52M0.4-1.7_2.1	98.05	98.93	bdl	2178	bdl	88	88	bdl	1200	720	2096
EGB-06-S52M0.4-1.7_2.2	98.52	99.41	bdl	2132	bdl	76	108	bdl	1147	742	2238
EGB-06-S52M0.4-1.7_2.3	97.55	98.51	bdl	2600	bdl	129	63	bdl	1268	719	2232
EGB-06-S52M0.4-1.7_3.1	98.32	99.26	228	2210	bdl	154	253	85	1309	428	2385
EGB-06-S52M0.4-1.7_3.2	97.94	98.87	216	2209	bdl	114	347	bdl	1248	462	2316
EGB-06-S52M0.4-1.7_3.3	97.88	98.82	258	2415	bdl	150	165	70	1236	593	2124
EGB-06-S52M0.4-1.7_4.1	94.41	100.15	16729	874	bdl	192	12880	192	6590	2513	4302
EGB-06-S52M0.4-1.7_4.2	92.31	99.36	21640	988	bdl	243	13561	213	7838	5420	4117
EGB-06-S52M0.4-1.7_4.3	96.44	99.85	3970	535	bdl	97	10917	bdl	3440	6078	722
EGB-06-S52M0.4-1.7_5.1	97.16	98.42	395	2271	bdl	376	251	76	2253	1697	1871
EGB-06-S52M0.4-1.7_5.2	96.76	98.01	457	2308	bdl	366	302	bdl	2194	1698	1748

continued on next page. . .

. . . table "EGB-06, ZAF-corrected EMP data" continued from page 196

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S52M0.4-1.7_5.3	97.05	98.27	446	2292	bdl	406	277	bdl	2163	1541	1698
EGB-06-S52M0.4-1.7_6.1	99.35	99.90	157	721	bdl	132	76	80	1023	118	1826
EGB-06-S52M0.4-1.7_6.2	98.99	99.60	162	768	bdl	115	62	84	997	166	2235
EGB-06-S52M0.4-1.7_6.3	99.29	99.85	132	785	bdl	127	92	97	1003	135	1802
EGB-06-S52M0.4-1.7_9.1	98.43	99.51	294	1885	bdl	108	1475	101	1475	646	2083
EGB-06-S52M0.4-1.7_9.2	98.89	99.95	329	1825	bdl	144	1380	99	1508	629	2039
EGB-06-S52M0.4-1.7_9.3	99.39	100.44	346	1942	bdl	142	1263	76	1457	613	2041
EGB-06-S52M0.4-1.7_11.1	100.95	101.52	bdl	173	bdl	108	bdl	270	1896	542	868
EGB-06-S52M0.4-1.7_11.2	99.97	100.54	bdl	115	bdl	106	bdl	224	1855	563	1063
EGB-06-S52M0.4-1.7_11.3	100.83	101.39	bdl	124	bdl	110	61	243	1858	589	875
EGB-06-S52M0.4-1.7_12.1	98.79	99.94	846	3054	bdl	67	534	115	931	463	2606
EGB-06-S52M0.4-1.7_12.2	98.90	99.88	403	2640	bdl	52	541	74	882	379	2438
EGB-06-S52M0.4-1.7_12.3	99.32	100.26	331	2414	bdl	90	591	74	823	410	2332
EGB-06-S52M0.4-1.7_14.1	100.32	101.20	80	2089	bdl	78	79	bdl	1020	488	2720
EGB-06-S52M0.4-1.7_14.2	98.96	100.47	394	5013	bdl	114	143	63	1417	820	3358
EGB-06-S52M0.4-1.7_14.3	99.43	100.41	bdl	2556	bdl	105	76	bdl	1086	706	2707
EGB-06-S52M0.4-1.7_15	100.07	100.92	124	2150	bdl	155	136	221	1007	789	1574
EGB-06-S52M0.4-1.7_20	99.84	100.91	238	1618	bdl	144	670	bdl	587	304	4580
EGB-06-S52M0.4-1.7_21	100.17	101.16	bdl	1146	bdl	971	bdl	bdl	786	129	4403
EGB-06-S52M0.4-1.7_22	97.91	98.53	bdl	75	bdl	252	64	197	2643	114	993
EGB-06-S52M0.4-1.7_24	98.33	98.99	bdl	191	bdl	165	bdl	133	1779	1028	1289
EGB-06-S52M0.4-1.7_26	98.67	99.41	151	1963	bdl	59	99	153	692	334	2022
EGB-06-S52M0.4-1.7_27	98.23	99.10	192	1684	bdl	76	191	bdl	2064	531	1572
EGB-06-S52M0.4-1.7_31	100.07	100.63	bdl	113	bdl	121	97	84	1640	503	1472
EGB-06-S52M0.4-1.7_34	97.27	98.62	598	3449	bdl	640	317	288	599	332	3939
EGB-06-S52M0.4-1.7_35	99.25	100.02	bdl	1858	bdl	78	140	68	928	430	2116
EGB-06-S52M0.4-1.7_37	99.79	100.64	bdl	1796	bdl	218	142	282	957	608	2152
EGB-06-S52M0.4-1.7_39	100.54	101.28	190	1850	bdl	76	134	bdl	860	670	1712
EGB-06-S52M0.4-1.7_40	100.00	100.78	181	1729	bdl	105	171	bdl	1020	523	2052
EGB-06-S52M0.4-1.7_42	97.98	99.65	bdl	5548	bdl	768	152	89	1145	848	3925
EGB-06-S52M0.4-1.7_44	100.37	101.19	259	1870	bdl	153	396	176	788	538	1872
EGB-06-S52M0.4-1.7_45	99.25	100.07	130	2033	bdl	158	117	bdl	1190	820	1494
EGB-06-S52M0.4-1.7_46	98.32	99.78	973	4039	bdl	663	351	412	494	354	3676
EGB-06-S52M0.4-1.7_47	97.32	98.18	bdl	1992	bdl	115	71	76	1028	686	2354
EGB-06-S52M0.4-1.7_48	100.41	101.04	bdl	859	bdl	389	bdl	150	962	117	2122
EGB-06-S55M0.6-1.7_2.1	97.75	98.71	95	2034	bdl	215	105	204	1179	696	2554
EGB-06-S55M0.6-1.7_2.2	97.55	98.60	109	2785	bdl	169	88	186	1285	543	2613
EGB-06-S55M0.6-1.7_3.1	100.67	101.39	bdl	824	bdl	796	bdl	bdl	910	129	2686
EGB-06-S55M0.6-1.7_3.2	100.43	101.12	bdl	781	bdl	752	bdl	bdl	908	64	2622
EGB-06-S55M0.6-1.7_3.3	100.40	101.06	bdl	589	bdl	629	bdl	bdl	931	79	2571
EGB-06-S55M0.6-1.7_4.1	98.59	99.17	bdl	295	bdl	413	61	99	1306	791	1216
EGB-06-S55M0.6-1.7_4.2	98.06	98.69	bdl	361	bdl	627	90	104	1331	777	1257
EGB-06-S55M0.6-1.7_4.3	98.50	99.12	bdl	357	bdl	646	bdl	104	1263	792	1286
EGB-06-S55M0.6-1.7_5.1	100.13	101.04	190	1991	bdl	275	188	279	1314	894	1444
EGB-06-S55M0.6-1.7_5.2	100.09	101.02	197	2054	bdl	228	193	272	1388	956	1421
EGB-06-S55M0.6-1.7_5.3	100.16	101.10	214	2208	bdl	226	159	242	1321	1079	1332
EGB-06-S55M0.6-1.7_6.1	98.71	99.46	bdl	612	bdl	1499	bdl	74	1372	531	1405
EGB-06-S55M0.6-1.7_6.2	99.65	100.41	bdl	668	bdl	1454	bdl	87	1374	522	1402
EGB-06-S55M0.6-1.7_6.3	99.44	100.16	bdl	614	bdl	1264	bdl	bdl	1310	527	1440
EGB-06-S55M0.6-1.7_7.1	98.27	99.36	324	2468	bdl	346	80	350	1128	647	2607
EGB-06-S55M0.6-1.7_7.2	97.42	98.46	288	2236	bdl	323	133	296	1112	649	2553
EGB-06-S55M0.6-1.7_7.3	97.14	98.32	269	3232	bdl	292	111	193	1205	613	2801
EGB-06-S55M0.6-1.7_8.1	99.33	100.16	bdl	1865	bdl	900	bdl	90	884	149	2234
EGB-06-S55M0.6-1.7_8.2	100.15	101.00	bdl	1801	bdl	919	bdl	126	862	135	2406
EGB-06-S55M0.6-1.7_8.3	100.13	100.91	bdl	1471	bdl	882	69	122	820	136	2309
EGB-06-S55M0.6-1.7_9.1	99.77	100.59	161	1943	bdl	bdl	110	64	1021	495	2266
EGB-06-S55M0.6-1.7_9.2	99.58	100.33	bdl	1574	bdl	bdl	bdl	101	954	363	2499
EGB-06-S55M0.6-1.7_9.3	99.12	99.82	bdl	1446	bdl	62	bdl	bdl	939	284	2310
EGB-06-S55M0.6-1.7_10.1	99.95	100.88	bdl	1001	bdl	808	bdl	bdl	877	138	4142

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. . . table "EGB-06, ZAF-corrected EMP data" continued from page 196

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S55M0.6-1.7_10.2	100.23	101.15	bdl	1012	bdl	808	bdl	bdl	912	142	4029
EGB-06-S55M0.6-1.7_10.3	100.12	101.06	bdl	958	bdl	768	bdl	bdl	827	151	4432
EGB-06-S55M0.6-1.7_11.1	100.43	101.25	121	622	bdl	300	111	70	2764	645	1209
EGB-06-S55M0.6-1.7_11.2	99.63	100.44	bdl	701	bdl	324	106	bdl	2735	657	1214
EGB-06-S55M0.6-1.7_11.3	99.80	100.65	144	828	bdl	289	107	bdl	2824	647	1244
EGB-06-S55M0.6-1.7_12	100.01	101.11	bdl	2736	bdl	754	67	61	930	122	3576
EGB-06-S55M0.6-1.7_13	100.26	100.92	151	153	bdl	529	bdl	91	1901	668	1119
EGB-06-S55M0.6-1.7_15	100.54	101.21	bdl	898	bdl	119	bdl	205	438	386	2914
EGB-06-S55M0.6-1.7_16	99.13	100.38	bdl	1820	bdl	877	bdl	92	920	517	5150
EGB-06-S55M0.6-1.7_17	101.22	101.75	bdl	233	bdl	506	bdl	147	1060	565	1224
EGB-06-S55M0.6-1.7_18	97.95	98.81	bdl	642	bdl	1009	bdl	bdl	1313	142	3293
EGB-06-S55M0.6-1.7_19	99.20	99.99	bdl	854	bdl	711	bdl	123	1048	141	2969
EGB-06-S55M0.6-1.7_20	100.03	100.92	bdl	1687	bdl	711	130	126	998	174	2768
EGB-06-S55M0.6-1.7_21	99.04	100.01	90	2207	bdl	569	175	154	1025	374	2667
EGB-06-S55M0.6-1.7_22	99.28	100.24	367	1910	bdl	184	825	bdl	632	400	2902
EGB-06-S55M0.6-1.7_23	98.54	99.54	336	1980	bdl	147	247	198	1139	574	2752
EGB-06-S55M0.6-1.7_24	99.55	100.80	147	3816	bdl	632	141	258	574	318	3436
EGB-06-S55M0.6-1.7_27	99.10	100.49	bdl	1711	bdl	836	bdl	157	901	196	6635
EGB-06-S55M0.6-1.7_28	99.88	100.61	bdl	693	bdl	324	79	215	1360	630	1974
EGB-06-S55M0.6-1.7_29	97.91	99.04	bdl	2417	bdl	1298	102	73	1039	251	3287
EGB-06-S55M0.6-1.7_30	99.08	100.68	469	549	bdl	175	398	126	879	699	8917
EGB-06-S55M0.6-1.7_31	99.33	100.05	bdl	605	bdl	132	101	bdl	2527	579	1077
EGB-06-S55M0.6-1.7_32	97.40	98.70	142	1811	bdl	59	3952	133	860	282	2714
EGB-06-S55M0.6-1.7_33	98.97	99.68	bdl	354	bdl	674	69	80	1576	404	2026
EGB-06-S55NM1.7_1.1	99.98	100.70	bdl	879	bdl	656	bdl	97	784	126	2808
EGB-06-S55NM1.7_1.2	100.68	101.37	bdl	831	bdl	569	bdl	92	800	116	2711
EGB-06-S55NM1.7_1.3	100.15	100.83	bdl	811	bdl	534	bdl	106	715	157	2689
EGB-06-S55NM1.7_2.1	99.08	99.96	124	1941	bdl	113	195	101	1787	594	1548
EGB-06-S55NM1.7_2.2	98.76	99.64	128	1923	bdl	139	139	86	1866	585	1566
EGB-06-S55NM1.7_2.3	98.12	98.98	bdl	1909	bdl	127	141	86	1900	544	1469
EGB-06-S55NM1.7_3.1	99.59	100.43	200	2054	bdl	135	182	218	1199	475	1677
EGB-06-S55NM1.7_3.2	99.89	100.72	211	2054	bdl	156	190	196	1166	485	1646
EGB-06-S55NM1.7_3.3	98.36	99.19	209	2044	bdl	142	169	179	1314	545	1468
EGB-06-S55NM1.7_4.1	101.58	102.30	bdl	1379	bdl	67	bdl	73	652	833	2272
EGB-06-S55NM1.7_4.2	100.62	101.58	476	2314	bdl	87	bdl	118	836	466	2840
EGB-06-S55NM1.7_4.3	100.20	101.00	305	1961	bdl	73	bdl	69	823	341	2352
EGB-06-S55NM1.7_5.1	100.22	101.17	145	2087	bdl	240	122	165	2109	634	1372
EGB-06-S55NM1.7_5.2	100.09	101.04	bdl	2229	bdl	221	142	152	2069	656	1279
EGB-06-S55NM1.7_5.3	100.31	101.37	131	2761	bdl	255	138	166	2264	712	1272
EGB-06-S55NM1.7_6.1	100.18	101.45	102	3800	bdl	757	270	213	834	332	3178
EGB-06-S55NM1.7_6.2	98.46	99.72	210	3581	bdl	695	236	169	1002	351	3165
EGB-06-S55NM1.7_6.3	99.02	100.27	265	3590	bdl	651	262	153	963	360	3073
EGB-06-S55NM1.7_8.1	97.36	98.38	126	1444	bdl	bdl	666	61	1266	730	3325
EGB-06-S55NM1.7_8.2	97.97	98.98	134	1407	bdl	bdl	725	bdl	1305	654	3290
EGB-06-S55NM1.7_8.3	97.29	98.31	174	1794	bdl	46	649	bdl	1366	627	2970
EGB-06-S55NM1.7_9.1	97.84	98.91	bdl	878	bdl	978	64	bdl	1661	90	4306
EGB-06-S55NM1.7_9.2	98.51	99.54	bdl	812	bdl	962	bdl	bdl	1606	100	4252
EGB-06-S55NM1.7_9.3	98.09	99.14	bdl	763	bdl	941	bdl	bdl	1591	116	4366
EGB-06-S55NM1.7_10.1	98.06	99.37	319	3787	bdl	701	236	337	922	505	2967
EGB-06-S55NM1.7_10.2	98.14	99.50	311	3994	bdl	654	231	337	927	553	3078
EGB-06-S55NM1.7_10.3	97.95	99.38	170	4775	bdl	317	170	355	971	571	3224
EGB-06-S55NM1.7_11.1	97.76	98.90	bdl	2001	bdl	926	61	108	1249	154	4075
EGB-06-S55NM1.7_11.2	97.31	98.42	bdl	1858	bdl	888	69	111	1263	153	4010
EGB-06-S55NM1.7_11.3	98.15	99.25	bdl	1963	bdl	806	bdl	140	1258	165	3834
EGB-06-S55NM1.7_12	98.13	99.29	bdl	1810	bdl	860	bdl	89	1219	146	4575
EGB-06-S55NM1.7_13	99.92	100.97	158	1880	bdl	548	273	114	2028	878	1758
EGB-06-S55NM1.7_14	98.71	99.54	232	1966	bdl	269	164	418	834	463	1693
EGB-06-S55NM1.7_15	100.78	101.49	139	412	bdl	666	105	205	1256	648	1713
EGB-06-S55NM1.7_17	99.57	100.53	bdl	998	bdl	950	bdl	68	714	186	4302

continued on next page. . .

. . . table "EGB-06, ZAF-corrected EMP data" continued from page 196

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S55NM1.7_18	98.53	100.29	125	7212	bdl	429	100	587	865	367	3360
EGB-06-S55NM1.7_19	99.85	100.47	bdl	147	bdl	666	72	125	1683	738	969
EGB-06-S55NM1.7_20	98.33	99.36	313	2506	bdl	204	162	bdl	1289	781	2378
EGB-06-S55NM1.7_21	99.51	100.69	124	1012	bdl	2190	465	bdl	2753	524	1468
EGB-06-S55NM1.7_22	98.81	99.81	398	2435	bdl	237	189	450	655	452	2470
EGB-06-S55NM1.7_24	99.09	100.02	608	1820	bdl	76	174	bdl	1517	713	1904
EGB-06-S55NM1.7_25	98.49	99.86	648	2417	bdl	170	3258	397	956	275	2260
EGB-06-S55NM1.7_26	97.88	98.86	840	1758	bdl	120	154	95	1277	508	2592
EGB-06-S55NM1.7_27	99.38	100.30	253	1852	bdl	227	105	149	776	541	2955
EGB-06-S55NM1.7_28	98.78	99.58	bdl	988	bdl	599	76	bdl	1223	118	2951
EGB-06-S55NM1.7_29	100.70	101.63	bdl	1866	bdl	748	bdl	181	1280	639	2038
EGB-06-S55NM1.7_30	98.46	99.40	317	2238	bdl	273	179	356	1052	692	1768
EGB-06-S55NM1.7_31	100.28	101.11	bdl	2148	bdl	52	92	177	856	254	2614
EGB-06-S55NM1.7_32	99.91	101.03	146	1779	bdl	127	2573	132	1708	549	1389
EGB-06-S55NM1.7_33	99.99	100.73	bdl	887	bdl	979	bdl	158	1820	299	1185
EGB-06-S56M0.55-1.0_1.1	96.64	100.25	bdl	8900	bdl	9198	204	144	3323	1743	3171
EGB-06-S56M0.55-1.0_1.2	96.68	100.29	109	8951	bdl	9256	221	130	3276	1774	3041
EGB-06-S56M0.55-1.0_1.3	96.63	100.40	294	8988	bdl	9731	250	134	3479	1892	3122
EGB-06-S56M0.55-1.0_2.1	99.65	101.24	bdl	1325	bdl	5010	132	203	2089	636	2266
EGB-06-S56M0.55-1.0_2.2	98.69	100.28	bdl	1367	bdl	5030	159	228	2049	624	2155
EGB-06-S56M0.55-1.0_2.3	98.43	100.02	bdl	1273	bdl	4998	160	116	2090	645	2460
EGB-06-S56M0.55-1.0_3.1	100.91	101.94	210	2537	bdl	175	120	bdl	1004	1303	2236
EGB-06-S56M0.55-1.0_3.2	99.69	100.73	93	2623	bdl	167	77	bdl	1065	1312	2271
EGB-06-S56M0.55-1.0_3.3	100.13	101.16	121	2581	bdl	172	71	bdl	1045	1344	2231
EGB-06-S56M0.55-1.0_4.1	97.66	98.57	bdl	984	bdl	2564	bdl	242	855	118	1910
EGB-06-S56M0.55-1.0_4.2	99.93	100.78	bdl	909	bdl	2461	bdl	246	659	110	1881
EGB-06-S56M0.55-1.0_4.3	100.11	100.96	bdl	944	bdl	2405	bdl	236	642	98	1940
EGB-06-S56M0.55-1.0_9.1	99.08	99.95	bdl	953	bdl	820	67	87	1022	198	3354
EGB-06-S56M0.55-1.0_9.2	99.14	99.98	bdl	923	bdl	580	75	92	1026	172	3429
EGB-06-S56M0.55-1.0_9.3	99.13	100.00	bdl	1044	bdl	803	bdl	79	956	166	3399
EGB-06-S56M0.55-1.0_11.1	97.73	98.33	175	153	bdl	60	102	bdl	1557	1100	1164
EGB-06-S56M0.55-1.0_11.2	98.70	99.29	bdl	166	bdl	bdl	69	bdl	1538	1175	1205
EGB-06-S56M0.55-1.0_11.3	99.03	99.62	94	135	bdl	bdl	79	bdl	1518	1183	1171
EGB-06-S56M0.55-1.0_13.3	98.40	99.82	bdl	918	201	bdl	bdl	bdl	574	411	8641
EGB-06-S56M0.55-1.0_18.1	97.86	98.62	bdl	364	bdl	157	bdl	bdl	1877	386	2790
EGB-06-S56M0.55-1.0_18.2	98.41	99.14	bdl	317	bdl	104	bdl	bdl	1890	372	2637
EGB-06-S56M0.55-1.0_18.3	97.21	97.95	bdl	447	bdl	141	bdl	bdl	1854	367	2550
EGB-06-S56M0.55-1.0_19.1	100.25	101.63	bdl	1692	bdl	4214	80	bdl	847	2441	792
EGB-06-S56M0.55-1.0_19.2	100.44	101.82	bdl	1673	bdl	4256	97	bdl	865	2383	809
EGB-06-S56M0.55-1.0_19.3	100.07	101.47	bdl	1687	bdl	4267	76	bdl	880	2466	855
EGB-06-S56M0.55-1.0_21.1	98.26	99.62	730	2145	bdl	141	3059	82	859	499	2962
EGB-06-S56M0.55-1.0_21.2	97.78	99.17	696	2237	bdl	138	2673	179	907	509	3228
EGB-06-S56M0.55-1.0_21.3	97.23	98.49	741	2294	bdl	132	2137	183	941	482	2675
EGB-06-S56M0.55-1.0_22	98.42	99.87	bdl	2041	411	2899	331	288	2168	450	1669
EGB-06-S56M0.55-1.0_26	98.33	99.54	bdl	955	bdl	3288	bdl	78	1455	1778	1190
EGB-06-S56M0.55-1.0_27	98.73	100.24	92	4935	bdl	289	147	228	962	549	4061
EGB-06-S56M0.55-1.0_29	98.12	99.33	bdl	536	bdl	3027	106	230	2894	561	1332
EGB-06-S56M0.55-1.0_31	97.07	98.04	bdl	1009	bdl	945	bdl	bdl	1284	129	3799
EGB-06-S56M0.55-1.0_32	98.80	99.91	bdl	703	bdl	4036	bdl	220	423	1785	818
EGB-06-S56M0.55-1.0_35	96.65	98.26	bdl	914	bdl	2621	92	bdl	1105	5825	958
EGB-06-S56M0.55-1.0_38	97.19	98.17	bdl	1011	bdl	583	61	bdl	1345	127	4213
EGB-06-S56M0.55-1.0_39	98.21	99.04	182	894	bdl	bdl	106	bdl	1765	822	2285
EGB-06-S56M0.55-1.0_40	98.63	99.36	163	909	bdl	152	288	bdl	1670	484	1623
EGB-06-S56M0.55-1.0_42	97.90	99.12	bdl	456	bdl	1554	bdl	203	1267	3258	1939
EGB-06-S56M0.55-1.0_43	97.25	99.59	167	2664	bdl	7191	173	70	1638	2218	3251
EGB-06-S56M0.55-1.0_46	97.12	98.52	bdl	747	bdl	2973	67	bdl	937	3630	1866
EGB-06-S56M0.55-1.0_48	96.07	98.69	bdl	9662	bdl	1086	bdl	280	2767	532	5081
EGB-06-S56M0.55-1.0_50	98.29	99.63	bdl	891	bdl	2820	bdl	bdl	1021	3673	1201
EGB-06-S56M0.55-1.0_52	97.74	99.32	bdl	928	bdl	4702	104	94	1548	2554	1587

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. . . table "EGB-06, ZAF-corrected EMP data" continued from page 196

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S56M0.55-1.0_53	99.07	100.55	bdl	1054	bdl	3229	bdl	370	3694	725	1443
EGB-06-S56M0.55-1.0_54	98.17	99.79	bdl	410	bdl	3060	112	bdl	1534	5623	816
EGB-06-S56M0.55-1.0_56	96.85	98.22	377	3388	bdl	144	620	140	1408	716	3484
EGB-06-S56M0.55-1.0_57	99.15	100.28	bdl	1353	bdl	1266	bdl	316	600	341	4577
EGB-06-S56NM1.0_1.1	98.16	99.04	bdl	872	bdl	1073	bdl	bdl	1036	79	3514
EGB-06-S56NM1.0_1.2	98.33	99.22	bdl	849	bdl	1016	91	bdl	999	117	3656
EGB-06-S56NM1.0_1.3	97.58	98.43	bdl	883	bdl	964	bdl	bdl	1042	127	3236
EGB-06-S56NM1.0_2.1	99.02	100.51	bdl	1074	bdl	3576	128	128	3332	567	2072
EGB-06-S56NM1.0_2.2	99.36	100.87	bdl	1137	bdl	3682	116	146	3238	584	2085
EGB-06-S56NM1.0_2.3	99.24	100.79	bdl	1186	bdl	3936	96	167	3210	564	2107
EGB-06-S56NM1.0_3.1	100.15	100.89	bdl	1148	bdl	389	bdl	163	534	800	2337
EGB-06-S56NM1.0_3.2	99.09	99.85	bdl	1198	bdl	397	bdl	155	575	876	2306
EGB-06-S56NM1.0_3.3	100.47	101.22	bdl	1291	bdl	423	bdl	96	504	876	2339
EGB-06-S56NM1.0_4.1	100.13	100.86	90	1337	bdl	130	73	182	808	509	2287
EGB-06-S56NM1.0_4.2	99.96	100.70	109	1251	bdl	145	103	187	772	507	2329
EGB-06-S56NM1.0_4.3	100.23	100.99	bdl	1602	bdl	154	bdl	169	814	525	2259
EGB-06-S56NM1.0_5.1	100.24	101.37	bdl	1057	bdl	671	242	bdl	2900	885	2439
EGB-06-S56NM1.0_5.2	100.22	101.35	bdl	1002	bdl	707	263	bdl	2855	888	2481
EGB-06-S56NM1.0_5.3	99.12	100.21	bdl	1075	bdl	688	250	bdl	2822	863	2224
EGB-06-S56NM1.0_6.1	98.98	100.48	bdl	803	bdl	3531	147	195	3450	804	1901
EGB-06-S56NM1.0_6.2	99.38	100.88	bdl	861	bdl	3471	145	202	3480	770	1856
EGB-06-S56NM1.0_6.3	99.23	100.66	bdl	767	bdl	3186	135	211	3403	781	1808
EGB-06-S56NM1.0_7.1	96.97	99.17	724	7480	bdl	697	354	414	907	317	5587
EGB-06-S56NM1.0_7.2	96.90	99.09	774	7495	bdl	688	368	379	914	298	5566
EGB-06-S56NM1.0_7.3	96.98	99.16	590	7802	bdl	720	315	383	971	326	5213
EGB-06-S56NM1.0_8.1	99.42	100.38	145	1894	bdl	148	196	236	822	555	3067
EGB-06-S56NM1.0_8.2	99.74	100.70	205	1962	bdl	130	206	222	814	527	3073
EGB-06-S56NM1.0_8.3	99.37	100.32	119	2021	bdl	142	170	178	766	555	3128
EGB-06-S56NM1.0_9.1	98.67	99.83	417	2124	bdl	152	837	119	1004	436	3639
EGB-06-S56NM1.0_9.2	98.99	100.23	442	2080	bdl	130	811	151	980	406	4422
EGB-06-S56NM1.0_9.3	98.24	99.27	415	2184	bdl	107	795	104	1015	430	2680
EGB-06-S56NM1.0_12.1	98.74	100.60	bdl	1348	bdl	3600	bdl	bdl	1185	6188	988
EGB-06-S56NM1.0_12.2	98.59	100.46	bdl	1295	bdl	3614	bdl	bdl	1196	6254	1014
EGB-06-S56NM1.0_12.3	98.23	100.08	bdl	1261	bdl	3491	bdl	bdl	1189	6196	1047
EGB-06-S56NM1.0_13	100.27	101.21	505	1891	bdl	196	329	247	893	807	2106
EGB-06-S56NM1.0_14	98.88	99.83	304	1974	bdl	168	172	155	1202	533	2544
EGB-06-S56NM1.0_15	99.02	100.50	bdl	1641	bdl	4485	61	386	2519	866	659
EGB-06-S56NM1.0_16	98.04	98.98	bdl	634	bdl	3107	69	256	1326	96	1388
EGB-06-S56NM1.0_17	99.73	100.95	491	2059	bdl	164	1770	341	944	416	3014
EGB-06-S56NM1.0_19	98.14	99.31	113	1834	bdl	2033	88	652	956	190	2662
EGB-06-S56NM1.0_20	99.60	100.74	127	1113	bdl	2419	70	74	1510	506	2645
EGB-06-S56NM1.0_21	99.64	100.83	bdl	1836	bdl	1825	140	80	2429	844	1441
EGB-06-S56NM1.0_23	98.67	99.71	bdl	956	bdl	898	64	bdl	1249	86	4551
EGB-06-S56NM1.0_24	99.76	100.60	bdl	789	bdl	1705	bdl	312	1783	519	805
EGB-06-S56NM1.0_25	98.93	100.28	949	3697	bdl	74	65	403	833	317	3697
EGB-06-S56NM1.0_27	97.54	98.86	bdl	2709	bdl	850	139	159	883	325	4831
EGB-06-S56NM1.0_29	97.40	98.66	255	2664	bdl	1068	306	160	1379	209	3371
EGB-06-S56NM1.0_30	98.88	99.86	bdl	1434	bdl	346	163	149	2774	399	1771
EGB-06-S56NM1.0_31	98.57	99.58	288	1971	bdl	170	157	209	2533	579	1377
EGB-06-S56NM1.0_32	99.35	100.25	435	1928	bdl	145	370	255	410	299	2907
EGB-06-S56NM1.0_33	99.93	100.78	186	1939	bdl	192	137	306	950	544	1911
EGB-06-S56NM1.0_34	99.09	100.18	4632	1702	bdl	99	337	205	bdl	bdl	1476
EGB-06-S56NM1.0_35	96.98	99.93	1781	9705	bdl	1137	648	443	1045	231	7293
EGB-06-S57NM1.3_1.1	98.11	99.55	bdl	474	bdl	3923	90	154	3311	666	1799
EGB-06-S57NM1.3_1.2	97.31	98.67	bdl	514	bdl	3756	116	60	3246	833	1358
EGB-06-S57NM1.3_1.3	97.17	98.58	bdl	441	bdl	4033	111	84	3298	645	1636
EGB-06-S57NM1.3_2.1	96.86	98.85	bdl	814	bdl	7110	162	116	4000	725	1560
EGB-06-S57NM1.3_2.2	96.17	98.16	bdl	733	bdl	7191	156	121	4072	700	1574
EGB-06-S57NM1.3_2.3	96.88	98.90	bdl	785	bdl	7322	169	104	4062	719	1541

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. . . table "EGB-06, ZAF-corrected EMP data" continued from page 196

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S57NM1.3_3.1	97.44	98.87	bdl	828	bdl	2972	bdl	bdl	1205	3938	1249
EGB-06-S57NM1.3_3.2	97.87	99.30	bdl	904	bdl	2976	79	bdl	1109	3904	1260
EGB-06-S57NM1.3_3.3	98.13	99.55	bdl	900	bdl	2941	83	75	1135	3881	1218
EGB-06-S57NM1.3_4.1	97.58	98.75	bdl	930	bdl	1402	183	bdl	2487	544	2953
EGB-06-S57NM1.3_4.2	97.56	98.72	bdl	902	bdl	1394	154	60	2512	551	2941
EGB-06-S57NM1.3_4.3	97.33	98.44	bdl	803	bdl	1262	124	bdl	2435	547	2966
EGB-06-S57NM1.3_6.1	98.26	99.18	159	2267	bdl	517	173	461	678	217	2288
EGB-06-S57NM1.3_6.2	98.04	98.97	183	2270	bdl	483	179	439	742	235	2271
EGB-06-S57NM1.3_6.3	98.57	99.45	180	2163	bdl	418	139	410	724	222	2136
EGB-06-S57NM1.3_7.1	99.86	100.76	417	2227	bdl	123	616	132	986	566	1571
EGB-06-S57NM1.3_7.2	100.11	101.12	585	2387	bdl	138	785	148	999	563	1873
EGB-06-S57NM1.3_7.3	99.65	100.66	481	2389	bdl	181	851	119	982	571	2040
EGB-06-S57NM1.3_11.1	98.21	99.71	592	4517	bdl	452	135	194	1656	452	3114
EGB-06-S57NM1.3_11.2	97.74	99.27	482	4867	bdl	384	125	180	1693	457	3249
EGB-06-S57NM1.3_11.3	98.26	99.87	412	5442	bdl	352	128	161	1685	484	3209
EGB-06-S57NM1.3_12.1	99.69	100.72	bdl	329	bdl	282	bdl	bdl	4251	978	1411
EGB-06-S57NM1.3_12.2	100.18	101.21	bdl	373	bdl	296	bdl	bdl	4181	1002	1410
EGB-06-S57NM1.3_12.3	99.54	100.58	bdl	420	bdl	335	bdl	bdl	4227	957	1359
EGB-06-S57NM1.3_14.1	98.48	99.47	bdl	1721	bdl	47	80	86	1631	1425	2239
EGB-06-S57NM1.3_14.2	98.41	99.44	bdl	1734	bdl	bdl	79	303	1651	1462	2100
EGB-06-S57NM1.3_14.3	98.83	99.82	bdl	1613	bdl	57	85	121	1631	1440	2190
EGB-06-S57NM1.3_16.1	99.84	100.43	bdl	152	bdl	574	bdl	112	1445	428	1458
EGB-06-S57NM1.3_16.2	99.70	100.27	bdl	164	bdl	562	bdl	bdl	1463	363	1464
EGB-06-S57NM1.3_16.3	99.08	99.67	bdl	131	bdl	508	bdl	85	1537	344	1567
EGB-06-S57NM1.3_18	98.48	99.74	1564	2569	bdl	529	1135	74	1334	174	2180
EGB-06-S57NM1.3_19	98.03	99.10	bdl	1239	bdl	2390	62	64	2061	647	1300
EGB-06-S57NM1.3_20	99.26	100.75	840	2360	bdl	154	2755	359	757	417	3590
EGB-06-S57NM1.3_21	98.22	99.14	bdl	669	bdl	460	472	60	2697	766	1538
EGB-06-S57NM1.3_22	97.57	98.78	458	601	bdl	56	2356	82	1878	370	3375
EGB-06-S57NM1.3_23	98.90	100.20	bdl	1122	bdl	1749	122	214	3191	598	2445
EGB-06-S57NM1.3_25	99.13	100.01	256	1996	bdl	142	98	257	1049	751	1911
EGB-06-S57NM1.3_26	100.30	100.92	bdl	1410	bdl	90	243	bdl	1489	227	1052
EGB-06-S57NM1.3_27	99.62	100.53	253	2183	bdl	244	141	260	988	634	1911
EGB-06-S57NM1.3_28	98.92	100.17	300	3626	bdl	321	188	302	903	467	3154
EGB-06-S57NM1.3_30	99.19	100.09	243	1814	bdl	bdl	185	292	1177	463	2404
EGB-06-S57NM1.3_31	97.67	99.13	bdl	598	bdl	3924	91	117	4018	901	798
EGB-06-S57NM1.3_32	98.85	100.12	146	3132	bdl	50	1504	574	502	172	3435
EGB-06-S57NM1.3_33	98.51	99.64	bdl	440	bdl	181	bdl	bdl	1869	225	5694
EGB-06-S57NM1.3_34	98.06	99.66	bdl	1057	bdl	3040	117	bdl	3331	887	3228
EGB-06-S57NM1.3_35	97.62	98.89	bdl	1866	bdl	3009	141	318	2327	413	1013
EGB-06-S57NM1.3_36	97.11	98.98	bdl	2044	bdl	5866	80	87	866	2493	2397
EGB-06-S57NM1.3_37	99.36	100.33	151	2956	bdl	350	116	357	1120	468	1537
EGB-06-S57NM1.3_38	99.72	100.69	364	2404	bdl	235	180	180	1052	605	2180
EGB-06-S57NM1.3_40	99.44	100.74	134	4429	bdl	426	121	680	913	393	2330
EGB-06-S58M0.7-1.85_1.1	99.13	100.24	bdl	1995	bdl	1738	432	bdl	2770	190	888
EGB-06-S58M0.7-1.85_1.2	99.13	100.34	bdl	2177	bdl	2282	452	bdl	2796	189	916
EGB-06-S58M0.7-1.85_1.3	98.80	99.84	bdl	1786	bdl	1548	402	bdl	2700	182	895
EGB-06-S58M0.7-1.85_2.1	97.66	98.94	128	2043	bdl	3560	377	305	1164	429	1338
EGB-06-S58M0.7-1.85_2.2	97.48	98.75	109	1996	bdl	3657	403	303	1147	419	1325
EGB-06-S58M0.7-1.85_2.3	97.52	98.78	bdl	2029	bdl	3587	399	319	1158	389	1310
EGB-06-S58M0.7-1.85_4.1	96.56	99.50	bdl	3478	bdl	7728	207	61	3388	4478	2110
EGB-06-S58M0.7-1.85_4.2	95.77	98.77	bdl	3587	bdl	7922	206	82	3506	4508	2041
EGB-06-S58M0.7-1.85_4.3	94.89	97.87	bdl	3503	bdl	7933	207	bdl	3634	4327	2051
EGB-06-S58M0.7-1.85_7.1	95.39	97.97	288	3165	bdl	7669	191	77	1929	3614	2033
EGB-06-S58M0.7-1.85_7.2	95.82	98.36	286	3252	bdl	7239	217	91	1920	3612	2047
EGB-06-S58M0.7-1.85_7.3	95.94	98.38	237	3403	bdl	6413	139	85	1874	3779	2017
EGB-06-S58M0.7-1.85_10.1	96.18	98.25	407	7973	bdl	833	195	451	723	227	4680
EGB-06-S58M0.7-1.85_10.2	96.37	98.46	493	8001	bdl	859	241	445	705	234	4668
EGB-06-S58M0.7-1.85_10.3	96.06	98.27	435	8728	bdl	785	223	488	745	244	4845

continued on next page. . .

. . . table "EGB-06, ZAF-corrected EMP data" continued from page 196

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S58M0.7-1.85_12.1	97.09	98.66	1133	2461	bdl	562	106	95	4340	1742	845
EGB-06-S58M0.7-1.85_12.2	96.96	98.54	1534	2101	bdl	579	bdl	134	4361	1724	819
EGB-06-S58M0.7-1.85_12.3	96.05	97.76	1733	1985	bdl	562	132	95	4393	1485	2044
EGB-06-S58M0.7-1.85_15.1	97.86	99.19	419	4025	bdl	794	154	354	1131	473	2464
EGB-06-S58M0.7-1.85_15.2	98.20	99.59	345	4422	bdl	764	148	341	1218	427	2592
EGB-06-S58M0.7-1.85_15.3	95.99	98.06	299	4892	bdl	687	154	382	1342	499	7241
EGB-06-S58M0.7-1.85_17.1	98.46	99.91	596	2239	bdl	115	3264	150	944	456	3348
EGB-06-S58M0.7-1.85_17.2	98.46	99.91	659	2270	bdl	139	3188	139	954	456	3259
EGB-06-S58M0.7-1.85_17.3	97.89	99.30	611	2314	bdl	187	2883	126	970	492	3232
EGB-06-S58M0.7-1.85_19.1	98.50	99.46	bdl	1317	bdl	1868	250	209	1661	223	1381
EGB-06-S58M0.7-1.85_19.2	98.28	99.24	bdl	1322	bdl	1931	239	198	1687	203	1450
EGB-06-S58M0.7-1.85_19.3	98.30	99.27	116	1293	bdl	1895	258	179	1721	202	1426
EGB-06-S58M0.7-1.85_20.1	96.56	98.83	323	8321	bdl	783	406	311	999	350	5521
EGB-06-S58M0.7-1.85_20.2	95.72	97.96	393	8079	bdl	781	396	303	996	365	5562
EGB-06-S58M0.7-1.85_20.3	95.34	97.46	316	7687	bdl	653	469	267	1031	328	5147
EGB-06-S58M0.7-1.85_22	97.49	99.06	bdl	4791	bdl	687	267	146	975	350	4560
EGB-06-S58M0.7-1.85_23	96.49	97.55	bdl	3711	bdl	55	bdl	bdl	2035	283	1691
EGB-06-S58M0.7-1.85_25	98.50	99.35	222	2131	bdl	58	225	bdl	835	196	2645
EGB-06-S58M0.7-1.85_26	98.33	99.46	163	2480	bdl	816	264	161	731	123	3765
EGB-06-S58M0.7-1.85_27	96.59	97.69	bdl	550	bdl	3451	128	158	2013	517	1108
EGB-06-S58M0.7-1.85_29	98.04	99.47	bdl	4301	bdl	848	109	229	976	430	3696
EGB-06-S58M0.7-1.85_30	97.65	98.62	215	1880	bdl	61	291	120	1147	375	3137
EGB-06-S58M0.7-1.85_32	98.61	99.79	bdl	2276	bdl	909	429	113	706	101	4302
EGB-06-S58M0.7-1.85_35	97.20	98.10	496	2219	bdl	44	200	bdl	733	559	2469
EGB-06-S58M0.7-1.85_37	99.42	100.43	339	2339	bdl	116	280	70	1273	619	2442
EGB-06-S58M0.7-1.85_39	97.74	98.65	165	2237	bdl	135	164	239	969	677	2053
EGB-06-S58M0.7-1.85_41	93.86	100.22	2116	1730	bdl	446	37735	139	330	bdl	8295
EGB-06-S58M0.7-1.85_43	98.32	99.58	85	2633	bdl	738	183	bdl	498	91	5395
EGB-06-S58M0.7-1.85_45	97.34	98.58	187	1671	bdl	862	186	82	1419	493	4431
EGB-06-S58M0.7-1.85_48	98.16	99.00	bdl	2327	bdl	48	61	128	625	354	2702
EGB-06-S58M0.7-1.85_49	95.92	99.03	bdl	3181	bdl	13507	176	123	1684	2438	1855
EGB-06-S58M0.7-1.85_50	98.97	99.91	142	1416	bdl	677	151	bdl	928	111	3571
EGB-06-S58M0.7-1.85_51	97.94	98.99	198	1778	bdl	61	113	343	1553	474	3101
EGB-06-S58MN1.85_1.1	97.83	99.25	bdl	1037	bdl	2377	109	199	4370	1251	669
EGB-06-S58MN1.85_1.2	98.44	99.89	bdl	1226	bdl	2432	96	200	4399	1268	638
EGB-06-S58MN1.85_1.3	97.68	99.29	bdl	1460	bdl	3115	119	210	4454	1277	720
EGB-06-S58MN1.85_2.1	97.05	98.23	bdl	1196	bdl	2958	72	381	2191	607	986
EGB-06-S58MN1.85_2.2	97.20	98.37	bdl	1264	bdl	2972	bdl	338	2148	603	981
EGB-06-S58MN1.85_2.3	97.55	98.73	bdl	1291	bdl	2895	bdl	383	2173	604	1025
EGB-06-S58MN1.85_4.1	97.29	98.34	211	1576	bdl	56	1022	248	2068	498	1988
EGB-06-S58MN1.85_4.2	97.55	98.64	274	1661	bdl	bdl	1122	212	2128	536	2044
EGB-06-S58MN1.85_4.3	97.23	98.34	140	1749	bdl	56	1345	152	1982	579	2225
EGB-06-S58MN1.85_5.1	97.68	99.06	1235	3976	bdl	92	133	bdl	1466	638	2768
EGB-06-S58MN1.85_7.1	99.27	99.99	bdl	1722	bdl	78	165	103	718	291	2177
EGB-06-S58MN1.85_7.2	100.37	101.09	106	1715	bdl	84	105	92	678	316	2253
EGB-06-S58MN1.85_7.3	100.11	100.84	119	1797	bdl	47	155	bdl	735	307	2267
EGB-06-S58MN1.85_8.1	97.86	98.74	86	1923	bdl	60	116	123	847	419	3011
EGB-06-S58MN1.85_8.2	98.00	98.88	121	2031	bdl	78	95	107	799	432	2895
EGB-06-S58MN1.85_8.3	98.56	99.47	bdl	2375	bdl	52	78	146	795	437	2878
EGB-06-S58MN1.85_10.1	97.11	98.87	bdl	838	bdl	5445	101	bdl	3658	1080	1730
EGB-06-S58MN1.85_10.2	97.40	99.16	bdl	824	bdl	5552	109	bdl	3603	1065	1684
EGB-06-S58MN1.85_10.3	97.14	98.90	bdl	847	bdl	5415	119	bdl	3578	1055	1818
EGB-06-S58MN1.85_13.1	98.20	99.14	164	2075	bdl	161	143	330	1426	624	1880
EGB-06-S58MN1.85_13.2	98.94	99.88	123	2212	bdl	174	143	303	1369	577	1880
EGB-06-S58MN1.85_13.3	98.38	99.29	124	2124	bdl	170	144	301	1390	599	1786
EGB-06-S58MN1.85_14.1	97.62	98.29	bdl	1410	bdl	181	140	bdl	2050	377	589
EGB-06-S58MN1.85_14.2	97.61	98.27	bdl	1406	bdl	120	97	92	2062	369	615
EGB-06-S58MN1.85_14.3	97.91	98.57	bdl	1413	bdl	151	149	70	2130	235	583
EGB-06-S58MN1.85_16.1	99.90	100.86	bdl	1253	bdl	1724	85	277	950	916	1709

continued on next page. . .

. . . table "EGB-06, ZAF-corrected EMP data" continued from page 196

Analysis name	TiO_2 [mass-%]	Total (Oxides) [mass-%]	W [ppm]	Nb [ppm]	Si [ppm]	Zr [ppm]	Sn [ppm]	Al [ppm]	V [ppm]	Cr [ppm]	Fe [ppm]
EGB-06-S58MN1.85_16.2	100.39	101.40	bdl	1488	bdl	1780	77	292	937	920	1849
EGB-06-S58MN1.85_17	101.30	102.40	bdl	1334	bdl	3080	86	543	1621	161	1057
EGB-06-S58MN1.85_19	100.13	100.94	316	1992	bdl	157	195	243	1147	407	1503
EGB-06-S58MN1.85_20	98.70	99.93	167	1459	bdl	2343	259	76	2211	295	2290
EGB-06-S58MN1.85_22	100.49	101.93	bdl	1002	bdl	4601	bdl	176	2389	528	1768
EGB-06-S58MN1.85_23	99.87	100.73	163	2031	bdl	172	142	219	1211	586	1789
EGB-06-S58MN1.85_24	100.62	101.46	bdl	1530	bdl	522	63	bdl	308	950	2934
EGB-06-S58MN1.85_25	100.30	102.00	bdl	1762	bdl	6111	bdl	247	1687	378	2281
EGB-06-S58MN1.85_26	98.27	99.59	139	1584	bdl	1582	483	213	4043	876	522
EGB-06-S58MN1.85_28	100.41	101.79	bdl	658	bdl	4010	75	174	2853	734	1421
EGB-06-S58MN1.85_29	100.46	101.84	bdl	621	bdl	4015	76	173	2915	723	1420
EGB-06-S58MN1.85_31	96.88	98.69	166	2589	bdl	3216	454	bdl	2902	1314	2695
EGB-06-S58MN1.85_36	98.68	99.75	341	2309	bdl	64	275	127	1823	562	2435
EGB-06-S58MN1.85_38	98.11	99.70	bdl	953	bdl	4112	147	96	3412	846	2058
EGB-06-S58MN1.85_39	99.26	100.48	468	2015	bdl	1547	284	127	1243	424	2976
EGB-06-S58MN1.85_40	98.37	100.05	bdl	700	bdl	4877	217	145	3181	825	2316
EGB-06-S58MN1.85_42	99.66	101.00	bdl	972	bdl	3658	bdl	121	2274	551	2242
EGB-06-S58MN1.85_43	99.94	101.23	bdl	1590	bdl	3257	135	115	2535	313	1462
EGB-06-S58MN1.85_44	98.35	100.00	94	3904	bdl	2274	568	395	1326	180	3566
EGB-06-S58MN1.85_46	98.86	99.82	225	2018	bdl	146	217	331	1093	476	2489
EGB-06-S58MN1.85_47	100.30	101.67	bdl	988	bdl	3080	83	177	3728	1078	595

bdl - below detection limit.

Table A.4.: EMP analysis results of EGB-04 and EGB-05 samples, combined with phase affiliation by Raman spot analysis. Ti, W, Al, and Mg are ommitted because they were not used for phase discrimination in Triebold et al. (in press) (Chapter 8):. For a full data set see (TableA.2). ppm = ppm by mass.

Analysis label	Erzgebirge unit	Phase affiliation by Raman spot analysis	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
EGB-04-S41_II_04_1	EGU1	Rt	812	657	32	1499	727	830	bdl
EGB-04-S41_II_05_1	EGU1	Rt	2982	270	140	2677	1799	994	6
EGB-04-S41_II_06_1	EGU1	Rt	2668	519	125	1744	882	959	bdl
EGB-04-S41_II_06_2	EGU1	Rt	2631	525	98	1620	814	951	bdl
EGB-04-S41_II_06_3	EGU1	Rt	2457	537	90	1472	846	912	8
EGB-04-S41_II_07_1	EGU1	Rt	3813	251	46	3231	496	2035	4
EGB-04-S41_II_09_1	EGU1	Rt	2650	330	196	2208	1090	583	6
EGB-04-S41_II_09_2	EGU1	Rt	2288	361	199	1995	1103	445	bdl
EGB-04-S41_II_09_3	EGU1	Rt	1360	312	198	1855	1074	741	bdl
EGB-04-S41_II_10_1	EGU1	Rt	2466	328	85	1203	1287	857	bdl
EGB-04-S41_II_10_2	EGU1	Rt	2728	376	61	1231	1305	901	11
EGB-04-S41_II_11_1	EGU1	Rt	1167	563	105	1899	1743	964	6
EGB-04-S41_II_12_1	EGU1	Rt	4409	266	247	3625	1038	899	bdl
EGB-04-S41_II_12_2	EGU1	Rt	4435	272	232	3352	1045	786	1
EGB-04-S41_II_12_3	EGU1	Rt	4496	269	224	3346	1110	1011	bdl
EGB-04-S41_II_14	EGU1	Rt	4793	648	86	2061	919	978	15
EGB-04-S41_II_16	EGU1	Rt	1518	423	76	1799	1691	774	bdl
EGB-04-S41_II_17	EGU1	ms	4219	251	61	3497	692	1470	bdl
EGB-04-S41_II_19	EGU1	Rt	5487	159	192	4543	798	847	bdl
EGB-04-S41_II_21	EGU1	Rt	1753	88	240	2870	1158	847	bdl
EGB-04-S41_II_22	EGU1	ms	2445	373	64	1023	679	834	18
EGB-04-S41_II_23	EGU1	Rt	3409	131	46	5964	853	791	51
EGB-04-S41_II_24	EGU1	Rt	4209	273	183	3364	680	847	29
EGB-04-S41_II_25	EGU1	ms	1725	365	98	2176	1101	937	bdl
EGB-04-S41_II_26	EGU1	Rt	3016	229	105	2282	924	800	9
EGB-04-S41_II_28	EGU1	Rt	5506	445	171	3597	1001	838	bdl
EGB-04-S41_II_29	EGU1	Rt	5335	136	190	3919	670	843	39
EGB-04-S41_II_30	EGU1	Rt	2373	543	50	1778	1404	754	133
EGB-04-S41_II_31	EGU1	Rt	1549	290	69	2356	1406	998	bdl
EGB-04-S41_II_32	EGU1	Rt	1727	101	32	2689	1791	1110	bdl
EGB-04-S41_II_33	EGU1	Rt	3968	679	44	1390	1164	1051	30
EGB-04-S41_II_34	EGU1	Rt	4336	252	213	3335	628	663	bdl
EGB-04-S41_II_35	EGU1	Rt	2023	364	129	2386	1131	848	bdl
EGB-04-S41_II_37	EGU1	Rt	4319	140	217	2982	723	818	bdl
EGB-04-S41_II_38	EGU1	Rt	2150	248	60	5064	1036	820	bdl
EGB-04-S45_II_01_1	EGU1	Rt	84	731	75	845	1312	470	3
EGB-04-S45_II_02_1	EGU1	Rt	158	700	211	1309	1382	621	8
EGB-04-S45_II_03_1	EGU1	Rt	538	437	339	2034	1057	619	5
EGB-04-S45_II_04_1	EGU1	Rt	884	486	86	1967	1742	847	bdl
EGB-04-S45_II_05_1	EGU1	Rt	6133	820	273	3509	1833	537	0
EGB-04-S45_II_05_2	EGU1	Rt	5817	805	308	3189	1813	708	bdl
EGB-04-S45_II_05_3	EGU1	Rt	5799	792	290	3211	1792	739	bdl
EGB-04-S45_II_06_1	EGU1	Rt	6338	498	165	3574	1080	705	bdl
EGB-04-S45_II_06_2	EGU1	Rt	6318	520	211	3829	1041	714	1
EGB-04-S45_II_06_3	EGU1	Rt	6322	547	155	4001	1037	691	bdl
EGB-04-S45_II_07_1	EGU1	Rt	5576	354	209	3970	767	718	bdl
EGB-04-S45_II_07_2	EGU1	Rt	5564	355	205	4197	797	800	3
EGB-04-S45_II_07_3	EGU1	Rt	5576	376	236	3911	770	715	bdl
EGB-04-S45_II_08_1	EGU1	Rt	6026	356	228	3828	735	592	12
EGB-04-S45_II_08_2	EGU1	Rt	6285	340	201	4037	737	697	bdl
EGB-04-S45_II_08_3	EGU1	Rt	6728	326	206	4338	800	717	bdl
EGB-04-S45_II_09_1	EGU1	Rt	154	716	134	1923	928	640	6
EGB-04-S45_II_10_1	EGU1	Rt	119	756	72	1720	1195	433	10

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. . . table "EGB-04 and EGB-05 samples, EMP and Raman data" continued from page 209

Analysis label	Erzgebirge unit	Phase affiliation by Raman spot analysis	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
EGB-04-S45_II_10_2	EGU1	Rt	158	770	100	1763	1355	390	bdl
EGB-04-S45_II_10_3	EGU1	Rt	141	798	129	1818	1545	404	bdl
EGB-04-S45_II_11	EGU1	Rt	5391	539	119	3015	1423	712	4
EGB-04-S45_II_12	EGU1	Rt	120	498	32	2009	1898	546	bdl
EGB-04-S45_II_13	EGU1	Rt	259	733	69	2222	1750	578	13
EGB-04-S45_II_14	EGU1	Rt	2603	462	313	3221	759	808	bdl
EGB-04-S45_II_15	EGU1	Rt	4029	395	143	3082	633	740	bdl
EGB-04-S45_II_16	EGU1	Rt	139	673	87	897	1782	605	3
EGB-04-S45_II_17	EGU1	Rt	2153	582	75	1621	2529	625	1
EGB-04-S45_II_18	EGU1	Rt	5373	535	158	3189	1568	532	10
EGB-04-S45_II_19	EGU1	Rt	6080	448	180	3870	1024	696	bdl
EGB-04-S45_II_20	EGU1	Rt	136	714	29	1026	1958	545	6
EGB-04-S45_II_22	EGU1	Rt	106	629	38	1115	1948	630	bdl
EGB-04-S45_II_23	EGU1	Rt	60	494	15	1980	1313	492	bdl
EGB-04-S45_II_24	EGU1	Rt	3308	489	160	2333	1291	705	bdl
EGB-04-S45_II_25	EGU1	Rt	4373	439	154	2839	2497	559	bdl
EGB-04-S45_II_26	EGU1	Rt	3028	428	266	3171	769	812	18
EGB-04-S45_II_29	EGU1	Rt	4273	443	130	3541	1344	461	bdl
EGB-04-S45_II_30	EGU1	Rt	152	1037	34	1142	1869	606	bdl
EGB-04-S45_II_31	EGU1	Rt	4933	667	134	922	1841	515	2
EGB-04-S45_II_34	EGU1	Rt	6385	417	169	4052	677	674	bdl
EGB-04-S45_II_35	EGU1	Rt	93	756	18	1408	1786	463	bdl
EGB-04-S50_II_01_1	EGU1	ms	1099	2293	bdl	1890	1900	386	bdl
EGB-04-S50_II_01_2	EGU1	ms	1042	2254	bdl	2015	1933	343	30
EGB-04-S50_II_01_3	EGU1	ms	1092	2276	bdl	2208	1950	381	5
EGB-04-S50_II_02_1	EGU1	Rt	224	399	bdl	1044	1739	375	2
EGB-04-S50_II_04_1	EGU1	Rt	109	1421	bdl	1119	2458	568	0
EGB-04-S50_II_05_1	EGU1	Rt	188	584	bdl	1960	1410	302	240
EGB-04-S50_II_05_2	EGU1	Rt	241	630	bdl	1285	1387	407	bdl
EGB-04-S50_II_05_3	EGU1	Rt	249	606	bdl	1355	1334	429	bdl
EGB-04-S50_II_06_1	EGU1	Rt	483	281	bdl	1514	1425	460	bdl
EGB-04-S50_II_08_1	EGU1	Rt	187	618	bdl	681	1708	412	bdl
EGB-04-S50_II_08_2	EGU1	Rt	189	636	bdl	976	1742	415	bdl
EGB-04-S50_II_11_1	EGU1	Rt	2156	575	bdl	1285	1828	595	bdl
EGB-04-S50_II_11_2	EGU1	Rt	2414	582	bdl	1307	1868	565	bdl
EGB-04-S50_II_11_3	EGU1	Rt	2567	586	bdl	1426	1880	629	bdl
EGB-04-S50_II_12_1	EGU1	Rt	77	912	bdl	1091	1780	367	11
EGB-04-S50_II_12_2	EGU1	Rt	156	887	bdl	1338	1778	448	bdl
EGB-04-S50_II_12_3	EGU1	Rt	158	913	bdl	1363	1778	437	bdl
EGB-04-S50_II_16_1	EGU1	Rt	995	472	bdl	905	2181	430	bdl
EGB-04-S50_II_17	EGU1	Rt	408	714	bdl	2332	1599	432	bdl
EGB-04-S50_II_18	EGU1	Rt	1065	204	bdl	2625	1415	613	1
EGB-04-S50_II_19	EGU1	Rt	837	573	bdl	2065	950	659	bdl
EGB-04-S50_II_21	EGU1	Rt	99	580	bdl	1066	1915	466	11
EGB-04-S50_II_25	EGU1	Rt	64	621	bdl	1034	1947	423	bdl
EGB-04-S50_II_26	EGU1	Rt	64	458	bdl	1121	1957	409	bdl
EGB-04-S50_II_27	EGU1	Rt	64	985	bdl	749	2164	462	bdl
EGB-04-S50_II_28	EGU1	Rt	690	490	bdl	2019	1180	709	1
EGB-04-S50_II_29	EGU1	Rt	1504	465	bdl	2534	929	337	bdl
EGB-04-S50_II_30	EGU1	Rt	74	801	bdl	1169	1553	386	bdl
EGB-04-S50_II_32	EGU1	Rt	490	213	bdl	2599	1695	459	bdl
EGB-04-S50_II_35	EGU1	Rt	2479	112	bdl	4299	1440	765	bdl
EGB-04-S50_II_36	EGU1	Rt	88	1264	bdl	1155	1736	446	bdl
EGB-04-S50_II_37	EGU1	Rt	173	1044	bdl	1299	2268	429	bdl
EGB-04-S50_II_38	EGU1	Rt	222	727	bdl	1797	1324	496	bdl
EGB-04-S50_II_39	EGU1	Rt	75	1449	bdl	1394	1417	484	bdl
EGB-04-S50_II_40	EGU1	Rt	741	874	bdl	1500	2316	533	bdl
EGB-04-S50_II_42	EGU1	Rt	1298	840	bdl	2238	1029	415	6
EGB-04-S50_III_01_1	EGU1	Rt	210	388	bdl	1783	1701	756	bdl

continued on next page. . .

. . . table "EGB-04 and EGB-05 samples, EMP and Raman data" continued from page 209

Analysis label	Erzgebirge unit	Phase affiliation by Raman spot analysis	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
EGB-04-S50_III_01_2	EGU1	Rt	169	369	bdl	1493	1451	435	bdl
EGB-04-S50_III_01_3	EGU1	Rt	162	367	bdl	1487	1347	506	bdl
EGB-04-S50_III_02_1	EGU1	Rt	122	393	bdl	1202	2093	345	8
EGB-04-S50_III_03_1	EGU1	Rt	53	763	bdl	1548	1285	513	8
EGB-04-S50_III_04_1	EGU1	Rt	938	128	bdl	2314	960	837	bdl
EGB-04-S50_III_05_1	EGU1	Rt	499	164	bdl	1297	1560	425	2
EGB-04-S50_III_06_1	EGU1	Rt	272	755	bdl	1278	1846	565	bdl
EGB-04-S50_III_06_2	EGU1	Rt	236	766	bdl	1631	1839	577	bdl
EGB-04-S50_III_06_3	EGU1	Rt	219	692	bdl	1589	1837	566	bdl
EGB-04-S50_III_07_1	EGU1	Rt	2112	374	bdl	2463	1148	379	21
EGB-04-S50_III_07_2	EGU1	Rt	1516	398	bdl	2440	1175	404	bdl
EGB-04-S50_III_07_3	EGU1	Rt	1285	366	bdl	2405	1132	399	bdl
EGB-04-S50_III_08_1	EGU1	Rt	436	625	bdl	1464	1733	500	20
EGB-04-S50_III_09_1	EGU1	Rt	1896	723	bdl	986	1457	417	13
EGB-04-S50_III_10_1	EGU1	Rt	92	582	bdl	1172	1661	447	bdl
EGB-04-S50_III_11	EGU1	Rt	232	586	bdl	1876	1800	599	5
EGB-04-S50_III_12	EGU1	Rt	951	1264	bdl	1820	1421	655	bdl
EGB-04-S50_III_13	EGU1	Rt	248	464	bdl	889	1437	403	bdl
EGB-04-S50_III_14	EGU1	Rt	279	645	bdl	1515	1502	376	39
EGB-04-S50_III_15	EGU1	Rt	1778	75	bdl	3416	928	854	bdl
EGB-04-S50_III_16	EGU1	Rt	2431	455	bdl	1410	1642	488	bdl
EGB-04-S50_III_17	EGU1	Rt	5501	267	bdl	4692	867	739	bdl
EGB-04-S50_III_18	EGU1	Rt	68	688	bdl	1825	1521	468	31
EGB-04-S50_III_19	EGU1	Rt	3256	358	bdl	3107	1003	800	16
EGB-04-S50_III_20	EGU1	Rt	63	726	bdl	572	2085	432	bdl
EGB-04-S50_III_21	EGU1	Rt	74	512	bdl	1429	2052	396	29
EGB-04-S50_III_22	EGU1	Rt	233	569	bdl	1407	1396	625	bdl
EGB-04-S50_III_23	EGU1	Rt	466	608	bdl	681	1118	1324	8
EGB-04-S50_III_24	EGU1	Rt	341	382	bdl	1679	1703	478	4
EGB-04-S50_III_25	EGU1	Rt	844	203	bdl	1953	859	801	bdl
EGB-04-S50_III_26	EGU1	Rt	2516	131	bdl	4773	980	999	bdl
EGB-04-S50_III_27	EGU1	Rt	730	665	bdl	696	2405	393	bdl
EGB-04-S50_III_28	EGU1	Rt	3551	402	bdl	2232	864	609	bdl
EGB-04-S50_III_30	EGU1	Rt	1608	692	bdl	2052	1754	389	15
EGB-04-S50_III_31	EGU1	Rt	3246	157	bdl	3908	1471	660	17
EGB-04-S51_II_02_1	EMU	ms	138	859	1088	2367	1073	64	21
EGB-04-S51_II_02_2	EMU	ms	184	754	1267	2644	994	52	17
EGB-04-S51_II_02_3	EMU	ms	199	789	1496	2467	1051	70	bdl
EGB-04-S51_II_03_1	EMU	Rt	256	179	769	4521	861	67	bdl
EGB-04-S51_II_03_2	EMU	Rt	272	184	781	4237	899	58	bdl
EGB-04-S51_II_03_3	EMU	Rt	187	172	681	4186	829	70	bdl
EGB-04-S51_II_06_1	EMU	ms	1632	537	231	2308	1267	66	1
EGB-04-S51_II_07_1	EMU	Rt	122	975	196	2851	999	52	37
EGB-04-S51_II_07_2	EMU	Rt	143	975	159	2834	1009	67	41
EGB-04-S51_II_07_3	EMU	Rt	111	968	158	2585	982	80	26
EGB-04-S51_II_09_1	EMU	Rt	47	468	185	1651	1578	55	116
EGB-04-S51_II_10_1	EMU	Rt	499	109	676	4073	1075	67	bdl
EGB-04-S51_II_10_2	EMU	Rt	436	105	721	3859	1078	58	bdl
EGB-04-S51_II_10_3	EMU	Rt	381	126	682	3949	1073	81	21
EGB-04-S51_II_11_1	EMU	Rt	1496	242	102	2839	636	58	bdl
EGB-04-S51_II_11_2	EMU	Rt	1832	218	111	3168	686	38	bdl
EGB-04-S51_II_11_3	EMU	Rt	1791	207	83	2867	665	88	15
EGB-04-S51_II_12_1	EMU	Rt	67	398	76	3208	1619	39	bdl
EGB-04-S51_II_14	EMU	Rt	49	246	369	2931	1637	60	bdl
EGB-04-S51_II_18	EMU	Rt	26	344	677	1914	2036	77	4
EGB-04-S51_II_20	EMU	Rt	71	364	1386	2051	1757	46	16
EGB-04-S51_II_21	EMU	Rt	53	490	66	1995	1718	57	bdl
EGB-04-S51_II_22	EMU	ms	1830	209	516	4634	523	69	12
EGB-04-S51_II_26	EMU	Rt	26	445	164	2024	1545	46	10

continued on next page. . .

. . . table "EGB-04 and EGB-05 samples, EMP and Raman data" continued from page 209

Analysis label	Erzgebirge unit	Phase affiliation by Raman spot analysis	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
EGB-04-S51_II_27	EMU	ms	1729	342	189	2195	1134	43	bdl
EGB-04-S51_II_28	EMU	Rt	82	315	195	3095	1467	71	bdl
EGB-04-S51_II_29	EMU	Rt	76	456	1582	2121	1797	45	38
EGB-04-S51_II_31	EMU	Rt	35	348	186	1785	1594	62	1
EGB-04-S51_II_32	EMU	Rt	188	529	379	2772	1319	25	bdl
EGB-04-S51_II_33	EMU	Rt	61	370	224	2903	1309	56	8
EGB-04-S51_II_34	EMU	Rt	1844	432	334	2847	834	84	bdl
EGB-04-S51_II_35	EMU	Rt	235	179	1626	5501	851	79	bdl
EGB-04-S51_II_37	EMU	Rt	1238	234	254	3823	793	84	bdl
EGB-04-S51_II_38	EMU	Rt	49	655	35	2476	1627	66	11
EGB-04-S51_II_39	EMU	Rt	1763	402	597	2903	886	40	5
EGB-04-S51_II_40	EMU	Rt	49	315	99	1730	1498	73	bdl
EGB-04-S53_II_01_1	EMU	Rt	1507	529	bdl	1972	744	32	bdl
EGB-04-S53_II_02_1	EMU	Rt	1251	1537	bdl	1574	2822	45	bdl
EGB-04-S53_II_04_1	EMU	Ant	724	283	bdl	707	368	30	479
EGB-04-S53_II_04_2	EMU	Ant	361	124	bdl	921	108	202	3742
EGB-04-S53_II_04_3	EMU	Ant	691	268	bdl	1014	494	23	1650
EGB-04-S53_II_05_1	EMU	Brk	1099	168	bdl	2725	262	bdl	1036
EGB-04-S53_II_05_2	EMU	Brk	748	88	bdl	4503	66	84	594
EGB-04-S53_II_05_3	EMU	Brk	775	121	bdl	3974	122	270	907
EGB-04-S53_II_10_1	EMU	Rt	1702	948	bdl	2417	703	56	9
EGB-04-S53_II_10_2	EMU	Rt	1968	898	bdl	2564	773	47	17
EGB-04-S53_II_10_3	EMU	Rt	2068	893	bdl	2579	762	80	0
EGB-04-S53_II_11_1	EMU	Rt	1943	457	bdl	2679	593	58	3
EGB-04-S53_II_11_2	EMU	Rt	1940	421	bdl	2874	624	47	8
EGB-04-S53_II_11_3	EMU	Rt	2121	423	bdl	3086	602	15	bdl
EGB-04-S53_II_12_1	EMU	Rt	360	190	bdl	2811	691	30	bdl
EGB-04-S53_II_12_2	EMU	Rt	680	291	bdl	4248	619	71	bdl
EGB-04-S53_II_14_1	EMU	ms	1915	224	bdl	2577	989	32	10
EGB-04-S53_II_17	EMU	Rt	1621	542	bdl	1178	2039	30	bdl
EGB-04-S53_II_20	EMU	Rt	523	116	bdl	1058	3088	168	67
EGB-04-S53_II_22_1	EMU	ms	1207	291	bdl	766	2752	181	66
EGB-04-S53_II_22_2	EMU	ms	1483	206	bdl	853	2928	284	25
EGB-04-S53_II_22_3	EMU	ms	1025	468	bdl	796	2493	97	65
EGB-04-S53_II_23	EMU	ms	2739	29	52	3723	1018	21	26
EGB-04-S53_II_24	EMU	Rt	1715	372	118	2374	1167	88	bdl
EGB-04-S53_II_28	EMU	Rt	919	842	12	3593	1326	38	bdl
EGB-04-S53_II_31	EMU	Rt	1160	496	624	1430	939	81	78
EGB-04-S53_II_34	EMU	Rt	1467	476	65	1822	691	41	bdl
EGB-04-S53_II_35	EMU	Rt	1841	493	89	2512	842	47	17
EGB-04-S53_II_36	EMU	ms	1147	512	65	1616	680	68	bdl
EGB-04-S53_II_37	EMU	Rt	1347	892	83	1325	790	70	73
EGB-04-S53_II_38	EMU	Ant	1483	6	11	622	21	bdl	187
EGB-04-S53_II_40	EMU	Rt	1641	613	407	2404	994	32	15
EGB-04-S53_II_42_1	EMU	Ant	792	110	16	285	20	bdl	129
EGB-04-S53_II_42_2	EMU	Rt	1792	580	80	2189	912	72	bdl
EGB-04-S53_II_42_3	EMU	Rt	1801	554	109	2258	952	65	bdl
EGB-04-S53_II_43_1	EMU	Rt	2532	224	91	5844	1500	68	bdl
EGB-04-S53_II_43_2	EMU	Rt	1807	131	16	3783	1154	62	bdl
EGB-04-S53_II_43_3	EMU	Rt	1699	209	22	3432	1097	56	bdl
EGB-04-S53_II_51	EMU	Rt	1538	568	132	2002	1044	53	18
EGB-04-S53_II_53	EMU	Rt	635	349	36	943	1871	56	bdl
EGB-04-S55_II_03_1	MU	Ant	835	1822	284	4290	1763	104	bdl
EGB-04-S55_II_03_2	MU	Rt	1125	1235	164	2278	1217	141	bdl
EGB-04-S55_II_03_3	MU	Rt	1011	2121	264	3225	1553	128	bdl
EGB-04-S55_II_04_1	MU	Rt	1879	473	96	2622	932	48	7
EGB-04-S55_II_05_1	MU	Rt	2848	545	176	1542	3463	113	bdl
EGB-04-S55_II_05_2	MU	Rt	1453	393	165	1108	2028	73	95
EGB-04-S55_II_05_3	MU	Rt	3230	413	210	2469	3815	103	bdl

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. . . table "EGB-04 and EGB-05 samples, EMP and Raman data" continued from page 209

Analysis label	Erzgebirge unit	Phase affiliation by Raman spot analysis	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
EGB-04-S55_II_06_1	MU	Rt	735	1526	36	2909	1164	41	50
EGB-04-S55_II_06_2	MU	Rt	677	1570	bdl	3037	1154	bdl	14
EGB-04-S55_II_06_3	MU	Rt	689	1205	bdl	3177	1188	29	bdl
EGB-04-S55_II_07_1	MU	Rt	1509	1414	29	798	2344	21	bdl
EGB-04-S55_II_07_2	MU	Rt	1444	1473	36	907	2362	23	bdl
EGB-04-S55_II_07_3	MU	Rt	1472	1391	13	1079	2568	65	2
EGB-04-S55_II_08_1	MU	Rt	2395	371	92	2538	556	44	bdl
EGB-04-S55_II_08_2	MU	Rt	2763	330	126	3013	755	32	bdl
EGB-04-S55_II_08_3	MU	Rt	4085	875	173	4267	874	53	bdl
EGB-04-S55_II_1	MU	Rt	1959	192	585	3395	779	41	21
EGB-04-S55_II_10_1	MU	Rt	1184	1103	19	3903	1050	53	16
EGB-04-S55_II_10_2	MU	Rt	1121	1360	1	3992	1092	44	bdl
EGB-04-S55_II_10_3	MU	Rt	768	1505	20	3540	778	12	26
EGB-04-S55_II_11_1	MU	Rt	2110	441	157	2597	1084	15	61
EGB-04-S55_II_11_2	MU	Rt	2503	465	134	2641	1141	73	bdl
EGB-04-S55_II_11_3	MU	Rt	1697	493	155	2379	1000	47	bdl
EGB-04-S55_II_12_1	MU	Rt	1536	423	139	2075	1455	156	45
EGB-04-S55_II_12_2	MU	Rt	1673	408	145	2088	1185	77	bdl
EGB-04-S55_II_13_1	MU	Ant	1190	67	bdl	1452	162	23	915
EGB-04-S55_II_13_2	MU	Ant	1306	57	bdl	1415	123	bdl	475
EGB-04-S55_II_13_3	MU	Ant	2503	329	160	2543	1033	38	26
EGB-04-S55_II_14	MU	Rt	1715	333	97	1625	769	107	bdl
EGB-04-S55_II_15	MU	Ant	1811	286	91	2791	418	35	6
EGB-04-S55_II_16	MU	Ant	1845	372	56	2393	913	50	8
EGB-04-S55_II_17	MU	Rt	1893	409	236	1806	1030	50	bdl
EGB-04-S55_II_18	MU	Rt	1864	463	334	2808	775	47	30
EGB-04-S55_II_19	MU	Rt	1020	408	312	928	2250	78	725
EGB-04-S55_II_2	MU	Ant	389	43	17	1168	103	bdl	271
EGB-04-S55_II_20	MU	Ant	2043	429	322	2969	477	62	bdl
EGB-04-S55_II_21	MU	Ant	947	37	9	1773	141	18	100
EGB-04-S55_II_22	MU	Rt	1463	6	22	663	351	135	2340
EGB-04-S55_II_24	MU	Rt	720	59	74	3569	1566	53	bdl
EGB-04-S55_II_25	MU	Rt	1335	304	73	2252	565	24	8
EGB-04-S55_II_27	MU	Ant	1740	205	528	2868	1065	33	18
EGB-04-S55_II_28	MU	Ant	1788	318	142	2521	885	84	bdl
EGB-04-S55_II_29	MU	Ant	589	1064	3	675	99	9	48
EGB-04-S55_II_30_1	MU	Ant	498	53	25	3710	109	12	603
EGB-04-S55_II_30_2	MU	Rt	2991	150	45	2644	1433	35	14
EGB-04-S55_II_33	MU	Rt	2059	483	142	2472	882	59	bdl
EGB-04-S55_II_9	MU	Ant	1176	23	40	2279	131	9	3720
EGB-04-S56_II_10_1	EMU	Rt	1510	1158	206	2243	689	53	6
EGB-04-S56_II_10_2	EMU	Rt	1516	1170	169	1905	648	41	bdl
EGB-04-S56_II_10_3	EMU	Rt	2140	1041	143	2186	716	62	23
EGB-04-S56_II_27_1	EMU	Rt	1553	1082	240	1841	627	18	bdl
EGB-04-S56_II_27_2	EMU	Rt	742	1741	229	1917	672	349	bdl
EGB-04-S56_II_27_3	EMU	Rt	1376	998	228	2131	394	32	103
EGB-04-S56_II_29_1	EMU	Ant	664	111	7	214	129	16	85
EGB-04-S56_II_33_1	EMU	Rt	1696	492	194	2751	671	39	3
EGB-04-S56_II_35_1	EMU	Ant	493	187	10	183	103	41	46
EGB-04-S56_II_35_2	EMU	Ant	733	3	9	310	63	3	63
EGB-04-S56_II_35_3	EMU	Ant	612	23	1	696	103	9	105
EGB-04-S56_II_38_1	EMU	Ant	960	100	bdl	229	104	71	bdl
EGB-04-S56_II_38_2	EMU	Ant	1402	976	bdl	726	309	bdl	305
EGB-04-S56_II_38_3	EMU	Ant	947	101	bdl	204	98	135	1552
EGB-04-S56_II_41_1	EMU	Ant	1299	105	69	4188	404	73	1191
EGB-04-S56_II_41_2	EMU	Ant	1734	51	33	491	226	41	711
EGB-04-S56_II_41_3	EMU	Ant	1395	41	23	1216	139	27	1653
EGB-04-S56_II_42_1	EMU	Rt	3766	559	205	2507	999	1009	3
EGB-04-S56_II_42_2	EMU	Rt	4139	581	203	2864	1049	1022	6

continued on next page. . .

. . . table "EGB-04 and EGB-05 samples, EMP and Raman data" continued from page 209

Analysis label	Erzgebirge unit	Phase affiliation by Raman spot analysis	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
EGB-04-S56_II_42_3	EMU	Rt	3990	548	187	2780	1041	1013	bdl
EGB-04-S56_II_43_1	EMU	Rt	1989	515	161	3391	513	68	226
EGB-04-S56_II_43_2	EMU	Rt	1933	229	147	3069	432	60	bdl
EGB-04-S56_II_43_3	EMU	Rt	1618	1070	207	2335	364	36	25
EGB-04-S56_II_50_1	EMU	Rt	4006	402	118	3197	500	389	111
EGB-04-S56_II_50_2	EMU	Rt	1765	556	123	2449	391	42	1
EGB-04-S56_II_50_3	EMU	Rt	2305	325	108	3040	438	99	3143
EGB-04-S56_II_53	EMU	Ant	831	bdl	bdl	582	14	567	133
EGB-04-S56_II_57	EMU	Rt	4924	545	414	5151	926	94	41
EGB-04-S56_II_61	EMU	Ant	1505	68	bdl	201	81	108	136
EGB-04-S56_II_63	EMU	Ant	466	23	10	208	105	36	5
EGB-04-S56_II_68	EMU	Rt	1432	937	217	2272	803	45	bdl
EGB-04-S57_II_01_1	GU	Rt	2355	586	80	2741	933	103	bdl
EGB-04-S57_II_01_2	GU	Rt	1773	472	99	2752	885	64	bdl
EGB-04-S57_II_01_3	GU	Rt	1967	538	98	2672	1120	86	bdl
EGB-04-S57_II_02_1	GU	Rt	1827	924	96	2194	1214	73	95
EGB-04-S57_II_02_2	GU	Rt	1773	853	178	2326	1221	44	bdl
EGB-04-S57_II_02_3	GU	Rt	1711	840	126	2050	1245	58	0
EGB-04-S57_II_03_1	GU	Rt	1950	446	99	2774	722	79	1
EGB-04-S57_II_04_1	GU	Rt	1854	746	73	2528	1150	104	21
EGB-04-S57_II_04_2	GU	Rt	1610	582	118	2522	1207	47	bdl
EGB-04-S57_II_04_3	GU	Rt	2001	755	114	2445	1430	90	bdl
EGB-04-S57_II_07_1	GU	Rt	2490	788	76	2577	812	89	bdl
EGB-04-S57_II_07_2	GU	Rt	1922	786	95	2274	825	64	bdl
EGB-04-S57_II_07_3	GU	Rt	2126	796	58	2304	809	78	bdl
EGB-04-S57_II_08_1	GU	ms	2050	410	129	18578	721	137	bdl
EGB-04-S57_II_08_2	GU	ms	1903	357	95	2688	808	76	13
EGB-04-S57_II_08_3	GU	ms	2452	415	115	2771	840	110	bdl
EGB-04-S57_II_11	GU	Rt	1650	634	80	2495	1000	47	13
EGB-04-S57_II_13_1	GU	Rt	2513	682	95	2869	1178	88	bdl
EGB-04-S57_II_13_2	GU	Rt	2349	595	67	3018	1184	127	bdl
EGB-04-S57_II_13_3	GU	Rt	1855	658	106	2708	1125	109	bdl
EGB-04-S57_II_15_1	GU	Rt	2099	353	102	2738	876	106	27
EGB-04-S57_II_15_2	GU	Rt	2138	370	59	2796	832	89	bdl
EGB-04-S57_II_15_3	GU	Rt	2032	356	30	3410	897	107	bdl
EGB-04-S57_II_16_1	GU	Rt	1900	616	130	2547	1354	82	bdl
EGB-04-S57_II_17_1	GU	Rt	1827	438	153	2687	1066	55	bdl
EGB-04-S57_II_18_1	GU	Rt	2695	360	174	3424	744	106	bdl
EGB-04-S57_II_19	GU	Rt	3027	378	55	3130	1300	120	bdl
EGB-04-S57_II_22	GU	Rt	2066	427	118	2588	1273	79	bdl
EGB-04-S57_II_23	GU	Rt	1931	808	116	2284	1448	84	bdl
EGB-04-S57_II_24	GU	Rt	3001	467	80	3136	1362	135	bdl
EGB-04-S57_II_25	GU	Rt	1438	385	136	2539	1454	97	bdl
EGB-04-S57_II_26	GU	Rt	1859	402	121	2613	723	124	bdl
EGB-04-S57_II_27	GU	Rt	1504	569	197	2574	909	61	bdl
EGB-04-S57_II_28	GU	Rt	1838	510	98	2235	1269	73	bdl
EGB-04-S57_II_29	GU	Rt	1745	497	100	2571	950	82	bdl
EGB-04-S57_II_30	GU	Rt	1991	453	77	2749	1009	96	bdl
EGB-04-S57_II_32	GU	Rt	1801	430	122	2290	1059	90	bdl
EGB-04-S57_II_33	GU	Ant	1387	72	925	1536	75	503	bdl
EGB-04-S57_II_35	GU	Rt	1770	438	86	2648	1035	64	bdl
EGB-04-S57_II_36	GU	Rt	1723	457	63	2787	752	90	bdl
EGB-04-S57_II_37	GU	ms	2062	381	83	2860	1442	130	16
EGB-04-S57_II_40	GU	ms	1999	300	143	2815	1296	75	bdl
EGB-04-S57_II_41	GU	Rt	2056	583	102	2657	860	96	bdl
EGB-04-S57_II_43	GU	Rt	1706	610	96	2357	1092	55	43
EGB-04-S57_II_44	GU	Rt	1701	627	106	2152	1414	35	bdl
EGB-04-S61_II_06_1	PU	Ant	1295	32	1	1080	23	153	bdl
EGB-04-S61_II_06_2	PU	Ant	739	bdl	22	2684	11	124	bdl

continued on next page. . .

. . . table "EGB-04 and EGB-05 samples, EMP and Raman data" continued from page 209

Analysis label	Erzgebirge unit	Phase affiliation by Raman spot analysis	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
EGB-04-S61_II_08_1	PU	Rt	2679	356	110	1787	937	267	6
EGB-04-S61_II_08_2	PU	Rt	2294	355	112	1635	836	243	bdl
EGB-04-S61_II_08_3	PU	Rt	2366	320	118	1601	862	247	bdl
EGB-04-S61_II_09_1	PU	Ant	210	15	10	4445	68	bdl	79
EGB-04-S61_II_09_2	PU	Ant	406	9	19	4250	127	9	10
EGB-04-S61_II_09_3	PU	Ant	466	3	1	4229	64	bdl	49
EGB-04-S61_II_11_1	PU	Rt	1975	648	133	1812	1873	127	7
EGB-04-S61_II_11_2	PU	Rt	1601	541	130	1845	1775	48	4
EGB-04-S61_II_11_3	PU	Rt	1570	599	153	1723	1806	69	bdl
EGB-04-S61_II_12_1	PU	Rt	1779	5472	2879	547	5252	99	bdl
EGB-04-S61_II_12_2	PU	Rt	436	4598	2707	418	4876	30	190
EGB-04-S61_II_12_3	PU	Rt	636	3886	1404	445	3758	36	4
EGB-04-S61_II_13_1	PU	Rt	2815	832	90	1694	2097	93	35
EGB-04-S61_II_13_2	PU	Rt	1863	433	70	1775	2062	69	bdl
EGB-04-S61_II_13_3	PU	Rt	1726	474	90	1658	1784	108	5
EGB-04-S61_II_14_1	PU	Rt	1852	605	736	2532	1019	72	4
EGB-04-S61_II_19_1	PU	Rt	1149	433	55	2459	1081	bdl	66
EGB-04-S61_II_19_2	PU	Rt	1155	427	46	2663	1294	bdl	15
EGB-04-S61_II_19_3	PU	Rt	2040	526	31	2620	1340	bdl	434
EGB-04-S61_II_29_1	PU	Ant	607	1641	55	612	625	3	27
EGB-04-S61_II_29_2	PU	Ant	1646	2642	bdl	109	174	195	480
EGB-04-S62_II_M_09_1	MU	Rt	2168	2564	9940	2781	3930	115	bdl
EGB-04-S62_II_M_09_2	MU	Rt	7707	2362	3465	3383	612	12	2
EGB-04-S62_II_M_09_3	MU	Rt	1683	2092	19456	15158	1527	369	bdl
EGB-04-S62_II_M_09_4	MU	Rt	1641	3233	19219	12981	2046	306	bdl
EGB-04-S62_II_M_12_1	MU	Ant	1718	319	92	3360	1002	40	22
EGB-04-S62_II_M_13_1	MU	Rt	4274	853	12524	11038	2474	204	bdl
EGB-04-S62_II_M_13_2	MU	Rt	4187	1274	14021	13681	1868	234	bdl
EGB-04-S62_II_M_13_3	MU	Rt	3913	3000	14493	14147	1746	234	bdl
EGB-04-S62_II_M_13_4	MU	Rt	2366	4707	21031	9903	2136	244	bdl
EGB-04-S62_II_M_13_5	MU	Rt	1674	3365	14099	9849	1614	172	bdl
EGB-04-S62_II_M_17_1	MU	Rt	649	1425	8326	3069	1628	38	2
EGB-04-S62_II_M_17_2	MU	Rt	784	1564	13075	9833	2745	150	bdl
EGB-04-S62_II_M_17_3	MU	Rt	972	1346	13233	8444	3701	170	bdl
EGB-04-S62_II_M_17_4	MU	Rt	981	1371	13706	8965	3881	196	bdl
EGB-04-S62_II_M_17_5	MU	Rt	571	1333	11106	2055	4787	100	bdl
EGB-04-S62_II_M_27_1	MU	Rt	1369	81	17723	17179	2038	283	bdl
EGB-04-S62_II_M_27_2	MU	Rt	450	14	13784	12048	472	144	bdl
EGB-04-S62_II_M_33_1	MU	Rt	605	1417	8651	3526	1936	61	bdl
EGB-04-S62_II_M_33_2	MU	Rt	1297	727	12839	13836	852	207	bdl
EGB-04-S62_II_M_34_1	MU	Rt	2717	7549	15281	5192	4248	200	bdl
EGB-04-S62_II_M_34_2	MU	Rt	1824	265	9162	3414	2160	50	bdl
EGB-04-S62_II_NM_06_1	MU	Rt	672	96	149	1645	1256	212	bdl
EGB-04-S62_II_NM_25_1	MU	Ant	1366	bdl	34	259	48	41	4
EGB-04-S62_II_NM_25_2	MU	Ant	1599	11	50	211	100	15	bdl
EGB-04-S62_II_NM_25_3	MU	Ant	930	bdl	14	428	6	12	bdl
EGB-04-S62_II_NM_31_1	MU	Rt	2208	645	188	1522	2234	1204	10
EGB-04-S62_II_NM_31_2	MU	Rt	2347	642	230	1346	2249	1098	bdl
EGB-04-S62_II_NM_31_3	MU	Rt	2677	644	238	1527	2251	1190	bdl
EGB-04-S62_II_NM_35_1	MU	Ant	1074	3	16	466	47	67	461
EGB-04-S62_II_NM_35_2	MU	Ant	1045	11	9	356	bdl	41	659
EGB-04-S62_II_NM_35_3	MU	Ant	1214	6	72	1989	31	223	bdl
EGB-04-S62_II_NM_35_4	MU	Ant	1556	9	50	1113	43	188	bdl
EGB-04-S62_II_NM_35_5	MU	Ant	1249	bdl	53	1186	bdl	102	bdl
EGB-04-S63_II_02_1	GPU	Ant	952	209	17	1321	587	35	646
EGB-04-S63_II_02_2	GPU	Ant	675	73	32	422	92	21	57
EGB-04-S63_II_02_3	GPU	Ant	821	116	17	980	518	41	289
EGB-04-S63_II_07_1	GPU	Rt	1792	736	120	1426	1659	164	bdl
EGB-04-S63_II_07_2	GPU	Rt	1801	725	122	1425	1665	169	bdl

continued on next page. . .

. . . table "EGB-04 and EGB-05 samples, EMP and Raman data" continued from page 209

Analysis label	Erzgebirge unit	Phase affiliation by Raman spot analysis	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
EGB-04-S63_II_07_3	GPU	Rt	1748	767	142	2292	1659	192	bdl
EGB-04-S63_II_09_1	GPU	Rt	3929	441	199	3068	953	208	1
EGB-04-S63_II_09_2	GPU	Rt	3214	468	273	3094	914	343	5
EGB-04-S63_II_09_3	GPU	Rt	3159	503	289	3060	902	360	17
EGB-04-S63_II_10_1	GPU	Rt	2282	753	114	1632	1129	150	69
EGB-04-S63_II_10_2	GPU	Rt	1930	697	126	1702	1089	125	29
EGB-04-S63_II_10_3	GPU	Rt	1801	716	136	1673	1104	99	13
EGB-04-S63_II_11_1	GPU	Ant	1741	495	126	1376	1576	1022	bdl
EGB-04-S63_II_11_2	GPU	Ant	1547	512	143	1304	1663	1059	bdl
EGB-04-S63_II_11_3	GPU	Ant	1355	512	163	1276	1607	1050	bdl
EGB-04-S63_II_12_1	GPU	Ant	635	140	1470	794	349	105	bdl
EGB-04-S63_II_12_2	GPU	Ant	1226	137	1331	755	371	132	13
EGB-04-S63_II_12_3	GPU	Ant	358	149	688	594	305	26	bdl
EGB-04-S63_II_13_1	GPU	Rt	1808	935	155	1086	1502	163	bdl
EGB-04-S63_II_14_1	GPU	Ant	891	bdl	7	215	bdl	18	77
EGB-04-S63_II_14_2	GPU	Ant	1246	bdl	bdl	454	19	35	2
EGB-04-S63_II_17	GPU	Ant	2023	3	7	1202	bdl	509	75
EGB-04-S63_II_18_1	GPU	Rt	1748	576	319	2018	1426	107	bdl
EGB-04-S63_II_19_1	GPU	Rt	1497	414	1113	2208	1266	9	30
EGB-04-S63_II_19_2	GPU	Rt	1525	443	1148	2183	1152	38	6
EGB-04-S63_II_19_3	GPU	Rt	1795	378	958	2335	1142	50	9
EGB-04-S63_II_22	GPU	Rt	3024	705	126	2564	1117	329	bdl
EGB-04-S63_II_23	GPU	Rt	1838	5285	346	417	2856	84	bdl
EGB-04-S63_II_24	GPU	Ant	1373	bdl	9	417	bdl	35	bdl
EGB-04-S63_II_25	GPU	Rt	1574	590	97	2200	994	30	bdl
EGB-04-S63_II_26_1	GPU	Ant	1996	879	26230	1701	2378	376	65
EGB-04-S63_II_26_2	GPU	Ant	3259	1665	21346	3220	2481	421	3
EGB-04-S63_II_26_3	GPU	Ant	959	1669	7974	1213	2457	203	17
EGB-04-S63_II_27_1	GPU	Ant	2289	107	32	1462	8	26	2875
EGB-04-S63_II_27_2	GPU	Ant	4251	487	79	3563	1428	627	58
EGB-04-S63_II_28	GPU	Rt	1632	543	150	1440	1198	140	bdl
EGB-04-S63_II_29	GPU	Rt	2182	795	96	1651	2416	162	4
EGB-04-S63_II_30	GPU	ms	1585	482	105	2978	834	53	bdl
EGB-04-S63_II_34	GPU	Rt	1838	859	246	2305	1319	145	bdl
EGB-04-S63_II_35	GPU	Rt	811	216	9	2227	1213	1008	bdl
EGB-04-S63_II_36	GPU	Ant	405	55	bdl	915	181	23	164
EGB-04-S63_II_39	GPU	Rt	1816	625	148	976	1854	130	bdl
EGB-04-S63_II_41	GPU	Rt	2350	484	90	2257	999	59	2
EGB-04-S63_II_42	GPU	Rt	804	70	95	1623	542	64	30
EGB-04-S63_II_6	GPU	ms	1309	20	29	460	44	26	67
EGB-05-S49_IIb_01_1	EGU1	Rt	131	921	9	1235	1328	513	bdl
EGB-05-S49_IIb_01_2	EGU1	Rt	152	950	4	1416	1597	515	bdl
EGB-05-S49_IIb_01_3	EGU1	Rt	154	966	23	1133	1616	497	bdl
EGB-05-S49_IIb_03_1	EGU1	Rt	527	645	94	1658	1577	556	bdl
EGB-05-S49_IIb_04_1	EGU1	Rt	6206	348	467	4471	1102	783	bdl
EGB-05-S49_IIb_04_2	EGU1	Rt	5861	328	490	4336	1073	792	bdl
EGB-05-S49_IIb_04_3	EGU1	Rt	6679	345	467	4685	1156	515	bdl
EGB-05-S49_IIb_05_1	EGU1	Rt	997	259	97	2855	804	720	bdl
EGB-05-S49_IIb_06_1	EGU1	Rt	849	232	58	3628	917	635	bdl
EGB-05-S49_IIb_06_2	EGU1	Rt	930	291	15	4017	974	701	bdl
EGB-05-S49_IIb_06_3	EGU1	Rt	1041	278	82	3733	933	760	bdl
EGB-05-S49_IIb_07_1	EGU1	Rt	145	557	31	965	1883	768	bdl
EGB-05-S49_IIb_07_2	EGU1	Rt	114	569	66	1050	1874	706	bdl
EGB-05-S49_IIb_07_3	EGU1	Rt	136	571	66	1065	1920	468	bdl
EGB-05-S49_IIb_08_1	EGU1	Rt	274	533	53	1006	1204	437	bdl
EGB-05-S49_IIb_10_1	EGU1	ms	1470	309	144	1642	2246	527	bdl
EGB-05-S49_IIb_10_2	EGU1	ms	1311	246	144	1653	2188	769	bdl
EGB-05-S49_IIb_10_3	EGU1	ms	1424	264	128	1693	2198	535	bdl
EGB-05-S49_IIb_11_1	EGU1	Rt	872	44	35	3653	784	494	bdl

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. . . table "EGB-04 and EGB-05 samples, EMP and Raman data" continued from page 209

Analysis label	Erzgebirge unit	Phase affiliation by Raman spot analysis	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
EGB-05-S49_IIb_12_1	EGU1	ms	6571	359	227	4404	779	813	bdl
EGB-05-S49_IIb_13	EGU1	Rt	1697	322	278	2927	1338	691	bdl
EGB-05-S49_IIb_14	EGU1	Rt	1949	41	13	3843	1474	817	bdl
EGB-05-S49_IIb_15	EGU1	Rt	112	638	54	1899	1722	389	bdl
EGB-05-S49_IIb_16	EGU1	Rt	2229	211	50	4779	655	825	bdl
EGB-05-S49_IIb_17	EGU1	Rt	902	256	35	2146	665	851	bdl
EGB-05-S49_IIb_18	EGU1	Rt	1748	420	141	1755	1973	726	bdl
EGB-05-S49_IIb_19	EGU1	Rt	1171	485	115	1370	1585	685	bdl
EGB-05-S49_IIb_2	EGU1	Rt	999	75	35	3723	1778	837	bdl
EGB-05-S49_IIb_21	EGU1	Rt	918	145	121	1758	1642	696	bdl
EGB-05-S49_IIb_22	EGU1	Rt	1118	229	65	3840	559	851	bdl
EGB-05-S49_IIb_23	EGU1	Rt	69	681	77	1820	1036	640	bdl
EGB-05-S49_IIb_24	EGU1	Rt	1570	432	158	1917	1068	798	bdl
EGB-05-S49_IIb_25	EGU1	ms	192	536	42	1627	1729	638	bdl
EGB-05-S49_IIb_26	EGU1	Rt	545	225	106	2391	1141	634	bdl
EGB-05-S49_IIb_28	EGU1	Rt	185	699	113	1798	2054	431	bdl
EGB-05-S49_IIb_29	EGU1	Rt	3160	346	352	3623	850	691	bdl
EGB-05-S49_IIb_30	EGU1	Rt	1108	247	53	3683	451	1782	bdl
EGB-05-S49_IIb_32	EGU1	Rt	1218	417	168	2182	1073	670	bdl
EGB-05-S49_IIb_33	EGU1	Rt	1203	57	83	5049	535	837	bdl
EGB-05-S49_IIb_9	EGU1	Rt	1113	1010	103	1792	1466	160	bdl
EGB-05-S50_IIb_01_1	MU	ms	1825	453	74	2282	1057	54	bdl
EGB-05-S50_IIb_01_2	MU	ms	1724	424	87	2177	1103	69	bdl
EGB-05-S50_IIb_01_3	MU	ms	2066	438	58	2416	1106	78	bdl
EGB-05-S50_IIb_02_1	MU	Rt	9643	196	186	6503	3404	168	bdl
EGB-05-S50_IIb_02_2	MU	Rt	5887	169	175	5201	2917	166	bdl
EGB-05-S50_IIb_02_3	MU	Rt	5706	116	201	5007	2907	155	bdl
EGB-05-S50_IIb_03_1	MU	Ant	466	23	bdl	837	136	15	bdl
EGB-05-S50_IIb_03_2	MU	Ant	535	32	bdl	1936	167	6	366
EGB-05-S50_IIb_03_3	MU	Ant	1135	79	3	1748	128	bdl	989
EGB-05-S50_IIb_04_1	MU	Rt	1862	497	109	2544	1303	78	bdl
EGB-05-S50_IIb_04_2	MU	Rt	2298	473	65	2708	1402	75	bdl
EGB-05-S50_IIb_04_3	MU	Rt	1879	450	79	2431	1434	60	bdl
EGB-05-S50_IIb_05_1	MU	Rt	2017	313	82	2145	1298	75	bdl
EGB-05-S50_IIb_05_2	MU	Rt	1797	209	61	2030	1313	63	bdl
EGB-05-S50_IIb_05_3	MU	Rt	1899	258	70	2432	1344	78	bdl
EGB-05-S50_IIb_06_1	MU	Rt	864	218	96	3540	1124	165	bdl
EGB-05-S50_IIb_06_2	MU	Rt	340	244	51	2078	782	104	bdl
EGB-05-S50_IIb_06_3	MU	Rt	485	161	102	2202	778	113	bdl
EGB-05-S50_IIb_07_1	MU	ms	1638	204	84	2823	797	77	bdl
EGB-05-S50_IIb_07_2	MU	ms	1548	252	80	3137	1120	116	bdl
EGB-05-S50_IIb_07_3	MU	ms	1087	172	106	3168	992	51	bdl
EGB-05-S50_IIb_08_1	MU	Rt	1813	357	70	2683	907	54	bdl
EGB-05-S50_IIb_08_2	MU	Rt	2066	373	70	2706	1202	66	bdl
EGB-05-S50_IIb_08_3	MU	Rt	2486	500	51	2946	1154	51	bdl
EGB-05-S50_IIb_09_1	MU	ms	1641	535	551	2760	680	48	bdl
EGB-05-S50_IIb_09_2	MU	ms	1595	512	297	2897	725	66	bdl
EGB-05-S50_IIb_09_3	MU	ms	1295	473	1427	2661	755	81	bdl
EGB-05-S50_IIb_10_1	MU	Rt	1978	313	70	2848	685	75	bdl
EGB-05-S50_IIb_10_2	MU	Rt	1840	328	98	2605	732	45	bdl
EGB-05-S50_IIb_10_3	MU	Rt	2344	300	76	3087	695	48	bdl
EGB-05-S50_IIb_11	MU	Rt	2525	272	76	2218	1427	86	bdl
EGB-05-S50_IIb_12	MU	Rt	1753	302	82	2314	1043	76	bdl
EGB-05-S50_IIb_13	MU	Rt	1529	450	44	3233	629	81	bdl
EGB-05-S50_IIb_14	MU	Rt	1084	169	80	2469	656	98	bdl
EGB-05-S50_IIb_16	MU	Rt	1599	1407	58	1332	1905	91	bdl
EGB-05-S50_IIb_17	MU	ms	2014	450	64	2302	1284	84	bdl
EGB-05-S50_IIb_18	MU	Rt	4238	387	35	3380	1311	76	bdl
EGB-05-S50_IIb_19	MU	Rt	231	331	7	1312	1723	232	bdl

continued on next page. . .

. . . table "EGB-04 and EGB-05 samples, EMP and Raman data" continued from page 209

Analysis label	Erzgebirge unit	Phase affiliation by Raman spot analysis	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
EGB-05-S50_IIb_20	MU	ms	412	665	289	1893	950	276	bdl
EGB-05-S50_IIb_21	MU	Ant	80	29	bdl	721	242	18	155
EGB-05-S50_IIb_22	MU	Rt	2941	437	76	2231	1502	102	bdl
EGB-05-S50_IIb_23	MU	Rt	2484	459	64	1083	2671	98	bdl
EGB-05-S50_IIb_24	MU	Rt	2128	257	59	3005	1109	65	bdl
EGB-05-S50_IIb_25	MU	Rt	1887	602	109	2742	916	36	bdl
EGB-05-S50_IIb_26	MU	ms	1762	699	72	2255	1556	183	bdl
EGB-05-S50_IIb_27	MU	Rt	1636	207	31	2789	1086	42	bdl
EGB-05-S50_IIb_28	MU	Rt	2190	430	85	2651	1007	66	bdl
EGB-05-S50_IIb_29	MU	Rt	2365	297	72	2455	1888	73	bdl
EGB-05-S50_IIb_31	MU	Rt	1759	428	154	1070	1279	129	bdl
EGB-05-S50_IIb_33	MU	Rt	1729	1217	87	1422	1165	98	bdl
EGB-05-S51_IIb_01_1	PU	Rt	592	1391	443	920	4681	654	bdl
EGB-05-S51_IIb_01_2	PU	Rt	714	1418	413	1003	4741	602	bdl
EGB-05-S51_IIb_01_3	PU	Rt	1178	1419	394	1065	4957	532	bdl
EGB-05-S51_IIb_02_1	PU	Rt	3554	325	314	3224	780	808	bdl
EGB-05-S51_IIb_02_2	PU	Rt	3520	335	309	4173	775	719	bdl
EGB-05-S51_IIb_02_3	PU	Rt	3350	299	312	3048	773	708	bdl
EGB-05-S51_IIb_04_1	PU	Rt	294	60	17	2458	1108	340	bdl
EGB-05-S51_IIb_04_2	PU	Rt	289	55	26	2890	1194	344	bdl
EGB-05-S51_IIb_04_3	PU	Rt	330	63	bdl	3155	792	364	bdl
EGB-05-S51_IIb_07_1	PU	Rt	43	1068	23	1230	1467	106	bdl
EGB-05-S51_IIb_09_1	PU	Rt	1831	1111	130	1006	1458	184	bdl
EGB-05-S51_IIb_09_2	PU	Rt	1885	1115	108	1070	1453	214	bdl
EGB-05-S51_IIb_09_3	PU	Rt	1778	962	147	1058	1506	133	bdl
EGB-05-S51_IIb_11_1	PU	Rt	1388	78	83	3991	945	760	bdl
EGB-05-S51_IIb_12_1	PU	Rt	2219	405	301	3170	901	229	bdl
EGB-05-S51_IIb_12_2	PU	Rt	2340	429	215	3157	990	324	bdl
EGB-05-S51_IIb_12_3	PU	Rt	2289	425	238	3231	1018	254	bdl
EGB-05-S51_IIb_13	PU	Rt	710	40	bdl	4637	334	520	3302
EGB-05-S51_IIb_14_1	PU	Rt	2244	443	471	23475	642	229	bdl
EGB-05-S51_IIb_14_2	PU	Rt	2482	398	466	2131	702	228	bdl
EGB-05-S51_IIb_14_3	PU	Rt	2351	423	610	2341	635	218	bdl
EGB-05-S51_IIb_16_1	PU	Ant	692	23	35	973	852	483	3534
EGB-05-S51_IIb_16_2	PU	Ant	877	20	27	769	1370	467	553
EGB-05-S51_IIb_16_3	PU	Ant	610	32	45	854	1147	1075	1016
EGB-05-S51_IIb_17_1	PU	Rt	5975	1196	190	2438	2997	590	bdl
EGB-05-S51_IIb_20	PU	Rt	791	491	63	1258	3168	3365	bdl
EGB-05-S51_IIb_21	PU	Rt	920	1552	10	2224	668	122	bdl
EGB-05-S51_IIb_24	PU	Rt	3575	785	124	3117	1549	248	bdl
EGB-05-S51_IIb_26	PU	Rt	1133	435	34	2310	1251	135	bdl
EGB-05-S51_IIb_27	PU	Rt	1932	658	158	1784	1167	199	bdl
EGB-05-S51_IIb_28	PU	Rt	1875	396	1850	3056	882	154	bdl
EGB-05-S51_IIb_30	PU	Rt	308	406	59	2114	1759	67	bdl
EGB-05-S51_IIb_31	PU	Rt	2803	424	56	1434	1018	5420	bdl
EGB-05-S51_IIb_34	PU	Rt	754	204	bdl	3109	618	53	bdl
EGB-05-S51_IIb_35	PU	Rt	1678	498	91	2085	967	50	bdl
EGB-05-S51_IIb_36	PU	Rt	8686	1591	128	10494	1848	626	bdl
EGB-05-S51_IIb_37	PU	Rt	287	8	13	2788	597	79	bdl
EGB-05-S51_IIb_38	PU	Rt	750	1244	11	652	5335	3169	bdl
EGB-05-S51_IIb_39	PU	Rt	2677	967	95	803	2784	4010	bdl
EGB-05-S51_IIb_41	PU	Rt	4454	642	258	3096	1221	753	bdl
EGB-05-S51_IIb_43	PU	Rt	1203	3468	60	1527	1253	4144	bdl
EGB-05-S51_IIb_44	PU	Rt	3175	4627	135	1667	1693	6503	bdl
EGB-05-S51_IIb_45	PU	Rt	904	737	109	2372	2792	2974	bdl
EGB-05-S51_IIb_47	PU	Rt	4036	277	458	3593	761	423	bdl
EGB-05-S51_IIb_48	PU	Rt	1778	537	49	2131	966	786	bdl
EGB-05-S52_IIb_02_1	MU	Rt	1843	60	1564	3875	434	56	bdl
EGB-05-S52_IIb_02_2	MU	Rt	2300	88	1558	3304	423	6	bdl

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. . . table "EGB-04 and EGB-05 samples, EMP and Raman data" continued from page 209

Analysis label	Erzgebirge unit	Phase affiliation by Raman spot analysis	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
EGB-05-S52_IIb_02_3	MU	Rt	3481	104	1801	4450	405	44	bdl
EGB-05-S52_IIb_03_1	MU	Rt	1488	241	306	2445	470	12	bdl
EGB-05-S52_IIb_03_2	MU	Rt	2705	265	423	20832	498	35	bdl
EGB-05-S52_IIb_03_3	MU	Rt	2312	194	367	3286	508	49	bdl
EGB-05-S52_IIb_04_1	MU	Ant	961	17	37	1949	121	bdl	979
EGB-05-S52_IIb_04_2	MU	Ant	1667	454	71	2163	1065	77	43
EGB-05-S52_IIb_04_3	MU	Ant	1318	8	7	509	bdl	20	26
EGB-05-S52_IIb_05_1	MU	Ant	1002	3	3	846	bdl	53	87
EGB-05-S52_IIb_05_2	MU	Ant	675	11	bdl	958	bdl	6	314
EGB-05-S52_IIb_05_3	MU	Ant	510	6	bdl	936	bdl	18	1354
EGB-05-S52_IIb_07_1	MU	Rt	779	6285	20	652	937	133	bdl
EGB-05-S52_IIb_07_2	MU	Rt	1110	6893	53	689	918	144	bdl
EGB-05-S52_IIb_07_3	MU	Rt	956	6759	64	689	1154	118	bdl
EGB-05-S52_IIb_08_1	MU	Rt	1248	282	1352	1559	1914	113	6
EGB-05-S52_IIb_08_2	MU	Rt	1285	360	1371	1546	1941	85	14
EGB-05-S52_IIb_08_3	MU	Rt	1174	901	1303	1211	1795	93	12
EGB-05-S52_IIb_10_1	MU	ms	1001	133	bdl	1182	109	12	1193
EGB-05-S52_IIb_10_2	MU	ms	1123	68	22	837	30	bdl	352
EGB-05-S52_IIb_10_3	MU	ms	1803	535	77	2246	1374	36	3
EGB-05-S52_IIb_12_1	MU	Rt	1483	142	92	2175	466	102	23
EGB-05-S52_IIb_13_1	MU	Rt	1664	562	196	2248	1349	59	bdl
EGB-05-S52_IIb_13_2	MU	Rt	1859	564	170	2231	1285	65	bdl
EGB-05-S52_IIb_13_3	MU	Rt	1955	694	237	2374	1420	36	bdl
EGB-05-S52_IIb_14_1	MU	Rt	881	101	158	1903	960	82	bdl
EGB-05-S52_IIb_14_2	MU	Rt	1428	55	159	2136	986	42	9
EGB-05-S52_IIb_14_3	MU	Rt	1362	51	132	2243	1011	84	9
EGB-05-S52_IIb_15	MU	Rt	2338	135	1749	5807	932	51	10
EGB-05-S52_IIb_17	MU	Rt	1565	441	327	1712	1278	102	bdl
EGB-05-S52_IIb_18	MU	Rt	1671	446	132	2161	859	9	bdl
EGB-05-S52_IIb_19	MU	Rt	374	233	70	1756	848	30	bdl
EGB-05-S52_IIb_20	MU	Rt	1176	167	398	1614	1708	81	bdl
EGB-05-S52_IIb_21	MU	Ant	482	9	13	3504	bdl	109	375
EGB-05-S52_IIb_22	MU	Rt	1444	265	239	1233	1938	137	78
EGB-05-S52_IIb_23	MU	Rt	1982	511	250	2291	744	42	bdl
EGB-05-S52_IIb_27	MU	Ant	1040	bdl	32	1659	77	3	449
EGB-05-S52_IIb_28	MU	ms	1634	506	93	1723	1655	51	bdl
EGB-05-S52_IIb_29	MU	ms	2798	198	255	9305	768	66	27
EGB-05-S52_IIb_30	MU	Rt	1739	150	120	1614	1184	107	61
EGB-05-S52_IIb_32	MU	Rt	1776	362	98	2272	1069	33	bdl
EGB-05-S52_IIb_33	MU	Rt	1280	590	90	1929	1045	18	bdl
EGB-05-S52_IIb_34	MU	Rt	1908	840	205	1302	1727	93	37
EGB-05-S52_IIb_36	MU	Ant	1664	9	122	691	202	188	bdl
EGB-05-S52_IIb_37	MU	Rt	1585	413	160	2433	691	42	bdl
EGB-05-S52_IIb_38	MU	ms	733	53	213	4920	236	42	1795
EGB-05-S52_IIb_39	MU	ms	1193	18	bdl	1155	43	68	1411
EGB-05-S52_IIb_40	MU	ms	1671	112	1021	2638	322	60	60
EGB-05-S53_IIb_02_1	MU	ms	1555	70	19	707	135	bdl	34
EGB-05-S53_IIb_02_2	MU	ms	2013	350	225	3484	360	23	bdl
EGB-05-S53_IIb_02_3	MU	ms	2070	379	243	3342	370	18	bdl
EGB-05-S53_IIb_03_1	MU	Rt	1858	470	364	1995	1128	52	bdl
EGB-05-S53_IIb_03_2	MU	Rt	1631	458	358	1810	1104	70	bdl
EGB-05-S53_IIb_03_3	MU	Rt	1651	600	382	1556	1029	38	bdl
EGB-05-S53_IIb_04_1	MU	Ant	1174	29	bdl	436	173	3	45
EGB-05-S53_IIb_04_2	MU	Ant	1032	17	bdl	452	71	bdl	359
EGB-05-S53_IIb_04_3	MU	Ant	868	263	1	963	209	bdl	371
EGB-05-S53_IIb_06_1	MU	Rt	1325	6449	108	582	868	70	bdl
EGB-05-S53_IIb_06_2	MU	Rt	1267	5910	80	616	989	60	bdl
EGB-05-S53_IIb_06_3	MU	Rt	1906	5862	115	762	1228	147	bdl
EGB-05-S53_IIb_07_1	MU	Rt	1061	483	217	1967	630	6	bdl

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. . . table "EGB-04 and EGB-05 samples, EMP and Raman data" continued from page 209

Analysis label	Erzgebirge unit	Phase affiliation by Raman spot analysis	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
EGB-05-S53_IIb_07_2	MU	Rt	768	595	132	1724	497	bdl	bdl
EGB-05-S53_IIb_07_3	MU	Rt	1377	429	218	1983	634	21	bdl
EGB-05-S53_IIb_08_1	MU	Rt	2089	254	384	3121	808	42	bdl
EGB-05-S53_IIb_08_2	MU	Rt	2077	267	396	3035	802	15	bdl
EGB-05-S53_IIb_08_3	MU	Rt	1516	326	428	2515	729	75	bdl
EGB-05-S53_IIb_10_1	MU	ms	1935	4310	236	384	2209	97	bdl
EGB-05-S53_IIb_10_2	MU	ms	2032	2595	295	396	2485	121	bdl
EGB-05-S53_IIb_10_3	MU	ms	2422	1183	136	984	3735	107	bdl
EGB-05-S53_IIb_11_1	MU	ms	1678	481	106	2244	900	73	25
EGB-05-S53_IIb_11_2	MU	ms	1752	470	137	2330	1062	50	bdl
EGB-05-S53_IIb_11_3	MU	ms	1887	503	107	2567	1037	73	bdl
EGB-05-S53_IIb_13_1	MU	Rt	2013	404	58	2881	752	107	bdl
EGB-05-S53_IIb_13_2	MU	Rt	1671	463	120	2521	803	107	bdl
EGB-05-S53_IIb_13_3	MU	Rt	2052	491	112	2518	929	181	bdl
EGB-05-S53_IIb_14_1	MU	ms	1777	425	105	2328	1110	55	bdl
EGB-05-S53_IIb_15	MU	Rt	1370	404	60	2006	1165	59	bdl
EGB-05-S53_IIb_16	MU	Ant	1502	34	bdl	298	56	21	345
EGB-05-S53_IIb_17	MU	Ant	1436	14	200	301	bdl	178	326
EGB-05-S53_IIb_18	MU	Rt	1136	402	56	1427	1439	35	bdl
EGB-05-S53_IIb_21	MU	Rt	1476	634	102	1346	769	29	bdl
EGB-05-S53_IIb_23	MU	Rt	1532	738	90	1685	1065	21	bdl
EGB-05-S53_IIb_24	MU	Ant	580	428	29	759	740	9	60
EGB-05-S53_IIb_25	MU	Rt	1717	614	126	2195	1513	85	bdl
EGB-05-S53_IIb_27	MU	Ant	3459	bdl	bdl	1199	bdl	35	24
EGB-05-S53_IIb_30	MU	Rt	1773	522	93	2636	1057	91	bdl
EGB-05-S53_IIb_32	MU	Ant	649	bdl	4	317	61	44	39
EGB-05-S53_IIb_33	MU	Rt	2111	506	306	1753	1661	119	bdl
EGB-05-S53_IIb_34	MU	Rt	1638	934	363	1339	3307	118	bdl
EGB-05-S53_IIb_40	MU	ms	1550	417	78	1935	1414	41	bdl
EGB-05-S53_IIb_44	MU	Rt	1936	462	300	2249	1137	59	bdl
EGB-05-S53_IIb_47	MU	ms	1701	385	427	2032	858	62	bdl
EGB-05-S53_IIb_48	MU	Rt	1336	324	55	2110	1224	47	bdl
EGB-05-S53_IIb_49	MU	Rt	1875	133	176	2512	644	18	bdl
EGB-05-S53_IIb_51	MU	ms	1832	623	1586	2500	826	67	bdl
EGB-05-S53_IIb_53	EMU	Brk	1423	9	19	735	bdl	90	bdl
EGB-05-S54_IIb_01_1	GU	Rt	1849	30173	19141	8977	8969	569	bdl
EGB-05-S54_IIb_01_2	GU	Rt	1290	23605	14178	4124	6231	374	bdl
EGB-05-S54_IIb_01_3	GU	Rt	1680	17652	14966	8987	7938	410	bdl
EGB-05-S54_IIb_02_1	GU	Rt	2686	1523	5604	14225	1124	289	bdl
EGB-05-S54_IIb_02_2	GU	Rt	3043	1927	4052	12981	1006	285	bdl
EGB-05-S54_IIb_02_3	GU	Rt	310	2431	5655	8975	3760	38	bdl
EGB-05-S54_IIb_04_1	GU	Ant	2245	361	102	2732	1128	70	bdl
EGB-05-S54_IIb_04_2	GU	Ant	1892	523	163	2787	1088	47	bdl
EGB-05-S54_IIb_04_3	GU	Ant	1957	487	123	2515	1044	35	bdl
EGB-05-S54_IIb_05_1	GU	Ant	470	17	72	830	93	41	189
EGB-05-S54_IIb_05_2	GU	Ant	424	68	189	1209	219	47	222
EGB-05-S54_IIb_05_3	GU	Ant	206	23	39	511	68	53	441
EGB-05-S54_IIb_07_1	GU	Ant	2642	34	4	436	68	18	bdl
EGB-05-S54_IIb_07_2	GU	Ant	2953	88	bdl	1276	bdl	92	bdl
EGB-05-S54_IIb_07_3	GU	Ant	2633	31	1	375	bdl	9	bdl
EGB-05-S54_IIb_17_1	GU	Rt	1378	2904	10555	1886	3889	82	bdl
EGB-05-S54_IIb_17_2	GU	Rt	1789	4768	13706	3571	5415	184	14
EGB-05-S54_IIb_17_3	GU	Rt	1899	6189	17880	6679	4573	281	bdl
EGB-05-S54_IIb_20_1	GU	Rt	521	1943	21897	10027	2396	247	bdl
EGB-05-S54_IIb_20_2	GU	Rt	294	1546	14887	5252	2240	143	bdl
EGB-05-S54_IIb_20_3	GU	Rt	542	3565	19849	11893	5423	337	bdl
EGB-05-S54_IIb_23_1	GU	Ant	1447	23	36	291	bdl	32	164
EGB-05-S54_IIb_23_2	GU	Ant	1054	68	109	3752	226	184	bdl
EGB-05-S54_IIb_23_3	GU	Ant	1575	40	276	595	bdl	97	81

continued on next page. . .

. . . table "EGB-04 and EGB-05 samples, EMP and Raman data" continued from page 209

Analysis label	Erzgebirge unit	Phase affiliation by Raman spot analysis	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
EGB-05-S54_IIb_37_1	GU	Rt	560	4048	7206	3391	1691	6	bdl
EGB-05-S54_IIb_37_2	GU	Rt	697	1962	7462	4180	1624	32	bdl
EGB-05-S54_IIb_37_3	GU	Rt	671	2228	7854	2457	1418	32	bdl
EGB-05-S54_IIb_39	GU	Rt	1394	4179	4562	2109	4180	147	bdl
EGB-05-S54_IIb_40	GU	Ant	705	6	58	2896	247	73	1152
EGB-05-S54_IIb_43	GU	Ant	1706	501	95	2107	1336	75	bdl
EGB-05-S54_IIb_54	GU	Ant	740	20	27	702	143	29	bdl
EGB-05-S54_IIb_59	GU	Rt	2845	179	2947	8043	83	103	1972
EGB-05-S54_IIb_65	GU	Rt	884	354	98	2009	1718	104	bdl
EGB-05-S54_IIb_74	GU	Rt	1792	359	65	2382	695	9	bdl
EGB-05-S54_IIb_83	GU	Ant	592	32	7	2403	bdl	6	1273
EGB-05-S55_IIb_02_1	GU	Rt	2178	274	81	2919	741	101	12
EGB-05-S55_IIb_02_2	GU	Rt	2012	278	69	2786	706	113	6
EGB-05-S55_IIb_02_3	GU	Rt	1747	290	38	12592	633	91	bdl
EGB-05-S55_IIb_03_1	GU	Rt	1704	520	180	1499	1651	140	bdl
EGB-05-S55_IIb_03_2	GU	Rt	1783	511	113	1499	1686	145	bdl
EGB-05-S55_IIb_03_3	GU	Rt	1855	529	144	3897	1719	159	bdl
EGB-05-S55_IIb_04_1	GU	Rt	1118	1136	30	1624	1801	201	7
EGB-05-S55_IIb_04_2	GU	Rt	2438	1304	45	1850	2043	158	bdl
EGB-05-S55_IIb_04_3	GU	Rt	1236	1026	12	1839	1899	168	25
EGB-05-S55_IIb_05_1	GU	Rt	4563	439	216	3378	711	84	bdl
EGB-05-S55_IIb_05_2	GU	Rt	5887	460	274	4297	888	96	3
EGB-05-S55_IIb_05_3	GU	Rt	8347	356	292	6204	1058	107	bdl
EGB-05-S55_IIb_06_1	GU	Rt	1943	499	133	2282	1228	113	bdl
EGB-05-S55_IIb_06_2	GU	Rt	1815	489	102	2637	1197	67	bdl
EGB-05-S55_IIb_06_3	GU	Rt	1949	419	80	2627	1279	98	bdl
EGB-05-S55_IIb_07_1	GU	Rt	3260	796	65	2410	1930	150	bdl
EGB-05-S55_IIb_07_2	GU	Rt	3075	753	74	2537	1833	134	13
EGB-05-S55_IIb_07_3	GU	Rt	1547	458	62	1844	1695	58	72
EGB-05-S55_IIb_08_1	GU	Rt	3315	571	72	2797	1309	146	2
EGB-05-S55_IIb_08_2	GU	Rt	3499	551	79	2737	1306	144	bdl
EGB-05-S55_IIb_08_3	GU	Rt	3581	543	85	3283	1300	148	bdl
EGB-05-S55_IIb_09_1	GU	Rt	1682	477	97	2326	901	76	bdl
EGB-05-S55_IIb_09_2	GU	Rt	2016	413	89	2493	1084	87	bdl
EGB-05-S55_IIb_09_3	GU	Rt	1961	374	68	2498	1108	84	bdl
EGB-05-S55_IIb_10_1	GU	Rt	2778	305	86	3180	886	163	19
EGB-05-S55_IIb_10_2	GU	Rt	2765	289	112	3637	964	178	bdl
EGB-05-S55_IIb_10_3	GU	Rt	4089	354	113	4233	1096	174	bdl
EGB-05-S55_IIb_11_1	GU	Rt	1963	348	68	2365	1247	76	bdl
EGB-05-S55_IIb_11_2	GU	Rt	2038	395	90	2430	1200	112	bdl
EGB-05-S55_IIb_11_3	GU	Rt	2285	433	108	2313	1222	127	bdl
EGB-05-S55_IIb_12	GU	Rt	1804	390	61	2285	1493	116	35
EGB-05-S55_IIb_14	GU	Rt	1736	382	66	2192	1254	79	8
EGB-05-S55_IIb_15	GU	ms	2362	377	76	3238	1090	124	bdl
EGB-05-S55_IIb_16	GU	Rt	1894	638	64	2022	981	110	bdl
EGB-05-S55_IIb_18	GU	Rt	2180	685	49	2630	773	61	bdl
EGB-05-S55_IIb_19	GU	Rt	1715	1197	58	2156	1328	82	bdl
EGB-05-S55_IIb_21	GU	Ant	1400	41	95	1104	180	100	1004
EGB-05-S55_IIb_22	GU	Rt	2155	677	88	1569	2629	140	0
EGB-05-S55_IIb_23	GU	Rt	2185	417	80	2604	1234	84	20
EGB-05-S55_IIb_24	GU	Rt	1811	454	98	3688	990	68	bdl
EGB-05-S55_IIb_25	GU	ms	2914	714	97	1855	2314	150	25
EGB-05-S55_IIb_26	GU	Rt	1548	590	89	2150	1487	64	bdl
EGB-05-S55_IIb_27	GU	Rt	1639	649	124	1377	1593	50	bdl
EGB-05-S55_IIb_29	GU	Rt	1776	398	75	2110	918	88	bdl
EGB-05-S55_IIb_30	GU	Rt	1826	361	72	2536	1090	119	bdl
EGB-05-S55_IIb_32	GU	Rt	2015	330	bdl	2902	743	82	bdl
EGB-05-S55_IIb_33	GU	Rt	1530	608	79	1630	1864	78	31
EGB-05-S55_IIb_34	GU	Rt	2085	458	102	2913	860	104	6

continued on next page. . .

. . . table "EGB-04 and EGB-05 samples, EMP and Raman data" continued from page 209

Analysis label	Erzgebirge unit	Phase affiliation by Raman spot analysis	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
EGB-05-S55_IIb_36	GU	ms	1665	476	89	2183	1311	99	bdl
EGB-05-S55_IIb_38	GU	Rt	2955	686	91	2706	1342	158	bdl
EGB-05-S56_IIb_01_1	EGU2	Rt	2481	502	158	2361	1386	200	bdl
EGB-05-S56_IIb_01_2	EGU2	Rt	1890	453	158	2215	1355	205	bdl
EGB-05-S56_IIb_01_3	EGU2	Rt	1030	457	192	2110	1251	254	bdl
EGB-05-S56_IIb_02_1	EGU2	Rt	178	1430	40	685	993	133	bdl
EGB-05-S56_IIb_03_2	EGU2	Rt	1712	631	137	2375	1729	269	bdl
EGB-05-S56_IIb_03_3	EGU2	Rt	2154	629	120	2413	1730	238	bdl
EGB-05-S56_IIb_04_1	EGU2	ms	3044	396	110	9166	828	369	bdl
EGB-05-S56_IIb_04_2	EGU2	ms	3286	424	158	2657	847	402	bdl
EGB-05-S56_IIb_04_3	EGU2	ms	3115	434	99	2637	813	383	bdl
EGB-05-S56_IIb_07_1	EGU2	Rt	1812	598	158	2290	920	144	bdl
EGB-05-S56_IIb_08_1	EGU2	Rt	2461	540	71	2831	1440	285	bdl
EGB-05-S56_IIb_08_2	EGU2	Rt	2066	545	115	2935	1321	287	bdl
EGB-05-S56_IIb_08_3	EGU2	Rt	1931	515	102	2751	1221	306	bdl
EGB-05-S56_IIb_09_1	EGU2	ms	2409	579	132	3047	950	253	bdl
EGB-05-S56_IIb_09_2	EGU2	ms	1962	596	124	2916	940	255	bdl
EGB-05-S56_IIb_09_3	EGU2	ms	2268	560	117	3300	981	234	bdl
EGB-05-S56_IIb_10_1	EGU2	Rt	3034	316	720	3615	777	143	bdl
EGB-05-S56_IIb_11	EGU2	Rt	3196	599	102	2766	1304	218	bdl
EGB-05-S56_IIb_12	EGU2	Rt	2525	662	163	2225	1447	265	bdl
EGB-05-S56_IIb_13	EGU2	Rt	2678	489	117	2966	1207	264	bdl
EGB-05-S56_IIb_14	EGU2	Rt	1036	642	202	1684	1793	168	bdl
EGB-05-S56_IIb_15	EGU2	ms	1706	598	164	1569	1369	258	bdl
EGB-05-S56_IIb_16	EGU2	Rt	1516	658	243	1880	1914	140	bdl
EGB-05-S56_IIb_17	EGU2	Rt	59	943	27	1218	1706	256	bdl
EGB-05-S56_IIb_18	EGU2	Rt	3237	798	79	2662	828	174	bdl
EGB-05-S56_IIb_19	EGU2	ms	628	741	154	1235	2527	274	bdl
EGB-05-S56_IIb_20	EGU2	ms	2360	497	141	1856	1382	222	bdl
EGB-05-S56_IIb_21	EGU2	Rt	134	1248	59	480	1623	215	bdl
EGB-05-S56_IIb_22	EGU2	Rt	1987	677	72	2299	1145	232	96
EGB-05-S56_IIb_23	EGU2	Rt	2387	904	164	5655	1690	233	bdl
EGB-05-S56_IIb_24	EGU2	Rt	1493	434	150	2347	1139	138	bdl
EGB-05-S56_IIb_25	EGU2	Rt	1831	470	117	3080	1205	221	bdl
EGB-05-S56_IIb_26	EGU2	Rt	1208	862	125	1663	2364	189	bdl
EGB-05-S56_IIb_27	EGU2	ms	2654	502	217	2275	1610	216	bdl
EGB-05-S56_IIb_28	EGU2	Rt	103	1145	61	1091	2147	195	bdl
EGB-05-S56_IIb_29	EGU2	Rt	1973	593	191	1681	1776	255	bdl
EGB-05-S56_IIb_30	EGU2	Rt	3147	203	973	6640	561	263	bdl
EGB-05-S57_IIb_01_1	EGU2	Rt	2885	183	351	2881	643	482	bdl
EGB-05-S57_IIb_01_2	EGU2	Rt	2929	216	336	3224	651	478	bdl
EGB-05-S57_IIb_01_3	EGU2	Rt	2840	236	310	3086	611	506	bdl
EGB-05-S57_IIb_02_1	EGU2	Rt	894	180	82	1489	826	188	bdl
EGB-05-S57_IIb_03_1	EGU2	Rt	2355	521	66	1522	1430	164	bdl
EGB-05-S57_IIb_03_2	EGU2	Rt	2108	531	124	1526	1440	181	bdl
EGB-05-S57_IIb_03_3	EGU2	Rt	2000	506	95	1468	1342	162	bdl
EGB-05-S57_IIb_06_1	EGU2	Rt	1916	537	150	1973	664	213	bdl
EGB-05-S57_IIb_07_1	EGU2	Rt	1743	578	148	2036	1115	154	bdl
EGB-05-S57_IIb_08_1	EGU2	Rt	2515	502	245	1957	1162	451	bdl
EGB-05-S57_IIb_10_1	EGU2	Rt	2118	881	93	2651	1342	148	bdl
EGB-05-S57_IIb_10_2	EGU2	Rt	1952	902	104	1516	1295	178	bdl
EGB-05-S57_IIb_10_3	EGU2	Rt	1860	886	128	1323	1311	158	bdl
EGB-05-S57_IIb_11_1	EGU2	Rt	1904	494	146	2833	781	192	bdl
EGB-05-S57_IIb_12_1	EGU2	Rt	1512	435	167	1621	1728	109	bdl
EGB-05-S57_IIb_13_1	EGU2	Rt	2559	518	104	2988	1076	185	bdl
EGB-05-S57_IIb_13_2	EGU2	Rt	2069	451	177	2466	1098	229	bdl
EGB-05-S57_IIb_13_3	EGU2	Rt	1912	499	186	4851	1096	210	bdl
EGB-05-S57_IIb_14	EGU2	Rt	1759	547	143	2504	1016	80	560
EGB-05-S57_IIb_17	EGU2	Rt	1789	388	317	1507	1729	112	bdl

continued on next page. . .

. . . table "EGB-04 and EGB-05 samples, EMP and Raman data" continued from page 209

Analysis label	Erzgebirge unit	Phase affiliation by Raman spot analysis	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
EGB-05-S57_IIb_18	EGU2	Rt	1603	621	167	1480	970	91	bdl
EGB-05-S57_IIb_19	EGU2	Rt	1838	622	157	3398	939	149	bdl
EGB-05-S57_IIb_20	EGU2	Rt	1757	625	154	1327	1471	205	bdl
EGB-05-S57_IIb_21	EGU2	Rt	1746	562	154	2552	736	102	bdl
EGB-05-S57_IIb_22	EGU2	Rt	1637	638	92	944	1691	123	bdl
EGB-05-S57_IIb_23	EGU2	ms	1542	517	2186	2243	1390	138	bdl
EGB-05-S57_IIb_24	EGU2	Rt	1838	770	143	1143	1611	170	bdl
EGB-05-S57_IIb_25	EGU2	Rt	1912	661	170	1340	1436	140	bdl
EGB-05-S57_IIb_26	EGU2	Rt	1612	577	190	1154	1328	161	bdl
EGB-05-S57_IIb_28	EGU2	Rt	1042	909	91	1240	1432	96	bdl
EGB-05-S57_IIb_29	EGU2	Rt	3161	528	161	2595	828	607	bdl
EGB-05-S57_IIb_30	EGU2	Rt	1662	652	224	1582	1228	101	bdl
EGB-05-S57_IIb_31	EGU2	Rt	1711	547	176	1342	1441	111	bdl
EGB-05-S57_IIb_32	EGU2	Rt	1693	442	234	3079	657	194	bdl
EGB-05-S57_IIb_33	EGU2	Rt	1931	751	128	944	1276	152	bdl
EGB-05-S57_IIb_34	EGU2	Rt	2095	526	138	2531	1188	194	bdl
EGB-05-S61_IIb_01_3	GU	Rt	1678	534	124	2275	1104	59	bdl
EGB-05-S61_IIb_02_1	GU	Rt	2791	732	100	6208	1335	172	bdl
EGB-05-S61_IIb_02_2	GU	Rt	1655	580	93	2676	1396	104	bdl
EGB-05-S61_IIb_02_3	GU	Rt	1676	619	145	2808	1433	45	bdl
EGB-05-S61_IIb_03_1	GU	Rt	2082	491	107	2710	1661	65	bdl
EGB-05-S61_IIb_03_2	GU	Rt	1638	512	118	2669	1589	95	bdl
EGB-05-S61_IIb_03_3	GU	Rt	1852	483	108	2597	1654	68	bdl
EGB-05-S61_IIb_06_1	GU	Rt	2164	471	90	2941	1128	113	bdl
EGB-05-S61_IIb_06_2	GU	Rt	2363	506	112	3117	1171	93	bdl
EGB-05-S61_IIb_06_3	GU	Rt	2622	552	65	3024	1215	94	bdl
EGB-05-S61_IIb_07_1	GU	Rt	2243	495	98	2595	1559	130	bdl
EGB-05-S61_IIb_07_2	GU	Rt	2703	535	48	2883	1652	116	bdl
EGB-05-S61_IIb_07_3	GU	Rt	3282	534	28	3033	1651	132	bdl
EGB-05-S61_IIb_08_1	GU	Rt	3130	378	94	3336	1211	126	bdl
EGB-05-S61_IIb_08_2	GU	Rt	2293	382	80	3062	1078	107	bdl
EGB-05-S61_IIb_08_3	GU	Rt	2061	378	60	3075	1095	121	bdl
EGB-05-S61_IIb_09_1	GU	Rt	1922	504	121	2674	1389	82	bdl
EGB-05-S61_IIb_09_2	GU	Rt	2696	442	113	2965	1478	87	bdl
EGB-05-S61_IIb_09_3	GU	Rt	2656	397	89	3029	1537	110	bdl
EGB-05-S61_IIb_10_1	GU	Rt	2979	439	95	3103	1281	168	bdl
EGB-05-S61_IIb_10_2	GU	Rt	1908	454	110	2906	1069	76	bdl
EGB-05-S61_IIb_10_3	GU	Rt	1556	614	135	2717	1137	48	bdl
EGB-05-S61_IIb_11_1	GU	Rt	1718	580	121	2861	1135	56	bdl
EGB-05-S61_IIb_11_2	GU	Rt	1677	615	124	2836	1069	53	bdl
EGB-05-S61_IIb_11_3	GU	Rt	1728	562	86	2414	1054	76	bdl
EGB-05-S61_IIb_13_1	GU	Rt	2701	484	83	2677	1869	113	bdl
EGB-05-S61_IIb_13_2	GU	Rt	1870	437	106	2567	1717	119	bdl
EGB-05-S61_IIb_13_3	GU	Rt	2380	580	91	2354	1732	130	bdl
EGB-05-S61_IIb_14	GU	Rt	1779	542	119	1447	1119	94	bdl
EGB-05-S61_IIb_15	GU	Rt	3142	1006	119	2735	1449	138	bdl
EGB-05-S61_IIb_16	GU	Rt	1894	593	109	2479	1130	85	bdl
EGB-05-S61_IIb_17	GU	Rt	1815	423	113	2501	1147	114	bdl
EGB-05-S61_IIb_19	GU	Rt	1785	489	95	2282	1604	71	bdl
EGB-05-S61_IIb_21	GU	Brk	2038	495	301	2173	1193	160	bdl
EGB-05-S61_IIb_22	GU	Rt	2755	548	89	2891	1098	135	bdl
EGB-05-S61_IIb_23	GU	Rt	1483	430	78	2210	1687	151	bdl
EGB-05-S61_IIb_26	GU	Rt	1843	551	101	3133	1295	91	bdl
EGB-05-S61_IIb_27	GU	Rt	3111	532	80	3377	1015	117	bdl
EGB-05-S61_IIb_28	GU	Rt	2201	406	59	3083	1034	156	bdl
EGB-05-S61_IIb_29	GU	Rt	1799	575	86	2440	1349	93	bdl
EGB-05-S61_IIb_30	GU	Ant	3628	bdl	204	407	bdl	50	bdl
EGB-05-S61_IIb_31	GU	Rt	1850	411	104	2657	1108	80	bdl
EGB-05-S61_IIb_32	GU	Rt	1736	467	112	3217	1028	59	bdl

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. . . table "EGB-04 and EGB-05 samples, EMP and Raman data" continued from page 209

Analysis label	Erzgebirge unit	Phase affiliation by Raman spot analysis	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
EGB-05-S61_IIb_33	GU	Rt	1199	356	173	2110	976	143	bdl
EGB-05-S61_IIb_34	GU	Rt	2172	451	105	2350	1860	114	bdl
EGB-05-S61_IIb_35	GU	Rt	2923	358	54	3220	1309	107	bdl
EGB-05-S61_IIb_36	GU	Rt	1661	493	121	2790	959	18	bdl
EGB-05-S61_IIb_37	GU	Rt	1957	1310	95	1973	1689	97	bdl
EGB-05-S63_IIb_01_1	GU	Rt	1011	369	103	1461	1244	92	bdl
EGB-05-S63_IIb_02_1	GU	Rt	4562	423	17	3000	1232	75	bdl
EGB-05-S63_IIb_02_2	GU	Rt	5316	391	31	3186	1432	81	bdl
EGB-05-S63_IIb_02_3	GU	Rt	4605	376	54	2953	1279	56	bdl
EGB-05-S63_IIb_04_1	GU	Rt	1567	482	124	2393	810	45	bdl
EGB-05-S63_IIb_04_2	GU	Rt	1909	385	91	3035	873	53	bdl
EGB-05-S63_IIb_04_3	GU	Rt	1616	416	114	2779	827	39	bdl
EGB-05-S63_IIb_05_1	GU	Rt	1370	310	85	2218	961	66	bdl
EGB-05-S63_IIb_05_2	GU	Rt	2045	335	137	2460	1033	189	22
EGB-05-S63_IIb_05_3	GU	Rt	1982	415	91	2494	1002	132	bdl
EGB-05-S63_IIb_06_1	GU	Ant	1943	94	6	1363	bdl	bdl	36
EGB-05-S63_IIb_06_2	GU	Ant	1632	53	bdl	2885	60	6	37
EGB-05-S63_IIb_06_3	GU	Ant	1920	312	161	2124	853	56	bdl
EGB-05-S63_IIb_08_1	GU	Rt	2362	1189	123	1658	1561	108	bdl
EGB-05-S63_IIb_08_2	GU	Rt	1361	373	44	1532	1665	87	bdl
EGB-05-S63_IIb_08_3	GU	Rt	1163	328	80	1583	1664	69	bdl
EGB-05-S63_IIb_09_1	GU	Rt	2003	293	100	3116	987	63	bdl
EGB-05-S63_IIb_09_2	GU	Rt	1468	265	103	2908	954	95	bdl
EGB-05-S63_IIb_09_3	GU	Rt	1566	292	111	2905	974	78	bdl
EGB-05-S63_IIb_10_1	GU	Rt	2052	195	390	3112	655	29	bdl
EGB-05-S63_IIb_11_1	GU	Rt	1704	319	718	3700	980	39	bdl
EGB-05-S63_IIb_11_2	GU	Rt	1701	302	729	3341	903	48	bdl
EGB-05-S63_IIb_11_3	GU	Rt	1648	289	721	3342	933	51	bdl
EGB-05-S63_IIb_12_1	GU	Rt	1154	410	62	1838	1165	68	bdl
EGB-05-S63_IIb_12_2	GU	Rt	1320	435	41	1667	1061	91	bdl
EGB-05-S63_IIb_12_3	GU	Rt	1475	360	47	1839	1143	84	bdl
EGB-05-S63_IIb_13	GU	Ant	374	3	18	1846	68	57	4729
EGB-05-S63_IIb_14	GU	Rt	1733	335	139	1796	1092	174	bdl
EGB-05-S63_IIb_15	GU	ms	2744	272	88	16246	917	39	bdl
EGB-05-S63_IIb_16	GU	Rt	1837	161	130	2475	938	93	bdl
EGB-05-S63_IIb_18	GU	Rt	1886	371	426	3176	606	39	bdl
EGB-05-S63_IIb_19	GU	Rt	2161	408	39	3312	801	118	bdl
EGB-05-S63_IIb_20	GU	Ant	1075	426	136	2748	937	48	bdl
EGB-05-S63_IIb_21	GU	Rt	2014	306	70	2532	1013	15	bdl
EGB-05-S63_IIb_22	GU	Rt	2017	182	56	2525	535	93	bdl
EGB-05-S63_IIb_23	GU	Rt	2071	301	727	3492	683	45	bdl
EGB-05-S63_IIb_24	GU	Rt	826	244	184	3119	810	68	bdl
EGB-05-S63_IIb_25	GU	Rt	1585	506	89	1883	1205	66	bdl
EGB-05-S63_IIb_26	GU	ms	1775	607	106	2935	720	51	bdl
EGB-05-S63_IIb_27	GU	Rt	1425	376	112	2455	600	42	bdl
EGB-05-S63_IIb_28	GU	Rt	5026	199	159	5126	782	85	bdl
EGB-05-S63_IIb_29	GU	Rt	2046	337	126	2696	864	18	bdl
EGB-05-S63_IIb_30	GU	Ant	1734	100	101	885	217	bdl	74
EGB-05-S63_IIb_31	GU	Rt	1708	434	111	2401	1319	93	bdl
EGB-05-S63_IIb_32	GU	Rt	1532	504	370	2557	952	45	bdl
EGB-05-S64_IIb_01_1	GPU	Rt	805	51	129	1844	1086	53	bdl
EGB-05-S64_IIb_01_2	GPU	Rt	807	161	152	2064	1223	61	bdl
EGB-05-S64_IIb_01_3	GPU	Rt	914	53	113	1903	1173	6	bdl
EGB-05-S64_IIb_02_1	GPU	Rt	1920	952	26	868	4026	4687	bdl
EGB-05-S64_IIb_05_1	GPU	Ant	112	34	bdl	848	359	44	9
EGB-05-S64_IIb_05_2	GPU	Ant	149	43	bdl	918	453	600	588
EGB-05-S64_IIb_05_3	GPU	Ant	277	361	86	1358	4079	bdl	bdl
EGB-05-S64_IIb_06_1	GPU	Rt	2313	509	499	2571	1543	105	bdl
EGB-05-S64_IIb_07_1	GPU	Rt	1915	534	193	1705	1065	26	bdl

continued on next page. . .

. . . table "EGB-04 and EGB-05 samples, EMP and Raman data" continued from page 209

Analysis label	Erzgebirge unit	Phase affiliation by Raman spot analysis	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
EGB-05-S64_IIb_07_2	GPU	Rt	1968	685	160	2171	1081	23	bdl
EGB-05-S64_IIb_07_3	GPU	Rt	1697	597	186	1621	1087	35	bdl
EGB-05-S64_IIb_08_1	GPU	Ant	603	497	72	584	1029	1091	675
EGB-05-S64_IIb_08_2	GPU	Ant	407	389	64	411	1149	819	1928
EGB-05-S64_IIb_08_3	GPU	Ant	388	260	47	381	948	814	3876
EGB-05-S64_IIb_10_2	GPU	Ant	1142	bdl	46	733	1083	18	bdl
EGB-05-S64_IIb_10_3	GPU	Ant	1386	14	17	626	1083	21	bdl
EGB-05-S64_IIb_11	GPU	Rt	1615	116	bdl	1268	2374	1260	1792
EGB-05-S64_IIb_12_1	GPU	Rt	1987	452	76	2047	627	84	bdl
EGB-05-S64_IIb_12_2	GPU	Rt	5168	360	73	4104	715	96	bdl
EGB-05-S64_IIb_12_3	GPU	Rt	1959	441	74	1944	644	70	bdl
EGB-05-S64_IIb_13_1	GPU	Rt	678	43	202	2614	347	111	21
EGB-05-S64_IIb_13_2	GPU	Rt	687	233	143	2378	324	41	bdl
EGB-05-S64_IIb_13_3	GPU	Rt	685	20	195	2317	333	67	bdl
EGB-05-S64_IIb_14_1	GPU	Ant	612	64	43	1661	331	9	33
EGB-05-S64_IIb_14_2	GPU	Ant	612	14	bdl	87	199	3	bdl
EGB-05-S64_IIb_14_3	GPU	Ant	440	95	83	3823	564	bdl	bdl
EGB-05-S64_IIb_17	GPU	Ant	1213	51	17	1264	147	bdl	446
EGB-05-S64_IIb_18	GPU	Ant	772	17	bdl	415	87	3	342
EGB-05-S64_IIb_19	GPU	Ant	1237	138	10	992	346	bdl	187
EGB-05-S64_IIb_21	GPU	Ant	406	6	1	1174	93	9	391
EGB-05-S64_IIb_22	GPU	Rt	1858	477	1241	2690	1107	124	bdl
EGB-05-S64_IIb_23	GPU	Ant	549	23	11	761	120	9	3491
EGB-05-S64_IIb_24	GPU	Rt	1636	344	107	2704	1101	77	bdl
EGB-05-S64_IIb_25	GPU	Ant	909	14	3	420	111	6	bdl
EGB-05-S64_IIb_26	GPU	Ant	328	26	16	880	77	bdl	40
EGB-05-S64_IIb_27	GPU	Rt	1770	320	44	2218	1338	104	bdl
EGB-05-S64_IIb_28	GPU	Ant	3055	74	58	2988	1158	56	bdl
EGB-05-S64_IIb_3	GPU	ms	2041	419	49	1967	1334	53	480
EGB-05-S64_IIb_31	GPU	Rt	1197	824	17	2846	3287	1532	bdl
EGB-05-S64_IIb_32	GPU	Rt	2384	320	93	4522	641	74	bdl
EGB-05-S64_IIb_33	GPU	Rt	1528	378	777	3039	979	47	bdl
EGB-05-S64_IIb_34	GPU	Ant	368	368	33	910	3873	12	990
EGB-05-S64_IIb_35	GPU	Rt	3359	898	94	3094	765	62	266
EGB-05-S64_IIb_36	GPU	Rt	1017	246	58	3286	245	76	bdl
EGB-05-S64_IIb_37	GPU	Rt	960	189	92	3514	284	32	0
EGB-05-S65_IIb_01_1	MU	Rt	1191	317	83	1388	1541	64	bdl
EGB-05-S65_IIb_01_2	MU	Rt	1164	308	56	1631	1525	72	370
EGB-05-S65_IIb_01_3	MU	Rt	1510	301	45	1677	1553	65	bdl
EGB-05-S65_IIb_02_1	MU	ms	2264	374	121	2266	1279	56	bdl
EGB-05-S65_IIb_02_2	MU	ms	1685	441	64	2226	1281	83	bdl
EGB-05-S65_IIb_02_3	MU	ms	1649	530	69	2032	1247	58	4
EGB-05-S65_IIb_03_1	MU	Rt	1608	484	117	2087	1134	80	bdl
EGB-05-S65_IIb_03_2	MU	Rt	1683	478	119	2426	1124	76	bdl
EGB-05-S65_IIb_03_3	MU	Rt	1728	533	109	2127	1094	61	bdl
EGB-05-S65_IIb_04_1	MU	ms	1734	328	360	2588	529	66	bdl
EGB-05-S65_IIb_06_1	MU	Rt	2031	2029	129	2151	1431	182	bdl
EGB-05-S65_IIb_06_2	MU	Rt	1855	1895	111	1871	1416	114	bdl
EGB-05-S65_IIb_06_3	MU	Rt	1142	2103	132	1515	1245	87	bdl
EGB-05-S65_IIb_07_1	MU	Rt	1534	589	152	2603	793	137	bdl
EGB-05-S65_IIb_07_2	MU	Rt	1593	597	132	2912	824	107	bdl
EGB-05-S65_IIb_07_3	MU	Rt	1535	563	114	2659	836	107	bdl
EGB-05-S65_IIb_08_1	MU	Rt	1907	482	112	2168	1399	114	bdl
EGB-05-S65_IIb_09_1	MU	Rt	2234	310	85	2423	1109	77	bdl
EGB-05-S65_IIb_09_2	MU	Rt	2155	268	45	2609	1058	81	bdl
EGB-05-S65_IIb_09_3	MU	Rt	2452	282	60	2712	1081	80	bdl
EGB-05-S65_IIb_10_1	MU	Rt	1857	379	112	2763	1050	140	bdl
EGB-05-S65_IIb_10_2	MU	Rt	1848	353	139	2386	990	120	bdl
EGB-05-S65_IIb_10_3	MU	Rt	1840	407	155	2561	1086	113	bdl

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. . . table "EGB-04 and EGB-05 samples, EMP and Raman data" continued from page 209

Analysis label	Erzgebirge unit	Phase affiliation by Raman spot analysis	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
EGB-05-S65_IIb_11_1	MU	Rt	1116	172	64	2197	1180	81	bdl
EGB-05-S65_IIb_11_2	MU	Rt	2338	142	128	2663	1374	184	bdl
EGB-05-S65_IIb_11_3	MU	Rt	1983	160	78	2569	1245	232	bdl
EGB-05-S65_IIb_12	MU	ms	1514	354	85	2205	847	41	bdl
EGB-05-S65_IIb_13	MU	Rt	3298	145	206	3147	912	212	bdl
EGB-05-S65_IIb_14	MU	Rt	1585	677	373	1650	1342	74	bdl
EGB-05-S65_IIb_15	MU	Rt	514	5266	44	563	1103	18	bdl
EGB-05-S65_IIb_16	MU	Rt	1901	502	115	2178	748	105	bdl
EGB-05-S65_IIb_17	MU	Rt	1683	352	22	2354	1136	21	bdl
EGB-05-S65_IIb_19	MU	Rt	1897	450	69	1756	1561	59	bdl
EGB-05-S65_IIb_20	MU	Rt	2418	345	37	1639	1786	47	bdl
EGB-05-S65_IIb_21	MU	Rt	1742	889	85	1656	1232	90	bdl
EGB-05-S65_IIb_22	MU	Rt	2043	218	553	3110	1007	121	17
EGB-05-S65_IIb_24	MU	Rt	993	230	78	2481	956	67	bdl
EGB-05-S65_IIb_26	MU	Rt	1739	502	46	2049	1470	76	bdl
EGB-05-S65_IIb_28	MU	Rt	1569	274	57	1904	901	84	bdl
EGB-05-S65_IIb_29	MU	Rt	3089	419	139	3447	1204	106	bdl
EGB-05-S65_IIb_31	MU	Rt	1492	116	80	3324	1858	62	bdl
EGB-05-S65_IIb_32	MU	Rt	1867	563	213	2072	1592	50	bdl
EGB-05-S65_IIb_33	MU	Rt	2167	663	113	2185	998	65	bdl
EGB-05-S65_IIb_34	MU	ms	991	341	141	2506	1340	67	bdl
EGB-05-S65_IIb_35	MU	Rt	1785	439	117	2843	969	53	bdl
EGB-05-S65_IIb_5	MU	Rt	1870	358	60	1829	1899	86	bdl
EGB-05-S67_IIb_03_1	PU	Rt	513	480	339	3189	5334	48	2
EGB-05-S67_IIb_03_2	PU	Rt	2883	528	1052	3336	4228	92	bdl
EGB-05-S67_IIb_03_3	PU	Rt	313	363	221	3241	5155	18	bdl
EGB-05-S67_IIb_06_1	PU	Rt	1281	230	33	5071	305	50	266
EGB-05-S67_IIb_06_2	PU	Rt	1037	161	65	4608	396	83	311
EGB-05-S67_IIb_06_3	PU	Rt	1071	138	58	4147	593	150	51
EGB-05-S67_IIb_07_1	PU	Ant	1964	211	55	2008	621	403	bdl
EGB-05-S67_IIb_07_2	PU	Ant	998	189	42	1959	803	265	bdl
EGB-05-S67_IIb_07_3	PU	Ant	909	205	37	2048	898	250	bdl
EGB-05-S67_IIb_08_1	PU	Rt	774	57	10	4731	1024	44	bdl
EGB-05-S67_IIb_08_2	PU	Rt	838	70	7	4445	748	26	bdl
EGB-05-S67_IIb_08_3	PU	Rt	777	64	39	4192	841	44	bdl
EGB-05-S67_IIb_11_1	PU	Ant	835	144	221	2077	1286	62	bdl
EGB-05-S67_IIb_11_2	PU	Ant	1262	329	523	3101	1470	62	bdl
EGB-05-S67_IIb_11_3	PU	Ant	1054	205	269	2669	1320	78	bdl
EGB-05-S67_IIb_12_1	PU	Ant	589	187	66	2365	932	520	54
EGB-05-S67_IIb_12_2	PU	Ant	544	205	86	3275	1460	552	101
EGB-05-S67_IIb_12_3	PU	Ant	806	168	109	2517	933	589	bdl
EGB-05-S67_IIb_15_1	PU	Rt	1628	380	53	466	2144	3583	bdl
EGB-05-S67_IIb_17_1	PU	Rt	1849	710	150	1999	1010	202	bdl
EGB-05-S67_IIb_22_1	PU	Rt	1260	161	213	9707	3610	138	bdl
EGB-05-S67_IIb_22_3	PU	Rt	837	111	100	6680	2612	100	691
EGB-05-S67_IIb_32_1	PU	Rt	1208	6	bdl	3739	615	25	15
EGB-05-S67_IIb_36	PU	Rt	938	231	152	1925	731	141	bdl
EGB-05-S68_IIb_01_1	KG	Ant	10905	14	603	13292	454	24	2281
EGB-05-S68_IIb_01_2	KG	Ant	11954	bdl	437	7735	252	53	2524
EGB-05-S68_IIb_01_3	KG	Ant	11604	bdl	486	8997	228	47	1499
EGB-05-S68_IIb_27_1	KG	Ant	9747	35	3869	5656	309	235	bdl
EGB-05-S68_IIb_27_2	KG	Ant	8245	14	1056	2470	89	124	1519
EGB-05-S68_IIb_27_3	KG	Ant	9457	bdl	4123	5745	315	198	bdl
EGB-05-S69_IIb_01_1	OS	Rt	1474	1466	47	374	5249	1663	bdl
EGB-05-S69_IIb_02_1	OS	Rt	3515	543	425	3074	4643	136	1083
EGB-05-S69_IIb_02_2	OS	Rt	8087	1819	100	4049	2453	703	bdl
EGB-05-S69_IIb_02_3	OS	Rt	9953	1432	229	5080	2920	459	bdl
EGB-05-S69_IIb_03_1	OS	Ant	1451	26	389	707	383	203	1600
EGB-05-S69_IIb_03_2	OS	Ant	1941	37	412	1184	511	254	2798

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. . . table "EGB-04 and EGB-05 samples, EMP and Raman data" continued from page 209

Analysis label	Erzgebirge unit	Phase affiliation by Raman spot analysis	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
EGB-05-S69_IIb_03_3	OS	Ant	2634	101	1498	1112	541	155	1192
EGB-05-S69_IIb_05_1	OS	Rt	709	4361	17	1448	2513	4042	1161
EGB-05-S69_IIb_05_2	OS	Rt	743	4371	11	1435	2519	1958	416
EGB-05-S69_IIb_05_3	OS	Rt	741	4306	36	1442	2476	3088	846
EGB-05-S69_IIb_06_1	OS	Rt	1450	791	164	1158	2884	2530	bdl
EGB-05-S69_IIb_06_2	OS	Rt	1670	801	147	579	3030	2582	bdl
EGB-05-S69_IIb_06_3	OS	Rt	2254	801	148	1118	3039	2522	bdl
EGB-05-S69_IIb_08_1	OS	Rt	1316	4757	57	1450	2283	2989	763
EGB-05-S69_IIb_08_2	OS	Rt	1311	4657	bdl	1436	2211	7254	1972
EGB-05-S69_IIb_08_3	OS	Rt	1327	4775	33	1404	2287	3439	850
EGB-05-S69_IIb_09_1	OS	Rt	4317	705	317	2849	2909	1635	bdl
EGB-05-S69_IIb_09_2	OS	Rt	4498	719	356	2725	2965	1760	bdl
EGB-05-S69_IIb_09_3	OS	Rt	4616	700	331	2825	2960	1780	bdl
EGB-05-S69_IIb_14_1	OS	Rt	197	1158	8	1966	1093	340	bdl
EGB-05-S69_IIb_15_1	OS	Rt	1935	2466	112	841	4175	997	bdl
EGB-05-S69_IIb_15_2	OS	Rt	2082	2433	129	792	4115	997	bdl
EGB-05-S69_IIb_15_3	OS	Rt	1927	2709	158	1070	4966	891	bdl
EGB-05-S69_IIb_16	OS	Rt	2903	234	562	2102	5108	9	bdl
EGB-05-S69_IIb_17	OS	Rt	1900	636	55	660	3287	3822	bdl
EGB-05-S69_IIb_18	OS	Rt	3346	1360	172	997	4784	1756	bdl
EGB-05-S69_IIb_19	OS	Rt	426	1387	128	773	3782	216	bdl
EGB-05-S69_IIb_21	OS	Rt	2207	1078	83	385	4189	627	722
EGB-05-S69_IIb_22	OS	Rt	890	644	11	928	2987	5535	bdl
EGB-05-S69_IIb_23	OS	Rt	4157	883	16	2159	3290	721	bdl
EGB-05-S69_IIb_24	OS	Ant	10136	20	132	2875	171	38	175
EGB-05-S69_IIb_25	OS	Rt	5148	1401	97	841	3219	524	bdl
EGB-05-S69_IIb_27	OS	Rt	1832	1540	182	1147	2223	897	bdl
EGB-05-S69_IIb_28	OS	Rt	123	1427	1	1169	314	425	863
EGB-05-S69_IIb_29	OS	Rt	3046	607	92	1908	2102	1650	bdl
EGB-05-S69_IIb_30	OS	Rt	4004	801	135	1886	2837	2474	bdl
EGB-05-S69_IIb_31	OS	Rt	905	557	282	1653	3037	3767	bdl
EGB-05-S69_IIb_33	OS	Rt	481	4331	9	1191	2710	3642	bdl
EGB-05-S69_IIb_34	OS	Rt	3712	77	50	25263	3606	53	bdl
EGB-05-S69_IIb_35	OS	Rt	937	4651	20	1053	1425	6030	1216
EGB-05-S69_IIb_36	OS	Rt	2322	1051	174	487	3537	3228	bdl
EGB-05-S69_IIb_38	OS	Rt	2361	1027	255	1384	2315	2340	bdl
EGB-05-S69_IIb_39	OS	Rt	4617	831	166	2791	1608	696	bdl
EGB-05-S69_IIb_41	OS	Rt	3216	1273	160	917	2881	845	bdl
EGB-05-S69_IIb_42	OS	Rt	2905	1861	300	503	6509	1022	bdl
EGB-05-S70_IIb_01_1	OS	Rt	4623	536	42	2421	2451	1492	bdl
EGB-05-S70_IIb_01_2	OS	Rt	4703	529	49	2576	2455	1575	bdl
EGB-05-S70_IIb_01_3	OS	Rt	4631	558	73	2521	2429	1498	bdl
EGB-05-S70_IIb_03_1	OS	Rt	1741	227	186	2989	905	78	bdl
EGB-05-S70_IIb_04_1	OS	Rt	1789	2064	109	3349	3801	894	bdl
EGB-05-S70_IIb_04_2	OS	Rt	2542	1693	114	4643	3107	1037	46
EGB-05-S70_IIb_04_3	OS	Rt	5364	8490	81	8769	2370	2276	1674
EGB-05-S70_IIb_05_1	OS	Ant	848	573	57	1161	3387	4663	bdl
EGB-05-S70_IIb_05_2	OS	Ant	989	628	67	1216	3469	4930	bdl
EGB-05-S70_IIb_05_3	OS	Ant	884	634	49	1194	3450	4976	bdl
EGB-05-S70_IIb_08_1	OS	Rt	327	2159	10	2668	519	709	403
EGB-05-S70_IIb_08_2	OS	Rt	628	2522	78	2457	920	716	bdl
EGB-05-S70_IIb_08_3	OS	Rt	330	3574	62	3540	963	757	860
EGB-05-S70_IIb_11_1	OS	Rt	1707	382	253	2311	2719	3141	bdl
EGB-05-S70_IIb_14_1	OS	Rt	2022	2246	65	3691	903	1767	bdl
EGB-05-S70_IIb_14_2	OS	Rt	2155	2209	25	4124	881	1779	bdl
EGB-05-S70_IIb_14_3	OS	Rt	2289	2216	83	4095	890	2051	bdl
EGB-05-S70_IIb_15_1	OS	Rt	3430	1391	125	1556	2534	901	bdl
EGB-05-S70_IIb_15_2	OS	Rt	4297	1571	78	2167	2695	1013	bdl
EGB-05-S70_IIb_15_3	OS	Rt	3908	1553	57	1814	2524	1028	bdl

continued on next page. . .

. . . table "EGB-04 and EGB-05 samples, EMP and Raman data" continued from page 209

Analysis label	Erzgebirge unit	Phase affiliation by Raman spot analysis	Nb [ppm]	Cr [ppm]	Sn [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
EGB-05-S70_IIb_16	OS	ms	1481	3334	10	2243	684	1289	65
EGB-05-S70_IIb_19_1	OS	Rt	2101	416	565	2942	728	112	bdl
EGB-05-S70_IIb_21	OS	Rt	2215	1060	391	5940	2189	1614	bdl
EGB-05-S70_IIb_22	OS	Rt	3281	316	285	3834	1103	1281	bdl
EGB-05-S70_IIb_23	OS	Rt	331	458	10	905	1846	318	bdl
EGB-05-S70_IIb_26	OS	Rt	366	83	48	3916	1700	2222	896
EGB-05-S70_IIb_27	OS	Rt	2159	1041	80	2912	846	182	bdl
EGB-05-S70_IIb_28	OS	Rt	1583	408	79	3848	697	87	bdl
EGB-05-S70_IIb_29	OS	Rt	1510	1121	199	333	3966	1330	bdl
EGB-05-S70_IIb_30	OS	Rt	1599	435	117	4690	820	392	203
EGB-05-S70_IIb_32	OS	Rt	1083	245	297	4414	2005	2390	bdl
EGB-05-S70_IIb_35	OS	Rt	2063	1053	124	2934	389	108	148
EGB-05-S70_IIb_36	OS	Rt	688	119	20	2046	540	2177	829
EGB-05-S70_IIb_37	OS	Rt	1170	374	bdl	1895	1909	2784	bdl
EGB-05-S70_IIb_39	OS	Brk	862	153	141	2902	1111	196	bdl
EGB-05-S70_IIb_42	OS	Rt	3063	403	248	3328	1016	655	bdl
EGB-05-S70_IIb_44	OS	Rt	582	584	50	1288	3417	3918	bdl
EGB-05-S70_IIb_45	OS	Rt	3469	772	247	2452	1969	909	bdl
EGB-05-S70_IIb_46	OS	Rt	548	452	25	1952	2807	181	bdl
EGB-05-S70_IIb_47	OS	Rt	2922	341	298	3539	763	659	bdl
EGB-05-S70_IIb_48	OS	Brk	1772	57	131	1651	1440	269	bdl

Analyses are labelled sample_internal label_crystal(_analysis no.).
bdl = not detected.
Rt = rutile, ms = mixed spectrum, Ant = anatase, Brk = brookite.

Table A.5.: EMP analysis results of HUY, WAR and single crystal samples, combined with Raman spot analysis results.

Analysis label	Phase affiliation by Raman spot analysis	TiO_2 [mass-%]	Total (Oxides) [mass-%]	Nb [ppm]	Mg [ppm]	Cr [ppm]	W [ppm]	Sn [ppm]	Al [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
HUY-1_1_1	Ant	97.00	97.86	1494	bdl	175	128	85	115	3656	275	426	14
HUY-1_1_2	Ant	98.08	98.54	2796	8	34	bdl	1	bdl	207	115	47	31
HUY-1_1_3	Ant	98.13	98.40	1385	bdl	6	88	10	bdl	263	95	121	17
HUY-1_2_1	Ant	97.83	98.24	1639	26	55	bdl	10	205	666	151	9	44
HUY-1_2_2	Ant	95.94	97.34	1421	bdl	77	bdl	27	170	643	120	3	4863
HUY-1_2_3	Ant	99.26	99.57	1533	3	35	bdl	16	26	264	97	21	163
HUY-1_4_1	Ant	97.50	98.72	1081	24	103	96	bdl	1143	712	336	3	3196
HUY-1_4_2	Ant	96.72	98.38	1368	bdl	146	85	20	1274	431	140	bdl	5166
HUY-1_4_3	Ant	98.83	99.59	1319	bdl	81	311	19	514	625	275	21	1366
HUY-1_5_1	Ant	98.83	99.47	1950	bdl	20	212	42	11	1955	105	368	55
HUY-1_5_2	Ant	99.45	100.02	1496	bdl	11	59	bdl	406	310	21	bdl	1049
HUY-1_5_3	Ant	99.53	100.06	1651	1	11	74	19	217	270	bdl	18	945
HUY-1_6_1	Ant	99.34	99.94	1890	bdl	247	71	26	bdl	1834	23	308	29
HUY-1_6_2	Ant	96.83	98.98	4339	10	109	303	86	380	7554	475	1604	634
HUY-1_6_3	Ant	98.17	98.89	1692	7	199	351	22	102	2329	100	381	74
HUY-1_7	Ant	96.19	98.28	3132	7	86	173	117	228	10571	157	558	378
HUY-1_8_1	Ant	98.46	99.19	1868	bdl	322	197	53	23	2745	bdl	203	13
HUY-1_8_2	Ant	97.44	98.08	1996	7	196	289	bdl	14	1646	36	369	109
HUY-1_8_3	Ant	98.14	99.03	1954	bdl	397	340	16	176	2585	156	473	239
HUY-1_9_1	Ant	98.38	99.25	1171	26	264	201	22	671	969	68	bdl	1782
HUY-1_9_2	Ant	98.43	99.15	857	14	225	95	bdl	583	326	237	bdl	1670
HUY-1_9_3	Ant	99.46	99.98	1697	17	636	157	11	148	189	303	12	289
HUY-1_11	Ant	99.69	100.12	1460	bdl	26	178	22	6	791	16	595	67
HUY-1_12_1	Ant	95.01	98.73	4188	42	43	516	63	712	17412	771	1993	1304
HUY-1_12_2	Ant	98.76	99.44	1871	1	228	297	bdl	20	2298	65	252	34
HUY-1_12_3	Ant	95.54	98.65	3684	21	51	396	74	461	15702	741	1165	705
HUY-1_13	Ant	95.01	98.06	4282	29	116	381	32	646	12748	690	1412	1468
HUY-1_14_1	Ant	95.35	97.99	3921	22	87	279	131	450	12515	604	681	596
HUY-1_14_2	Ant	96.84	99.23	3702	5	99	150	139	64	13059	122	549	96
HUY-1_14_3	Ant	96.68	98.62	4078	14	68	285	49	325	5926	666	2068	484
HUY-1_15_1	Ant	98.81	99.60	1856	12	244	360	35	153	2025	130	614	245
HUY-1_15_2	Ant	99.68	100.52	1629	3	212	427	33	138	2886	94	614	170
HUY-1_15_3	Ant	98.63	99.53	1555	18	118	477	38	239	1581	377	1639	309
HUY-1_16	Ant	98.93	99.76	863	bdl	658	722	31	53	2666	557	583	23
HUY-1_17	Ant	99.48	100.37	1986	18	213	494	23	220	2548	160	461	218
HUY-1_18	Ant	100.43	101.24	1897	bdl	71	534	47	103	2718	147	415	67
HUY-1_19	Ant	98.82	99.49	1924	22	138	218	16	bdl	1541	96	895	60
HUY-1_20	Ant	99.06	99.73	1546	29	135	407	52	119	1855	74	392	270
HUY-1_22	Ant	98.32	99.34	2269	bdl	130	173	79	38	4589	47	296	4
HUY-1_23	Ant	96.18	98.08	1620	16	44	1084	bdl	1789	791	bdl	47	5046
HUY-1_24	Ant	99.31	100.06	1829	bdl	220	216	68	99	2437	66	325	199
HUY-1_25	Ant	99.78	100.26	1369	bdl	501	120	bdl	bdl	1209	34	225	52
HUY-1_26	Ant	98.16	99.60	2843	14	90	293	72	219	5359	247	751	471
HUY-1_28	Ant	99.11	99.88	1845	bdl	178	329	20	110	2322	126	491	168
HUY-1_29	Ant	100.52	100.80	1406	bdl	44	69	25	bdl	344	82	39	31
HUY-1_30	Ant	99.52	100.29	651	bdl	29	bdl	23	2258	792	49	bdl	661
HUY-1_32	Ant	98.19	99.41	2779	bdl	60	264	23	124	2910	262	2054	284
HUY-1_33	Ant	99.03	100.18	5698	bdl	26	bdl	410	bdl	2049	143	21	bdl
HUY-1_34	Ant	99.51	100.42	2020	bdl	192	358	25	56	2526	129	1298	108
HUY-1_35	Ant	94.13	97.40	6561	71	120	293	65	748	10183	533	3047	1494
HUY-1_36	Ant	99.97	100.70	2222	bdl	244	356	bdl	15	2274	79	169	23
HUY-1_37	Ant	98.92	100.15	218	18	102	4175	72	1229	1007	988	90	582
HUY-1_38	Ant	97.90	99.51	2714	bdl	12	5318	54	542	1424	30	65	1170
HUY_III_1_1	Rt	98.06	99.21	993	bdl	647	bdl	115	141	1256	3467	1510	bdl
HUY_III_1_2	Rt	96.88	97.92	721	bdl	648	bdl	145	43	1154	3374	1312	4
HUY_III_1_3	Rt	98.04	99.14	869	bdl	626	bdl	154	76	1133	3407	1478	bdl

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. . . table "HUY, WAR and single crystal analyses, EMP and Raman data" continued from page 229

Analysis label	Phase affiliation by Raman spot analysis	TiO_2 [mass-%]	Total (Oxides) [mass-%]	Nb [ppm]	Mg [ppm]	Cr [ppm]	W [ppm]	Sn [ppm]	Al [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
HUY_III_2_1	Rt	96.11	97.54	2275	bdl	1534	704	195	140	1269	2939	1038	8
HUY_III_2_2	Rt	96.78	98.15	1920	bdl	1517	810	144	211	1185	2901	989	bdl
HUY_III_2_3	Rt	97.19	98.33	1438	bdl	1379	369	178	76	1106	2729	794	4
HUY_III_4_1	Rt	100.58	101.39	196	bdl	1416	bdl	55	106	333	3028	463	bdl
HUY_III_4_2	Rt	101.78	102.56	237	bdl	1351	bdl	55	46	309	2981	386	1
HUY_III_4_3	Rt	100.59	101.37	236	bdl	1262	bdl	109	80	333	2965	367	9
HUY_III_5_1	Rt	99.66	100.62	795	bdl	544	52	46	88	3528	1538	368	bdl
HUY_III_5_2	Rt	99.81	100.76	861	bdl	545	bdl	19	92	3654	1460	326	1
HUY_III_5_3	Rt	100.09	101.10	844	bdl	493	308	27	83	3839	1525	319	bdl
HUY_III_6_1	Rt	102.33	102.93	244	bdl	163	bdl	19	215	2831	495	439	bdl
HUY_III_6_2	Rt	101.66	102.25	222	bdl	178	bdl	46	89	2846	528	434	bdl
HUY_III_6_3	Rt	101.92	102.50	235	bdl	178	bdl	16	142	2859	446	432	bdl
HUY_III_9_1	Rt	99.36	100.51	3347	bdl	546	3	255	491	1872	971	641	8
HUY_III_9_2	Rt	98.19	99.34	3129	bdl	531	bdl	227	616	1887	1016	609	bdl
HUY_III_9_3	Rt	98.57	99.66	2933	bdl	515	bdl	222	552	1803	999	632	bdl
HUY_III_10_1	Rt	96.27	97.07	1713	bdl	378	87	500	476	1300	1074	21	bdl
HUY_III_10_2	Rt	96.70	97.60	1871	bdl	304	259	799	563	1468	1033	50	bdl
HUY_III_10_3	Rt	97.66	98.56	1936	bdl	437	108	750	584	1438	1019	68	14
HUY_III_11_1	Rt	98.62	99.10	326	bdl	333	bdl	121	80	1024	1321	bdl	93
HUY_III_11_2	Rt	97.22	98.15	1928	bdl	133	bdl	109	251	3496	725	30	66
HUY_III_11_3	Rt	97.35	97.84	549	bdl	217	bdl	177	188	966	966	bdl	254
HUY_III_12_1	Rt	98.83	99.42	24	bdl	900	bdl	bdl	85	1252	1576	313	8
HUY_III_12_2	Rt	98.54	99.12	bdl	bdl	866	bdl	32	86	1303	1543	245	bdl
HUY_III_12_3	Rt	98.47	99.06	24	bdl	920	bdl	32	66	1307	1562	207	22
HUY_III_13_1	Rt	98.02	99.98	3296	bdl	2313	347	106	434	793	4693	1065	347
HUY_III_13_2	Rt	98.38	100.23	3388	bdl	2289	282	155	224	773	4694	1068	bdl
HUY_III_13_3	Rt	97.86	99.72	3367	bdl	2274	452	124	222	843	4670	1017	3
HUY_III_15	Rt	100.08	101.89	2867	bdl	1706	350	1153	54	4039	2111	862	5
HUY_III_16	Rt	98.99	100.24	2068	bdl	1278	291	126	115	985	3034	900	8
HUY_III_17	Rt	98.69	99.49	1272	bdl	417	bdl	144	44	1604	1870	352	13
HUY_III_18	Rt	97.60	99.04	2066	bdl	784	85	143	130	1377	3416	2159	bdl
HUY_III_26	Rt	98.17	100.72	4839	bdl	1259	bdl	47	899	5873	3896	1043	117
HUY_III_28	Rt	97.13	99.27	4800	bdl	897	2518	916	723	2885	1973	677	bdl
HUY_III_31	Rt	100.50	102.12	4612	bdl	383	946	190	265	3086	1319	886	bdl
HUY_III_32	Rt	95.93	97.27	603	bdl	1538	bdl	42	103	270	5993	668	bdl
HUY_III_33	Rt	97.97	99.25	452	bdl	1470	bdl	6	68	236	5723	854	bdl
HUY_III_35	Rt	96.31	97.74	786	bdl	2633	bdl	87	88	424	4902	917	23
HUY_III_37	Rt	99.35	100.35	1772	bdl	443	bdl	64	78	1169	1846	1706	25
HUY_III_38	Rt	98.77	100.48	2087	bdl	949	22	28	105	938	4671	3231	bdl
HUY_III_40	Rt	100.00	101.19	1896	bdl	666	bdl	158	267	1705	1315	2559	bdl
HUY_III_42	Rt	98.65	100.27	3680	bdl	1325	806	171	107	1913	2699	819	bdl
HUY_III_43	Rt	98.31	99.40	1200	bdl	1592	bdl	61	225	219	3409	729	bdl
HUY_III_44	Rt	99.97	101.64	1772	bdl	1466	bdl	65	48	762	5237	2351	bdl
HUY_III_45	Rt	97.04	97.78	115	bdl	1155	bdl	1	108	972	2431	335	2
HUY_III_49	Rt	100.58	102.16	1808	bdl	792	43	51	50	1157	4084	3236	bdl
HUY_III_51	Rt	101.61	102.49	1340	bdl	490	bdl	513	44	1350	2250	212	14
HUY_III_52	Rt	96.91	98.74	2431	bdl	399	257	113	195	4121	2003	3873	bdl
HUY_III_72_Rt_1	Ant	99.56	100.22	1775	bdl	136	42	15	25	2381	130	362	11
HUY_III_72_Rt_2	Ant	98.78	99.62	2157	bdl	196	bdl	37	2	3619	127	124	27
HUY_III_72_Rt_3	Ant	98.94	99.64	1808	bdl	148	bdl	57	69	2710	110	316	9
HUY_III_72_Ana_1	Rt	100.02	101.09	2217	bdl	519	335	229	515	2154	1018	570	9
HUY_III_72_Ana_2	Rt	100.22	101.23	2310	bdl	519	bdl	233	341	2286	992	495	19
HUY_III_72_Ana_3	Rt	100.01	101.04	2232	bdl	607	bdl	212	342	2445	1013	438	19
WAR-9_1_1	Ant	98.11	98.97	1474	1	68	135	bdl	25	4330	42	387	93
WAR-9_1_2	Ant	98.37	99.33	926	49	75	bdl	32	1173	650	256	962	1536
WAR-9_3_1	Ant	98.41	99.52	3070	bdl	211	1323	1158	123	807	105	873	292
WAR-9_3_2	Ant	99.39	100.01	2744	4	289	128	157	bdl	422	65	504	157
WAR-9_4_1	Ant	99.38	100.76	2045	17	957	bdl	47	754	1972	1656	21	1355
WAR-9_4_2	Ant	99.79	100.87	1639	bdl	789	32	45	732	519	2455	bdl	747

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…table "HUY, WAR and single crystal analyses, EMP and Raman data" continued from page 229

Analysis label	Phase affiliation by Raman spot analysis	TiO_2 [mass-%]	Total (Oxides) [mass-%]	Nb [ppm]	Mg [ppm]	Cr [ppm]	W [ppm]	Sn [ppm]	Al [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
WAR-9_4_3	Ant	97.63	99.24	2291	63	928	49	10	1109	898	1758	9	2573
WAR-9_6_1	Ant	95.04	96.77	1663	77	65	250	1	592	6821	411	1180	1072
WAR-9_6_2	Ant	98.19	98.89	1640	bdl	11	404	575	141	615	159	154	866
WAR-9_6_3	Ant	97.53	98.22	1724	3	68	480	543	92	644	271	178	685
WAR-9_7_1	Ant	96.41	98.10	2327	241	68	35	3	1318	3463	75	296	2614
WAR-9_7_2	Ant	97.99	98.62	1413	18	68	59	36	bdl	2925	88	153	bdl
WAR-9_7_3	Ant	98.44	99.34	2013	bdl	57	122	35	bdl	4308	101	107	25
WAR-9_8_1	Ant	97.33	98.17	1885	bdl	51	1048	3	228	1084	134	187	955
WAR-9_8_2	Ant	97.82	98.84	4741	bdl	12	1307	bdl	73	439	104	261	281
WAR-9_10	Ant	97.79	99.07	1489	28	702	2978	13	789	562	386	68	1406
WAR-9_12_1	Rt	98.65	99.56	1916	1	707	63	80	bdl	1915	1635	84	65
WAR-9_12_2	Rt	98.54	99.33	1316	bdl	726	bdl	67	bdl	1665	1596	73	162
WAR-9_12_3	Rt	98.58	99.53	2050	10	762	25	122	1	1841	1642	121	153
WAR-9_15_1	Ant	95.86	97.19	739	58	223	5	3	435	4285	485	1781	1087
WAR-9_15_2	Ant	98.92	99.44	1307	7	142	122	25	41	1309	93	340	294
WAR-9_17_1	Ant	98.84	99.83	1868	bdl	26	511	22	bdl	4724	69	127	138
WAR-9_17_2	Ant	97.52	98.27	1358	14	35	bdl	bdl	501	403	288	bdl	1707
WAR-9_17_3	Ant	96.70	97.75	1814	7	56	bdl	12	614	777	243	65	2426
WAR-9_18	Ant	99.13	99.79	1481	bdl	6	29	7	bdl	1974	68	481	600
WAR-9_26	Ant	98.34	98.57	819	bdl	3	26	1	bdl	215	55	321	206
WAR-9_27_1	Rt	99.25	100.11	277	bdl	119	bdl	23	27	2849	1785	1176	32
WAR-9_27_2	Rt	99.25	100.18	215	bdl	166	bdl	39	33	3478	1781	1168	4
WAR-9_27_3	Rt	99.17	100.08	289	9	138	bdl	61	55	3185	1744	1136	6
WAR-9_28	Ant	98.93	99.57	806	bdl	68	661	26	589	1041	908	15	223
WAR-9_29	Ant	95.84	98.14	6707	20	57	54	bdl	1408	2472	152	44	3251
WAR-9_30	Rt	98.69	99.50	954	bdl	799	403	145	108	892	1841	434	128
WAR-9_31	Ant	97.99	99.05	649	118	14	bdl	bdl	968	2710	73	206	1793
WAR-9_33	Ant	97.69	98.69	2178	8	194	bdl	71	1003	721	504	184	1263
WAR-9_34	Ant	95.16	97.55	1755	29	96	73	19	334	12981	27	1105	1059
WAR-9_35	Rt	97.57	98.42	749	72	206	bdl	84	5	3487	1288	160	153
WAR-9_36	Ant	93.68	97.49	2492	5	294	403	33	218	20676	551	2807	897
WAR-9_39	Ant	97.49	98.99	521	150	17	307	35	2510	1156	71	18	3423
WAR-9_40	Ant	95.08	97.82	3595	24	64	830	4199	1876	1999	166	316	4113
WAR-9_41	Ant	99.52	99.99	1304	bdl	120	226	121	64	514	617	353	22
WAR-9_42	Ant	96.83	98.79	1404	100	351	59	bdl	1015	4602	302	1847	2842
WAR-9_43	Ant	98.66	99.41	3471	66	72	30	19	109	848	196	36	276
WAR-9_44	Ant	90.04	91.75	875	243	6	56	bdl	2344	1247	bdl	886	3786
WAR-9_46	Ant	98.43	98.81	993	bdl	104	144	28	bdl	1000	38	532	48
WAR-9_48	Ant	80.99	93.03	5883	569	2117	1098	478	4868	2936	25	3120	41228
WAR-9_50	Ant	98.30	99.29	2078	35	3	121	39	182	2823	4	1336	402
WAR9_II_3_1	Rt	98.45	99.50	1557	bdl	1285	256	124	136	639	2467	810	52
WAR9_II_3_2	Rt	96.91	97.92	1481	bdl	1316	bdl	141	153	585	2496	822	46
WAR9_II_3_3	Rt	97.86	98.88	1517	bdl	1288	33	125	162	637	2545	757	26
WAR9_II_4_1	Rt	99.81	101.33	935	bdl	1805	24	65	62	396	5315	1910	16
WAR9_II_4_2	Rt	98.96	100.47	850	bdl	1882	6	36	82	347	5296	1926	14
WAR9_II_4_3	Rt	99.20	100.75	914	bdl	1841	bdl	39	125	567	5355	1920	bdl
WAR9_II_5_1	Rt	100.63	102.10	2204	bdl	720	273	101	59	1876	2850	2442	bdl
WAR9_II_5_2	Rt	100.25	101.73	2233	bdl	732	304	117	36	1883	2907	2396	bdl
WAR9_II_5_3	Rt	99.90	101.37	2240	bdl	729	350	88	52	1880	2816	2382	bdl
WAR9_II_6	Rt	98.86	100.55	1880	bdl	1370	60	69	200	319	5790	1968	bdl
WAR9_II_7	Rt	96.09	97.43	2549	bdl	469	228	65	255	1145	2638	2087	bdl
WAR9_II_12_1	Rt	99.94	100.78	698	bdl	720	bdl	12	18	4096	640	68	bdl
WAR9_II_12_2	Rt	100.07	100.81	678	bdl	807	bdl	20	37	3349	558	62	bdl
WAR9_II_12_3	Rt	100.61	101.40	552	bdl	825	bdl	17	29	3798	591	62	bdl
WAR9_II_13	Rt	96.06	97.69	2696	bdl	1600	316	246	209	1712	3659	1076	16
WAR9_II_16_1	Rt	91.10	96.25	20901	bdl	1273	1013	255	1000	9744	1946	601	40
WAR9_II_16_2	Rt	90.63	95.91	21531	bdl	1281	1032	271	956	9940	1975	686	52
WAR9_II_16_3	Rt	91.00	95.97	20063	bdl	1195	896	236	987	9362	1947	623	43
WAR9_II_20_1	Rt	98.58	100.33	1209	bdl	2356	bdl	10	19	196	5219	3177	bdl

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. . . table "HUY, WAR and single crystal analyses, EMP and Raman data" continued from page 229

Analysis label	Phase affiliation by Raman spot analysis	TiO_2 [mass-%]	Total (Oxides) [mass-%]	Nb [ppm]	Mg [ppm]	Cr [ppm]	W [ppm]	Sn [ppm]	Al [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
WAR9_II_20_2	Rt	98.69	100.46	1209	bdl	2369	bdl	42	34	208	5286	3164	16
WAR9_II_20_3	Rt	98.98	100.76	1207	bdl	2395	bdl	23	22	231	5373	3183	16
WAR9_II_22_1	Rt	96.32	97.08	223	bdl	417	1801	39	111	1081	1723	133	12
WAR9_II_22_2	Rt	97.30	97.95	454	bdl	598	848	15	103	756	1715	132	12
WAR9_II_22_3	Rt	96.43	97.16	326	bdl	361	1328	31	101	1126	1877	135	15
WAR9_II_26_1	Rt	98.56	100.73	1692	bdl	928	255	138	154	712	3406	8040	149
WAR9_II_26_2	Rt	98.64	101.13	1739	bdl	905	314	117	62	3443	3569	7954	bdl
WAR9_II_26_3	Rt	98.39	100.51	1720	bdl	898	360	156	79	480	3584	7933	bdl
WAR9_II_28_1	Rt	95.82	97.59	2040	bdl	1590	bdl	9	65	250	5144	3257	8
WAR9_II_28_2	Rt	95.47	97.23	2027	bdl	1652	bdl	26	13	220	5137	3185	25
WAR9_II_28_3	Rt	96.16	97.88	1924	bdl	1606	bdl	37	16	151	5148	3122	26
WAR9_II_35_1	Rt	99.00	100.75	1065	bdl	2838	236	89	4	183	6994	666	bdl
WAR9_II_35_2	Rt	98.80	100.52	1012	bdl	2828	143	152	21	170	6912	587	10
WAR9_II_35_3	Rt	97.58	99.29	948	bdl	2602	232	150	13	176	6965	650	bdl
WAR9_II_36	Rt	95.75	97.56	3515	bdl	2051	940	355	129	906	3954	860	bdl
WAR9_II_37	Rt	100.37	101.39	2067	bdl	502	136	213	229	1622	1602	848	39
WAR9_II_38	Rt	98.74	100.60	3708	bdl	1693	bdl	111	70	1154	5425	804	bdl
WAR9_II_39	Rt	96.19	97.52	470	bdl	930	bdl	22	7	2510	1141	3049	1023
WAR9_II_40	Rt	99.08	100.22	1883	bdl	1520	806	280	184	836	2108	381	13
WAR9_II_41	Rt	101.12	102.19	357	bdl	1909	106	230	23	188	3805	780	bdl
WAR9_II_42	Rt	100.76	101.90	1774	bdl	889	bdl	28	123	569	3572	1019	1
WAR9_II_43	Rt	100.24	100.84	324	bdl	812	bdl	65	bdl	104	1471	1496	1
WAR9_II_44	Rt	96.83	98.19	2447	bdl	828	134	270	250	1233	2301	2157	bdl
WAR9_II_46	Rt	95.77	97.78	1049	bdl	3709	bdl	78	6	385	7242	1435	bdl
WAR9_II_47	Rt	99.37	100.71	2750	bdl	1238	22	22	119	859	3520	817	bdl
WAR9_II_48	Rt	98.95	100.07	1603	bdl	579	51	22	255	477	2366	2536	bdl
WAR9_II_49	Rt	98.25	99.45	1773	bdl	1108	29	487	533	1319	2045	1072	9
WAR9_II_50	Rt	96.44	97.22	1111	bdl	834	bdl	29	44	1512	1821	181	26
WAR9_II_51	Rt	97.82	98.49	193	bdl	95	bdl	48	129	2561	1599	242	19
WAR9_II_52	Rt	100.39	101.60	3855	bdl	974	bdl	86	159	2419	1008	106	bdl
WAR9_II_56	Rt	98.07	99.69	3019	bdl	1088	910	92	482	2111	2517	1224	2
GZG.MIN.4.4.36.6_1	Brk	95.27	99.75	25026	bdl	90	45	17	bdl	5334	1266	53	22
GZG.MIN.4.4.36.6_2	Brk	95.78	99.34	20832	bdl	41	159	bdl	bdl	3000	1056	33	49
GZG.MIN.4.4.36.6_3	Brk	95.75	99.27	19433	bdl	53	133	3	bdl	3932	1365	bdl	55
GZG.MIN.4.4.36.6_4	Brk	95.54	99.15	20901	bdl	73	121	bdl	bdl	3392	1010	21	13
GZG.MIN.4.4.36.6_5	Brk	96.60	100.14	20412	1	65	61	6	bdl	3520	989	39	15
GZG.MIN.4.4.36.6_6	Brk	95.45	99.71	19853	7	77	418	10	bdl	5197	4505	198	bdl
GZG.MIN.4.4.36.6_7	Brk	94.48	98.98	20901	bdl	77	266	20	bdl	8700	2168	27	120
GZG.MIN.4.4.36.6_8	Brk	95.67	99.75	23208	bdl	60	26	12	bdl	4260	1273	27	bdl
GZG.MIN.4.4.36.6_9	Brk	96.02	99.65	20762	bdl	41	140	26	bdl	3663	1098	9	3
GZG.MIN.4.4.36.6_10	Brk	94.84	99.35	19364	bdl	185	3754	222	bdl	4419	4229	18	57
GZG.MIN.4.4.36.22_1	Rt	100.38	101.09	1202	bdl	101	13	44	102	3821	88	30	bdl
GZG.MIN.4.4.36.22_2	Rt	100.35	101.23	1448	bdl	91	51	26	115	4764	119	24	27
GZG.MIN.4.4.36.22_3	Rt	99.81	100.75	1163	bdl	86	bdl	52	159	5281	309	41	2
GZG.MIN.4.4.36.22_4	Rt	99.71	100.74	1191	bdl	75	22	58	174	5845	284	30	46
GZG.MIN.4.4.36.22_5	Rt	99.15	100.17	1146	bdl	79	46	32	171	5875	292	47	18
GZG.MIN.4.4.36.22_6	Rt	99.26	100.59	2808	bdl	750	bdl	25	123	4447	1452	12	19
GZG.MIN.4.4.36.22_7	Rt	100.56	101.25	1202	21	120	bdl	15	69	3702	100	18	41
GZG.MIN.4.4.36.22_8	Rt	99.20	100.15	1170	bdl	63	51	16	171	5321	274	48	bdl
GZG.MIN.4.4.36.22_9	Rt	99.47	100.58	1215	bdl	60	bdl	45	243	6412	314	59	bdl
GZG.MIN.4.4.36.22_10	Rt	98.83	99.92	1251	bdl	64	bdl	58	191	6037	446	50	38
GZG.MIN.4.4.36.30_1	Rt	98.73	99.70	1931	bdl	638	179	128	597	2013	1165	113	12
GZG.MIN.4.4.36.30_2	Rt	98.02	99.04	2009	5	587	163	128	649	2181	1239	128	33
GZG.MIN.4.4.36.30_3	Rt	98.31	99.31	1990	1	596	160	90	680	2198	1174	121	4
GZG.MIN.4.4.36.30_4	Rt	98.20	99.26	2110	bdl	559	132	126	700	2346	1256	134	44
GZG.MIN.4.4.36.30_5	Rt	99.10	100.10	1919	bdl	554	88	103	717	2323	1124	95	bdl
GZG.MIN.4.4.36.30_6	Rt	98.14	99.05	1906	bdl	589	81	146	484	1931	1180	94	bdl
GZG.MIN.4.4.36.30_7	Rt	98.12	99.10	2006	26	586	165	111	578	2011	1230	115	5
GZG.MIN.4.4.36.30_8	Rt	97.58	98.59	2033	bdl	582	126	138	656	2192	1236	107	bdl

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…table "HUY, WAR and single crystal analyses, EMP and Raman data" continued from page 229

Analysis label	Phase affiliation by Raman spot analysis	TiO_2 [mass-%]	Total (Oxides) [mass-%]	Nb [ppm]	Mg [ppm]	Cr [ppm]	W [ppm]	Sn [ppm]	Al [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
GZG.MIN.4.4.36.30_9	Rt	97.97	99.02	2123	bdl	603	152	123	692	2271	1258	80	22
GZG.MIN.4.4.36.30_10	Rt	98.79	99.78	1970	8	626	147	121	650	2190	1164	68	12
GZG.MIN.4.4.36.116_1	Rt	4.51	88.18	41873	bdl	439	1270	bdl	bdl	13836	7893	3	119
GZG.MIN.4.4.36.116_2	Rt	4.45	88.62	12303	1	1123	37	67	bdl	9981	4406	30	27
GZG.MIN.4.4.36.116_3	Rt	4.36	88.80	50821	5	226	544	36	71	24874	4976	bdl	273
GZG.MIN.4.4.36.116_4	Rt	4.49	89.45	19294	41	675	216	164	138	8670	9808	bdl	1215
GZG.MIN.4.4.36.116_5	Rt	4.26	89.35	24397	3	309	419	124	bdl	6225	6588	162	379
GZG.MIN.4.4.36.116_6	Rt	4.58	89.14	6347	3	83	bdl	9	bdl	2252	111	76	28
GZG.MIN.4.4.36.116_7	Rt	4.52	89.43	35372	9	341	bdl	25	bdl	20366	3941	47	8
GZG.MIN.4.4.36.116_8	Rt	4.44	88.88	49562	bdl	855	813	281	1	14769	9956	bdl	bdl
GZG.MIN.4.4.36.116_9	Rt	4.57	88.97	31387	bdl	594	105	123	bdl	15624	6813	106	94
GZG.MIN.4.4.36.116_10	Rt	4.38	88.62	25725	9	337	435	402	bdl	9798	7411	443	90
GZG.MIN.4.4.36.141_1	Rt	97.62	98.58	2618	5	493	130	81	37	2445	1033	98	bdl
GZG.MIN.4.4.36.141_2	Rt	98.51	99.67	2547	bdl	529	96	64	144	3953	963	65	70
GZG.MIN.4.4.36.141_3	Rt	98.88	100.04	2708	bdl	489	63	42	105	3931	1022	51	17
GZG.MIN.4.4.36.141_4	Rt	97.10	98.20	2597	bdl	420	19	55	59	3767	1060	60	26
GZG.MIN.4.4.36.141_5	Rt	98.22	99.23	2601	bdl	736	100	54	39	2682	998	60	17
GZG.MIN.4.4.36.141_6	Rt	98.25	99.38	2515	bdl	556	124	54	124	3759	978	62	12
GZG.MIN.4.4.36.141_7	Rt	97.64	98.79	2559	bdl	533	63	47	85	3937	1024	90	21
GZG.MIN.4.4.36.141_8	Rt	98.13	99.16	2709	bdl	502	163	72	231	2742	903	81	10
GZG.MIN.4.4.36.141_9	Rt	98.13	99.23	2442	bdl	491	59	61	77	3806	941	83	21
GZG.MIN.4.4.36.141_10	Rt	97.95	98.94	2777	bdl	872	83	68	51	2243	886	88	43
GZG.MIN.4.4.36.145_1	Rt	98.87	100.01	215	3	873	57	139	11	6976	378	33	6
GZG.MIN.4.4.36.145_2	Rt	98.69	99.88	158	bdl	607	bdl	135	84	7525	438	65	16
GZG.MIN.4.4.36.145_3	Rt	99.09	100.30	206	bdl	668	bdl	108	66	7695	442	54	bdl
GZG.MIN.4.4.36.145_4	Rt	99.97	101.15	228	1	543	42	93	47	7648	373	56	bdl
GZG.MIN.4.4.36.145_5	Rt	99.70	100.74	247	bdl	723	63	91	47	6278	300	96	8
GZG.MIN.4.4.36.145_6	Rt	98.38	99.61	193	bdl	547	69	114	57	7844	452	73	39
GZG.MIN.4.4.36.145_7	Rt	99.08	100.26	201	bdl	630	bdl	91	95	7423	397	42	33
GZG.MIN.4.4.36.145_8	Rt	99.35	100.54	187	bdl	502	bdl	98	15	7700	402	91	30
GZG.MIN.4.4.36.145_9	Rt	98.68	99.88	194	bdl	604	69	110	44	7652	404	51	7
GZG.MIN.4.4.36.145_10	Rt	98.66	99.84	189	bdl	556	bdl	78	20	7654	424	45	bdl
GZG.MIN.4.4.36.153_1	Rt	99.68	100.61	1788	bdl	320	142	65	35	3832	639	47	4
GZG.MIN.4.4.36.153_2	Rt	99.06	100.14	1782	bdl	323	142	69	11	4946	712	50	bdl
GZG.MIN.4.4.36.153_3	Rt	99.85	100.82	1804	30	330	138	61	7	3936	675	74	64
GZG.MIN.4.4.36.153_4	Rt	98.35	99.45	1888	bdl	357	105	33	1209	3102	817	76	22
GZG.MIN.4.4.36.153_5	Rt	98.75	99.67	1955	11	352	105	66	231	3144	769	60	bdl
GZG.MIN.4.4.36.153_6	Rt	99.79	100.82	1760	bdl	341	183	108	36	4568	572	73	10
GZG.MIN.4.4.36.153_7	Rt	100.02	101.05	1847	bdl	364	104	48	26	4564	623	74	8
GZG.MIN.4.4.36.153_8	Rt	99.55	100.48	1838	7	363	91	65	27	3710	634	63	30
GZG.MIN.4.4.36.153_9	Rt	99.98	100.89	1895	7	329	132	69	191	3290	621	60	23
GZG.MIN.4.4.36.153_10	Rt	100.55	101.61	2056	1	354	146	47	26	4495	601	56	50
GZG.MIN.4.4.36.165_1	Rt	79.62	84.75	3963	81	251	195	169	1678	26895	100	60	2833
GZG.MIN.4.4.36.165_2	Rt	97.61	99.18	5012	bdl	340	244	117	101	4821	682	88	23
GZG.MIN.4.4.36.165_3	Rt	98.55	99.94	4428	bdl	348	240	133	78	4208	522	126	26
GZG.MIN.4.4.36.165_4	Rt	99.16	100.68	4830	4	360	270	139	86	4697	598	96	11
GZG.MIN.4.4.36.165_5	Rt	98.24	99.86	5332	bdl	326	403	161	103	4812	577	116	bdl
GZG.MIN.4.4.36.165_6	Rt	97.94	99.41	4684	bdl	465	435	194	77	4154	525	99	31
GZG.MIN.4.4.36.165_7	Rt	98.84	100.08	3588	1	395	232	129	84	3970	516	108	41
GZG.MIN.4.4.36.165_8	Rt	99.09	100.54	4715	bdl	363	350	150	86	4332	505	118	bdl
GZG.MIN.4.4.36.165_9	Rt	98.35	99.61	3650	64	419	193	154	68	3970	504	111	68
GZG.MIN.4.4.36.165_10	Rt	98.39	99.57	3520	bdl	398	182	173	59	3746	483	98	bdl
GZG.MIN.4.4.71.14_1	Ant	99.92	100.06	542	bdl	15	bdl	bdl	bdl	224	109	9	96
GZG.MIN.4.4.71.14_2	Ant	98.70	98.99	1310	bdl	17	bdl	57	bdl	449	161	15	31
GZG.MIN.4.4.71.14_3	Ant	99.66	100.01	1657	bdl	15	bdl	93	bdl	534	162	3	30
GZG.MIN.4.4.71.14_4	Ant	99.40	99.61	830	bdl	23	bdl	35	bdl	395	150	30	17
GZG.MIN.4.4.71.14_5	Ant	100.57	100.92	1766	bdl	6	bdl	98	bdl	522	114	bdl	55
GZG.MIN.4.4.71.14_6	Ant	99.93	100.22	1345	bdl	bdl	bdl	90	bdl	473	116	6	64
GZG.MIN.4.4.71.14_7	Ant	99.05	99.29	874	bdl	32	bdl	86	bdl	508	199	15	9

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. . . table "HUY, WAR and single crystal analyses, EMP and Raman data" continued from page 229

Analysis label	Phase affiliation by Raman spot analysis	TiO_2 [mass-%]	Total (Oxides) [mass-%]	Nb [ppm]	Mg [ppm]	Cr [ppm]	W [ppm]	Sn [ppm]	Al [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
GZG.MIN.4.4.71.14_8	Ant	99.44	99.72	1034	bdl	38	27	53	bdl	665	177	36	28
GZG.MIN.4.4.71.14_9	Ant	99.21	99.43	1009	bdl	26	16	29	bdl	355	134	18	16
GZG.MIN.4.4.71.14_10	Ant	99.55	99.81	981	bdl	17	bdl	51	bdl	614	165	27	40
GZG.MIN.4.4.71.29_1	Ant	99.87	100.07	1237	bdl	bdl	19	6	bdl	149	65	bdl	14
GZG.MIN.4.4.71.29_2	Ant	100.11	100.33	1237	bdl	12	8	32	bdl	197	35	18	33
GZG.MIN.4.4.71.29_3	Ant	100.30	100.52	1220	bdl	bdl	bdl	bdl	bdl	240	58	3	28
GZG.MIN.4.4.71.29_4	Ant	99.73	99.97	1290	bdl	bdl	11	bdl	bdl	347	32	bdl	41
GZG.MIN.4.4.71.29_5	Ant	99.85	100.11	1235	bdl	12	bdl	bdl	bdl	528	16	6	30
GZG.MIN.4.4.71.29_6	Ant	99.37	99.56	1160	bdl	9	bdl	16	bdl	124	36	bdl	19
GZG.MIN.4.4.71.29_7	Ant	100.27	100.47	1202	bdl	bdl	bdl	12	bdl	187	42	bdl	35
GZG.MIN.4.4.71.29_8	Ant	99.99	100.18	1172	bdl	bdl	19	19	bdl	159	32	bdl	bdl
GZG.MIN.4.4.71.29_9	Ant	100.23	100.44	1210	bdl	11	6	6	bdl	275	bdl	bdl	3
GZG.MIN.4.4.71.29_10	Ant	99.64	99.92	1301	4	bdl	59	17	bdl	578	53	3	1
GZG.MIN.4.4.71.44_1	Ant	98.51	99.21	630	bdl	bdl	52	11	bdl	4672	45	50	5
GZG.MIN.4.4.71.44_2	Ant	99.52	99.99	476	bdl	bdl	bdl	bdl	bdl	3113	39	bdl	28
GZG.MIN.4.4.71.44_3	Ant	99.21	99.84	535	bdl	bdl	bdl	14	bdl	4164	35	bdl	79
GZG.MIN.4.4.71.44_4	Ant	99.72	100.37	658	bdl	3	22	bdl	bdl	4236	7	20	25
GZG.MIN.4.4.71.44_5	Ant	99.24	100.31	348	bdl	6	bdl	bdl	bdl	7895	26	12	9
GZG.MIN.4.4.71.44_6	Ant	100.15	100.57	720	bdl	3	61	19	bdl	2405	32	12	10
GZG.MIN.4.4.71.44_7	Ant	99.18	99.75	952	bdl	14	142	bdl	bdl	3092	35	15	56
GZG.MIN.4.4.71.44_8	Ant	98.43	99.07	568	bdl	3	82	bdl	bdl	4157	27	bdl	57
GZG.MIN.4.4.71.44_9	Ant	99.10	99.81	873	bdl	bdl	112	9	bdl	4375	36	18	30
GZG.MIN.4.4.71.44_10	Ant	97.84	98.77	595	bdl	bdl	485	bdl	bdl	6060	6	bdl	52
GZG.MIN.4.4.71.69_1	Ant	100.22	100.72	609	bdl	29	bdl	bdl	bdl	2988	16	172	17
GZG.MIN.4.4.71.69_2	Ant	101.45	101.94	661	bdl	14	14	33	bdl	2861	23	184	11
GZG.MIN.4.4.71.69_3	Ant	100.13	100.59	622	1	20	bdl	bdl	bdl	2662	22	146	4
GZG.MIN.4.4.71.69_4	Ant	100.44	100.84	1022	9	9	51	bdl	bdl	1766	33	155	bdl
GZG.MIN.4.4.71.69_5	Ant	99.39	99.75	422	bdl	17	bdl	bdl	bdl	2204	21	33	6
GZG.MIN.4.4.71.69_6	Ant	98.51	99.17	826	4	bdl	bdl	19	bdl	4094	28	36	1
GZG.MIN.4.4.71.69_7	Ant	100.26	100.71	572	3	bdl	bdl	13	bdl	2738	22	144	5
GZG.MIN.4.4.71.69_8	Ant	99.50	99.92	533	bdl	bdl	bdl	bdl	bdl	2518	35	135	13
GZG.MIN.4.4.71.69_9	Ant	100.31	100.68	440	bdl	bdl	bdl	7	bdl	2289	18	38	14
GZG.MIN.4.4.71.69_10	Ant	99.98	100.38	529	bdl	bdl	bdl	14	bdl	2428	35	36	bdl
GZG.MIN.4.4.71.79_1	Ant	100.20	100.45	90	bdl	151	8	10	bdl	1636	47	6	bdl
GZG.MIN.4.4.71.79_2	Ant	100.30	100.55	86	bdl	244	bdl	20	bdl	1551	29	33	bdl
GZG.MIN.4.4.71.79_3	Ant	101.27	101.41	58	1	32	8	13	bdl	909	38	bdl	21
GZG.MIN.4.4.71.79_4	Ant	100.31	100.57	119	bdl	147	bdl	26	bdl	1607	58	9	17
GZG.MIN.4.4.71.79_5	Ant	100.54	100.56	bdl	8	bdl	bdl	bdl	bdl	138	31	21	11
GZG.MIN.4.4.71.79_6	Ant	100.65	100.77	141	bdl	bdl	102	30	bdl	525	28	12	55
GZG.MIN.4.4.71.79_7	Ant	99.97	100.23	130	bdl	156	bdl	9	bdl	1624	33	18	5
GZG.MIN.4.4.71.79_8	Ant	100.40	100.65	53	bdl	203	bdl	32	bdl	1593	29	47	bdl
GZG.MIN.4.4.71.79_9	Ant	100.33	100.58	72	bdl	200	bdl	51	bdl	1541	44	33	bdl
GZG.MIN.4.4.71.79_10	Ant	99.00	99.26	130	bdl	148	bdl	23	bdl	1646	39	27	16
GZG.MIN.4.4.71.94_1	Ant	99.35	100.35	5771	bdl	bdl	213	bdl	10	904	4	95	113
GZG.MIN.4.4.71.94_2	Ant	98.46	100.17	7892	8	6	723	19	bdl	3351	2	254	66
GZG.MIN.4.4.71.94_3	Ant	99.30	100.29	5114	bdl	bdl	204	28	bdl	1569	bdl	187	20
GZG.MIN.4.4.71.94_4	Ant	99.04	100.74	7873	bdl	17	792	17	bdl	3074	8	261	170
GZG.MIN.4.4.71.94_5	Ant	98.96	100.25	6036	bdl	3	1153	bdl	10	1372	bdl	349	258
GZG.MIN.4.4.71.94_6	Ant	98.27	99.87	6841	bdl	6	1234	10	bdl	2798	11	288	274
GZG.MIN.4.4.71.94_7	Ant	98.10	99.69	6108	bdl	6	2206	4	65	1945	6	434	563
GZG.MIN.4.4.71.94_8	Ant	98.11	99.93	8842	bdl	3	579	32	bdl	3382	5	263	23
GZG.MIN.4.4.71.94_9	Ant	98.45	100.20	8826	bdl	3	430	48	bdl	3034	5	268	15
GZG.MIN.4.4.71.94_10	Ant	98.81	100.48	8298	bdl	bdl	bdl	9	bdl	3591	bdl	108	26
GZG.MIN.4.4.79.29_1	Brk	98.75	99.12	842	bdl	6	bdl	bdl	27	1594	161	52	34
GZG.MIN.4.4.79.29_2	Brk	99.20	99.80	1535	bdl	17	bdl	17	434	2138	136	12	3
GZG.MIN.4.4.79.29_3	Brk	99.61	100.27	1964	bdl	34	bdl	3	264	2285	152	18	32
GZG.MIN.4.4.79.29_4	Brk	97.95	98.72	1881	3	bdl	bdl	37	720	2595	135	18	bdl
GZG.MIN.4.4.79.29_5	Brk	99.53	99.75	484	1	6	bdl	1	bdl	974	148	67	bdl
GZG.MIN.4.4.79.29_6	Brk	99.28	99.96	1771	bdl	14	bdl	43	450	2466	131	38	1

continued on next page. . .

. . . table "HUY, WAR and single crystal analyses, EMP and Raman data" continued from page 229

Analysis label	Phase affiliation by Raman spot analysis	TiO_2 [mass-%]	Total (Oxides) [mass-%]	Nb [ppm]	Mg [ppm]	Cr [ppm]	W [ppm]	Sn [ppm]	Al [ppm]	Fe [ppm]	V [ppm]	Zr [ppm]	Si [ppm]
GZG.MIN.4.4.79.29_7	Brk	98.93	99.63	1646	bdl	34	bdl	17	546	2516	145	6	19
GZG.MIN.4.4.79.29_8	Brk	98.53	99.25	1765	bdl	bdl	bdl	bdl	596	2595	132	35	bdl
GZG.MIN.4.4.79.29_9	Brk	99.19	99.83	1669	bdl	9	bdl	14	528	2183	131	21	31
GZG.MIN.4.4.79.29_10	Brk	99.18	99.83	1260	bdl	11	bdl	26	688	2442	164	3	7
GZG.MIN.4.4.79.30_1	Rt	86.39	100.01	57951	12	560	142	633	49	11193	25083	64	bdl
GZG.MIN.4.4.79.30_2	Rt	86.36	99.47	57392	23	457	129	574	15	11193	22296	70	35
GZG.MIN.4.4.79.30_3	Rt	87.97	100.13	51939	12	504	120	540	9	10649	21616	90	45
GZG.MIN.4.4.79.30_4	Rt	87.77	99.16	51589	bdl	138	bdl	11	13	28061	2321	136	72
GZG.MIN.4.4.79.30_5	Rt	86.39	98.93	57811	30	175	bdl	42	35	28683	3391	121	108
GZG.MIN.4.4.79.30_6	Rt	85.51	99.95	61516	22	675	38	483	36	11660	26918	61	11
GZG.MIN.4.4.79.30_7	Rt	86.14	99.50	60258	17	499	76	453	42	11971	20665	59	65
GZG.MIN.4.4.79.30_8	Rt	86.98	99.50	52918	16	539	92	597	11	11815	22024	109	22
GZG.MIN.4.4.79.30_9	Rt	85.21	98.59	57182	27	590	117	628	34	11426	23860	99	49
GZG.MIN.4.4.79.30_10	Rt	84.02	96.37	53267	16	493	59	564	49	11038	21276	68	64

Analyses are labelled sample(_internal label)(_crystal)(_analysis no.).
bdl = not detected.
Rt = rutile, Ant = anatase, Brk = brookite.

Table A.6.: EMP analysis results of Alps, Mexico, and Syros samples, combined with posterior probability results for anatase, brookite, rutile and the most probable phase.

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
PulmoII_II_1_1	MEX	97.71	99.36	4661	nd	333	1083	na	67	2875	1901	940	39	0.00348712	0.00016829	0.99634459	Rt
PulmoII_II_2_1	MEX	99.42	100.52	593	nd	3351	38	na	5	1467	2079	119	23	4.2981E-05	4.7757E-07	0.99995654	Rt
PulmoII_II_3_1	MEX	98.86	100.14	1099	nd	5818	175	na	nd	396	928	404	27	0.00078553	1.6763E-07	0.9992143	Rt
PulmoII_II_4_1	MEX	98.1	99.57	2572	nd	1673	762	na	nd	800	3696	833	17	0.00034498	5.957E-06	0.99964907	Rt
PulmoII_II_5_1	MEX	99.53	100.88	4356	nd	428	255	na	4	3439	884	399	51	0.00625575	0.00010368	0.99364057	Rt
PulmoII_II_6_1	MEX	98.51	100.52	5771	nd	3108	1327	na	4	1518	2016	533	9	0.00045037	2.7017E-06	0.99954693	Rt
PulmoII_II_7_1	MEX	99.41	100.3	1532	nd	664	164	na	51	1326	2378	149	23	0.00051601	5.8535E-05	0.99942545	Rt
PulmoII_II_8_1	MEX	99.88	101.18	2427	nd	1327	656	na	20	944	2646	1099	73	0.00072923	6.1635E-06	0.99926461	Rt
PulmoII_II_9_1	MEX	99.68	100.68	3485	nd	42	154	na	145	2867	256	228	47	0.39228886	0.00996846	0.59774268	Rt
PulmoII_II_10_1	MEX	98.42	99.81	4023	nd	874	20	na	nd	1607	3044	200	35	0.00047213	7.7644E-05	0.99945023	Rt
PulmoII_II_11_1	MEX	99.67	101.1	4699	nd	527	218	na	117	2179	1715	685	48	0.00293601	8.2122E-05	0.99698187	Rt
PulmoII_II_12_1	MEX	99.51	100.19	93	nd	2775	15	na	nd	646	1043	70	43	7.8674E-05	1.449E-07	0.99992118	Rt
PulmoII_II_13_1	MEX	97.15	98.81	5023	nd	1048	96	na	nd	1880	2816	703	119	0.000681	2.3952E-05	0.99929505	Rt
PulmoII_II_14_1	MEX	99.04	101.03	6699	nd	410	531	na	68	3596	1601	1406	23	0.00458198	9.7686E-05	0.99532033	Rt
PulmoII_II_15_1	MEX	98.33	99.84	774	nd	7048	323	na	nd	1633	646	140	9	0.00017526	5.9009E-08	0.99982468	Rt
PulmoII_II_16_1	MEX	97.28	98.4	1244	nd	1290	392	na	nd	744	3162	981	51	0.00039347	4.0316E-06	0.9996025	Rt
PulmoII_II_17_1	MEX	99.69	100.68	1429	nd	943	377	na	nd	485	3039	618	25	0.00085757	1.695E-05	0.99912548	Rt
PulmoII_II_19_1	MEX	100.65	101.35	1299	nd	994	86	na	1	1169	1258	124	53	0.00095073	1.7599E-05	0.99903167	Rt
PulmoII_II_20_1	MEX	99.43	100.73	2631	nd	699	918	na	nd	1080	2849	993	36	0.00119652	3.0727E-05	0.99877275	Rt
PulmoII_II_21_1	MEX	98.37	99.63	125	nd	1462	1515	na	nd	417	4518	783	40	4.8859E-05	3.8977E-07	0.99995075	Rt
PulmoII_II_22_1	MEX	99.58	100.34	620	nd	814	103	na	nd	2532	1352	75	18	0.00024533	1.131E-05	0.99974336	Rt
EY-29-1_III_1_1	Alps (CH)	100.62	101.61	1431	nd	521	40	na	nd	3359	1649	121	47	0.00048737	5.5903E-05	0.99945673	Rt
EY-29-1_III_2_1	Alps (CH)	98.04	98.89	1681	nd	567	116	na	27	1557	1875	133	76	0.00084021	8.4072E-05	0.99907572	Rt
EY-29-1_III_3_1	Alps (CH)	100.02	100.86	1411	nd	540	52	na	nd	3119	844	137	59	0.00170438	3.6086E-05	0.99825953	Rt
EY-29-1_III_4_1	Alps (CH)	100.48	101.35	1608	nd	828	109	na	67	1544	1725	170	74	0.00067077	2.7052E-05	0.99930218	Rt
EY-29-1_III_5_1	Alps (CH)	100.35	101.2	1014	nd	1474	67	na	27	2307	976	124	53	0.00042117	3.2515E-06	0.99957558	Rt
EY-29-1_III_5_2	Alps (CH)	100.66	101.79	1008	nd	1584	103	na	nd	4630	928	94	17	0.00020239	2.211E-06	0.9997954	Rt
EY-29-1_III_5_3	Alps (CH)	100.08	100.93	996	nd	1537	83	na	15	2319	943	104	85	0.00039609	3.2177E-06	0.99960069	Rt
EY-29-1_III_6_1	Alps (CH)	100.01	100.71	617	nd	1245	39	na	nd	711	2026	108	52	0.00026944	7.8392E-06	0.99972272	Rt
EY-29-1_III_6_2	Alps (CH)	100.62	101.31	562	nd	1214	49	na	nd	880	1986	104	22	0.00021657	6.7399E-06	0.99977669	Rt
EY-29-1_III_6_3	Alps (CH)	100.38	101.11	539	nd	1543	26	na	nd	873	1996	87	30	0.00015078	4.2119E-06	0.99984501	Rt
EY-29-1_III_7_1	Alps (CH)	100.05	100.95	1701	nd	768	167	na	nd	1451	2122	128	62	0.00050933	4.7644E-05	0.99944303	Rt
EY-29-1_III_8_1	Alps (CH)	100.35	101.29	1297	nd	2034	93	na	nd	828	2117	137	35	0.00023816	4.7406E-06	0.9997571	Rt
EY-29-1_III_9_1	Alps (CH)	100.13	101.06	1236	20	314	35	na	nd	3039	1891	130	31	0.00067782	0.00016206	0.99916012	Rt
EY-29-1_III_10_1	Alps (CH)	100.18	101.1	1455	nd	608	82	na	nd	3659	879	89	43	0.00106518	3.5999E-05	0.99889882	Rt
EY-29-1_III_11_1	Alps (CH)	100.05	100.95	1345	nd	988	108	na	21	1266	2516	84	33	0.00023379	3.1692E-05	0.99973451	Rt
EY-29-1_III_12_1	Alps (CH)	97.73	98.48	637	nd	528	233	na	3	674	2959	122	62	0.00040413	6.5916E-05	0.99952995	Rt

continued on next page…

. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
EY-29-1_III_13_1	Alps (CH)	96.95	98.19	877	nd	4270	152	na	nd	2025	1277	141	19	8.2626E-05	2.5822E-07	0.99991712	Rt
EY-29-1_III_14_1	Alps (CH)	100.02	100.96	1057	nd	1303	64	na	2	2779	1389	113	47	0.00021736	5.0964E-06	0.99977755	Rt
EY-29-1_III_15_1	Alps (CH)	100.38	101.15	1209	nd	733	66	na	5	1182	2127	128	18	0.00049702	3.9964E-05	0.99946302	Rt
EY-29-1_III_16_1	Alps (CH)	98.95	99.84	622	nd	1898	122	na	11	1906	1576	190	49	0.00012664	1.0343E-06	0.99987233	Rt
EY-29-1_III_17_1	Alps (CH)	97.72	98.45	1295	nd	657	72	na	33	1578	1363	84	44	0.00087482	5.2839E-05	0.99907234	Rt
EY-29-1_III_18_1	Alps (CH)	100.64	101.46	1373	nd	518	48	na	58	3243	556	170	39	0.00380174	2.6902E-05	0.99617136	Rt
EY-29-1_III_19_1	Alps (CH)	99.46	100.3	1527	nd	1094	132	na	nd	1272	1735	136	53	0.00051904	1.7494E-05	0.99946346	Rt
EY-29-1_III_20_1	Alps (CH)	97.96	99.09	758	nd	2779	123	na	6	1477	2680	110	36	3.9507E-05	1.1537E-06	0.99995934	Rt
EY-29-1_III_21_1	Alps (CH)	99.76	100.66	1533	nd	693	188	na	42	1045	2588	137	40	0.00051368	6.6709E-05	0.99941962	Rt
EY-29-1_III_22_1	Alps (CH)	100.67	101.41	1249	nd	95	76	na	41	2220	1470	104	46	0.00510234	0.00324086	0.9916568	Rt
EY-29-1_III_23_1	Alps (CH)	101.48	102.07	384	nd	1029	38	na	nd	1022	1494	123	51	0.00029697	4.5713E-06	0.99969845	Rt
EY-29-1_III_24_1	Alps (CH)	99.5	100.3	1513	nd	682	25	na	12	1476	1825	96	42	0.00062431	6.2268E-05	0.99931343	Rt
EY-29-1_III_25_1	Alps (CH)	98.8	99.86	1123	nd	2581	92	na	23	1276	2179	106	34	9.5255E-05	2.2061E-06	0.99990254	Rt
EY-29-1_III_26_1	Alps (CH)	99.97	100.82	1475	nd	685	119	na	nd	2205	1444	75	56	0.00058812	5.1545E-05	0.99936033	Rt
EY-29-1_III_27_1	Alps (CH)	98.37	99.29	959	nd	1455	153	na	2	1500	2296	71	34	0.00011083	8.5929E-06	0.99988058	Rt
EY-29-1_III_28_1	Alps (CH)	97.74	98.69	1338	nd	338	149	na	48	3031	1740	139	55	0.00078803	0.00013809	0.99907389	Rt
EY-29-1_III_29_1	Alps (CH)	100.95	101.83	1721	nd	831	94	na	36	1944	1478	163	39	0.00073857	2.4617E-05	0.99923681	Rt
EY-29-1_III_30_1	Alps (CH)	97.82	98.71	1150	nd	759	89	na	32	1185	2735	122	122	0.00028839	4.0074E-05	0.99967154	Rt
EY-29-2_II_1_1	Alps (CH)	99.65	100.68	1496	nd	564	49	na	nd	3557	1701	119	51	0.00041152	4.8691E-05	0.99953979	Rt
EY-29-2_II_2_1	Alps (CH)	99.9	100.75	1625	nd	476	58	na	34	3089	766	99	36	0.00236488	6.9167E-05	0.99756595	Rt
EY-29-2_II_3_1	Alps (CH)	97.38	98.38	905	nd	1689	62	na	nd	2608	1736	169	40	0.00011679	1.9986E-06	0.99988121	Rt
EY-29-2_II_4_1	Alps (CH)	99.33	100.16	1311	nd	480	128	na	24	3168	927	62	31	0.00118686	7.8961E-05	0.99873418	Rt
EY-29-2_II_5_1	Alps (CH)	99.73	100.56	1239	nd	993	163	na	nd	1659	1613	191	52	0.00048936	1.1257E-05	0.99949938	Rt
EY-29-2_II_6_1	Alps (CH)	98.79	99.61	1653	nd	467	210	na	22	1804	1567	148	29	0.00128318	0.000102	0.99861483	Rt
EY-29-2_II_7_1	Alps (CH)	98.89	99.84	1380	nd	569	47	na	57	3024	1620	97	46	0.00045459	5.3803E-05	0.99949161	Rt
EY-29-2_II_8_1	Alps (CH)	99.38	100.17	1196	nd	475	109	na	51	2879	960	75	38	0.00122183	6.7958E-05	0.99871021	Rt
EY-29-2_II_9_1	Alps (CH)	100.44	101.26	796	nd	1444	105	na	nd	1375	1956	124	23	0.00016735	4.6331E-06	0.99982802	Rt
EY-29-2_II_10_1	Alps (CH)	99.78	100.65	1334	nd	468	109	na	40	3068	1141	139	35	0.0011432	5.3597E-05	0.99880321	Rt
EY-29-2_II_11_1	Alps (CH)	99.88	100.71	1072	nd	597	61	na	nd	3409	770	117	45	0.00126918	2.1246E-05	0.99870957	Rt
EY-29-2_II_12_1	Alps (CH)	99.64	100.33	599	nd	357	173	na	36	2830	850	174	50	0.00163886	3.0874E-05	0.99833026	Rt
EY-29-2_II_13_1	Alps (CH)	98.23	99.01	1576	nd	521	122	na	41	2202	931	172	63	0.00241205	4.802E-05	0.99753993	Rt
EY-29-2_II_14_1	Alps (CH)	99.41	100.28	1015	nd	1226	69	na	49	2309	1376	155	78	0.00030193	4.9346E-06	0.99969313	Rt
EY-29-2_III_1_1	Alps (CH)	100.14	101.01	901	nd	1958	79	na	nd	2178	969	132	14	0.00030434	1.4456E-06	0.99969421	Rt
EY-29-2_III_2_1	Alps (CH)	99.15	100.04	1797	nd	672	56	na	140	1940	1505	151	39	0.00091814	4.5085E-05	0.99903678	Rt
EY-29-2_III_3_1	Alps (CH)	98.89	99.92	1052	nd	2002	159	na	nd	2311	1665	142	32	0.00012339	1.9114E-06	0.9998747	Rt
EY-29-2_III_4_1	Alps (CH)	98.8	99.75	1302	nd	586	109	na	48	3352	1473	61	22	0.00038964	5.9188E-05	0.99955118	Rt
EY-29-2_III_4_2	Alps (CH)	99.14	99.97	1346	nd	569	54	na	8	2577	1426	35	34	0.00046706	0.0001116	0.99942135	Rt
EY-29-2_III_4_3	Alps (CH)	98.86	99.74	1369	nd	549	47	na	82	2547	1510	134	34	0.00069438	4.9095E-05	0.99925653	Rt
EY-29-2_III_5_1	Alps (CH)	100.12	100.98	1251	nd	446	36	na	134	2891	1359	65	31	0.00069499	0.00010645	0.99919855	Rt
EY-29-2_III_6_1	Alps (CH)	99.69	100.72	1363	nd	600	96	na	nd	3618	1672	124	33	0.0003674	3.6141E-05	0.99959646	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
EY-29-2_III_7_1	Alps (CH)	99.23	100.03	1095	nd	517	24	na	16	2570	1461	73	74	0.00054048	6.5676E-05	0.99939385	Rt
EY-29-2_III_7_2	Alps (CH)	98.45	99.34	1277	nd	478	73	na	49	3011	1433	114	23	0.00068613	6.2313E-05	0.99925156	Rt
EY-29-2_III_7_3	Alps (CH)	98.4	99.21	1122	nd	419	79	na	21	2568	1515	135	34	0.00079878	7.2106E-05	0.99912912	Rt
EY-29-2_III_8_1	Alps (CH)	99.44	100.09	88	nd	537	127	na	102	2554	1113	154	39	0.00015401	1.6603E-06	0.99984433	Rt
EY-29-2_III_9_1	Alps (CH)	98.73	99.81	1381	nd	363	229	na	41	4863	878	162	30	0.00170842	6.2218E-05	0.99822937	Rt
EY-29-2_III_9_2	Alps (CH)	98.89	99.94	1508	nd	408	161	na	37	4489	913	175	45	0.00165088	5.2963E-05	0.99829616	Rt
EY-29-2_III_9_3	Alps (CH)	98.82	99.69	1488	nd	428	160	na	53	3084	930	150	40	0.00201941	6.4674E-05	0.99791592	Rt
EY-29-2_III_10_1	Alps (CH)	99.48	100.41	1100	60	1424	62	na	57	2019	1782	91	20	0.00016312	6.7487E-06	0.99983013	Rt
EY-29-2_III_10_2	Alps (CH)	99.34	100.23	1138	nd	1479	33	na	46	1811	1778	54	19	0.00015052	9.8951E-06	0.99983959	Rt
EY-29-2_III_10_3	Alps (CH)	99.28	100.29	1025	nd	1475	87	na	nd	2679	1804	108	60	0.00011802	4.3562E-06	0.99987762	Rt
EY-29-2_III_11_1	Alps (CH)	100.85	101.8	1412	nd	536	83	na	nd	2965	1645	160	40	0.00057672	4.5236E-05	0.99937805	Rt
EY-29-2_III_11_2	Alps (CH)	101.37	102.38	1404	nd	578	79	na	nd	3412	1660	155	42	0.00045077	3.5845E-05	0.99951338	Rt
EY-29-2_III_11_3	Alps (CH)	100.13	101.17	1495	nd	578	69	na	29	3443	1689	133	46	0.00043293	4.3117E-05	0.99952395	Rt
EY-29-2_III_12_1	Alps (CH)	98.85	99.8	141	nd	2709	21	na	nd	1880	1827	99	22	1.6987E-05	1.3699E-07	0.99998288	Rt
EY-29-2_III_13_1	Alps (CH)	98.02	99.16	524	nd	2885	317	na	nd	3845	517	141	26	0.00023904	1.6584E-07	0.99976079	Rt
EY-29-2_III_13_2	Alps (CH)	97.45	98.55	982	nd	3252	259	na	nd	2594	613	163	49	0.00037806	3.1643E-07	0.99962162	Rt
EY-29-2_III_13_3	Alps (CH)	97.58	98.6	719	nd	3104	347	na	nd	2322	601	158	46	0.0003561	2.6401E-07	0.99964364	Rt
EY-29-2_III_14_1	Alps (CH)	98.32	99.44	1049	nd	1986	173	na	nd	2414	2209	94	40	6.3031E-05	2.8712E-06	0.9999341	Rt
EY-29-2_III_14_2	Alps (CH)	98.44	99.46	1091	nd	1949	108	na	16	1775	2204	73	12	8.1712E-05	4.455E-06	0.99991383	Rt
EY-29-2_III_14_3	Alps (CH)	98.18	99.19	1072	nd	1907	56	na	9	1718	2270	119	17	9.4639E-05	3.3444E-06	0.99990202	Rt
EY-29-2_III_15_1	Alps (CH)	99.03	99.86	915	nd	386	46	na	34	2634	1673	150	59	0.00063388	6.5617E-05	0.9993005	Rt
EY-29-2_III_15_2	Alps (CH)	98.13	98.98	1061	nd	358	46	na	24	2656	1764	161	66	0.00071454	8.9918E-05	0.99919554	Rt
EY-29-2_III_15_3	Alps (CH)	98.68	99.57	1019	nd	379	105	na	nd	3039	1729	133	54	0.00055836	7.9221E-05	0.99936242	Rt
EY-29-2_III_16_1	Alps (CH)	97.06	98.32	1165	nd	1574	88	na	78	3952	2054	80	62	6.0721E-05	4.5917E-06	0.99993469	Rt
EY-29-2_III_16_2	Alps (CH)	97.6	98.65	1262	nd	1692	81	na	74	2047	2119	63	41	9.6069E-05	7.3872E-06	0.99989654	Rt
EY-29-2_III_16_3	Alps (CH)	97.31	98.32	1065	nd	1692	62	na	88	2091	2038	60	42	8.7188E-05	6.0952E-06	0.99990672	Rt
EY-29-2_III_17_1	Alps (CH)	98.76	99.64	1613	nd	786	142	na	49	1514	1872	193	29	0.00065389	2.931E-05	0.9993168	Rt
EY-29-2_III_18_1	Alps (CH)	99.28	100.44	2709	nd	796	142	na	37	2498	1824	198	34	0.00063779	3.8333E-05	0.99932388	Rt
EY-29-2_III_18_2	Alps (CH)	99.81	100.81	1914	60	758	90	na	22	2468	1674	173	32	0.00058162	3.0549E-05	0.99938783	Rt
EY-29-2_III_18_3	Alps (CH)	100.37	101.23	1363	nd	740	132	na	20	2198	1545	143	26	0.00055562	2.5625E-05	0.99941875	Rt
EY-29-2_III_19_1	Alps (CH)	99.86	100.57	936	nd	439	151	na	105	2812	625	82	28	0.00249809	4.83E-05	0.99745361	Rt
EY-29-2_III_20_1	Alps (CH)	98.88	99.95	1111	nd	1967	67	na	18	2625	1742	67	44	8.4364E-05	3.4397E-06	0.9999122	Rt
EY-29-2_III_21_1	Alps (CH)	99.7	100.7	1109	nd	1900	65	na	nd	3154	915	91	7	0.00025728	2.0432E-06	0.99974068	Rt
EY-29-2_III_22_1	Alps (CH)	99.12	99.95	1364	nd	660	17	na	107	2215	1459	97	34	0.00061344	4.2781E-05	0.99934378	Rt
EY-29-2_III_23_1	Alps (CH)	98.27	99.22	1288	nd	499	70	na	nd	2403	2385	98	32	0.00031141	8.9725E-05	0.99959886	Rt
EY-29-2_III_24_1	Alps (CH)	100.24	101.21	998	nd	1642	48	na	96	1913	2010	111	36	0.00011654	4.0834E-06	0.99987937	Rt
EY-29-2_III_25_1	Alps (CH)	100.7	101.47	480	nd	192	92	na	143	2625	1911	116	35	0.00061666	0.00019805	0.99918529	Rt
EY-29-2_III_26_1	Alps (CH)	97.83	98.85	977	nd	1303	2	na	nd	2657	2168	146	54	0.00010469	4.8177E-06	0.99989049	Rt
EY-29-2_III_26_2	Alps (CH)	98.94	100.01	999	nd	1351	100	na	20	2862	2194	150	42	9.4233E-05	4.3025E-06	0.99990146	Rt
EY-29-2_III_26_3	Alps (CH)	98.11	99.33	939	nd	1380	nd	na	nd	4146	2152	142	47	6.3195E-05	3.1967E-06	0.99993361	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
EY-29-2_III_27_1	Alps (CH)	99.39	100.19	879	nd	293	138	na	nd	3635	819	148	65	0.00221116	7.3277E-05	0.99771557	Rt
EY-29-2_III_28_1	Alps (CH)	97.59	98.49	1301	nd	359	64	na	27	2081	2439	124	35	0.00053918	0.00017993	0.9992809	Rt
EY-29-2_III_29_1	Alps (CH)	97.67	98.59	877	nd	1086	143	na	87	2235	1932	139	56	0.00016796	7.021E-06	0.99982502	Rt
EY-29-2_III_29_2	Alps (CH)	97.72	98.62	872	nd	1122	26	na	74	2201	1935	135	41	0.00016151	6.6641E-06	0.99983183	Rt
EY-29-2_III_29_3	Alps (CH)	98.38	99.32	919	nd	1154	67	na	67	2540	1869	96	22	0.00013588	7.6965E-06	0.99985643	Rt
EY-29-2_III_30_1	Alps (CH)	100.48	101.51	922	nd	1388	39	na	112	2990	1768	130	75	0.00011577	3.6215E-06	0.99988061	Rt
EY-29-2_III_30_2	Alps (CH)	101.13	102.06	788	nd	1349	nd	na	178	2340	1753	111	51	0.00012832	4.1142E-06	0.99986757	Rt
EY-29-2_III_30_3	Alps (CH)	98.36	99.31	928	nd	1362	3	na	118	2265	1877	110	72	0.00013101	5.142E-06	0.99986385	Rt
EY-29-3_II_1_1	Alps (CH)	100.07	100.93	1795	nd	739	150	na	6	1318	1894	99	66	0.00068329	6.685E-05	0.99924986	Rt
EY-29-3_II_2_1	Alps (CH)	100.08	100.88	1269	nd	1028	71	na	nd	1199	1890	127	64	0.00042816	1.8328E-05	0.99955351	Rt
EY-29-3_II_3_1	Alps (CH)	100.17	100.95	1688	nd	564	89	na	72	1793	1169	110	92	0.00162389	7.3694E-05	0.99830241	Rt
EY-29-3_II_4_1	Alps (CH)	99.91	100.96	1516	nd	430	128	na	nd	4392	1013	178	38	0.00133213	4.9385E-05	0.99861848	Rt
EY-29-3_II_5_1	Alps (CH)	97.97	98.82	1721	nd	764	176	na	73	1651	1451	154	26	0.00095885	3.382E-05	0.99900733	Rt
EY-29-3_II_6_1	Alps (CH)	100.45	101.17	883	nd	317	200	na	56	2810	881	104	40	0.0020203	9.4001E-05	0.9978857	Rt
EY-29-3_II_7_1	Alps (CH)	100.82	101.64	1667	20	810	177	na	15	1470	1531	170	40	0.00091541	2.8965E-05	0.99905562	Rt
EY-29-3_II_8_1	Alps (CH)	99.04	99.99	2342	nd	1044	221	na	223	1449	1188	158	29	0.0013904	2.2776E-05	0.99858683	Rt
EY-29-3_II_9_1	Alps (CH)	97.81	98.69	1589	nd	782	108	na	120	1610	1781	126	47	0.00058461	3.733E-05	0.99937806	Rt
EY-29-3_II_10_1	Alps (CH)	98.94	99.95	1698	nd	772	184	na	6	1531	2732	163	29	0.00033145	4.2842E-05	0.99962571	Rt
EY-29-3_II_11_1	Alps (CH)	100.5	101.34	1462	nd	750	124	na	nd	1388	2072	103	62	0.00047177	4.9936E-05	0.99947829	Rt
EY-29-3_II_12_1	Alps (CH)	98.33	99.11	952	nd	541	146	na	105	2328	1399	66	41	0.00052845	5.5936E-05	0.99941561	Rt
EY-29-3_II_13_1	Alps (CH)	100.16	100.98	1079	nd	1179	109	na	nd	1316	1894	133	53	0.00030019	1.0158E-05	0.99968965	Rt
EY-29-3_II_14_1	Alps (CH)	100.15	100.98	1304	nd	390	48	na	nd	3385	861	89	28	0.00180048	9.1524E-05	0.99810799	Rt
EY-29-3_II_15_1	Alps (CH)	98.94	99.78	1381	nd	988	99	na	32	1677	1650	75	43	0.00037599	2.5235E-05	0.99959877	Rt
EY-29-3_II_16_1	Alps (CH)	99.95	100.78	1576	nd	700	114	na	nd	1990	1321	189	66	0.00105006	2.7949E-05	0.99892199	Rt
EY-29-3_II_17_1	Alps (CH)	99.35	100.22	1770	nd	702	74	na	nd	1914	1637	102	29	0.00066325	5.5313E-05	0.99928144	Rt
EY-29-3_II_18_1	Alps (CH)	100.29	101.22	1799	nd	637	657	na	196	1858	1369	123	10	0.00112566	5.8108E-05	0.99881623	Rt
EY-29-3_II_19_1	Alps (CH)	100.77	101.72	1473	nd	372	38	na	10	3720	1185	144	47	0.0012636	9.1144E-05	0.99864525	Rt
EY-29-3_II_20_1	Alps (CH)	99.5	100.25	1105	nd	781	71	na	55	1150	1944	114	30	0.0005008	3.2945E-05	0.99946625	Rt
EY-29-3_II_21_1	Alps (CH)	99.99	100.72	947	nd	261	138	na	nd	1918	1915	36	64	0.00067265	0.00058937	0.99873798	Rt
EY-29-3_II_22_1	Alps (CH)	100.52	101.2	1344	nd	738	50	na	99	1331	1112	109	35	0.00144631	3.5244E-05	0.99851845	Rt
EY-29-3_II_23_1	Alps (CH)	99.64	100.28	474	nd	284	188	na	27	1264	2123	113	41	0.0006366	0.00012631	0.99923709	Rt
EY-29-3_II_24_1	Alps (CH)	99.71	100.59	1343	nd	574	74	na	1	3641	735	95	38	0.00150803	3.3165E-05	0.99845881	Rt
EY-29-3_II_25_1	Alps (CH)	100.04	100.92	1471	nd	1115	83	na	nd	1209	2145	144	53	0.00036105	1.7355E-05	0.9996216	Rt
EY-29-3_II_26_1	Alps (CH)	97.93	98.76	1316	nd	508	115	na	10	1979	1819	155	65	0.00069892	6.31E-05	0.99923798	Rt
EY-29-3_II_27_1	Alps (CH)	99	99.88	1425	nd	452	140	na	18	2934	1285	126	45	0.00102198	7.2628E-05	0.9989054	Rt
EY-29-3_II_28_1	Alps (CH)	99.85	100.69	1840	nd	776	155	na	6	1537	1473	139	54	0.00099845	3.9736E-05	0.99896182	Rt
EY-29-3_II_29_1	Alps (CH)	99.74	100.65	1392	nd	784	67	na	47	2689	1491	74	12	0.00037772	3.2319E-05	0.99958996	Rt
EY-29-3_II_30_1	Alps (CH)	99.19	100.14	2153	nd	771	372	na	124	1746	1382	165	53	0.00119432	3.8862E-05	0.99876681	Rt
EY-29-3_III_1_1	Alps (CH)	99.59	100.58	933	nd	1544	55	na	nd	2087	2310	90	38	7.9731E-05	5.1125E-06	0.99991516	Rt
EY-29-3_III_2_1	Alps (CH)	99.66	100.51	1896	nd	653	113	na	205	2071	951	128	36	0.00199818	4.5552E-05	0.99795627	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
EY-29-3_III_3_1	Alps (CH)	100.71	101.52	1473	nd	681	133	na	57	1744	1541	107	38	0.00073465	4.7475E-05	0.99921788	Rt
EY-29-3_III_4_1	Alps (CH)	98.52	100.42	1116	52	1494	41	na	99	8711	2361	94	nd	2.4553E-05	3.0063E-06	0.99997244	Rt
EY-29-3_III_4_2	Alps (CH)	100.17	101.1	1123	nd	1430	nd	na	36	1470	2331	87	29	0.00013522	9.4751E-06	0.9998553	Rt
EY-29-3_III_4_3	Alps (CH)	99.87	100.85	1182	nd	1375	53	na	79	1735	2350	93	50	0.00012694	9.613E-06	0.99986345	Rt
EY-29-3_III_5_1	Alps (CH)	99.84	100.75	1518	nd	531	68	na	nd	3310	1050	154	26	0.00122375	4.0004E-05	0.99873625	Rt
EY-29-3_III_6_1	Alps (CH)	99.29	100.04	1058	nd	656	34	na	18	1534	1870	116	39	0.00048614	3.8792E-05	0.99947507	Rt
EY-29-3_III_7_1	Alps (CH)	98.97	99.99	1788	nd	784	236	na	118	2092	2052	166	35	0.00042509	3.2182E-05	0.99954273	Rt
EY-29-3_III_8_1	Alps (CH)	97.73	98.59	1558	nd	612	44	na	6	1772	1951	122	35	0.00058406	6.4916E-05	0.99935102	Rt
EY-29-3_III_9_1	Alps (CH)	99.67	100.61	1963	nd	515	370	na	124	2503	1130	162	31	0.00178503	6.7407E-05	0.99814756	Rt
EY-29-3_III_10_1	Alps (CH)	99.62	100.58	1107	nd	1768	76	na	69	1322	2194	96	64	0.00013363	5.4942E-06	0.99986088	Rt
EY-29-3_III_11_1	Alps (CH)	99.39	100.1	1344	nd	933	49	na	41	1170	1249	129	83	0.00107455	2.0539E-05	0.99890491	Rt
EY-29-3_III_12_1	Alps (CH)	100.07	100.74	1033	nd	777	93	na	nd	1842	913	83	47	0.00107227	2.1407E-05	0.99890633	Rt
EY-29-3_III_13_1	Alps (CH)	98.93	99.84	1364	nd	579	128	na	129	3140	1079	72	43	0.00079965	5.1731E-05	0.99914862	Rt
EY-29-3_III_14_1	Alps (CH)	99.01	99.79	977	nd	562	488	na	131	1439	1641	121	130	0.00073914	4.8028E-05	0.99921283	Rt
EY-29-3_III_14_2	Alps (CH)	98.48	99.43	1028	nd	478	437	na	49	3097	1700	132	3	0.00043715	4.6207E-05	0.99951665	Rt
EY-29-3_III_14_3	Alps (CH)	98.9	99.67	1183	nd	438	485	na	102	1300	1756	135	52	0.00114477	0.00010773	0.9987475	Rt
EY-29-3_III_15_1	Alps (CH)	99.19	100.09	1060	nd	1702	98	na	nd	1073	2306	80	2	0.00014126	7.4513E-06	0.99985129	Rt
EY-29-3_III_15_2	Alps (CH)	97.81	98.79	1023	nd	1818	71	na	nd	1436	2349	130	70	0.00011018	3.7244E-06	0.9998861	Rt
EY-29-3_III_15_3	Alps (CH)	97.93	98.89	1135	nd	1778	113	na	nd	1042	2500	85	41	0.00012862	7.3548E-06	0.99986403	Rt
EY-29-3_III_16_1	Alps (CH)	99.64	100.52	525	nd	379	230	na	1	1401	3495	116	55	0.00018737	8.4003E-05	0.99972863	Rt
EY-29-3_III_17_1	Alps (CH)	98.46	99.3	1365	nd	846	53	na	32	1599	1810	177	35	0.00051933	2.0685E-05	0.99945998	Rt
EY-29-3_III_18_1	Alps (CH)	98.34	99.17	1922	nd	516	117	na	72	2125	987	148	33	0.00252093	7.207E-05	0.997407	Rt
EY-29-3_III_19_1	Alps (CH)	98.9	99.72	1625	nd	699	118	na	77	1695	1508	113	45	0.00083584	4.8527E-05	0.99911563	Rt
EY-29-3_III_20_1	Alps (CH)	99.44	100.28	1353	nd	596	66	na	137	1685	1916	136	28	0.00060502	5.5285E-05	0.9993397	Rt
EY-29-3_III_21_1	Alps (CH)	100.57	101.42	1337	nd	345	41	na	4	3416	952	100	42	0.00181407	0.00011971	0.99806622	Rt
EY-29-3_III_21_2	Alps (CH)	99.76	100.91	1305	nd	358	103	na	24	5730	939	90	54	0.00104656	8.5897E-05	0.99886754	Rt
EY-29-3_III_21_3	Alps (CH)	100.49	101.3	1277	nd	332	106	na	14	3134	922	119	54	0.00221804	0.00011332	0.99766864	Rt
EY-29-3_III_22_1	Alps (CH)	100.33	101.42	1082	nd	2352	117	na	19	1370	2506	124	43	7.8874E-05	2.3924E-06	0.99991873	Rt
EY-29-3_III_23_1	Alps (CH)	99.45	100.26	1492	nd	719	76	na	nd	1500	1843	101	30	0.00057262	5.2044E-05	0.99937533	Rt
EY-29-3_III_24_1	Alps (CH)	100.9	101.54	704	nd	397	138	na	14	1729	1365	194	39	0.00115868	4.3607E-05	0.99879772	Rt
EY-29-3_III_25_1	Alps (CH)	100.14	100.98	1609	nd	715	103	na	122	1426	1769	83	41	0.00064635	6.6893E-05	0.99928676	Rt
EY-29-3_III_26_1	Alps (CH)	99.67	100.47	1453	nd	765	127	na	73	1749	1358	119	49	0.00082459	3.1282E-05	0.99914413	Rt
EY-29-3_III_27_1	Alps (CH)	99.43	100.24	1811	nd	544	66	na	177	1834	1179	89	60	0.00160809	0.00010022	0.99829168	Rt
EY-29-3_III_28_1	Alps (CH)	98.8	99.66	1286	nd	493	31	na	36	3372	943	114	26	0.0012647	4.579E-05	0.99868951	Rt
EY-29-3_III_29_1	Alps (CH)	100.52	101.3	1517	nd	680	100	na	76	1554	1451	122	44	0.00097324	4.6644E-05	0.99898012	Rt
EY-29-3_III_30_1	Alps (CH)	100.03	100.83	1398	nd	351	17	na	0	3007	893	130	46	0.00252822	0.00010492	0.99736686	Rt
EY-29-4_II_1_1	Alps (CH)	99.81	100.6	1294	nd	654	123	na	125	1409	1755	94	40	0.0006451	5.8538E-05	0.99929636	Rt
EY-29-4_II_2_1	Alps (CH)	99.55	100.78	1180	nd	1175	1961	na	59	1197	3214	101	9	0.00012556	1.8326E-05	0.99985612	Rt
EY-29-4_II_3_1	Alps (CH)	98.93	99.76	1619	nd	744	191	na	24	1691	1494	109	22	0.00078245	4.2793E-05	0.99917476	Rt
EY-29-4_II_4_1	Alps (CH)	97.7	98.55	1581	nd	694	318	na	68	1358	1817	127	22	0.00075495	5.3932E-05	0.99919112	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
EY-29-4_II_5_1	Alps (CH)	99.46	100.12	226	nd	876	356	na	nd	1312	1822	66	23	0.00010759	5.2755E-06	0.99988713	Rt
EY-29-4_II_6_1	Alps (CH)	100.12	100.99	1817	nd	708	144	na	69	1627	1611	120	42	0.00084539	5.4141E-05	0.99910047	Rt
EY-29-4_II_7_1	Alps (CH)	97.79	98.7	2116	nd	467	169	na	48	2363	1208	130	38	0.00184192	0.00011468	0.99804339	Rt
EY-29-4_II_8_1	Alps (CH)	98.27	99.37	1605	nd	1434	190	na	40	1198	3062	125	48	0.00014843	1.3923E-05	0.99983765	Rt
EY-29-4_II_9_1	Alps (CH)	99.4	100.29	2051	nd	504	240	na	113	1996	1260	141	39	0.00183806	9.7876E-05	0.99806406	Rt
EY-29-4_II_10_1	Alps (CH)	100.4	101.26	1846	nd	481	274	na	22	2245	1135	144	37	0.00194258	8.5035E-05	0.99797238	Rt
EY-29-4_II_11_1	Alps (CH)	99.9	100.58	1399	nd	349	48	na	16	1523	1455	70	28	0.00164221	0.00029831	0.99805948	Rt
EY-29-4_II_12_1	Alps (CH)	100.25	101.19	1609	nd	835	297	na	31	1297	2370	125	40	0.00040153	4.1784E-05	0.99955668	Rt
EY-29-4_III_1_1	Alps (CH)	99.15	100.08	1698	nd	687	197	na	78	1935	1766	169	47	0.00067008	3.9731E-05	0.99929019	Rt
EY-29-4_III_2_1	Alps (CH)	97.36	98.32	1128	nd	875	133	na	40	1022	3327	144	52	0.00020656	2.9619E-05	0.99976382	Rt
EY-29-4_III_3_1	Alps (CH)	97.45	98.34	1774	nd	486	191	na	129	1782	1735	141	40	0.00107577	0.00011003	0.99881419	Rt
EY-29-4_III_4_1	Alps (CH)	99.12	99.95	999	nd	460	62	na	68	2097	2097	105	45	0.00040967	7.819E-05	0.99951214	Rt
EY-29-4_III_5_1	Alps (CH)	100.89	101.7	1186	nd	497	63	na	55	3058	859	110	65	0.00150503	4.2518E-05	0.99845245	Rt
EY-29-4_III_6_1	Alps (CH)	97.83	98.77	1471	nd	641	505	na	nd	1964	1963	152	13	0.00051188	4.4167E-05	0.99944395	Rt
EY-29-4_III_7_1	Alps (CH)	97.96	99.25	2893	nd	1342	898	na	nd	2048	1867	118	73	0.0003633	2.0154E-05	0.99961654	Rt
EY-29-4_III_7_2	Alps (CH)	99.77	100.76	2103	nd	921	104	na	nd	1810	1892	157	26	0.00052175	2.9172E-05	0.99944908	Rt
EY-29-4_III_7_3	Alps (CH)	99	99.96	1936	nd	1161	105	na	nd	1712	1680	143	34	0.00047614	1.6227E-05	0.99950764	Rt
EY-29-4_III_8_1	Alps (CH)	98.93	99.86	910	nd	967	79	na	13	794	3566	72	45	0.00013957	3.5508E-05	0.99982492	Rt
EY-29-4_III_9_1	Alps (CH)	98.63	99.44	937	nd	1277	250	na	23	1417	1649	162	71	0.00031348	5.6247E-06	0.9996809	Rt
EY-29-4_III_10_1	Alps (CH)	99.65	100.36	1452	nd	417	54	na	167	1880	969	107	32	0.00269136	0.00011372	0.99719493	Rt
EY-29-4_III_11_1	Alps (CH)	97.99	98.88	1992	nd	481	166	na	158	2331	1035	161	50	0.00243041	8.0742E-05	0.99748885	Rt
EY-29-4_III_12_1	Alps (CH)	99.27	100.15	1924	nd	540	138	na	88	1776	1567	159	51	0.00127179	8.3423E-05	0.99864479	Rt
EY-29-4_III_13_1	Alps (CH)	96.5	97.39	1862	nd	520	205	na	69	1995	1537	101	37	0.00103815	0.00011249	0.99884935	Rt
EY-29-4_III_14_1	Alps (CH)	99.25	100.07	1964	nd	518	187	na	123	1872	1005	145	53	0.0027612	8.0367E-05	0.99715843	Rt
EY-29-4_III_15_1	Alps (CH)	98.43	99.35	1662	nd	941	94	na	41	1301	2235	96	64	0.00036572	3.8648E-05	0.99959563	Rt
EY-29-4_III_16_1	Alps (CH)	99.96	100.78	1825	nd	598	119	na	95	1427	1506	123	51	0.0013174	8.2533E-05	0.99860006	Rt
EY-29-4_III_17_1	Alps (CH)	98.7	99.6	526	nd	604	240	na	32	1277	3436	147	44	0.00013457	2.5291E-05	0.99984014	Rt
EY-29-4_III_17_2	Alps (CH)	98.83	99.76	526	nd	636	220	na	31	1598	3354	115	24	9.9386E-05	2.3345E-05	0.99987727	Rt
EY-29-4_III_17_3	Alps (CH)	98.61	99.52	535	nd	652	248	na	58	1300	3401	151	47	0.00012637	2.0902E-05	0.99985272	Rt
EY-29-4_III_18_1	Alps (CH)	98.97	99.8	1471	nd	601	229	na	29	1196	2016	154	83	0.00083568	6.769E-05	0.99909663	Rt
EY-29-4_III_19_1	Alps (CH)	99.71	100.6	1822	nd	735	184	na	57	1337	1903	156	71	0.00078832	4.9552E-05	0.99916213	Rt
EY-29-4_III_20_1	Alps (CH)	99.23	100.1	1592	nd	740	305	na	129	1640	1559	127	49	0.00077858	3.9488E-05	0.99918193	Rt
EY-29-4_III_21_2	Alps (CH)	98.6	99.53	561	nd	1162	58	na	9	947	1602	46	18	0.00023915	1.163E-05	0.99974922	Rt
EY-29-4_III_22_1	Alps (CH)	98.38	99.27	1622	nd	598	356	na	20	2053	1611	107	28	0.0007274	6.682E-05	0.99920578	Rt
EY-29-4_III_23_1	Alps (CH)	98.61	99.39	1128	nd	821	85	na	27	1463	1770	148	37	0.00049463	2.0971E-05	0.9994844	Rt
EY-29-4_III_24_1	Alps (CH)	96.83	98.24	1476	nd	1747	381	na	86	4165	2209	169	19	6.9041E-05	2.8002E-06	0.99992816	Rt
EY-29-4_III_24_2	Alps (CH)	99.11	100.1	1413	nd	1618	315	na	116	1076	2204	141	59	0.00024252	7.6671E-06	0.99974981	Rt
EY-29-4_III_24_3	Alps (CH)	98.41	99.41	1476	nd	1753	244	na	136	1032	2131	119	49	0.00023945	7.6274E-06	0.99975292	Rt
EY-29-4_III_25_1	Alps (CH)	99.53	100.32	1974	nd	449	108	na	135	1796	929	135	58	0.00380201	0.00011699	0.996081	Rt
EY-29-4_III_26_1	Alps (CH)	97.63	98.5	1630	nd	634	190	na	141	1438	1880	134	67	0.00077707	6.5193E-05	0.99915774	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
EY-29-4_III_27_1	Alps (CH)	99.77	100.63	988	nd	968	79	na	3	1062	2752	99	40	0.00019953	2.3638E-05	0.99977683	Rt
EY-29-4_III_28_1	Alps (CH)	97.81	98.74	1715	nd	580	140	na	151	1223	2509	152	23	0.00064651	9.6381E-05	0.99925711	Rt
EY-29-4_III_29_1	Alps (CH)	97.93	98.64	377	nd	671	204	na	nd	988	2609	136	42	0.00018698	1.4537E-05	0.99979848	Rt
EY-29-4_III_30_1	Alps (CH)	98.39	99.25	1118	nd	476	58	na	30	2991	1420	127	46	0.00065893	4.9876E-05	0.99929119	Rt
EY-29-5_II_1	Alps (CH)	97.9	98.85	2220	nd	615	187	na	32	2192	1383	101	32	0.0010884	8.4934E-05	0.99882667	Rt
EY-29-5_II_2_1	Alps (CH)	100.3	101.08	1455	nd	547	50	na	10	2407	1021	138	nd	0.00156205	4.5311E-05	0.99839264	Rt
EY-29-5_II_3_2	Alps (CH)	99.04	100.05	2010	nd	957	385	na	129	1325	2098	142	52	0.00051907	3.3831E-05	0.9994471	Rt
EY-29-5_II_4_2	Alps (CH)	98.7	99.53	1098	nd	452	55	na	7	3039	1296	118	nd	0.00078009	5.5251E-05	0.99916466	Rt
EY-29-5_II_6_1	Alps (CH)	99.49	100.23	1484	nd	401	22	na	8	1275	1269	120	65	0.00263215	0.00016419	0.99720366	Rt
EY-29-5_II_7	Alps (CH)	93.46	94.38	1462	nd	770	164	na	nd	989	2716	109	151	0.00039437	6.1278E-05	0.99954435	Rt
EY-29-5_II_8_2	Alps (CH)	98.2	98.97	910	nd	1274	12	na	11	753	2193	146	30	0.00032153	9.4654E-06	0.999669	Rt
EY-29-5_II_10_1	Alps (CH)	97.46	98.17	1375	nd	285	285	na	39	2037	853	55	138	0.00371988	0.00037354	0.99590658	Rt
EY-29-5_II_11_3	Alps (CH)	97.5	98.28	1327	nd	478	139	na	31	1596	1796	109	46	0.00083981	0.0001056	0.99905459	Rt
EY-29-5_II_12_1	Alps (CH)	98.28	99.87	2416	nd	848	113	na	81	1071	3443	3186	69	0.00094462	8.4668E-06	0.99904691	Rt
EY-29-5_II_13_2	Alps (CH)	98.62	99.42	2065	nd	402	nd	na	13	1408	1693	107	4	0.00178055	0.00027955	0.9979399	Rt
EY-29-5_II_13_3	Alps (CH)	97.33	99.17	6923	nd	399	389	na	89	2752	2353	93	30	0.00130077	0.00102537	0.99767386	Rt
EY-29-5_II_14	Alps (CH)	99.14	100.26	2754	nd	118	580	na	62	2840	1146	171	294	0.01066172	0.00270233	0.98663595	Rt
EY-29-5_II_15	Alps (CH)	97.78	98.81	1982	nd	2811	99	na	nd	951	1245	106	13	0.00047846	3.248E-06	0.99951829	Rt
EY-29-5_II_17	Alps (CH)	99.01	99.96	2752	nd	707	41	na	97	1821	897	272	91	0.00388143	3.5818E-05	0.99608276	Rt
EY-29-5_II_18	Alps (CH)	99.76	100.17	172	nd	557	nd	na	35	1677	517	38	nd	0.00091489	8.1798E-06	0.99907693	Rt
EY-29-5_II_22	Alps (CH)	100.28	100.93	1554	nd	424	nd	na	47	1995	619	74	3	0.00518822	0.00012238	0.9946894	Rt
EY-29-5_II_24	Alps (CH)	99.18	100.12	2131	nd	432	160	na	24	2141	1589	196	60	0.00155243	0.00012305	0.99832452	Rt
EY-29-5_II_25	Alps (CH)	98.98	99.78	1137	nd	489	78	na	65	2834	1118	67	38	0.000848	6.9961E-05	0.99908204	Rt
EY-29-5_II_26	Alps (CH)	99.38	100.27	991	nd	417	nd	na	nd	1300	2200	1394	43	0.00150241	2.0559E-05	0.99847703	Rt
EY-29-5_II_27	Alps (CH)	98.55	99.33	192	nd	126	nd	na	24	924	2087	2098	117	0.00280975	4.2553E-05	0.9971477	Rt
EY-29-5_II_28	Alps (CH)	98.91	100.09	2806	nd	1134	764	na	50	1506	1794	285	64	0.00081536	1.7877E-05	0.99916676	Rt
EY-29-5_II_29	Alps (CH)	98.66	100.45	1712	nd	1314	236	na	nd	407	5756	3165	20	0.00043334	4.4212E-06	0.99956224	Rt
EY-29-5_II_30	Alps (CH)	99.88	100.78	1754	nd	713	102	na	9	1637	2016	198	17	0.00063971	3.9325E-05	0.99932096	Rt
EY-29-5_II_23	Alps (CH)	99.97	100.84	1853	nd	722	126	na	28	1818	1477	74	47	0.00075615	6.761E-05	0.99917624	Rt
EY-29-6_II_1_1	Alps (CH)	99.87	100.35	108	nd	64	11	na	nd	1506	1064	443	204	0.0049322	0.00017885	0.99488895	Rt
EY-29-6_II_2_1	Alps (CH)	100.06	101.03	378	nd	2290	27	na	nd	588	2457	993	63	0.00016096	2.6923E-07	0.99983877	Rt
EY-29-6_II_3_1	Alps (CH)	99.7	100.54	1794	nd	963	200	na	11	1363	1362	172	100	0.00105731	2.0789E-05	0.9989219	Rt
EY-29-6_II_4	Alps (CH)	99.54	100.32	890	nd	1074	69	na	104	1284	611	98	922	0.00200303	7.7547E-06	0.99798922	Rt
EY-29-6_II_5_1	Alps (CH)	98.46	99.15	192	nd	2285	168	na	23	877	612	319	267	0.00054552	1.2056E-07	0.99945436	Rt
EY-29-6_II_6	Alps (CH)	97.79	98.57	1760	nd	491	132	na	39	1648	1321	172	nd	0.00197	8.5715E-05	0.99794429	Rt
EY-29-6_II_7	Alps (CH)	98.31	98.98	778	nd	1422	58	na	nd	891	1436	135	nd	0.00044668	4.898E-06	0.99954842	Rt
EY-29-6_II_8	Alps (CH)	90.68	91.64	2709	nd	413	203	na	139	1840	1397	147	13	0.00259145	0.00022792	0.99718063	Rt
EY-29-6_II_9_1	Alps (CH)	100.38	101.26	1651	nd	756	310	na	113	1527	1761	162	7	0.0007272	3.6177E-05	0.99923662	Rt
EY-29-6_II_10	Alps (CH)	99.42	100.57	2963	nd	803	178	na	201	1497	1882	224	246	0.00107164	5.1468E-05	0.99887689	Rt
EY-29-6_II_13_1	Alps (CH)	99.91	100.62	1943	nd	304	nd	na	81	2552	253	25	38	0.02431399	0.00043079	0.97525522	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
EY-29-6_II_14_1	Alps (CH)	101.11	101.82	1275	nd	1345	42	na	27	1446	665	223	nd	0.00206007	3.7933E-06	0.99793614	Rt
EY-29-6_II_15	Alps (CH)	99.35	100.28	2238	nd	200	700	na	92	2642	687	175	25	0.0134431	0.00051287	0.98604403	Rt
EY-29-6_II_16	Alps (CH)	99.26	99.81	169	nd	157	11	na	11	1040	1911	520	99	0.00132799	5.3643E-05	0.99861836	Rt
EY-29-6_II_17_1	Alps (CH)	99.79	100.3	268	nd	77	40	na	107	1397	1169	437	121	0.00726879	0.0003687	0.99236251	Rt
EY-29-6_II_18_1	Alps (CH)	98.29	99.83	4001	nd	611	961	na	62	1806	3296	231	14	0.00057416	0.00015462	0.99927121	Rt
EY-29-6_II_19_1	Alps (CH)	101.15	102.09	1954	nd	694	87	na	113	2045	1702	125	nd	0.00067938	5.4079E-05	0.99926654	Rt
EY-29-6_II_20_1	Alps (CH)	98.98	100.56	1205	nd	412	242	na	19	1309	2220	5941	109	0.00276496	9.4623E-06	0.99722558	Rt
EY-29-6_II_21_1	Alps (CH)	100.04	101.34	3339	nd	1065	1037	na	104	2724	918	254	1	0.00183565	1.4775E-05	0.99814957	Rt
EY-29-6_II_22_1	Alps (CH)	100.67	101.42	740	nd	420	nd	na	30	1376	2519	52	115	0.00030594	0.00015336	0.9995407	Rt
EY-29-6_II_23_1	Alps (CH)	100.02	100.94	1634	nd	658	302	na	221	1526	1976	161	4	0.00068603	5.2055E-05	0.99926192	Rt
EY-29-6_II_24_1	Alps (CH)	100.34	101.27	1697	nd	767	283	na	33	1556	2161	115	nd	0.00044616	4.9863E-05	0.99950397	Rt
EY-29-6_II_25_1	Alps (CH)	99.52	101.57	7551	nd	248	250	na	193	4960	985	565	25	0.01155562	0.00046254	0.98798184	Rt
EY-29-6_II_26	Alps (CH)	100.94	101.82	1994	nd	558	61	na	91	1605	1537	206	108	0.00155766	7.0335E-05	0.99837201	Rt
EY-29-6_II_27	Alps (CH)	100.59	101.45	1948	nd	545	291	na	141	1576	1477	133	nd	0.00148914	9.7973E-05	0.99841288	Rt
EY-29-6_II_28	Alps (CH)	99.79	101.56	5412	nd	573	1168	na	143	3279	1969	218	nd	0.00110124	0.00015265	0.99874611	Rt
EY-29-6_II_29	Alps (CH)	99.6	100.7	2730	nd	477	482	na	39	2023	1947	144	6	0.00111616	0.00018343	0.99870041	Rt
EY-29-6_II_30	Alps (CH)	100.37	100.99	1231	nd	617	60	na	38	1191	1090	100	44	0.0018477	5.3956E-05	0.99809835	Rt
EY-29-7_II_1_1	Alps (CH)	100.34	101.05	1253	nd	481	70	na	37	2002	1146	83	54	0.00131851	8.5701E-05	0.99859578	Rt
EY-29-7_II_2_1	Alps (CH)	98.41	99.91	1391	nd	1091	417	na	nd	738	4330	2566	43	0.00040666	3.9318E-06	0.99958941	Rt
EY-29-7_II_3_1	Alps (CH)	99.53	100.58	2526	nd	978	198	na	2	1632	1823	194	91	0.00070751	2.8195E-05	0.9992643	Rt
EY-29-7_II_4_1	Alps (CH)	100.06	101.39	3030	nd	1497	380	na	nd	1287	2300	843	51	0.00066743	5.7802E-06	0.99932679	Rt
EY-29-7_II_5_1	Alps (CH)	99.83	100.67	2036	nd	499	181	na	8	2147	1034	115	60	0.00229984	0.00010114	0.99759902	Rt
EY-29-7_II_6_1	Alps (CH)	101.13	101.83	1612	nd	393	101	na	18	1700	1022	56	98	0.00252588	0.0002528	0.99722132	Rt
EY-29-7_II_7_1	Alps (CH)	100.43	101.27	1484	nd	798	184	na	65	1333	1860	150	34	0.00063257	3.288E-05	0.99933455	Rt
EY-29-7_II_8_1	Alps (CH)	101.06	101.73	1360	nd	378	100	na	nd	1645	1188	19	91	0.00128704	0.00053238	0.99818058	Rt
EY-29-7_II_9	Alps (CH)	100.59	101.66	1016	60	181	85	na	866	1757	280	13	2067	0.02523255	0.00137061	0.97339685	Rt
EY-29-7_II_10_1	Alps (CH)	97.38	98.94	1979	78	887	181	na	1320	1388	1496	272	1985	0.00120692	2.0983E-05	0.9987721	Rt
EY-29-7_II_11_1	Alps (CH)	100.26	101.69	992	nd	1576	67	na	6	676	3480	3363	7	0.00036186	8.9128E-07	0.99963725	Rt
EY-29-7_II_12	Alps (CH)	100.49	101.52	3009	nd	489	120	na	123	2307	1031	148	77	0.00324213	0.00013402	0.99662385	Rt
EY-29-7_II_14_1	Alps (CH)	99.52	101.35	2177	nd	613	334	na	33	1390	2867	4892	576	0.00157036	9.3508E-06	0.99842029	Rt
EY-29-7_II_15_1	Alps (CH)	98.08	99.27	973	19	285	1430	na	374	1978	843	114	1678	0.00378562	0.00015021	0.99606417	Rt
EY-29-7_II_16	Alps (CH)	99.33	100.73	200	nd	3670	3334	na	10	793	1864	196	47	4.2413E-05	1.0238E-07	0.99995748	Rt
EY-29-7_II_17_1	Alps (CH)	99.96	101.75	6746	nd	603	19	na	176	3483	1411	282	11	0.00229254	0.00012215	0.99758531	Rt
EY-29-7_II_18_1	Alps (CH)	100.36	101.18	797	nd	1525	1075	na	60	1614	624	246	26	0.0012999	1.3993E-06	0.9986987	Rt
EY-29-7_II_19_1	Alps (CH)	99.91	100.68	531	nd	1027	203	na	2	672	2856	147	3	0.00018814	9.8765E-06	0.99980198	Rt
EY-29-7_II_20_1	Alps (CH)	100.8	101.39	909	nd	366	41	na	43	1674	1019	137	19	0.00239686	8.1403E-05	0.99752174	Rt
EY-29-7_II_21	Alps (CH)	99.63	101.3	4058	nd	626	504	na	48	2267	3030	1341	47	0.00093854	3.6135E-05	0.99902533	Rt
EY-29-7_II_22	Alps (CH)	99.72	101.45	3255	nd	763	933	na	51	1983	2399	3035	28	0.00141648	9.6178E-06	0.99857391	Rt
EY-29-7_II_23	Alps (CH)	100.31	101.09	1562	nd	1108	34	na	32	1405	1316	38	24	0.00051452	3.6262E-05	0.99944921	Rt
EY-29-7_II_24	Alps (CH)	99.1	100.78	2643	nd	636	526	na	38	1651	2793	3212	357	0.00136368	1.3055E-05	0.99862327	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
EY-29-7_II_25	Alps (CH)	97.58	100.33	10835	nd	558	371	na	224	5978	1472	214	25	0.00185185	0.00023337	0.99791478	Rt
EY-29-7_II_26	Alps (CH)	101.89	102.71	2040	nd	532	49	na	35	1206	1713	70	55	0.00126823	0.00021362	0.99851815	Rt
EY-29-7_II_27	Alps (CH)	101.2	101.77	662	nd	68	nd	na	78	1642	900	543	148	0.0243044	0.00097103	0.97472457	Rt
EY-29-7_II_28	Alps (CH)	99.04	99.75	1102	nd	593	78	na	26	1417	1740	152	5	0.00075102	4.2943E-05	0.99920603	Rt
EY-29-7_II_29	Alps (CH)	97.76	98.22	125	nd	396	24	na	8	1534	864	178	158	0.00075276	5.4311E-06	0.99924181	Rt
EY-29-7_II_30	Alps (CH)	100.37	101.15	790	nd	478	42	na	53	1140	2056	965	3	0.0012241	1.5615E-05	0.99876028	Rt
EY-29-16_II_1_1	Alps (CH)	97.72	98.36	122	nd	758	147	na	nd	1582	1806	105	41	7.8086E-05	2.3154E-06	0.9999196	Rt
EY-29-16_II_2_1	Alps (CH)	100.8	101.36	365	nd	380	199	na	21	1924	1095	91	35	0.00077027	3.2887E-05	0.99919684	Rt
EY-29-16_II_3_1	Alps (CH)	98.92	99.69	86	nd	177	nd	na	nd	3995	1327	100	57	0.00022182	2.4114E-05	0.99975406	Rt
SAB-04-S299_IIb_1_1	Alps (CH)	98.86	99.48	1098	nd	138	13	60	143	1765	876	120	151	0.01085166	0.00142702	0.98772132	Rt
SAB-04-S299_IIb_1_2	Alps (CH)	98.36	99.1	609	nd	133	244	65	272	2868	833	107	194	0.00471863	0.00056766	0.99471371	Rt
SAB-04-S299_IIb_1_3	Alps (CH)	98.77	99.3	585	nd	156	30	51	101	1969	807	113	25	0.00634285	0.0006203	0.99303684	Rt
SAB-04-S299_IIb_2_1	Alps (CH)	98.67	99.48	1173	nd	864	90	15	14	1079	2275	101	20	0.00064346	0.00037081	0.99898573	Rt
SAB-04-S299_IIb_3	Alps (CH)	98.23	99.07	1595	nd	554	230	121	29	2152	1098	87	165	0.0011963	4.0406E-05	0.99876329	Rt
SAB-04-S299_IIb_4_1	Alps (CH)	98.45	99.28	454	nd	95	197	67	151	3913	1214	115	1	0.00213521	0.00079214	0.99707265	Rt
SAB-04-S299_IIb_4_2	Alps (CH)	97.88	98.54	446	nd	109	193	30	148	2581	1162	104	9	0.00366683	0.00238122	0.99395195	Rt
SAB-04-S299_IIb_4_3	Alps (CH)	98.27	99.02	521	nd	91	315	55	174	2936	1248	113	30	0.00329453	0.00163911	0.99506636	Rt
SAB-04-S299_IIb_5_1	Alps (CH)	98.94	99.63	852	nd	820	126	63	61	1639	1281	124	20	0.00065297	1.9432E-05	0.99932759	Rt
SAB-04-S299_IIb_6_1	Alps (CH)	97.82	98.91	213	nd	719	846	46	nd	5458	854	81	nd	0.00017027	4.7764E-06	0.99982495	Rt
SAB-04-S299_IIb_6_2	Alps (CH)	97.34	98.28	213	nd	686	1044	27	nd	4153	855	126	4	0.00032088	9.765E-06	0.99966936	Rt
SAB-04-S299_IIb_6_3	Alps (CH)	97.21	98.14	225	nd	632	1208	41	nd	3821	916	133	nd	0.00030863	7.1561E-06	0.99968422	Rt
SAB-04-S299_IIb_7_1	Alps (CH)	99.37	100.19	1370	nd	499	81	53	18	2460	1388	90	9	0.00093828	0.00014213	0.99891959	Rt
SAB-04-S299_IIb_8	Alps (CH)	99.68	100.44	586	nd	401	120	4	468	2528	1175	87	19	0.00198478	0.00339203	0.99462319	Rt
SAB-04-S299_IIb_9_1	Alps (CH)	98.49	100.02	1710	nd	549	2947	102	207	3556	2077	80	nd	0.00026502	6.0633E-05	0.99967435	Rt
SAB-04-S299_IIb_9_2	Alps (CH)	98.76	100.39	1753	nd	496	3143	106	753	3329	2127	46	nd	0.00025463	0.00011603	0.99962934	Rt
SAB-04-S299_IIb_9_3	Alps (CH)	98.8	100.58	1950	nd	507	4058	45	274	4108	2151	63	nd	0.00032446	0.00030701	0.99936853	Rt
SAB-04-S299_IIb_10_1	Alps (CH)	99.95	100.85	1506	nd	523	104	88	28	2634	1540	37	42	0.00046918	0.00012996	0.99940086	Rt
SAB-04-S299_IIb_10_2	Alps (CH)	99.81	101.01	2862	nd	962	187	118	48	2751	1544	140	nd	0.0005141	1.6683E-05	0.99946922	Rt
SAB-04-S299_IIb_10_3	Alps (CH)	100	101.15	2603	nd	994	102	132	49	2632	1538	197	15	0.00051894	9.4517E-06	0.99947161	Rt
SAB-04-S299_IIb_11_1	Alps (CH)	99.81	100.48	406	nd	618	40	39	151	2551	930	101	20	0.00065822	2.4733E-05	0.99931704	Rt
SAB-04-S299_IIb_12_1	Alps (CH)	98.81	100	1985	nd	567	1260	521	73	2459	1725	141	nd	0.00038275	4.8285E-06	0.99961242	Rt
SAB-04-S299_IIb_12_2	Alps (CH)	98.21	99.6	2868	nd	612	1396	526	93	2648	1858	117	12	0.00035786	6.942E-06	0.99963519	Rt
SAB-04-S299_IIb_12_3	Alps (CH)	98.63	99.89	2274	nd	701	1389	575	66	2257	1770	154	22	0.00034407	2.9931E-06	0.99965294	Rt
SAB-04-S299_IIb_13	Alps (CH)	99.41	100.29	318	nd	852	454	336	nd	3248	1155	114	17	0.00010109	3.4936E-07	0.99989856	Rt
SAB-04-S299_IIb_14	Alps (CH)	98.65	99.43	814	nd	68	187	50	15	3092	1391	109	18	0.00514764	0.0064504	0.98840195	Rt
SAB-04-S299_IIb_15	Alps (CH)	98.46	99.64	1984	nd	414	427	134	nd	4826	874	147	1	0.00159443	3.5137E-05	0.99837043	Rt
SAB-04-S299_IIb_16	Alps (CH)	98.45	99.09	264	nd	551	91	35	111	2029	1378	130	28	0.00037154	2.5673E-05	0.99960279	Rt
SAB-04-S299_IIb_17	Alps (CH)	99.84	100.64	1843	nd	430	79	192	41	2260	782	61	35	0.00236243	4.7727E-05	0.99758985	Rt
SAB-04-S299_IIb_18	Alps (CH)	99.1	100.02	1496	nd	486	218	121	146	2895	1171	81	12	0.00087294	4.6581E-05	0.99908048	Rt
SAB-04-S299_IIb_19	Alps (CH)	98.55	99.22	847	nd	546	nd	45	68	1547	1563	84	31	0.00075414	0.00011928	0.99912658	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
SAB-04-S299_IIb_20	Alps (CH)	98.82	99.84	931	nd	133	1328	18	201	4313	614	96	nd	0.01154404	0.00442943	0.98402653	Rt
SAB-04-S299_IIb_21	Alps (CH)	98.73	99.69	848	nd	740	604	42	307	3406	959	92	3	0.00064884	3.1932E-05	0.99931923	Rt
SAB-04-S299_IIb_22	Alps (CH)	99.29	100.21	1202	nd	816	9	42	402	2567	1375	93	15	0.00052199	5.1971E-05	0.99942604	Rt
SAB-04-S299_IIb_23	Alps (CH)	97.4	98.53	1477	nd	392	542	265	12	4623	1028	90	nd	0.00070816	1.6473E-05	0.99927537	Rt
SAB-04-S299_IIb_25	Alps (CH)	97.63	98.45	981	nd	840	nd	38	201	2447	1251	55	30	0.00046695	6.343E-05	0.99946962	Rt
SAB-04-S299_IIb_26	Alps (CH)	98.14	99.3	2208	nd	419	690	96	65	3403	1425	155	nd	0.00112954	9.057E-05	0.99877989	Rt
SAB-04-S299_IIb_27	Alps (CH)	98.4	99.52	3232	nd	453	208	110	44	3237	767	87	18	0.00346619	0.00011469	0.99641911	Rt
SAB-04-S299_IIb_28	Alps (CH)	96.57	98.27	2418	nd	4674	891	728	45	1355	1631	292	27	8.9384E-05	2.3073E-08	0.99991059	Rt
SAB-04-S299_IIb_29	Alps (CH)	100.32	101.08	816	nd	376	77	24	55	3346	759	112	34	0.00269714	0.00025951	0.99704335	Rt
SAB-04-S299_IIb_30	Alps (CH)	99.5	100.43	1745	nd	624	200	280	64	2326	1359	132	nd	0.0006092	7.941E-06	0.99938286	Rt
SAB-04-S299_IIb_31	Alps (CH)	98.48	99.4	2034	nd	316	699	154	65	1817	1512	61	1	0.0014728	0.00022571	0.99830149	Rt
SAB-04-S299_IIb_32	Alps (CH)	97.91	99.65	5079	nd	2668	331	143	234	2253	1373	155	21	0.00036338	2.3043E-06	0.99963432	Rt
SAB-04-S300_IIb_1_1	Alps (CH)	99.23	100.19	235	nd	538	143	35	nd	3897	2143	90	nd	7.6802E-05	2.5913E-05	0.99989729	Rt
SAB-04-S300_IIb_1_2	Alps (CH)	99.41	100.39	271	nd	565	160	32	nd	3951	2168	58	14	7.0213E-05	4.2394E-05	0.99988739	Rt
SAB-04-S300_IIb_1_3	Alps (CH)	98.25	99.48	733	nd	630	1212	53	nd	4030	2252	169	6	0.00014556	2.3915E-05	0.99983053	Rt
SAB-04-S300_IIb_2_1	Alps (CH)	99.08	99.79	124	nd	248	251	32	241	2623	1506	72	10	0.00029232	0.00010513	0.99960255	Rt
SAB-04-S300_IIb_2_2	Alps (CH)	98.91	99.63	112	nd	257	230	59	265	2637	1523	55	22	0.00018748	4.3175E-05	0.99976934	Rt
SAB-04-S300_IIb_2_3	Alps (CH)	98.92	99.68	117	nd	282	234	18	426	2778	1514	64	1	0.00026713	0.00017657	0.99955629	Rt
SAB-04-S300_IIb_3_1	Alps (CH)	98.19	99.11	1479	nd	862	330	34	28	2096	1652	119	nd	0.00058415	8.0444E-05	0.9993354	Rt
SAB-04-S300_IIb_3_2	Alps (CH)	98.82	99.68	1201	nd	654	293	76	36	2079	1660	108	39	0.00049677	4.0418E-05	0.99946282	Rt
SAB-04-S300_IIb_3_3	Alps (CH)	98.58	99.48	1528	nd	466	350	41	59	2171	1801	117	nd	0.00092627	0.00027271	0.99880102	Rt
SAB-04-S300_IIb_4	Alps (CH)	99.38	100.18	507	nd	519	132	4	nd	4040	608	167	35	0.00343874	0.00057506	0.9959862	Rt
SAB-04-S300_IIb_5_1	Alps (CH)	97.5	98.47	1937	nd	787	511	202	46	2104	1271	110	18	0.00066409	9.8176E-06	0.99932609	Rt
SAB-04-S300_IIb_5_2	Alps (CH)	97.65	98.53	1574	nd	718	290	263	27	2140	1253	96	10	0.00055305	7.0634E-06	0.99943988	Rt
SAB-04-S300_IIb_5_3	Alps (CH)	97.76	98.69	1748	nd	751	492	162	20	2058	1323	127	31	0.00069538	1.2406E-05	0.99929222	Rt
SAB-04-S300_IIb_6_1	Alps (CH)	98.35	99.4	2378	nd	278	541	143	102	3052	967	142	nd	0.00354406	0.000137	0.99631894	Rt
SAB-04-S300_IIb_6_2	Alps (CH)	98.01	99.19	2993	nd	240	378	131	142	3323	1147	164	33	0.0036761	0.00026484	0.99605907	Rt
SAB-04-S300_IIb_6_3	Alps (CH)	98.43	99.62	3239	nd	289	382	124	121	3230	1065	175	1	0.00386521	0.0001921	0.99594269	Rt
SAB-04-S300_IIb_7_1	Alps (CH)	97.58	98.54	878	nd	302	417	64	26	4110	1164	147	13	0.00109342	0.00010113	0.99880545	Rt
SAB-04-S300_IIb_7_2	Alps (CH)	97.78	98.73	947	nd	289	405	69	41	3946	1207	138	nd	0.0011317	0.00011926	0.99874903	Rt
SAB-04-S300_IIb_7_3	Alps (CH)	97.4	98.44	956	nd	274	431	55	15	4704	1192	99	25	0.00102197	0.00021611	0.99876192	Rt
SAB-04-S300_IIb_8_1	Alps (CH)	97.8	98.78	1653	nd	488	183	120	11	2014	2393	129	4	0.00042842	6.2872E-05	0.99950871	Rt
SAB-04-S300_IIb_10_1	Alps (CH)	97.62	98.7	2123	nd	717	768	122	47	2506	1314	171	23	0.00087205	1.886E-05	0.99910909	Rt
SAB-04-S300_IIb_11_1	Alps (CH)	98.22	99.12	1791	nd	693	198	142	44	2206	1273	131	32	0.00082382	1.7203E-05	0.99915897	Rt
SAB-04-S300_IIb_12_1	Alps (CH)	98.77	99.59	1999	nd	675	104	104	23	2141	789	112	1	0.0023598	3.0047E-05	0.99761015	Rt
SAB-04-S300_IIb_12_2	Alps (CH)	99.34	100.31	2221	nd	785	315	187	38	2464	845	138	52	0.0014628	8.4516E-06	0.99852875	Rt
SAB-04-S300_IIb_12_3	Alps (CH)	99.23	100.44	2571	nd	861	1024	262	14	3108	815	145	40	0.00114613	4.1597E-06	0.99884971	Rt
SAB-04-S300_IIb_13	Alps (CH)	97.67	98.65	1840	nd	457	265	228	11	3160	1128	102	1	0.00093446	2.1821E-05	0.99904372	Rt
SAB-04-S300_IIb_14	Alps (CH)	98.16	99.5	4166	nd	553	207	161	78	3182	1244	64	nd	0.00114674	8.7153E-05	0.99876611	Rt
SAB-04-S300_IIb_15	Alps (CH)	97.86	99.05	2136	nd	3493	nd	70	nd	736	1683	132	17	0.00032927	2.8704E-06	0.99966786	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
SAB-04-S300_IIb_16	Alps (CH)	97.83	98.95	2068	nd	349	589	107	12	4309	775	117	13	0.00275799	8.9971E-05	0.99715204	Rt
SAB-04-S300_IIb_17	Alps (CH)	100.04	100.71	717	nd	609	106	48	198	2635	511	32	25	0.00187788	6.3175E-05	0.99805895	Rt
SAB-04-S300_IIb_19	Alps (CH)	99.27	100.3	2128	nd	623	120	148	74	3753	506	154	1	0.00348052	1.1249E-05	0.99650823	Rt
SAB-04-S300_IIb_20	Alps (CH)	99.43	100.29	1349	nd	502	242	113	62	2703	1209	94	nd	0.00084081	4.0054E-05	0.99911913	Rt
SAB-04-S300_IIb_21	Alps (CH)	98.26	99.28	1462	nd	516	1222	84	142	2012	1790	118	18	0.00067637	7.5249E-05	0.99924838	Rt
SAB-04-S300_IIb_22	Alps (CH)	99	100.31	2351	60	864	499	285	571	2166	1474	55	606	0.00036762	1.0375E-05	0.99962201	Rt
SAB-04-S300_IIb_23	Alps (CH)	99.88	100.98	1519	nd	480	500	214	3	5004	407	84	26	0.00293878	9.7326E-06	0.99705149	Rt
SAB-04-S300_IIb_24	Alps (CH)	99.59	100.36	250	nd	599	412	101	nd	3730	636	69	nd	0.00041176	3.446E-06	0.99958479	Rt
SAB-04-S300_IIb_25	Alps (CH)	98.51	99.69	3128	nd	675	416	175	6	2478	1556	93	28	0.00068134	3.3856E-05	0.99928481	Rt
SAB-04-S300_IIb_26	Alps (CH)	99.15	100.23	2504	nd	452	197	35	6	4365	328	104	nd	0.01535921	0.0002275	0.9844133	Rt
SAB-04-S300_IIb_27	Alps (CH)	98.82	99.68	1857	nd	538	143	195	92	2465	903	61	nd	0.00131115	2.8461E-05	0.99866039	Rt
SAB-04-S300_IIb_28	Alps (CH)	100.83	101.73	1622	nd	655	143	191	41	3342	515	61	30	0.00195473	1.0504E-05	0.99803476	Rt
SAB-04-S300_IIb_30	Alps (CH)	97.7	98.8	2247	nd	669	225	117	33	3960	736	118	17	0.00162881	1.9718E-05	0.99835148	Rt
SAB-04-S300_IIb_31	Alps (CH)	100.4	101.18	1302	nd	535	105	25	45	2966	644	98	nd	0.003676	0.00020429	0.99611971	Rt
SAB-04-S300_IIb_33	Alps (CH)	98.19	99.63	1854	1354	368	534	193	52	3608	697	175	962	0.00315497	2.3684E-05	0.99682135	Rt
SAB-04-S300_IIb_36	Alps (CH)	97.48	98.55	1877	nd	645	167	36	nd	4214	788	155	30	0.00203302	7.7946E-05	0.99788903	Rt
SAB-04-S300_IIb_37	Alps (CH)	98.83	100.15	3262	nd	252	419	180	9	4107	1332	81	16	0.00166911	0.00025962	0.99807127	Rt
SAB-04-S301_IIb_1_1	Alps (CH)	97.82	99.13	2272	nd	323	948	195	45	4715	1041	159	nd	0.00157668	4.3987E-05	0.99837934	Rt
SAB-04-S301_IIb_1_2	Alps (CH)	96.91	98.17	2293	nd	301	802	155	65	4478	1075	151	nd	0.0018143	7.8885E-05	0.99810682	Rt
SAB-04-S301_IIb_1_3	Alps (CH)	98.3	99.37	1412	nd	385	1223	150	52	3857	866	76	nd	0.0012945	4.2846E-05	0.99866265	Rt
SAB-04-S301_IIb_2_1	Alps (CH)	98.71	99.66	898	nd	166	102	25	6	3833	1839	99	nd	0.00125575	0.00269277	0.99605148	Rt
SAB-04-S301_IIb_2_2	Alps (CH)	98.85	99.75	419	nd	144	nd	37	5	4130	1784	121	14	0.0007522	0.00071814	0.99852967	Rt
SAB-04-S301_IIb_2_3	Alps (CH)	98.82	99.74	679	nd	234	46	4	nd	3844	1851	121	nd	0.00135854	0.01061618	0.98802527	Rt
SAB-04-S301_IIb_3_1	Alps (CH)	98.5	99.3	1442	nd	677	139	162	133	2334	789	78	8	0.00128696	1.3273E-05	0.99869977	Rt
SAB-04-S301_IIb_4_1	Alps (CH)	96.95	98.15	2210	nd	505	547	179	41	4400	799	152	11	0.00161843	1.6391E-05	0.99836518	Rt
SAB-04-S301_IIb_4_2	Alps (CH)	98.51	99.62	1809	nd	486	513	147	23	4375	740	156	nd	0.00180273	1.7937E-05	0.99817933	Rt
SAB-04-S301_IIb_4_3	Alps (CH)	98.33	99.55	2257	nd	637	616	184	28	4421	708	156	nd	0.00156194	8.7649E-06	0.9984293	Rt
SAB-04-S301_IIb_5_1	Alps (CH)	98.38	99.43	994	nd	204	906	136	nd	4748	755	153	nd	0.00275805	7.2559E-05	0.9971694	Rt
SAB-04-S301_IIb_6_1	Alps (CH)	98.81	99.62	1318	nd	528	220	118	104	2271	1171	81	nd	0.00091141	3.9356E-05	0.99904924	Rt
SAB-04-S301_IIb_6_2	Alps (CH)	98.65	99.53	1542	nd	445	226	92	85	2660	1173	133	21	0.0013746	6.473E-05	0.99856067	Rt
SAB-04-S301_IIb_6_3	Alps (CH)	98.83	99.62	1271	nd	458	113	146	71	2389	1202	35	41	0.00067051	6.889E-05	0.9992606	Rt
SAB-04-S301_IIb_7_1	Alps (CH)	98.7	99.48	1499	nd	437	124	59	23	2525	867	109	nd	0.0027016	0.00012876	0.99716964	Rt
SAB-04-S301_IIb_7_2	Alps (CH)	99.01	99.91	2026	nd	393	201	38	35	2812	918	133	nd	0.003898	0.00036934	0.99573266	Rt
SAB-04-S301_IIb_7_3	Alps (CH)	99.05	99.86	1511	nd	413	186	59	15	2705	900	100	nd	0.00247281	0.00015406	0.99737313	Rt
SAB-04-S301_IIb_8_1	Alps (CH)	98.15	99.21	373	nd	380	355	37	nd	5172	1414	142	3	0.00029797	4.731E-05	0.99965473	Rt
SAB-04-S301_IIb_8_2	Alps (CH)	98.53	99.62	375	nd	379	435	39	nd	5607	1279	58	42	0.00024467	7.6833E-05	0.9996785	Rt
SAB-04-S301_IIb_8_3	Alps (CH)	98.74	99.85	382	nd	396	603	49	nd	5596	1264	58	nd	0.00022318	5.0835E-05	0.99972598	Rt
SAB-04-S301_IIb_9_1	Alps (CH)	98.85	99.82	1905	nd	466	393	222	50	3652	406	85	17	0.0048187	1.5171E-05	0.99516613	Rt
SAB-04-S301_IIb_10_1	Alps (CH)	98.86	99.75	1532	nd	544	854	166	18	2245	1064	109	5	0.00115976	2.0919E-05	0.99881932	Rt
SAB-04-S301_IIb_11	Alps (CH)	99.47	100.25	2120	nd	590	81	158	197	1614	671	113	5	0.00431729	2.6013E-05	0.9956567	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
SAB-04-S301_IIb_12	Alps (CH)	99.65	100.58	1325	nd	474	287	235	nd	4140	406	64	nd	0.00284834	1.0053E-05	0.9971416	Rt
SAB-04-S301_IIb_13	Alps (CH)	98.48	99.06	134	nd	1700	31	41	2	984	1132	38	11	0.00010926	2.249E-06	0.99988849	Rt
SAB-04-S301_IIb_14	Alps (CH)	99.17	100.03	2078	nd	425	213	190	173	1944	946	125	12	0.0027218	4.0588E-05	0.99723761	Rt
SAB-04-S301_IIb_16	Alps (CH)	100.3	101.08	1805	nd	486	160	169	262	1995	667	38	nd	0.00270813	5.9064E-05	0.99723281	Rt
SAB-04-S301_IIb_17	Alps (CH)	99.02	100.29	1592	nd	238	405	92	8	6816	330	148	7	0.01172335	8.9697E-05	0.98818695	Rt
SAB-04-S301_IIb_18	Alps (CH)	99.49	100.34	1749	nd	486	376	153	148	2352	829	58	nd	0.00182816	4.881E-05	0.99812303	Rt
SAB-04-S301_IIb_19	Alps (CH)	98.24	99.33	2031	nd	355	260	135	98	4327	704	127	nd	0.0029868	5.467E-05	0.99695853	Rt
SAB-04-S301_IIb_21	Alps (CH)	99.77	100.77	1669	nd	991	594	106	106	1748	1756	184	nd	0.00045059	1.0849E-05	0.99953856	Rt
SAB-04-S301_IIb_22	Alps (CH)	99.72	100.71	2120	nd	458	316	152	117	3469	523	138	nd	0.00475643	2.5135E-05	0.99521843	Rt
SAB-04-S301_IIb_23	Alps (CH)	98.53	99.24	1278	nd	572	160	129	43	1783	1139	43	nd	0.00084492	4.9203E-05	0.99910588	Rt
SAB-04-S301_IIb_24	Alps (CH)	98.71	99.57	1130	nd	523	102	42	24	3241	1137	114	21	0.00099197	9.4688E-05	0.99891334	Rt
SAB-04-S301_IIb_25	Alps (CH)	97.87	98.62	577	nd	188	402	124	nd	2626	1457	136	nd	0.00106182	0.0001068	0.99883138	Rt
SAB-04-S301_IIb_26	Alps (CH)	99.71	100.74	1854	nd	605	274	94	46	4271	288	186	10	0.00970486	1.2492E-05	0.99028265	Rt
SAB-04-S301_IIb_27	Alps (CH)	98.87	99.85	1654	nd	511	794	169	28	3238	663	149	nd	0.00239968	1.3694E-05	0.99758663	Rt
SAB-04-S301_IIb_28	Alps (CH)	99.93	100.97	1683	nd	145	193	63	4	5021	580	78	6	0.00965055	0.00124255	0.98910691	Rt
SAB-04-S301_IIb_29	Alps (CH)	97.96	99.09	2875	nd	757	61	44	33	2748	1502	98	nd	0.00089309	0.00015425	0.99895266	Rt
SAB-04-S301_IIb_30	Alps (CH)	99.12	99.91	1254	nd	476	121	207	62	2269	1230	84	12	0.00075185	2.0907E-05	0.99922724	Rt
SAB-04-S301_IIb_31	Alps (CH)	100.93	101.67	1195	nd	408	167	17	19	2098	1328	104	nd	0.00206741	0.00096035	0.99697223	Rt
SAB-04-S301_IIb_32	Alps (CH)	99.57	100.39	1947	nd	429	136	216	290	2266	511	107	nd	0.00604179	2.3952E-05	0.99393426	Rt
SAB-04-S304_IIb_1_1	Alps (CH)	97.78	98.79	1741	nd	563	293	148	39	3513	953	119	nd	0.00105875	1.8485E-05	0.99892276	Rt
SAB-04-S304_IIb_1_2	Alps (CH)	98.18	99.1	1635	nd	511	147	147	37	3167	969	118	nd	0.00120215	2.3298E-05	0.99877455	Rt
SAB-04-S304_IIb_1_3	Alps (CH)	97.36	98.26	1502	nd	453	185	182	29	3241	885	110	27	0.00134655	2.0445E-05	0.99863301	Rt
SAB-04-S304_IIb_3_1	Alps (CH)	98.34	99.11	633	nd	402	57	78	6	3078	1334	106	nd	0.00053013	4.2104E-05	0.99942777	Rt
SAB-04-S304_IIb_4_1	Alps (CH)	96.82	97.93	2804	nd	632	177	112	75	1674	2301	99	nd	0.00057613	9.3083E-05	0.99933079	Rt
SAB-04-S304_IIb_4_2	Alps (CH)	97.4	98.47	2482	nd	630	299	69	65	1566	2285	149	nd	0.00076608	0.00012645	0.99910747	Rt
SAB-04-S304_IIb_4_3	Alps (CH)	96.44	97.77	3830	nd	560	109	124	105	1973	2537	124	nd	0.00062876	0.00012415	0.99924709	Rt
SAB-04-S304_IIb_6_1	Alps (CH)	98.98	99.85	1558	nd	671	279	51	68	2307	1281	113	nd	0.00099139	7.4904E-05	0.99893371	Rt
SAB-04-S304_IIb_6_2	Alps (CH)	98.67	99.5	1397	nd	485	186	73	64	2267	1366	127	nd	0.00109158	7.962E-05	0.9988288	Rt
SAB-04-S304_IIb_6_3	Alps (CH)	98.29	99.14	1521	nd	815	96	80	86	2099	1242	101	17	0.00074332	2.7341E-05	0.99922934	Rt
SAB-04-S304_IIb_8_1	Alps (CH)	99.34	100.3	1768	nd	421	143	155	100	3233	1151	75	nd	0.00097214	5.4448E-05	0.99897342	Rt
SAB-04-S304_IIb_9_1	Alps (CH)	97.78	98.63	1945	nd	539	172	170	158	1803	1194	64	7	0.00117385	4.7329E-05	0.99877883	Rt
SAB-04-S304_IIb_10_1	Alps (CH)	98.66	99.39	1374	nd	469	124	102	162	1906	1035	55	nd	0.00146401	9.2232E-05	0.99844376	Rt
SAB-04-S304_IIb_10_2	Alps (CH)	99.19	100	1669	nd	517	164	192	191	1958	1020	35	nd	0.0010575	5.0128E-05	0.99889237	Rt
SAB-04-S304_IIb_10_3	Alps (CH)	98.8	99.62	1719	nd	517	132	153	195	2023	1033	64	nd	0.00134985	4.6257E-05	0.99860389	Rt
SAB-04-S304_IIb_11_1	Alps (CH)	98.46	99.28	1459	nd	496	96	123	9	1915	1690	107	nd	0.00069478	5.1018E-05	0.9992542	Rt
SAB-04-S304_IIb_11_2	Alps (CH)	98.69	99.52	1539	nd	510	128	112	3	1943	1667	90	10	0.00069299	6.4991E-05	0.99924202	Rt
SAB-04-S304_IIb_11_3	Alps (CH)	98.52	99.4	1577	nd	449	108	123	14	2206	1729	94	nd	0.00066634	7.2004E-05	0.99926166	Rt
SAB-04-S304_IIb_12_1	Alps (CH)	96.77	97.96	2759	nd	446	297	126	66	3290	1559	113	nd	0.00090248	9.1146E-05	0.99900638	Rt
SAB-04-S304_IIb_12_2	Alps (CH)	96.77	98.18	3797	nd	497	269	161	75	3736	1574	134	nd	0.00086604	5.9963E-05	0.999074	Rt
SAB-04-S304_IIb_12_3	Alps (CH)	97.75	98.95	2968	nd	499	43	121	48	3450	1455	119	nd	0.00093892	7.3933E-05	0.99898715	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
SAB-04-S304_IIb_13_1	Alps (CH)	98.15	99.09	1821	nd	293	61	71	16	3499	1079	96	nd	0.00221668	0.00031333	0.99746998	Rt
SAB-04-S304_IIb_13_2	Alps (CH)	98.03	98.96	1530	nd	234	nd	3	37	3943	1064	49	nd	0.0052194	0.05808052	0.93670008	Rt
SAB-04-S304_IIb_13_3	Alps (CH)	97.31	98.33	1805	nd	209	50	57	24	4134	1095	113	nd	0.00305617	0.00075885	0.99618498	Rt
SAB-04-S304_IIb_15_1	Alps (CH)	96.58	97.95	544	nd	677	2576	328	nd	4951	1134	136	nd	0.00014784	7.9793E-07	0.99985136	Rt
SAB-04-S304_IIb_15_2	Alps (CH)	96.86	98.89	325	nd	712	2133	450	nd	10727	1096	87	nd	3.7671E-05	2.1715E-07	0.99996211	Rt
SAB-04-S304_IIb_15_3	Alps (CH)	96.77	98.06	372	nd	706	2216	430	nd	4783	1213	58	nd	6.6497E-05	6.0497E-07	0.9999329	Rt
SAB-04-S304_IIb_16	Alps (CH)	99.58	100.71	878	nd	616	867	49	nd	4351	1533	64	nd	0.00023825	5.6363E-05	0.99970539	Rt
SAB-04-S304_IIb_17	Alps (CH)	98.3	99.37	1575	nd	460	657	173	98	3806	943	188	nd	0.00127818	1.4408E-05	0.99870741	Rt
SAB-04-S304_IIb_21	Alps (CH)	98.92	100.06	2043	nd	1147	496	28	138	3473	789	164	nd	0.00150601	3.4946E-05	0.99845904	Rt
SAB-04-S304_IIb_22	Alps (CH)	98.36	99.16	1300	nd	333	100	37	64	2533	1370	107	nd	0.00169641	0.00049453	0.99780906	Rt
SAB-04-S304_IIb_23	Alps (CH)	97.2	98.01	1356	nd	626	343	88	95	2362	965	29	nd	0.00083172	7.8241E-05	0.99909003	Rt
SAB-04-S304_IIb_24	Alps (CH)	97.1	98.17	1432	nd	536	366	193	28	4567	783	55	nd	0.00076058	1.5453E-05	0.99922397	Rt
SAB-04-S304_IIb_25	Alps (CH)	97.68	98.71	1750	nd	376	373	268	76	3594	1037	70	nd	0.00096639	3.0035E-05	0.99900358	Rt
SAB-04-S304_IIb_27	Alps (CH)	99.49	100.38	1734	nd	608	151	55	121	2886	751	155	nd	0.00272985	5.3418E-05	0.99721673	Rt
SAB-04-S304_IIb_28	Alps (CH)	99.13	100.31	2668	nd	214	324	159	28	4542	665	118	nd	0.00634765	0.00019103	0.99346132	Rt
SAB-04-S304_IIb_29	Alps (CH)	100.67	101.7	1854	nd	486	165	223	32	3820	846	126	nd	0.00132507	1.347E-05	0.99866146	Rt
SAB-04-S304_IIb_31	Alps (CH)	99.9	100.98	1869	nd	545	303	169	80	4222	640	94	1	0.00175916	1.6054E-05	0.99822479	Rt
SAB-04-S304_IIb_32	Alps (CH)	98.22	99.25	1388	nd	356	427	132	46	4078	1090	88	22	0.00096393	5.8429E-05	0.99897764	Rt
SAB-04-S304_IIb_33	Alps (CH)	97.67	98.66	1372	nd	1300	500	57	nd	1063	2542	98	12	0.00023699	2.73E-05	0.99973571	Rt
SAB-04-S304_IIb_35	Alps (CH)	98.94	99.98	1721	nd	441	264	1000	91	3413	691	85	nd	0.00116052	2.2929E-06	0.99883719	Rt
SAB-04-S304_IIb_37	Alps (CH)	99.58	100.65	278	nd	837	1076	142	nd	3745	1694	151	8	6.0817E-05	9.6187E-07	0.99993822	Rt
SAB-04-S304_IIb_38	Alps (CH)	97.15	98.09	1184	nd	826	274	27	16	3557	1010	29	nd	0.00052134	0.0001569	0.99932176	Rt
SAB-04-S304_IIb_41	Alps (CH)	98.81	99.58	1251	nd	356	222	111	34	2185	1360	35	19	0.00084382	0.00019935	0.99895683	Rt
SAB-04-S304_IIb_42	Alps (CH)	98.2	99.07	349	nd	1156	615	125	nd	3287	779	138	nd	0.00023089	5.8474E-07	0.99976853	Rt
SAB-04-S304_IIb_43	Alps (CH)	97.86	98.79	1913	nd	478	293	233	17	2847	886	101	3	0.00153438	1.9161E-05	0.99844645	Rt
SAB-04-S304_IIb_44	Alps (CH)	97.73	98.35	677	nd	645	52	13	nd	1728	1207	124	nd	0.00131498	0.00023828	0.99844673	Rt
SAB-04-S304_IIb_45	Alps (CH)	100.51	101.62	1272	nd	328	1005	60	85	3005	2211	149	nd	0.00058023	0.00022013	0.99919964	Rt
SAB-04-S304_IIb_47	Alps (CH)	97.99	99.08	1999	nd	660	234	558	139	3472	743	138	nd	0.00102491	1.8044E-06	0.99897328	Rt
SAB-04-S305_IIb_1_1	Alps (CH)	100.79	101.65	1997	nd	515	158	209	240	1905	964	95	12	0.00185502	2.686E-05	0.99811812	Rt
SAB-04-S305_IIb_2_1	Alps (CH)	98.62	99.22	489	nd	39	108	148	nd	3080	567	85	34	0.02023916	0.00215975	0.97760109	Rt
SAB-04-S305_IIb_2_2	Alps (CH)	99.09	99.82	1025	nd	33	nd	182	nd	3438	559	163	23	0.04481487	0.00320883	0.9519763	Rt
SAB-04-S305_IIb_2_3	Alps (CH)	99.13	99.88	984	nd	57	81	213	nd	3664	541	99	3	0.01941342	0.00096111	0.97962547	Rt
SAB-04-S305_IIb_3_1	Alps (CH)	98.97	99.88	1953	nd	477	186	194	200	2589	838	99	8	0.00199598	2.6804E-05	0.99797722	Rt
SAB-04-S305_IIb_4_1	Alps (CH)	98.49	99.35	1887	nd	341	155	202	204	2359	953	87	6	0.00232564	6.4445E-05	0.99760992	Rt
SAB-04-S305_IIb_5_1	Alps (CH)	97.45	98.95	2168	nd	393	1921	91	35	5584	856	167	15	0.0019564	6.4073E-05	0.99797953	Rt
SAB-04-S305_IIb_5_2	Alps (CH)	97.94	99.25	1568	nd	408	1726	180	53	4996	824	98	nd	0.00115094	2.3027E-05	0.99882604	Rt
SAB-04-S305_IIb_5_3	Alps (CH)	97.28	98.91	1817	nd	447	2639	138	49	6218	831	161	nd	0.00120459	2.0277E-05	0.99877513	Rt
SAB-04-S305_IIb_6_1	Alps (CH)	98.97	99.89	1798	nd	441	154	102	32	3452	605	105	43	0.00356623	5.2244E-05	0.99638152	Rt
SAB-04-S305_IIb_7_1	Alps (CH)	97.21	98.44	1028	nd	249	1566	145	nd	5245	948	105	nd	0.00119024	5.9298E-05	0.99875047	Rt
SAB-04-S305_IIb_7_2	Alps (CH)	97.37	99.12	1360	nd	298	1678	120	nd	8744	956	126	nd	0.00083756	4.7306E-05	0.99911514	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
SAB-04-S305_IIb_7_3	Alps (CH)	97.12	98.89	2004	nd	276	3597	131	nd	6194	1073	115	nd	0.00129991	0.00010635	0.99859374	Rt
SAB-04-S305_IIb_8_1	Alps (CH)	97.58	98.61	2418	nd	452	251	229	264	2665	1002	117	8	0.00176349	2.8967E-05	0.99820754	Rt
SAB-04-S305_IIb_9_1	Alps (CH)	99	99.85	1404	nd	665	270	102	159	2521	898	95	9	0.00119069	2.3012E-05	0.99878629	Rt
SAB-04-S305_IIb_9_2	Alps (CH)	99.11	99.92	1277	nd	430	147	132	123	2764	952	78	24	0.00128358	4.367E-05	0.99867275	Rt
SAB-04-S305_IIb_9_3	Alps (CH)	98.91	100.08	2848	nd	532	423	159	175	3192	1020	129	nd	0.00159881	3.4616E-05	0.99836657	Rt
SAB-04-S305_IIb_10_1	Alps (CH)	98.98	99.83	1840	nd	463	103	197	198	2196	1019	62	8	0.00138619	4.3618E-05	0.9985702	Rt
SAB-04-S305_IIb_11	Alps (CH)	99.1	99.93	1759	nd	762	78	221	179	1998	870	35	nd	0.00088249	1.6371E-05	0.99910114	Rt
SAB-04-S305_IIb_12	Alps (CH)	98.47	99.36	1641	nd	635	208	45	13	1386	2211	123	46	0.00071501	0.00017152	0.99911347	Rt
SAB-04-S305_IIb_13	Alps (CH)	98.71	99.35	252	nd	499	27	54	nd	2292	1426	87	31	0.00025418	2.0656E-05	0.99972517	Rt
SAB-04-S305_IIb_14	Alps (CH)	98.89	99.77	1677	nd	532	65	228	159	2849	786	81	nd	0.00142627	1.4695E-05	0.99855903	Rt
SAB-04-S305_IIb_15	Alps (CH)	98.05	99.01	489	nd	217	109	52	18	3407	1827	121	516	0.00054345	0.0002294	0.99922714	Rt
SAB-04-S305_IIb_17	Alps (CH)	99.03	99.85	1194	nd	647	470	169	25	1961	1388	70	50	0.00047836	1.6919E-05	0.99950472	Rt
SAB-04-S305_IIb_18	Alps (CH)	98.4	99.29	1948	nd	444	120	176	173	2075	1291	81	20	0.00119046	5.715E-05	0.99875239	Rt
SAB-04-S305_IIb_19	Alps (CH)	99.25	100.11	1926	nd	451	126	201	187	1931	1241	58	13	0.00113984	5.8277E-05	0.99880188	Rt
SAB-04-S305_IIb_20	Alps (CH)	99.92	100.48	916	nd	335	17	75	197	1208	1109	35	15	0.00203135	0.00035673	0.99761192	Rt
SAB-04-S305_IIb_21	Alps (CH)	99.57	100.29	470	nd	203	nd	45	nd	3173	1235	130	55	0.00131353	0.00026247	0.998424	Rt
SAB-04-S305_IIb_23	Alps (CH)	98.71	99.74	593	nd	451	1010	138	nd	4644	842	87	11	0.00052789	9.8496E-06	0.99946226	Rt
SAB-04-S305_IIb_24	Alps (CH)	98.27	99.17	1996	nd	378	169	208	145	2559	973	82	11	0.00187664	5.2306E-05	0.99807105	Rt
SAB-04-S305_IIb_25	Alps (CH)	98.33	99.28	2569	nd	403	122	204	51	2405	938	191	9	0.00317177	3.4732E-05	0.99679349	Rt
SAB-04-S305_IIb_27	Alps (CH)	99.2	99.81	254	nd	776	19	28	23	1282	1858	101	16	0.00021948	2.6957E-05	0.99975357	Rt
SAB-04-S305_IIb_28	Alps (CH)	98.97	99.77	1816	nd	624	46	218	168	1862	949	35	5	0.00104087	2.9711E-05	0.99892942	Rt
SAB-04-S305_IIb_30	Alps (CH)	97.47	98.31	1862	nd	423	170	180	207	1827	1174	107	nd	0.00175723	4.9588E-05	0.99819318	Rt
SAB-04-S305_IIb_31	Alps (CH)	97.74	98.94	2146	nd	315	577	93	26	5166	553	115	nd	0.00512101	0.000115	0.994764	Rt
SAB-04-S305_IIb_32	Alps (CH)	97.52	98.44	1898	nd	458	260	252	174	2623	946	101	nd	0.00149513	2.0158E-05	0.99848471	Rt
SAB-04-S305_IIb_33	Alps (CH)	97.98	98.85	1576	nd	532	173	169	97	1803	1728	73	17	0.00054784	4.1153E-05	0.999411	Rt
SAB-04-S305_IIb_34	Alps (CH)	98.51	99.35	1873	nd	577	102	212	102	2352	820	55	25	0.00142118	2.2965E-05	0.99855586	Rt
STR-04-S306_IIb_4_1	Alps (CH)	99.06	99.61	930	nd	328	nd	1	50	1316	1243	nd	nd	0.00066125	0.70771673	0.29162202	Brk
STR-04-S306_IIb_4_2	Alps (CH)	99.86	100.29	277	nd	324	nd	10	26	1358	1039	15	22	0.00129374	0.00289297	0.99581329	Rt
STR-04-S306_IIb_4_3	Alps (CH)	99.44	99.97	673	nd	315	nd	25	50	1394	1178	9	65	0.00127201	0.00347574	0.99525226	Rt
STR-04-S306_IIb_5_1	Alps (CH)	97.93	98.58	658	nd	411	nd	15	80	2870	707	nd	3	0.00068668	0.00972449	0.98958883	Rt
STR-04-S306_IIb_5_2	Alps (CH)	98.99	99.88	2061	nd	450	30	13	125	2733	975	nd	nd	0.00089719	0.04201093	0.95709188	Rt
STR-04-S306_IIb_5_3	Alps (CH)	98.51	99.21	771	nd	394	nd	nd	163	2705	865	nd	102	0.00090052	0.42161264	0.57748685	Rt
STR-04-S306_IIb_7_1	Alps (CH)	97.97	98.56	52	nd	347	12	16	20	2581	1257	46	2	0.000158	6.1055E-05	0.99978095	Rt
STR-04-S306_IIb_8_1	Alps (CH)	98.38	99.17	nd	nd	50	nd	7	4	2556	2969	58	nd	2.0845E-05	0.00021795	0.9997612	Rt
STR-04-S306_IIb_8_2	Alps (CH)	97.71	98.53	nd	nd	68	19	28	nd	2562	3133	49	5	7.7998E-06	1.6708E-05	0.99997549	Rt
STR-04-S306_IIb_8_3	Alps (CH)	98.36	99.18	41	nd	59	44	nd	nd	2564	3164	26	nd	0.00030654	0.25461682	0.74507664	Rt
STR-04-S306_IIb_9_1	Alps (CH)	97.91	98.55	1091	nd	434	nd	nd	79	1302	1487	17	53	0.00280125	0.18094607	0.81625268	Rt
STR-04-S306_IIb_9_2	Alps (CH)	98.37	98.99	1237	nd	488	nd	nd	73	1286	1279	29	1	0.00460662	0.11158444	0.88380894	Rt
STR-04-S306_IIb_9_3	Alps (CH)	97.16	97.81	1055	nd	464	nd	11	71	1521	1464	17	nd	0.00118793	0.00520732	0.99360475	Rt
STR-04-S306_IIb_10_1	Alps (CH)	99.32	99.98	1267	nd	521	41	24	18	1766	1084	29	8	0.00162406	0.00088839	0.99748755	Rt

continued on next page. . .

. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
STR-04-S306_IIb_10_2	Alps (CH)	99.37	99.96	1126	nd	546	nd	44	nd	1532	993	12	9	0.00114267	0.00056603	0.99829131	Rt
STR-04-S306_IIb_10_3	Alps (CH)	98.73	99.37	1297	nd	525	41	3	24	1487	1104	nd	30	0.00106195	0.17973053	0.81920752	Rt
STR-04-S306_IIb_12_1	Alps (CH)	99.93	100.41	278	nd	257	25	35	162	2089	602	55	nd	0.00294442	0.00020131	0.99685427	Rt
STR-04-S306_IIb_12_2	Alps (CH)	99.02	99.53	233	nd	334	nd	38	168	2243	644	58	38	0.00157059	7.5711E-05	0.9983537	Rt
STR-04-S306_IIb_12_3	Alps (CH)	99.56	100.06	217	nd	184	nd	49	138	2425	595	49	18	0.00270043	0.00019992	0.99709965	Rt
STR-04-S306_IIb_1_1	Alps (CH)	99.17	99.72	745	nd	135	nd	114	28	1249	1559	17	71	0.00174065	0.00238254	0.99587681	Rt
STR-04-S306_IIb_1_2	Alps (CH)	99.12	99.77	551	nd	138	59	103	234	1038	1908	35	338	0.00146026	0.00133564	0.9972041	Rt
STR-04-S306_IIb_1_3	Alps (CH)	99.24	99.94	986	nd	173	236	132	167	1056	1808	nd	268	0.00055131	0.01310941	0.98633928	Rt
STR-04-S306_IIb_2_1	Alps (CH)	100.23	100.9	9	nd	163	4	18	5	2983	1773	30	0	3.7845E-05	5.5376E-05	0.99990678	Rt
STR-04-S306_IIb_4_1	Alps (CH)	98.59	99.3	1759	nd	263	nd	25	137	1368	1444	12	nd	0.00251108	0.01440166	0.98308726	Rt
STR-04-S306_IIb_4_2	Alps (CH)	98.59	99.03	233	nd	337	nd	28	100	1367	1061	12	nd	0.00067547	0.00057787	0.99874666	Rt
STR-04-S306_IIb_4_3	Alps (CH)	97.84	98.33	450	nd	343	nd	nd	111	1327	1194	9	23	0.00223709	0.16078369	0.83697922	Rt
STR-04-S306_IIb_6_1	Alps (CH)	100.37	100.93	132	nd	624	nd	13	nd	2236	1033	58	3	0.00031434	5.3046E-05	0.99963261	Rt
STR-04-S306_IIb_6_2	Alps (CH)	101.44	102.02	105	nd	593	5	55	nd	2354	1031	58	38	0.00016143	5.5437E-06	0.99983303	Rt
STR-04-S306_IIb_6_3	Alps (CH)	98.48	99.05	88	nd	593	nd	23	nd	2180	1196	100	nd	0.00018765	1.1978E-05	0.99980037	Rt
STR-04-S306_IIb_7	Alps (CH)	98.94	100.2	1474	nd	1134	53	37	nd	233	3985	1929	nd	0.00163611	2.5746E-05	0.99833815	Rt
STR-04-S306_IIb_8	Alps (CH)	99.36	99.83	108	nd	91	nd	nd	182	1510	1432	35	nd	0.00303043	0.22982857	0.76714101	Rt
STR-04-S306_IIb_9	Alps (CH)	98.63	99.08	319	nd	350	13	10	29	972	1463	6	50	0.00072526	0.00761709	0.99165764	Rt
STR-04-S307_IIb_NM_1_1	Alps (CH)	97.18	99.5	211	1137	4685	nd	nd	511	2725	1117	3119	1799	0.00029861	1.9002E-06	0.99969949	Rt
STR-04-S307_IIb_NM_1_2	Alps (CH)	98.96	100.15	202	nd	4024	30	35	nd	51	1028	3023	nd	0.00457927	1.3694E-07	0.99542059	Rt
STR-04-S307_IIb_NM_1_3	Alps (CH)	99.06	100.23	211	nd	4066	nd	8	nd	62	1059	2782	7	0.00602166	1.1373E-06	0.9939772	Rt
STR-04-S307_IIb_NM_2_1	Alps (CH)	97.21	98.42	1683	nd	753	nd	nd	54	1933	2344	1739	82	0.00351532	0.00370923	0.99277545	Rt
STR-04-S307_IIb_NM_2_2	Alps (CH)	97.59	98.87	1735	nd	777	nd	41	4	2756	2198	1718	8	0.00076904	1.369E-05	0.99921727	Rt
STR-04-S307_IIb_NM_2_3	Alps (CH)	97.66	98.69	1658	nd	796	30	nd	11	927	2206	1688	nd	0.00709982	0.0047773	0.98812288	Rt
STR-04-S307_IIb_NM_5_1	Alps (CH)	98.17	99.1	147	nd	50	42	21	2	940	798	4888	9	0.06913347	0.00059655	0.93026998	Rt
STR-04-S307_IIb_NM_5_2	Alps (CH)	98.08	99.05	150	nd	30	88	56	6	1031	837	4886	44	0.07437711	0.00046714	0.92515575	Rt
STR-04-S307_IIb_NM_6_1	Alps (CH)	98.21	99.51	959	nd	674	10	23	nd	153	4168	3106	3	0.0039593	9.4439E-05	0.99594626	Rt
STR-04-S307_IIb_NM_4_1	Alps (CH)	99.05	100.27	534	nd	569	14	34	18	687	2450	4363	52	0.0019022	1.0881E-05	0.99808692	Rt
STR-04-S307_IIb_NM_4_2	Alps (CH)	100.3	101.49	619	nd	534	nd	27	nd	740	2576	4059	4	0.0020687	2.1551E-05	0.99790975	Rt
STR-04-S307_IIb_NM_4_3	Alps (CH)	98.91	100.03	768	nd	579	nd	39	nd	495	2586	3508	10	0.00269903	1.8792E-05	0.99728218	Rt
STR-04-S307_IIb_NM_5_1	Alps (CH)	95.6	97.18	1538	nd	1269	nd	nd	nd	129	6917	1002	7	0.00271711	0.01057577	0.98670712	Rt
STR-04-S307_IIb_NM_6_1	Alps (CH)	96.77	98.27	2313	nd	1360	33	31	23	369	3605	2779	26	0.00176164	2.1119E-05	0.99821724	Rt
STR-04-S307_IIb_NM_7_1	Alps (CH)	97.45	98.61	1005	nd	981	110	106	nd	1178	2643	2248	nd	0.00048193	1.5395E-06	0.99951653	Rt
STR-04-S307_IIb_NM_7_2	Alps (CH)	98.88	100.02	1027	nd	962	67	147	nd	1258	2504	2188	nd	0.00045903	9.899E-07	0.99953998	Rt
STR-04-S307_IIb_NM_7_3	Alps (CH)	99.36	100.49	1054	nd	965	149	121	nd	1230	2420	2156	7	0.00053943	1.3522E-06	0.99945922	Rt
STR-04-S307_IIb_NM_8_1	Alps (CH)	97.72	98.61	2026	nd	668	6	21	3	774	2146	655	nd	0.00322058	0.00024266	0.99653676	Rt
STR-04-S307_IIb_NM_9_1	Alps (CH)	99.62	100.86	3450	nd	1253	nd	60	nd	330	2763	711	50	0.00239563	3.9271E-05	0.9975651	Rt
STR-04-S307_IIb_NM_9_2	Alps (CH)	98.63	100.01	4124	nd	1307	42	17	nd	353	2938	811	nd	0.00357037	0.00024321	0.99618643	Rt
STR-04-S307_IIb_NM_9_3	Alps (CH)	98.92	100.4	4656	nd	1332	nd	nd	nd	372	2967	945	nd	0.00993818	0.01367577	0.97638605	Rt
STR-04-S307_IIb_NM_10	Alps (CH)	98.71	99.29	160	nd	313	nd	24	nd	405	2128	1088	15	0.0022287	5.9439E-05	0.99771186	Rt

continued on next page. . .

. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
STR-04-S307_IIb_NM_11	Alps (CH)	97.77	99.16	3197	nd	720	22	54	31	3092	1822	879	108	0.0012331	3.1209E-05	0.99873569	Rt
STR-04-S307_IIb_NM_12	Alps (CH)	99.17	100.78	2013	nd	683	46	1	1	476	2880	4416	662	0.01528975	0.00693501	0.97777525	Rt
STR-04-S307_IIb_NM_14	Alps (CH)	98.87	99.61	1248	nd	441	nd	97	96	2035	1258	149	nd	0.00136009	5.2786E-05	0.99858712	Rt
STR-04-S307_IIb_NM_15	Alps (CH)	100.43	101.38	1837	nd	757	47	nd	nd	401	2273	1408	nd	0.01560933	0.01094749	0.97344319	Rt
STR-04-S307_IIb_NM_17	Alps (CH)	98.8	99.67	385	nd	1093	nd	51	4	315	2898	1312	47	0.00063767	3.5681E-06	0.99935876	Rt
STR-04-S307_IIb_NM_18	Alps (CH)	99.08	100.11	1690	nd	625	nd	6	8	232	2083	2676	nd	0.02332161	0.00096823	0.97571016	Rt
STR-04-S307_IIb_NM_19	Alps (CH)	97.05	98.12	1494	nd	699	60	22	80	1721	2282	1270	nd	0.00125981	5.897E-05	0.99868122	Rt
STR-04-S307_IIb_NM_20	Alps (CH)	96.87	98	2342	nd	1043	59	28	nd	242	3006	1151	nd	0.00381834	0.00010013	0.99608153	Rt
STR-04-S307_IIb_NM_22	Alps (CH)	97.06	98.45	995	nd	1319	nd	1	nd	720	3512	3164	44	0.00184763	0.00074317	0.9974092	Rt
STR-04-S307_IIb_NM_24	Alps (CH)	98.32	99.15	1016	nd	669	nd	30	38	512	2041	1532	13	0.00352317	4.3441E-05	0.99643339	Rt
STR-04-S307_IIb_NM_25	Alps (CH)	99.2	99.91	891	nd	568	nd	24	nd	438	2206	900	nd	0.00350667	0.00012364	0.99636969	Rt
STR-04-S307_IIb_NM_26	Alps (CH)	98.68	99.45	1941	nd	437	305	123	4	1765	994	9	1	0.00124583	0.00046129	0.99829288	Rt
STR-04-S307_IIb_NM_28	Alps (CH)	96.97	97.84	905	nd	545	nd	nd	6	321	2150	2198	49	0.02049621	0.00822526	0.97127854	Rt
STR-04-S308_IIb_2_1	Alps (CH)	99.77	100.38	130	nd	652	nd	nd	nd	301	2046	1091	31	0.00354818	0.00096358	0.99548824	Rt
STR-04-S308_IIb_2_2	Alps (CH)	98.73	99.36	152	nd	621	nd	39	nd	393	1994	1240	nd	0.00100712	5.1361E-06	0.99898775	Rt
STR-04-S308_IIb_2_3	Alps (CH)	98.93	99.51	147	nd	612	nd	28	nd	398	2043	756	31	0.00090319	1.1756E-05	0.99908505	Rt
STR-04-S308_IIb_3_1	Alps (CH)	97.9	98.74	713	nd	664	nd	13	1	197	2717	1607	1	0.00534977	0.00018132	0.99446892	Rt
STR-04-S308_IIb_4_1	Alps (CH)	98.2	98.79	722	nd	272	nd	18	nd	308	1847	949	nd	0.01448515	0.00086255	0.9846523	Rt
STR-04-S308_IIb_4_2	Alps (CH)	100.44	101	703	nd	249	nd	24	nd	393	1655	940	nd	0.01372438	0.00056855	0.98570707	Rt
STR-04-S308_IIb_4_3	Alps (CH)	98.73	99.34	849	nd	268	nd	nd	nd	321	1871	984	nd	0.03975497	0.06092401	0.89932103	Rt
STR-04-S308_IIb_5_1	Alps (CH)	98.97	100.08	1665	nd	501	1	15	0	377	2453	2881	nd	0.0106131	0.00033374	0.98905316	Rt
STR-04-S308_IIb_6_1	Alps (CH)	99.49	100.43	1454	nd	671	nd	45	nd	362	2996	1079	nd	0.00249941	6.7223E-05	0.99743336	Rt
STR-04-S308_IIb_6_2	Alps (CH)	98.04	98.93	1359	nd	659	5	nd	nd	326	2979	883	nd	0.00929068	0.01862911	0.97208021	Rt
STR-04-S308_IIb_6_3	Alps (CH)	99.48	100.35	1273	nd	675	25	nd	nd	354	3011	706	23	0.00728404	0.01841257	0.97430339	Rt
STR-04-S308_IIb_7_1	Alps (CH)	99.68	100.87	497	nd	901	nd	31	nd	218	5506	1039	nd	0.0004772	2.949E-05	0.99949331	Rt
STR-04-S308_IIb_7_2	Alps (CH)	99.76	101.01	565	nd	925	nd	24	nd	171	5726	1256	nd	0.00069473	4.7417E-05	0.99925786	Rt
STR-04-S308_IIb_7_3	Alps (CH)	100.47	101.71	615	nd	909	nd	68	nd	193	5672	1048	33	0.00045099	1.2862E-05	0.99953615	Rt
STR-04-S308_IIb_8_1	Alps (CH)	97.32	98.58	1697	nd	735	10	17	40	441	3587	2337	10	0.00276517	0.00014834	0.99708649	Rt
STR-04-S308_IIb_9_1	Alps (CH)	99.38	100.17	511	nd	671	nd	12	nd	205	2429	1738	5	0.00507682	0.00011865	0.99480453	Rt
STR-04-S308_IIb_10_1	Alps (CH)	101.56	102.24	585	nd	780	4	15	nd	215	1989	1129	4	0.00522797	8.6292E-05	0.99468574	Rt
STR-04-S308_IIb_11_1	Alps (CH)	96.73	98.4	1602	nd	1147	20	8	nd	337	4842	3823	1	0.00183735	0.00013696	0.99802569	Rt
STR-04-S308_IIb_12	Alps (CH)	98.44	99.24	444	nd	1278	94	nd	nd	163	2096	1491	12	0.0079959	0.00096591	0.99103819	Rt
STR-04-S308_IIb_13	Alps (CH)	97.69	98.86	1209	nd	780	24	nd	nd	304	4363	1431	31	0.00449434	0.00970624	0.98579942	Rt
STR-04-S308_IIb_14	Alps (CH)	97.65	98.83	1170	nd	1420	nd	37	nd	315	2629	2763	nd	0.00189328	6.3871E-06	0.99810034	Rt
STR-04-S308_IIb_15	Alps (CH)	99.38	99.87	169	nd	783	nd	28	nd	221	1764	361	23	0.00134592	1.7219E-05	0.99863686	Rt
STR-04-S308_IIb_16	Alps (CH)	99.39	100.44	1353	nd	1012	nd	28	nd	286	2223	2563	4	0.00491192	2.5566E-05	0.99506251	Rt
STR-04-S308_IIb_17	Alps (CH)	100.31	101.51	1550	nd	1018	nd	24	nd	183	2222	3558	nd	0.00959307	3.7294E-05	0.99036963	Rt
STR-04-S308_IIb_19	Alps (CH)	96.82	98.05	1145	nd	993	nd	6	nd	253	5276	765	33	0.00122712	0.00074761	0.99802527	Rt
STR-04-S308_IIb_21	Alps (CH)	97.82	98.82	1012	nd	1149	nd	nd	nd	266	3123	1412	nd	0.00521236	0.00304527	0.99174237	Rt
STR-04-S308_IIb_22	Alps (CH)	98.47	100.28	1835	102	1142	nd	nd	195	521	5044	3479	182	0.00253854	0.002768	0.99469346	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
STR-04-S308_IIb_23	Alps (CH)	98.45	99.78	1274	nd	1012	nd	7	nd	124	3990	2933	nd	0.00607398	0.0003273	0.99359872	Rt
STR-04-S308_IIb_24	Alps (CH)	96.28	98.16	3377	nd	3325	nd	37	nd	299	2418	3816	nd	0.00222216	2.4262E-06	0.99777542	Rt
STR-04-S308_IIb_25	Alps (CH)	98.18	98.98	519	nd	699	nd	21	nd	271	3695	354	nd	0.00088367	0.00015683	0.9989595	Rt
STR-04-S308_IIb_26	Alps (CH)	97.56	98.74	987	nd	1222	17	nd	nd	225	4113	1621	nd	0.00357132	0.00288022	0.99354847	Rt
STR-04-S308_IIb_27	Alps (CH)	100.05	101.14	1458	nd	1062	43	9	nd	133	3890	972	nd	0.0040174	0.00049866	0.99548394	Rt
STR-04-S308_IIb_28	Alps (CH)	99.53	100.06	401	nd	1106	nd	nd	nd	344	1407	433	6	0.00593899	0.00160566	0.99245535	Rt
STR-04-S308_IIb_29	Alps (CH)	96.5	97.77	1971	nd	1345	67	17	nd	163	4434	791	1	0.00191168	0.00017998	0.99790834	Rt
STR-04-S308_IIb_30	Alps (CH)	99.3	100.27	1168	nd	718	nd	39	nd	158	2792	1959	23	0.00608956	5.4858E-05	0.99385558	Rt
STR-04-S308_IIb_31	Alps (CH)	97.91	99.04	1185	nd	937	nd	13	nd	189	4507	1011	nd	0.00195276	0.00026293	0.9977843	Rt
STR-04-S308_IIb_32	Alps (CH)	99.12	99.96	663	nd	909	nd	17	nd	165	3363	706	7	0.00200233	0.00011924	0.99787842	Rt
STR-04-S308_IIb_33	Alps (CH)	96.96	98.62	1746	nd	883	nd	nd	nd	250	5362	3395	nd	0.00570414	0.00738768	0.98690818	Rt
STR-04-S309_IIb_1_1	Alps (CH)	97.73	98.4	874	nd	538	nd	nd	nd	313	2126	808	nd	0.01524412	0.01667786	0.96807802	Rt
STR-04-S309_IIb_1_2	Alps (CH)	97.79	98.44	784	nd	532	nd	nd	nd	302	2085	888	nd	0.01569806	0.01428788	0.97001406	Rt
STR-04-S309_IIb_1_3	Alps (CH)	97.7	98.32	662	nd	545	73	11	nd	246	2111	680	nd	0.00645561	0.00048729	0.9930571	Rt
STR-04-S309_IIb_2_1	Alps (CH)	100.57	101.4	1168	nd	509	17	39	31	334	1970	1795	nd	0.00809172	7.3223E-05	0.99183506	Rt
STR-04-S309_IIb_2_2	Alps (CH)	100.88	101.75	1279	nd	517	nd	15	19	372	2061	1920	nd	0.01012877	0.0002845	0.98958673	Rt
STR-04-S309_IIb_2_3	Alps (CH)	100.45	101.36	1395	nd	543	nd	nd	24	388	2123	1984	nd	0.02364676	0.01312831	0.96322493	Rt
STR-04-S309_IIb_3_1	Alps (CH)	99.2	99.81	543	nd	398	nd	63	nd	361	2066	856	nd	0.00337976	4.4052E-05	0.99657619	Rt
STR-04-S309_IIb_3_2	Alps (CH)	98.02	98.65	597	nd	376	nd	62	nd	210	2228	961	nd	0.00583934	7.3707E-05	0.99408695	Rt
STR-04-S309_IIb_3_3	Alps (CH)	98.09	99.09	991	nd	398	nd	55	58	1670	2425	1423	59	0.00120482	3.453E-05	0.99876065	Rt
STR-04-S309_IIb_4_1	Alps (CH)	97.8	98.93	851	nd	848	13	14	nd	224	3002	3049	nd	0.00414949	7.0215E-05	0.99578029	Rt
STR-04-S309_IIb_4_2	Alps (CH)	98.48	99.55	877	nd	832	9	17	nd	375	2970	2469	nd	0.0023954	4.9967E-05	0.99755464	Rt
STR-04-S309_IIb_4_3	Alps (CH)	97.54	98.44	797	nd	813	nd	47	nd	337	2896	1356	39	0.00152553	1.7503E-05	0.99845697	Rt
STR-04-S309_IIb_5_1	Alps (CH)	97.53	98.39	1453	nd	493	305	97	106	2867	851	49	nd	0.00137446	7.4959E-05	0.99855059	Rt
STR-04-S309_IIb_5_2	Alps (CH)	99.16	100.14	2043	nd	415	358	109	99	3095	910	73	nd	0.00195892	0.00010435	0.99793674	Rt
STR-04-S309_IIb_5_3	Alps (CH)	98.29	99.31	2162	nd	442	439	92	188	3077	922	94	nd	0.00215503	0.00010369	0.99774128	Rt
STR-04-S309_IIb_7	Alps (CH)	99.27	100.32	682	nd	515	nd	nd	nd	284	2684	3304	nd	0.01523094	0.00598815	0.97878091	Rt
STR-04-S309_IIb_8_1	Alps (CH)	100.22	100.72	94	nd	535	14	15	nd	339	2078	493	nd	0.00090749	3.4949E-05	0.99905756	Rt
STR-04-S309_IIb_10_1	Alps (CH)	97.39	98.35	1305	nd	545	nd	nd	nd	497	2292	2154	nd	0.01608732	0.0103398	0.97357288	Rt
STR-04-S309_IIb_10_2	Alps (CH)	97.36	98.39	1535	nd	525	nd	nd	nd	453	2425	2313	nd	0.01905565	0.01388454	0.96705981	Rt
STR-04-S309_IIb_10_3	Alps (CH)	97.65	98.69	1514	nd	541	nd	10	nd	447	2393	2508	nd	0.00890019	0.00044629	0.99065352	Rt
STR-04-S309_IIb_11_1	Alps (CH)	97.35	98.98	2394	nd	1656	nd	39	nd	308	6034	814	nd	0.00042451	3.318E-05	0.99954231	Rt
STR-04-S309_IIb_11_2	Alps (CH)	96.48	98.15	2375	nd	1663	nd	20	nd	310	6130	1077	nd	0.00056073	7.009E-05	0.99936918	Rt
STR-04-S309_IIb_11_3	Alps (CH)	96.77	98.56	2854	nd	1718	nd	82	nd	328	6214	1199	nd	0.00036518	9.5158E-06	0.99962531	Rt
STR-04-S309_IIb_12_1	Alps (CH)	99.65	100.71	1412	nd	829	17	18	21	378	3583	1074	nd	0.00184784	0.00015806	0.9979941	Rt
STR-04-S309_IIb_13_1	Alps (CH)	97.25	98.04	1478	nd	481	13	7	71	312	2274	925	nd	0.01244746	0.00230106	0.98525147	Rt
STR-04-S309_IIb_14_1	Alps (CH)	99.12	100.28	2192	nd	492	14	83	45	4498	1124	84	18	0.00095287	9.1258E-05	0.99895587	Rt
STR-04-S309_IIb_14_2	Alps (CH)	99.16	100.34	2322	nd	533	60	71	14	4512	1071	84	nd	0.00104453	9.9304E-05	0.99885616	Rt
STR-04-S309_IIb_14_3	Alps (CH)	98.82	100.14	3097	nd	553	110	75	33	4631	1153	55	nd	0.00091605	0.00016224	0.99892171	Rt
STR-04-S309_IIb_15	Alps (CH)	97.25	98.39	1204	nd	1286	nd	55	164	634	1992	2135	355	0.0014856	3.3871E-06	0.99851102	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
STR-04-S309_IIb_16	Alps (CH)	100.59	101.56	1429	51	723	11	7	65	1336	2031	1163	nd	0.00264117	0.00031404	0.99704478	Rt
STR-04-S309_IIb_17	Alps (CH)	98.39	98.95	116	nd	1069	nd	37	nd	1715	1049	84	14	0.00015108	2.6045E-06	0.99984632	Rt
STR-04-S309_IIb_18	Alps (CH)	98.04	98.97	526	nd	1524	nd	nd	nd	243	3027	1114	23	0.00244794	0.00091019	0.99664187	Rt
STR-04-S309_IIb_20	Alps (CH)	96.22	97.33	1822	nd	849	nd	4	135	487	3085	1364	nd	0.00411282	0.00120625	0.99468093	Rt
STR-04-S309_IIb_21	Alps (CH)	100.07	101.08	1161	nd	1087	nd	nd	6	220	3461	1119	nd	0.005666	0.00555653	0.98877747	Rt
STR-04-S309_IIb_22	Alps (CH)	96.75	98.25	1214	nd	1831	nd	13	nd	136	3389	4010	nd	0.00329255	2.2835E-05	0.99668462	Rt
STR-04-S309_IIb_23	Alps (CH)	96.39	97.21	1529	nd	637	413	139	102	2073	986	44	nd	0.00094847	3.6086E-05	0.99901544	Rt
STR-04-S309_IIb_25	Alps (CH)	96.81	98.31	822	nd	1180	nd	nd	nd	215	5017	3290	nd	0.00297365	0.00170708	0.99531927	Rt
STR-04-S309_IIb_26	Alps (CH)	98.24	99.03	1114	nd	467	14	nd	nd	281	2489	1116	nd	0.01966684	0.02732811	0.95300505	Rt
STR-04-S309_IIb_27	Alps (CH)	99.7	100.66	1185	nd	798	nd	14	nd	264	3543	820	nd	0.00239912	0.00029735	0.99730354	Rt
STR-04-S309_IIb_28	Alps (CH)	98.32	99.6	962	nd	753	nd	28	nd	170	3924	3186	nd	0.0033315	4.9864E-05	0.99661864	Rt
STR-04-S309_IIb_29	Alps (CH)	97.43	98.17	1199	nd	522	36	49	9	363	2118	922	nd	0.00487387	8.1349E-05	0.99504478	Rt
STR-04-S309_IIb_30	Alps (CH)	97.15	98.53	3311	nd	984	nd	279	39	4102	1193	125	nd	0.00043768	4.2131E-06	0.99955811	Rt
STR-04-S309_IIb_31	Alps (CH)	98.18	99.37	1457	nd	648	2	nd	28	366	2723	3197	nd	0.01604412	0.00762116	0.97633473	Rt
STR-04-S309_IIb_32	Alps (CH)	97.38	98.19	868	nd	681	nd	27	nd	309	2869	938	nd	0.0023599	8.7951E-05	0.99755215	Rt
STR-04-S309_IIb_33	Alps (CH)	97.09	98.21	1160	nd	907	24	41	nd	309	2904	2537	nd	0.00249365	1.7244E-05	0.9974891	Rt
STR-04-S309_IIb_34	Alps (CH)	98.08	98.43	118	nd	96	nd	4	nd	222	1489	567	nd	0.03193928	0.01544444	0.95261628	Rt
STR-04-S309_IIb_35	Alps (CH)	98.97	99.99	143	nd	669	5	21	nd	188	3113	3100	nd	0.00132145	9.3601E-06	0.99866919	Rt
STR-04-S309_IIb_36	Alps (CH)	100.53	101.54	1205	nd	907	nd	38	nd	278	3491	1059	nd	0.00158007	4.3049E-05	0.99837688	Rt
STR-04-S310_IIb_1_1	Alps (CH)	98.29	99.09	743	nd	662	nd	34	nd	261	2654	1280	nd	0.0029628	4.7786E-05	0.99698942	Rt
STR-04-S310_IIb_1_2	Alps (CH)	97.97	98.85	726	nd	678	nd	nd	nd	274	2822	1646	nd	0.00890135	0.00587256	0.98522609	Rt
STR-04-S310_IIb_1_3	Alps (CH)	98.54	99.35	713	nd	640	nd	17	nd	305	2692	1292	nd	0.00321147	0.00012259	0.99666594	Rt
STR-04-S310_IIb_2_1	Alps (CH)	97.71	98.81	1407	nd	672	nd	16	nd	275	3569	1749	nd	0.00384871	0.00025491	0.99589638	Rt
STR-04-S310_IIb_2_2	Alps (CH)	97.6	98.71	1383	nd	730	22	nd	nd	313	3472	1863	nd	0.00852629	0.00973959	0.98173412	Rt
STR-04-S310_IIb_2_3	Alps (CH)	97.73	98.86	1324	nd	705	nd	nd	nd	302	3519	2047	nd	0.00891991	0.00962501	0.98145508	Rt
STR-04-S310_IIb_3_1	Alps (CH)	97.11	98.2	1365	nd	652	nd	11	nd	322	2649	2710	nd	0.00748227	0.00026605	0.99225168	Rt
STR-04-S310_IIb_4_1	Alps (CH)	97.55	98.62	1336	nd	650	nd	nd	nd	211	2861	2453	20	0.02078619	0.01135951	0.9678543	Rt
STR-04-S310_IIb_4_2	Alps (CH)	96.88	97.88	1242	nd	621	nd	nd	nd	152	2878	2157	nd	0.02637613	0.01513834	0.95848553	Rt
STR-04-S310_IIb_4_3	Alps (CH)	96.03	97.08	1377	nd	635	43	35	nd	250	2956	2130	nd	0.00500125	7.7349E-05	0.9949214	Rt
STR-04-S310_IIb_5_1	Alps (CH)	97.15	98.28	1659	nd	875	nd	15	nd	142	4031	1166	nd	0.0043274	0.00037383	0.99529877	Rt
STR-04-S310_IIb_6_1	Alps (CH)	97.48	98.43	1374	nd	710	8	5	nd	279	3112	1135	nd	0.00581835	0.00148036	0.99270129	Rt
STR-04-S310_IIb_7_1	Alps (CH)	99.03	100.23	1039	nd	1039	nd	4	nd	169	3833	2373	nd	0.0046118	0.00052375	0.99486445	Rt
STR-04-S310_IIb_7_2	Alps (CH)	98.85	100.12	1052	nd	1060	nd	nd	nd	204	3870	2744	nd	0.00635858	0.00304122	0.99060021	Rt
STR-04-S310_IIb_7_3	Alps (CH)	96.57	97.92	1060	nd	1054	nd	28	nd	155	4208	2934	nd	0.00230351	2.954E-05	0.99766695	Rt
STR-04-S310_IIb_8_1	Alps (CH)	97.61	98.3	1232	nd	1185	nd	74	nd	465	1198	721	nd	0.00347166	5.6442E-06	0.99652269	Rt
STR-04-S310_IIb_9_1	Alps (CH)	97.04	98.19	1450	nd	764	27	10	92	526	3194	1995	nd	0.00279832	0.00023402	0.99696765	Rt
STR-04-S310_IIb_9_2	Alps (CH)	97.66	98.83	1400	nd	757	nd	24	39	889	3176	1966	nd	0.00125374	4.8964E-05	0.9986973	Rt
STR-04-S310_IIb_9_3	Alps (CH)	97.2	98.32	1390	nd	747	8	18	30	588	3200	1886	nd	0.00199885	9.8524E-05	0.99790263	Rt
STR-04-S310_IIb_10_1	Alps (CH)	97.23	98.39	1109	nd	618	nd	1	nd	367	3270	2859	nd	0.00958033	0.00728638	0.98313329	Rt
STR-04-S310_IIb_10_2	Alps (CH)	97.64	98.8	1102	nd	630	19	nd	nd	417	3191	2860	nd	0.00867098	0.00638559	0.98494344	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
STR-04-S310_IIb_10_3	Alps (CH)	97.09	98.37	1293	nd	664	25	nd	nd	452	3359	3286	nd	0.00819343	0.00604103	0.98576554	Rt
STR-04-S310_IIb_11	Alps (CH)	97.91	98.8	960	nd	681	8	nd	nd	225	2708	1712	13	0.01427042	0.00851692	0.97721266	Rt
STR-04-S310_IIb_12	Alps (CH)	98.47	99.23	759	nd	645	nd	55	nd	564	2779	509	nd	0.00087747	3.3366E-05	0.99908916	Rt
STR-04-S310_IIb_13	Alps (CH)	97.94	98.69	774	nd	92	nd	18	71	627	1477	2276	nd	0.05093237	0.0036212	0.94544643	Rt
STR-04-S310_IIb_14	Alps (CH)	96.68	97.9	1251	nd	1225	nd	10	nd	170	4789	1039	nd	0.00164801	0.00023496	0.99811702	Rt
STR-04-S310_IIb_15	Alps (CH)	99.92	100.61	248	nd	656	nd	143	nd	449	2665	643	nd	0.00037398	2.0689E-06	0.99962395	Rt
STR-04-S310_IIb_16	Alps (CH)	97.46	98.39	1516	nd	625	17	24	29	426	2593	1268	nd	0.00407442	0.00015726	0.99576831	Rt
STR-04-S310_IIb_17	Alps (CH)	98.86	99.9	1051	nd	727	nd	70	nd	243	3185	2003	nd	0.00241744	1.6687E-05	0.99756587	Rt
STR-04-S310_IIb_18	Alps (CH)	97.85	99.41	1052	nd	738	11	nd	nd	2493	3503	3418	nd	0.00120557	0.00144043	0.99735399	Rt
STR-04-S310_IIb_19	Alps (CH)	97.32	98.46	1670	nd	869	nd	70	nd	243	2981	2167	nd	0.00325959	1.7413E-05	0.99672299	Rt
STR-04-S310_IIb_20	Alps (CH)	97.46	98.4	1282	nd	647	nd	13	2	265	3143	1224	nd	0.00464556	0.00041897	0.99493546	Rt
STR-04-S310_IIb_21	Alps (CH)	97.59	98.51	873	nd	706	82	4	nd	316	2546	1942	nd	0.00676188	0.00071099	0.99252713	Rt
STR-04-S310_IIb_22	Alps (CH)	96.19	97.65	1442	nd	1258	171	31	nd	121	4763	2388	nd	0.00218025	3.4023E-05	0.99778572	Rt
STR-04-S310_IIb_23	Alps (CH)	97.08	98.5	329	nd	1234	27	11	nd	96	4585	3692	nd	0.00156326	2.316E-05	0.99841358	Rt
STR-04-S310_IIb_24	Alps (CH)	99.15	100.02	523	nd	402	nd	nd	14	379	3201	1597	nd	0.00725678	0.01203446	0.98070876	Rt
STR-04-S310_IIb_25	Alps (CH)	96.91	98.15	930	nd	695	nd	10	nd	131	6014	706	nd	0.00185874	0.001035	0.99710626	Rt
STR-04-S310_IIb_26	Alps (CH)	99.99	100.77	845	nd	717	nd	20	nd	248	2242	1390	nd	0.00522478	8.9287E-05	0.99468593	Rt
STR-04-S310_IIb_27	Alps (CH)	98.95	99.85	724	nd	1321	nd	24	nd	256	3064	882	nd	0.00105246	2.1753E-05	0.99892578	Rt
STR-04-S310_IIb_28	Alps (CH)	97.09	98.39	1880	nd	1152	nd	10	nd	202	4851	925	0	0.00193846	0.00043234	0.9976292	Rt
STR-04-S310_IIb_29	Alps (CH)	97.88	98.71	165	nd	1068	38	50	nd	367	3232	860	nd	0.00021354	1.8729E-06	0.99978459	Rt
STR-04-IV10_IIb_1	Alps (CH)	96.95	97.93	607	nd	662	25	15	nd	295	3547	1723	nd	0.00197628	0.00010538	0.99791834	Rt
STR-04-IV10_IIb_3_1	Alps (CH)	97.14	98.39	1286	nd	966	nd	17	nd	206	4706	1466	nd	0.00176443	0.00013658	0.99809899	Rt
STR-04-IV10_IIb_8_1	Alps (CH)	97.74	98.89	493	nd	1198	nd	3	nd	689	3094	2686	4	0.00101284	9.1537E-05	0.99889563	Rt
STR-04-IV10_IIb_8_2	Alps (CH)	97.34	98.83	489	nd	1129	10	10	89	2889	3207	2735	104	0.00017615	8.2858E-06	0.99981557	Rt
STR-04-IV10_IIb_8_3	Alps (CH)	98.03	99.31	545	nd	1199	nd	nd	24	1356	3104	2884	1	0.00086951	0.00032705	0.99880345	Rt
STR-04-IV10_IIb_11_1	Alps (CH)	97.61	98.58	1163	nd	1139	nd	25	33	742	2576	1070	29	0.000954	2.2489E-05	0.99902351	Rt
STR-04-IV10_IIb_11_2	Alps (CH)	97.49	98.57	1090	60	1091	nd	24	134	922	2686	1053	302	0.00072919	2.2302E-05	0.9992485	Rt
STR-04-IV10_IIb_11_3	Alps (CH)	97.55	98.87	1204	220	1124	nd	38	269	2267	2661	1154	229	0.00029447	6.8211E-06	0.9996987	Rt
STR-04-IV10_IIb_12_1	Alps (CH)	97.1	98.15	2945	nd	232	152	54	104	2756	1175	122	15	0.00530743	0.00139233	0.99330025	Rt
STR-04-IV10_IIb_12_2	Alps (CH)	97.19	98.24	2901	nd	234	207	75	96	2778	1145	125	11	0.00485923	0.00080895	0.99433182	Rt
STR-04-IV10_IIb_12_3	Alps (CH)	96.74	98.09	4233	nd	285	210	52	129	3349	1265	173	8	0.00462464	0.00100928	0.99436608	Rt
STR-04-IV10_IIb_13_1	Alps (CH)	97.65	98.33	295	nd	818	26	22	6	2855	823	81	30	0.00047752	2.1186E-05	0.99950129	Rt
STR-04-IV10_IIb_14	Alps (CH)	97.66	98.47	162	nd	2686	21	55	nd	2210	593	85	nd	0.00013214	1.7328E-07	0.99986769	Rt
STR-04-IV10_IIb_15_1	Alps (CH)	99.01	99.55	278	nd	926	nd	109	13	1887	602	101	5	0.00062576	1.3873E-06	0.99937285	Rt
STR-04-IV10_IIb_15_2	Alps (CH)	99.15	99.77	560	113	881	nd	153	47	1915	536	64	113	0.00105668	2.8216E-06	0.9989405	Rt
STR-04-IV10_IIb_15_3	Alps (CH)	98.2	98.74	353	nd	800	8	143	14	1889	649	58	26	0.00058934	2.6641E-06	0.999408	Rt
STR-04-IV10_IIb_16_1	Alps (CH)	99.3	99.99	744	nd	464	116	72	46	1574	1672	147	95	0.00072778	5.1963E-05	0.99922026	Rt
STR-04-IV10_IIb_16_2	Alps (CH)	99.02	99.72	720	nd	449	252	62	68	1681	1655	135	nd	0.00072303	6.8267E-05	0.9992087	Rt
STR-04-IV10_IIb_16_3	Alps (CH)	99.32	99.97	741	nd	383	232	88	45	1333	1661	163	13	0.00102532	6.1328E-05	0.99891335	Rt
STR-04-IV10_IIb_17_1	Alps (CH)	98.97	100.17	1939	nd	769	nd	85	85	787	3219	1572	10	0.00103647	1.4078E-05	0.99894945	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
STR-04-IV10_IIb_17_2	Alps (CH)	99.24	100.53	1942	nd	744	135	77	182	1229	3185	1585	15	0.00075299	1.3562E-05	0.99923344	Rt
STR-04-IV10_IIb_17_3	Alps (CH)	98.97	100.15	2007	nd	746	55	57	144	545	3151	1576	nd	0.00185107	3.3916E-05	0.99811501	Rt
STR-04-IV10_IIb_18_1	Alps (CH)	98.98	99.68	149	nd	72	nd	nd	nd	4276	704	47	20	0.00776702	0.19884143	0.79339156	Rt
STR-04-IV10_IIb_18_2	Alps (CH)	99.5	100.25	101	nd	113	nd	23	nd	4641	682	82	24	0.00171171	0.00038605	0.99790224	Rt
STR-04-IV10_IIb_18_3	Alps (CH)	99.21	99.91	90	nd	96	nd	18	nd	4354	649	132	4	0.00276966	0.00050586	0.99672448	Rt
STR-04-IV10_IIb_19_1	Alps (CH)	98.2	100.48	7318	nd	212	2097	628	245	5626	487	64	26	0.01011061	0.00010453	0.98978485	Rt
STR-04-IV10_IIb_19_2	Alps (CH)	98.92	100.59	4543	nd	30	285	3114	187	3800	366	41	36	0.07079159	0.00077767	0.92843074	Rt
STR-04-IV10_IIb_19_3	Alps (CH)	100.51	101.16	1749	nd	39	nd	212	141	2414	192	18	nd	0.20179993	0.00993274	0.78826733	Rt
STR-04-IV10_IIb_20	Alps (CH)	98.82	99.51	124	nd	482	nd	47	24	3970	482	38	4	0.00051025	9.9097E-06	0.99947984	Rt
STR-04-IV10_IIb_21	Alps (CH)	98.68	99.43	1509	nd	572	130	149	nd	1806	1151	128	5	0.00126053	2.2272E-05	0.9987172	Rt
STR-04-IV10_IIb_22	Alps (CH)	99.01	99.81	1857	nd	516	299	111	27	1674	1107	134	23	0.00214831	5.4629E-05	0.99779706	Rt
STR-04-IV10_IIb_23	Alps (CH)	98.38	98.95	175	nd	1460	nd	45	nd	1722	618	111	nd	0.00038209	1.0041E-06	0.99961691	Rt
STR-04-IV10_IIb_24	Alps (CH)	100.52	101.09	141	nd	1123	102	55	21	1848	697	201	nd	0.00037125	7.1188E-07	0.99962804	Rt
STR-04-IV10_IIb_25	Alps (CH)	98.68	99.8	1948	nd	650	nd	31	67	878	2557	1706	51	0.00249689	7.1752E-05	0.99743136	Rt
STR-04-IV10_IIb_26	Alps (CH)	99.94	100.36	170	nd	121	nd	21	nd	2399	420	12	22	0.00571843	0.00314741	0.99113416	Rt
STR-04-IV10_IIb_27	Alps (CH)	99.61	100.16	143	nd	329	nd	30	45	2474	932	105	nd	0.00068137	4.5456E-05	0.99927318	Rt
STR-04-IV10_IIb_28	Alps (CH)	97.69	98.93	3824	nd	36	32	1020	174	3101	663	141	22	0.04760618	0.00128499	0.95110883	Rt
STR-04-IV10_IIb_29	Alps (CH)	98.18	99.41	3027	nd	389	904	358	179	2875	1020	212	nd	0.00232506	1.7704E-05	0.99765724	Rt
STR-04-IV10_IIb_30	Alps (CH)	99.94	100.56	1419	nd	33	nd	127	345	1286	958	35	71	0.03636372	0.04934976	0.91428653	Rt
STR-04-IV10_IIb_31	Alps (CH)	99.08	99.98	60	nd	21	24	24	nd	4303	2192	82	3	0.00099056	0.01652906	0.98248038	Rt
STR-04-IV10_IIb_32	Alps (CH)	94.85	98.54	4885	nd	18747	1111	27	nd	132	583	62	nd	0.00334031	1.7115E-06	0.99665798	Rt
STR-04-IV10_IIb_35	Alps (CH)	99.18	99.96	41	nd	870	nd	28	nd	4087	723	88	nd	8.282E-05	9.4514E-07	0.99991623	Rt
STR-04-IV10_IIb_37	Alps (CH)	98.37	99.41	558	nd	2625	139	1	4	2014	1891	150	nd	0.00023567	0.00029089	0.99947344	Rt
STR-04-IV10_IIb_38	Alps (CH)	98.7	99.96	1460	nd	1937	33	37	40	4248	1334	76	2	0.00014802	9.1221E-06	0.99984285	Rt
STR-04-IV11_IIb_1_1	Alps (CH)	100	100.8	905	nd	1713	71	46	8	1060	1464	384	10	0.00056649	3.6056E-06	0.9994299	Rt
STR-04-IV11_IIb_2_1	Alps (CH)	98.53	99.22	75	nd	2763	nd	58	nd	1362	578	55	nd	9.8876E-05	1.079E-07	0.99990102	Rt
STR-04-IV11_IIb_2_2	Alps (CH)	98.23	98.89	23	nd	2709	27	55	nd	1175	572	64	nd	5.0772E-05	2.9745E-08	0.9999492	Rt
STR-04-IV11_IIb_2_3	Alps (CH)	97.45	98.1	87	nd	2747	nd	81	nd	1124	524	64	nd	0.00014857	7.6933E-08	0.99985135	Rt
STR-04-IV11_IIb_3_1	Alps (CH)	100.73	101.4	129	nd	248	nd	18	nd	2626	1725	164	2	0.00037692	0.00014894	0.99947414	Rt
STR-04-IV11_IIb_3_2	Alps (CH)	99.95	100.65	125	nd	266	nd	42	nd	2901	1684	161	nd	0.0002393	3.4138E-05	0.99972656	Rt
STR-04-IV11_IIb_3_3	Alps (CH)	101.11	101.77	115	nd	272	14	nd	nd	2574	1651	198	nd	0.00099113	0.00585551	0.99315336	Rt
STR-04-IV11_IIb_5_1	Alps (CH)	97.75	98.95	2531	nd	355	149	153	nd	4537	1068	29	nd	0.00095737	0.00019724	0.99884539	Rt
STR-04-IV11_IIb_6_1	Alps (CH)	98.09	99.62	4826	nd	528	439	239	49	2746	2020	166	nd	0.00077539	4.4315E-05	0.99918029	Rt
STR-04-IV11_IIb_6_2	Alps (CH)	96.89	98.07	3051	nd	478	339	175	50	2317	1852	207	nd	0.00099676	4.6294E-05	0.99895694	Rt
STR-04-IV11_IIb_6_3	Alps (CH)	97.04	98.18	2894	nd	465	423	184	20	2146	1814	181	nd	0.00103498	4.9101E-05	0.99891592	Rt
STR-04-IV11_IIb_7_1	Alps (CH)	97.08	97.83	352	nd	2556	nd	89	nd	1925	381	38	5	0.00041486	3.7984E-07	0.99958476	Rt
STR-04-IV11_IIb_7_2	Alps (CH)	96.59	97.42	489	nd	2887	10	30	nd	2050	390	73	nd	0.00076084	1.2369E-06	0.99923792	Rt
STR-04-IV11_IIb_7_3	Alps (CH)	96.88	97.68	494	nd	2822	nd	11	nd	1999	318	70	14	0.00162157	5.3574E-06	0.99837307	Rt
STR-04-IV11_IIb_10_1	Alps (CH)	97.41	98.54	2875	nd	853	442	44	100	2512	1226	96	2	0.00121058	0.00011429	0.99867514	Rt
STR-04-IV11_IIb_10_2	Alps (CH)	98.13	99.4	3359	nd	755	624	130	73	2959	1224	87	nd	0.000896	3.7313E-05	0.99906669	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
STR-04-IV11_IIb_10_3	Alps (CH)	98.41	99.51	2620	nd	695	502	155	49	2609	1170	140	nd	0.00108529	1.9669E-05	0.99889504	Rt
STR-04-IV11_IIb_11_1	Alps (CH)	98.08	98.94	1046	nd	709	nd	nd	45	467	2000	1511	200	0.01225147	0.0055039	0.98224463	Rt
STR-04-IV11_IIb_11_2	Alps (CH)	98.53	99.49	1256	nd	777	59	11	11	385	2094	2180	10	0.00691781	0.00015367	0.99292853	Rt
STR-04-IV11_IIb_11_3	Alps (CH)	98.81	99.85	1269	nd	706	nd	7	43	942	2078	2134	109	0.00399738	0.0002298	0.99577282	Rt
STR-04-IV11_IIb_12_1	Alps (CH)	98.95	100.15	1405	nd	560	nd	108	nd	6781	183	32	nd	0.00675418	1.9707E-05	0.99322612	Rt
STR-04-IV11_IIb_12_2	Alps (CH)	98.72	100.11	2987	nd	505	54	474	1	6087	241	32	2	0.00549238	8.5772E-06	0.99449904	Rt
STR-04-IV11_IIb_12_3	Alps (CH)	99.72	100.55	835	nd	411	nd	83	6	4787	130	32	nd	0.01767759	3.3222E-05	0.98228919	Rt
STR-04-IV11_IIb_14_1	Alps (CH)	99.69	101.05	566	nd	1119	150	121	75	608	3881	20	1912	5.1479E-05	2.3543E-05	0.99992498	Rt
STR-04-IV11_IIb_14_2	Alps (CH)	98.12	99.15	436	nd	972	43	131	221	570	3975	41	440	6.1596E-05	1.3479E-05	0.99992492	Rt
STR-04-IV11_IIb_14_3	Alps (CH)	98.67	99.58	442	nd	785	nd	65	45	543	4080	23	220	8.3769E-05	9.6681E-05	0.99981955	Rt
STR-04-IV11_IIb_15_1	Alps (CH)	98.79	99.59	1181	nd	96	132	110	nd	3365	844	192	11	0.00957569	0.00074014	0.98968418	Rt
STR-04-IV11_IIb_15_2	Alps (CH)	99.07	99.95	1046	nd	81	229	109	6	3950	881	235	nd	0.00903179	0.00077864	0.99018956	Rt
STR-04-IV11_IIb_15_3	Alps (CH)	99.59	100.44	1027	nd	101	159	121	nd	3877	863	182	nd	0.00652396	0.00047387	0.99300217	Rt
STR-04-IV11_IIb_16	Alps (CH)	96.65	97.65	1647	nd	1133	44	115	76	1838	2111	138	nd	0.00023337	9.0056E-06	0.99975762	Rt
STR-04-IV11_IIb_17	Alps (CH)	98.05	99.24	486	nd	4540	1244	231	9	660	1234	32	nd	6.2715E-05	1.2634E-07	0.99993716	Rt
STR-04-IV11_IIb_18	Alps (CH)	98.4	99.2	1206	nd	471	44	98	42	3119	854	73	nd	0.00130565	4.753E-05	0.99864682	Rt
STR-04-IV11_IIb_19	Alps (CH)	97.47	98.2	442	nd	510	nd	nd	68	642	2837	366	131	0.00231093	0.01156977	0.98611929	Rt
STR-04-IV11_IIb_20	Alps (CH)	100.34	101.5	2272	nd	197	25	51	88	5010	701	237	5	0.00949723	0.0005809	0.98992187	Rt
STR-04-IV11_IIb_21	Alps (CH)	97.59	98.88	1811	nd	1174	nd	44	3	512	3022	2560	nd	0.0014996	1.102E-05	0.99848938	Rt
STR-04-IV11_IIb_22	Alps (CH)	98.59	99.49	250	nd	499	67	1	nd	2999	2660	3	50	8.0987E-05	0.07383436	0.92608465	Rt
STR-04-IV11_IIb_23	Alps (CH)	97.98	99.22	1759	nd	5450	46	21	44	635	217	232	142	0.01372577	1.3696E-06	0.98627286	Rt
STR-04-IV11_IIb_24	Alps (CH)	97.86	99.09	2434	nd	276	283	114	nd	5749	288	44	nd	0.01286715	0.00018823	0.98694462	Rt
STR-04-IV11_IIb_1	Alps (CH)	96.12	97.31	1918	nd	996	354	154	11	666	2601	1689	nd	0.00109101	3.0828E-06	0.99890591	Rt
STR-04-IV11_IIb_3	Alps (CH)	97.83	98.95	2501	nd	816	nd	25	1	522	2234	1809	nd	0.0052957	9.3245E-05	0.99461105	Rt
STR-04-IV11_IIb_4	Alps (CH)	98.26	99.34	2500	nd	471	775	169	46	2630	1144	141	nd	0.00163043	3.965E-05	0.99832992	Rt
STR-04-IV11_IIb_5	Alps (CH)	98.61	99.7	831	nd	795	130	14	nd	516	2895	2567	nd	0.00203985	5.5571E-05	0.99790458	Rt
STR-04-IV11_IIb_6	Alps (CH)	96.81	98.04	2269	nd	1000	58	20	59	627	2158	2522	15	0.00422162	5.0428E-05	0.99572795	Rt
STR-04-IV11_IIb_7	Alps (CH)	98.16	99.57	1469	80	528	nd	nd	256	1479	2783	2981	267	0.00528787	0.00610538	0.98860674	Rt
STR-04-IV11_IIb_8	Alps (CH)	95.17	98.21	5685	300	603	nd	25	759	6565	2654	3049	1400	0.00116638	8.9415E-05	0.9987442	Rt
STR-04-IV11_IIb_8	Alps (CH)	98.73	99.48	1423	nd	246	24	79	129	2855	526	175	nd	0.01127301	0.0001601	0.9885669	Rt
STR-04-IV11_IIb_9	Alps (CH)	98.58	99.33	1399	nd	270	nd	77	104	2865	561	172	nd	0.00895087	0.00013674	0.99091239	Rt
STR-04-IV11_IIb_10	Alps (CH)	98.4	99.38	996	nd	738	nd	18	nd	443	2966	1723	nd	0.00226647	8.2904E-05	0.99765062	Rt
STR-04-IV11_IIb_11	Alps (CH)	97.64	98.58	1542	nd	612	nd	39	nd	679	2375	1436	nd	0.00282123	5.693E-05	0.99712184	Rt
STR-04-SNC_IIb_2_1	Alps (CH)	97.15	98.64	682	nd	2911	nd	82	nd	319	2654	3918	nd	0.00045843	1.5965E-07	0.99954141	Rt
STR-04-SNC_IIb_2_2	Alps (CH)	97.02	98.55	661	nd	3047	2	110	nd	442	2731	3835	5	0.00026739	7.7755E-08	0.99973253	Rt
STR-04-SNC_IIb_2_3	Alps (CH)	97.81	99.26	664	nd	2835	nd	80	nd	337	2513	3819	nd	0.00048479	1.6444E-07	0.99951505	Rt
STR-04-SNC_IIb_3_1	Alps (CH)	97.07	98.26	1453	nd	923	11	15	nd	348	4270	1278	nd	0.00149031	0.00016557	0.99834412	Rt
STR-04-SNC_IIb_4_1	Alps (CH)	97.45	98.49	1275	nd	734	nd	3	nd	323	3829	1093	nd	0.00376754	0.00271978	0.99351268	Rt
STR-04-SNC_IIb_4_2	Alps (CH)	97.43	98.46	1286	nd	710	nd	14	1	379	3671	1087	nd	0.00214271	0.00029144	0.99756585	Rt
STR-04-SNC_IIb_4_3	Alps (CH)	96.61	97.67	1367	nd	694	nd	23	4	378	3814	1081	3	0.00181247	0.00016493	0.9980226	Rt

continued on next page. . .

. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
STR-04-SNC_IIb_5_1	Alps (CH)	97.82	99.11	978	nd	837	21	nd	nd	249	4789	2145	nd	0.0041139	0.00563984	0.99024626	Rt
STR-04-SNC_IIb_5_2	Alps (CH)	98.45	99.73	947	nd	853	nd	3	nd	250	4856	2036	nd	0.00257442	0.00111768	0.99630789	Rt
STR-04-SNC_IIb_5_3	Alps (CH)	98.9	100.18	963	nd	884	69	28	nd	237	4915	1820	nd	0.00114277	4.711E-05	0.99881012	Rt
STR-04-SNC_IIb_6_1	Alps (CH)	96.85	97.81	1161	nd	436	2	8	7	680	2422	2064	4	0.00623583	0.00068184	0.99308232	Rt
STR-04-SNC_IIb_7_1	Alps (CH)	99.4	100.39	456	nd	834	nd	nd	nd	362	2705	2665	nd	0.00483055	0.00127196	0.99389749	Rt
STR-04-SNC_IIb_7_2	Alps (CH)	99.23	100.3	422	nd	844	nd	38	nd	344	2773	3113	17	0.00133778	5.5757E-06	0.99865665	Rt
STR-04-SNC_IIb_7_3	Alps (CH)	99.55	100.57	440	nd	840	5	28	nd	351	2693	2898	nd	0.00156089	9.4435E-06	0.99842966	Rt
STR-04-SNC_IIb_8_1	Alps (CH)	99.56	100.87	1235	nd	4219	102	82	nd	431	729	2505	nd	0.00312209	8.9675E-08	0.99687782	Rt
STR-04-SNC_IIb_8_2	Alps (CH)	97.08	98.44	1291	nd	4353	124	111	nd	316	837	2544	nd	0.00294173	7.086E-08	0.9970582	Rt
STR-04-SNC_IIb_8_3	Alps (CH)	97.44	98.78	1247	nd	4214	116	113	nd	361	871	2544	nd	0.00243099	6.7575E-08	0.99756895	Rt
STR-04-SNC_IIb_9_3	Alps (CH)	96.45	97.82	1172	nd	744	9	59	54	532	3015	4087	62	0.00182437	8.7461E-06	0.99816688	Rt
STR-04-SNC_IIb_12	Alps (CH)	96.35	97.52	629	nd	1706	27	nd	7	132	3811	1814	nd	0.00338429	0.00094671	0.995669	Rt
STR-04-SNC_IIb_15	Alps (CH)	96.22	97.59	1067	nd	966	nd	6	nd	140	4977	2390	nd	0.0033284	0.00044149	0.9962301	Rt
STR-04-SNC_IIb_16	Alps (CH)	95.91	97.53	1943	nd	1449	8	1	nd	416	5175	2270	nd	0.00208121	0.00264993	0.99526886	Rt
STR-04-SNC_IIb_17	Alps (CH)	96.96	97.97	1634	nd	786	nd	23	2	768	2894	1002	nd	0.00149386	9.6181E-05	0.99840996	Rt
STR-04-SNC_IIb_18	Alps (CH)	97.19	98.34	1497	nd	1167	25	23	nd	218	4219	794	28	0.00136431	9.74E-05	0.99853829	Rt
STR-04-SNC_IIb_20	Alps (CH)	97.65	98.48	834	nd	558	nd	nd	41	760	2356	1262	34	0.00606508	0.00687642	0.9870585	Rt
STR-04-SNC_IIb_27	Alps (CH)	96.93	97.81	823	nd	988	nd	6	nd	366	2822	1170	nd	0.00237689	0.00023593	0.99738718	Rt
STR-04-SNC_IIb_28	Alps (CH)	97.61	98.68	525	nd	772	nd	nd	nd	450	4382	1318	nd	0.00161772	0.00323442	0.99514786	Rt
STR-04-SNC_IIb_29	Alps (CH)	97.22	98.38	1070	nd	745	19	11	9	323	4106	1809	7	0.00214616	0.00023785	0.99761599	Rt
STR-04-SNC_IIb_31	Alps (CH)	96.57	97.83	1111	nd	1321	16	nd	nd	330	4446	1515	nd	0.00214127	0.00242655	0.99543219	Rt
STR-04-SNC_IIb_32	Alps (CH)	96.56	98.05	1660	nd	842	38	28	nd	218	5066	2585	nd	0.0021063	8.2287E-05	0.99781141	Rt
STR-04-SNC_IIb_33	Alps (CH)	97.14	98.73	779	nd	989	nd	13	144	1233	4597	3377	78	0.00033218	2.1457E-05	0.99964636	Rt
STR-04-SNC_IIb_M_4_1	Alps (CH)	96.93	97.7	571	nd	1874	nd	63	nd	361	1462	1032	13	0.00120727	9.7829E-07	0.99879175	Rt
STR-04-SNC_IIb_M_4_1	Alps (CH)	99.38	100.58	1245	nd	952	nd	nd	16	314	4676	1114	nd	0.00291388	0.00768799	0.98939813	Rt
STR-04-SNC_IIb_M_4_2	Alps (CH)	98.97	100.19	1243	nd	1058	59	nd	nd	309	4708	1102	nd	0.00258641	0.0061408	0.99127279	Rt
STR-04-SNC_IIb_M_4_3	Alps (CH)	98.36	99.59	1281	nd	1041	nd	14	7	295	4901	1016	nd	0.0010242	0.00016379	0.99881201	Rt
STR-04-SNC_IIb_M_5_1	Alps (CH)	100.24	101.63	1998	60	1160	nd	55	76	697	4164	1374	124	0.00052595	1.3893E-05	0.99946016	Rt
STR-04-SNC_IIb_M_5_2	Alps (CH)	99.02	100.26	1864	nd	1157	nd	57	4	420	4195	872	nd	0.00067345	2.2489E-05	0.99930406	Rt
STR-04-SNC_IIb_M_5_3	Alps (CH)	97.95	99.17	1895	nd	1134	nd	52	6	475	4092	783	29	0.00064869	2.7344E-05	0.99932396	Rt
STR-04-SNC_IIb_M_7_1	Alps (CH)	96.17	97.73	1525	nd	946	121	31	nd	475	4427	3527	nd	0.00113966	2.4123E-05	0.99883621	Rt
STR-04-SNC_IIb_M_7_2	Alps (CH)	96	97.61	1592	nd	984	28	36	1	485	4537	3690	nd	0.00101909	1.8059E-05	0.99896286	Rt
STR-04-SNC_IIb_M_7_3	Alps (CH)	95.46	97.17	1520	nd	952	156	29	2	1109	4650	3720	nd	0.00048981	1.6009E-05	0.99949418	Rt
STR-04-SNC_IIb_M_10_2	Alps (CH)	98.02	99.46	1454	nd	876	6	39	nd	111	4495	2760	232	0.00382987	5.2534E-05	0.9961176	Rt
STR-04-SNC_IIb_M_10_3	Alps (CH)	97.02	99.69	1228	nd	885	nd	4	nd	182	4243	9037	2303	0.00752648	0.00035653	0.99211699	Rt
STR-04-SNC_IIb_M_11_1	Alps (CH)	98.98	100.32	1159	nd	937	3	nd	31	317	4695	2125	46	0.00341338	0.00462975	0.99195687	Rt
STR-04-SNC_IIb_M_11_2	Alps (CH)	98.6	100.18	1112	148	964	nd	17	370	1170	4613	2036	353	0.00036301	3.4632E-05	0.99960236	Rt
STR-04-SNC_IIb_M_11_3	Alps (CH)	99.4	100.64	1079	nd	934	6	nd	1	325	4544	1761	nd	0.00316004	0.00476885	0.99207111	Rt
STR-04-SNC_IIb_M_12_1	Alps (CH)	97.84	99.02	1374	nd	611	5	nd	94	1455	2669	2227	12	0.00424946	0.00492264	0.9908279	Rt
STR-04-SNC_IIb_M_12_2	Alps (CH)	96.8	98.04	1284	nd	567	17	nd	269	1566	2745	2114	114	0.00383206	0.00545127	0.99071667	Rt

continued on next page. . .

. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
STR-04-SNC_IIb_M_12_3	Alps (CH)	96.93	98.08	1255	nd	562	nd	nd	122	1429	2658	2139	3	0.00439938	0.00557108	0.99002953	Rt
STR-04-SNC_IIb_M_13_1	Alps (CH)	98.93	100.59	1527	nd	4717	30	73	9	257	1937	3139	nd	0.00102921	1.8238E-07	0.99897061	Rt
STR-04-SNC_IIb_M_13_2	Alps (CH)	99.26	100.94	1613	nd	4757	52	88	nd	159	1914	3220	nd	0.00160281	1.8575E-07	0.998397	Rt
STR-04-SNC_IIb_M_13_3	Alps (CH)	99.14	100.83	1586	nd	4726	2	70	nd	145	1973	3343	nd	0.00180286	2.6702E-07	0.99819688	Rt
STR-04-SNC_IIb_M_13_1	Alps (CH)	99.11	100.79	1575	nd	4734	28	77	3	187	1941	3234	nd	0.00139267	2.0301E-07	0.99860712	Rt
STR-04-SNC_IIb_M_14_1	Alps (CH)	100.32	101.36	1667	nd	608	nd	34	27	683	2743	1591	8	0.00251812	7.6126E-05	0.99740576	Rt
STR-04-SNC_IIb_M_14_2	Alps (CH)	100.16	101.14	1471	nd	569	nd	8	28	675	2639	1548	nd	0.00437163	0.00062201	0.99500636	Rt
STR-04-SNC_IIb_M_14_3	Alps (CH)	100.55	101.5	1351	nd	554	nd	nd	38	633	2602	1481	nd	0.00919415	0.01255571	0.97825014	Rt
STR-04-SNC_IIb_M_14_1	Alps (CH)	100.34	101.33	1496	nd	577	nd	14	31	664	2661	1540	3	0.00358623	0.00027893	0.99613485	Rt
STR-04-SNC_IIb_M_16	Alps (CH)	99.07	100.39	1150	nd	1160	nd	15	82	510	5051	1070	92	0.00047195	7.3324E-05	0.99945472	Rt
STR-04-SNC_IIb_M_18	Alps (CH)	99.02	100.15	930	nd	716	nd	nd	51	455	4302	971	299	0.00251979	0.00913729	0.98834292	Rt
STR-04-SNC_IIb_M_19	Alps (CH)	99.72	101.29	298	308	1043	nd	22	405	669	3993	3824	236	0.00029312	3.5001E-06	0.99970338	Rt
STR-04-SNC_IIb_M_21	Alps (CH)	99.74	100.79	1827	nd	863	6	44	nd	498	3107	994	7	0.00153604	4.5717E-05	0.99841824	Rt
STR-04-SNC_IIb_M_22	Alps (CH)	99.01	100.15	1082	nd	856	nd	nd	18	428	3917	1675	nd	0.00346787	0.00487866	0.99165347	Rt
STR-04-SNC_IIb_M_24	Alps (CH)	98.86	100.08	1897	nd	1123	nd	nd	nd	246	4479	706	nd	0.00388692	0.01325313	0.98285995	Rt
STR-04-SNC_IIb_M_27	Alps (CH)	97.64	98.8	1015	nd	842	16	nd	28	396	4839	860	27	0.00199319	0.008628	0.98937881	Rt
STR-04-SNC_IIb_M_28	Alps (CH)	98.56	99.72	1568	nd	593	nd	18	52	741	2577	2707	7	0.00379101	0.00011958	0.99608941	Rt
STR-04-SNC_IIb_M_30	Alps (CH)	100.8	102.06	1185	nd	1166	nd	nd	3	274	5119	1006	nd	0.00209125	0.00549215	0.9924166	Rt
STR-04-SNC_IIb_M_31	Alps (CH)	100.18	101.05	1669	nd	400	33	4	70	965	1716	1299	8	0.0131892	0.003372	0.9834388	Rt
STR-04-SNC_IIb_M_32	Alps (CH)	99.81	101.16	463	nd	302	nd	24	nd	323	4909	3536	nd	0.00214256	0.00015735	0.99770008	Rt
STR-04-SNC_IIb_M_33	Alps (CH)	100.26	101.49	1058	nd	1344	nd	7	nd	309	3952	1923	nd	0.00145782	0.00011108	0.9984311	Rt
STR-04-SNC_IIb_M_34	Alps (CH)	98.67	99.91	1137	60	905	nd	3	70	387	4510	1383	76	0.00186102	0.00120741	0.99693157	Rt
STR-04-SNC_IIb_M_35	Alps (CH)	100.04	101.01	1710	nd	616	nd	20	6	351	2756	1395	nd	0.00535686	0.0002598	0.99438334	Rt
STR-04-SNC_IIb_M_37	Alps (CH)	96.39	97.83	1320	nd	1152	nd	32	22	256	4539	2735	27	0.00126312	2.108E-05	0.9987158	Rt
STR-04-SNC_IIb_M_38	Alps (CH)	99.94	101.1	453	nd	913	nd	nd	nd	341	5094	1267	nd	0.00116837	0.00236851	0.99646312	Rt
STR-04-SNC_IIb_M_42	Alps (CH)	100.39	101.42	1004	nd	824	nd	6	21	349	2667	2436	0	0.00497189	0.00026869	0.99475942	Rt
STR-04-SNC_IIb_M_43	Alps (CH)	97.82	99.5	1970	nd	1501	nd	59	3	299	4849	3113	3	0.00082758	6.5018E-06	0.99916592	Rt
STR-04-SNC_IIb_M_44	Alps (CH)	98.1	99.77	1276	nd	941	nd	27	nd	245	3837	5526	34	0.00289112	2.3847E-05	0.99708503	Rt
STR-04-SNC_IIb_M_46	Alps (CH)	100.98	101.92	1245	nd	434	6	17	67	782	2349	1715	8	0.00445233	0.00026325	0.99528442	Rt
STR-04-SNC_IIb_M_48	Alps (CH)	99.65	101.28	2227	nd	1137	28	41	nd	392	4185	3444	nd	0.00147524	1.8099E-05	0.99850666	Rt
STR-04-SNC_IIb_M_2_1	Alps (CH)	95.85	97.13	1198	nd	511	9	11	10	1540	3148	2626	38	0.0015215	0.00018635	0.99829215	Rt
STR-04-SNC_IIb_10_1	Alps (CH)	95.56	96.56	1278	nd	673	nd	15	45	497	3556	940	nd	0.00173633	0.00027896	0.99798471	Rt
STR-04-SNC_IIb_11_1	Alps (CH)	95.69	96.68	1683	nd	619	26	8	54	799	2072	1776	nd	0.00606098	0.00044473	0.99349428	Rt
STR-04-S311_IIb_2_1	Alps (CH)	97.39	98.37	713	nd	887	nd	17	nd	271	3854	1091	nd	0.0012402	8.1206E-05	0.9986786	Rt
STR-04-S311_IIb_2_2	Alps (CH)	97.36	98.46	944	nd	905	nd	41	nd	298	3947	1581	nd	0.00109589	2.2259E-05	0.99888185	Rt
STR-04-S311_IIb_2_3	Alps (CH)	96.76	97.85	1097	nd	928	41	49	nd	256	3974	1236	nd	0.00118094	2.5168E-05	0.9987939	Rt
STR-04-S311_IIb_3_2	Alps (CH)	97.51	98.49	917	nd	1260	nd	39	nd	396	2590	1682	nd	0.00124692	7.3176E-06	0.99874576	Rt
STR-04-S311_IIb_3_3	Alps (CH)	97.91	98.85	893	nd	1203	nd	41	3	221	2721	1461	30	0.00190201	1.147E-05	0.99808652	Rt
STR-04-S311_IIb_4_1	Alps (CH)	96.9	98.49	1506	nd	1164	nd	19	nd	234	4641	3651	nd	0.00190066	4.397E-05	0.99805537	Rt
STR-04-S311_IIb_5_1	Alps (CH)	97	98.14	1341	nd	929	nd	nd	nd	354	4366	953	nd	0.00304465	0.00899059	0.98796476	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
STR-04-S311_IIb_5_2	Alps (CH)	97.05	98.28	1608	nd	964	nd	36	nd	364	4477	1114	nd	0.00095383	5.2388E-05	0.99899379	Rt
STR-04-S311_IIb_5_3	Alps (CH)	96.95	98.12	1671	nd	967	16	8	nd	403	4328	738	nd	0.00139801	0.00059334	0.99800865	Rt
STR-04-S311_IIb_6_1	Alps (CH)	98.48	99.53	1632	nd	617	3	23	5	720	2518	1948	nd	0.00330456	0.0001021	0.99659333	Rt
STR-04-S311_IIb_7_1	Alps (CH)	98.41	98.91	79	nd	497	nd	19	5	252	2424	122	nd	0.00050591	8.1924E-05	0.99941217	Rt
STR-04-S311_IIb_8_1	Alps (CH)	97.42	98.33	1493	nd	630	18	2	nd	282	2819	1128	3	0.01138497	0.00762133	0.9809937	Rt
STR-04-S311_IIb_9_1	Alps (CH)	97.37	98.65	1299	nd	895	nd	9	nd	249	3776	2756	nd	0.00367879	0.00021498	0.99610623	Rt
STR-04-S311_IIb_10_1	Alps (CH)	97.66	98.67	927	nd	1115	6	56	nd	198	3051	1705	nd	0.00181605	9.1207E-06	0.99817482	Rt
STR-04-S311_IIb_11_1	Alps (CH)	97.2	98.41	1550	nd	774	18	15	1	252	3470	2468	3	0.00460757	0.00018324	0.99520919	Rt
STR-04-S311_IIb_12	Alps (CH)	97.18	98.14	1192	nd	617	3	nd	nd	191	3031	1739	nd	0.01785022	0.0155062	0.96664357	Rt
STR-04-S311_IIb_13	Alps (CH)	98.14	98.99	1550	nd	434	44	nd	nd	400	2186	1398	nd	0.02661568	0.03115697	0.94222735	Rt
STR-04-S311_IIb_14	Alps (CH)	96.56	97.73	1870	nd	751	11	nd	nd	352	3881	1264	nd	0.00672117	0.01671812	0.97656071	Rt
STR-04-S311_IIb_15	Alps (CH)	96.47	98.25	2174	nd	2034	8	6	nd	141	6017	1960	nd	0.00165558	0.0002258	0.99811863	Rt
STR-04-S311_IIb_16	Alps (CH)	100.03	101.27	994	nd	1130	nd	18	nd	173	4622	1629	1	0.00149344	6.5721E-05	0.99844084	Rt
STR-04-S311_IIb_17	Alps (CH)	97.12	98.36	1869	nd	649	nd	41	1	251	3039	2858	6	0.00608996	6.8453E-05	0.99384159	Rt
STR-04-S311_IIb_18	Alps (CH)	99.77	100.71	1360	nd	365	19	13	nd	248	2232	2388	nd	0.02215209	0.00092199	0.97692592	Rt
STR-04-S311_IIb_19	Alps (CH)	97.13	98.48	1730	nd	894	20	3	nd	332	4296	2194	3	0.0038009	0.00155391	0.99464519	Rt
STR-04-S311_IIb_20	Alps (CH)	96.83	98.85	5879	nd	970	nd	44	nd	239	5801	1122	nd	0.00223883	0.0002469	0.99751426	Rt
STR-04-S311_IIb_21	Alps (CH)	98.9	99.78	748	nd	1821	85	52	nd	238	1728	1456	nd	0.00200508	2.0039E-06	0.99799292	Rt
STR-04-S311_IIb_22	Alps (CH)	98.67	99.96	1324	nd	1161	nd	34	nd	202	2775	3656	nd	0.0040372	1.4238E-05	0.99594857	Rt
STR-04-S311_IIb_23	Alps (CH)	97.63	98.78	1452	nd	678	nd	17	nd	433	3036	2528	nd	0.00376942	0.00013232	0.99609826	Rt
STR-04-S311_IIb_24	Alps (CH)	97.77	98.74	1369	nd	417	nd	23	nd	337	2035	2759	nd	0.01471092	0.00022103	0.98506805	Rt
STR-04-S311_IIb_25	Alps (CH)	97.71	98.83	1602	nd	603	13	42	4	224	2790	2649	nd	0.00735009	7.0845E-05	0.99257907	Rt
STR-04-S311_IIb_26	Alps (CH)	96.8	97.89	1555	nd	898	53	11	nd	187	3767	1132	nd	0.0038563	0.00043455	0.99570915	Rt
STR-04-S311_IIb_27	Alps (CH)	97.24	98.29	370	nd	704	35	37	nd	226	3771	2275	nd	0.00115495	1.3641E-05	0.9988314	Rt
STR-04-S311_IIb_28	Alps (CH)	97.05	98.52	1101	nd	3893	90	78	nd	204	3699	1106	nd	0.00027067	5.5792E-07	0.99972878	Rt
STR-04-S311_IIb_29	Alps (CH)	97.46	98.68	1184	nd	499	35	4	nd	198	3005	3709	nd	0.01770566	0.00196831	0.98032603	Rt
STR-04-S311_IIb_30	Alps (CH)	97.37	98.65	1233	nd	755	98	25	nd	410	4030	2467	nd	0.00162326	5.8083E-05	0.99831866	Rt
STR-04-S311_IIb_31	Alps (CH)	98.6	99.56	1769	nd	998	nd	28	nd	274	2395	1194	nd	0.00436847	6.5799E-05	0.99556573	Rt
STR-04-S313_IIb_3_1	Alps (CH)	97.93	98.99	1336	nd	829	nd	29	6	244	4009	943	0	0.00176725	0.00010945	0.99812329	Rt
STR-04-S313_IIb_4_1	Alps (CH)	98.03	98.94	1055	nd	541	nd	19	3	501	2485	1849	3	0.00412252	0.00013815	0.99573933	Rt
STR-04-S313_IIb_5_1	Alps (CH)	97.67	98.85	2189	nd	720	43	37	40	455	2655	2172	4	0.00425618	6.1939E-05	0.99568188	Rt
STR-04-S313_IIb_5_2	Alps (CH)	97.56	98.71	2196	nd	695	24	30	30	473	2567	2133	8	0.004862	8.9133E-05	0.99504887	Rt
STR-04-S313_IIb_5_3	Alps (CH)	97.26	98.46	2186	nd	720	91	33	40	502	2757	2131	nd	0.00375423	7.1179E-05	0.99617459	Rt
STR-04-S313_IIb_6_1	Alps (CH)	97.18	98.38	358	nd	1444	nd	23	nd	206	3123	3331	nd	0.00102029	3.6564E-06	0.99897605	Rt
STR-04-S313_IIb_6_2	Alps (CH)	96.6	97.92	469	nd	1427	nd	nd	nd	207	3180	4033	nd	0.00388637	0.00041422	0.99569941	Rt
STR-04-S313_IIb_6_3	Alps (CH)	96.6	97.93	501	nd	1372	nd	7	nd	189	3256	4111	nd	0.00228099	3.1118E-05	0.99768789	Rt
STR-04-S313_IIb_7_1	Alps (CH)	98.28	99.34	1608	nd	602	6	23	nd	378	2913	1925	nd	0.0046895	0.00016308	0.99514742	Rt
STR-04-S313_IIb_8_1	Alps (CH)	100.64	101.65	1271	nd	639	16	23	nd	187	2752	2232	nd	0.00813924	0.00013973	0.99172103	Rt
STR-04-S313_IIb_9_1	Alps (CH)	97.23	98.96	3602	nd	1533	18	21	nd	218	5269	1279	0	0.00159959	0.00012919	0.99827123	Rt
STR-04-S313_IIb_10_1	Alps (CH)	98.88	99.68	1108	nd	824	47	26	14	299	2355	932	5	0.00340401	7.4559E-05	0.99652143	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
STR-04-S313_IIb_11_1	Alps (CH)	98.82	100.53	2208	nd	1561	226	40	nd	236	5206	2526	nd	0.00101562	1.6214E-05	0.99896817	Rt
STR-04-S313_IIb_11_2	Alps (CH)	97.21	99	2173	nd	1533	173	43	nd	281	5336	3060	nd	0.00086444	1.1967E-05	0.9991236	Rt
STR-04-S313_IIb_11_3	Alps (CH)	96.65	98.45	2237	nd	1587	167	nd	nd	205	5267	3131	nd	0.00433617	0.00300001	0.99266383	Rt
STR-04-S313_IIb_12_1	Alps (CH)	96.78	98.25	2987	nd	1194	nd	11	nd	149	4660	1135	10	0.00391299	0.00059824	0.99548877	Rt
STR-04-S313_IIb_14	Alps (CH)	96.94	98.66	1720	nd	952	10	23	nd	145	5915	3259	nd	0.00241011	9.7519E-05	0.99749238	Rt
STR-04-S313_IIb_15	Alps (CH)	97.68	98.83	1434	nd	1255	6	31	nd	147	3936	1182	nd	0.00203347	4.6317E-05	0.99792021	Rt
STR-04-S313_IIb_16	Alps (CH)	97.41	98.3	1553	nd	525	nd	28	43	793	2322	1005	nd	0.00303864	0.00015449	0.99680687	Rt
STR-04-S313_IIb_17	Alps (CH)	98.15	99.39	960	nd	829	nd	21	nd	239	5587	938	nd	0.00086329	0.00013904	0.99899767	Rt
STR-04-S313_IIb_18	Alps (CH)	98.03	99.13	1356	nd	619	nd	24	nd	168	2939	2675	4	0.00909401	0.00014633	0.99075966	Rt
STR-04-S313_IIb_19	Alps (CH)	97.65	98.88	1685	nd	793	nd	43	65	312	3860	1808	nd	0.00203559	4.8667E-05	0.99791575	Rt
STR-04-S313_IIb_20	Alps (CH)	99.55	100.76	799	nd	580	nd	28	nd	265	3615	3277	nd	0.00299744	5.4288E-05	0.99694827	Rt
STR-04-S313_IIb_21	Alps (CH)	97.48	98.78	1846	nd	762	14	30	408	494	2922	2541	nd	0.00309724	5.371E-05	0.99684905	Rt
STR-04-S313_IIb_23	Alps (CH)	97.03	98.15	1331	nd	527	nd	30	3	313	2994	2696	nd	0.00542847	0.00010721	0.99446432	Rt
STR-04-S313_IIb_24	Alps (CH)	98.38	99.5	521	nd	1171	nd	23	nd	271	4423	1404	nd	0.00054385	1.6994E-05	0.99943916	Rt
STR-04-S313_IIb_25	Alps (CH)	99.3	100.21	1478	nd	609	11	nd	6	179	2793	1327	nd	0.02371143	0.0245357	0.95175288	Rt
STR-04-S313_IIb_26	Alps (CH)	97.75	98.66	1461	nd	614	nd	17	nd	215	3104	938	nd	0.00565035	0.00050468	0.99384497	Rt
STR-04-S313_IIb_27	Alps (CH)	99.67	100.93	1432	nd	949	nd	nd	5	131	3646	2701	nd	0.01507172	0.0070105	0.97791777	Rt
STR-04-S313_IIb_28	Alps (CH)	98.72	99.72	1806	nd	734	nd	71	143	639	2249	1381	nd	0.00242685	1.9693E-05	0.99755345	Rt
STR-04-S313_IIb_29	Alps (CH)	97.75	98.86	884	nd	476	nd	28	nd	169	3395	2930	nd	0.00661316	0.00013015	0.99325669	Rt
STR-04-S313_IIb_30	Alps (CH)	96.85	98.27	1176	nd	1245	nd	10	nd	144	5962	1256	nd	0.0012952	0.00022195	0.99848286	Rt
STR-04-S313_IIb_32	Alps (CH)	96.75	98.43	2528	nd	1292	27	21	nd	319	4004	3599	nd	0.00236239	4.3651E-05	0.99759396	Rt
STR-04-S313_IIb_33	Alps (CH)	99.6	100.65	1766	nd	577	nd	nd	6	464	2400	2158	nd	0.01860686	0.01357535	0.9678178	Rt
STR-04-S313_IIb_34	Alps (CH)	96.84	98.59	4463	nd	536	35	31	25	439	3406	3468	nd	0.00840408	0.00029499	0.99130093	Rt
STR-04-S313_IIb_35	Alps (CH)	97.78	98.83	1962	nd	546	nd	24	nd	229	2780	1786	14	0.01011138	0.00032948	0.98955914	Rt
STR-04-S315_IIb_1_1	Alps (CH)	98.08	98.96	1291	nd	580	nd	28	nd	269	3091	822	nd	0.00361543	0.00023544	0.99614913	Rt
STR-04-S315_IIb_1_2	Alps (CH)	99.92	100.78	1210	nd	556	nd	nd	1	246	3043	880	8	0.01268591	0.02814265	0.95917144	Rt
STR-04-S315_IIb_1_3	Alps (CH)	98.83	99.64	974	nd	549	3	6	nd	299	2992	831	7	0.00509104	0.00163128	0.99327767	Rt
STR-04-S315_IIb_2_1	Alps (CH)	98.35	99.6	1399	nd	999	52	33	nd	263	2980	3040	14	0.0032758	2.2809E-05	0.99670139	Rt
STR-04-S315_IIb_3_1	Alps (CH)	97.02	98.8	827	nd	1034	5	17	nd	147	7471	2910	nd	0.00087116	6.3118E-05	0.99906573	Rt
STR-04-S315_IIb_4_1	Alps (CH)	98.17	99.78	1653	nd	1304	nd	nd	nd	232	6850	1045	nd	0.0016719	0.0075632	0.9907649	Rt
STR-04-S315_IIb_4_2	Alps (CH)	98.14	99.8	1681	nd	1275	49	13	nd	244	7110	1116	nd	0.00065307	0.00019132	0.99915561	Rt
STR-04-S315_IIb_4_3	Alps (CH)	98.77	100.4	1633	nd	1297	nd	21	nd	288	6831	1203	nd	0.0005	7.5665E-05	0.99942433	Rt
STR-04-S315_IIb_5_1	Alps (CH)	97.87	99.13	1927	nd	918	14	13	nd	301	4164	1470	7	0.00245208	0.00027791	0.99727001	Rt
STR-04-S315_IIb_6_1	Alps (CH)	97.37	98.99	1085	20	995	nd	17	nd	97	5667	3382	1	0.00283316	9.4995E-05	0.99707185	Rt
STR-04-S315_IIb_7_1	Alps (CH)	97.95	99.34	1346	nd	1357	nd	19	nd	130	4749	2085	nd	0.00202653	5.6408E-05	0.99791706	Rt
STR-04-S315_IIb_7_2	Alps (CH)	98.64	99.98	1139	nd	1355	nd	39	nd	164	4739	1897	nd	0.00109026	1.5519E-05	0.99889422	Rt
STR-04-S315_IIb_7_3	Alps (CH)	99	100.25	926	nd	1300	nd	41	nd	166	4572	1724	nd	0.00097808	1.3064E-05	0.99900886	Rt
STR-04-S315_IIb_8_1	Alps (CH)	97.55	98.91	1374	nd	804	nd	nd	nd	221	4297	2856	nd	0.00827293	0.00761143	0.98411564	Rt
STR-04-S315_IIb_8_2	Alps (CH)	97.37	98.85	1573	nd	847	nd	nd	nd	241	4346	3367	nd	0.00826478	0.00673698	0.98499824	Rt
STR-04-S315_IIb_8_3	Alps (CH)	96.86	98.43	1797	nd	869	nd	27	6	209	4425	3693	nd	0.00324844	6.6172E-05	0.99668538	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
STR-04-S315_IIb_9_1	Alps (CH)	97.05	98.54	2513	nd	783	nd	26	3	282	3202	3744	nd	0.00647377	9.5561E-05	0.99343067	Rt
STR-04-S315_IIb_9_2	Alps (CH)	96.76	98.31	2644	nd	793	nd	nd	4	444	3402	3753	1	0.01200955	0.00848134	0.97950911	Rt
STR-04-S315_IIb_9_3	Alps (CH)	96.91	98.48	2660	nd	798	nd	36	9	394	3421	3762	nd	0.00386493	5.2188E-05	0.99608289	Rt
STR-04-S315_IIb_10_1	Alps (CH)	99.52	100.62	1296	nd	606	8	21	141	323	3150	2184	2	0.00426729	0.00014696	0.99558575	Rt
STR-04-S315_IIb_11	Alps (CH)	97.83	98.73	1712	nd	482	51	16	17	274	2626	1183	nd	0.00989361	0.00079608	0.98931031	Rt
STR-04-S315_IIb_12	Alps (CH)	97.07	98.52	668	nd	782	nd	nd	nd	202	5263	3307	nd	0.00391644	0.00364516	0.99243841	Rt
STR-04-S315_IIb_13	Alps (CH)	96.97	98.36	1259	nd	741	nd	7	nd	264	3229	4318	nd	0.00700037	0.00030194	0.99269769	Rt
STR-04-S315_IIb_14	Alps (CH)	96.86	98.04	1023	nd	989	nd	71	nd	241	3463	2555	nd	0.00156465	6.8143E-06	0.99842854	Rt
STR-04-S315_IIb_15	Alps (CH)	98.19	99.3	946	nd	584	32	24	1	148	2828	3263	nd	0.00944912	0.00010071	0.99045017	Rt
STR-04-S315_IIb_16	Alps (CH)	98.63	99.76	1733	nd	1028	nd	50	nd	257	3743	1006	nd	0.00154185	3.703E-05	0.99842112	Rt
STR-04-S315_IIb_17	Alps (CH)	98.34	99.46	1434	nd	560	nd	6	10	424	2922	2576	nd	0.00728583	0.00089097	0.9918232	Rt
STR-04-S315_IIb_18	Alps (CH)	96.99	98.74	1794	nd	2005	nd	27	nd	169	4335	3926	15	0.00163105	1.0206E-05	0.99835874	Rt
STR-04-S315_IIb_19	Alps (CH)	98.61	99.68	2164	nd	1195	nd	13	25	476	1689	1994	nd	0.0071519	7.2629E-05	0.99277548	Rt
STR-04-S315_IIb_20	Alps (CH)	99.65	100.77	985	nd	925	nd	nd	nd	219	3609	2088	nd	0.0068286	0.00436422	0.98880717	Rt
STR-04-S315_IIb_21	Alps (CH)	98.81	99.59	501	nd	236	32	27	nd	166	2256	2316	nd	0.01840806	0.00035403	0.98123791	Rt
STR-04-S315_IIb_22	Alps (CH)	98.15	99.54	1309	nd	829	24	39	nd	381	3761	3460	nd	0.00176978	2.0996E-05	0.99820922	Rt
STR-04-S315_IIb_23	Alps (CH)	98.1	99.2	1165	nd	571	nd	10	nd	209	3101	2712	nd	0.00895648	0.00046849	0.99057503	Rt
STR-04-S315_IIb_24	Alps (CH)	97.84	99.01	1362	nd	450	24	20	22	368	2664	3337	20	0.00860835	0.00021191	0.99117974	Rt
STR-04-S315_IIb_25	Alps (CH)	97.29	98.47	1388	nd	734	nd	nd	26	521	2801	2852	nd	0.00894977	0.00491774	0.98613249	Rt
STR-04-S315_IIb_26	Alps (CH)	98.63	99.23	340	nd	505	nd	36	nd	307	2243	798	nd	0.00214999	3.9303E-05	0.99781071	Rt
STR-04-S315_IIb_27	Alps (CH)	97.56	98.62	1518	nd	409	nd	nd	15	613	2030	2939	3	0.0277419	0.0159386	0.95631951	Rt
STR-04-S315_IIb_28	Alps (CH)	100.56	101.51	1228	nd	776	62	nd	nd	284	3353	923	0	0.00673069	0.01259592	0.98067338	Rt
STR-04-S315_IIb_29	Alps (CH)	97.28	98.89	1481	nd	1334	13	37	nd	284	5165	2924	nd	0.00081978	1.3265E-05	0.99916695	Rt
STR-04-S315_IIb_30	Alps (CH)	98.28	99.67	926	nd	1142	nd	nd	224	219	4514	2646	nd	0.00373661	0.00233316	0.99393023	Rt
STR-04-S316_IIb_1_1	Alps (CH)	97.97	99.14	1369	nd	903	nd	nd	nd	128	3574	2290	nd	0.01542605	0.00841232	0.97616163	Rt
STR-04-S316_IIb_1_2	Alps (CH)	97.19	98.42	1439	nd	906	38	1	nd	139	3614	2520	nd	0.01497263	0.00794147	0.97708589	Rt
STR-04-S316_IIb_1_3	Alps (CH)	97.58	98.88	1731	nd	939	nd	nd	nd	158	3675	2638	nd	0.01450464	0.00823764	0.97725772	Rt
STR-04-S316_IIb_3_1	Alps (CH)	96.88	97.79	908	nd	954	nd	27	nd	361	3058	1063	nd	0.00134468	3.669E-05	0.99861863	Rt
STR-04-S316_IIb_3_2	Alps (CH)	97.97	98.88	916	nd	935	nd	43	13	401	3077	935	nd	0.00101346	2.0575E-05	0.99896597	Rt
STR-04-S316_IIb_3_3	Alps (CH)	98.01	98.9	959	nd	966	nd	nd	16	384	3034	800	nd	0.0037846	0.00514927	0.99106613	Rt
STR-04-S316_IIb_4_1	Alps (CH)	97.76	98.77	983	nd	806	114	38	nd	228	3425	1472	5	0.00213385	3.9055E-05	0.99782709	Rt
STR-04-S316_IIb_5_1	Alps (CH)	98.68	99.47	1077	nd	564	18	7	12	648	2113	1130	nd	0.00506886	0.00062101	0.99431013	Rt
STR-04-S316_IIb_6_1	Alps (CH)	97.58	98.52	1595	nd	1060	nd	37	27	424	2281	1215	2	0.00250418	2.5784E-05	0.99747004	Rt
STR-04-S316_IIb_6_2	Alps (CH)	97.45	98.43	1746	nd	1022	nd	34	23	398	2373	1276	nd	0.00289269	3.5835E-05	0.99707148	Rt
STR-04-S316_IIb_6_3	Alps (CH)	97.28	98.28	1729	nd	1048	nd	nd	24	443	2434	1296	nd	0.00821621	0.00503469	0.98674911	Rt
STR-04-S316_IIb_7_1	Alps (CH)	99.78	100.39	339	nd	460	nd	47	nd	226	2536	646	nd	0.00216567	4.8099E-05	0.99778623	Rt
STR-04-S316_IIb_8_1	Alps (CH)	96.85	98.65	1498	nd	2344	26	13	nd	110	4699	3939	nd	0.00198332	2.1669E-05	0.99799501	Rt
STR-04-S316_IIb_9_1	Alps (CH)	99.13	100.4	1147	nd	842	12	28	nd	306	3639	2967	5	0.00218012	3.4757E-05	0.99778513	Rt
STR-04-S316_IIb_10_1	Alps (CH)	100.98	101.52	102	nd	468	nd	34	6	368	2146	583	nd	0.00078047	1.3848E-05	0.99920569	Rt
STR-04-S316_IIb_11_1	Alps (CH)	96.82	98.15	3305	nd	909	49	60	nd	523	3784	629	nd	0.00119104	7.6051E-05	0.99873291	Rt

continued on next page. . .

. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
STR-04-S316_IIb_12	Alps (CH)	97.75	99.04	3228	nd	884	nd	66	49	350	3345	1059	nd	0.00249841	5.6216E-05	0.99744537	Rt
STR-04-S316_IIb_13	Alps (CH)	97.93	98.9	1048	nd	746	nd	14	nd	122	3605	1218	nd	0.00530196	0.0003507	0.99434734	Rt
STR-04-S316_IIb_14	Alps (CH)	97.9	99.04	1698	nd	1191	nd	24	nd	195	4055	736	nd	0.00168137	0.00011172	0.99820691	Rt
STR-04-S316_IIb_15	Alps (CH)	97.47	98.81	1659	nd	526	59	40	nd	324	3112	3764	6	0.00587081	7.2343E-05	0.99405685	Rt
STR-04-S316_IIb_16	Alps (CH)	96.97	98.05	3060	nd	677	nd	53	7	397	2510	832	nd	0.00479149	0.000131	0.99507751	Rt
STR-04-S316_IIb_18	Alps (CH)	98.14	98.96	1088	nd	692	nd	53	nd	226	2684	1000	nd	0.00335071	4.6051E-05	0.99660324	Rt
STR-04-S316_IIb_19	Alps (CH)	100.5	101.54	1516	nd	797	nd	44	32	307	2563	2062	nd	0.00406272	3.159E-05	0.99590569	Rt
STR-04-S316_IIb_20	Alps (CH)	97.99	99.52	1469	nd	1224	nd	16	nd	102	4703	3234	nd	0.00379356	8.4605E-05	0.99612183	Rt
STR-04-S316_IIb_21	Alps (CH)	100.97	101.7	1138	nd	573	nd	58	nd	292	2332	640	37	0.00364452	7.389E-05	0.99628159	Rt
STR-04-S316_IIb_22	Alps (CH)	100.76	101.7	1613	nd	598	nd	66	8	483	2979	865	nd	0.00194176	5.6737E-05	0.9980015	Rt
STR-04-S316_IIb_23	Alps (CH)	97.36	98.74	2616	nd	977	nd	37	nd	274	3510	2275	nd	0.00342345	5.4539E-05	0.99652201	Rt
STR-04-S316_IIb_24	Alps (CH)	97.62	98.68	1344	nd	751	nd	nd	nd	251	3538	1584	nd	0.00907992	0.01126164	0.97965844	Rt
STR-04-S316_IIb_25	Alps (CH)	96.98	98.27	1334	nd	680	nd	27	2	1808	3156	1980	136	0.00068592	3.3479E-05	0.9992806	Rt
STR-04-S316_IIb_26	Alps (CH)	97.42	98.57	1729	60	1059	nd	31	15	185	2664	2256	67	0.00566428	3.991E-05	0.99429581	Rt
STR-04-S316_IIb_27	Alps (CH)	98.31	99.46	2029	nd	1034	nd	30	61	406	3308	1144	nd	0.00175602	6.1526E-05	0.99818245	Rt
STR-04-S316_IIb_28	Alps (CH)	99.79	100.54	753	nd	768	nd	80	nd	243	2845	529	nd	0.00133436	2.0183E-05	0.99864546	Rt
STR-04-S316_IIb_29	Alps (CH)	97.59	98.76	460	nd	580	nd	67	nd	180	3769	3180	nd	0.00190365	1.0455E-05	0.99808589	Rt
STR-04-S316_IIb_30	Alps (CH)	97.48	98.45	965	nd	837	nd	54	nd	217	3595	1087	nd	0.00155345	2.7497E-05	0.99841905	Rt
STR-04-S316_IIb_31	Alps (CH)	97.99	98.98	803	nd	1030	22	14	nd	193	2981	1905	nd	0.00318528	6.3379E-05	0.99675134	Rt
STR-04-S317_IIb_1_1	Alps (CH)	97.08	98.72	1183	nd	1635	2	14	nd	86	5717	2779	nd	0.00191385	5.4428E-05	0.99803173	Rt
STR-04-S317_IIb_1_2	Alps (CH)	97.43	99	1111	nd	1630	nd	14	nd	89	5537	2550	nd	0.00182499	5.2402E-05	0.99812261	Rt
STR-04-S317_IIb_1_3	Alps (CH)	97.21	98.83	1037	220	1650	nd	44	nd	221	5677	2407	nd	0.00046198	5.733E-06	0.99953229	Rt
STR-04-S317_IIb_2_1	Alps (CH)	98.49	100.47	6516	nd	946	45	13	nd	528	4836	892	4	0.00234299	0.00119696	0.99646006	Rt
STR-04-S317_IIb_3_1	Alps (CH)	97.98	99.25	1073	nd	728	nd	7	nd	396	3612	3158	nd	0.00321595	0.00027418	0.99650988	Rt
STR-04-S317_IIb_3_2	Alps (CH)	97.69	99.02	974	nd	736	nd	24	nd	497	3728	3463	nd	0.00151505	3.3865E-05	0.99845108	Rt
STR-04-S317_IIb_3_3	Alps (CH)	98.12	99.46	933	nd	745	6	9	nd	400	3653	3795	nd	0.00265698	0.00013482	0.9972082	Rt
STR-04-S317_IIb_4_1	Alps (CH)	97.93	99.31	2961	nd	698	8	8	2	382	3394	2183	nd	0.00719071	0.00104864	0.99176065	Rt
STR-04-S317_IIb_5_1	Alps (CH)	97.47	98.91	1124	nd	1200	nd	14	nd	191	4231	3358	nd	0.002259	5.1607E-05	0.99768939	Rt
STR-04-S317_IIb_6_1	Alps (CH)	100.18	100.96	1017	nd	718	nd	11	7	369	2323	1037	nd	0.00437748	0.00026255	0.99535996	Rt
STR-04-S317_IIb_7_1	Alps (CH)	97.35	98.42	1753	nd	534	33	22	6	420	2736	2112	nd	0.00608111	0.00021776	0.99370112	Rt
STR-04-S317_IIb_8_3	Alps (CH)	96.44	98.08	4704	nd	908	808	176	52	3559	1500	191	nd	0.00064181	1.3134E-05	0.99934506	Rt
STR-04-S317_IIb_9_1	Alps (CH)	98.4	99.75	1731	nd	936	18	14	nd	381	4123	2271	nd	0.00202645	0.0001351	0.99783845	Rt
STR-04-S317_IIb_10_1	Alps (CH)	95.01	98.14	10346	nd	1401	379	25	33	784	6225	2710	nd	0.0010844	0.00013127	0.99878433	Rt
STR-04-S317_IIb_10_2	Alps (CH)	95.93	98.95	9931	nd	1344	469	9	50	619	6093	2699	nd	0.0020295	0.00068016	0.99729034	Rt
STR-04-S317_IIb_10_3	Alps (CH)	95.4	98.4	9630	nd	1364	439	41	89	683	6016	2800	nd	0.00108666	6.5424E-05	0.99884792	Rt
STR-04-S317_IIb_11	Alps (CH)	96.8	98.29	1845	nd	1022	nd	22	nd	251	4156	3165	nd	0.00266265	6.1827E-05	0.99727552	Rt
STR-04-S317_IIb_12	Alps (CH)	97.32	98.58	1697	nd	855	nd	37	21	408	2030	3981	nd	0.0062495	1.8965E-05	0.99373153	Rt
STR-04-S317_IIb_13	Alps (CH)	97.07	99.16	5943	nd	1125	55	46	nd	349	5173	1902	nd	0.00192583	8.8173E-05	0.997986	Rt
STR-04-S317_IIb_14	Alps (CH)	98.3	99.36	1927	nd	724	nd	nd	nd	326	3291	1147	nd	0.00995185	0.01950116	0.97054698	Rt
STR-04-S317_IIb_15	Alps (CH)	98.02	99.03	1481	nd	673	nd	nd	nd	487	3364	1086	nd	0.00579217	0.01439072	0.9798171	Rt

continued on next page. . .

. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
STR-04-S317_IIb_16	Alps (CH)	97.82	98.8	844	nd	642	39	1	8	324	3047	2019	nd	0.00847582	0.00646879	0.98505539	Rt
STR-04-S317_IIb_17	Alps (CH)	97.55	98.7	1375	nd	522	nd	4	67	282	2814	3047	nd	0.01439194	0.00194572	0.98366234	Rt
STR-04-S317_IIb_18	Alps (CH)	98.55	99.37	1193	nd	662	nd	17	28	471	2540	857	nd	0.00298296	0.0002121	0.99680494	Rt
STR-04-S317_IIb_19	Alps (CH)	97.47	98.37	1087	nd	809	nd	38	nd	202	3227	928	nd	0.00246087	6.3004E-05	0.99747612	Rt
STR-04-S317_IIb_21	Alps (CH)	98.72	99.85	644	nd	1137	nd	11	nd	208	4774	998	nd	0.00085543	0.00010301	0.99904155	Rt
STR-04-S317_IIb_22	Alps (CH)	99.18	100.16	1581	nd	684	nd	8	nd	254	3019	1270	nd	0.00685372	0.00092635	0.99221993	Rt
STR-04-S317_IIb_23	Alps (CH)	97.44	98.92	1427	nd	1019	11	nd	nd	469	5274	2090	nd	0.00205111	0.00416802	0.99378087	Rt
STR-04-S317_IIb_24	Alps (CH)	96.57	98.02	1323	nd	1051	nd	15	nd	174	5315	2236	nd	0.00184887	0.0001193	0.99803183	Rt
STR-04-S317_IIb_25	Alps (CH)	96.92	98.18	843	nd	849	22	nd	nd	159	4193	2786	nd	0.00753879	0.00460434	0.98785687	Rt
STR-04-S317_IIb_26	Alps (CH)	98.48	99.44	722	nd	610	nd	nd	nd	397	2839	2154	nd	0.00765165	0.0050305	0.98731785	Rt
STR-04-S317_IIb_27	Alps (CH)	98.85	99.87	1223	nd	722	nd	6	nd	522	3727	900	nd	0.00184768	0.00086399	0.99728833	Rt
STR-04-S317_IIb_28	Alps (CH)	99.51	100.38	621	nd	597	nd	48	4	311	3348	1124	nd	0.00138545	3.2992E-05	0.99858156	Rt
STR-04-S317_IIb_29	Alps (CH)	98.57	99.39	1147	nd	483	19	80	153	2082	1732	171	0	0.00071201	5.264E-05	0.99923535	Rt
STR-04-S317_IIb_30	Alps (CH)	99.17	100.41	1062	nd	1082	5	20	nd	236	4693	1503	nd	0.00113064	6.0503E-05	0.99880885	Rt
OSS-04-S319_IIb_1_1	Alps (CH)	97.27	98.45	722	nd	820	nd	nd	nd	207	3968	2585	8	0.00587786	0.00371215	0.99040998	Rt
OSS-04-S319_IIb_1_2	Alps (CH)	97.62	98.86	764	nd	803	nd	7	nd	206	4077	2844	nd	0.00316758	0.00024003	0.9965924	Rt
OSS-04-S319_IIb_1_3	Alps (CH)	96.82	98.11	814	nd	853	nd	nd	nd	248	4079	3144	3	0.00529403	0.00310735	0.99159862	Rt
OSS-04-S319_IIb_2_1	Alps (CH)	97.43	98.25	1678	nd	1068	4	45	0	202	1680	1068	nd	0.00791113	2.9245E-05	0.99205963	Rt
OSS-04-S319_IIb_4_1	Alps (CH)	96.83	98.35	1771	nd	1115	nd	20	nd	257	4785	2726	nd	0.00175384	6.4549E-05	0.99818161	Rt
OSS-04-S319_IIb_4_2	Alps (CH)	96.39	97.9	1749	nd	1067	nd	24	nd	276	4781	2671	nd	0.00159515	5.2793E-05	0.99835206	Rt
OSS-04-S319_IIb_4_3	Alps (CH)	96.84	98.33	1836	nd	1079	nd	28	nd	266	4786	2414	nd	0.00154929	4.7843E-05	0.99840287	Rt
OSS-04-S319_IIb_5_1	Alps (CH)	96.89	97.97	1244	nd	774	21	21	nd	328	4259	787	6	0.00130116	0.00018624	0.99851259	Rt
OSS-04-S319_IIb_6_1	Alps (CH)	97.89	99.14	1610	nd	1051	nd	31	nd	252	4290	1456	11	0.00151054	5.3032E-05	0.99843643	Rt
OSS-04-S319_IIb_6_2	Alps (CH)	98.07	99.27	1396	nd	1079	nd	nd	nd	264	4198	1401	17	0.00424159	0.00587571	0.9898827	Rt
OSS-04-S319_IIb_6_3	Alps (CH)	97.86	99.01	1325	nd	1074	nd	nd	nd	272	4121	1225	nd	0.00394282	0.00599926	0.99005792	Rt
OSS-04-S319_IIb_7_1	Alps (CH)	96.99	98.35	2355	nd	665	nd	13	2	367	3649	2535	nd	0.00515699	0.00042402	0.99441899	Rt
OSS-04-S319_IIb_8_1	Alps (CH)	99.42	100.74	1572	nd	854	nd	9	nd	390	3726	2787	nd	0.00304537	0.00023024	0.99672439	Rt
OSS-04-S319_IIb_8_2	Alps (CH)	99.48	100.83	1687	nd	838	nd	41	3	389	3694	2889	nd	0.00199609	2.8567E-05	0.99797534	Rt
OSS-04-S319_IIb_8_3	Alps (CH)	100.36	101.78	1825	nd	828	nd	17	nd	422	3619	3292	nd	0.00292907	9.8815E-05	0.99697212	Rt
OSS-04-S319_IIb_9_1	Alps (CH)	96.54	98.11	982	nd	1139	14	11	nd	190	5218	3424	nd	0.00163435	7.6315E-05	0.99828933	Rt
OSS-04-S319_IIb_11_1	Alps (CH)	97.44	98.94	2125	nd	1709	218	22	nd	249	4562	1587	nd	0.00113597	3.7976E-05	0.99882606	Rt
OSS-04-S319_IIb_12_1	Alps (CH)	97.21	98.19	1520	nd	657	49	6	nd	305	2758	1569	nd	0.00815328	0.00109716	0.99074956	Rt
OSS-04-S319_IIb_12_2	Alps (CH)	96.69	97.71	1621	nd	655	21	58	16	280	2925	1612	nd	0.0038531	4.797E-05	0.99609893	Rt
OSS-04-S319_IIb_12_3	Alps (CH)	96.61	97.71	1898	nd	677	nd	28	8	330	3006	1783	nd	0.0045619	0.00013116	0.99530694	Rt
OSS-04-S319_IIb_13	Alps (CH)	96.67	98.14	1568	nd	1036	nd	7	nd	347	4050	3300	nd	0.00270796	0.00020701	0.99708503	Rt
OSS-04-S319_IIb_14	Alps (CH)	97.11	98.56	1251	nd	881	nd	17	nd	296	5069	2630	nd	0.0014483	9.1193E-05	0.9984605	Rt
OSS-04-S319_IIb_16	Alps (CH)	97.36	98.7	1518	nd	1284	17	23	nd	204	4974	1248	nd	0.00113672	6.4126E-05	0.99879916	Rt
OSS-04-S319_IIb_17	Alps (CH)	99.59	101.03	1146	nd	1468	2	11	nd	190	5394	1835	nd	0.00106568	8.0371E-05	0.99885395	Rt
OSS-04-S319_IIb_18	Alps (CH)	97.5	98.25	810	nd	533	21	11	nd	239	2475	1153	nd	0.00709241	0.00048533	0.99242226	Rt
OSS-04-S319_IIb_21	Alps (CH)	98.52	99.65	2033	nd	833	41	nd	nd	281	3923	766	nd	0.00651607	0.02342639	0.97005754	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
OSS-04-S319_IIb_22	Alps (CH)	100.48	101.38	700	nd	1262	38	nd	nd	355	2652	1304	nd	0.00353163	0.00134252	0.99512585	Rt
OSS-04-S319_IIb_23	Alps (CH)	97.37	98.81	1102	nd	911	nd	nd	nd	233	4924	2931	nd	0.00459419	0.00448553	0.99092028	Rt
OSS-04-S319_IIb_24	Alps (CH)	97.06	98.79	1452	nd	1377	nd	47	nd	277	3948	4192	632	0.00133055	5.9562E-06	0.99866349	Rt
OSS-04-S319_IIb_25	Alps (CH)	96.52	97.75	1769	nd	755	67	14	24	268	4068	1564	38	0.00330132	0.00035866	0.99634002	Rt
OSS-04-S319_IIb_26	Alps (CH)	97.77	98.95	1254	nd	579	nd	37	nd	425	2856	3183	nd	0.00374968	4.3728E-05	0.99620659	Rt
OSS-04-S319_IIb_27	Alps (CH)	98.74	99.68	5	nd	2705	nd	40	nd	103	2068	1687	nd	4.8945E-05	5.2411E-09	0.99995105	Rt
OSS-04-S319_IIb_28	Alps (CH)	98.54	99.67	1723	nd	1262	3	16	nd	447	1613	2925	nd	0.00683791	2.8117E-05	0.99313397	Rt
OSS-04-S319_IIb_29	Alps (CH)	97.11	98.38	1358	nd	1581	67	31	nd	194	4210	1436	nd	0.0010976	1.9586E-05	0.99888282	Rt
OSS-04-S319_IIb_30	Alps (CH)	97.02	98.6	1650	nd	1060	2	9	nd	1280	3877	3343	nd	0.00081276	6.835E-05	0.99911889	Rt
OSS-04-S319_IIb_32	Alps (CH)	97.28	98.44	1491	nd	936	37	19	nd	363	3125	2168	nd	0.00274144	6.8756E-05	0.9971898	Rt
OSS-04-S319_IIb_33	Alps (CH)	98.08	99.08	1260	nd	904	nd	50	nd	326	3634	740	4	0.00106685	3.699E-05	0.99889616	Rt
OSS-04-S319_IIb_35	Alps (CH)	97.67	99.01	1857	nd	727	nd	33	nd	427	3466	2926	nd	0.00280573	5.5529E-05	0.99713875	Rt
OSS-04-S319_IIb_36	Alps (CH)	97.8	99.62	1829	nd	1177	56	28	nd	253	5065	4423	nd	0.00161314	2.6681E-05	0.99836017	Rt
OSS-04-S319_IIb_37	Alps (CH)	98.61	100.13	1550	nd	1249	152	19	nd	223	4747	2720	nd	0.00163941	4.9415E-05	0.99831117	Rt
STR-04-S320_IIb_2_1	Alps (CH)	98.25	99.37	1306	nd	1187	1	23	nd	394	3704	1191	nd	0.00099989	4.0708E-05	0.99895941	Rt
STR-04-S320_IIb_3_1	Alps (CH)	98.91	100.23	1272	nd	1213	nd	33	nd	124	5641	793	nd	0.00102174	6.8001E-05	0.99891026	Rt
STR-04-S320_IIb_3_2	Alps (CH)	99.25	100.58	1300	nd	1215	nd	16	nd	117	5698	833	8	0.00140561	0.00019758	0.99839681	Rt
STR-04-S320_IIb_3_3	Alps (CH)	99.25	100.52	993	nd	1212	10	46	nd	134	5580	814	nd	0.00072004	2.9582E-05	0.99925037	Rt
STR-04-S320_IIb_4_1	Alps (CH)	97.59	98.61	1194	nd	795	21	13	nd	269	3900	891	nd	0.00211573	0.00032755	0.99755672	Rt
STR-04-S320_IIb_5_1	Alps (CH)	97.69	98.76	1802	nd	939	nd	42	nd	275	3565	838	4	0.00180523	6.5971E-05	0.9981288	Rt
STR-04-S320_IIb_6_1	Alps (CH)	97.96	98.78	645	nd	565	52	33	1	502	2764	1177	7	0.00158377	4.5876E-05	0.99837035	Rt
STR-04-S320_IIb_7_1	Alps (CH)	98.95	100.03	1025	nd	616	25	26	22	295	3785	1706	nd	0.00235258	0.00010754	0.99753988	Rt
STR-04-S320_IIb_8_1	Alps (CH)	98.17	99.29	1911	nd	759	16	56	7	301	3726	987	3	0.00194605	6.5878E-05	0.99798807	Rt
STR-04-S320_IIb_9_1	Alps (CH)	98.16	99.33	2530	nd	1078	3	37	nd	399	3247	850	1	0.00176197	6.6107E-05	0.99817192	Rt
STR-04-S320_IIb_10_1	Alps (CH)	97.32	98.26	1315	nd	663	nd	6	14	293	3144	1047	5	0.00521582	0.00131257	0.99347162	Rt
STR-04-S320_IIb_11_1	Alps (CH)	96.97	98.64	2437	nd	1304	11	17	nd	275	3993	3754	1	0.0028596	5.8415E-05	0.99708198	Rt
STR-04-S320_IIb_12	Alps (CH)	97.69	98.35	660	nd	567	nd	91	33	563	1988	714	15	0.00155197	1.2566E-05	0.99843546	Rt
STR-04-S320_IIb_13	Alps (CH)	99.51	100.16	1111	nd	448	nd	51	8	337	1806	768	2	0.00721048	0.00011058	0.99267895	Rt
STR-04-S320_IIb_14	Alps (CH)	97.57	98.82	2194	nd	1080	nd	7	11	307	3567	1575	nd	0.00370013	0.0004767	0.99582317	Rt
STR-04-S320_IIb_15	Alps (CH)	97.74	98.58	832	nd	779	3	27	nd	285	3005	951	nd	0.00195741	6.4835E-05	0.99797776	Rt
STR-04-S320_IIb_16	Alps (CH)	99.57	100.4	970	nd	848	21	50	1	286	2642	977	nd	0.0020433	2.4271E-05	0.99793243	Rt
STR-04-S320_IIb_18	Alps (CH)	97.47	98.4	1096	nd	790	13	4	15	180	3541	788	nd	0.00496761	0.0021434	0.99288899	Rt
STR-04-S320_IIb_20	Alps (CH)	97.14	98.54	1869	nd	967	nd	13	3	313	3521	3199	nd	0.0037742	0.00012429	0.99610151	Rt
STR-04-S320_IIb_21	Alps (CH)	97.32	98.05	598	nd	369	nd	29	4	319	2823	928	nd	0.00342822	0.00020815	0.99636363	Rt
STR-04-S320_IIb_22	Alps (CH)	97.91	98.88	1326	nd	588	nd	nd	65	531	3086	1185	nd	0.00684615	0.01489129	0.97826256	Rt
STR-04-S320_IIb_23	Alps (CH)	97.85	98.81	1734	nd	582	nd	33	7	618	2527	1224	13	0.00321357	0.00011313	0.99667331	Rt
STR-04-S320_IIb_25	Alps (CH)	100.75	101.66	1234	nd	646	nd	17	62	442	2798	1171	nd	0.00310795	0.000202	0.99669005	Rt
STR-04-S320_IIb_26	Alps (CH)	100.69	101.61	1758	nd	844	nd	13	31	411	2385	1025	nd	0.00451369	0.00025835	0.99522796	Rt
STR-04-S320_IIb_27	Alps (CH)	97.22	98.72	1653	nd	951	69	nd	nd	303	4295	3303	nd	0.00620665	0.00486806	0.98892529	Rt
STR-04-S320_IIb_28	Alps (CH)	97.74	98.65	935	nd	821	nd	77	77	365	2573	1524	4	0.00171058	8.4618E-06	0.99828096	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
STR-04-S320_IIb_29	Alps (CH)	96.67	97.95	2230	nd	828	18	11	nd	278	3835	1709	11	0.00427109	0.00048153	0.99524738	Rt
STR-04-S320_IIb_30	Alps (CH)	97.41	98.16	941	nd	533	nd	39	31	380	2550	746	nd	0.00275299	9.9913E-05	0.99714709	Rt
STR-04-S320_IIb_31	Alps (CH)	101.2	101.66	254	nd	397	nd	26	nd	351	2019	161	28	0.0016014	0.00021606	0.99818254	Rt
STR-04-S320_IIb_32	Alps (CH)	99.86	100.58	356	nd	805	nd	nd	nd	353	3229	275	nd	0.00148435	0.00568779	0.99282786	Rt
STR-04-S320_IIb_33	Alps (CH)	99.5	100.78	1732	nd	574	nd	38	nd	550	2436	3807	nd	0.0053226	4.4505E-05	0.99463289	Rt
STR-04-S320_IIb_34	Alps (CH)	98.62	99.66	826	nd	946	59	67	nd	172	3469	1712	16	0.0017052	1.0265E-05	0.99828453	Rt
STR-04-S320_IIb_35	Alps (CH)	96.52	97.94	998	nd	1274	nd	38	nd	424	5053	2092	21	0.00040568	9.0087E-06	0.99958531	Rt
OSS-04-S322_IIb_1_1	Alps (CH)	97.89	99.1	1653	nd	670	1467	55	49	2372	2429	101	nd	0.00030391	0.00010171	0.99959438	Rt
OSS-04-S322_IIb_1_2	Alps (CH)	97.21	98.34	1383	nd	649	1225	97	65	2346	2332	102	nd	0.00024552	3.8512E-05	0.99971596	Rt
OSS-04-S322_IIb_1_3	Alps (CH)	97.99	99.19	1715	nd	658	1261	52	45	2511	2412	101	nd	0.00031253	0.00011594	0.99957153	Rt
OSS-04-S322_IIb_2_1	Alps (CH)	99.25	100	37	nd	62	nd	8	nd	3459	1944	15	nd	0.00025933	0.01347381	0.98626685	Rt
OSS-04-S322_IIb_2_2	Alps (CH)	100.15	100.87	69	nd	59	nd	24	nd	3087	1958	98	nd	0.00061632	0.00182604	0.99755764	Rt
OSS-04-S322_IIb_2_3	Alps (CH)	99.32	100.1	18	nd	48	38	nd	nd	3618	1952	73	nd	0.00061824	0.06335463	0.93602712	Rt
OSS-04-S322_IIb_3_1	Alps (CH)	96.68	98.33	1645	nd	890	19	23	nd	263	5114	3598	nd	0.00193463	6.8009E-05	0.99799736	Rt
OSS-04-S322_IIb_3_2	Alps (CH)	96.28	97.9	1595	nd	858	39	4	nd	260	5056	3602	nd	0.00372968	0.00088767	0.99538266	Rt
OSS-04-S322_IIb_3_3	Alps (CH)	96.64	98.21	1620	nd	867	14	18	nd	222	4880	3453	nd	0.00269168	0.00011197	0.99719635	Rt
OSS-04-S322_IIb_4_1	Alps (CH)	97.63	98.71	1248	nd	520	209	113	nd	1125	4258	87	12	0.00017736	0.00010013	0.99972251	Rt
OSS-04-S322_IIb_4_2	Alps (CH)	97.63	98.72	1342	nd	479	211	128	15	1169	4231	104	nd	0.00020374	9.4684E-05	0.99970158	Rt
OSS-04-S322_IIb_4_3	Alps (CH)	97	98.23	1839	nd	482	312	135	26	1271	4443	90	nd	0.00020491	0.00013493	0.99966016	Rt
OSS-04-S322_IIb_5_1	Alps (CH)	97.66	98.68	2878	nd	304	6	198	227	1961	1502	111	nd	0.00210694	0.00016081	0.99773225	Rt
OSS-04-S322_IIb_5_2	Alps (CH)	97.35	98.35	2825	nd	159	nd	220	248	1983	1534	133	nd	0.00419324	0.00053287	0.99527389	Rt
OSS-04-S322_IIb_5_3	Alps (CH)	96.92	98.38	4287	nd	230	132	202	237	2414	1723	130	681	0.00264521	0.00040064	0.99695415	Rt
OSS-04-S322_IIb_6_1	Alps (CH)	96.74	97.9	3487	nd	365	126	65	132	3105	984	108	nd	0.00402322	0.00043088	0.9955459	Rt
OSS-04-S322_IIb_6_2	Alps (CH)	97.21	98.48	3953	nd	355	138	99	113	3412	994	81	nd	0.0032399	0.00033947	0.99642063	Rt
OSS-04-S322_IIb_6_3	Alps (CH)	96.74	98.41	5680	nd	374	222	158	169	4213	1063	113	14	0.0027899	0.00016929	0.9970408	Rt
OSS-04-S322_IIb_7_1	Alps (CH)	99.08	99.55	81	nd	964	17	7	40	1863	347	105	9	0.00164595	1.209E-05	0.99834196	Rt
OSS-04-S322_IIb_7_2	Alps (CH)	99.22	99.74	59	nd	862	6	23	60	2342	370	99	nd	0.00068359	1.8386E-06	0.99931457	Rt
OSS-04-S322_IIb_7_3	Alps (CH)	98.52	99.02	23	nd	997	nd	24	54	2066	381	109	nd	0.000304	4.1682E-07	0.99969558	Rt
OSS-04-S322_IIb_8_1	Alps (CH)	98.2	98.94	138	nd	1206	69	nd	5	2973	900	118	nd	0.00046719	0.00023819	0.99929462	Rt
OSS-04-S322_IIb_8_2	Alps (CH)	97.93	98.68	96	nd	1326	14	25	nd	2997	880	184	nd	0.0001232	8.6813E-07	0.99987593	Rt
OSS-04-S322_IIb_8_3	Alps (CH)	100.74	101.44	94	nd	1268	nd	35	nd	2887	663	218	nd	0.00020551	4.6292E-07	0.99979402	Rt
OSS-04-S322_IIb_9_1	Alps (CH)	98.4	99.26	1971	nd	546	88	84	13	1646	1731	49	nd	0.00076921	0.00019269	0.99903811	Rt
OSS-04-S322_IIb_9_2	Alps (CH)	98.79	99.66	1871	nd	510	161	58	26	1862	1776	12	nd	0.00049031	0.00092973	0.99857996	Rt
OSS-04-S322_IIb_9_3	Alps (CH)	98.65	99.55	1889	nd	557	167	28	47	1885	1786	67	5	0.00098438	0.00064183	0.99837379	Rt
OSS-04-S322_IIb_10_1	Alps (CH)	97.76	98.79	2446	nd	374	46	108	21	1732	2495	99	nd	0.00079551	0.00028605	0.99891844	Rt
OSS-04-S322_IIb_10_2	Alps (CH)	96.86	97.99	2806	nd	387	11	99	44	1979	2528	139	6	0.00084489	0.00025803	0.99889709	Rt
OSS-04-S322_IIb_10_3	Alps (CH)	96.2	97.39	3271	nd	374	nd	150	38	1958	2563	112	nd	0.00078583	0.00021653	0.99899764	Rt
OSS-04-S322_IIb_11	Alps (CH)	97.91	98.98	2744	nd	460	275	97	66	2738	1247	105	2	0.00163929	0.00013014	0.99823056	Rt
OSS-04-S322_IIb_12	Alps (CH)	99.8	100.48	76	nd	543	nd	nd	nd	3896	530	58	nd	0.00115178	0.00085144	0.99799678	Rt
OSS-04-S322_IIb_13	Alps (CH)	98.7	99.6	1704	nd	18	nd	100	21	3353	1294	110	nd	0.02987542	0.098924	0.87120058	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
OSS-04-S322_IIb_14	Alps (CH)	100.17	101.07	1828	nd	389	482	90	40	2377	1277	70	nd	0.00142467	0.00019396	0.99838137	Rt
OSS-04-S322_IIb_15	Alps (CH)	98.94	99.92	2282	nd	457	118	103	78	2580	1327	102	1	0.00131477	0.00010594	0.99857929	Rt
OSS-04-S322_IIb_16	Alps (CH)	97.37	98.16	1499	nd	473	41	104	30	1198	2135	98	nd	0.00078597	0.00011445	0.99909958	Rt
OSS-04-S322_IIb_17	Alps (CH)	97.43	98.06	32	nd	1448	nd	3	nd	2346	619	122	nd	0.00020614	5.5011E-06	0.99978836	Rt
OSS-04-S322_IIb_18	Alps (CH)	98.91	100.06	3185	nd	515	362	143	303	2583	888	241	nd	0.00357395	3.3592E-05	0.99639245	Rt
OSS-04-S322_IIb_19	Alps (CH)	97.58	98.99	3639	nd	940	169	96	112	2268	2695	115	1	0.00028367	5.1154E-05	0.99966517	Rt
OSS-04-S322_IIb_20	Alps (CH)	99.58	101.11	2948	nd	402	2298	111	259	3848	1278	58	nd	0.00110825	0.00020312	0.99868863	Rt
OSS-04-S322_IIb_21	Alps (CH)	97.75	98.66	78	nd	697	9	32	nd	4787	1192	15	nd	3.3273E-05	1.105E-05	0.99995568	Rt
OSS-04-S322_IIb_22	Alps (CH)	98	98.93	2011	nd	666	140	94	102	2044	1498	112	nd	0.00083032	4.8989E-05	0.99912069	Rt
OSS-04-S322_IIb_23	Alps (CH)	96.94	98.11	3047	nd	549	205	93	40	3272	1179	113	8	0.00141722	8.7098E-05	0.99849568	Rt
OSS-04-S322_IIb_24	Alps (CH)	97.13	98.27	2368	nd	596	352	73	43	3848	1026	58	nd	0.00102808	0.00010521	0.99886671	Rt
OSS-04-S322_IIb_25	Alps (CH)	97.15	97.88	764	nd	296	195	75	70	1705	1975	154	nd	0.00085126	0.00014221	0.99900653	Rt
OSS-04-S322_IIb_26	Alps (CH)	97.16	97.97	1061	nd	309	445	65	nd	2522	1433	107	nd	0.00120219	0.00021052	0.99858729	Rt
OSS-04-S322_IIb_27	Alps (CH)	97.82	99.15	1662	nd	473	108	80	11	5752	1665	64	nd	0.00029468	9.5778E-05	0.99960954	Rt
OSS-04-S322_IIb_28	Alps (CH)	98.34	99.29	1945	nd	434	279	52	92	2808	1219	81	21	0.00156007	0.00028741	0.99815253	Rt
OSS-04-S322_IIb_29	Alps (CH)	97.12	98.25	502	nd	1540	1708	300	62	3006	1126	115	nd	8.6509E-05	1.8288E-07	0.99991331	Rt
OSS-04-S322_IIb_30	Alps (CH)	99.6	100.54	2405	nd	401	264	132	71	2539	855	182	nd	0.00389386	5.874E-05	0.9960474	Rt
OSS-04-S324_IIb_NM_1_1	Alps (CH)	97.92	99.07	1806	nd	874	924	60	173	2847	1449	158	nd	0.00057348	2.8252E-05	0.99939827	Rt
OSS-04-S324_IIb_NM_1_2	Alps (CH)	98.22	99.42	2321	nd	905	777	110	272	2664	1433	159	nd	0.00058889	1.4988E-05	0.99939612	Rt
OSS-04-S324_IIb_NM_1_3	Alps (CH)	96.97	98.32	3008	nd	910	867	119	189	3060	1470	134	2	0.00055283	1.8908E-05	0.99942827	Rt
OSS-04-S324_IIb_NM_2_1	Alps (CH)	97.84	98.59	1319	nd	487	158	64	77	2264	992	90	1	0.00172389	9.9168E-05	0.99817694	Rt
OSS-04-S324_IIb_NM_3_1	Alps (CH)	97.28	98.07	1714	nd	235	nd	61	33	2350	1204	119	nd	0.00364469	0.00067877	0.99567653	Rt
OSS-04-S324_IIb_NM_3_2	Alps (CH)	97.17	98.08	2180	nd	214	73	89	82	2543	1241	115	27	0.00372194	0.00064329	0.99563477	Rt
OSS-04-S324_IIb_NM_3_3	Alps (CH)	96.91	97.93	2707	nd	205	195	73	48	2747	1311	129	nd	0.00432937	0.00109967	0.99457096	Rt
OSS-04-S324_IIb_NM_4_1	Alps (CH)	96.46	98.09	5197	nd	594	622	156	339	2983	1520	224	nd	0.00141287	4.6404E-05	0.99854073	Rt
OSS-04-S324_IIb_NM_4_2	Alps (CH)	96.77	98.03	3780	nd	558	317	109	237	2323	1472	150	nd	0.00157653	9.3447E-05	0.99833003	Rt
OSS-04-S324_IIb_NM_4_3	Alps (CH)	95.92	97	2914	nd	507	268	109	268	2012	1447	87	8	0.0014198	0.00013637	0.99844383	Rt
OSS-04-S324_IIb_NM_5_1	Alps (CH)	96.17	97.57	3384	nd	319	439	81	74	4164	1579	158	nd	0.00157311	0.00032988	0.99809701	Rt
OSS-04-S324_IIb_NM_6_1	Alps (CH)	99.15	99.83	970	nd	555	12	100	43	1809	1318	120	4	0.00081856	2.8109E-05	0.99915333	Rt
OSS-04-S324_IIb_NM_7_1	Alps (CH)	98.68	99.87	1580	nd	786	1776	121	nd	2899	1478	127	nd	0.00040379	1.3108E-05	0.9995831	Rt
OSS-04-S324_IIb_NM_7_2	Alps (CH)	98.2	99.1	1325	nd	740	355	113	nd	2465	1368	136	nd	0.0005273	1.3649E-05	0.99945905	Rt
OSS-04-S324_IIb_NM_7_3	Alps (CH)	98.56	99.48	1838	nd	688	98	147	3	2511	1260	143	nd	0.00077774	1.4931E-05	0.99920733	Rt
OSS-04-S324_IIb_NM_8_1	Alps (CH)	99.5	100.51	2048	nd	698	319	216	95	1987	1780	140	nd	0.00048483	1.2638E-05	0.99950253	Rt
OSS-04-S324_IIb_NM_8_2	Alps (CH)	98.83	99.94	2254	nd	679	568	206	89	2033	1964	153	nd	0.00046284	1.5606E-05	0.99952155	Rt
OSS-04-S324_IIb_NM_8_3	Alps (CH)	98.2	99.21	1746	nd	700	533	153	71	1967	1884	174	nd	0.00047162	1.5128E-05	0.99951325	Rt
OSS-04-S324_IIb_NM_9_1	Alps (CH)	97.39	98.34	1453	nd	293	130	92	138	3105	1499	156	nd	0.00123864	0.0001447	0.99861667	Rt
OSS-04-S324_IIb_NM_9_2	Alps (CH)	97.16	98.28	1902	nd	274	417	103	177	3511	1611	174	nd	0.00128472	0.00017531	0.99853997	Rt
OSS-04-S324_IIb_NM_9_3	Alps (CH)	97.52	98.47	1441	nd	302	69	77	146	3222	1478	184	nd	0.00132273	0.00014951	0.99852776	Rt
OSS-04-S324_IIb_NM_10_1	Alps (CH)	99.58	100.47	1854	nd	707	25	138	73	2096	1366	98	nd	0.0007034	2.3241E-05	0.99927336	Rt
OSS-04-S324_IIb_NM_10_2	Alps (CH)	99.41	100.37	2085	nd	571	132	97	91	2364	1431	118	23	0.00096833	6.0742E-05	0.99897093	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
OSS-04-S324_IIb_NM_10_3	Alps (CH)	99	99.98	2218	nd	574	134	92	19	2458	1461	113	nd	0.00094254	7.0892E-05	0.99898657	Rt
OSS-04-S324_IIb_NM_11	Alps (CH)	99.86	100.69	158	nd	767	nd	31	nd	4225	988	67	nd	0.00013271	7.2058E-06	0.99986009	Rt
OSS-04-S324_IIb_NM_12	Alps (CH)	98.26	99.64	2470	nd	472	321	131	40	5821	895	95	nd	0.00114808	4.3007E-05	0.99880891	Rt
OSS-04-S324_IIb_NM_13	Alps (CH)	97.63	98.74	2900	nd	466	273	23	93	2897	1253	126	nd	0.0027743	0.00091378	0.99631192	Rt
OSS-04-S324_IIb_NM_14	Alps (CH)	99.1	99.71	76	nd	508	44	76	nd	3027	766	38	nd	0.00015694	3.5219E-06	0.99983953	Rt
OSS-04-S324_IIb_NM_16	Alps (CH)	97.49	98.86	2203	nd	1482	156	440	2	3523	1923	192	nd	9.7003E-05	5.1903E-07	0.99990248	Rt
OSS-04-S324_IIb_NM_17	Alps (CH)	96.6	97.8	2994	nd	747	171	62	25	2466	2062	113	nd	0.00054621	0.00011204	0.99934175	Rt
OSS-04-S324_IIb_NM_18	Alps (CH)	97.2	98.65	2157	nd	464	204	328	1	6241	1273	70	nd	0.00034684	1.4169E-05	0.99963899	Rt
OSS-04-S324_IIb_NM_20	Alps (CH)	99.74	100.4	50	nd	1301	nd	42	nd	2769	602	55	nd	9.1019E-05	4.1941E-07	0.99990856	Rt
OSS-04-S324_IIb_NM_21	Alps (CH)	97.98	98.65	71	nd	526	5	21	nd	3607	748	64	nd	0.0002353	1.188E-05	0.99975282	Rt
OSS-04-S324_IIb_NM_22	Alps (CH)	96.83	98.21	3754	nd	661	269	58	236	3218	1572	78	nd	0.00085856	0.00021271	0.99892873	Rt
OSS-04-S324_IIb_NM_23	Alps (CH)	98.71	99.51	1164	nd	454	190	62	107	2134	1509	90	20	0.00085687	0.00013089	0.99901224	Rt
OSS-04-S324_IIb_NM_24	Alps (CH)	98.53	99.79	136	nd	620	63	37	nd	7707	960	35	nd	6.893E-05	8.6022E-06	0.99992247	Rt
OSS-04-S324_IIb_NM_25	Alps (CH)	97.94	99.01	2451	nd	362	238	34	68	3339	1169	120	nd	0.00276049	0.00071178	0.99652773	Rt
OSS-04-S324_IIb_NM_26	Alps (CH)	97.75	99.56	709	nd	272	2388	24	38	9947	443	133	nd	0.00349716	0.00017796	0.99632488	Rt
OSS-04-S324_IIb_NM_27	Alps (CH)	93.82	98.54	2626	nd	499	16415	206	313	14924	997	306	nd	0.00048487	5.715E-06	0.99950942	Rt
OSS-04-S324_IIb_NM_28	Alps (CH)	96.83	98.09	3778	nd	792	nd	65	107	1226	2727	96	1	0.00066373	0.00022422	0.99911205	Rt
OSS-04-S324_IIb_NM_29	Alps (CH)	97.36	98.29	1826	nd	365	256	118	64	2738	1277	141	nd	0.00153064	8.532E-05	0.99838404	Rt
OSS-04-S324_IIb_NM_30	Alps (CH)	97.44	98.1	305	nd	318	nd	nd	nd	3264	923	103	17	0.0031994	0.01367873	0.98312187	Rt
OSS-04-S324_IIb_NM_31	Alps (CH)	97.03	97.67	647	nd	301	105	42	64	2463	914	116	55	0.0023023	0.00018532	0.99751238	Rt
OSS-04-S324_IIb_M_3_2	Alps (CH)	96.46	98.85	6900	nd	259	741	220	nd	8517	709	351	nd	0.00673058	7.7852E-05	0.99319157	Rt
OSS-04-S324_IIb_M_3_3	Alps (CH)	97.34	99.61	6037	nd	266	777	196	nd	8616	638	289	nd	0.00687737	8.0603E-05	0.99304203	Rt
OSS-04-S324_IIb_M_5_1	Alps (CH)	94.32	98.31	12932	nd	435	813	798	nd	13525	750	110	nd	0.00157844	1.3851E-05	0.99840771	Rt
OSS-04-S324_IIb_M_5_2	Alps (CH)	94.57	98.31	12513	nd	391	835	714	26	12204	793	102	nd	0.0017534	2.2917E-05	0.99822368	Rt
OSS-04-S324_IIb_M_5_3	Alps (CH)	93.94	98.33	15589	nd	418	615	793	26	13914	793	76	nd	0.00149537	2.5012E-05	0.99847962	Rt
OSS-04-S324_IIb_M_8_1	Alps (CH)	97.61	98.43	164	nd	1825	21	nd	nd	3032	936	26	nd	0.00018771	0.00032967	0.99948262	Rt
OSS-04-S324_IIb_M_8_2	Alps (CH)	99.92	100.65	127	nd	2016	nd	20	nd	2401	661	90	nd	0.00016738	1.0468E-06	0.99983158	Rt
OSS-04-S324_IIb_M_8_3	Alps (CH)	98.44	99.15	167	nd	1415	33	4	nd	2640	895	67	nd	0.00026182	4.4421E-05	0.99969376	Rt
OSS-04-S324_IIb_M_9_1	Alps (CH)	95.05	98.18	11534	nd	187	nd	88	nd	10027	905	165	nd	0.00862692	0.00195465	0.98941843	Rt
OSS-04-S324_IIb_M_9_2	Alps (CH)	94.33	97.55	11884	nd	185	nd	124	nd	10183	910	180	nd	0.00797161	0.00118395	0.99084444	Rt
OSS-04-S324_IIb_M_9_3	Alps (CH)	95.38	98.91	13212	nd	196	nd	93	nd	11193	910	219	nd	0.00873504	0.00146316	0.98980179	Rt
OSS-04-S324_IIb_M_12_1	Alps (CH)	97.58	98.63	2424	nd	1247	234	4	16	2248	1334	64	nd	0.00133225	0.00181376	0.99685398	Rt
OSS-04-S324_IIb_M_12_2	Alps (CH)	97.41	98.69	3471	nd	1314	149	4	12	2715	1393	64	22	0.0012864	0.00224122	0.99647237	Rt
OSS-04-S324_IIb_M_12_3	Alps (CH)	97.11	97.88	1139	nd	1180	nd	21	nd	1979	1186	87	nd	0.00068244	6.4177E-05	0.99925338	Rt
OSS-04-S324_IIb_M2_11_1	Alps (CH)	97.25	98.79	1498	nd	1269	3547	100	84	2905	1698	255	nd	0.00023557	3.4576E-06	0.99976097	Rt
OSS-04-S324_IIb_M2_11_2	Alps (CH)	97.58	98.87	1286	nd	1253	2222	109	76	2689	1566	267	nd	0.00025972	2.5667E-06	0.99973771	Rt
OSS-04-S324_IIb_M2_11_3	Alps (CH)	97.36	98.71	1421	nd	1298	2407	69	42	2874	1607	224	nd	0.00026814	5.6744E-06	0.99972618	Rt
OSS-04-S324_IIb_M2_4_1	Alps (CH)	99.32	100.64	1673	nd	248	2025	143	26	3541	1837	276	nd	0.00105865	8.9892E-05	0.99885145	Rt
OSS-04-S324_IIb_M2_4_2	Alps (CH)	99.33	100.48	1567	nd	229	1300	111	6	3217	1756	268	nd	0.00141132	0.00015236	0.99843633	Rt
OSS-04-S324_IIb_M2_16_1	Alps (CH)	97.81	98.51	881	nd	242	42	100	141	2242	1333	40	13	0.00108996	0.00033389	0.99857615	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
OSS-04-S324_IIb_M2_16_2	Alps (CH)	97.59	98.45	1712	nd	119	96	79	145	2527	1402	32	26	0.00332242	0.00585812	0.99081946	Rt
OSS-04-S324_IIb_M2_16_3	Alps (CH)	97.58	98.32	1214	nd	111	11	59	104	2476	1328	12	nd	0.00247626	0.01382583	0.9836979	Rt
SAB-04-S326_IIb_1_1	Alps (CH)	96.36	98.39	4700	nd	695	2169	157	357	3956	2062	589	nd	0.0006674	1.3951E-05	0.99931865	Rt
SAB-04-S326_IIb_2_1	Alps (CH)	97.65	98.65	657	nd	1555	236	39	2	1356	2821	408	nd	0.00013157	4.3701E-06	0.99986406	Rt
SAB-04-S326_IIb_3_1	Alps (CH)	97.55	98.89	2206	nd	1225	1425	92	39	1694	2496	467	nd	0.00034354	6.8967E-06	0.99964956	Rt
SAB-04-S326_IIb_4_1	Alps (CH)	97.72	98.72	1144	nd	2109	318	13	nd	1363	1971	176	nd	0.00030181	3.1225E-05	0.99966697	Rt
SAB-04-S326_IIb_5_1	Alps (CH)	97.83	98.91	1152	nd	672	107	94	149	3691	1629	347	nd	0.00038342	8.3621E-06	0.99960822	Rt
SAB-04-S326_IIb_6_1	Alps (CH)	97.27	98.55	677	nd	2078	200	81	207	3171	2243	521	nd	5.566E-05	3.8259E-07	0.99994396	Rt
SAB-04-S326_IIb_6_2	Alps (CH)	97.75	98.83	642	nd	2085	98	96	147	1787	2243	473	nd	8.2856E-05	4.1158E-07	0.99991673	Rt
SAB-04-S326_IIb_6_3	Alps (CH)	97.14	98.18	663	nd	2077	148	81	137	1461	2258	469	nd	0.00010757	6.2169E-07	0.99989181	Rt
SAB-04-S326_IIb_7_1	Alps (CH)	95.73	98.61	10346	nd	497	208	99	124	7783	1367	466	nd	0.00216177	0.00010035	0.99773788	Rt
SAB-04-S326_IIb_7_2	Alps (CH)	96.25	98.99	9801	nd	530	96	94	97	7484	1383	394	nd	0.00188948	0.00010128	0.99800925	Rt
SAB-04-S326_IIb_7_3	Alps (CH)	95.71	98.56	10206	nd	510	147	113	15	7867	1389	469	nd	0.00191366	7.6621E-05	0.99800972	Rt
SAB-04-S326_IIb_8_1	Alps (CH)	97.97	98.8	572	nd	859	83	47	24	2153	1855	439	nd	0.0003046	6.8634E-06	0.99968854	Rt
SAB-04-S326_IIb_10_1	Alps (CH)	96.53	97.45	1335	nd	537	169	104	39	2166	1794	482	nd	0.00082055	1.6011E-05	0.99916344	Rt
SAB-04-S326_IIb_10_2	Alps (CH)	97.27	98.18	1253	nd	489	293	118	38	1977	1837	489	nd	0.00087119	1.6193E-05	0.99911262	Rt
SAB-04-S326_IIb_10_3	Alps (CH)	97.69	98.59	1180	nd	495	409	126	25	1907	1846	495	nd	0.00082524	1.3534E-05	0.99916123	Rt
SAB-04-S326_IIb_11_1	Alps (CH)	99.82	100.74	593	nd	1437	1580	25	108	1950	604	502	nd	0.00184989	3.19E-06	0.99814692	Rt
SAB-04-S326_IIb_11_2	Alps (CH)	99.31	100.25	596	nd	1487	1619	16	83	1851	731	490	nd	0.00154718	6.4201E-06	0.9984464	Rt
SAB-04-S326_IIb_11_3	Alps (CH)	98.31	99.23	534	nd	1472	1450	44	101	1915	758	495	nd	0.0009211	1.3313E-06	0.99907757	Rt
SAB-04-S326_IIb_12	Alps (CH)	97.18	97.78	470	nd	329	67	52	78	1744	1233	354	nd	0.00175211	4.7646E-05	0.99820024	Rt
SAB-04-S326_IIb_13	Alps (CH)	97.51	98.56	1557	nd	1370	16	nd	nd	379	2786	1290	nd	0.00510818	0.00279533	0.9920965	Rt
SAB-04-S326_IIb_14	Alps (CH)	98.24	98.96	733	nd	283	73	34	47	1256	2231	428	nd	0.00169914	0.00028384	0.99801702	Rt
SAB-04-S326_IIb_1	Alps (CH)	98.98	100.08	2029	nd	972	902	325	57	1319	1844	422	27	0.00056422	1.8755E-06	0.9994339	Rt
SAB-04-S326_IIb_3	Alps (CH)	98.81	99.54	448	nd	649	303	38	85	2830	513	530	nd	0.00303752	5.7572E-06	0.99695673	Rt
SAB-04-S326_IIb_4	Alps (CH)	96.74	97.74	1203	nd	1240	25	65	16	620	3270	442	46	0.00036992	1.1143E-05	0.99961894	Rt
SAB-04-S326_IIb_5	Alps (CH)	98.95	99.51	90	nd	947	75	18	36	1661	844	363	13	0.0004464	2.3692E-06	0.99955123	Rt
SAB-04-S326_IIb_6	Alps (CH)	96.58	98.34	3956	nd	1613	56	nd	146	5932	655	498	nd	0.00658525	0.00129557	0.99211919	Rt
SAB-04-S326_IIb_7	Alps (CH)	98.36	98.93	275	nd	476	346	44	24	1785	824	452	nd	0.00176026	9.6078E-06	0.99823013	Rt
SAB-04-S326_IIb_8	Alps (CH)	98.45	99.35	1892	nd	463	nd	194	530	1991	903	387	nd	0.00349345	1.2525E-05	0.99649403	Rt
SAB-04-S326_IIb_9	Alps (CH)	98.09	99.35	3122	nd	755	760	318	3	1840	1844	443	nd	0.00078582	4.6103E-06	0.99920957	Rt
SAB-04-S326_IIb_10	Alps (CH)	98.52	99.73	2786	nd	809	549	150	26	2424	1540	416	nd	0.00090486	8.4328E-06	0.99908671	Rt
SAB-04-S326_IIb_12	Alps (CH)	98.36	99.04	584	nd	676	86	nd	71	1375	1722	331	26	0.0024398	0.00475882	0.99280138	Rt
SAB-04-S326_IIb_13	Alps (CH)	99.33	100.3	818	nd	112	2193	15	75	2644	976	427	nd	0.01505115	0.00407947	0.98086938	Rt
SAB-04-S326_IIb_14	Alps (CH)	99.93	101.02	2670	nd	194	362	72	178	3185	821	451	nd	0.01368051	0.00038383	0.98593566	Rt
SAB-04-S326_IIb_15	Alps (CH)	98.96	99.99	1257	nd	1349	488	180	nd	1300	2276	490	7	0.00024194	1.1692E-06	0.99975689	Rt
SAB-04-S326_IIb_16	Alps (CH)	99.34	99.82	504	nd	389	61	21	57	1251	704	460	nd	0.00840709	0.00010091	0.991492	Rt
SAB-04-S326_IIb_17	Alps (CH)	97.97	98.69	935	nd	500	262	55	71	2148	862	366	5	0.00287115	2.7716E-05	0.99710113	Rt
SAB-04-S326_IIb_18	Alps (CH)	97.38	99.59	7810	nd	779	224	139	400	4323	1498	526	65	0.0014216	2.0744E-05	0.99855766	Rt
SAB-04-S327_IIb_3_1	Alps (CH)	98.36	99.22	1376	nd	478	776	614	65	1921	990	55	nd	0.00082488	6.4936E-06	0.99916863	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
SAB-04-S327_IIb_3_2	Alps (CH)	97.79	98.6	1399	nd	545	629	627	59	1804	868	43	nd	0.00088547	5.5257E-06	0.99910901	Rt
SAB-04-S327_IIb_5_2	Alps (CH)	96.55	97.88	670	nd	910	94	21	nd	7348	873	143	nd	0.00036421	1.8679E-05	0.99961711	Rt
SAB-04-S327_IIb_5_3	Alps (CH)	96.43	97.5	445	nd	911	309	18	nd	5210	960	125	nd	0.00031139	2.0032E-05	0.99966858	Rt
SAB-04-S327_IIb_7_3	Alps (CH)	97.68	98.43	1376	nd	390	191	124	78	1605	1500	81	18	0.00115658	0.00010485	0.99873856	Rt
SAB-04-S327_IIb_8_1	Alps (CH)	96.32	97.35	2589	nd	317	110	107	49	3258	890	129	nd	0.00381869	0.00016891	0.99601239	Rt
SAB-04-S327_IIb_8_2	Alps (CH)	96.95	97.92	2345	nd	283	47	134	60	3279	791	143	nd	0.00471147	0.00012435	0.99516418	Rt
SAB-04-S327_IIb_8_3	Alps (CH)	97.51	98.44	2268	nd	398	32	37	68	3113	749	106	nd	0.00513666	0.00043186	0.99443148	Rt
SAB-04-S327_IIb_9_2	Alps (CH)	97.36	98.68	2939	nd	454	1577	205	121	3083	1083	190	nd	0.00188548	2.8536E-05	0.99808599	Rt
SAB-04-S327_IIb_9_3	Alps (CH)	95.95	97.66	4445	nd	520	2016	127	169	3959	1166	75	nd	0.00135347	0.00011735	0.99852917	Rt
SAB-04-S327_IIb_10_1	Alps (CH)	97.5	98.45	2282	nd	502	408	200	86	2276	988	181	nd	0.00214711	2.0532E-05	0.99783236	Rt
SAB-04-S327_IIb_10_2	Alps (CH)	97.1	97.88	1525	nd	451	356	254	54	2022	924	70	nd	0.00151161	2.375E-05	0.99846464	Rt
SAB-04-S327_IIb_11_1	Alps (CH)	96.91	98.2	3351	nd	300	57	32	45	4919	644	126	nd	0.00905113	0.00103289	0.98991598	Rt
SAB-04-S327_IIb_11_2	Alps (CH)	97.03	98.88	5435	nd	244	724	86	61	6222	657	161	nd	0.00986843	0.00052369	0.98960788	Rt
SAB-04-S327_IIb_11_3	Alps (CH)	95.71	98	6509	nd	898	1837	88	48	6582	648	227	nd	0.00283337	2.3313E-05	0.99714332	Rt
SAB-04-S327_IIb_12	Alps (CH)	96.85	98.16	3093	nd	657	136	158	103	4016	1215	150	nd	0.00083606	2.0145E-05	0.99914379	Rt
SAB-04-S327_IIb_13	Alps (CH)	97.53	98.56	3166	nd	277	33	75	127	2623	1054	90	nd	0.00472576	0.00076308	0.99451117	Rt
SAB-04-S327_IIb_14	Alps (CH)	97.42	98.44	1847	nd	543	590	384	61	3167	740	166	nd	0.00159363	4.0785E-06	0.9984023	Rt
SAB-04-S327_IIb_1	Alps (CH)	97.47	98.06	1130	nd	465	52	206	42	1620	702	52	nd	0.00227013	2.6145E-05	0.99770373	Rt
SAB-04-S327_IIb_2	Alps (CH)	96.92	97.81	2108	nd	330	46	83	213	2280	1009	93	124	0.0034102	0.00028387	0.99630594	Rt
SAB-04-S327_IIb_3	Alps (CH)	96.69	97.77	967	nd	556	1041	142	nd	4668	574	150	nd	0.00141465	5.9058E-06	0.99857944	Rt
SAB-04-S327_IIb_4	Alps (CH)	96.49	97.19	1114	nd	1075	140	156	21	1570	963	41	nd	0.00052209	7.6425E-06	0.99947027	Rt
SAB-04-S327_IIb_5	Alps (CH)	99.02	99.83	2124	nd	410	82	168	17	2043	855	113	20	0.00332907	5.4021E-05	0.99661691	Rt
SAB-04-S327_IIb_6	Alps (CH)	97.75	98.47	1096	nd	653	311	151	67	1752	939	200	29	0.00144258	7.5024E-06	0.99854992	Rt
SAB-04-S327_IIb_8	Alps (CH)	98.97	99.8	1573	nd	308	178	87	38	3501	398	55	nd	0.00857284	0.00016823	0.99125893	Rt
SAB-04-S327_IIb_9	Alps (CH)	99.15	99.8	1455	nd	453	174	78	60	1778	673	73	6	0.00439109	0.00011064	0.99549827	Rt
SAB-04-S327_IIb_10	Alps (CH)	99.49	100.19	909	nd	692	269	93	nd	579	2281	150	nd	0.00072513	3.5413E-05	0.99923945	Rt
SAB-04-S327_IIb_11	Alps (CH)	100.46	101.54	1262	nd	222	726	73	nd	5902	nd	75	4	0.99700774	4.8394E-08	0.00299221	Ant
SAB-04-S327_IIb_12	Alps (CH)	99.62	100.45	657	nd	204	246	23	nd	4787	360	61	nd	0.01020707	0.00079934	0.98899359	Rt
SAB-04-S327_IIb_13	Alps (CH)	97.94	98.86	115	nd	1167	1354	61	28	3538	586	35	nd	0.000124	9.9091E-07	0.999875	Rt
SAB-04-S327_IIb_14	Alps (CH)	100.18	101.17	1762	nd	319	832	119	20	4180	46	96	nd	0.27983901	1.961E-05	0.72014138	Rt
SAB-04-S327_IIb_15	Alps (CH)	98.98	99.69	1655	60	419	63	76	68	2122	559	87	23	0.0066683	0.00011778	0.99321391	Rt
SAB-04-S327_IIb_16	Alps (CH)	99.1	99.83	1711	nd	369	nd	103	82	1956	931	46	20	0.00251821	0.00021856	0.99726323	Rt
SAB-04-S327_IIb_17	Alps (CH)	98.48	99.43	182	nd	1162	1421	65	31	3569	627	52	nd	0.00017358	1.2072E-06	0.99982521	Rt
SAB-04-S327_IIb_1_1	Alps (CH)	95.59	96.54	829	nd	315	531	112	20	4785	553	17	nd	0.00133719	0.00011815	0.99854466	Rt
SAB-04-S327_IIb_1_2	Alps (CH)	94.8	96.87	5164	nd	418	681	118	20	7858	689	126	172	0.00318378	9.6689E-05	0.99671953	Rt
SAB-04-S327_IIb_1_3	Alps (CH)	95.27	97.15	4581	nd	430	535	158	nd	7465	674	130	nd	0.0027993	5.154E-05	0.99714916	Rt
SAB-04-S327_IIb_2_1	Alps (CH)	96.51	97.36	2117	nd	432	222	111	30	1809	1334	61	nd	0.00150247	0.00017464	0.9983229	Rt
SAB-04-S327_IIb_2_2	Alps (CH)	95.85	96.77	2231	nd	536	87	119	68	1901	1529	90	nd	0.00101695	7.9829E-05	0.99890322	Rt
SAB-04-S327_IIb_2_3	Alps (CH)	95.69	96.64	2463	nd	547	106	124	65	1840	1550	115	nd	0.00115153	6.9316E-05	0.99877916	Rt
SAB-04-S327_IIb_6_1	Alps (CH)	96.75	97.49	314	nd	1267	156	23	nd	2319	1156	87	nd	0.00020397	9.6017E-06	0.99978643	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
SAB-04-S327_IIb_6_2	Alps (CH)	96.51	97.39	531	nd	1376	79	27	nd	3085	1198	64	nd	0.00017175	1.2535E-05	0.99981571	Rt
SAB-04-S327_IIb_6_3	Alps (CH)	96.68	97.5	487	nd	1420	116	34	4	2613	1168	64	nd	0.00017469	8.1959E-06	0.99981711	Rt
SAB-04-S328_IIb_NM_1_1	Alps (CH)	97.61	99.37	5362	nd	551	236	340	147	4627	1235	207	nd	0.00112749	1.4107E-05	0.9988584	Rt
SAB-04-S328_IIb_NM_1_2	Alps (CH)	96.71	98.38	5490	nd	565	240	276	149	3719	1347	212	nd	0.00126919	2.1304E-05	0.9987095	Rt
SAB-04-S328_IIb_NM_1_3	Alps (CH)	97.42	98.6	3086	nd	482	269	243	121	2863	1300	146	nd	0.00122545	2.8016E-05	0.99874653	Rt
SAB-04-S328_IIb_NM_2_1	Alps (CH)	96.65	97.84	1120	nd	231	643	78	nd	6211	694	55	nd	0.00207574	0.00023987	0.99768439	Rt
SAB-04-S328_IIb_NM_2_2	Alps (CH)	96.73	98.39	2215	nd	669	79	137	nd	8528	700	147	nd	0.00087806	8.4419E-06	0.9991135	Rt
SAB-04-S328_IIb_NM_2_3	Alps (CH)	95.87	98.05	2301	nd	463	1536	216	nd	11116	763	213	nd	0.00088309	7.3818E-06	0.99910953	Rt
SAB-04-S328_IIb_NM_3_1	Alps (CH)	98.89	99.71	1481	nd	316	181	177	46	2707	928	111	nd	0.00219789	5.3963E-05	0.99774815	Rt
SAB-04-S328_IIb_NM_4_1	Alps (CH)	97.21	98.42	2475	nd	1063	344	136	79	3006	1502	155	nd	0.00039072	7.968E-06	0.99960131	Rt
SAB-04-S328_IIb_NM_4_2	Alps (CH)	97.92	99.02	1950	nd	964	269	150	68	2693	1639	130	nd	0.00031409	8.2158E-06	0.99967769	Rt
SAB-04-S328_IIb_NM_4_3	Alps (CH)	97.79	98.94	2459	nd	1025	266	161	86	2805	1347	144	nd	0.00048299	7.0453E-06	0.99950996	Rt
SAB-04-S328_IIb_NM_5_1	Alps (CH)	96.66	97.91	2772	nd	564	190	112	133	3912	1340	113	nd	0.00080779	5.3667E-05	0.99913854	Rt
SAB-04-S328_IIb_NM_5_3	Alps (CH)	96.46	97.62	2245	nd	555	230	103	99	3805	1279	94	nd	0.0007562	5.5742E-05	0.99918805	Rt
SAB-04-S328_IIb_NM_7_1	Alps (CH)	96.61	97.65	1267	nd	505	161	25	35	4698	898	76	nd	0.0012777	0.00024288	0.99847942	Rt
SAB-04-S328_IIb_NM_7_2	Alps (CH)	96.29	97.74	1181	nd	203	2488	52	53	5849	1017	196	nd	0.00232411	0.00030505	0.99737084	Rt
SAB-04-S328_IIb_NM_7_3	Alps (CH)	94.88	97.81	2166	nd	173	9436	28	82	9159	1249	196	nd	0.00251547	0.00186196	0.99562257	Rt
SAB-04-S328_IIb_NM_8_1	Alps (CH)	96.74	97.94	2506	nd	1451	220	153	92	2996	1118	126	nd	0.00042343	3.3917E-06	0.99957318	Rt
SAB-04-S328_IIb_NM_8_2	Alps (CH)	97	98.12	2231	nd	1402	204	126	62	2845	1070	131	nd	0.00049476	4.1663E-06	0.99950107	Rt
SAB-04-S328_IIb_NM_8_3	Alps (CH)	96.55	98.6	6674	nd	1332	224	177	151	4587	1407	121	nd	0.00041603	9.4393E-06	0.99957453	Rt
SAB-04-S328_IIb_NM_9_1	Alps (CH)	98.91	99.91	1060	nd	48	2270	68	187	3280	573	29	40	0.0243633	0.020608	0.9550287	Rt
SAB-04-S328_IIb_NM_9_2	Alps (CH)	98.16	99.33	2059	nd	12	1496	67	263	4302	322	64	92	0.28352455	0.22295465	0.4935208	Rt
SAB-04-S328_IIb_NM_9_3	Alps (CH)	97.97	99.15	2484	nd	nd	1479	96	107	4219	409	49	nd	0.03938592	0.95392978	0.0066843	Brk
SAB-04-S328_IIb_NM_13_1	Alps (CH)	98.54	99.33	317	nd	51	308	nd	nd	4454	786	67	nd	0.01095851	0.51155951	0.47748197	Brk
SAB-04-S328_IIb_NM_13_2	Alps (CH)	101.18	101.96	233	nd	69	217	11	nd	4665	591	82	nd	0.00931293	0.00857557	0.9821115	Rt
SAB-04-S328_IIb_NM_13_3	Alps (CH)	100.44	101.19	384	nd	60	347	31	nd	4095	592	159	nd	0.01556303	0.00320053	0.98123644	Rt
SAB-04-S328_IIb_NM_14_1	Alps (CH)	98.86	100.08	3448	nd	1831	38	3	42	1768	1419	73	nd	0.00146422	0.00182137	0.99671441	Rt
SAB-04-S328_IIb_NM_14_2	Alps (CH)	99.33	100.58	3479	nd	2013	nd	33	62	1967	1176	127	nd	0.00087158	2.735E-05	0.99910107	Rt
SAB-04-S328_IIb_NM_14_3	Alps (CH)	99.91	101.02	2858	nd	1504	nd	13	109	1967	1223	101	55	0.00124608	0.00019563	0.99855829	Rt
SAB-04-S328_IIb_NM_5	Alps (CH)	97.55	98.47	1995	nd	411	100	86	45	2932	1056	79	nd	0.00174738	0.00015181	0.99810081	Rt
SAB-04-S328_IIb_M_2_1	Alps (CH)	99.99	101.28	2697	nd	492	54	183	nd	5828	208	156	nd	0.01629723	9.828E-06	0.98369294	Rt
SAB-04-S328_IIb_M_2_2	Alps (CH)	100.75	101.89	1775	nd	485	43	121	nd	5861	206	76	nd	0.01116723	1.8833E-05	0.98881394	Rt
SAB-04-S328_IIb_M_2_3	Alps (CH)	100.1	101.42	2940	nd	515	49	150	nd	5872	199	122	nd	0.01757484	1.5138E-05	0.98241002	Rt
SAB-04-S328_IIb_M_8_1	Alps (CH)	98.9	99.78	1006	nd	896	291	37	nd	3410	803	79	nd	0.00081381	3.0998E-05	0.99915519	Rt
SAB-04-S328_IIb_M_8_2	Alps (CH)	99.66	100.54	1008	nd	538	293	67	nd	3712	820	88	nd	0.00108574	3.8294E-05	0.99887596	Rt
SAB-04-S328_IIb_M_8_3	Alps (CH)	99.31	100.22	993	nd	929	279	35	10	3593	794	76	nd	0.00075696	3.0228E-05	0.99921282	Rt
SAB-04-S328_IIb_NM_2	Alps (CH)	100.43	101.34	2041	nd	341	138	122	33	3080	763	114	19	0.00372619	9.4272E-05	0.99617954	Rt
SAB-04-S328_IIb_NM_3	Alps (CH)	97.17	98.34	2577	nd	15	75	605	94	2381	1838	900	nd	0.04269579	0.00629014	0.95101407	Rt
SAB-04-S328_IIb_NM_4	Alps (CH)	98.27	99.18	1457	nd	453	248	135	9	3673	722	38	nd	0.00132468	5.5212E-05	0.9986201	Rt
SAB-04-S328_IIb_NM_5	Alps (CH)	98.31	99.41	2192	nd	275	761	38	89	2403	2032	154	22	0.00182357	0.00128491	0.99689152	Rt

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. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
SAB-04-S328_IIb_NM_7	Alps (CH)	99.88	100.84	1623	nd	262	749	181	nd	3976	342	58	nd	0.00966244	7.4039E-05	0.99026352	Rt
SAB-04-S328_IIb_NM_8	Alps (CH)	101.02	101.9	1681	nd	339	94	195	107	3130	734	135	nd	0.00305962	3.3502E-05	0.99690688	Rt
SAB-04-S328_IIb_NM_10	Alps (CH)	97.88	99.29	2268	nd	684	50	67	15	4596	1661	985	nd	0.00078749	1.2259E-05	0.99920025	Rt
SAB-04-S328_IIb_NM_11	Alps (CH)	100.57	101.34	1498	nd	1433	nd	73	11	681	1684	6	nd	0.00026619	0.00013207	0.99960174	Rt
SAB-04-S328_IIb_NM_12	Alps (CH)	100.66	101.12	278	nd	292	69	14	nd	1559	1061	96	nd	0.00200779	0.00056867	0.99742354	Rt
SAB-04-S328_IIb_NM_14	Alps (CH)	99.62	101.23	5054	nd	1014	389	108	115	3288	1511	35	17	0.00043568	7.8415E-05	0.9994859	Rt
SAB-04-S328_IIb_NM_20	Alps (CH)	98.2	99.15	2079	nd	900	277	161	50	1353	1791	96	7	0.00051043	1.7719E-05	0.99947185	Rt
SAB-04-S328_IIb_NM_21	Alps (CH)	99.67	101.1	3632	nd	27	285	381	39	5527	540	23	78	0.04114282	0.02308824	0.93576894	Rt
SAB-04-S328_IIb_NM_25	Alps (CH)	99.79	101.05	3692	nd	546	193	96	154	2462	1630	249	nd	0.00154339	8.1021E-05	0.99837559	Rt
SAB-04-S328_IIb_NM_26	Alps (CH)	100.71	101.43	1193	nd	957	77	80	56	1730	1031	52	nd	0.00069203	2.3386E-05	0.99928459	Rt
SAB-04-S328_IIb_NM_28	Alps (CH)	98.3	98.95	1430	nd	488	311	170	52	1691	543	52	nd	0.00418138	3.5407E-05	0.99578321	Rt
SAB-04-S328_IIb_M_49_1	Alps (CH)	99.42	100.7	1504	nd	546	1879	1749	41	3513	387	43	nd	0.00148542	6.6313E-07	0.99851392	Rt
SAB-04-S328_IIb_M_49_2	Alps (CH)	99.49	100.62	1470	nd	555	1231	1719	14	3152	340	46	nd	0.00205192	6.0977E-07	0.99794747	Rt
SAB-04-S328_IIb_M_49_3	Alps (CH)	98.99	100.1	1650	nd	443	1308	1226	23	3282	390	43	nd	0.00240017	2.083E-06	0.99759775	Rt
SAB-04-S328_IIb_M_59_1	Alps (CH)	100.58	101.4	699	nd	166	106	32	nd	4641	452	146	8	0.01094594	0.00051884	0.98853522	Rt
SAB-04-S328_IIb_M_59_2	Alps (CH)	99.71	100.6	840	nd	154	59	1	nd	4958	493	229	21	0.03847616	0.07388851	0.88763534	Rt
SAB-04-S328_IIb_M_59_3	Alps (CH)	98.36	99.36	730	nd	192	78	46	133	5013	439	150	454	0.00839579	0.00021495	0.99138926	Rt
SYR-04-01_IIb_1_1	Syros (GR)	99.66	100.45	1428	nd	983	99	52	nd	2309	814	20	nd	0.00076692	7.654E-05	0.99915654	Rt
SYR-04-01_IIb_1_2	Syros (GR)	99.86	100.64	1370	nd	1101	102	68	nd	2181	803	26	nd	0.0007001	3.2445E-05	0.99926745	Rt
SYR-04-01_IIb_1_3	Syros (GR)	99.15	99.96	1254	nd	1477	58	106	nd	2082	766	41	nd	0.00052933	5.685E-06	0.99946499	Rt
SYR-04-01_IIb_2_1	Syros (GR)	99.93	100.82	35	nd	35	nd	17	nd	4537	1921	50	nd	0.00042996	0.00585462	0.99371542	Rt
SYR-04-01_IIb_3_1	Syros (GR)	96.59	97.88	2586	nd	2924	291	105	nd	1824	1455	9	nd	9.4693E-05	1.1553E-05	0.99989375	Rt
SYR-04-01_IIb_3_2	Syros (GR)	97	98.21	2489	nd	2438	104	93	nd	1901	1509	38	nd	0.00016923	7.1435E-06	0.99982363	Rt
SYR-04-01_IIb_3_3	Syros (GR)	96.55	97.77	2482	nd	2356	128	96	nd	2003	1531	52	nd	0.00017834	5.7569E-06	0.9998159	Rt
SYR-04-01_IIb_4_1	Syros (GR)	97.81	98.77	1993	nd	888	26	87	15	2283	1519	30	9	0.00035202	6.7279E-05	0.9995807	Rt
SYR-04-01_IIb_5_1	Syros (GR)	97.27	98.41	2261	nd	2491	287	79	1	1712	1234	44	nd	0.00026867	6.7276E-06	0.9997246	Rt
SYR-04-01_IIb_5_2	Syros (GR)	97.34	98.54	2287	54	2534	32	89	121	2108	1206	41	1	0.00021403	5.1176E-06	0.99978085	Rt
SYR-04-01_IIb_5_3	Syros (GR)	97	98.04	1752	nd	2629	13	106	7	1689	1156	35	nd	0.00019801	3.3257E-06	0.99979866	Rt
SYR-04-01_IIb_6_1	Syros (GR)	97.26	98.36	1837	nd	2730	122	116	nd	1566	1355	29	nd	0.00014503	3.6127E-06	0.99985136	Rt
SYR-04-01_IIb_6_3	Syros (GR)	97.09	98.26	1894	nd	2963	163	95	nd	1615	1490	47	nd	0.0001392	3.0017E-06	0.9998578	Rt
SYR-04-01_IIb_7_1	Syros (GR)	97.06	98.11	2063	nd	1507	232	58	2	2019	1552	26	nd	0.00023621	4.4233E-05	0.99971955	Rt
SYR-04-01_IIb_7_2	Syros (GR)	97.04	98.05	1967	nd	1264	126	88	2	2271	1527	38	nd	0.00025049	2.4464E-05	0.99972505	Rt
SYR-04-01_IIb_7_3	Syros (GR)	97.28	98.53	2416	nd	1693	855	61	1	2344	1553	47	nd	0.00024214	2.283E-05	0.99973503	Rt
SYR-04-01_IIb_8_1	Syros (GR)	97.18	98.26	1978	nd	2132	338	84	nd	1670	1445	35	nd	0.00020272	9.6473E-06	0.99978763	Rt
SYR-04-01_IIb_8_2	Syros (GR)	96.51	97.69	1999	nd	2129	521	86	42	2016	1550	50	5	0.00016878	6.8231E-06	0.9998244	Rt
SYR-04-01_IIb_8_3	Syros (GR)	97.33	98.4	1979	nd	2102	65	75	nd	1803	1515	41	nd	0.00019312	1.0266E-05	0.99979662	Rt
SYR-04-01_IIb_9_1	Syros (GR)	97.82	98.84	1636	nd	1147	377	78	53	3007	1109	35	nd	0.00033562	2.3205E-05	0.99964117	Rt
SYR-04-01_IIb_9_2	Syros (GR)	97.86	98.72	1314	nd	861	77	62	75	2739	1043	23	nd	0.00045066	6.715E-05	0.99948219	Rt
SYR-04-01_IIb_9_3	Syros (GR)	97.38	98.38	1652	nd	796	47	58	239	3190	1113	26	2	0.00048358	0.0001003	0.99941612	Rt
SYR-04-01_IIb_10_1	Syros (GR)	99.52	100.18	143	nd	137	nd	18	nd	3964	662	38	nd	0.00186655	0.00098344	0.99715002	Rt

continued on next page. . .

. . . table "Alps, Mexico, and Syros rutiles, EMP data" continued from page 236

Analysis label	Locality	TiO_2 [%]	Total [%]	Nb	Mg	Cr	W	Sn	Al	Fe	V	Zr	Si	Posterior probabilities Ant	Brk	Rt	
SYR-04-01_IIb_10_2	Syros (GR)	98.46	99.14	136	nd	172	nd	17	nd	4036	716	82	nd	0.00155552	0.0003529	0.99809158	Rt
SYR-04-01_IIb_10_3	Syros (GR)	97.81	98.45	124	nd	164	nd	33	6	3697	736	94	nd	0.0013099	0.00013112	0.99855898	Rt
SYR-04-01_IIb_11	Syros (GR)	98.08	99.25	1567	143	1264	2	30	695	3098	1126	32	176	0.00037333	7.3752E-05	0.99955291	Rt
SYR-04-01_IIb_12	Syros (GR)	100.69	101.29	73	nd	283	16	13	nd	2545	1308	166	16	0.00039706	8.0738E-05	0.9995222	Rt
SYR-04-01_IIb_13	Syros (GR)	97.47	99.33	94	nd	57	nd	nd	nd	12204	1838	9	nd	0.00021071	0.4076248	0.59216449	Rt
SYR-04-01_IIb_14	Syros (GR)	97.58	98.56	1750	162	1182	124	71	139	1719	1557	38	79	0.00033289	3.9991E-05	0.99962712	Rt
SYR-04-01_IIb_15	Syros (GR)	97.53	98.37	5	nd	6	11	nd	nd	4979	1319	26	nd	0.0007335	0.73244599	0.26682051	Brk
SYR-04-01_IIb_16	Syros (GR)	98.37	99.33	1337	nd	1867	60	58	32	2692	861	nd	nd	0.00010127	0.00010877	0.99978995	Rt
SYR-04-01_IIb_17	Syros (GR)	98.84	99.8	1558	nd	1746	79	54	6	2484	1011	3	nd	0.00014549	8.6397E-05	0.99976811	Rt
SYR-04-01_IIb_18	Syros (GR)	97.99	98.96	1477	nd	889	nd	61	23	3279	1281	26	nd	0.00029186	6.634E-05	0.9996418	Rt
SYR-04-01_IIb_19	Syros (GR)	100.88	101.68	71	nd	nd	5	nd	nd	4868	1020	79	nd	0.00023532	0.999133	0.00063169	Brk
SYR-04-01_IIb_20	Syros (GR)	97.94	98.9	129	nd	9	nd	9	6	5694	1368	26	nd	0.00282707	0.65317365	0.34399928	Brk
SYR-04-01_IIb_21	Syros (GR)	95.48	97.57	1750	92	2622	63	35	391	8625	1441	41	123	4.5568E-05	6.5549E-06	0.99994788	Rt
SYR-04-01_IIb_22	Syros (GR)	98.12	99.06	2039	nd	959	nd	41	nd	2269	1438	47	nd	0.0005476	0.00012181	0.99933059	Rt
SYR-04-01_IIb_23	Syros (GR)	97.99	99.05	1832	nd	1737	339	96	nd	2160	1444	23	nd	0.00015813	1.3653E-05	0.99982822	Rt
SYR-04-01_IIb_24	Syros (GR)	98.27	99.18	401	nd	659	506	6	nd	4139	988	61	nd	0.00056627	0.00035052	0.9990832	Rt
SYR-04-01_IIb_25	Syros (GR)	97.13	98.22	2277	nd	1428	nd	43	nd	2344	1645	29	nd	0.00024438	7.5589E-05	0.99968003	Rt
SYR-04-01_IIb_26	Syros (GR)	97.23	98.14	1435	nd	988	220	123	82	2588	1120	20	nd	0.00028861	2.3704E-05	0.99968768	Rt
SYR-04-01_IIb_27	Syros (GR)	99.14	100.16	1687	nd	1513	155	92	46	2862	1011	41	nd	0.00030857	8.813E-06	0.99968262	Rt
SYR-04-01_IIb_28	Syros (GR)	99.41	100.27	1177	nd	1972	114	61	nd	1949	840	35	nd	0.00037806	7.2505E-06	0.99961469	Rt
SYR-04-01_IIb_29	Syros (GR)	97.62	98.57	1537	nd	1154	nd	65	47	2834	1149	20	nd	0.00028014	4.3236E-05	0.99967663	Rt
SYR-04-01_IIb_30	Syros (GR)	97.36	98.46	1441	168	1440	36	89	316	2514	1559	32	73	0.0001405	1.3337E-05	0.99984617	Rt

Analyses are labelled sample(_internal label)(_crystal)(_analysis no.).

Element contents are given in ppm, % = mass-%.

nd = not detected, na = not analysed.

Rt = rutile, Ant = anatase, Brk = brookite.

CH = Switzerland, GR = Greece, MEX = Mexico.

Table A.7.: SIMS isotope/^{47}Ti ratios together with Ti concentrations from EMP analyses (compare Table A.2).

Analysis	Ti [mass-%]	^{90}Zr	^{93}Nb	^{118}Sn	^{123}Sb	^{178}Hf	^{181}Ta	^{184}W	^{238}U
EGB-04-S41_04	60.08	4.30E-03	7.79E-03	2.52E-05	9.76E-06	1.75E-05	8.91E-05	3.83E-06	3.42E-05
EGB-04-S41_05	60.19	4.80E-03	3.04E-02	1.14E-04	2.95E-08	2.48E-05	4.94E-04	4.98E-05	2.68E-05
EGB-04-S41_06	60.92	4.79E-03	2.67E-02	7.03E-05	6.19E-08	3.23E-05	3.46E-04	6.27E-05	2.17E-05
EGB-04-S41_07	60.02	1.02E-02	3.78E-02	5.33E-05	1.19E-07	3.87E-05	7.22E-04	1.28E-04	2.31E-05
EGB-04-S41_09	59.55	2.39E-03	2.20E-02	1.63E-04	7.77E-08	1.66E-05	6.27E-05	7.27E-05	1.74E-05
EGB-04-S41_12	59.00	4.67E-03	4.52E-02	1.92E-04	2.97E-07	2.97E-05	8.68E-04	1.24E-04	3.74E-06
EGB-04-S41_14	59.65	5.07E-03	5.25E-02	5.15E-05	8.57E-07	2.96E-05	6.14E-04	5.85E-05	3.71E-05
EGB-04-S41_16	61.18	3.50E-03	1.36E-02	7.75E-05	9.73E-08	2.21E-05	9.07E-05	3.04E-05	8.99E-06
EGB-04-S41_17	59.37	7.69E-03	4.20E-02	5.84E-05	6.38E-08	3.15E-05	9.17E-04	2.12E-04	7.64E-06
EGB-04-S41_21	59.98	4.48E-03	2.00E-02	1.87E-04	1.97E-06	2.64E-05	7.43E-04	1.60E-04	1.00E-04
EGB-04-S41_22	59.84	4.30E-03	2.52E-02	5.31E-05	6.32E-08	1.44E-05	2.97E-04	8.36E-05	1.88E-05
EGB-04-S41_23	59.77	4.24E-03	3.39E-02	1.93E-05	9.09E-07	1.78E-05	4.45E-04	1.19E-05	1.85E-05
EGB-04-S41_25	58.86	4.99E-03	1.64E-02	8.26E-05	6.10E-08	2.71E-05	1.13E-04	3.03E-05	1.30E-05
EGB-04-S41_26	60.13	4.11E-03	2.97E-02	1.01E-04	5.40E-07	2.66E-05	4.67E-04	7.02E-05	5.87E-05
EGB-04-S41_28	59.96	4.13E-03	5.10E-02	1.29E-04	2.38E-07	2.30E-05	1.07E-03	9.19E-05	6.02E-05
EGB-04-S41_29	59.15	4.40E-03	5.22E-02	1.60E-04	8.53E-07	2.89E-05	4.99E-04	1.22E-04	3.04E-05
EGB-04-S41_31	59.38	5.16E-03	1.55E-02	6.38E-05	4.57E-08	2.80E-05	6.57E-04	4.49E-05	1.71E-05
EGB-04-S41_32	59.24	5.48E-03	1.67E-02	7.22E-06	5.80E-07	1.99E-05	2.02E-04	2.95E-06	2.15E-05
EGB-04-S41_33	60.04	5.59E-03	4.03E-02	4.19E-05	9.44E-08	2.91E-05	6.04E-04	4.99E-05	9.92E-06
EGB-04-S41_35	58.92	3.55E-03	2.09E-02	8.35E-05	3.31E-06	2.25E-05	3.47E-04	4.64E-05	7.76E-05
EGB-04-S41_37	59.32	4.26E-03	4.38E-02	2.03E-04	2.55E-07	3.24E-05	3.71E-04	1.04E-04	1.90E-05
EGB-04-S53_01	60.62	1.41E-04	1.53E-02	5.66E-05	1.34E-05	1.06E-06	2.08E-04	4.91E-05	2.52E-07
EGB-04-S53_02	58.95	1.66E-04	1.34E-02	5.21E-05	7.32E-06	1.00E-06	1.62E-04	4.15E-05	8.88E-08
EGB-04-S53_04	58.99	1.37E-04	6.42E-03	7.22E-06	5.42E-06	3.29E-06	7.35E-05	2.15E-06	1.89E-06
EGB-04-S53_10	59.63	1.91E-04	2.06E-02	1.55E-04	8.82E-05	1.29E-06	3.34E-04	1.29E-04	6.46E-06
EGB-04-S53_11	58.88	1.14E-04	2.14E-02	1.57E-04	4.68E-05	7.66E-07	3.25E-04	2.40E-04	2.01E-06
EGB-04-S53_24	58.77	4.88E-04	1.71E-02	9.83E-05	9.96E-06	3.53E-06	2.40E-04	7.01E-05	2.62E-06
EGB-04-S53_28	58.93	1.99E-04	1.02E-02	1.38E-05	2.93E-05	9.07E-07	1.34E-04	1.50E-05	1.67E-06
EGB-04-S53_37	60.52	4.78E-04	1.49E-02	9.51E-05	6.69E-05	3.53E-06	2.09E-04	4.82E-05	5.71E-06
EGB-04-S53_43	57.92	1.63E-04	1.57E-02	3.75E-05	4.03E-05	2.88E-06	3.43E-04	8.36E-05	1.85E-06
EGB-04-S53_51	58.36	2.74E-04	1.57E-02	1.17E-04	6.08E-06	2.05E-06	2.27E-04	6.17E-05	1.48E-05
EGB-04-S55_01	59.27	1.50E-04	1.96E-02	5.69E-04	5.04E-05	1.08E-06	2.73E-04	2.12E-04	6.05E-06
EGB-04-S55_03	58.85	2.57E-04	1.02E-02	2.23E-04	2.59E-05	1.59E-06	7.43E-05	1.84E-03	8.30E-06
EGB-04-S55_04	59.20	2.87E-04	1.70E-02	7.99E-05	2.29E-05	2.33E-06	2.72E-04	6.35E-05	5.79E-07
EGB-04-S55_05	60.26	2.42E-04	1.55E-02	1.47E-04	3.06E-06	2.04E-06	2.14E-04	1.13E-04	1.03E-05
EGB-04-S55_06	58.94	1.50E-04	7.17E-03	5.68E-06	2.43E-05	8.72E-07	1.02E-04	2.06E-05	1.79E-06
EGB-04-S55_07	59.91	drift	1.46E-02	3.40E-05	1.12E-05	5.91E-06	1.83E-04	3.35E-05	1.24E-06
EGB-04-S55_08	60.73	1.92E-04	1.93E-02	1.09E-04	4.07E-05	1.55E-06	1.80E-04	8.48E-05	4.57E-06
EGB-04-S55_10	59.43	1.76E-04	1.27E-02	7.94E-06	3.76E-05	9.46E-07	1.35E-04	1.15E-05	2.16E-06
EGB-04-S55_11	59.39	2.00E-04	1.82E-02	1.31E-04	7.39E-06	1.30E-06	2.58E-04	8.12E-05	5.54E-06
EGB-04-S55_15	61.25	1.95E-04	2.06E-02	4.85E-05	1.64E-05	1.63E-06	3.08E-04	8.40E-05	9.17E-07
EGB-04-S55_16	61.01	1.71E-04	1.80E-02	5.57E-05	1.63E-05	1.35E-06	2.75E-04	6.09E-05	1.98E-06
EGB-04-S55_17	60.12	drift	1.79E-02	1.69E-04	2.95E-05	2.85E-06	2.91E-04	1.28E-04	8.37E-06
EGB-04-S55_18	60.88	1.65E-04	1.73E-02	2.73E-04	2.35E-04	1.21E-06	2.42E-04	1.38E-04	8.26E-06
EGB-04-S55_19	60.21	3.15E-04	1.18E-02	2.54E-04	5.81E-06	4.69E-06	2.03E-04	drift	2.42E-05
EGB-04-S55_20	60.97	1.97E-04	1.82E-02	3.19E-04	7.56E-05	1.46E-06	2.82E-04	1.54E-04	1.89E-05
EGB-04-S55_21	60.98	4.96E-05	8.07E-03	4.42E-06	1.70E-06	1.96E-07	1.25E-04	3.48E-06	9.82E-07
EGB-04-S55_24	59.59	1.54E-04	7.57E-03	5.09E-05	2.81E-05	1.51E-06	1.48E-04	2.12E-05	1.39E-07
EGB-04-S55_25	61.33	2.04E-04	1.34E-02	7.37E-05	1.46E-05	1.40E-06	1.98E-04	9.25E-05	2.42E-06
EGB-04-S55_32	59.98	4.21E-04	1.87E-02	1.10E-04	8.94E-06	2.73E-06	2.86E-04	6.03E-05	1.07E-06
EGB-04-S55_33	61.47	2.65E-04	2.01E-02	1.08E-04	6.49E-06	2.17E-06	3.38E-04	1.22E-04	9.45E-06
EGB-04-S56_29	60.71	8.67E-05	6.62E-03	3.29E-07	1.29E-07	6.51E-07	1.08E-04	3.94E-06	5.88E-06
EGB-04-S56_33	59.20	1.74E-04	1.62E-02	1.75E-04	2.30E-04	1.41E-06	2.47E-04	8.05E-05	8.25E-06
EGB-04-S56_42	59.69	5.06E-03	4.16E-02	1.85E-04	1.29E-07	2.71E-05	2.32E-04	1.37E-04	2.51E-05
EGB-04-S56_43	61.18	1.74E-04	2.06E-02	1.25E-04	7.00E-05	2.59E-06	2.65E-04	7.17E-04	6.66E-06
EGB-04-S56_50	60.76	1.71E-03	2.02E-02	1.57E-04	1.79E-04	1.25E-05	2.91E-04	8.29E-05	1.14E-05
EGB-04-S56_63	60.40	3.53E-05	5.22E-03	6.67E-07	2.07E-08	1.50E-07	1.38E-04	1.52E-06	6.25E-07

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. . . table "rutiles, SIMS isotope ratios" continued from page 273

Analysis	Ti [mass-%]	^{90}Zr	^{93}Nb	^{118}Sn	^{123}Sb	^{178}Hf	^{181}Ta	^{184}W	^{238}U
EGB-04-S62M_09	56.89	4.27E-04	2.17E-02	8.79E-03	2.31E-06	6.72E-06	1.51E-04	drift	5.10E-06
EGB-04-S62M_12	60.07	2.81E-04	1.75E-02	9.98E-05	3.07E-05	2.33E-06	2.87E-04	8.42E-05	7.70E-06
EGB-04-S62M_13	55.77	6.17E-04	2.11E-02	1.11E-02	1.72E-06	8.57E-06	1.47E-03	drift	3.70E-06
EGB-04-S62M_17	58.06	2.66E-04	8.47E-03	6.93E-03	2.38E-06	2.56E-06	1.15E-04	drift	1.62E-06
EGB-04-S62M_27	55.64	drift	5.97E-03	1.13E-02	2.03E-06	2.49E-05	6.33E-05	drift	1.61E-05
EGB-04-S62M_33	56.40	2.10E-04	6.77E-03	7.29E-03	1.14E-06	2.99E-06	1.09E-04	1.24E-03	3.41E-06
EGB-04-S62NM_06	59.44	1.09E-03	6.75E-03	1.27E-04	5.90E-07	8.32E-06	6.39E-06	5.67E-06	1.90E-07
EGB-04-S62NM_25	59.71	2.04E-04	1.01E-02	2.19E-05	8.00E-08	7.21E-07	1.58E-04	6.59E-04	4.02E-08
EGB-04-S62NM_31	59.79	5.34E-03	2.60E-02	1.90E-04	1.42E-06	3.21E-05	3.09E-04	1.22E-04	4.85E-05
EGB-04-S62NM_35	59.63	8.23E-04	1.12E-02	3.03E-05	4.22E-08	3.29E-06	1.84E-04	drift	2.51E-07
EGB-04-S63_02	59.83	3.03E-04	7.00E-03	4.74E-06	3.40E-06	1.09E-06	6.26E-05	1.70E-06	5.39E-07
EGB-04-S63_07	59.17	7.64E-04	1.83E-02	1.25E-04	4.35E-05	5.18E-06	2.87E-04	1.14E-04	1.07E-05
EGB-04-S63_09	59.98	1.61E-03	3.59E-02	1.91E-04	5.72E-05	9.48E-06	7.28E-04	1.93E-04	1.60E-05
EGB-04-S63_11	59.75	5.50E-03	1.46E-02	1.05E-04	1.00E-07	2.70E-05	2.36E-04	3.02E-05	2.21E-05
EGB-04-S63_12	59.59	3.38E-04	4.90E-03	6.41E-04	2.21E-07	3.49E-06	1.03E-04	1.28E-05	7.91E-08
EGB-04-S63_13	58.43	7.81E-04	1.82E-02	1.15E-04	1.27E-05	4.39E-06	2.57E-04	1.02E-04	9.45E-06
EGB-04-S63_18	57.83	7.09E-04	2.00E-02	2.36E-04	2.68E-05	3.20E-06	2.73E-04	2.45E-04	3.67E-06
EGB-04-S63_19	59.86	1.95E-04	1.59E-02	1.04E-03	2.36E-05	1.45E-06	2.40E-04	1.37E-04	1.28E-06
EGB-04-S63_23	58.38	4.21E-04	1.88E-02	2.77E-04	4.75E-05	3.98E-06	2.66E-04	4.08E-04	6.21E-06
EGB-04-S63_24	59.99	2.86E-04	1.92E-02	1.45E-06	1.07E-07	1.45E-06	1.81E-04	3.61E-06	3.83E-06
EGB-04-S63_25	60.19	1.31E-04	1.75E-02	7.59E-05	1.45E-05	1.10E-06	2.71E-04	drift	1.83E-06
EGB-04-S63_27	58.06	1.91E-03	3.50E-02	5.09E-05	5.15E-06	1.05E-05	7.84E-04	1.76E-04	4.18E-06
EGB-04-S63_28	59.56	5.76E-04	1.63E-02	1.19E-04	5.75E-05	2.72E-06	2.16E-04	1.02E-04	1.56E-05
EGB-04-S63_29	58.02	6.56E-04	2.31E-02	9.15E-05	9.46E-06	5.32E-06	3.04E-04	9.08E-05	1.30E-05
EGB-04-S63_34	58.16	8.24E-04	1.90E-02	2.23E-04	3.71E-05	4.64E-06	3.00E-04	1.71E-04	6.50E-06
EGB-04-S63_35	59.22	4.93E-03	8.27E-03	2.35E-05	2.08E-06	1.95E-05	1.34E-04	3.35E-06	2.37E-05
EGB-04-S63_36	59.65	3.33E-05	2.70E-03	6.45E-06	7.73E-07	1.89E-07	3.23E-05	1.76E-06	4.07E-06
EGB-04-S63_39	59.78	8.92E-04	2.00E-02	1.23E-04	4.62E-05	5.73E-06	3.05E-04	1.37E-04	1.00E-05
EGB-04-S63_42	58.29	4.58E-04	2.10E-02	1.10E-04	4.70E-04	3.26E-06	3.24E-04	3.07E-04	1.98E-05
EGB-05-S51_IIb_01	58.39	2.77E-03	8.70E-03	3.47E-04	6.26E-07	1.60E-05	6.66E-05	1.31E-04	4.04E-05
EGB-05-S51_IIb_02	59.19	3.56E-03	3.34E-02	2.72E-04	5.83E-08	2.45E-05	2.28E-04	5.37E-05	9.48E-05
EGB-05-S51_IIb_04	59.00	1.78E-03	3.14E-03	3.51E-06	5.95E-07	1.07E-05	6.14E-05	4.06E-05	3.69E-05
EGB-05-S51_IIb_07	59.04	5.28E-04	4.93E-04	1.63E-05	4.57E-05	2.96E-06	6.38E-06	1.62E-06	4.13E-08
EGB-05-S51_IIb_09	59.48	9.33E-04	1.78E-02	9.43E-05	4.28E-05	5.11E-06	2.49E-04	8.60E-05	1.24E-05
EGB-05-S51_IIb_11	58.75	4.13E-03	1.36E-02	5.10E-05	6.78E-06	2.00E-05	1.74E-04	2.32E-05	1.62E-05
EGB-05-S51_IIb_12	58.03	1.63E-03	2.54E-02	1.70E-04	6.81E-05	9.13E-06	4.38E-04	1.54E-04	4.03E-05
EGB-05-S51_IIb_14	59.13	1.14E-03	2.04E-02	5.81E-04	4.87E-05	6.26E-06	3.20E-04	2.01E-04	1.37E-05
EGB-05-S51_IIb_16	59.04	3.28E-03	5.35E-03	1.14E-05	2.52E-07	2.34E-05	8.36E-05	1.63E-05	1.65E-06
EGB-05-S51_IIb_17	57.87	3.24E-03	5.93E-02	1.66E-04	7.54E-08	1.93E-05	4.21E-04	2.19E-04	2.55E-05
EGB-05-S51_IIb_20	59.19	1.63E-02	8.05E-03	4.00E-05	7.77E-08	7.43E-05	4.44E-06	3.61E-06	1.33E-05
EGB-05-S51_IIb_21	60.31	5.69E-04	7.94E-03	1.00E-05	6.63E-07	3.77E-06	9.25E-05	2.36E-06	1.88E-06
EGB-05-S51_IIb_24	59.09	1.30E-03	4.07E-02	1.16E-04	1.14E-05	9.23E-06	7.11E-04	4.01E-04	1.56E-06
EGB-05-S51_IIb_26	59.65	6.69E-04	1.16E-02	3.95E-05	6.11E-06	3.14E-06	1.48E-04	5.32E-04	5.45E-07
EGB-05-S51_IIb_27	59.94	9.58E-04	1.85E-02	1.21E-04	2.82E-05	5.73E-06	2.88E-04	1.53E-04	1.03E-05
EGB-05-S51_IIb_28	59.67	6.78E-04	1.79E-02	1.39E-03	4.67E-05	4.31E-06	3.31E-04	2.32E-04	2.02E-06
EGB-05-S51_IIb_30	60.50	3.32E-04	4.20E-03	4.08E-05	2.06E-05	2.42E-06	3.18E-05	5.20E-04	5.91E-06
EGB-05-S51_IIb_31	58.91	2.81E-02	2.76E-02	4.77E-05	3.35E-07	1.23E-04	7.68E-05	4.79E-05	2.56E-04
EGB-05-S51_IIb_35	58.70	2.46E-04	1.64E-02	9.94E-05	4.86E-05	2.06E-06	2.47E-04	7.05E-05	6.75E-07
EGB-05-S51_IIb_36	56.86	3.50E-03	8.24E-02	1.01E-04	1.06E-07	2.20E-05	1.09E-03	9.89E-04	2.55E-05
EGB-05-S51_IIb_37	59.46	3.30E-04	3.51E-03	3.56E-06	3.29E-07	2.35E-06	4.90E-05	6.73E-07	2.86E-08
EGB-05-S51_IIb_39	59.16	2.01E-02	2.66E-02	7.40E-05	9.17E-08	1.17E-04	2.37E-04	1.16E-04	2.77E-06
EGB-05-S51_IIb_41	57.82	3.78E-03	4.50E-02	2.19E-04	8.11E-06	1.85E-05	7.22E-04	1.82E-04	2.34E-05
EGB-05-S51_IIb_43	58.88	2.12E-02	1.17E-02	4.69E-05	4.33E-07	6.07E-05	1.45E-04	1.15E-05	8.71E-06
EGB-05-S51_IIb_44	58.62	3.43E-02	2.99E-02	7.52E-05	6.18E-07	1.05E-04	2.72E-04	7.40E-05	5.55E-05
EGB-05-S51_IIb_45	59.60	1.60E-02	9.12E-03	9.63E-05	1.39E-07	6.27E-05	1.68E-05	7.11E-06	1.52E-05
EGB-05-S51_IIb_48	58.54	3.64E-03	1.83E-02	4.58E-05	2.77E-06	1.74E-05	6.03E-05	2.20E-04	1.16E-04
EGB-05-S54_02	55.75	1.79E-04	2.43E-02	3.47E-03	2.37E-07	1.94E-05	2.07E-04	drift	5.35E-07
EGB-05-S54_04	59.62	2.49E-04	1.90E-02	1.01E-04	2.15E-05	1.84E-06	2.79E-04	6.55E-05	2.41E-06
EGB-05-S54_07	59.09	7.70E-06	2.45E-02	7.40E-07	2.42E-08	1.19E-07	8.67E-04	1.36E-03	2.40E-08
EGB-05-S54_20	55.01	6.24E-04	4.08E-03	1.22E-02	9.77E-07	1.60E-06	6.02E-05	drift	1.12E-05

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. . . table "rutiles, SIMS isotope ratios" continued from page 273

Analysis	Ti [mass-%]	^{90}Zr	^{93}Nb	^{118}Sn	^{123}Sb	^{178}Hf	^{181}Ta	^{184}W	^{238}U
EGB-05-S54_23	58.52	5.87E-04	1.16E-02	4.39E-05	2.52E-07	2.49E-06	1.90E-04	drift	9.65E-07
EGB-05-S54_65	59.80	3.42E-04	1.62E-02	6.73E-05	1.84E-05	1.68E-06	1.69E-04	2.24E-05	9.90E-07
EGB-05-S54_74	60.05	2.52E-04	1.78E-02	7.50E-05	1.68E-05	1.87E-06	2.56E-04	5.04E-05	5.86E-06
EGB-05-S57_02	60.37	7.78E-04	8.58E-03	5.48E-05	2.18E-05	3.07E-06	1.07E-04	3.85E-05	7.94E-07
EGB-05-S57_03	58.67	7.83E-04	2.24E-02	8.11E-05	1.83E-05	5.34E-06	2.64E-04	7.82E-05	2.96E-06
EGB-05-S57_06	60.04	1.19E-03	1.83E-02	1.02E-04	6.67E-05	5.98E-06	2.59E-04	1.05E-04	2.23E-05
EGB-05-S57_07	60.42	7.34E-04	1.73E-02	1.26E-04	5.13E-06	3.74E-06	2.17E-04	1.03E-04	5.06E-06
EGB-05-S57_08	58.97	2.45E-03	2.44E-02	1.99E-04	1.76E-05	1.29E-05	4.76E-04	1.58E-04	1.80E-05
EGB-05-S57_10	59.87	7.86E-04	1.89E-02	9.45E-05	1.64E-05	4.22E-06	2.73E-04	7.60E-05	2.36E-06
EGB-05-S57_11	59.99	1.07E-03	1.90E-02	9.68E-05	8.98E-05	5.07E-06	2.85E-04	1.10E-04	1.46E-06
EGB-05-S57_12	58.45	6.50E-04	1.48E-02	1.16E-04	1.33E-06	3.70E-06	1.94E-04	9.31E-05	1.95E-06
EGB-05-S57_13	59.27	1.03E-03	2.39E-02	9.98E-05	1.13E-04	6.53E-06	2.81E-04	1.18E-04	1.77E-06
EGB-05-S57_14	60.65	4.98E-04	1.69E-02	1.05E-04	1.70E-05	2.77E-06	2.67E-04	1.40E-04	1.72E-06
EGB-05-S57_17	58.24	6.39E-04	1.79E-02	2.48E-04	1.89E-06	3.73E-06	2.68E-04	3.07E-04	3.23E-06
EGB-05-S57_18	60.75	4.17E-04	1.51E-02	1.25E-04	1.10E-05	2.33E-06	1.99E-04	8.64E-05	5.13E-06
EGB-05-S57_19	60.52	6.71E-04	1.79E-02	1.47E-04	7.93E-05	3.53E-06	2.66E-04	1.30E-04	4.98E-06
EGB-05-S57_20	59.58	1.04E-03	1.83E-02	9.77E-05	2.60E-05	5.86E-06	2.76E-04	1.06E-04	1.46E-06
EGB-05-S57_21	60.43	5.71E-04	1.65E-02	1.08E-04	8.14E-06	3.16E-06	2.45E-04	7.39E-05	3.99E-06
EGB-05-S57_22	58.76	6.88E-04	1.59E-02	1.05E-04	6.43E-06	3.28E-06	2.77E-04	1.71E-04	4.27E-06
EGB-05-S57_23	59.32	5.91E-04	1.48E-02	1.66E-03	1.11E-05	3.37E-06	1.58E-04	2.56E-04	3.56E-06
EGB-05-S57_24	60.69	4.67E-04	1.74E-02	1.32E-04	3.01E-05	2.35E-06	2.60E-04	1.18E-04	4.31E-06
EGB-05-S57_25	59.11	7.21E-04	2.00E-02	1.23E-04	1.41E-05	3.71E-06	3.13E-04	1.22E-04	2.37E-06
EGB-05-S57_26	58.59	7.25E-04	1.61E-02	1.21E-04	5.77E-06	3.44E-06	2.04E-04	1.07E-04	3.91E-06
EGB-05-S57_28	60.02	5.23E-04	1.04E-02	7.14E-05	8.35E-06	2.39E-06	1.24E-04	6.28E-05	4.25E-06
EGB-05-S57_29	60.39	3.09E-03	3.16E-02	1.12E-04	2.89E-06	1.52E-05	3.65E-04	1.17E-04	4.03E-06
EGB-05-S57_30	60.60	4.09E-04	1.68E-02	1.72E-04	1.74E-06	2.71E-06	2.54E-04	2.04E-04	6.34E-06
EGB-05-S57_31	59.38	6.32E-04	1.70E-02	1.18E-04	3.48E-05	3.17E-06	2.76E-04	1.16E-04	3.52E-06
EGB-05-S57_32	60.43	8.40E-04	1.61E-02	1.61E-04	5.43E-05	3.73E-06	1.87E-04	1.41E-04	1.19E-05
EGB-05-S57_33	59.26	8.81E-04	1.92E-02	9.45E-05	1.26E-05	6.00E-06	3.19E-04	8.33E-05	4.91E-06
EGB-05-S57_34	58.27	1.02E-03	2.05E-02	9.50E-05	1.66E-04	6.74E-06	3.14E-04	1.17E-04	2.49E-06
EGB-05-S64_01	59.88	2.37E-04	8.35E-03	1.17E-04	8.01E-06	2.13E-06	1.49E-04	4.76E-05	2.98E-07
EGB-05-S64_02	59.24	2.42E-02	1.87E-02	4.67E-06	1.37E-07	1.19E-04	1.68E-04	2.19E-05	5.95E-06
EGB-05-S64_06	59.40	4.49E-04	2.01E-02	3.47E-04	1.49E-05	1.77E-06	3.23E-04	1.31E-04	4.64E-06
EGB-05-S64_07	59.53	2.29E-04	1.91E-02	1.47E-04	1.24E-05	1.79E-06	2.93E-04	8.52E-05	1.08E-05
EGB-05-S64_08	59.53	4.25E-03	3.70E-03	4.11E-05	2.11E-05	1.93E-05	5.30E-05	3.78E-05	2.81E-06
EGB-05-S64_11	59.06	drift	1.54E-02	1.84E-05	4.31E-05	3.72E-05	2.09E-04	1.86E-04	2.46E-05
EGB-05-S64_12	59.49	4.70E-04	4.03E-02	8.18E-05	2.95E-05	6.26E-06	5.41E-04	6.08E-04	1.37E-05
EGB-05-S64_13	60.31	4.46E-04	7.93E-03	1.98E-04	2.76E-05	4.36E-06	1.63E-04	drift	9.36E-07
EGB-05-S64_14	59.61	2.74E-05	4.05E-03	4.39E-05	1.53E-07	4.00E-07	4.09E-05	5.15E-06	4.39E-06
EGB-05-S64_18	60.46	1.04E-05	7.15E-03	4.53E-07	1.07E-06	8.27E-08	6.81E-05	5.42E-06	1.59E-06
EGB-05-S64_19	59.43	2.10E-05	6.60E-03	1.44E-06	5.04E-06	8.10E-07	1.13E-04	1.83E-04	2.28E-06
EGB-05-S64_22	60.14	6.59E-04	1.92E-02	1.05E-03	4.51E-05	3.92E-06	2.78E-04	2.63E-04	1.91E-05
EGB-05-S64_23	59.01	8.52E-06	4.29E-03	1.01E-06	2.62E-06	1.15E-06	8.32E-05	7.71E-06	9.92E-06
EGB-05-S64_24	58.10	3.11E-04	1.97E-02	9.06E-05	1.06E-05	1.93E-06	2.42E-04	6.27E-05	4.55E-06
EGB-05-S64_27	59.55	3.97E-04	1.65E-02	4.61E-05	4.99E-05	2.69E-06	3.01E-04	1.68E-05	9.93E-07
EGB-05-S64_31	59.31	8.57E-03	1.17E-02	1.46E-06	5.50E-08	5.70E-05	9.86E-05	6.35E-06	2.05E-05
EGB-05-S64_32	58.36	2.20E-04	1.58E-02	3.71E-05	5.82E-04	1.69E-06	2.71E-04	6.14E-05	2.11E-05
EGB-05-S64_33	58.65	2.15E-04	1.65E-02	5.97E-04	2.57E-05	1.55E-06	2.64E-04	1.53E-04	6.72E-06
EGB-05-S64_36	59.73	3.19E-04	1.08E-02	5.57E-05	4.12E-04	2.18E-06	1.65E-04	2.03E-05	7.96E-05
EGB-05-S69_01	58.64	8.27E-03	1.48E-02	6.38E-05	3.06E-08	4.31E-05	1.23E-04	1.13E-04	2.13E-05
EGB-05-S69_02	57.17	3.14E-03	7.88E-02	8.66E-05	1.86E-06	1.85E-05	3.33E-04	3.89E-04	1.31E-05
EGB-05-S69_03	58.92	8.48E-05	2.77E-02	9.62E-05	1.83E-07	1.74E-06	3.82E-04	1.69E-04	4.13E-06
EGB-05-S69_05	57.47	3.70E-02	7.45E-03	2.27E-05	5.37E-07	1.26E-04	1.04E-04	2.99E-05	2.82E-05
EGB-05-S69_06	59.39	1.27E-02	1.87E-02	1.40E-04	1.38E-07	5.96E-05	2.02E-04	1.14E-04	2.83E-05
EGB-05-S69_08	57.88	drift	1.31E-02	1.85E-05	3.64E-07	1.06E-04	2.13E-04	4.47E-05	5.97E-06
EGB-05-S69_09	58.61	8.70E-03	4.18E-02	2.54E-04	2.29E-07	5.67E-05	9.39E-04	4.93E-04	4.87E-05
EGB-05-S69_15	58.12	5.09E-03	1.95E-02	9.98E-05	1.43E-07	2.75E-05	2.82E-04	6.78E-05	3.82E-05
EGB-05-S69_16	57.85	4.86E-05	3.09E-02	5.27E-04	2.08E-07	7.08E-07	2.53E-04	3.62E-05	3.99E-06
EGB-05-S69_17	57.70	1.92E-02	1.80E-02	3.02E-05	3.25E-08	8.07E-05	1.80E-04	7.23E-05	2.87E-05
EGB-05-S69_18	57.84	8.97E-03	3.23E-02	1.52E-04	9.48E-08	3.62E-05	8.55E-04	2.19E-04	1.10E-05

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. . . table "rutiles, SIMS isotope ratios" continued from page 273

Analysis	Ti [mass-%]	^{90}Zr	^{93}Nb	^{118}Sn	^{123}Sb	^{178}Hf	^{181}Ta	^{184}W	^{238}U
EGB-05-S69_21	58.68	2.99E-03	2.16E-02	8.55E-05	5.35E-08	1.53E-05	6.07E-04	1.04E-04	4.18E-05
EGB-05-S69_22	59.51	2.85E-02	9.08E-03	2.37E-05	1.19E-07	1.33E-04	1.97E-05	5.54E-06	1.18E-05
EGB-05-S69_23	58.64	3.36E-03	3.92E-02	5.99E-06	3.18E-08	2.22E-05	9.06E-05	6.70E-07	6.54E-07
EGB-05-S69_25	57.91	3.10E-03	4.27E-02	9.34E-05	8.91E-08	1.73E-05	7.10E-04	1.48E-04	3.85E-05
EGB-05-S69_27	58.43	4.54E-03	1.76E-02	1.16E-04	6.61E-08	2.48E-05	1.03E-04	2.07E-05	8.43E-05
EGB-05-S69_29	59.64	8.40E-03	2.94E-02	5.46E-05	6.80E-08	5.42E-05	3.44E-04	2.20E-04	3.31E-05
EGB-05-S69_30	58.14	1.23E-02	3.76E-02	1.18E-04	6.63E-08	6.53E-05	7.19E-04	2.70E-04	2.82E-05
EGB-05-S69_31	58.23	1.97E-02	8.98E-03	2.18E-04	1.01E-07	1.03E-04	7.63E-05	3.07E-05	2.58E-05
EGB-05-S69_33	59.00	1.93E-02	4.61E-03	7.40E-06	1.78E-07	6.91E-05	6.82E-05	1.22E-05	1.93E-05
EGB-05-S69_35	58.94	2.81E-02	9.24E-03	1.09E-05	1.77E-07	8.41E-05	1.06E-04	5.04E-05	2.70E-06
EGB-05-S69_36	59.43	1.65E-02	2.29E-02	1.49E-04	2.82E-07	7.92E-05	4.05E-04	1.14E-04	4.46E-05
EGB-05-S69_41	59.13	4.61E-03	3.04E-02	1.49E-04	6.42E-08	2.83E-05	5.98E-04	3.54E-04	4.34E-05
EGB-06-S34_09	58.90	1.14E-03	na	na	na	9.41E-06	1.96E-04	1.27E-04	1.22E-04
EGB-06-S34_12	59.29	1.12E-03	na	na	na	6.44E-06	1.45E-04	9.77E-06	2.97E-05
EGB-06-S35_02	59.78	7.98E-04	na	na	na	3.87E-06	2.28E-04	1.24E-04	4.90E-06
EGB-06-S35_04	59.70	2.73E-04	na	na	na	1.39E-06	1.05E-04	3.58E-05	8.66E-07
EGB-06-S35_10	60.26	7.64E-04	na	na	na	3.49E-06	2.78E-04	1.66E-04	1.51E-05
EGB-06-S35_12	60.14	2.87E-04	na	na	na	2.29E-06	2.45E-04	1.04E-04	1.96E-06
EGB-06-S35_14	59.48	1.44E-03	na	na	na	8.68E-06	3.04E-04	1.52E-03	7.30E-07
EGB-06-S35_15	59.62	2.83E-04	na	na	na	1.41E-06	2.70E-04	9.26E-06	1.49E-08
EGB-06-S35_16	59.90	5.05E-03	na	na	na	2.34E-05	9.24E-04	3.03E-04	2.60E-05
EGB-06-S35_20	59.07	1.79E-03	na	na	na	1.07E-05	1.65E-04	4.68E-05	3.51E-07
EGB-06-S35_25	59.01	8.52E-03	na	na	na	2.84E-05	3.08E-05	3.65E-05	2.90E-06
EGB-06-S35_35	59.78	4.59E-03	na	na	na	2.17E-05	6.71E-04	8.71E-05	8.74E-06
EGB-06-S35_37	59.90	7.45E-04	na	na	na	2.38E-06	4.54E-04	6.35E-05	1.48E-05
EGB-06-S35_38	59.68	5.14E-04	na	na	na	2.64E-06	6.49E-05	7.04E-06	1.69E-06
EGB-06-S35_40	58.46	3.63E-03	na	na	na	1.71E-05	5.11E-04	3.90E-04	1.29E-05
EGB-06-S35_42	58.95	1.76E-05	na	na	na	4.69E-07	1.50E-03	2.40E-03	3.75E-07
EGB-06-S35_46	59.64	4.10E-04	na	na	na	5.07E-06	6.64E-04	1.89E-05	2.27E-06
EGB-06-S35_47	58.71	1.30E-02	na	na	na	3.22E-05	7.43E-07	3.96E-07	5.72E-06
EGB-06-S35_50	60.30	2.73E-03	na	na	na	1.68E-05	8.01E-04	7.25E-05	4.19E-05
EGB-06-S36_03	59.72	6.55E-03	na	na	na	4.07E-05	1.62E-04	4.49E-05	3.52E-05
EGB-06-S36_08	58.64	3.24E-03	na	na	na	1.87E-05	6.58E-04	3.82E-04	9.86E-06
EGB-06-S36_13	58.28	7.60E-04	na	na	na	4.83E-06	2.69E-05	3.14E-06	1.96E-07
EGB-06-S36_14	59.42	7.27E-06	na	na	na	1.40E-07	1.78E-03	3.72E-04	1.69E-08
EGB-06-S47_07	58.76	1.44E-03	na	na	na	5.99E-06	2.86E-04	5.71E-04	2.52E-06
EGB-06-S47_29	59.12	1.10E-03	na	na	na	5.10E-06	9.43E-05	9.44E-05	1.29E-05
EGB-06-S47_32	59.57	5.61E-05	na	na	na	5.17E-06	1.67E-04	6.49E-05	1.35E-06
EGB-06-S47_39	60.26	6.16E-04	na	na	na	3.40E-06	2.38E-04	1.55E-04	4.59E-06

na - not analysed.
drift - drift during analysis

Table A.8.: Element concentrations from SIMS analyses, as calculated from Tables 4.3 and A.7. ppm = ppm by mass.

Analysis	Zr [ppm]	Nb [ppm]	Sn [ppm]	Sb [ppm]	Hf [ppm]	Ta [ppm]	W [ppm]	U [ppm]
EGB-04-S41_04	853.1	809.5	31.6	20.6	25.9	47.7	9.9	16.3
EGB-04-S41_05	954.9	3167.4	142.8	0.1	36.7	264.9	129.4	12.8
EGB-04-S41_06	965.0	2809.8	89.4	0.1	48.5	187.8	165.0	10.5
EGB-04-S41_07	2031.6	3927.5	66.8	0.3	57.1	385.8	332.2	11.0
EGB-04-S41_09	470.1	2266.3	203.1	0.2	24.4	33.3	187.0	8.2
EGB-04-S41_12	911.2	4616.0	236.4	0.6	43.2	455.7	315.1	1.8
EGB-04-S41_14	998.6	5415.3	64.1	1.8	43.5	325.8	150.6	17.5
EGB-04-S41_16	707.2	1437.1	99.0	0.2	33.3	49.4	80.2	4.4
EGB-04-S41_17	1507.6	4307.6	72.4	0.1	46.0	484.4	542.2	3.6
EGB-04-S41_21	888.9	2075.2	234.2	4.2	39.0	396.9	413.9	47.6
EGB-04-S41_22	849.8	2608.5	66.3	0.1	21.2	158.0	216.1	8.9
EGB-04-S41_23	837.4	3499.5	24.0	1.9	26.3	236.6	30.6	8.8
EGB-04-S41_25	970.2	1669.8	101.5	0.1	39.3	59.1	77.1	6.1
EGB-04-S41_26	816.1	3092.4	127.1	1.1	39.4	250.2	182.4	28.0
EGB-04-S41_28	818.2	5284.4	161.2	0.5	33.9	572.4	237.9	28.6
EGB-04-S41_29	860.5	5338.0	198.0	1.8	42.1	262.9	311.0	14.3
EGB-04-S41_31	1011.9	1595.5	79.1	0.1	41.0	347.3	115.1	8.1
EGB-04-S41_32	1073.0	1715.3	8.9	1.2	29.0	106.4	7.5	10.1
EGB-04-S41_33	1108.8	4188.6	52.6	0.2	43.1	322.7	129.5	4.7
EGB-04-S41_35	691.7	2131.9	102.7	6.8	32.7	181.8	117.9	36.3
EGB-04-S41_37	835.7	4496.2	250.8	0.5	47.3	196.1	265.9	8.9
EGB-04-S53_01	28.3	1606.8	71.7	28.5	1.6	112.0	128.5	0.1
EGB-04-S53_02	32.3	1368.4	64.1	15.2	1.5	85.2	105.7	0.0
EGB-04-S53_04	26.8	655.4	8.9	11.2	4.8	38.6	5.5	0.9
EGB-04-S53_10	37.6	2121.8	192.5	184.5	1.9	177.4	332.7	3.1
EGB-04-S53_11	22.3	2180.7	192.8	96.8	1.1	170.3	609.3	0.9
EGB-04-S53_24	94.8	1740.5	120.6	20.5	5.1	125.6	177.8	1.2
EGB-04-S53_28	38.7	1044.6	17.0	60.7	1.3	70.3	38.2	0.8
EGB-04-S53_37	95.6	1562.1	120.1	142.1	5.3	112.6	125.9	2.7
EGB-04-S53_43	31.2	1570.8	45.4	82.0	4.1	177.0	208.9	0.9
EGB-04-S53_51	52.8	1583.0	142.0	12.5	2.9	117.7	155.5	6.9
EGB-04-S55_01	29.3	2010.6	703.9	105.0	1.6	143.8	543.7	2.8
EGB-04-S55_03	50.1	1042.2	274.0	53.6	2.3	38.9	4680.7	3.9
EGB-04-S55_04	56.1	1738.1	98.8	47.6	3.4	143.4	162.4	0.3
EGB-04-S55_05	48.1	1616.6	184.3	6.5	3.0	115.0	293.3	4.9
EGB-04-S55_06	29.1	730.7	7.0	50.2	1.3	53.7	52.5	0.8
EGB-04-S55_07	drift	1510.6	42.5	23.5	8.7	97.8	86.7	0.6
EGB-04-S55_08	38.5	2026.2	138.3	86.8	2.3	97.3	222.4	2.2
EGB-04-S55_10	34.6	1302.8	9.9	78.4	1.4	71.6	29.5	1.0
EGB-04-S55_11	39.3	1866.1	162.2	15.4	1.9	136.3	208.3	2.6
EGB-04-S55_15	39.4	2184.1	62.0	35.2	2.5	167.7	222.2	0.4
EGB-04-S55_16	34.4	1904.1	70.9	34.9	2.0	149.4	160.3	1.0
EGB-04-S55_17	drift	1863.2	212.2	62.2	4.2	155.7	331.9	4.0
EGB-04-S55_18	33.2	1822.1	346.6	501.2	1.8	131.2	363.9	4.0
EGB-04-S55_19	62.7	1223.8	319.1	12.3	6.9	109.1	drift	11.6
EGB-04-S55_20	39.6	1915.1	406.6	161.8	2.2	152.8	405.8	9.1
EGB-04-S55_21	10.0	851.5	5.6	3.6	0.3	67.9	9.2	0.5
EGB-04-S55_24	30.2	780.3	63.4	58.7	2.2	78.7	54.4	0.1
EGB-04-S55_25	41.4	1417.0	94.3	31.4	2.1	108.1	244.9	1.2
EGB-04-S55_32	83.5	1943.1	137.4	18.8	4.0	152.7	156.0	0.5
EGB-04-S55_33	53.9	2137.4	138.6	14.0	3.3	185.0	322.5	4.6
EGB-04-S56_29	17.4	695.3	0.4	0.3	1.0	58.3	10.3	2.8
EGB-04-S56_33	34.0	1657.2	216.8	478.6	2.1	130.3	205.7	3.9
EGB-04-S56_42	998.8	4291.2	230.8	0.3	39.9	123.4	352.5	11.9
EGB-04-S56_43	35.2	2176.2	160.2	150.4	3.9	144.4	1894.8	3.2
EGB-04-S56_50	343.1	2118.8	198.5	381.7	18.7	157.6	217.6	5.5
EGB-04-S56_63	7.1	545.6	0.8	0.0	0.2	74.4	4.0	0.3

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. . . table "rutiles, SIMS concentrations" continued from page 277

Analysis	Zr [ppm]	Nb [ppm]	Sn [ppm]	Sb [ppm]	Hf [ppm]	Ta [ppm]	W [ppm]	U [ppm]
EGB-04-S62M_09	80.3	2131.8	10434.6	4.6	9.4	76.5	drift	2.3
EGB-04-S62M_12	55.8	1814.4	125.1	64.6	3.4	153.5	218.5	3.7
EGB-04-S62M_13	113.8	2036.9	12893.8	3.4	11.8	732.1	drift	1.6
EGB-04-S62M_17	51.0	850.6	8396.6	4.8	3.7	59.3	drift	0.7
EGB-04-S62M_27	drift	574.4	13174.2	4.0	34.1	31.3	drift	7.1
EGB-04-S62M_33	39.1	660.8	8582.8	2.3	4.2	54.8	3015.2	1.5
EGB-04-S62NM_06	215.0	693.6	157.4	1.2	12.2	3.4	14.6	0.1
EGB-04-S62NM_25	40.2	1043.5	27.3	0.2	1.1	84.2	1698.4	0.0
EGB-04-S62NM_31	1055.2	2688.3	237.7	3.0	47.3	164.5	315.3	23.0
EGB-04-S62NM_35	162.2	1152.8	37.7	0.1	4.8	97.6	drift	0.1
EGB-04-S63_02	60.0	724.4	5.9	7.1	1.6	33.3	4.4	0.3
EGB-04-S63_07	149.5	1877.3	154.4	90.3	7.5	151.4	292.5	5.0
EGB-04-S63_09	318.5	3722.2	238.6	120.5	14.0	388.7	501.0	7.6
EGB-04-S63_11	1085.4	1506.7	131.1	0.2	39.8	125.3	78.0	10.4
EGB-04-S63_12	66.5	504.8	796.8	0.5	5.1	54.8	32.9	0.0
EGB-04-S63_13	150.9	1837.1	140.6	26.1	6.3	133.7	258.1	4.4
EGB-04-S63_18	135.5	2004.9	285.4	54.5	4.6	140.4	611.1	1.7
EGB-04-S63_19	38.6	1649.0	1295.5	49.5	2.1	128.1	353.2	0.6
EGB-04-S63_23	81.2	1899.1	337.8	97.4	5.7	138.1	1027.6	2.9
EGB-04-S63_24	56.8	1986.8	1.8	0.2	2.1	96.7	9.3	1.8
EGB-04-S63_25	26.1	1821.5	95.4	30.7	1.6	145.4	drift	0.9
EGB-04-S63_27	365.7	3515.8	61.7	10.5	14.9	405.4	440.0	1.9
EGB-04-S63_28	113.4	1678.4	147.6	120.2	4.0	114.7	263.2	7.4
EGB-04-S63_29	125.9	2320.2	110.8	19.3	7.6	156.8	227.4	6.0
EGB-04-S63_34	158.4	1908.1	271.2	75.7	6.7	155.4	428.9	3.0
EGB-04-S63_35	963.9	846.6	29.0	4.3	28.4	70.7	8.6	11.1
EGB-04-S63_36	6.6	278.6	8.0	1.6	0.3	17.2	4.5	1.9
EGB-04-S63_39	176.2	2065.6	153.5	96.8	8.4	162.5	353.8	4.7
EGB-04-S63_42	88.3	2115.5	134.4	961.0	4.7	168.1	772.3	9.2
EGB-05-S51_IIb_01	533.8	878.6	423.1	1.3	22.9	34.6	330.9	18.7
EGB-05-S51_IIb_02	696.7	3422.9	336.2	0.1	35.6	120.3	137.2	44.5
EGB-05-S51_IIb_04	347.3	319.9	4.3	1.2	15.6	32.3	103.5	17.2
EGB-05-S51_IIb_07	103.1	50.3	20.1	94.7	4.3	3.4	4.1	0.0
EGB-05-S51_IIb_09	183.4	1832.8	117.1	89.3	7.5	131.9	220.8	5.8
EGB-05-S51_IIb_11	802.2	1386.1	62.6	14.0	28.9	90.8	58.9	7.5
EGB-05-S51_IIb_12	313.2	2551.3	206.4	138.7	13.0	226.4	384.6	18.5
EGB-05-S51_IIb_14	223.5	2089.6	717.0	101.1	9.1	168.5	514.2	6.4
EGB-05-S51_IIb_16	639.7	546.7	14.1	0.5	34.1	43.9	41.5	0.8
EGB-05-S51_IIb_17	619.8	5935.3	200.0	0.2	27.5	216.9	546.8	11.7
EGB-05-S51_IIb_20	3182.6	823.8	49.4	0.2	108.3	2.3	9.2	6.2
EGB-05-S51_IIb_21	113.4	828.3	12.6	1.4	5.6	49.6	6.1	0.9
EGB-05-S51_IIb_24	254.7	4154.5	143.1	23.6	13.4	373.8	1023.4	0.7
EGB-05-S51_IIb_26	131.9	1200.1	49.2	12.8	4.6	78.8	1370.1	0.3
EGB-05-S51_IIb_27	189.8	1915.5	151.8	59.3	8.5	153.8	397.2	4.9
EGB-05-S51_IIb_28	133.6	1842.1	1733.7	97.8	6.3	175.8	597.9	1.0
EGB-05-S51_IIb_30	66.4	439.1	51.5	43.8	3.6	17.1	1358.9	2.8
EGB-05-S51_IIb_31	5475.0	2814.3	58.7	0.7	177.9	40.3	121.7	119.5
EGB-05-S51_IIb_35	47.6	1662.7	121.8	100.1	3.0	129.1	178.7	0.3
EGB-05-S51_IIb_36	656.9	8104.9	120.4	0.2	30.7	551.1	2427.6	11.5
EGB-05-S51_IIb_37	64.8	360.8	4.4	0.7	3.4	25.9	1.7	0.0
EGB-05-S51_IIb_39	3927.3	2720.9	91.3	0.2	170.0	124.8	296.0	1.3
EGB-05-S51_IIb_41	722.1	4497.6	264.7	16.5	26.4	371.6	453.9	10.7
EGB-05-S51_IIb_43	4126.6	1189.3	57.6	0.9	88.0	75.8	29.4	4.1
EGB-05-S51_IIb_44	6639.8	3027.8	92.0	1.3	152.1	142.2	187.3	25.8
EGB-05-S51_IIb_45	3155.5	940.5	119.8	0.3	92.1	8.9	18.3	7.2
EGB-05-S51_IIb_48	703.8	1854.3	56.0	5.7	25.1	31.4	555.9	54.0
EGB-05-S54_02	32.9	2340.4	4033.9	0.5	26.6	102.8	drift	0.2
EGB-05-S54_04	49.0	1960.3	125.9	45.1	2.7	147.8	168.5	1.1
EGB-05-S54_07	1.5	2501.3	0.9	0.1	0.2	455.9	3471.9	0.0
EGB-05-S54_20	113.4	388.5	13988.5	1.9	2.2	29.5	drift	4.9

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. . . table "rutiles, SIMS concentrations" continued from page 277

Analysis	Zr [ppm]	Nb [ppm]	Sn [ppm]	Sb [ppm]	Hf [ppm]	Ta [ppm]	W [ppm]	U [ppm]
EGB-05-S54_23	113.6	1173.0	53.6	0.5	3.6	99.1	drift	0.4
EGB-05-S54_65	67.6	1674.3	84.0	38.6	2.5	90.1	57.7	0.5
EGB-05-S54_74	50.1	1845.8	94.0	35.3	2.8	136.8	130.8	2.8
EGB-05-S57_02	155.2	895.8	69.1	46.2	4.6	57.5	100.3	0.4
EGB-05-S57_03	151.8	2272.9	99.4	37.6	7.7	138.1	198.1	1.4
EGB-05-S57_06	235.6	1903.4	127.4	140.7	8.8	138.3	270.9	10.6
EGB-05-S57_07	146.5	1802.5	158.9	10.9	5.6	116.5	268.8	2.4
EGB-05-S57_08	476.8	2487.0	245.3	36.5	18.7	250.1	401.9	8.4
EGB-05-S57_10	155.5	1961.7	118.1	34.4	6.2	145.2	196.5	1.1
EGB-05-S57_11	212.7	1968.7	121.2	189.1	7.5	152.1	286.1	0.7
EGB-05-S57_12	125.6	1494.4	142.1	2.7	5.3	100.9	235.1	0.9
EGB-05-S57_13	202.3	2452.7	123.4	235.8	9.5	148.5	301.3	0.8
EGB-05-S57_14	99.8	1775.4	132.4	36.1	4.1	144.2	367.0	0.8
EGB-05-S57_17	123.0	1804.0	300.9	3.9	5.4	139.0	772.5	1.5
EGB-05-S57_18	83.6	1589.3	158.3	23.4	3.5	107.4	226.5	2.5
EGB-05-S57_19	134.2	1875.0	185.1	168.4	5.3	143.2	339.2	2.4
EGB-05-S57_20	205.1	1886.2	121.4	54.4	8.6	146.3	272.6	0.7
EGB-05-S57_21	113.9	1725.4	136.2	17.3	4.7	132.1	192.8	1.9
EGB-05-S57_22	133.6	1611.6	129.1	13.3	4.7	145.1	433.0	2.0
EGB-05-S57_23	115.9	1516.4	2054.0	23.2	4.9	83.5	656.0	1.7
EGB-05-S57_24	93.6	1829.6	167.4	64.2	3.5	140.2	309.7	2.1
EGB-05-S57_25	140.8	2042.1	151.6	29.2	5.4	164.7	311.3	1.1
EGB-05-S57_26	140.3	1630.5	147.7	11.9	5.0	106.6	270.3	1.8
EGB-05-S57_28	103.7	1080.9	89.5	17.6	3.5	66.4	162.8	2.0
EGB-05-S57_29	616.5	3299.2	141.5	6.1	22.6	196.4	304.4	1.9
EGB-05-S57_30	82.0	1760.9	217.3	3.7	4.0	136.9	533.9	3.0
EGB-05-S57_31	124.0	1745.8	145.9	72.6	4.6	145.7	296.4	1.7
EGB-05-S57_32	167.8	1678.8	202.6	115.2	5.5	100.6	369.0	5.7
EGB-05-S57_33	172.5	1964.5	116.8	26.1	8.8	168.1	213.2	2.3
EGB-05-S57_34	196.6	2066.6	115.5	339.2	9.7	163.0	293.9	1.2
EGB-05-S64_01	46.9	864.2	145.7	16.8	3.1	79.4	123.1	0.1
EGB-05-S64_02	4735.8	1920.9	5.8	0.3	174.2	88.4	56.1	2.8
EGB-05-S64_06	88.1	2068.8	429.6	31.0	2.6	170.6	336.8	2.2
EGB-05-S64_07	45.1	1969.7	183.1	25.9	2.6	155.3	219.1	5.1
EGB-05-S64_08	835.9	381.0	51.1	44.1	28.3	28.1	97.2	1.3
EGB-05-S64_11	drift	1575.2	22.7	89.3	54.1	109.7	473.4	11.5
EGB-05-S64_12	92.5	4142.0	101.5	61.5	9.2	286.5	1561.0	6.5
EGB-05-S64_13	88.9	827.4	248.8	58.5	6.5	87.3	drift	0.4
EGB-05-S64_14	5.4	417.0	54.6	0.3	0.6	21.7	13.3	2.1
EGB-05-S64_18	2.1	747.4	0.6	2.3	0.1	36.6	14.1	0.8
EGB-05-S64_19	4.1	678.0	1.8	10.5	1.2	59.8	470.0	1.1
EGB-05-S64_22	131.0	1994.1	1320.7	95.1	5.8	148.8	682.0	9.1
EGB-05-S64_23	1.7	438.2	1.2	5.4	1.7	43.7	19.6	4.6
EGB-05-S64_24	59.6	1980.1	109.9	21.6	2.8	124.9	157.2	2.1
EGB-05-S64_27	78.1	1704.1	57.3	104.3	3.9	159.5	43.1	0.5
EGB-05-S64_31	1679.8	1195.3	1.8	0.1	83.3	52.0	16.3	9.7
EGB-05-S64_32	42.4	1597.7	45.2	1191.7	2.4	140.5	154.8	9.8
EGB-05-S64_33	41.7	1672.6	730.9	52.9	2.2	137.6	388.2	3.1
EGB-05-S64_36	63.0	1116.9	69.4	864.5	3.2	87.5	52.4	37.7
EGB-05-S69_01	1602.3	1496.9	78.1	0.1	62.3	64.1	285.1	9.9
EGB-05-S69_02	593.6	7789.3	103.3	3.7	26.0	169.6	960.5	5.9
EGB-05-S69_03	16.5	2823.5	118.3	0.4	2.5	200.3	429.7	1.9
EGB-05-S69_05	7031.8	740.8	27.2	1.1	177.8	53.0	74.2	12.9
EGB-05-S69_06	2482.6	1921.6	173.7	0.3	87.2	106.6	292.3	13.3
EGB-05-S69_08	drift	1314.4	22.3	0.7	151.8	109.9	111.8	2.7
EGB-05-S69_09	1685.7	4240.2	311.2	0.5	81.8	489.8	1246.7	22.6
EGB-05-S69_15	977.2	1955.3	121.1	0.3	39.4	146.0	170.0	17.6
EGB-05-S69_16	9.3	3095.6	636.9	0.4	1.0	130.2	90.4	1.8
EGB-05-S69_17	3661.5	1797.2	36.4	0.1	114.6	92.5	180.1	13.1
EGB-05-S69_18	1715.2	3227.9	183.2	0.2	51.5	440.0	546.0	5.0

continued on next page. . .

. . . table "rutiles, SIMS concentrations" continued from page 277

Analysis	Zr [ppm]	Nb [ppm]	Sn [ppm]	Sb [ppm]	Hf [ppm]	Ta [ppm]	W [ppm]	U [ppm]
EGB-05-S69_21	579.2	2194.4	104.7	0.1	22.1	317.0	263.1	19.4
EGB-05-S69_22	5595.2	934.4	29.4	0.2	195.3	10.4	14.2	5.6
EGB-05-S69_23	650.7	3977.3	7.3	0.1	32.0	47.3	1.7	0.3
EGB-05-S69_25	593.6	4272.3	112.9	0.2	24.6	366.0	370.9	17.7
EGB-05-S69_27	875.8	1782.5	142.0	0.1	35.7	53.5	52.3	39.1
EGB-05-S69_29	1654.6	3028.9	67.9	0.1	79.7	182.6	566.7	15.7
EGB-05-S69_30	2369.3	3784.8	142.7	0.1	93.5	372.2	678.3	13.0
EGB-05-S69_31	3784.6	904.8	265.0	0.2	147.3	39.6	77.1	11.9
EGB-05-S69_33	3754.7	469.9	9.1	0.4	100.4	35.8	31.2	9.0
EGB-05-S69_35	5470.1	941.9	13.4	0.4	122.1	55.5	128.1	1.3
EGB-05-S69_36	3247.8	2355.8	184.9	0.6	115.9	214.2	291.9	21.0
EGB-05-S69_41	900.8	3104.5	184.3	0.1	41.2	315.0	902.8	20.3
EGB-06-S34_09	222.7	na	na	na	13.6	102.6	322.4	57.0
EGB-06-S34_12	220.2	na	na	na	9.4	76.5	25.0	14.0
EGB-06-S35_02	157.7	na	na	na	5.7	121.2	319.9	2.3
EGB-06-S35_04	53.9	na	na	na	2.0	55.5	92.2	0.4
EGB-06-S35_10	152.1	na	na	na	5.2	149.2	431.4	7.2
EGB-06-S35_12	57.0	na	na	na	3.4	131.0	269.6	0.9
EGB-06-S35_14	282.2	na	na	na	12.7	161.1	3898.7	0.3
EGB-06-S35_15	55.8	na	na	na	2.1	143.4	23.9	0.0
EGB-06-S35_16	998.7	na	na	na	34.5	492.8	782.4	12.4
EGB-06-S35_20	350.3	na	na	na	15.5	86.5	119.4	0.2
EGB-06-S35_25	1662.1	na	na	na	41.2	16.2	93.0	1.4
EGB-06-S35_35	907.0	na	na	na	31.9	356.8	224.9	4.1
EGB-06-S35_37	147.5	na	na	na	3.5	242.0	164.2	7.0
EGB-06-S35_38	101.5	na	na	na	3.9	34.5	18.1	0.8
EGB-06-S35_40	700.4	na	na	na	24.6	265.8	984.1	6.0
EGB-06-S35_42	3.4	na	na	na	0.7	785.3	6099.5	0.2
EGB-06-S35_46	80.8	na	na	na	7.4	352.5	48.8	1.1
EGB-06-S35_47	2529.9	na	na	na	46.5	0.4	1.0	2.7
EGB-06-S35_50	544.1	na	na	na	24.9	430.1	188.7	20.0
EGB-06-S36_03	1292.7	na	na	na	59.8	86.3	115.6	16.7
EGB-06-S36_08	628.4	na	na	na	27.0	343.6	966.3	4.6
EGB-06-S36_13	146.3	na	na	na	6.9	14.0	7.9	0.1
EGB-06-S36_14	1.4	na	na	na	0.2	943.1	955.3	0.0
EGB-06-S47_07	279.7	na	na	na	8.7	149.7	1448.7	1.2
EGB-06-S47_29	214.6	na	na	na	7.4	49.6	241.0	6.1
EGB-06-S47_32	11.0	na	na	na	7.6	88.7	166.8	0.6
EGB-06-S47_39	122.6	na	na	na	5.0	127.6	403.2	2.2

na - not analysed.
drift - drift during analysis

Table A.9.: Rutile trace element data from LA-ICP-MS analyses.

Label	Al	V	Cr	Fe	Zr	Nb	Mo	Sn	Sb	Hf	Ta	W	Pb	Th	U
EGB-04-S41_5	na	2147	266	na	918	3606	na	209	bdl	36	289	159	78	0.49	13.0
EGB-04-S41_6	na	1094	518	na	941	3031	na	106	bdl	52	174	188	53	bdl	10.2
EGB-04-S41_7	na	571	245	na	2006	4383	na	83	7.0	54	382	366	52	bdl	21.2
EGB-04-S41_9	na	1111	329	na	697	1620	na	207	0.9	32	5	163	44	0.25	7.1
EGB-04-S41_12	na	1068	275	na	943	5215	na	294	0.9	45	318	334	27	bdl	2.4
EGB-04-S41_14	na	1113	755	na	1056	6279	na	79	3.1	43	322	178	77	bdl	30.1
EGB-04-S41_16	na	2168	479	na	525	1650	na	157	bdl	29	39	109	55	bdl	3.5
EGB-04-S41_17	na	881	250	na	1509	5030	na	92	bdl	45	492	726	22	bdl	6.0
EGB-04-S41_21	na	1426	82	na	988	2849	na	296	7.8	50	644	531	38	bdl	56.5
EGB-04-S41_22	na	775	398	na	904	3244	na	82	0.8	25	157	291	36	bdl	11.1
EGB-04-S41_23	na	1077	103	na	733	4010	na	30	7.0	23	235	1632	88	1.29	10.2
EGB-04-S41_25	na	1158	367	na	1018	2037	na	124	bdl	43	63	84	33	bdl	8.6
EGB-04-S41_26	na	1014	211	na	636	2996	na	143	2.1	33	221	158	35	bdl	36.7
EGB-04-S41_28	na	1048	453	na	750	5262	na	210	1.2	28	251	254	18	bdl	38.9
EGB-04-S41_29	na	695	135	na	859	6003	na	241	4.4	44	292	371	35	0.36	16.5
EGB-04-S41_32	na	1866	78	na	1150	2256	na	10	bdl	31	118	9	29	bdl	12.9
EGB-04-S41_33	na	1354	661	na	1143	4566	na	68	bdl	45	208	157	78	0.68	5.3
EGB-04-S41_35	na	1200	380	na	535	2484	na	125	9.7	32	197	135	40	0.19	45.3
EGB-05-S70_1	112	2476	535	2157	1884	6465	27	46	1.9	115	539	142	12	bdl	11.0
EGB-05-S70_5	251	3609	582	869	5812	1261	86	94	bdl	237	22	76	10	bdl	12.1
EGB-05-S70_11	505	3008	343	2490	3829	2484	238	387	bdl	168	41	149	15	bdl	48.9
EGB-05-S70_15	253	2577	1361	1651	981	4292	14	134	bdl	50	245	1018	8	bdl	19.7
EGB-05-S70_19	213	1014	366	3020	125	3017	bdl	801	298.9	6	269	747	11	bdl	6.7
EGB-05-S70_22	117	1146	287	3654	1574	4716	55	306	bdl	73	542	639	14	bdl	45.5
EGB-05-S70_23	256	1891	432	1107	392	514	9	23	234.0	18	18	600	14	0.46	8.9
EGB-05-S70_29	107	4429	1079	261	1596	2135	17	226	6.4	67	156	348	7	bdl	12.7
EGB-05-S70_32	141	2394	233	5515	3068	1734	118	398	bdl	101	48	48	13	bdl	7.9
EGB-05-S70_35	1095	311	1070	3457	111	2752	225	248	11.8	5	212	63	96	5.91	0.9
EGB-05-S70_37	367	1913	340	2021	3399	1849	69	21	bdl	104	23	20	16	0.43	6.9
EGB-05-S70_42	511	975	376	3367	755	4067	10	273	5.8	32	1177	614	10	bdl	17.9
EGB-05-S70_44	363	3848	510	1321	4450	885	48	133	4.4	163	4	6	6	bdl	7.4
EGB-05-S70_45	230	1851	730	2783	1075	5466	21	258	bdl	51	301	457	17	bdl	6.7
EGB-05-S70_46	79	2987	399	2002	283	856	30	27	49.8	3	46	1113	17	bdl	4.4
EGB-05-S70_47	168	915	323	3716	984	3729	11	267	146.2	50	565	259	33	bdl	34.3
EGB-06-S53_1	37	2061	533	388	2235	1747	6	6	bdl	111	46	5	8	bdl	20.5
EGB-06-S53_3	473	2146	425	1736	4511	1042	66	36	bdl	159	11	56	14	bdl	3.6
EGB-06-S53_15	426	1106	684	1887	189	2819	bdl	102	251.4	12	222	270	15	2.81	9.2
EGB-06-S53_16	204	834	200	3471	284	4281	bdl	464	6.7	25	288	2561	7	bdl	8.8
EGB-06-S53_17	203	2562	429	2737	1418	3297	72	261	bdl	72	265	335	9	bdl	33.3
EGB-06-S53_18	243	3188	1043	1959	1641	1061	108	251	bdl	78	18	33	10	bdl	3.7
EGB-06-S53_22	622	480	103	536	94	1798	bdl	7	bdl	2	177	31	30	bdl	bdl
EGB-06-S53_24	201	1396	109	4460	1270	3995	114	182	2.1	55	262	178	9	bdl	55.5
EGB-06-S53_26	341	1167	686	3227	618	4632	5	266	27.8	28	423	516	9	bdl	7.2
EGB-06-S53_31	61	3104	977	5661	4056	1194	100	138	bdl	133	32	33	13	bdl	3.3
EGB-06-S53_32	170	1495	176	2449	822	2501	47	198	14.2	40	210	397	14	0.32	19.5
EGB-06-S53_34	104	3824	1153	1153	3951	1770	17	65	bdl	131	101	66	11	bdl	8.7
EGB-06-S53_36	86	938	68	3689	158	12	bdl	bdl	5.1	3	bdl	bdl	37	bdl	bdl
EGB-06-S53_37	94	2102	739	2434	621	3913	35	134	bdl	34	298	174	6	bdl	9.3
EGB-06-S53_38	108	1223	564	2634	390	3384	bdl	148	bdl	16	237	373	13	bdl	14.1
EGB-06-S53_39	462	1373	291	1925	116	2495	bdl	182	22.0	7	223	326	10	bdl	1.8
EGB-06-S53_41 light zone	645	2482	728	15157	117	646	bdl	24023	bdl	3	29	38905	12	bdl	3.7
EGB-06-S53_41 dark zone	319	1565	581	3848	84	252	bdl	13101	bdl	2	8	4891	8	bdl	2.4
EGB-06-S53_44	59	713	3123	1621	508	494	18	9	11.9	16	13	11	9	bdl	1.9
EGB-06-S53_45	bdl	2799	228	889	177	436	bdl	73	16.4	8	4	217	4	bdl	0.8
EGB-06-S53_46	483	2186	1523	3478	1192	6305	23	1195	bdl	48	452	669	15	bdl	37.1
EGB-06-S53_49	35	3419	1073	bdl	3801	3387	70	194	bdl	192	64	598	9	bdl	8.7
EGB-06-S53_50	124	1030	103	5590	482	1755	26	97	60.0	27	120	71	15	bdl	7.7
EGB-06-S53_51	396	1220	515	2451	111	2941	bdl	1615	110.8	4	246	569	12	bdl	0.3
EGB-06-S53_53	285	1017	551	2845	180	3075	bdl	210	37.2	9	234	229	8	bdl	4.5

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. . . table "rutiles, LA-ICP-MS trace element data" continued from page 281

Label	Al	V	Cr	Fe	Zr	Nb	Mo	Sn	Sb	Hf	Ta	W	Pb	Th	U
EGB-06-S53_54	256	2170	642	1948	177	2767	bdl	199	498.3	11	208	352	12	bdl	3.0
EGB-06-S53_55	193	5051	1405	3472	793	16409	15	289	6.6	48	915	2076	22	0.69	20.1
EGB-06-S53_56	395	3676	546	3500	5485	4023	152	155	3.4	255	206	146	8	bdl	4.9
EGB-06-S53_57	115	1290	333	2254	389	1755	6	241	163.0	12	87	243	11	bdl	9.9
EGB-06-S53_58	48	1742	409	2297	4691	1725	50	75	2.1	117	141	14	8	bdl	4.8
EGB-06-S53_59	153	4677	1390	268	1454	1990	39	46	bdl	71	79	43	4	bdl	14.4

na - not analysed. bdl - not detected.

Table A.10.: U-Pb data of the analysed rutiles.

Label	U [ppm]	Th [ppm]	Th/U	Atomic ratios $\frac{^{206}Pb}{^{208}Pb}$	$\frac{^{207}Pb}{^{235}U}$	1σ	$\frac{^{206}Pb}{^{238}U}$	1σ	Rho	$\frac{^{207}Pb}{^{206}Pb}$	1σ	Ages [Ma] $\frac{^{207}Pb}{^{235}U}$	1σ	$\frac{^{206}Pb}{^{238}U}$	1σ	calculated T [°C]
EGB-04-S41_09	7.1	0.665	0.09395	9	0.125	0.173	0.0585	0.0031	0.01	0.0155	0.0214	120	169	367	19	835
EGB-04-S41_14	25	<0.008	<0.00032	54	0.457	0.060	0.0554	0.0023	0.10	0.0598	0.0080	382	43	348	14	870
EGB-04-S41_21	54	0.178	0.00329	30	0.394	0.035	0.0558	0.0015	0.15	0.0513	0.0045	338	26	350	9	852
EGB-04-S41_22	11	<0.007	<0.00063	41	0.383	0.087	0.0562	0.0024	0.05	0.0495	0.0113	329	66	352	15	850
EGB-04-S41_25	7.6	0.012	0.00158	45	0.544	0.127	0.0575	0.0029	0.04	0.0686	0.0163	441	87	360	18	864
EGB-04-S41_26	37	<0.007	<0.00020	170	0.407	0.053	0.0554	0.0014	0.13	0.0532	0.0069	346	39	348	9	844
EGB-04-S41_29	7.8	<0.008	<0.00098	23	0.839	0.165	0.0563	0.0030	0.05	0.1081	0.0217	618	95	353	18	851
ʳEGB-04-S56_42	17	0.017	0.00098	16	0.315	0.077	0.0531	0.0016	0.01	0.0430	0.0106	278	61	333	10	875
ʳEGB-05-S51_01	24	<0.007	<0.00028	30	0.494	0.051	0.0510	0.0018	0.21	0.0702	0.0072	407	36	321	11	808
ʳEGB-05-S51_11	10	<0.008	<0.00074	>5	0.444	0.536	0.0520	0.0052	0.01	0.0619	0.0750	373	472	327	32	838
ʳEGB-05-S51_12	26	0.901	0.03533	13	0.284	0.071	0.0526	0.0016	0.09	0.0391	0.0097	254	57	331	10	698
ʳEGB-05-S51_17	14	<0.006	<0.00046	23	0.303	0.086	0.0537	0.0024	0.07	0.0409	0.0116	269	69	337	15	805
ʳEGB-05-S51_27	5.2	0.043	0.00831	9	0.473	0.220	0.0543	0.0034	0.03	0.0631	0.0295	393	164	341	21	667
ʳEGB-05-S51_41	15	0.007	0.00046	31	0.495	0.078	0.0536	0.0021	0.12	0.0670	0.0105	408	54	336	13	837
ʳEGB-05-S69_09	25	0.012	0.00049	53	0.421	0.045	0.0534	0.0013	0.07	0.0572	0.0062	357	33	336	8	945
ʳEGB-05-S69_15	15	<0.007	<0.00043	>110	0.482	0.067	0.0546	0.0018	0.05	0.0640	0.0090	399	47	343	11	872
ʳEGB-05-S69_17	20	<0.008	<0.00042	>136	0.390	0.060	0.0521	0.0018	0.05	0.0543	0.0084	334	45	327	11	1044
ʳEGB-05-S69_25	14	<0.010	<0.00068	23	0.185	0.107	0.0506	0.0034	0.05	0.0265	0.0154	172	96	318	21	790
ʳEGB-05-S69_27	46	0.036	0.00077	42	0.409	0.059	0.0554	0.0035	0.23	0.0536	0.0077	348	44	347	21	859
ʳEGB-05-S69_29	19	0.009	0.00047	9	0.322	0.075	0.0505	0.0017	0.03	0.0462	0.0109	283	60	317	10	937
ʳEGB-05-S69_30	15	0.011	0.00075	5	0.751	0.208	0.0516	0.0019	0.02	0.1055	0.0294	569	128	324	12	989
ʳEGB-05-S69_41	24	<0.008	<0.00031	128	0.397	0.046	0.0539	0.0015	0.05	0.0535	0.0063	340	34	338	9	851
ʳEGB-05-S70_11	52	<0.030	<0.00058	>141	0.403	0.031	0.0518	0.0029	0.50	0.0564	0.0038	344	22	325	18	1019
ʳEGB-05-S70_19	6.4	<0.026	<0.00409	>18	0.301	0.069	0.0511	0.0030	0.14	0.0428	0.0098	268	56	321	18	593
ʳEGB-05-S70_29	26	<0.026	<0.00100	>69	0.463	0.056	0.0514	0.0026	0.28	0.0652	0.0077	386	40	323	16	909
ʳEGB-05-S70_32	8.6	<0.023	<0.00267	>22	0.351	0.056	0.0495	0.0029	0.23	0.0514	0.0080	305	43	311	18	984
ʳEGB-05-S70_42	18	<0.025	<0.00144	>46	0.376	0.042	0.0503	0.0026	0.30	0.0542	0.0059	324	32	316	16	819
ʳEGB-05-S70_47	8.3	0.424	0.05126	8	0.097	0.117	0.0502	0.0028	0.03	0.0141	0.0170	94	115	316	17	819
ʳEGB-06-S35_16	22	<0.005	<0.00022	32	0.421	0.051	0.0532	0.0018	0.05	0.0573	0.0071	357	37	334	11	872
ʳEGB-06-S35_40	10	0.009	0.00087	15	0.326	0.141	0.0526	0.0039	0.03	0.0450	0.0196	287	114	330	24	829
ʳEGB-06-S36_03	25	0.119	0.00478	26	0.377	0.069	0.0547	0.0037	0.04	0.0500	0.0096	325	52	343	23	891
ʳEGB-06-S53_01	**26**	**<0.026**	**<0.00101**	**101**	**4.643**	**0.285**	**0.3052**	**0.0174**	**0.68**	**0.1103**	**0.0053**	**1757**	**53**	**1717**	**87**	**944**
ʳEGB-06-S53_16	13	0.099	0.00745	18	0.416	0.062	0.0503	0.0028	0.22	0.0600	0.0088	353	45	316	17	700
ʳEGB-06-S53_24	68	<0.025	<0.00037	25	0.355	0.055	0.0536	0.0031	0.23	0.0480	0.0073	308	42	336	19	882
ʳEGB-06-S53_26	7.4	<0.023	<0.00314	>21	0.370	0.076	0.0529	0.0034	0.18	0.0507	0.0103	319	58	332	21	760
ʳEGB-06-S53_34	7.2	<0.024	<0.00338	>19	0.563	0.104	0.0541	0.0032	0.16	0.0754	0.0139	453	70	340	20	1014
ʳEGB-06-S53_49	8.9	0.034	0.00376	>26	0.465	0.062	0.0572	0.0050	0.14	0.0590	0.0088	388	44	359	31	1005

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. . . table "rutiles, U-Pb data" continued from page 283

Label	U [ppm]	Th [ppm]	Th/U	Atomic ratios $\frac{^{206}Pb}{^{208}Pb}$	$\frac{^{207}Pb}{^{235}U}$	1σ	$\frac{^{206}Pb}{^{238}U}$	1σ	Rho	$\frac{^{207}Pb}{^{206}Pb}$	1σ	Ages [Ma] $\frac{^{207}Pb}{^{235}U}$	1σ	$\frac{^{206}Pb}{^{238}U}$	1σ	calculated T [° C]
[r]EGB-06-S53_50	25	<0.025	<0.00101	53	0.317	0.037	0.0496	0.0029	0.30	0.0463	0.0052	279	29	312	18	842
[r]EGB-06-S53_53	6.7	0.090	0.01349	>18	0.342	0.061	0.0536	0.0031	0.16	0.0463	0.0082	299	47	337	19	628
[r]EGB-06-S53_55	**19**	**<0.020**	**<0.00109**	**28**	**0.747**	**0.054**	**0.0860**	**0.0044**	**0.45**	**0.0630**	**0.0043**	**566**	**32**	**532**	**26**	**813**
[r]EGB-06-S53_59	**16**	**<0.023**	**<0.00142**	**>64**	**0.642**	**0.051**	**0.0788**	**0.0043**	**0.41**	**0.0591**	**0.0045**	**504**	**32**	**489**	**26**	***921**
EGB-04-S41_17	*3.7*	*0.010*	*0.00261*	*8*	*0.199*	*0.275*	*0.0528*	*0.0042*	*0.01*	*0.0273*	*0.0379*	*184*	*265*	*332*	*26*	*922*
EGB-04-S41_28	*42*	*1.156*	*0.02737*	*68*	*0.393*	*0.039*	*0.0540*	*0.0015*	*0.14*	*0.0529*	*0.0052*	*337*	*29*	*339*	*9*	*850*
EGB-04-S41_32	*13*	*0.036*	*0.00268*	*5*	*-0.120*	*-0.446*	*0.0553*	*0.0056*	*0.00*	*-0.0158*	*-0.0585*	*-130*	*-417*	*347*	*34*	*886*
EGB-04-S41_33	*5.9*	*0.039*	*0.00669*	*2*	*0.657*	*0.449*	*0.0425*	*0.0059*	*0.03*	*0.1119*	*0.0777*	*512*	*321*	*268*	*37*	*879*
[r]EGB-05-S51_14	*8.2*	*0.117*	*0.01430*	*1*	*0.304*	*0.274*	*0.0541*	*0.0037*	*0.01*	*0.0407*	*0.0367*	*269*	*239*	*340*	*23*	*684*
[r]EGB-05-S51_28	*0.7*	*0.010*	*0.01442*	*1*	*-0.685*	*-1.404*	*0.0510*	*0.0135*	*0.00*	*-0.0975*	*-0.2013*	*-1173*	*-1723*	*320*	*84*	*634*
[r]EGB-05-S69_02	*8.5*	*0.022*	*0.00263*	*4*	*0.648*	*0.295*	*0.0515*	*0.0028*	*0.01*	*0.0913*	*0.0419*	*507*	*201*	*323*	*17*	*773*
[r]EGB-06-S53_17	*30*	*0.427*	*0.01403*	*1*	*0.144*	*0.308*	*0.0545*	*0.0047*	*0.01*	*0.0192*	*0.0410*	*137*	*319*	*342*	*29*	*880*
[r]EGB-06-S53_46	*29*	*0.593*	*0.02012*	*2*	*0.402*	*0.184*	*0.0548*	*0.0035*	*0.08*	*0.0532*	*0.0243*	*343*	*143*	*344*	*22*	*860*
[r]EGB-06-S53_56	*6.5*	*<0.019*	*<0.00293*	*1*	*0.235*	*0.256*	*0.0548*	*0.0047*	*0.02*	*0.0311*	*0.0339*	*214*	*236*	*344*	*29*	*1070*

All temperatures calculated after Zack et al. (2004a) from EMP Zr concentrations, except

* from LA-ICP-MS Zr concentration.

[r] calculated T > unit T (relicts).

bold age > Variscan age.

italics questionable analyis, because either U < 5 ppm (large error), or Th > 1 ppm (contamination), or $\frac{^{206}Pb}{^{208}Pb}$ < 5 (large correction).

Table A.11.: U-Pb data of the analysed zircons.

							Atomic Ratios								Ages [Ma]						
Label	**Set no.**	**207Pb**[a] **[cps]**	**U**[b] **[ppm]**	**Pb**[b] **[ppm]**	**Th**[h] **[ppm]**	**Th/U**	$^{206}Pb/^{204}Pb$	$^{207}Pb/^{235}U$ [c]	**2 σ**[e] [%]	$^{206}Pb/^{238}U$ [c]	**2 σ**[e] [%]	**Rho**[d]	$^{207}Pb/^{206}Pb$ [f]	**2 σ**[e] [%]	$^{207}Pb/^{235}U$	**2 σ**	$^{206}Pb/^{238}U$	**2 σ**	$^{207}Pb/^{206}Pb$	**2 σ**	**Conc**[g] [%]
EGB-04-S41_1_1	1	8814	126	8	27	0.22	1109	0.5237	4.2	0.0678	3.4	0.81	0.0560	2.4	428	18	423	14	453	27	99
EGB-04-S41_1_2	1	19665	357	19	98	0.28	1319	0.3968	3.7	0.0530	2.7	0.72	0.0543	2.6	339	13	333	9	385	29	98
EGB-04-S41_3_1	1	21839	190	14	35	0.18	294	0.5967	8.1	0.0729	4.5	0.56	0.0593	6.7	475	38	454	20	580	73	95
EGB-04-S41_4_1	1	22509	450	24	69	0.15	3029	0.4133	2.8	0.0555	2.5	0.91	0.0540	1.2	351	10	348	9	372	13	99
EGB-04-S41_4_2	1	19552	408	22	81	0.20	2719	0.4031	2.8	0.0544	2.4	0.85	0.0537	1.5	344	10	342	8	358	17	99
EGB-04-S41_5_1	1	12734	172	10	66	0.39	385	0.4244	4.4	0.0523	3.5	0.78	0.0588	2.8	359	16	329	11	561	30	92
EGB-04-S41_5_2	1	16522	334	17	24	0.07	1796	0.3984	3.0	0.0537	2.5	0.86	0.0538	1.5	340	10	337	9	364	17	99
EGB-04-S41_6	1	4064	46	3	7	0.15	480	0.4254	4.5	0.0549	2.7	0.61	0.0562	3.6	360	16	345	9	458	40	96
EGB-04-S41_7	1	7230	143	7	7	0.05	1629	0.3931	3.6	0.0517	3.0	0.84	0.0551	1.9	337	12	325	10	416	22	97
EGB-04-S41_9	1	6069	41	3	19	0.47	189	0.5407	27.4	0.0571	9.0	0.33	0.0687	25.9	439	120	358	32	888	267	82
EGB-04-S41_13	1	5214	47	3	15	0.32	110	0.4224	3.4	0.0548	2.4	0.71	0.0559	2.4	358	12	344	8	449	26	96
EGB-04-S41_14	1	2335	37	2	4	0.10	662	0.4338	5.0	0.0583	2.6	0.53	0.0539	4.2	366	18	366	10	368	47	100
EGB-04-S41_17	1	3121	47	3	7	0.16	706	0.4360	3.9	0.0578	2.5	0.63	0.0547	3.1	367	15	362	9	400	34	99
EGB-04-S41_17_2	1	4705	81	4	5	0.06	854	0.4237	3.7	0.0555	2.8	0.74	0.0554	2.5	359	13	348	10	429	28	97
EGB-04-S41_19	1	4818	73	4	4	0.05	578	0.4234	3.8	0.0552	2.4	0.64	0.0556	2.9	358	14	346	8	438	33	97
EGB-04-S41_20_1	1	15871	328	19	121	0.37	1992	0.4268	2.6	0.0570	2.3	0.87	0.0543	1.3	361	9	358	8	382	14	99
EGB-04-S41_20_2	1	12774	236	12	19	0.08	1623	0.4102	2.7	0.0543	2.3	0.85	0.0548	1.5	349	9	341	8	405	16	98
EGB-04-S41_21_1	1	11329	111	12	86	0.78	2011	0.8229	3.4	0.0972	2.9	0.84	0.0614	1.9	610	21	598	17	652	20	98
EGB-04-S41_22	1	2055	32	2	6	0.18	317	0.4302	5.4	0.0592	3.0	0.55	0.0527	4.5	363	20	371	11	317	51	102
EGB-04-S41_23_1	1	5630	60	5	28	0.46	951	0.6485	5.5	0.0795	2.6	0.47	0.0591	4.8	508	28	493	13	572	52	97
EGB-04-S41_24_1	1	3486	17	2	23	1.34	235	0.9191	4.4	0.1052	2.4	0.54	0.0633	3.7	662	29	645	16	719	40	97
EGB-04-S41_25	1	6772	75	4	13	0.18	337	0.4253	3.3	0.0571	2.4	0.72	0.0540	2.3	360	12	358	8	373	26	99
EGB-04-S41_26	1	2565	39	2	5	0.14	735	0.4194	4.0	0.0566	2.4	0.59	0.0537	3.3	356	14	355	8	360	37	100
EGB-04-S41_27	1	9878	53	3	29	0.54	87	0.3115	68.7	0.0483	12.8	0.19	0.0467	67.5	275	189	304	39	36	808	111
EGB-04-S41_28	1	4250	64	3	10	0.15	816	0.4174	3.5	0.0557	2.5	0.72	0.0543	2.4	354	12	350	9	384	27	99
EGB-04-S41_29	1	4374	49	3	5	0.10	552	0.5080	16.6	0.0581	3.1	0.19	0.0634	16.3	417	69	364	11	723	173	87
EGB-04-S41_30	1	4006	43	3	9	0.21	346	0.4535	4.1	0.0563	2.5	0.61	0.0584	3.3	380	16	353	9	546	36	93
EGB-04-S41_31_1	1	14715	304	17	100	0.33	2518	0.4013	2.6	0.0546	2.3	0.88	0.0533	1.2	343	9	342	8	344	14	100
EGB-04-S41_33	1	4467	78	4	9	0.11	1096	0.4149	3.1	0.0551	2.3	0.75	0.0546	2.0	352	11	346	8	394	23	98
EGB-04-S41_34_1	1	16822	154	11	22	0.14	287	0.5298	10.6	0.0665	2.9	0.27	0.0578	10.2	432	46	415	12	523	112	96
EGB-04-S41_35	1	5270	80	5	19	0.24	1035	0.4361	3.6	0.0564	2.4	0.67	0.0561	2.7	367	13	354	9	456	30	96
EGB-04-S41_36_1	1	18195	255	21	257	1.01	824	0.5100	3.3	0.0668	2.6	0.79	0.0554	2.0	418	14	417	11	428	22	100
EGB-04-S41_37_1	1	12987	161	13	24	0.15	797	0.5988	6.0	0.0799	3.0	0.50	0.0544	5.2	476	28	496	15	386	58	104
EGB-04-S41_38	1	8010	140	7	7	0.05	1006	0.3993	3.9	0.0544	2.8	0.72	0.0533	2.7	341	13	341	10	340	31	100
EGB-04-S41_42	1	2957	43	2	8	0.18	423	0.4104	4.4	0.0545	3.1	0.71	0.0546	3.1	349	15	342	11	396	35	98
EGB-04-S41_44	1	3121	37	2	7	0.19	474	0.4342	4.1	0.0545	3.0	0.73	0.0578	2.8	366	15	342	10	523	31	93
EGB-04-S41_46	1	19626	389	20	51	0.13	3873	0.4068	3.5	0.0553	3.0	0.87	0.0533	1.7	347	12	347	11	343	20	100

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…table "zircons, U-Pb data" continued from page 285

							Atomic Ratios								Ages [Ma]						
Label	Set no.	207Pb[a] [cps]	U[b] [ppm]	Pb[b] [ppm]	Th[h] [ppm]	Th/U	$^{206}Pb/^{204}Pb$	$^{207}Pb/^{235}U$ [c]	2 σ[e] [%]	$^{206}Pb/^{238}U$ [c]	2 σ[e] [%]	Rho[d]	$^{207}Pb/^{206}Pb$ [f]	2 σ[e] [%]	$^{207}Pb/^{235}U$	2 σ	$^{206}Pb/^{238}U$	2 σ	$^{207}Pb/^{206}Pb$	2 σ	Conc[g] [%]
EGB-04-S41_47	1	9279	35	4	2	0.06	135	1.2445	6.1	0.0888	4.3	0.71	0.1016	4.3	821	50	549	24	1654	39	67
EGB-04-S41_49_1	1	11180	181	11	55	0.31	869	0.4718	4.1	0.0630	3.5	0.85	0.0543	2.2	392	16	394	14	384	25	100
EGB-04-S41_50_1	1	13160	112	11	28	0.25	1105	0.9060	4.7	0.0953	3.5	0.75	0.0689	3.2	655	31	587	21	897	33	90
EGB-04-S41_51_1	1	20622	289	17	35	0.12	950	0.4507	4.7	0.0606	3.0	0.63	0.0539	3.6	378	18	379	11	369	41	100
EGB-04-S41_53	1	8870	76	7	42	0.55	364	0.7378	4.6	0.0865	3.0	0.63	0.0618	3.6	561	26	535	16	668	38	95
EGB-04-S41_54	1	34587	63	14	29	0.46	266	3.1598	15.9	0.1930	5.3	0.34	0.1187	15.0	1447	230	1138	61	1937	134	59
EGB-04-S41_55	1	11048	82	6	113	1.38	119	0.6200	5.5	0.0646	3.8	0.70	0.0696	3.9	490	27	403	15	917	40	82
EGB-04-S41_56	1	3620	54	3	8	0.15	501	0.4150	4.0	0.0548	3.0	0.77	0.0549	2.5	352	14	344	10	408	28	98
EGB-04-S41_57_1	1	12513	169	11	29	0.17	730	0.5217	3.3	0.0658	3.0	0.91	0.0575	1.4	426	14	411	12	510	15	96
EGB-04-S41_58	1	8019	115	6	11	0.10	691	0.4587	4.5	0.0545	2.9	0.65	0.0611	3.4	383	17	342	10	642	37	89
EGB-04-S41_59	1	17533	210	15	13	0.06	1024	0.6060	4.6	0.0772	3.0	0.65	0.0569	3.5	481	22	479	14	489	39	100
EGB-04-S41_60_1	1	16112	173	15	67	0.39	455	0.6688	4.1	0.0840	3.1	0.74	0.0578	2.8	520	21	520	16	520	30	100
EGB-04-S41_61_1	1	3867	37	2	8	0.23	297	0.4261	24.1	0.0540	3.1	0.13	0.0573	23.9	360	87	339	11	502	263	94
EGB-04-S41_64_1	1	17081	199	11	74	0.37	392	0.3709	15.0	0.0518	6.7	0.44	0.0519	13.4	320	48	326	22	282	153	102
EGB-04-S56_II_1	1	20544	31	13	19	0.63	1255	6.9173	4.0	0.3820	3.2	0.79	0.1313	2.4	2101	84	2086	66	2116	21	99
EGB-04-S56_II_2	1	7985	74	6	94	1.27	564	0.6075	16.9	0.0746	2.6	0.16	0.0591	16.7	482	82	464	12	570	182	96
EGB-04-S56_II_3_1	1	7341	69	6	26	0.38	1451	0.7265	3.3	0.0879	2.5	0.75	0.0600	2.2	555	18	543	14	603	24	98
EGB-04-S56_II_5	1	12222	129	14	132	1.02	567	0.7267	19.5	0.0953	3.1	0.16	0.0553	19.3	555	108	587	18	424	215	106
EGB-04-S56_II_6	1	9920	119	10	55	0.46	699	0.6960	5.3	0.0817	3.5	0.67	0.0618	3.9	536	28	506	18	667	42	94
EGB-04-S56_II_7	1	6149	63	8	108	1.73	589	0.7872	3.9	0.0947	2.6	0.68	0.0603	2.9	590	23	583	15	614	31	99
EGB-04-S56_II_8	1	59880	151	39	116	0.77	252	3.1738	3.5	0.2083	2.4	0.67	0.1105	2.6	1451	51	1220	29	1808	24	67
EGB-04-S56_II_11_1	1	41586	535	39	211	0.39	386	0.5689	5.5	0.0671	3.5	0.63	0.0615	4.2	457	25	418	15	658	45	92
EGB-04-S56_II_13	1	3147	25	2	18	0.73	326	0.7214	4.5	0.0868	3.3	0.73	0.0603	3.0	551	25	537	18	614	33	97
EGB-04-S56_II_14	1	371194	233	155	152	0.65	721	19.4910	9.5	0.5430	9.3	0.98	0.2603	1.9	3066	290	2796	259	3249	15	86
EGB-04-S56_II_15	1	39614	539	56	253	0.47	2376	0.8681	2.5	0.0996	2.3	0.92	0.0632	1.0	635	16	612	14	716	11	96
EGB-04-S56_II_16	1	205313	192	118	212	1.10	7423	11.7983	2.3	0.4807	2.2	0.92	0.1780	0.9	2589	61	2530	55	2634	7	96
EGB-04-S56_II_17	1	8921	101	12	98	0.96	1832	0.8400	2.9	0.1003	2.5	0.85	0.0608	1.5	619	18	616	15	631	16	99
EGB-04-S56_II_20	1	35886	416	40	202	0.49	942	0.7325	3.5	0.0901	2.9	0.84	0.0589	1.9	558	19	556	16	564	21	100
EGB-04-S56_II_21_1	1	18898	226	24	133	0.59	2159	0.8431	2.6	0.1003	2.2	0.86	0.0610	1.3	621	16	616	14	638	14	99
EGB-04-S56_II_22	1	27402	406	38	163	0.40	2375	0.7624	3.3	0.0924	2.7	0.82	0.0598	1.9	575	19	570	15	598	20	99
EGB-04-S56_II_23	1	6010	78	7	36	0.46	1005	0.7452	3.4	0.0911	2.7	0.78	0.0594	2.1	565	19	562	15	580	23	99
EGB-04-S56_II_24	1	15302	126	13	46	0.37	507	0.9350	8.7	0.0930	4.4	0.51	0.0729	7.5	670	58	573	25	1011	76	86
EGB-04-S56_II_25	1	3494	33	3	25	0.75	408	0.7562	4.4	0.0863	2.5	0.58	0.0635	3.6	572	25	534	14	726	38	93
EGB-04-S56_II_28	1	353450	162	127	79	0.49	3856	27.1490	4.1	0.6324	2.3	0.56	0.3114	3.4	3389	140	3159	73	3528	26	90
EGB-04-S56_II_30	1	138291	68	58	93	1.38	2866	21.9430	2.4	0.5946	2.4	0.97	0.2677	0.6	3181	78	3008	71	3292	5	91
EGB-04-S56_II_31	1	6066	75	6	17	0.22	1216	0.6559	16.6	0.0832	4.7	0.28	0.0572	15.9	512	85	515	24	498	175	101
EGB-04-S56_II_32	1	35521	301	33	140	0.46	377	0.8577	8.2	0.0978	1.9	0.23	0.0636	8.0	629	52	602	12	728	84	96
EGB-04-S56_II_34	1	51297	80	34	44	0.55	13349	6.9461	2.5	0.3793	2.2	0.88	0.1328	1.2	2105	52	2073	45	2136	10	97

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. . . table "zircons, U-Pb data" continued from page 285

Label	Set no.	207Pb[a] [cps]	U[b] [ppm]	Pb[b] [ppm]	Th[h] [ppm]	Th/U	Atomic Ratios $\frac{^{206}Pb}{^{204}Pb}$	$\frac{^{207}Pb}{^{235}U}$ [c]	2 σ[e] [%]	$\frac{^{206}Pb}{^{238}U}$ [c]	2 σ[e] [%]	Rho[d]	$\frac{^{207}Pb}{^{206}Pb}$ [f]	2 σ[e] [%]	Ages [Ma] $\frac{^{207}Pb}{^{235}U}$	2 σ	$\frac{^{206}Pb}{^{238}U}$	2 σ	$\frac{^{207}Pb}{^{206}Pb}$	2 σ	Conc[g] [%]
EGB-04-S56_II_36	1	46919	80	41	135	1.70	8274	6.3902	2.0	0.3635	1.9	0.94	0.1275	0.7	2031	42	1999	38	2064	6	98
EGB-04-S56_II_37	1	7213	94	10	62	0.66	968	0.7952	2.9	0.0947	2.0	0.69	0.0609	2.1	594	17	583	12	636	23	98
EGB-04-S56_II_39	1	62014	957	74	301	0.31	281	0.7497	10.6	0.0699	5.1	0.48	0.0778	9.3	568	60	435	22	1142	92	77
EGB-04-S56_II_40_1	1	129959	260	98	137	0.53	5867	5.7084	2.0	0.3485	1.8	0.88	0.1188	1.0	1933	39	1927	34	1938	9	99
EGB-04-S56_II_44	1	137305	201	95	183	0.91	11886	7.8266	2.1	0.4004	1.9	0.93	0.1418	0.8	2211	45	2171	41	2249	7	97
EGB-04-S56_II_45	1	15263	233	23	241	1.03	1451	0.7171	2.9	0.0860	2.4	0.83	0.0605	1.6	549	16	532	13	620	18	97
EGB-04-S56_II_46_1	1	22384	61	9	37	0.61	431	1.0417	8.9	0.1265	1.8	0.20	0.0597	8.7	725	64	768	13	594	94	106
EGB-04-S56_II_47	1	526237	258	193	83	0.32	19347	23.0829	1.7	0.6441	1.6	0.96	0.2599	0.5	3230	54	3205	51	3246	4	99
EGB-04-S56_II_48	1	25009	52	18	36	0.70	1009	4.5582	4.5	0.2989	1.6	0.35	0.1106	4.2	1742	79	1686	27	1809	38	93
EGB-04-S56_II_49	1	91260	170	68	114	0.67	7082	6.1678	2.2	0.3521	2.0	0.91	0.1271	0.9	2000	44	1945	39	2058	8	95
EGB-04-S56_II_52	1	62576	118	47	85	0.72	4788	5.8882	1.7	0.3491	1.6	0.92	0.1223	0.7	1959	34	1930	30	1991	6	97
EGB-04-S56_II_54	1	7991	107	12	88	0.82	509	0.9340	11.1	0.0992	4.5	0.41	0.0683	10.1	670	74	610	28	877	105	91
EGB-04-S56_II_56_1	1	291106	556	190	23	0.04	10374	6.0599	4.0	0.3463	3.1	0.76	0.1269	2.6	1984	80	1917	59	2055	23	93
EGB-04-S56_II_59_1	1	18111	263	23	99	0.38	3281	0.7066	2.3	0.0857	1.9	0.83	0.0598	1.3	543	13	530	10	595	14	98
EGB-04-S56_II_62	1	103439	250	66	64	0.25	4985	4.2871	3.1	0.2492	3.0	0.95	0.1248	0.9	1691	53	1434	43	2026	8	71
EGB-04-S56_II_64	1	31796	55	22	22	0.40	3704	6.8667	2.3	0.3770	1.9	0.81	0.1321	1.4	2094	49	2062	39	2126	12	97
EGB-04-S56_II_65	1	20339	126	15	78	0.62	187	0.7747	17.4	0.0962	1.7	0.10	0.0584	17.3	582	101	592	10	546	189	102
EGB-04-S56_II_67_1	1	20014	255	28	309	1.21	2098	0.7742	4.3	0.0933	2.0	0.46	0.0602	3.9	582	25	575	11	611	42	99
EGB-04-S56_II_69	1	526672	756	259	175	0.23	3677	8.0400	5.1	0.3209	3.9	0.78	0.1817	3.2	2236	114	1794	71	2669	27	67
EGB-04-S56_II_70_1	1	16990	228	21	102	0.45	1126	0.7182	2.6	0.0887	1.9	0.76	0.0587	1.7	550	14	548	11	556	18	100
EGB-05-S55_3	1	16722	184	18	98	0.53	1626	0.7667	3.4	0.0934	2.0	0.60	0.0595	2.8	578	20	576	12	586	30	100
EGB-05-S55_23	1	76509	104	44	99	0.96	822	6.2117	4.1	0.3585	3.6	0.88	0.1257	1.9	2006	82	1975	71	2038	17	98
EGB-05-S55_42	1	13102	166	16	112	0.67	1609	0.7448	4.2	0.0911	2.6	0.64	0.0593	3.2	565	23	562	15	578	35	99
EGB-05-S55_56_1	1	9143	89	10	117	1.31	784	0.8660	6.5	0.1025	2.8	0.43	0.0613	5.9	633	41	629	18	649	63	99
EGB-05-S65_5	1	8605	86	8	34	0.39	752	0.8007	6.6	0.0939	3.4	0.52	0.0618	5.7	597	40	579	20	668	61	97
EGB-05-S65_17	1	27087	271	26	99	0.37	459	0.6597	9.7	0.0816	7.7	0.79	0.0586	5.9	514	50	506	39	553	64	98
EGB-05-S65_18	1	7610	39	5	45	1.15	252	0.7841	28.3	0.0961	4.9	0.17	0.0592	27.8	588	166	591	29	575	303	101
EGB-05-S65_18_2	1	3446	22	3	20	0.87	468	0.9216	4.1	0.1061	2.4	0.58	0.0630	3.4	663	27	650	15	708	36	98
EGB-05-S65_21	1	26595	280	31	198	0.71	1433	0.8494	3.8	0.1005	1.9	0.49	0.0613	3.3	624	24	617	12	650	36	99
EGB-05-S68_4_1	1	82843	1681	84	237	0.14	2146	0.3785	3.3	0.0526	3.2	0.94	0.0521	1.1	326	11	331	10	292	13	101
EGB-05-S68_11_1	1	15629	197	13	334	1.69	360	0.3668	5.6	0.0504	3.4	0.61	0.0528	4.4	317	18	317	11	320	50	100
EGB-05-S68_11_2	1	66869	1293	63	278	0.21	1536	0.3558	5.9	0.0483	4.3	0.73	0.0534	4.0	309	18	304	13	347	46	98
EGB-05-S68_12	1	18542	110	8	142	1.30	104	0.3732	8.2	0.0512	3.6	0.43	0.0528	7.4	322	27	322	11	322	84	100
EGB-05-S68_14	1	46808	1024	50	263	0.26	5567	0.3678	3.1	0.0504	2.9	0.95	0.0530	0.9	318	10	317	9	327	11	100
EGB-05-S68_15	1	58515	764	56	176	0.23	364	0.3640	4.1	0.0498	3.0	0.74	0.0530	2.7	315	13	313	9	329	31	99
EGB-05-S68_16_1	1	59176	324	25	115	0.36	79	0.3685	4.9	0.0500	3.7	0.76	0.0534	3.2	319	16	315	12	347	36	99
EGB-05-S68_17	1	72965	442	32	334	0.76	77	0.3714	7.3	0.0510	3.8	0.52	0.0528	6.2	321	23	321	12	321	71	100
EGB-06-S47_2.1	1	54171	36	21	23	0.63	1382	13.1120	2.6	0.4903	2.0	0.78	0.1940	1.6	2688	71	2572	53	2776	13	93

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. . . table "zircons, U-Pb data" continued from page 285

							Atomic Ratios								Ages [Ma]						
Label	**Set no.**	**207Pb**[a] **[cps]**	**U**[b] **[ppm]**	**Pb**[b] **[ppm]**	**Th**[h] **[ppm]**	**Th/U**	$^{206}Pb/^{204}Pb$	$^{207}Pb/^{235}U$ [c]	**2 σ**[e] [%]	$^{206}Pb/^{238}U$ [c]	**2 σ**[e] [%]	**Rho**[d]	$^{207}Pb/^{206}Pb$ [f]	**2 σ**[e] [%]	$^{207}Pb/^{235}U$	**2 σ**	$^{206}Pb/^{238}U$	**2 σ**	$^{207}Pb/^{206}Pb$	**2 σ**	**Conc**[g] [%]
EGB-06-S47_3.1	1	78102	70	38	52	0.74	4020	10.0056	2.2	0.4515	2.0	0.94	0.1607	0.7	2435	53	2402	49	2463	6	98
EGB-06-S47_11.1	1	80270	156	48	76	0.48	1748	4.6599	4.1	0.2967	2.8	0.68	0.1139	3.0	1760	72	1675	47	1863	27	90
EGB-06-S47_14.1	1	56070	490	49	77	0.16	3707	0.9922	2.4	0.1021	2.1	0.87	0.0705	1.2	700	17	627	13	942	12	90
EGB-06-S47_15.1	1	130769	315	84	209	0.66	2154	3.6563	2.2	0.2303	2.1	0.93	0.1151	0.8	1562	35	1336	28	1882	7	71
EGB-06-S47_15.2	1	53858	67	27	20	0.30	3584	6.8541	2.1	0.3768	1.8	0.85	0.1319	1.1	2093	44	2062	37	2124	10	97
EGB-06-S47_19.1	1	174074	218	98	92	0.42	17626	7.3560	3.0	0.3991	2.9	0.97	0.1337	0.7	2156	65	2165	64	2147	6	101
EGB-06-S47_20.1	1	522112	421	181	144	0.34	423	9.4586	3.8	0.3838	2.3	0.59	0.1788	3.1	2384	91	2094	47	2641	25	79
EGB-06-S47_22.1	1	25096	32	14	23	0.71	2472	6.9519	3.2	0.3765	2.9	0.93	0.1339	1.1	2105	66	2060	61	2150	10	96
EGB-06-S47_24.1	1	18344	30	11	12	0.41	957	5.5884	2.4	0.3445	2.0	0.86	0.1176	1.2	1914	45	1908	39	1921	11	99
EGB-06-S47_25.1	1	24017	30	13	13	0.44	2368	7.5574	2.7	0.4039	2.4	0.89	0.1357	1.2	2180	60	2187	53	2173	11	101
EGB-06-S47_26.1	1	40546	53	23	24	0.46	1464	6.8271	2.5	0.3872	2.1	0.85	0.1279	1.3	2089	52	2110	44	2069	12	102
EGB-06-S47_28.1	1	17838	21	11	28	1.31	840	6.9952	3.4	0.3865	2.0	0.59	0.1313	2.7	2111	71	2106	42	2115	24	100
EGB-06-S47_30.1	1	25637	234	24	45	0.19	823	0.8482	3.6	0.1017	2.6	0.71	0.0605	2.6	624	23	624	16	622	28	100
EGB-06-S47_34.1	1	131434	301	71	25	0.08	1903	3.5515	14.5	0.2317	14.3	0.99	0.1112	2.4	1539	223	1343	192	1819	22	74
EGB-06-S47_37.1	1	13707	176	14	71	0.41	1518	0.6349	3.5	0.0786	1.9	0.55	0.0586	2.9	499	17	488	9	552	32	98
EGB-06-S47_42.1	1	414255	187	91	25	0.13	6136	14.2009	9.1	0.4364	9.0	1.00	0.2360	0.8	2763	251	2334	211	3093	6	75
EGB-06-S47_46.1	1	9969	130	9	23	0.18	1856	0.5561	8.1	0.0712	2.3	0.28	0.0566	7.7	449	36	443	10	477	86	99
EGB-06-S47_49.1	1	16669	146	13	41	0.28	537	0.6405	7.4	0.0796	5.4	0.73	0.0584	5.0	503	37	494	27	543	55	98
EGB-06-S47_50.1	1	14682	160	16	68	0.42	1726	0.7931	3.6	0.0964	1.9	0.54	0.0597	3.0	593	21	593	11	592	32	100
EGB-06-S47_52.1	1	738035	359	298	294	0.82	1573	24.9144	2.5	0.7740	2.4	0.93	0.2335	1.0	3305	84	3695	87	3076	8	120
EGB-06-S47_54.1	1	9659	100	9	29	0.29	1610	0.7080	6.3	0.0884	2.5	0.40	0.0581	5.8	544	34	546	14	533	64	100
EGB-06-S47_57.1	1	23694	242	27	279	1.15	1064	0.7081	4.7	0.0836	3.6	0.76	0.0614	3.0	544	25	518	18	654	33	95
EGB-06-S47_59.1	1	27452	36	16	20	0.54	2134	6.6486	3.3	0.3781	3.0	0.91	0.1275	1.4	2066	68	2067	62	2064	12	100

[a] Within-run background-corrected mean ^{2}07Pb signal.

[b] U and Pb concentrations and Th/U ratios are calculated relative to GJ-1 reference zircon.

[c] Corrected for background and within-run Pb/U fractionation and normalised to reference zircon GJ-1 (ID-TIMS values/measured value); ^{2}07Pb/^{2}35U calculated using (^{2}07Pb/^{2}06Pb)/(^{2}38U/^{2}06Pb * 1/137.88).

[d] Rho is the error correlation defined as the quotient of the propagated errors of the ^{2}06Pb/^{2}38U and the ^{2}07/^{2}35U ratio.

[e] Quadratic addition of within-run errors (2 SD) and daily reproducibility of GJ-1 (2 SD).

[f] corrected for mass-bias by normalising to GJ-1 reference zircon (0.6 per atomic mass unit) and common Pb using the model Pb composition of Stacey and Kramers (1975).

[g] degree of concordance = (^{2}06Pb/^{2}38U age * 100/^{2}07Pb/^{2}35U age or ^{2}06Pb/^{2}38U age * 100/^{2}07Pb/^{2}06Pb; see text for explanation).

[h] calculated from Th/U and U[b] [ppm].

Table A.12.: Zircon trace element data from EMP and SIMS analyses.

		EMP data								SIMS data			Thermometry results		
Analysis label	Set no.	ZrO_2 [mass-%]	SiO_2 [mass-%]	Total [mass-%]	Ti [ppm]	Y [ppm]	Hf [ppm]	Th [ppm]	U [ppm]	Ti [ppm]	Th [ppm]	U [ppm]	EMP T [°C]	SIMS T [°C]	Variscan max. T [°C]
EGB-04-S41_1_1	1	65.93	32.51	100.12	bdl	2944	12826	105	286	24	72	432	bdl	823	950
EGB-04-S41_1_2	1	66.46	32.80	100.67	43	844	12409	68	637	57	221	1314	889	921	950
EGB-04-S41_2	1	65.70	32.46	99.81	bdl	3801	11668	bdl	382	na	na	na	bdl	na	950
EGB-04-S41_2_1	1	64.51	32.34	98.51	bdl	2151	13464	bdl	476	na	na	na	bdl	na	950
EGB-04-S41_3_1	1	65.78	32.37	99.69	bdl	1669	13128	bdl	300	na	na	na	bdl	na	950
EGB-04-S41_3_2	1	65.70	32.16	99.63	bdl	4348	11928	60	442	10	107	787	bdl	742	950
EGB-04-S41_4_1	1	65.96	32.80	100.53	33	1084	14590	226	1167	45	193	1460	859	893	950
EGB-04-S41_4_2	1	66.39	32.56	100.46	43	2107	11506	154	964	43	189	1382	888	888	950
EGB-04-S41_5_1	1	66.08	32.38	100.16	bdl	3091	12830	bdl	345	33	65	483	bdl	858	950
EGB-04-S41_5_2	1	65.92	32.34	99.95	bdl	bdl	15636	55	905	13	42	1284	bdl	767	950
EGB-04-S41_6	*1*	*66.22*	*32.51*	*100.09*	*234*	*274*	*12883*	*bdl*	*79*	*324*	*8*	*205*	*1122*	*1179*	*950*
EGB-04-S41_6_2	1	65.42	32.68	99.29	61	162	11465	bdl	385	na	na	na	930	na	950
EGB-04-S41_7	1	65.97	32.57	99.90	73	bdl	13098	bdl	334	53	4	547	951	912	950
EGB-04-S41_7	1	65.13	32.58	99.05	105	917	11771	183	434	na	na	na	1000	na	950
EGB-04-S41_9	1	66.07	32.62	99.84	58	599	10912	51	152	43	140	308	922	886	950
EGB-04-S41_9_1	1	65.29	32.58	99.03	48	1480	9758	211	269	na	na	na	900	na	950
EGB-04-S41_13	*1*	*65.80*	*32.84*	*99.95*	*249*	*186*	*12491*	*bdl*	*97*	*290*	*8*	*182*	*1133*	*1159*	*950*
EGB-04-S41_14	1	65.60	32.56	99.46	150	166	12664	bdl	104	211	5	205	1052	1105	950
EGB-04-S41_17	1	66.60	32.47	100.37	160	205	12549	bdl	98	202	5	171	1062	1098	950
EGB-04-S41_17_2	1	65.06	32.53	98.72	141	220	11236	bdl	65	na	na	na	1043	na	950
EGB-04-S41_19	1	66.47	32.53	100.31	39	bdl	12941	bdl	204	95	3	321	878	987	950
EGB-04-S41_20_1	1	65.50	31.86	99.20	bdl	1226	14717	505	1288	44	597	1831	bdl	891	950
EGB-04-S41_20_2	1	65.53	31.89	99.20	bdl	bdl	16439	bdl	742	12	50	1355	bdl	753	950
EGB-04-S41_21_1	1	65.24	31.63	98.21	bdl	2369	9644	659	554	11	623	768	bdl	748	950
EGB-04-S41_21_2	1	65.43	31.62	98.33	bdl	698	11754	167	322	na	na	na	bdl	na	950
EGB-04-S41_21_3	1	64.84	30.88	97.59	bdl	2840	14109	bdl	794	na	na	na	bdl	na	950
EGB-04-S41_22	1	65.37	32.17	98.89	22	174	12898	bdl	492	100	24	518	815	994	950
EGB-04-S41_23_1	1	65.49	31.86	98.82	bdl	2102	12033	69	209	16	116	331	bdl	782	950
EGB-04-S41_23_2	1	65.48	31.99	99.04	bdl	2993	11923	bdl	331	na	na	na	bdl	na	950
EGB-04-S41_24_1	1	65.77	32.21	98.96	bdl	342	9934	bdl	bdl	23	85	93	bdl	818	950
EGB-04-S41_24_2	1	65.55	32.19	98.65	bdl	466	9014	bdl	123	na	na	na	bdl	na	950
EGB-04-S41_25	1	66.93	31.32	99.55	86	bdl	12567	bdl	349	172	6	276	974	1073	950
EGB-04-S41_26	*1*	*67.27*	*31.33*	*99.94*	*219*	*178*	*12899*	*bdl*	*136*	*317*	*4*	*155*	*1111*	*1174*	*950*
EGB-04-S41_26_1	1	65.40	32.68	99.39	31	137	12899	bdl	220	na	na	na	852	na	950
EGB-04-S41_27	1	67.07	31.56	99.96	61	281	12767	bdl	271	87	6	499	930	974	950
EGB-04-S41_28	1	66.44	31.90	99.62	113	121	12516	bdl	139	154	7	243	1010	1056	950
EGB-04-S41_28_2	1	65.01	32.72	99.02	196	225	12267	bdl	309	na	na	na	1093	na	950

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. . . table "zircons, trace element data" continued from page 289

		EMP data								SIMS data			Thermometry results		
Analysis label	Set no.	ZrO_2 [mass-%]	SiO_2 [mass-%]	Total [mass-%]	Ti [ppm]	Y [ppm]	Hf [ppm]	Th [ppm]	U [ppm]	Ti [ppm]	Th [ppm]	U [ppm]	EMP T [°C]	SIMS T [°C]	Variscan max. T [°C]
EGB-04-S41_29	*1*	*66.64*	*32.03*	*100.04*	*177*	*172*	*13169*	*bdl*	*120*	*248*	*6*	*169*	*1078*	*1132*	*950*
EGB-04-S41_29_1	1	64.77	32.74	98.88	168	145	13190	bdl	97	na	na	na	1069	na	950
EGB-04-S41_30	1	66.54	32.02	99.91	67	195	12990	bdl	250	169	8	272	940	1070	950
EGB-04-S41_31_1	1	65.64	31.58	98.86	42	1308	13586	236	777	50	212	1073	886	906	950
EGB-04-S41_31_2	1	65.58	31.95	99.04	41	504	13224	244	883	na	na	na	882	na	950
EGB-04-S41_31_3	1	65.49	31.89	98.66	45	462	11994	78	423	na	na	na	894	na	950
EGB-04-S41_33	1	64.95	31.18	97.39	68	bdl	12457	bdl	159	98	10	538	944	991	950
EGB-04-S41_34_1	1	64.89	30.60	96.83	bdl	2623	10303	96	243	25	109	681	bdl	829	950
EGB-04-S41_34_2	1	64.85	30.83	97.04	37	880	12219	bdl	478	na	na	na	871	na	950
EGB-04-S41_35	1	64.95	30.85	97.02	125	355	11663	bdl	187	185	22	302	1025	1084	950
EGB-04-S41_36_1	1	65.39	30.93	97.64	bdl	191	12907	bdl	127	42	1596	2062	bdl	885	950
EGB-04-S41_36_2	1	63.87	30.66	97.14	67	298	24126	bdl	bdl	25	61	661	940	830	950
EGB-04-S41_37_1	1	63.66	32.59	98.11	bdl	3353	11872	bdl	256	22	142	506	bdl	817	950
EGB-04-S41_37_2	1	66.13	32.88	100.51	26	330	11872	bdl	390	54	55	364	833	915	950
EGB-04-S41_38	1	66.16	32.73	100.48	116	214	12889	bdl	151	98	4	565	1015	991	950
EGB-04-S41_39	1	66.62	32.80	100.91	91	224	12041	bdl	246	99	4	403	980	993	950
EGB-04-S41_42	1	65.88	32.84	100.16	143	187	11702	bdl	117	183	7	214	1044	1082	950
EGB-04-S41_44	*1*	*66.19*	*32.83*	*100.62*	*225*	*296*	*12720*	*bdl*	*85*	*310*	*7*	*172*	*1116*	*1171*	*950*
EGB-04-S41_46	1	66.02	32.82	100.48	39	482	12380	110	868	46	121	1419	878	896	950
EGB-04-S41_47	1	66.70	32.60	100.74	165	256	11533	bdl	245	189	6	390	1066	1087	950
EGB-04-S41_49_1	1	65.20	32.23	99.35	bdl	3003	12635	55	370	14	68	581	bdl	773	950
EGB-04-S41_49_2	1	na	na	na	na	na	na	na	na	37	193	1159	na	870	950
EGB-04-S41_50_1	1	65.97	32.92	100.16	bdl	690	9929	bdl	126	15	50	346	bdl	779	950
EGB-04-S41_50_2	1	65.61	32.68	99.92	bdl	2128	11363	bdl	176	na	na	na	bdl	na	950
EGB-04-S41_51_1	1	65.45	32.68	99.98	44	2625	12465	bdl	288	59	81	982	891	925	950
EGB-04-S41_51_2	1	65.73	33.04	100.61	30	533	13398	267	1330	na	na	na	846	na	950
EGB-04-S41_53	1	65.57	32.51	99.80	bdl	3091	10854	67	245	12	83	360	bdl	754	950
EGB-04-S41_54	1	66.17	32.70	100.05	bdl	509	9347	bdl	111	20	59	172	bdl	808	950
EGB-04-S41_55	1	65.59	32.92	100.37	35	513	15009	bdl	232	50	28	410	863	906	950
EGB-04-S41_56	*1*	*65.81*	*32.93*	*100.32*	*217*	*304*	*12550*	*bdl*	*150*	*242*	*8*	*281*	*1110*	*1128*	*950*
EGB-04-S41_57_1	1	65.34	32.70	100.03	bdl	2396	13652	147	583	37	125	923	bdl	870	950
EGB-04-S41_57_2	1	64.81	32.39	99.21	25	3821	12465	bdl	458	na	na	na	830	na	950
EGB-04-S41_58	*1*	*65.90*	*32.82*	*100.24*	*159*	*362*	*12041*	*bdl*	*264*	*233*	*22*	*461*	*1061*	*1122*	*950*
EGB-04-S41_59	1	65.12	32.49	99.59	bdl	4176	11702	117	411	17	108	721	bdl	792	950
EGB-04-S41_60_1	1	65.65	33.04	100.26	39	848	11702	249	504	22	282	584	878	814	950
EGB-04-S41_60_2	1	65.54	32.71	100.06	bdl	2091	12550	bdl	525	31	39	563	bdl	849	950
EGB-04-S41_61_1	1	66.42	32.83	100.41	49	339	9180	bdl	135	76	20	162	903	958	950
EGB-04-S41_61_2	1	na	na	na	na	na	na	na	na	49	59	448	na	903	950
EGB-04-S41_63_1	1	61.84	30.80	94.39	41	2245	11787	95	449	na	na	na	883	na	950

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. . . table "zircons, trace element data" continued from page 289

		EMP data								SIMS data			Thermometry results		
Analysis label	Set no.	ZrO_2 [mass-%]	SiO_2 [mass-%]	Total [mass-%]	Ti [ppm]	Y [ppm]	Hf [ppm]	Th [ppm]	U [ppm]	Ti [ppm]	Th [ppm]	U [ppm]	EMP T [°C]	SIMS T [°C]	Variscan max. T [°C]
EGB-04-S41_63_2	1	65.89	32.94	100.37	22	335	11956	65	638	na	na	na	814	na	950
EGB-04-S41_64_1	1	65.05	32.48	99.46	bdl	3758	11278	344	650	39	246	1472	bdl	875	950
EGB-04-S41_64_2	1	66.21	32.69	100.70	26	1415	12804	216	767	na	na	na	833	na	950
EGB-04-S56_II_1	1	65.86	32.56	99.35	bdl	340	9484	51	61	23	34	81	bdl	821	650
EGB-04-S56_II_1_2	1	65.49	31.66	98.35	bdl	405	11678	bdl	141	na	na	na	bdl	na	650
EGB-04-S56_II_2	1	66.11	32.72	99.90	bdl	520	10501	bdl	bdl	14	60	188	bdl	772	650
EGB-04-S56_II_2_2	1	64.60	32.67	98.40	bdl	1042	10350	91	98	na	na	na	bdl	na	650
EGB-04-S56_II_3_1	1	65.55	32.67	99.49	bdl	1899	10641	bdl	150	7	179	423	bdl	708	650
EGB-04-S56_II_3_2	1	65.58	32.66	99.40	bdl	1076	10510	66	135	15	64	235	bdl	779	650
EGB-04-S56_II_4_1	1	65.90	32.66	99.68	bdl	2275	8306	381	325	26	363	1026	bdl	833	650
EGB-04-S56_II_4_2	1	60.98	28.40	92.30	86	10552	11722	1088	2636	na	na	na	974	na	650
EGB-04-S56_II_5	1	66.07	32.61	99.87	bdl	2188	9179	261	313	24	287	377	bdl	824	650
EGB-04-S56_II_5_2	1	65.77	31.89	98.92	bdl	1178	11146	161	239	na	na	na	bdl	na	650
EGB-04-S56_II_6	1	65.57	32.43	99.30	bdl	1910	10801	57	153	14	122	473	bdl	770	650
EGB-04-S56_II_7	1	66.15	32.53	99.79	bdl	1188	9840	156	133	8	205	190	bdl	720	650
EGB-04-S56_II_7_2	1	65.80	31.96	98.83	bdl	635	10225	67	104	na	na	na	bdl	na	650
EGB-04-S56_II_8	1	65.87	32.67	99.65	bdl	1103	10192	bdl	154	9	89	360	bdl	733	650
EGB-04-S56_II_8_2	1	65.93	31.90	99.18	bdl	1727	11538	bdl	161	na	na	na	bdl	na	650
EGB-04-S56_II_11_1	1	65.72	32.50	99.31	bdl	1445	9053	236	441	14	349	874	bdl	770	650
EGB-04-S56_II_11_2	1	62.07	29.70	94.11	40	6945	11933	625	1917	na	na	na	880	na	650
EGB-04-S56_II_13	1	67.10	32.44	100.35	bdl	832	7814	76	133	11	45	132	bdl	750	650
EGB-04-S56_II_13_2	1	66.53	32.17	99.32	bdl	343	6906	bdl	bdl	na	na	na	bdl	na	650
EGB-04-S56_II_14	1	65.81	32.37	99.70	bdl	2035	11556	483	792	10	401	871	bdl	738	650
EGB-04-S56_II_15	1	65.80	32.16	99.72	bdl	385	15737	257	721	6	411	1310	bdl	692	650
EGB-04-S56_II_15_2	1	64.93	32.60	99.32	bdl	174	16348	186	686	na	na	na	bdl	na	650
EGB-04-S56_II_16	1	66.93	32.73	100.66	bdl	245	10181	57	60	7	60	158	bdl	705	650
EGB-04-S56_II_17	1	66.47	32.60	100.24	bdl	988	10529	129	218	12	235	352	bdl	759	650
EGB-04-S56_II_17_2	1	65.07	32.44	98.77	bdl	205	12419	bdl	110	na	na	na	bdl	na	650
EGB-04-S56_II_18	*1*	*61.39*	*28.67*	*92.67*	*148*	*8090*	*11517*	*1172*	*2719*	*540*	*6170*	*6944*	*1050*	*1277*	*650*
EGB-04-S56_II_18_2	1	64.93	32.46	99.19	bdl	1095	15183	174	1007	na	na	na	bdl	na	650
EGB-04-S56_II_20	1	65.27	32.45	99.46	bdl	2947	12455	430	854	4	527	1424	bdl	658	650
EGB-04-S56_II_20_2	1	65.41	32.51	99.56	bdl	1209	13907	221	740	na	na	na	bdl	na	650
EGB-04-S56_II_21_1	1	65.30	32.43	98.98	bdl	817	11360	174	367	na	na	na	bdl	na	650
EGB-04-S56_II_21_2	1	66.73	31.86	99.84	bdl	876	11664	55	92	13	39	193	bdl	767	650
EGB-04-S56_II_22	1	67.40	32.27	101.01	bdl	687	12041	116	638	6	325	1276	bdl	703	650
EGB-04-S56_II_22_2	1	64.81	32.86	98.89	bdl	788	10773	230	586	na	na	na	bdl	na	650
EGB-04-S56_II_23	1	66.85	32.04	99.84	bdl	646	9167	bdl	205	11	77	220	bdl	750	650
EGB-04-S56_II_23_2	1	65.41	32.15	98.67	bdl	254	11095	74	135	na	na	na	bdl	na	650
EGB-04-S56_II_24	*1*	*66.85*	*31.97*	*99.84*	*bdl*	*744*	*9364*	*138*	*408*	*56*	*228*	*738*	*bdl*	*919*	*650*

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. . . table "zircons, trace element data" continued from page 289

		EMP data								SIMS data			Thermometry results		
Analysis label	Set no.	ZrO_2 [mass-%]	SiO_2 [mass-%]	Total [mass-%]	Ti [ppm]	Y [ppm]	Hf [ppm]	Th [ppm]	U [ppm]	Ti [ppm]	Th [ppm]	U [ppm]	EMP T [°C]	SIMS T [°C]	Variscan max. T [°C]
EGB-04-S56_II_24_2	1	65.63	32.17	98.84	bdl	395	10191	98	216	na	na	na	bdl	na	650
EGB-04-S56_II_25	1	65.98	31.58	98.87	bdl	2158	10515	152	219	6	74	147	bdl	700	650
EGB-04-S56_II_25_2	1	65.68	32.07	99.12	bdl	2353	10586	243	307	na	na	na	bdl	na	650
EGB-04-S56_II_26	*1*	*65.79*	*32.02*	*99.13*	*bdl*	*468*	*12413*	*bdl*	*319*	*323*	*1957*	*4508*	*bdl*	*1178*	*650*
EGB-04-S56_II_26_2	1	65.93	32.17	99.57	bdl	1573	11301	367	1191	na	na	na	bdl	na	650
EGB-04-S56_II_28	1	65.48	31.60	98.38	25	1963	10038	339	513	14	62	419	829	769	650
EGB-04-S56_II_28_2	1	65.77	32.83	99.85	bdl	454	11932	110	215	na	na	na	bdl	na	650
EGB-04-S56_II_30	1	66.19	31.64	98.81	bdl	1276	8675	164	150	9	184	165	bdl	735	650
EGB-04-S56_II_30_2	1	65.42	32.82	99.20	bdl	342	9673	74	111	na	na	na	bdl	na	650
EGB-04-S56_II_31	1	65.99	32.04	98.97	bdl	1004	8735	64	96	20	83	231	bdl	805	650
EGB-04-S56_II_32	1	64.98	31.71	98.14	bdl	1284	12367	209	496	24	174	589	bdl	822	650
EGB-04-S56_II_34	1	65.66	31.61	98.29	27	660	9723	94	164	18	108	266	838	797	650
EGB-04-S56_II_36	1	65.83	32.37	99.60	bdl	646	12877	260	170	23	299	281	bdl	822	650
EGB-04-S56_II_37	1	66.45	32.34	99.94	bdl	902	10401	195	333	14	167	361	bdl	770	650
EGB-04-S56_II_39	*1*	*66.20*	*31.76*	*99.39*	*bdl*	*1116*	*11949*	*410*	*676*	*60*	*626*	*1498*	*bdl*	*927*	*650*
EGB-04-S56_II_40_1	1	65.68	33.10	100.33	bdl	574	12041	170	297	9	248	765	bdl	735	650
EGB-04-S56_II_40_2	1	65.82	32.66	100.21	bdl	1492	11956	351	699	na	na	na	bdl	na	650
EGB-04-S56_II_44	1	66.05	33.01	100.53	bdl	361	11448	283	411	8	211	315	bdl	723	650
EGB-04-S56_II_45	1	65.86	32.84	100.09	bdl	1298	9602	417	386	24	201	423	bdl	822	650
EGB-04-S56_II_46_1	1	65.67	32.71	99.90	28	1778	10515	132	206	14	185	394	841	769	650
EGB-04-S56_II_46_2	1	66.18	32.20	100.15	bdl	2342	12041	bdl	457	na	na	na	bdl	na	650
EGB-04-S56_II_47	*1*	*65.34*	*32.91*	*100.18*	*bdl*	*1105*	*14246*	*170*	*647*	*64*	*231*	*802*	*bdl*	*935*	*650*
EGB-04-S56_II_48	1	65.69	32.73	99.74	bdl	886	10091	bdl	112	6	72	187	bdl	697	650
EGB-04-S56_II_49	1	65.94	32.55	99.96	bdl	1484	10261	188	327	12	232	409	bdl	755	650
EGB-04-S56_II_52	1	66.16	32.77	100.52	bdl	727	12296	175	205	9	221	398	bdl	732	650
EGB-04-S56_II_54	1	66.05	32.64	99.81	27	778	8362	142	93	27	120	136	838	835	650
EGB-04-S56_II_55	1	66.59	32.55	100.08	bdl	988	6825	bdl	bdl	8	83	113	bdl	722	650
EGB-04-S56_II_56_1	*1*	*59.59*	*27.42*	*90.46*	*110*	*14961*	*9290*	*1876*	*1912*	*130*	*1806*	*2793*	*1007*	*1030*	*650*
EGB-04-S56_II_56_2	1	66.06	32.86	100.84	bdl	329	14840	bdl	1044	15	29	1894	bdl	776	650
EGB-04-S56_II_59_1	1	65.16	32.11	98.88	bdl	3625	7960	721	1101	61	1247	2404	bdl	928	650
EGB-04-S56_II_59_2	1	66.17	32.89	100.37	bdl	706	10091	bdl	232	3	192	792	bdl	636	650
EGB-04-S56_II_61	*1*	*65.51*	*32.97*	*100.15*	*463*	*2016*	*10854*	*177*	*294*	*na*	*na*	*na*	*1246*	*na*	*650*
EGB-04-S56_II_62	1	66.14	32.69	100.09	bdl	1249	9224	bdl	91	20	167	260	bdl	807	650
EGB-04-S56_II_64	1	66.14	32.61	100.05	bdl	442	10430	bdl	bdl	15	72	151	bdl	781	650
EGB-04-S56_II_65	1	66.29	32.89	100.42	bdl	469	9580	126	243	9	486	895	bdl	727	650
EGB-04-S56_II_66	1	65.75	32.41	99.74	bdl	573	12380	bdl	301	na	na	na	bdl	na	650
EGB-04-S56_II_67_1	1	65.94	32.84	100.34	bdl	929	11787	99	298	11	371	623	bdl	751	650
EGB-04-S56_II_67_2	1	65.44	32.55	99.56	bdl	1602	10600	513	461	na	na	na	bdl	na	650
EGB-04-S56_II_69	1	65.50	32.53	100.19	bdl	784	16281	144	1029	9	182	1260	bdl	734	650

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. . . table "zircons, trace element data" continued from page 289

		EMP data								SIMS data			Thermometry results		
Analysis label	Set no.	ZrO_2 [mass-%]	SiO_2 [mass-%]	Total [mass-%]	Ti [ppm]	Y [ppm]	Hf [ppm]	Th [ppm]	U [ppm]	Ti [ppm]	Th [ppm]	U [ppm]	EMP T [°C]	SIMS T [°C]	Variscan max. T [°C]
EGB-04-S56_69_core	*1*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*108*	*284*	*2453*	*na*	*1004*	*650*
EGB-04-S56_II_70_1	1	65.87	32.59	99.89	bdl	482	10854	194	545	9	324	920	bdl	731	650
EGB-04-S56_II_70_2	1	65.39	33.18	99.90	bdl	422	10515	66	275	na	na	na	bdl	na	650
EGB-04-S56-1	2	67.21	32.76	101.29	bdl	550	10348	bdl	192	na	na	na	bdl	na	650
EGB-04-S56-2c	2	66.90	32.62	100.81	bdl	2804	7664	76	185	na	na	na	bdl	na	650
EGB-04-S56-2r	2	66.85	32.86	100.98	bdl	639	9959	bdl	91	na	na	na	bdl	na	650
EGB-04-S56-3	2	67.08	32.88	101.46	bdl	525	11800	92	225	na	na	na	bdl	na	650
EGB-04-S56-4	2	67.22	32.78	101.32	bdl	313	10718	bdl	83	na	na	na	bdl	na	650
EGB-04-S56-5	2	67.26	32.74	101.36	bdl	553	10750	bdl	75	na	na	na	bdl	na	650
EGB-04-S56-6c	2	67.29	32.86	101.33	bdl	1177	8599	83	69	na	na	na	bdl	na	650
EGB-04-S56-6r	2	67.23	33.00	101.51	bdl	187	10518	bdl	bdl	na	na	na	bdl	na	650
EGB-04-S56-7	2	66.60	32.71	101.05	bdl	1980	11804	240	566	na	na	na	bdl	na	650
EGB-04-S56-8	2	67.15	32.71	101.23	bdl	2167	8698	276	338	na	na	na	bdl	na	650
EGB-04-S56-9	2	66.96	32.70	100.93	bdl	2591	7683	190	102	na	na	na	bdl	na	650
EGB-04-S56-10	2	66.98	32.68	100.74	bdl	1021	7741	107	189	na	na	na	bdl	na	650
EGB-04-S56-11	2	66.61	32.60	100.64	bdl	1388	10227	63	259	na	na	na	bdl	na	650
EGB-04-S56-12	2	65.17	31.81	99.14	bdl	7301	8857	538	1137	na	na	na	bdl	na	650
EGB-04-S56-13	2	66.79	32.35	100.85	bdl	2918	10980	114	257	na	na	na	bdl	na	650
EGB-04-S56-14c	2	66.59	32.73	100.90	bdl	250	12694	bdl	357	na	na	na	bdl	na	650
EGB-04-S56-14r	*2*	*59.54*	*27.65*	*90.46*	*290*	*11319*	*12029*	*1106*	*2176*	*na*	*na*	*na*	*1159*	*na*	*650*
EGB-04-S56-15	2	66.39	32.67	100.46	31	2821	8673	59	88	na	na	na	852	na	650
EGB-04-S56-17	2	66.62	32.73	100.96	bdl	687	12319	bdl	597	na	na	na	bdl	na	650
EGB-04-S56-19	2	65.46	32.48	100.00	bdl	6343	8819	772	1132	na	na	na	bdl	na	650
EGB-04-S56-20	2	66.30	32.85	100.61	29	1313	10524	76	294	na	na	na	843	na	650
EGB-04-S56-20	2	66.36	32.85	100.63	bdl	1429	10161	91	257	na	na	na	bdl	na	650
EGB-04-S56-21	2	66.29	32.63	100.61	bdl	2377	10748	338	660	na	na	na	bdl	na	650
EGB-04-S56-22	2	66.61	32.75	101.20	bdl	423	14736	105	303	na	na	na	bdl	na	650
EGB-04-S56-23	2	66.66	32.75	100.73	bdl	2190	8415	178	361	na	na	na	bdl	na	650
EGB-04-S56-24	2	65.54	32.49	99.92	bdl	5866	8632	444	637	na	na	na	bdl	na	650
EGB-04-S56-25	2	66.24	32.66	100.30	bdl	2489	8840	140	181	na	na	na	bdl	na	650
EGB-04-S56-26	2	66.59	32.55	100.46	bdl	288	10716	bdl	89	na	na	na	bdl	na	650
EGB-04-S56-27	2	66.73	32.70	100.96	bdl	bdl	12653	59	135	na	na	na	bdl	na	650
EGB-04-S56-28	2	66.98	32.46	100.79	bdl	1465	9590	71	182	na	na	na	bdl	na	650
EGB-04-S56-29	2	66.68	32.69	100.64	bdl	1775	8582	132	196	na	na	na	bdl	na	650
EGB-04-S56-30	2	66.81	32.68	100.65	bdl	1123	8418	55	145	na	na	na	bdl	na	650
EGB-04-S56-31	2	66.58	32.60	100.85	bdl	1065	12416	136	409	na	na	na	bdl	na	650
EGB-04-S56-32c	2	66.60	32.74	100.84	bdl	2815	8954	276	411	na	na	na	bdl	na	650
EGB-04-S56-32r	*2*	*56.77*	*25.64*	*86.38*	*191*	*16648*	*10968*	*1398*	*3335*	*na*	*na*	*na*	*1089*	*na*	*650*
EGB-04-S56-33c	2	66.65	32.78	100.67	25	1255	8962	86	156	na	na	na	829	na	650

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. . . table "zircons, trace element data" continued from page 289

		EMP data								SIMS data			Thermometry results		
Analysis label	Set no.	ZrO_2 [mass-%]	SiO_2 [mass-%]	Total [mass-%]	Ti [ppm]	Y [ppm]	Hf [ppm]	Th [ppm]	U [ppm]	Ti [ppm]	Th [ppm]	U [ppm]	EMP T [°C]	SIMS T [°C]	Variscan max. T [°C]
EGB-04-S56-33r	2	66.46	32.80	100.84	bdl	543	12296	96	474	na	na	na	bdl	na	650
EGB-04-S56-34c	2	66.64	32.67	100.79	bdl	1889	9903	180	402	na	na	na	bdl	na	650
EGB-04-S56-34r	2	67.04	32.78	101.08	bdl	848	9464	148	111	na	na	na	bdl	na	650
EGB-04-S56-36	2	66.08	32.23	100.01	22	3414	10418	122	219	na	na	na	816	na	650
EGB-04-S56-37	2	66.91	32.61	100.99	bdl	642	11215	139	334	na	na	na	bdl	na	650
EGB-04-S56-38	2	67.04	32.65	100.88	32	502	9257	72	90	na	na	na	854	na	650
EGB-04-S56-39	2	66.39	32.67	100.90	bdl	865	13963	bdl	685	na	na	na	bdl	na	650
EGB-04-S56-40	2	66.91	32.68	100.94	bdl	809	10297	62	125	na	na	na	bdl	na	650
EGB-04-S56-41c	2	66.68	32.59	100.72	35	1655	10110	186	220	na	na	na	865	na	650
EGB-04-S56-41r	2	66.96	32.45	100.89	bdl	544	11687	68	195	na	na	na	bdl	na	650
EGB-04-S56-45c	2	66.62	32.70	100.95	bdl	413	12655	145	615	na	na	na	bdl	na	650
EGB-04-S56-45r	2	64.68	31.23	98.30	39	4893	12650	764	1620	na	na	na	876	na	650
EGB-04-S56-46c	2	66.48	32.79	100.74	bdl	734	11128	161	410	na	na	na	bdl	na	650
EGB-04-S56-46r	2	66.74	32.77	101.08	bdl	553	12412	bdl	281	na	na	na	bdl	na	650
EGB-04-S56-48	2	66.62	32.73	100.83	bdl	469	11842	70	143	na	na	na	bdl	na	650
EGB-04-S56-49	2	66.68	32.62	100.59	23	1921	8730	80	bdl	na	na	na	819	na	650
EGB-04-S56-50	2	66.78	32.80	100.98	26	597	10961	134	64	na	na	na	834	na	650
EGB-04-S56-51c	2	66.29	32.71	100.56	bdl	2307	8634	1224	971	na	na	na	bdl	na	650
EGB-04-S56-51r	2	67.16	32.70	101.13	bdl	1882	8159	176	317	na	na	na	bdl	na	650
EGB-04-S56-52	2	66.71	32.73	100.98	bdl	1348	11092	182	320	na	na	na	bdl	na	650
EGB-04-S56-53	2	66.69	32.61	100.60	bdl	2073	8664	bdl	54	na	na	na	bdl	na	650
EGB-04-S56-54c	2	66.71	32.66	101.03	bdl	1113	12416	53	383	na	na	na	bdl	na	650
EGB-04-S56-54r	2	66.68	32.72	101.30	bdl	957	14453	136	535	na	na	na	bdl	na	650
EGB-04-S56-55c	2	67.08	32.58	101.19	bdl	1221	10489	344	872	na	na	na	bdl	na	650
EGB-04-S56-55r	2	67.11	32.75	101.19	bdl	365	10578	56	264	na	na	na	bdl	na	650
EGB-04-S56-57	2	67.23	32.83	101.18	bdl	580	8718	101	89	na	na	na	bdl	na	650
EGB-04-S56-58	2	67.01	32.73	101.39	bdl	171	13551	bdl	250	na	na	na	bdl	na	650
EGB-04-S56-59c	2	66.75	32.72	100.80	bdl	1351	9239	163	425	na	na	na	bdl	na	650
EGB-04-S56-59r	2	66.42	32.54	100.70	bdl	1533	11784	354	1018	na	na	na	bdl	na	650
EGB-04-S56-60c	*2*	*52.74*	*22.88*	*80.76*	*634*	*24966*	*9924*	*2648*	*3572*	*na*	*na*	*na*	*1310*	*na*	*650*
EGB-04-S56-60r	2	66.61	32.95	101.05	bdl	780	11270	163	350	na	na	na	bdl	na	650
EGB-04-S56-61	2	66.71	32.79	100.95	35	2141	9350	283	327	na	na	na	864	na	650
EGB-04-S56-62c	2	66.37	32.74	101.06	bdl	1210	14344	158	643	na	na	na	bdl	na	650
EGB-04-S56-62r	2	67.28	32.63	101.27	bdl	1101	9854	234	240	na	na	na	bdl	na	650
EGB-04-S56-63	*2*	*66.85*	*32.76*	*101.11*	*93*	*670*	*11686*	*68*	*103*	*na*	*na*	*na*	*984*	*na*	*650*
EGB-04-S56-64	2	67.27	32.74	101.22	bdl	1627	8098	111	266	na	na	na	bdl	na	650
EGB-04-S56-65	2	66.92	32.83	101.04	22	1774	8882	64	73	na	na	na	816	na	650
EGB-04-S56-66	2	66.03	32.43	100.48	bdl	5743	9043	823	1194	na	na	na	bdl	na	650
EGB-04-S56-67c	2	66.88	32.78	100.97	bdl	1715	8465	200	570	na	na	na	bdl	na	650

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. . . table "zircons, trace element data" continued from page 289

		EMP data								SIMS data			Thermometry results		
Analysis label	Set no.	ZrO_2 [mass-%]	SiO_2 [mass-%]	Total [mass-%]	Ti [ppm]	Y [ppm]	Hf [ppm]	Th [ppm]	U [ppm]	Ti [ppm]	Th [ppm]	U [ppm]	EMP T [°C]	SIMS T [°C]	Variscan max. T [°C]
EGB-04-S56-67r	2	67.24	32.88	101.43	bdl	634	10017	91	338	na	na	na	bdl	na	650
EGB-04-S56-68	2	66.66	32.70	100.97	bdl	2012	10928	234	300	na	na	na	bdl	na	650
EGB-04-S56-69	2	66.27	32.84	101.52	bdl	533	19082	159	686	na	na	na	bdl	na	650
EGB-04-S56-70	2	66.67	32.88	100.96	bdl	2080	8885	490	330	na	na	na	bdl	na	650
EGB-04-S56-71c	2	67.09	32.63	101.16	bdl	2214	8383	523	878	na	na	na	bdl	na	650
EGB-04-S56-71r	2	66.82	32.71	101.16	bdl	1398	10695	584	1063	na	na	na	bdl	na	650
EGB-04-S56-72	2	66.89	32.88	101.18	bdl	395	11208	bdl	299	na	na	na	bdl	na	650
EGB-04-S56-73	2	67.20	32.81	101.38	bdl	543	10799	86	191	na	na	na	bdl	na	650
EGB-04-S56-75	2	67.00	32.85	101.13	bdl	431	10204	bdl	141	na	na	na	bdl	na	650
EGB-04-S56-76	2	66.15	32.46	100.67	bdl	3344	13400	71	398	na	na	na	bdl	na	650
EGB-04-S56-77	2	66.63	32.82	100.84	bdl	1245	9876	231	361	na	na	na	bdl	na	650
EGB-04-S56-78	2	66.96	32.92	101.14	bdl	824	9714	bdl	70	na	na	na	bdl	na	650
EGB-04-S56-79	2	66.87	32.69	100.72	26	805	8844	bdl	62	na	na	na	831	na	650
EGB-04-S56-80c	2	66.73	32.65	100.96	bdl	2610	9932	295	435	na	na	na	bdl	na	650
EGB-04-S56-80r	2	66.78	33.01	101.17	bdl	740	10713	73	214	na	na	na	bdl	na	650
EGB-04-S56-81	2	66.67	32.67	100.96	bdl	2030	10604	310	599	na	na	na	bdl	na	650
EGB-04-S56-82c	2	66.65	32.73	100.91	bdl	2756	9158	332	572	na	na	na	bdl	na	650
EGB-04-S56-82r	2	67.18	32.69	101.42	bdl	1124	10790	472	746	na	na	na	bdl	na	650
EGB-04-S56-83	2	67.04	32.64	100.84	35	747	8849	116	63	na	na	na	865	na	650
EGB-04-S56-84	2	66.16	32.26	100.25	bdl	4481	10413	129	152	na	na	na	bdl	na	650
EGB-04-S56-85	2	66.75	32.90	100.98	38	220	10791	101	76	na	na	na	873	na	650
EGB-04-S56-86c	2	66.66	32.88	101.15	bdl	474	12786	56	254	na	na	na	bdl	na	650
EGB-04-S56-86r	2	66.23	32.91	101.53	bdl	736	18380	61	997	na	na	na	bdl	na	650
EGB-04-S56-87	2	67.42	32.84	101.37	bdl	407	8872	bdl	56	na	na	na	bdl	na	650
EGB-04-S56-88	2	66.60	32.76	101.51	bdl	738	16325	bdl	1140	na	na	na	bdl	na	650
EGB-04-S56-89	2	67.47	32.92	101.23	bdl	354	6721	bdl	64	na	na	na	bdl	na	650
EGB-04-S56-90	2	65.73	32.67	100.22	bdl	5468	8459	448	619	na	na	na	bdl	na	650
EGB-04-S56-92c	2	67.34	32.75	101.20	bdl	236	9095	bdl	48	na	na	na	bdl	na	650
EGB-04-S56-92r	2	66.61	32.71	100.84	bdl	1308	11325	bdl	187	na	na	na	bdl	na	650
EGB-04-S56-93	2	66.75	32.96	101.12	bdl	827	10701	177	200	na	na	na	bdl	na	650
EGB-04-S56-94c	2	66.80	32.78	101.20	23	397	12495	178	642	na	na	na	819	na	650
EGB-04-S56-94r	2	66.79	32.97	101.35	bdl	165	12757	69	412	na	na	na	bdl	na	650
EGB-04-S56-95	2	66.14	32.73	100.53	28	1580	11786	83	514	na	na	na	839	na	650
EGB-04-S56-96	2	67.04	33.07	101.45	bdl	618	10590	bdl	151	na	na	na	bdl	na	650
EGB-04-S56-97	2	66.56	32.69	100.99	bdl	1887	11655	400	652	na	na	na	bdl	na	650
EGB-04-S56-98	2	66.89	32.75	101.06	bdl	760	10745	109	308	na	na	na	bdl	na	650
EGB-04-S56-99c	2	66.71	32.67	100.91	bdl	1577	10686	139	438	na	na	na	bdl	na	650
EGB-04-S56-99r	2	66.50	32.97	101.16	bdl	1516	11981	174	527	na	na	na	bdl	na	650
EGB-04-S56-100	2	67.37	32.86	101.56	bdl	897	10021	158	174	na	na	na	bdl	na	650

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. . . table "zircons, trace element data" continued from page 289

		EMP data								SIMS data			Thermometry results		
Analysis label	Set no.	ZrO_2 [mass-%]	SiO_2 [mass-%]	Total [mass-%]	Ti [ppm]	Y [ppm]	Hf [ppm]	Th [ppm]	U [ppm]	Ti [ppm]	Th [ppm]	U [ppm]	EMP T [°C]	SIMS T [°C]	Variscan max. T [°C]
EGB-04-S56-101	2	67.37	32.80	101.33	bdl	538	9217	bdl	56	na	na	na	bdl	na	650
EGB-04-S56-102	2	66.63	32.61	100.75	46	3344	7430	864	852	na	na	na	894	na	650
EGB-04-S56-103	2	67.07	32.83	101.23	bdl	1017	9957	bdl	154	na	na	na	bdl	na	650
EGB-04-S56-104c	2	67.56	32.81	101.60	bdl	903	9325	bdl	80	na	na	na	bdl	na	650
EGB-04-S56-104r	2	67.05	32.82	101.42	bdl	690	12106	bdl	278	na	na	na	bdl	na	650
EGB-04-S56-105	2	67.17	32.85	101.28	bdl	637	9046	250	734	na	na	na	bdl	na	650
EGB-04-S56-106	2	66.51	32.61	100.85	bdl	2465	11110	300	599	na	na	na	bdl	na	650
EGB-04-S56-108	2	66.57	32.91	100.94	bdl	1496	10576	95	114	na	na	na	bdl	na	650
EGB-04-S56-109	2	66.98	32.90	101.28	bdl	1258	10263	65	201	na	na	na	bdl	na	650
EGB-04-S56-110	2	66.84	32.87	100.99	23	bdl	10632	bdl	122	na	na	na	821	na	650
EGB-04-S56-111c	2	66.75	32.67	101.13	bdl	2028	9859	1388	1127	na	na	na	bdl	na	650
EGB-04-S56-111r	2	66.81	32.86	101.26	bdl	1051	11830	126	357	na	na	na	bdl	na	650
EGB-04-S56-112	2	67.07	32.83	101.31	bdl	1079	10678	bdl	111	na	na	na	bdl	na	650
EGB-04-S56-113c	2	66.79	32.74	101.42	bdl	876	14374	115	548	na	na	na	bdl	na	650
EGB-04-S56-113r	2	67.00	32.92	101.18	bdl	1094	9034	238	251	na	na	na	bdl	na	650
EGB-04-S56-114	2	66.88	32.94	101.20	bdl	1505	9566	178	347	na	na	na	bdl	na	650
EGB-04-S56-115	2	66.91	32.74	101.16	bdl	1754	10802	52	122	na	na	na	bdl	na	650
EGB-04-S56-116c	2	66.52	32.85	100.95	bdl	1528	11406	155	183	na	na	na	bdl	na	650
EGB-04-S56-116r	2	66.92	32.86	101.19	bdl	306	11437	79	bdl	na	na	na	bdl	na	650
EGB-04-S56-117c	2	67.45	32.93	101.73	bdl	465	10711	bdl	207	na	na	na	bdl	na	650
EGB-04-S56-117r	2	67.01	32.76	101.37	bdl	233	12982	bdl	221	na	na	na	bdl	na	650
EGB-04-S56-118c	2	65.90	32.41	100.42	bdl	4521	12238	146	634	na	na	na	bdl	na	650
EGB-04-S56-118r	2	66.16	32.82	101.03	bdl	3443	12765	103	783	na	na	na	bdl	na	650
EGB-04-S56-119	2	66.81	32.74	101.07	bdl	1936	10356	163	219	na	na	na	bdl	na	650
EGB-04-S56-121c	2	67.24	32.62	101.22	bdl	938	9940	207	338	na	na	na	bdl	na	650
EGB-04-S56-121r	2	66.98	32.95	101.35	bdl	955	9683	801	512	na	na	na	bdl	na	650
EGB-04-S56-123c	2	66.92	32.98	101.51	bdl	209	13064	bdl	310	na	na	na	bdl	na	650
EGB-04-S56-123r	2	66.79	32.84	101.13	bdl	1102	10898	180	502	na	na	na	bdl	na	650
EGB-04-S56-124c	*2*	*62.42*	*29.83*	*95.20*	*164*	*8344*	*13708*	*281*	*1843*	*na*	*na*	*na*	*1065*	*na*	*650*
EGB-04-S56-124r	2	66.61	32.85	101.25	bdl	1091	12751	228	1052	na	na	na	bdl	na	650
EGB-04-S56-125c	2	66.72	32.72	101.11	bdl	3021	9669	514	681	na	na	na	bdl	na	650
EGB-04-S56-125r	2	66.96	32.72	101.22	bdl	2265	9851	334	472	na	na	na	bdl	na	650
EGB-04-S56-126c	2	66.85	32.99	101.16	bdl	bdl	11053	bdl	63	na	na	na	bdl	na	650
EGB-04-S56-126r	2	66.98	32.96	101.19	bdl	201	10300	74	57	na	na	na	bdl	na	650
EGB-04-S56-127c	2	66.68	32.96	100.99	bdl	2331	8660	51	194	na	na	na	bdl	na	650
EGB-04-S56-127r	2	66.73	33.07	101.33	bdl	835	11867	bdl	155	na	na	na	bdl	na	650
EGB-04-S56-128c	2	66.82	32.91	101.07	bdl	1304	9523	143	330	na	na	na	bdl	na	650
EGB-04-S56-128r	2	66.20	33.13	101.00	bdl	1076	12535	84	415	na	na	na	bdl	na	650
EGB-04-S56-129	2	67.00	33.06	101.30	22	661	9680	bdl	81	na	na	na	816	na	650

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. . . table "zircons, trace element data" continued from page 289

		EMP data								SIMS data			Thermometry results		
Analysis label	Set no.	ZrO_2 [mass-%]	SiO_2 [mass-%]	Total [mass-%]	Ti [ppm]	Y [ppm]	Hf [ppm]	Th [ppm]	U [ppm]	Ti [ppm]	Th [ppm]	U [ppm]	EMP T [°C]	SIMS T [°C]	Variscan max. T [°C]
EGB-04-S56-130c	2	66.06	32.82	100.79	bdl	2947	12190	244	648	na	na	na	bdl	na	650
EGB-04-S56-130r	2	65.86	33.31	101.13	bdl	1849	13864	207	546	na	na	na	bdl	na	650
EGB-04-S56-131c	2	66.87	32.87	101.37	bdl	463	12954	bdl	257	na	na	na	bdl	na	650
EGB-04-S56-131r	2	66.87	32.66	101.35	bdl	1488	12379	260	1203	na	na	na	bdl	na	650
EGB-04-S56-132c	2	67.17	32.79	101.02	bdl	302	8578	bdl	59	na	na	na	bdl	na	650
EGB-04-S56-132r	2	67.48	32.85	101.69	bdl	229	11201	bdl	55	na	na	na	bdl	na	650
EGB-04-S56-134c	2	67.08	32.89	101.26	bdl	1198	9164	240	244	na	na	na	bdl	na	650
EGB-04-S56-134r	2	65.95	32.65	100.62	bdl	3156	13251	bdl	501	na	na	na	bdl	na	650
EGB-04-S56-135	2	66.98	32.82	101.18	bdl	826	10440	93	317	na	na	na	bdl	na	650
EGB-04-S56-138	2	66.76	32.97	101.09	28	917	10404	bdl	107	na	na	na	839	na	650
EGB-04-S56-140c	2	66.82	32.76	101.04	bdl	1836	9273	329	740	na	na	na	bdl	na	650
EGB-04-S56-140r	2	66.33	33.41	101.11	bdl	113	11469	bdl	54	na	na	na	bdl	na	650
EGB-04-S56-141c	2	66.86	32.83	101.44	bdl	1653	11959	326	741	na	na	na	bdl	na	650
EGB-04-S56-141r	2	67.45	32.86	101.68	bdl	232	11272	bdl	bdl	na	na	na	bdl	na	650
EGB-04-S56-142c	2	67.36	33.05	101.61	bdl	984	8950	92	95	na	na	na	bdl	na	650
EGB-04-S56-142r	2	67.69	32.81	101.66	bdl	524	9147	bdl	102	na	na	na	bdl	na	650
EGB-04-S56-144	2	66.60	32.99	101.18	bdl	1238	11922	64	214	na	na	na	bdl	na	650
EGB-04-S56-145	2	66.90	32.90	101.22	bdl	791	10992	bdl	246	na	na	na	bdl	na	650
EGB-04-S56-146	2	66.74	32.93	101.13	bdl	991	11226	bdl	83	na	na	na	bdl	na	650
EGB-04-S56-147	2	67.13	32.80	101.24	29	643	10416	bdl	bdl	na	na	na	843	na	650
EGB-04-S56-148r	2	67.22	32.81	101.64	bdl	357	12292	bdl	978	na	na	na	bdl	na	650
EGB-04-S56-149c	2	66.89	33.03	101.53	bdl	1158	11911	127	276	na	na	na	bdl	na	650
EGB-04-S56-149r	2	67.44	32.59	101.77	bdl	1873	11825	371	652	na	na	na	bdl	na	650
EGB-04-S56-150	2	67.27	32.82	101.37	bdl	968	9712	55	58	na	na	na	bdl	na	650
EGB-04-S56-152	2	67.01	32.91	101.38	bdl	1173	10701	69	248	na	na	na	bdl	na	650
EGB-04-S56-153c	2	66.98	32.74	101.17	bdl	2012	9270	411	457	na	na	na	bdl	na	650
EGB-04-S56-153r	2	67.15	32.78	101.32	bdl	641	10692	75	279	na	na	na	bdl	na	650
EGB-04-S56-154c	2	67.40	32.80	101.73	bdl	1130	11566	69	86	na	na	na	bdl	na	650
EGB-04-S56-154r	2	66.63	32.61	101.31	bdl	1177	15866	bdl	395	na	na	na	bdl	na	650
EGB-04-S56-155c	2	67.00	32.87	101.24	bdl	1557	9568	205	171	na	na	na	bdl	na	650
EGB-04-S56-155r	2	66.65	32.60	101.12	bdl	1578	12887	228	1149	na	na	na	bdl	na	650
EGB-04-S56-156c	2	67.02	32.80	101.24	bdl	1906	8883	555	486	na	na	na	bdl	na	650
EGB-04-S56-156r	2	67.49	32.75	101.41	bdl	379	9376	54	93	na	na	na	bdl	na	650
EGB-04-S56-157c	2	67.38	33.02	101.88	bdl	601	11578	134	296	na	na	na	bdl	na	650
EGB-04-S56-157r	2	66.26	33.01	101.20	bdl	1096	14567	bdl	639	na	na	na	bdl	na	650
EGB-04-S56-158c	2	67.09	32.87	101.35	bdl	1092	10210	124	333	na	na	na	bdl	na	650
EGB-04-S56-158r	2	67.57	32.71	101.55	bdl	999	9129	165	364	na	na	na	bdl	na	650
EGB-04-S56-159	2	67.47	32.83	101.61	26	1081	9564	104	299	na	na	na	831	na	650
EGB-04-S56-160	2	66.83	32.79	101.02	bdl	827	10780	bdl	146	na	na	na	bdl	na	650

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. . . table "zircons, trace element data" continued from page 289

		EMP data								SIMS data			Thermometry results		
Analysis label	Set no.	ZrO_2 [mass-%]	SiO_2 [mass-%]	Total [mass-%]	Ti [ppm]	Y [ppm]	Hf [ppm]	Th [ppm]	U [ppm]	Ti [ppm]	Th [ppm]	U [ppm]	EMP T [°C]	SIMS T [°C]	Variscan max. T [°C]
EGB-05-S55_3	1	65.55	32.72	99.35	bdl	487	10524	82	221	7	131	467	bdl	709	800
EGB-05-S55_3_2	1	65.00	32.43	98.73	bdl	367	12093	129	520	na	na	na	bdl	na	800
EGB-05-S55_23	1	65.52	32.46	99.22	bdl	1396	10570	198	351	12	240	569	bdl	754	800
EGB-05-S55_23_1	1	64.81	31.93	97.97	bdl	2167	9256	418	431	na	na	na	bdl	na	800
EGB-05-S55_38_1	1	64.80	31.25	97.23	bdl	1787	8990	511	637	na	na	na	bdl	na	800
EGB-05-S55_38_2	1	65.32	31.25	97.47	bdl	328	9200	bdl	184	na	na	na	bdl	na	800
EGB-05-S55_38_3	1	64.44	30.89	96.88	bdl	2854	11894	bdl	296	na	na	na	bdl	na	800
EGB-05-S55_42	1	65.52	32.56	99.18	bdl	2504	8222	192	283	na	na	na	bdl	na	800
EGB-05-S55_42_2	1	64.54	32.38	98.28	bdl	773	12320	180	335	14	173	325	bdl	770	800
EGB-05-S55_56_1	1	65.76	32.82	99.52	bdl	489	9321	98	87	14	150	269	bdl	773	800
EGB-05-S55_56_2	1	66.05	32.76	100.19	bdl	496	12701	57	519	6	61	907	bdl	700	800
EGB-05-S55-3	2	65.91	32.81	100.06	29	1609	8764	465	353	na	na	na	843	na	800
EGB-05-S55-4	2	65.41	32.93	99.97	bdl	1965	11192	175	375	na	na	na	bdl	na	800
EGB-05-S55-12c	2	65.86	32.88	100.07	bdl	1082	9676	175	231	na	na	na	bdl	na	800
EGB-05-S55-12r	2	66.20	32.99	100.37	65	709	9010	53	120	na	na	na	938	na	800
EGB-05-S55-16c	2	65.79	32.85	100.03	bdl	2846	8024	301	453	na	na	na	bdl	na	800
EGB-05-S55-16r	2	66.45	32.72	100.29	bdl	613	8674	bdl	152	na	na	na	bdl	na	800
EGB-05-S55-20c	2	66.14	33.01	100.43	bdl	1070	9533	103	125	na	na	na	bdl	na	800
EGB-05-S55-20r	2	66.48	32.95	100.83	bdl	224	11318	bdl	257	na	na	na	bdl	na	800
EGB-05-S55-22c	2	65.77	32.53	99.97	bdl	2152	10389	555	1034	na	na	na	bdl	na	800
EGB-05-S55-22r	2	65.93	32.87	100.20	bdl	458	10930	104	310	na	na	na	bdl	na	800
EGB-05-S55-25	2	65.41	32.55	99.92	bdl	4807	9717	808	1001	na	na	na	bdl	na	800
EGB-05-S55-26	2	65.65	32.64	100.09	27	2006	12581	300	245	na	na	na	836	na	800
EGB-05-S55-27c	2	65.87	32.29	99.61	bdl	2538	9150	148	218	na	na	na	bdl	na	800
EGB-05-S55-27r	2	65.61	32.49	99.55	bdl	2879	8768	126	289	na	na	na	bdl	na	800
EGB-05-S55-29	2	66.01	32.35	100.02	bdl	501	13309	61	237	na	na	na	bdl	na	800
EGB-05-S55-31	2	66.34	32.64	100.19	bdl	584	7544	1214	1004	na	na	na	bdl	na	800
EGB-05-S55-37	2	66.78	32.56	100.64	bdl	866	9949	bdl	89	na	na	na	bdl	na	800
EGB-05-S55-38	2	67.09	32.47	100.67	28	619	8744	bdl	bdl	na	na	na	841	na	800
EGB-05-S55-39	2	67.04	32.68	101.07	bdl	383	10764	bdl	148	na	na	na	bdl	na	800
EGB-05-S55-40	2	66.25	32.61	100.24	bdl	1305	9974	59	211	na	na	na	bdl	na	800
EGB-05-S55-41	2	66.14	32.37	100.11	bdl	1976	10533	407	553	na	na	na	bdl	na	800
EGB-05-S55-42c	2	67.16	32.26	100.43	bdl	210	8313	bdl	bdl	na	na	na	bdl	na	800
EGB-05-S55-42r	2	66.59	32.63	100.50	bdl	274	10577	bdl	bdl	na	na	na	bdl	na	800
EGB-05-S55-43	2	66.08	32.32	100.12	24	461	13852	62	66	na	na	na	824	na	800
EGB-05-S55-44	2	66.39	32.34	100.10	bdl	2767	7706	315	617	na	na	na	bdl	na	800
EGB-05-S55-45r	2	66.76	32.48	100.38	bdl	1030	8175	120	251	na	na	na	bdl	na	800
EGB-05-S55-45c	2	66.87	32.27	100.52	bdl	1882	9300	164	229	na	na	na	bdl	na	800
EGB-05-S55-46	2	65.34	32.15	99.59	bdl	5655	9110	1342	1339	na	na	na	bdl	na	800

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. . . table "zircons, trace element data" continued from page 289

		EMP data								SIMS data			Thermometry results		
Analysis label	Set no.	ZrO_2 [mass-%]	SiO_2 [mass-%]	Total [mass-%]	Ti [ppm]	Y [ppm]	Hf [ppm]	Th [ppm]	U [ppm]	Ti [ppm]	Th [ppm]	U [ppm]	EMP T [°C]	SIMS T [°C]	Variscan max. T [°C]
EGB-05-S55-51	2	66.19	32.44	100.23	bdl	2299	10506	181	385	na	na	na	bdl	na	800
EGB-05-S55-53	2	66.50	32.48	100.52	bdl	1284	11293	119	217	na	na	na	bdl	na	800
EGB-05-S55-56	2	66.30	32.10	100.07	71	2132	10446	527	800	na	na	na	948	na	800
EGB-05-S55-57	2	67.13	32.52	100.71	bdl	365	8300	53	169	na	na	na	bdl	na	800
EGB-05-S55-59	2	66.14	32.25	99.86	bdl	3839	7417	538	287	na	na	na	bdl	na	800
EGB-05-S55-60	2	66.97	32.44	100.71	bdl	1369	8929	170	436	na	na	na	bdl	na	800
EGB-05-S55-61	2	65.22	31.88	99.31	27	4983	12498	164	617	na	na	na	836	na	800
EGB-05-S55-62c	2	66.36	32.20	100.20	bdl	1737	11318	206	528	na	na	na	bdl	na	800
EGB-05-S55-62r	2	66.81	32.58	100.76	bdl	962	10103	97	312	na	na	na	bdl	na	800
EGB-05-S55-63	2	66.71	32.74	101.00	bdl	403	12165	109	402	na	na	na	bdl	na	800
EGB-05-S55-64	2	66.90	32.41	100.50	31	1150	8606	98	223	na	na	na	850	na	800
EGB-05-S55-65	2	66.10	32.26	100.14	bdl	334	14080	bdl	644	na	na	na	bdl	na	800
EGB-05-S55-67	2	66.70	32.44	100.57	bdl	1072	10618	95	247	na	na	na	bdl	na	800
EGB-05-S55-72c	2	66.93	32.45	100.54	bdl	633	8846	164	100	na	na	na	bdl	na	800
EGB-05-S55-72r	2	67.27	32.45	100.82	bdl	228	9051	bdl	bdl	na	na	na	bdl	na	800
EGB-05-S55-73	2	66.72	32.77	100.83	bdl	1255	9573	91	341	na	na	na	bdl	na	800
EGB-05-S55-74c	2	66.63	32.60	100.73	bdl	329	11576	bdl	676	na	na	na	bdl	na	800
EGB-05-S55-74r	2	66.51	32.47	100.91	bdl	536	14405	bdl	1444	na	na	na	bdl	na	800
EGB-05-S55-75	2	66.69	32.33	100.35	bdl	1587	9410	bdl	98	na	na	na	bdl	na	800
EGB-05-S55-77	2	66.21	32.21	100.11	bdl	1643	12026	253	318	na	na	na	bdl	na	800
EGB-05-S55-80c	2	66.67	32.61	100.80	bdl	1290	10958	156	402	na	na	na	bdl	na	800
EGB-05-S55-80r	2	66.54	32.75	100.96	bdl	711	12930	91	417	na	na	na	bdl	na	800
EGB-05-S55-82c	2	66.76	32.49	100.79	bdl	813	11870	75	316	na	na	na	bdl	na	800
EGB-05-S55-82r	2	66.28	32.83	100.68	bdl	707	12140	100	305	na	na	na	bdl	na	800
EGB-05-S55-83	2	66.61	32.39	100.22	bdl	499	9770	bdl	bdl	na	na	na	bdl	na	800
EGB-05-S55-84	2	67.16	32.45	101.05	bdl	726	11176	62	105	na	na	na	bdl	na	800
EGB-05-S55-85	2	66.65	32.02	99.92	44	1457	8848	69	bdl	na	na	na	890	na	800
EGB-05-S55-86	2	66.96	32.40	100.68	bdl	1076	9819	133	103	na	na	na	bdl	na	800
EGB-05-S55-87	2	66.86	32.40	101.06	bdl	954	12995	258	1026	na	na	na	bdl	na	800
EGB-05-S55-90	2	66.37	32.40	100.40	bdl	3535	9097	352	564	na	na	na	bdl	na	800
EGB-05-S55-91	2	67.32	32.48	101.01	bdl	458	9687	bdl	56	na	na	na	bdl	na	800
EGB-05-S55-92	2	66.21	32.50	100.59	bdl	2603	12877	bdl	257	na	na	na	bdl	na	800
EGB-05-S55-93	2	66.46	32.82	100.75	bdl	1928	9838	198	316	na	na	na	bdl	na	800
EGB-05-S55-93r	2	66.97	32.93	101.61	bdl	bdl	14076	bdl	335	na	na	na	bdl	na	800
EGB-05-S55-94c	2	67.14	32.94	101.45	bdl	447	10896	77	204	na	na	na	bdl	na	800
EGB-05-S55-94r	2	66.61	32.82	101.04	bdl	375	11832	214	1285	na	na	na	bdl	na	800
EGB-05-S55-95	2	66.26	32.85	100.75	bdl	2689	10328	237	433	na	na	na	bdl	na	800
EGB-05-S55-97	2	66.79	32.79	100.85	bdl	765	9648	162	129	na	na	na	bdl	na	800
EGB-05-S55-98	2	65.86	32.57	100.32	bdl	2407	13072	78	235	na	na	na	bdl	na	800

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. . . table "zircons, trace element data" continued from page 289

		EMP data								SIMS data			Thermometry results		
Analysis label	Set no.	ZrO_2 [mass-%]	SiO_2 [mass-%]	Total [mass-%]	Ti [ppm]	Y [ppm]	Hf [ppm]	Th [ppm]	U [ppm]	Ti [ppm]	Th [ppm]	U [ppm]	EMP T [°C]	SIMS T [°C]	Variscan max. T [°C]
EGB-05-S55-99	2	66.19	32.68	100.56	bdl	2966	10077	316	690	na	na	na	bdl	na	800
EGB-05-S55-101	2	67.06	32.95	101.26	bdl	625	9793	131	bdl	na	na	na	bdl	na	800
EGB-05-S55-102c	2	66.41	32.78	100.84	bdl	3276	9691	337	457	na	na	na	bdl	na	800
EGB-05-S55-102r	2	65.56	32.70	100.33	bdl	3656	13125	bdl	504	na	na	na	bdl	na	800
EGB-05-S55-103	2	66.85	32.85	100.62	31	1102	6383	bdl	182	na	na	na	850	na	800
EGB-05-S55-104c	2	66.90	32.84	101.09	bdl	998	10256	bdl	83	na	na	na	bdl	na	800
EGB-05-S55-104r	2	67.18	32.76	101.29	bdl	350	10775	bdl	282	na	na	na	bdl	na	800
EGB-05-S55-105c	2	66.80	33.00	101.07	bdl	299	10278	bdl	bdl	na	na	na	bdl	na	800
EGB-05-S55-105r	2	66.03	32.58	100.54	bdl	2881	12958	bdl	278	na	na	na	bdl	na	800
EGB-05-S55-108	2	66.94	32.91	100.91	33	543	8336	bdl	bdl	na	na	na	858	na	800
EGB-05-S55-109	2	66.65	32.95	101.01	bdl	1683	8907	619	713	na	na	na	bdl	na	800
EGB-05-S55-110	2	66.01	32.66	100.59	bdl	2047	13899	bdl	73	na	na	na	bdl	na	800
EGB-05-S55-111	2	67.13	32.77	101.29	bdl	932	10609	54	94	na	na	na	bdl	na	800
EGB-05-S55-112	2	66.63	32.77	101.10	bdl	437	13803	bdl	169	na	na	na	bdl	na	800
EGB-05-S55-113	2	67.28	32.87	101.68	bdl	413	11297	bdl	1171	na	na	na	bdl	na	800
EGB-05-S55-114	2	67.36	32.86	101.41	bdl	214	9766	bdl	119	na	na	na	bdl	na	800
EGB-05-S55-115c	2	66.75	32.93	101.12	bdl	285	11705	bdl	123	na	na	na	bdl	na	800
EGB-05-S55-115r	2	66.98	33.01	101.29	bdl	183	10791	bdl	74	na	na	na	bdl	na	800
EGB-05-S55-116	2	66.90	32.87	101.12	bdl	933	10055	155	218	na	na	na	bdl	na	800
EGB-05-S55-117	2	65.75	32.49	100.07	bdl	4578	9041	649	940	na	na	na	bdl	na	800
EGB-05-S55-118	2	66.88	32.89	100.96	28	509	9491	bdl	bdl	na	na	na	839	na	800
EGB-05-S55-119	2	67.68	32.82	101.45	23	172	7759	bdl	78	na	na	na	819	na	800
EGB-05-S55-120c	2	66.94	32.63	100.90	bdl	1088	9769	124	182	na	na	na	bdl	na	800
EGB-05-S55-120r	2	66.64	32.78	100.99	bdl	658	11937	141	556	na	na	na	bdl	na	800
EGB-05-S55-121	2	66.84	32.72	101.26	bdl	475	13024	54	826	na	na	na	bdl	na	800
EGB-05-S55-123	2	67.07	32.57	101.01	bdl	465	10970	bdl	71	na	na	na	bdl	na	800
EGB-05-S55-124	2	66.45	32.66	100.71	bdl	1981	9221	916	1295	na	na	na	bdl	na	800
EGB-05-S55-127c	2	66.98	32.89	101.15	bdl	283	10529	bdl	bdl	na	na	na	bdl	na	800
EGB-05-S55-127r	2	66.82	32.84	101.10	bdl	787	10877	82	358	na	na	na	bdl	na	800
EGB-05-S55-128	2	66.72	32.71	100.98	bdl	965	11564	182	385	na	na	na	bdl	na	800
EGB-05-S55-129	2	66.66	32.46	100.71	bdl	1726	11180	52	347	na	na	na	bdl	na	800
EGB-05-S55-134	2	65.79	32.32	100.43	29	7302	8779	1842	1272	na	na	na	843	na	800
EGB-05-S55-136	2	65.92	32.50	100.28	bdl	5685	8340	576	809	na	na	na	bdl	na	800
EGB-05-S55-139	2	67.08	32.73	101.30	bdl	1991	10015	126	341	na	na	na	bdl	na	800
EGB-05-S55-140c	2	66.99	32.76	101.06	bdl	1957	8337	83	639	na	na	na	bdl	na	800
EGB-05-S55-140r	2	66.64	32.93	100.90	bdl	1645	8914	86	576	na	na	na	bdl	na	800
EGB-05-S55-142	2	67.26	32.87	101.44	bdl	611	10416	67	bdl	na	na	na	bdl	na	800
EGB-05-S55-145	2	67.34	32.84	101.47	bdl	254	10519	bdl	110	na	na	na	bdl	na	800
EGB-05-S55-148	2	66.95	32.78	101.17	26	686	11078	89	205	na	na	na	834	na	800

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. . . table "zircons, trace element data" continued from page 289

		EMP data								SIMS data			Thermometry results		
Analysis label	Set no.	ZrO_2 [mass-%]	SiO_2 [mass-%]	Total [mass-%]	Ti [ppm]	Y [ppm]	Hf [ppm]	Th [ppm]	U [ppm]	Ti [ppm]	Th [ppm]	U [ppm]	EMP T [°C]	SIMS T [°C]	Variscan max. T [°C]
EGB-05-S55-151	2	66.46	32.57	100.82	28	4308	8854	783	916	na	na	na	841	na	800
EGB-05-S55-152	2	66.73	32.63	101.12	bdl	2076	11504	383	850	na	na	na	bdl	na	800
EGB-05-S55-155c	2	66.65	32.73	100.77	bdl	2343	9061	98	139	na	na	na	bdl	na	800
EGB-05-S55-155r	2	66.92	33.12	101.68	bdl	bdl	13596	bdl	362	na	na	na	bdl	na	800
EGB-05-S55-155r	2	66.53	33.17	101.35	bdl	bdl	13536	bdl	361	na	na	na	bdl	na	800
EGB-05-S55-156	2	67.09	32.77	101.36	bdl	634	11536	134	330	na	na	na	bdl	na	800
EGB-05-S55-157c	2	66.70	32.84	101.45	bdl	1276	13303	393	1127	na	na	na	bdl	na	800
EGB-05-S55-157r	2	66.89	32.89	101.18	bdl	861	10545	161	262	na	na	na	bdl	na	800
EGB-05-S55-159c	2	67.02	32.81	101.23	bdl	1149	10356	116	173	na	na	na	bdl	na	800
EGB-05-S55-159r	2	66.64	32.78	101.04	bdl	1003	12302	62	289	na	na	na	bdl	na	800
EGB-05-S55-163r	2	67.25	32.95	101.54	bdl	441	10668	bdl	175	na	na	na	bdl	na	800
EGB-05-S55-163r	2	66.32	32.98	101.36	bdl	1054	14940	64	1410	na	na	na	bdl	na	800
EGB-05-S55-165c	2	66.82	32.76	100.99	28	1269	10425	77	87	na	na	na	841	na	800
EGB-05-S55-165r	2	66.30	32.58	100.60	22	1902	12286	bdl	165	na	na	na	816	na	800
EGB-05-S55-166c	2	67.10	32.79	101.12	bdl	978	9270	99	bdl	na	na	na	bdl	na	800
EGB-05-S55-166r	2	66.91	32.75	100.75	28	609	8430	81	bdl	na	na	na	839	na	800
EGB-05-S55-170c	2	66.64	32.88	101.45	bdl	895	14466	259	743	na	na	na	bdl	na	800
EGB-05-S55-170r	2	66.59	32.38	100.68	bdl	2868	11070	bdl	227	na	na	na	bdl	na	800
EGB-05-S55-174	2	67.14	32.77	101.24	bdl	1769	9106	78	170	na	na	na	bdl	na	800
EGB-05-S55-178c	2	67.00	32.98	101.56	bdl	459	12578	bdl	289	na	na	na	bdl	na	800
EGB-05-S55-178r	2	66.99	32.87	101.53	bdl	962	12205	209	764	na	na	na	bdl	na	800
EGB-05-S55-179	2	67.44	32.75	101.43	38	409	9995	bdl	bdl	na	na	na	875	na	800
EGB-05-S55-180	2	66.78	32.60	101.13	bdl	1380	13069	bdl	212	na	na	na	bdl	na	800
EGB-05-S55-182	2	65.98	32.42	100.52	bdl	3120	14011	bdl	649	na	na	na	bdl	na	800
EGB-05-S55-185	2	67.08	32.87	101.22	bdl	592	10070	bdl	bdl	na	na	na	bdl	na	800
EGB-05-S55-187c	2	67.16	32.77	101.05	bdl	1681	7104	158	435	na	na	na	bdl	na	800
EGB-05-S55-187r	2	66.94	32.77	101.20	bdl	1773	9593	230	959	na	na	na	bdl	na	800
EGB-05-S55-188	2	66.11	32.48	100.57	81	5125	9456	801	1020	na	na	na	965	na	800
EGB-05-S55-190	2	66.02	32.28	100.40	bdl	3720	12896	552	435	na	na	na	bdl	na	800
EGB-05-S55-191	2	67.39	32.74	101.58	bdl	2519	8848	308	342	na	na	na	bdl	na	800
EGB-05-S55-192	2	67.28	32.73	101.29	23	831	9887	bdl	bdl	na	na	na	819	na	800
EGB-05-S55-196	2	66.88	32.66	101.04	bdl	1024	11449	bdl	153	na	na	na	bdl	na	800
EGB-05-S55-202	2	67.62	32.70	101.55	bdl	1954	7911	103	249	na	na	na	bdl	na	800
EGB-05-S64_1	1	66.30	32.83	100.13	bdl	653	9692	90	127	10	140	257	bdl	742	480
EGB-05-S64_1_2	1	65.27	32.61	99.02	bdl	1004	10309	166	269	na	na	na	bdl	na	480
EGB-05-S65_5	1	66.22	32.95	100.26	bdl	467	10474	142	248	11	105	342	bdl	748	550
EGB-05-S65_5	1	65.32	32.52	98.85	bdl	887	9197	150	282	na	na	na	bdl	na	550
EGB-05-S65_17	1	66.27	32.98	100.56	bdl	695	11489	421	586	5	538	738	bdl	677	550
EGB-05-S65_17_1	1	65.48	32.49	98.98	bdl	1053	9197	164	159	na	na	na	bdl	na	550

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. . . table "zircons, trace element data" continued from page 289

		EMP data								SIMS data			Thermometry results		
Analysis label	Set no.	ZrO_2 [mass-%]	SiO_2 [mass-%]	Total [mass-%]	Ti [ppm]	Y [ppm]	Hf [ppm]	Th [ppm]	U [ppm]	Ti [ppm]	Th [ppm]	U [ppm]	EMP T [°C]	SIMS T [°C]	Variscan max. T [°C]
EGB-05-S65_17_2	1	65.63	32.53	99.26	bdl	265	11122	bdl	bdl	na	na	na	bdl	na	550
EGB-05-S65_18	1	66.40	32.66	99.97	bdl	803	8880	bdl	48	18	35	72	bdl	796	550
EGB-05-S65_18_2	1	65.48	32.30	99.01	bdl	511	11833	bdl	119	na	na	na	bdl	na	550
EGB-05-S65_21	1	66.04	32.83	99.95	bdl	761	9990	129	367	5	140	602	bdl	675	550
EGB-05-S65_21_2	1	64.65	32.13	97.84	bdl	626	10048	115	173	na	na	na	bdl	na	550
EGB-05-S65-1	2	66.92	32.84	101.13	bdl	1696	9186	248	348	na	na	na	bdl	na	550
EGB-05-S65-5	2	66.57	32.65	101.06	bdl	1379	13591	99	459	na	na	na	bdl	na	550
EGB-05-S65-6	2	66.76	32.80	101.11	bdl	1058	10491	177	1316	na	na	na	bdl	na	550
EGB-05-S68_4_1	1	64.86	32.10	98.23	28	991	10782	377	656	25	1776	1696	841	830	-
EGB-05-S68_4_2	1	57.26	28.68	89.88	bdl	5355	19227	423	10499	22	654	12309	bdl	814	-
EGB-05-S68_8_1	1	64.63	32.36	98.29	24	2358	8907	737	854	43	433	500	822	887	-
EGB-05-S68_8_2	*1*	*48.95*	*21.65*	*77.81*	*436*	*32757*	*16165*	*1752*	*9647*	*na*	*na*	*na*	*1234*	*na*	-
EGB-05-S68_8_3	*1*	*52.20*	*24.68*	*82.23*	*380*	*18269*	*15496*	*1942*	*10211*	*na*	*na*	*na*	*1208*	*na*	-
EGB-05-S68_11_1	1	65.79	32.54	99.38	bdl	1517	8665	350	312	7	996	3219	bdl	715	-
EGB-05-S68_11_2	1	65.84	32.54	100.19	bdl	1602	12784	474	2608	na	na	na	bdl	na	-
EGB-05-S68_12	1	66.28	32.58	99.76	bdl	465	9080	bdl	bdl	23	423	440	bdl	821	-
EGB-05-S68_13_1	*1*	*56.66*	*27.41*	*88.50*	*161*	*18741*	*7886*	*9653*	*1885*	*114*	*7043*	*2355*	*1063*	*1012*	-
EGB-05-S68_13_2	*1*	*51.73*	*25.25*	*83.51*	*147*	*15198*	*28611*	*5520*	*7290*	*na*	*na*	*na*	*1049*	*na*	-
EGB-05-S68_14	1	65.55	32.61	100.11	bdl	1806	12565	1250	3119	9	801	2382	bdl	734	-
EGB-05-S68_15	*1*	*66.26*	*32.41*	*100.43*	*33*	*566*	*13189*	*2558*	*769*	*226*	*1478*	*1406*	*857*	*1116*	-
EGB-05-S68_16_1	1	65.30	32.64	99.00	bdl	1568	8711	294	342	na	na	na	bdl	na	-
EGB-05-S68_16_2	*1*	*60.65*	*29.52*	*92.85*	*122*	*8378*	*12175*	*764*	*2808*	*na*	*na*	*na*	*1022*	*na*	-
EGB-05-S68_17	1	64.78	32.47	98.60	bdl	3447	8121	912	775	44	2854	2216	bdl	891	-
EGB-05-S68_19	1	56.19	27.66	87.10	bdl	3836	17323	545	8058	38	1417	13770	bdl	875	-
EGB-05-S68_20_core	*1*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*143*	*5225*	*4411*	*na*	*1045*	-
EGB-05-S68_20_rim	*1*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*346*	*16462*	*17423*	*na*	*1190*	-
EGB-06-S33_1_2	1	66.71	32.70	100.76	bdl	320	10854	bdl	157	na	na	na	bdl	na	400
EGB-06-S33_1_1	1	66.70	32.75	100.98	bdl	158	12296	bdl	537	na	na	na	bdl	na	400
EGB-06-S33_3_1	1	66.37	32.78	100.63	bdl	413	11702	61	270	na	na	na	bdl	na	400
EGB-06-S33_3_2	1	66.28	32.60	100.45	bdl	884	11617	127	515	na	na	na	bdl	na	400
EGB-06-S33_6	1	65.68	32.62	100.09	bdl	1569	12635	301	527	na	na	na	bdl	na	400
EGB-06-S33_7	1	66.06	32.71	100.29	bdl	565	11787	127	338	na	na	na	bdl	na	400
EGB-06-S33_8	1	65.88	32.64	99.98	bdl	1651	9899	510	299	na	na	na	bdl	na	400
EGB-06-S33_9	1	66.50	32.76	100.76	bdl	1242	10515	bdl	877	na	na	na	bdl	na	400
EGB-06-S33_11_1	1	66.67	32.72	100.58	36	706	9070	79	76	na	na	na	868	na	400
EGB-06-S33_11_2	1	66.17	32.55	100.46	28	2593	11533	202	208	na	na	na	839	na	400
EGB-06-S33_13	1	66.24	32.75	100.56	bdl	861	11956	91	371	na	na	na	bdl	na	400
EGB-06-S33_14_1	1	66.03	32.88	100.56	bdl	2614	10006	682	465	na	na	na	bdl	na	400
EGB-06-S33_14_2	1	66.73	32.85	101.29	bdl	991	12296	396	757	na	na	na	bdl	na	400

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. . . table "zircons, trace element data" continued from page 289

		EMP data								SIMS data			Thermometry results		
Analysis label	Set no.	ZrO_2 [mass-%]	SiO_2 [mass-%]	Total [mass-%]	Ti [ppm]	Y [ppm]	Hf [ppm]	Th [ppm]	U [ppm]	Ti [ppm]	Th [ppm]	U [ppm]	EMP T [°C]	SIMS T [°C]	Variscan max. T [°C]
EGB-06-S33_15	1	66.60	32.60	100.91	bdl	1352	12804	69	252	na	na	na	bdl	na	400
EGB-06-S33_16	1	66.49	32.82	100.75	bdl	114	10939	bdl	1213	na	na	na	bdl	na	400
EGB-06-S33_18	1	66.48	32.67	100.48	bdl	1172	9605	58	282	na	na	na	bdl	na	400
EGB-06-S33_19	1	66.49	32.76	100.36	bdl	bdl	8796	124	487	na	na	na	bdl	na	400
EGB-06-S33_20	1	66.29	32.71	100.53	bdl	680	11533	171	494	na	na	na	bdl	na	400
EGB-06-S33_21	1	66.40	32.72	100.37	bdl	902	9201	187	261	na	na	na	bdl	na	400
EGB-06-S33_22	1	66.56	32.57	100.65	bdl	1057	10769	509	575	na	na	na	bdl	na	400
EGB-06-S33_23	1	66.65	32.74	100.47	bdl	794	8117	bdl	102	na	na	na	bdl	na	400
EGB-06-S33_24_1	1	66.27	32.56	100.22	bdl	1502	9956	bdl	233	na	na	na	bdl	na	400
EGB-06-S33_24_2	1	66.08	32.59	100.34	bdl	1030	12635	bdl	449	na	na	na	bdl	na	400
EGB-06-S33_25_1	1	65.68	32.74	100.16	bdl	1635	11533	393	1058	na	na	na	bdl	na	400
EGB-06-S33_25_2	1	66.31	32.72	100.30	bdl	600	9920	88	155	na	na	na	bdl	na	400
EGB-06-S33_26	1	65.85	32.62	100.00	bdl	472	11702	164	678	na	na	na	bdl	na	400
EGB-06-S33_27_1	1	65.60	32.54	100.32	bdl	1357	15942	bdl	1188	na	na	na	bdl	na	400
EGB-06-S33_27_2	1	65.47	32.35	99.83	bdl	2897	13059	62	794	na	na	na	bdl	na	400
EGB-06-S33_28	1	66.16	32.59	99.98	bdl	535	9613	91	99	na	na	na	bdl	na	400
EGB-06-S33_29	1	65.96	32.51	99.77	bdl	497	10091	172	175	na	na	na	bdl	na	400
EGB-06-S33_31	1	66.20	32.59	100.10	bdl	794	10176	bdl	96	na	na	na	bdl	na	400
EGB-06-S33_35_1	1	65.77	32.77	100.30	bdl	888	13059	319	594	na	na	na	bdl	na	400
EGB-06-S33_35_2	1	65.54	32.22	99.38	bdl	1687	10769	523	674	na	na	na	bdl	na	400
EGB-06-S39_1	1	66.02	32.56	99.86	bdl	713	9822	91	127	na	na	na	bdl	na	400
EGB-06-S39_2_1	1	66.35	32.60	99.91	bdl	799	6929	163	120	na	na	na	bdl	na	400
EGB-06-S39_2_2	1	65.72	32.66	100.14	bdl	731	13822	bdl	273	na	na	na	bdl	na	400
EGB-06-S39_3_1	1	61.44	27.75	91.98	bdl	4757	13652	1330	3450	na	na	na	bdl	na	400
EGB-06-S39_4_1	1	66.80	32.72	100.79	bdl	555	10091	bdl	74	na	na	na	bdl	na	400
EGB-06-S39_4_2	1	66.89	32.65	100.90	bdl	184	10939	59	324	na	na	na	bdl	na	400
EGB-06-S39_6_1	1	66.26	32.60	100.35	bdl	504	11872	bdl	195	na	na	na	bdl	na	400
EGB-06-S39_6_2	1	62.57	29.45	94.56	25	3121	11956	3954	2300	na	na	na	830	na	400
EGB-06-S39_6_3	1	66.02	32.42	99.88	bdl	1098	10600	112	364	na	na	na	bdl	na	400
EGB-06-S39_7	1	65.63	32.40	99.67	bdl	909	11872	85	961	na	na	na	bdl	na	400
EGB-06-S39_8_1	1	64.82	32.39	99.09	bdl	3531	10685	714	829	na	na	na	bdl	na	400
EGB-06-S39_8_2	1	65.82	32.44	99.68	bdl	883	10685	166	254	na	na	na	bdl	na	400
EGB-06-S39_9_1	1	65.35	32.34	99.05	bdl	899	10176	154	192	na	na	na	bdl	na	400
EGB-06-S39_9_2	1	65.60	32.58	99.44	bdl	498	10006	bdl	123	na	na	na	bdl	na	400
EGB-06-S39_13_1	1	66.01	32.52	99.92	bdl	1367	9898	157	199	na	na	na	bdl	na	400
EGB-06-S39_13_2	1	65.81	32.58	99.76	bdl	900	10176	157	293	na	na	na	bdl	na	400
EGB-06-S39_14	1	65.74	32.47	99.60	bdl	517	10939	130	164	na	na	na	bdl	na	400
EGB-06-S39_15	1	66.10	32.39	99.74	bdl	329	9987	119	194	na	na	na	bdl	na	400
EGB-06-S39_16	1	65.46	32.43	99.70	bdl	924	13992	69	274	na	na	na	bdl	na	400

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. . . table "zircons, trace element data" continued from page 289

		EMP data								SIMS data			Thermometry results		
Analysis label	Set no.	ZrO_2 [mass-%]	SiO_2 [mass-%]	Total [mass-%]	Ti [ppm]	Y [ppm]	Hf [ppm]	Th [ppm]	U [ppm]	Ti [ppm]	Th [ppm]	U [ppm]	EMP T [°C]	SIMS T [°C]	Variscan max. T [°C]
EGB-06-S39_17	1	65.58	32.45	99.74	bdl	2254	10769	664	529	na	na	na	bdl	na	400
EGB-06-S39_18	1	66.08	32.44	99.76	bdl	341	9815	bdl	263	na	na	na	bdl	na	400
EGB-06-S39_19	1	66.13	32.56	100.13	bdl	454	11533	60	146	na	na	na	bdl	na	400
EGB-06-S39_21	1	65.85	32.38	99.76	bdl	1102	11278	137	326	na	na	na	bdl	na	400
EGB-06-S39_22	1	66.41	32.57	100.20	bdl	898	9275	bdl	56	na	na	na	bdl	na	400
EGB-06-S39_24	1	66.13	32.41	100.10	bdl	1435	11533	bdl	134	na	na	na	bdl	na	400
EGB-06-S39_25	1	66.16	32.57	100.14	bdl	1486	10176	84	120	na	na	na	bdl	na	400
EGB-06-S39_26	1	66.26	32.52	100.11	23	1169	9790	62	143	na	na	na	820	na	400
EGB-06-S39_27	1	65.61	32.71	100.14	bdl	1031	13059	320	938	na	na	na	bdl	na	400
EGB-06-S39_28	1	65.88	32.51	100.06	bdl	735	13228	bdl	153	na	na	na	bdl	na	400
EGB-06-S39_29	1	66.26	32.80	100.36	24	482	10345	105	86	na	na	na	824	na	400
EGB-06-S39_30_1	1	66.05	32.55	99.76	24	509	9135	60	64	na	na	na	824	na	400
EGB-06-S39_30_2	1	65.00	31.99	98.94	bdl	1316	13144	527	1417	na	na	na	bdl	na	400
EGB-06-S39_31	1	66.00	32.72	99.98	35	233	10176	137	172	na	na	na	864	na	400
EGB-06-S39_32	1	66.38	32.60	100.14	bdl	213	9229	129	255	na	na	na	bdl	na	400
EGB-06-S39_33	1	65.82	32.62	100.07	bdl	979	11533	295	901	na	na	na	bdl	na	400
EGB-06-S39_34	1	66.13	32.57	100.02	bdl	1910	8760	154	190	na	na	na	bdl	na	400
EGB-06-S39_35	1	66.10	32.61	99.84	bdl	714	8541	112	101	na	na	na	bdl	na	400
EGB-06-S39_36_1	1	66.48	32.60	100.36	bdl	395	10091	133	178	na	na	na	bdl	na	400
EGB-06-S39_36_2	1	66.04	32.65	100.39	bdl	352	13568	bdl	430	na	na	na	bdl	na	400
EGB-06-S39_37	1	66.04	32.59	100.06	bdl	617	11193	196	137	na	na	na	bdl	na	400
EGB-06-S39_38	1	65.99	32.60	99.88	bdl	147	10430	158	231	na	na	na	bdl	na	400
EGB-06-S39_39	1	65.90	32.54	100.09	bdl	1076	12041	186	598	na	na	na	bdl	na	400
EGB-06-S39_40	1	66.41	32.64	100.42	bdl	162	10345	360	686	na	na	na	bdl	na	400
EGB-06-S39_41	1	65.68	32.56	100.21	bdl	1435	14670	bdl	468	na	na	na	bdl	na	400
EGB-06-S39_42_1	1	66.17	32.62	100.16	bdl	1045	10091	134	243	na	na	na	bdl	na	400
EGB-06-S39_42_2	1	66.46	32.72	100.51	bdl	461	10430	141	181	na	na	na	bdl	na	400
EGB-06-S39_43	1	66.06	32.74	100.19	bdl	425	11193	bdl	155	na	na	na	bdl	na	400
EGB-06-S39_44_1	1	65.80	32.72	100.06	bdl	637	11533	314	587	na	na	na	bdl	na	400
EGB-06-S39_44_2	1	64.86	32.06	98.76	bdl	1426	11702	1055	1306	na	na	na	bdl	na	400
EGB-06-S47_2.1	1	67.33	33.31	101.65	bdl	646	7666	62	102	9	48	103	bdl	728	550
EGB-06-S47_2.2	1	67.01	33.53	101.74	bdl	bdl	9938	bdl	164	na	na	na	bdl	na	550
EGB-06-S47_3.1	1	67.46	33.48	101.93	bdl	244	8149	bdl	bdl	6	200	253	bdl	700	550
EGB-06-S47_3.2	1	67.17	33.40	101.78	bdl	386	9667	88	127	7	161	295	bdl	710	550
EGB-06-S47_11.1	1	67.07	33.28	101.56	bdl	630	9150	bdl	314	11	104	420	bdl	750	550
EGB-06-S47_14.1	*1*	*66.36*	*33.05*	*101.50*	*122*	*2662*	*11787*	*290*	*2665*	*na*	*na*	*na*	*1022*	*na*	*550*
EGB-06-S47_14.2	1	66.63	33.29	101.61	bdl	1244	12211	79	621	na	na	na	bdl	na	550
EGB-06-S47_15.1	1	67.15	33.30	101.44	bdl	614	7471	62	190	11	99	338	bdl	749	550
EGB-06-S47_15.2	1	67.38	33.18	101.50	bdl	228	7674	bdl	75	na	na	na	bdl	na	550

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. . . table "zircons, trace element data" continued from page 289

		EMP data								SIMS data			Thermometry results		
Analysis label	Set no.	ZrO_2 [mass-%]	SiO_2 [mass-%]	Total [mass-%]	Ti [ppm]	Y [ppm]	Hf [ppm]	Th [ppm]	U [ppm]	Ti [ppm]	Th [ppm]	U [ppm]	EMP T [°C]	SIMS T [°C]	Variscan max. T [°C]
EGB-06-S47_15.3	1	67.45	33.03	101.41	bdl	480	7233	bdl	121	na	na	na	bdl	na	550
EGB-06-S47_19.1	1	67.46	33.17	101.58	bdl	937	6411	220	438	11	285	651	bdl	749	550
EGB-06-S47_19.2	1	67.47	33.12	101.44	bdl	449	6275	123	302	na	na	na	bdl	na	550
EGB-06-S47_20.1	1	66.97	33.10	101.61	bdl	709	11024	141	1152	10	139	1470	bdl	740	550
EGB-06-S47_20.2	1	67.33	32.76	101.50	bdl	843	10091	79	904	na	na	na	bdl	na	550
EGB-06-S47_20.3	1	67.54	32.73	101.74	bdl	819	10515	97	974	na	na	na	bdl	na	550
EGB-06-S47_21.1	1	66.80	32.50	101.20	bdl	409	13568	bdl	2025	27	182	1235	bdl	837	550
EGB-06-S47_21.2	1	67.31	32.74	101.79	bdl	535	12550	290	1370	8	201	1440	bdl	724	550
EGB-06-S47_21.3	1	67.32	32.47	101.26	bdl	bdl	12296	79	bdl	na	na	na	bdl	na	550
EGB-06-S47_22.1	1	67.48	32.47	101.05	bdl	504	8522	79	190	30	101	153	bdl	846	550
EGB-06-S47_22.2	1	67.78	32.37	101.06	35	315	7182	bdl	bdl	na	na	na	864	na	550
EGB-06-S47_22.3	1	68.13	32.80	101.85	39	551	7089	bdl	bdl	na	na	na	876	na	550
EGB-06-S47_24.1	1	67.76	31.84	100.56	bdl	323	7742	bdl	52	6	27	85	bdl	694	550
EGB-06-S47_25.1	1	67.84	31.90	100.84	bdl	480	8675	53	85	13	48	135	bdl	768	550
EGB-06-S47_25.2	1	68.01	32.26	101.40	bdl	669	8641	79	135	na	na	na	bdl	na	550
EGB-06-S47_26.1	1	67.99	31.99	100.80	bdl	504	6275	79	99	13	45	132	bdl	766	550
EGB-06-S47_26.2	1	67.73	32.22	101.29	bdl	740	9421	369	832	na	na	na	bdl	na	550
EGB-06-S47_28.1	1	67.94	32.23	100.97	bdl	654	6021	53	bdl	7	82	74	bdl	706	550
EGB-06-S47_30.1	1	67.95	32.17	101.44	bdl	bdl	10769	105	239	10	28	782	bdl	745	550
EGB-06-S47_30.2	1	68.01	32.15	101.24	bdl	370	8531	bdl	115	na	na	na	bdl	na	550
EGB-06-S47_34.1	1	67.36	31.95	100.74	bdl	3929	6818	580	529	11	478	686	bdl	750	550
EGB-06-S47_34.2	1	67.58	32.30	101.34	bdl	488	11533	bdl	344	na	na	na	bdl	na	550
EGB-06-S47_37.1	1	67.95	32.17	101.22	bdl	1488	7335	114	275	5	179	539	bdl	680	550
EGB-06-S47_37.2	1	67.11	31.80	100.62	bdl	3000	10685	79	438	na	na	na	bdl	na	550
EGB-06-S47_42.1	1	67.16	31.39	99.98	29	3276	8302	123	73	16	93	164	846	784	550
EGB-06-S47_42.2	1	66.87	31.58	100.01	bdl	1520	10176	bdl	1441	na	na	na	bdl	na	550
EGB-06-S47_46.1	1	65.64	31.52	99.61	bdl	10237	6877	1485	1484	14	90	860	bdl	772	550
EGB-06-S47_46.2	1	66.55	31.58	99.94	23	4000	10600	bdl	323	na	na	na	821	na	550
EGB-06-S47_49.1	1	67.70	32.16	100.95	bdl	1087	7700	50	202	21	119	496	bdl	809	550
EGB-06-S47_49.2	1	67.77	31.98	100.84	bdl	709	8242	70	138	na	na	na	bdl	na	550
EGB-06-S47_50.1	1	67.55	32.02	100.85	bdl	929	9022	308	538	5	184	610	bdl	676	550
EGB-06-S47_50.2	1	67.67	32.23	101.06	bdl	252	9150	123	308	na	na	na	bdl	na	550
EGB-06-S47_52.1	1	67.59	32.10	100.68	bdl	236	8149	bdl	bdl	10	12	47	bdl	739	550
EGB-06-S47_54.1	1	67.76	32.36	101.20	32	654	8191	79	122	24	59	210	856	824	550
EGB-06-S47_54.2	1	67.11	31.91	100.77	bdl	535	13737	105	473	na	na	na	bdl	na	550
EGB-06-S47_56.1	1	67.51	31.50	100.19	bdl	291	9497	79	86	na	na	na	bdl	na	550
EGB-06-S47_56.2	1	67.59	32.05	100.82	27	425	9311	79	106	na	na	na	838	na	550
EGB-06-S47_57.1	1	67.59	31.94	100.75	bdl	449	9260	176	371	na	na	na	bdl	na	550
EGB-06-S47_57.2	1	67.99	32.54	101.61	bdl	402	8488	123	95	na	na	na	bdl	na	550

continued on next page. . .

. . . table "zircons, trace element data" continued from page 289

		EMP data								SIMS data			Thermometry results		
Analysis label	Set no.	ZrO_2 [mass-%]	SiO_2 [mass-%]	Total [mass-%]	Ti [ppm]	Y [ppm]	Hf [ppm]	Th [ppm]	U [ppm]	Ti [ppm]	Th [ppm]	U [ppm]	EMP T [°C]	SIMS T [°C]	Variscan max. T [°C]
EGB-06-S47_59.1	1	67.75	32.50	101.26	bdl	866	7615	bdl	bdl	10	68	93	bdl	737	550
EGB-06-S47_60.1	1	67.66	32.45	101.21	bdl	323	8531	114	383	na	na	na	bdl	na	550

bdl - below detection limit. na - not analysed. in *italics*: calculated temperatures above 1000 resp. 1100°C for sample EGB-04-S41.

B. Lebenslauf

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	Université Blaise Pascal“

Berufliche Tätigkeit

01.03.04 – 28.02.07:	wiss. Angestellte,
	Georg-August Universität Göttingen